

FIEC

*Regulate Marijuana in a
Manner Similar to
Alcohol to Establish
Age, Licensing, and
Other Restrictions*

16-02

2019

Financial Impact Estimating Conference

Regulate Marijuana in a Manner Similar to Alcohol to Establish Age, Licensing, and Other Restrictions Serial Number 16-02

Table of Contents

Authorization	Tab 1
<ul style="list-style-type: none">• Letter of Request for FIEC	
Current Law	Tab 2
<ul style="list-style-type: none">• Article IX, Section 29, Florida Constitution - Medical marijuana production, possession and use• Section 212.08, F.S. - Sales, rental, use, consumption, distribution, and storage tax; specified exemptions• Section 381.986, F.S. - Medical use of marijuana• Section 581.217, F.S. - State hemp program• 2019 Legislature CS for CS for CS for SB 182, 1st Engrossed	
Federal Guidance	Tab 3
<ul style="list-style-type: none">• U.S. Department of Justice – Guidance Regarding Marijuana Enforcement• U.S. Department of Justice – Guidance Regarding Marijuana Related Financial Crimes• Financial Crimes Enforcement Network – FinCEN Issues Guidance to Financial Institutions Serving Marijuana Businesses• United States Government Accountability Office Report to Congressional Requesters – State Marijuana Legalization: DOJ Should Document Its Approach to Monitoring the Effects of Legalization• Office of the Attorney General – Memorandum: Marijuana Enforcement	
State Reports.....	Tab 4
<ul style="list-style-type: none">• FIEC for Amendment 15-01: Estimates of Medical Marijuana Users in Florida• REC Impact – SB 8A: Sales Tax Exemption – Medical Marijuana and Devices• REC Impact - CS/CS/SB 1030, CS/CS/CS/HB 307, and Article X, Section 29 of the Florida Constitution - Sales Tax• Florida Department of Health (DOH) Approved Medical Marijuana Treatment Centers• DOH Office of Medical Marijuana Use Information Sheet• DOH - Office of Medical Marijuana Use: Information Sheet	
Reports.....	Tab 5
<ul style="list-style-type: none">• National Conference of State Legislatures (NCSL) - Marijuana Overview• PEW Report - Forecasts Hazy for State Marijuana Revenue, August 2019<ul style="list-style-type: none">○ PEW Referenced Documents:<ul style="list-style-type: none">▪ Nevada - Department of Taxation: June Marijuana Revenue Statistics News Release▪ Colorado - The Denver Post Article▪ California Cannabis Advisory Committee, 2018 Annual Report	

- Washington State Department of Revenue, Tax Statistics 2018
 - Alaska Department of Revenue: Report of Marijuana Transferred or Sold
- RAND Publications Links
 - Considering Marijuana Legalization: Insights for Vermont and Other Jurisdictions
 - After the Grand Opening: Assessing Cannabis Supply and Demand in Washington State
- National Survey on Drug Use and Health - Marijuana Use by Age Group and State 2016-2017 Tables
- Arcview - Executive Summary: The State of Legal Cannabis Markets, 7th Edition
- Colorado Reports:
 - Colorado Department of Revenue, Market Size and Demand for Marijuana in Colorado, 2017 Market Update
 - The Economic Impact of Marijuana Legalization in Colorado
 - Colorado Department of Revenue - Marijuana Equivalency in Portion and Dosage
 - About MPG
- National Institute of Health (NIH) - Why Changes in Price Matter When Thinking About Marijuana Policy: A Review of the Literature on the Elasticity of Demand
- Estimates of Marijuana Use and Related Indicators - National Survey on Drug Use and Health, Florida 2002–2014
- Trulieve Cannabis Corp. – Management Discussion and Analysis for the Quarter Ended June 30, 2019
- HHS - Impacts of Changing Marijuana Policies on Alcohol Use in the United States
- Econstor - Crime and the Legalization of Recreational Marijuana
- Oregon Liquor Control Commission (OLCC) – 2019 Recreational Marijuana Supply and Demand Legislative Report
- Colorado Department of Revenue - Marijuana Sales Reports
- Oxford Treatment - The Average Cost of Marijuana by State

Media Sources..... Tab 6

- WJCT News Article - Smokable Medical Marijuana Is Now Legal In Jacksonville And Other Parts Of Florida

Economic Analysis..... Tab 7

- Financial Impact Estimating Conference: Required Economic Analysis

Materials from the Sponsor Tab 8

- EDR Letter to Sponsor, September 10, 2019

Materials from Proponents..... Tab 9

- None Provided

Materials from Opponents Tab 10

- None Provided

Materials from Interested Parties..... Tab 11

- None Provided

Requested Agency Material..... Tab 12

- Department of Business and Professional Regulation (DBPR) PowerPoint - Alcohol Regulation in Florida
- DOH PowerPoint – Low-THC Cannabis and Medical Marijuana
- DBPR Florida Division of Alcoholic Beverages and Tobacco - Licenses and Permits for Alcoholic Beverages

- DBPR Florida Division of Alcoholic Beverages and Tobacco - Beer/Wine Consumption On-Premises/Package Inspection Form
- DBPR Florida Division of Alcoholic Beverages and Tobacco - SFS/SR - Inspection Form
- Florida Police Chiefs Association – Response to FIEC Request
- Florida Sheriffs Association - Response to FIEC Request
- DBPR Fiscal Analysis from Principals' Workshop 10-14-19



FLORIDA DEPARTMENT of STATE

RON DESANTIS
Governor

LAUREL M. LEE
Secretary of State

August 12, 2019

The Honorable Ashley Moody
Attorney General
Department of Legal Affairs
PL-01 The Capitol
Tallahassee, Florida 32399-1050

Dear Attorney General Moody:

Section 15.21, Florida Statutes, provides that the Secretary of State shall submit an initiative petition to the Attorney General when a sponsoring political committee has met the registration, petition form submission and signature criteria set forth in that section.

The criteria in section 15.21, Florida Statutes, has been met for the initiative petition titled **Regulate Marijuana in a Manner Similar to Alcohol to Establish Age, Licensing, and Other Restrictions**, Serial Number 16-02. Therefore, I am submitting the proposed constitutional amendment petition form, along with a status update for the initiative petition, and a chart that provides a statewide signature count and count by congressional districts.

Sincerely,

A handwritten signature in blue ink that reads "Laurel M. Lee".

Laurel M. Lee
Secretary of State

LL/am/ljr

pc: Michael Minardi, Chairperson, Sensible Florida, Inc.
Enclosures

RECEIVED
8/12/19
Wayne Moody

FLORIDA DEPARTMENT OF STATE
DIVISION OF ELECTIONS

SUMMARY OF PETITION SIGNATURES

Political Committee: **Sensible Florida, Inc.**

Amendment Title: **Regulate Marijuana in a Manner Similar to Alcohol to Establish Age, Licensing, and**

Congressional District	Voting Electors in 2016 Presidential Election	For Review 10% of 8% Required By Section 15.21 Florida Statutes	For Ballot 8% Required By Article XI, Section 3 Florida Constitution	Signatures Certified	
FIRST	386,504	3,093	30,921	495	
SECOND	360,098	2,881	28,808	2,405	
THIRD	356,715	2,854	28,538	949	
FOURTH	428,190	3,426	34,256	922	
FIFTH	316,115	2,529	25,290	3,032	***
SIXTH	385,918	3,088	30,874	1,144	
SEVENTH	370,466	2,964	29,638	2,682	
EIGHTH	409,569	3,277	32,766	4,903	***
NINTH	362,593	2,901	29,008	1,691	
TENTH	320,548	2,565	25,644	1,072	
ELEVENTH	417,253	3,339	33,381	2,210	
TWELFTH	386,775	3,095	30,942	8,426	***
THIRTEENTH	367,818	2,943	29,426	11,308	***
FOURTEENTH	336,289	2,691	26,904	8,683	***
FIFTEENTH	340,331	2,723	27,227	4,313	***
SIXTEENTH	403,805	3,231	32,305	4,406	***
SEVENTEENTH	360,061	2,881	28,805	2,353	
EIGHTEENTH	388,772	3,111	31,102	1,829	
NINETEENTH	389,415	3,116	31,154	4,844	***
TWENTIETH	291,984	2,336	23,359	1,942	
TWENTY-FIRST	355,842	2,847	28,468	1,987	
TWENTY-SECOND	361,305	2,891	28,905	2,658	
TWENTY-THIRD	342,784	2,743	27,423	2,215	
TWENTY-FOURTH	269,446	2,156	21,556	1,593	
TWENTY-FIFTH	269,983	2,160	21,599	1,059	
TWENTY-SIXTH	294,742	2,358	23,580	2,491	***
TWENTY-SEVENTH	304,012	2,433	24,321	1,575	
TOTAL:	9,577,333	76,632	766,200	83,187	

Attachment for Initiative Petition

Regulate Marijuana in a Manner Similar to Alcohol to Establish Age, Licensing, and Other Restrictions

Serial Number 16-02

1. **Name and address of the sponsor of the initiative petition:**
Michael Minardi, Chairperson
Sensible Florida, Inc.
Post Office Box 550193
Fort Lauderdale, Florida 33355
2. **Name and address of the sponsor's attorney, if the sponsor is represented:**
Unknown
3. **A statement as to whether the sponsor has obtained the requisite number of signatures on the initiative petition to have the proposed amendment put on the ballot:** As of August 12, 2019, the sponsor has not obtained the requisite number of signatures to have the proposed amendment placed on the ballot. A total of 766,200 valid signatures are required for placement on the 2020 general election ballot.
4. **If the sponsor has not obtained the requisite number of signatures on the initiative petition to have the proposed amendment put on the ballot, the current status of the signature-collection process:** As of August 12, 2019, Supervisors of Elections have certified a total of 83,187 valid petition signatures to the Division of Elections for this initiative petition. This number represents more than 10% of the total number of valid signatures needed from electors statewide and in at least one-fourth of the congressional districts in order to have the initiative placed on the 2020 general election ballot.
5. **The date of the election during which the sponsor is planning to submit the proposed amendment to the voters:** Unknown. The earliest date of election that this proposed amendment can be placed on the ballot is November 3, 2020, provided the sponsor successfully obtains the requisite number of valid signatures by February 1, 2020.
6. **The last possible date that the ballot for the target election can be printed in order to be ready for the election:** Unknown
7. **A statement identifying the date by which the Financial Impact Statement will be filed, if the Financial Impact Statement is not filed concurrently with the request:** The Secretary of State forwarded a letter to the Financial Impact Estimating Conference in the care of the coordinator on August 12, 2019.
8. **The names and complete mailing addresses of all of the parties who are to be served:** This information is unknown at this time.

CONSTITUTIONAL AMENDMENT FULL TEXT

Ballot Title:

Regulate Marijuana in a Manner Similar to Alcohol to Establish Age, Licensing, and Other Restrictions

Ballot Summary:

Regulates marijuana (hereinafter "cannabis") for limited use and growing by persons twenty-one years of age or older. State shall adopt regulations to issue, renew, suspend, and revoke licenses for cannabis cultivation, product manufacturing, testing and retail facilities. Local governments may regulate facilities' time, place and manner and, if state fails to timely act, may license facilities. Does not affect compassionate use of low-THC cannabis, nor immunize federal law violations.

Article and Section Being Created or Amended:

Article X, Section 29

Full Text of the Proposed Amendment:

ARTICLE X, SECTION 29. Florida Cannabis Act —

(a) Purpose and findings.

(1) Short title. On the effective date of this amendment, it shall be known as the "Florida Cannabis Act."

(2) In the interest of the efficient use of law enforcement resources, enhancing revenue for public purposes, and individual freedom, the people of the State of Florida find and declare that the use of cannabis should be legal for persons twenty-one years of age or older.

(3) In the interest of the health and public safety of our citizenry, the people of the State of Florida further find and declare cannabis should be regulated in a manner similar to alcohol so that:

- a. Consumers will have to show proof of age before purchasing cannabis;
- b. Selling, distributing, or transferring cannabis to minors under the age of twenty-one shall remain illegal;
- c. Driving while impaired under the influence of cannabis shall remain illegal;
- d. Only legitimate, taxpaying business people will conduct sales of cannabis; and
- e. Cannabis sold in this state will be labeled and subject to additional regulations to ensure consumers are informed and protected.

(4) The people of the State of Florida further find and declare it is necessary to ensure consistency and fairness in the application of this section throughout the state and that, therefore, the matters addressed by this section are, except as specified herein, matters of statewide concern.

(b) Definitions. As used in this section, unless the context otherwise requires:

Initiative Information

Date Approved 03/17/2016

Serial Number 16-02

Sponsor Name: Sensible Florida, Inc.

Sponsor Address: Post Office Box 550193, Fort Lauderdale, FL 33355

CONSTITUTIONAL AMENDMENT FULL TEXT

- (1) "Applicant" means an individual person or any form of business that applies for a license to operate a cannabis establishment. Any person or business entity may hold multiple licenses, providing each license be applied for and renewed individually and independently of any other license.
- (2) "Business entity" means any form of business operation recognized under Florida law, including partnership that is registered to do business in Florida prior to filing for a license to operate a cannabis establishment.
- (3) "Cannabis" means all parts of the plant of the genus Cannabis, as defined in s. 893.02(3), Florida Statutes (2016). Nothing in this definition or this section shall be deemed to permit or prohibit the cultivation of the plant of the genus Cannabis as a raw material for use of its fiber or pectin, or its structural polymers (the polysaccharides cellulose and hemicelluloses and the aromatic polymer lignin) for any industrial purpose, including the preparation of functionalized textiles, or for any purpose other than human consumption.
- (4) "Cannabis cultivation facility" means an entity licensed to cultivate, prepare, and package cannabis and sell cannabis to retail cannabis stores, to cannabis product manufacturing facilities, and to other cannabis cultivation facilities, but not to consumers.
- (5) "Cannabis establishment" means a cannabis cultivation facility, a cannabis testing facility, a cannabis product manufacturing facility, or a retail cannabis store.
- (6) "Cannabis plant" means a plant, including, but not limited to, a seedling or cutting. To determine if a piece or part of a cannabis plant severed from the cannabis plant is itself a cannabis plant, the severed piece or part must have some readily observable evidence of root formation, such as root hairs. Callous tissue is not readily observable evidence of root formation. The viability and sex of a plant and the fact that the plant may or may not be a dead harvested plant are not relevant in determining if the plant is a cannabis plant.
- (7) "Cannabis product manufacturing facility" means an entity licensed to purchase cannabis; manufacture, prepare, and package cannabis products; and sell cannabis and cannabis products to other cannabis product manufacturing facilities and to retail cannabis stores, but not to consumers.
- (8) "Cannabis products" means concentrated cannabis products and cannabis products that are comprised of cannabis and other ingredients intended for human consumption or human topical application, including but not limited to, edible products, infused products, ointments, and tinctures.
- (9) "Cannabis testing facility" means an entity licensed to analyze and certify the safety and potency of cannabis.
- (10) "Consumer" means a person twenty-one years of age or older who purchases cannabis or cannabis products for personal use by persons twenty-one years of age or older, but not for resale to others. Consumer does not include any form of business entity, partnership, or incorporation.

Initiative Information

Date Approved 03/17/2016

Serial Number 16-02

Sponsor Name: Sensible Florida, Inc.

Sponsor Address: Post Office Box 550193, Fort Lauderdale, FL 33355

CONSTITUTIONAL AMENDMENT FULL TEXT

(11) "Corporation" means any form of business entity, partnership, joint venture, limited liability company, cooperative, or other manner of incorporation.

(12) "County" means a political subdivision of the state established pursuant to s. 1, Art. VIII of the State Constitution.

(13) "Department" means the Florida Department of Business & Professional Regulation or its successor agency.

(14) "Florida Cannabis Act" means this section of the Florida Constitution, and as may be codified.

(15) "Municipality" means a municipality created under general or special law or recognized pursuant to s. 2 or s. 6, Art. VIII of the State Constitution.

(16) "Retail cannabis store" means an entity licensed to purchase cannabis from cannabis cultivation facilities and cannabis products from cannabis product manufacturing facilities and to sell cannabis and cannabis products to consumers.

(c) Personal use of cannabis. Notwithstanding any other provision of law, the following acts are not unlawful and shall not be an offense under Florida law or the law of any county or municipality within Florida or be a basis for seizure or forfeiture of assets under Florida law for persons twenty-one years of age or older. These are minimum quantities, subject to increase by state, county, or municipal legislation, but not subject to decrease:

(1) Possessing, using, displaying, purchasing, or transporting cannabis, and cannabis products in quantities reasonably indicative of personal use or for use by household members;

(2) Growing six mature flowering cannabis plants per household member twenty-one years of age or older and possessing the harvest therefrom, provided the growing takes place indoors or in a locked greenhouse and the cannabis grown is not made available for sale; outdoor growing for personal consumption is not herein permitted statewide, but may be permitted locally if approved by legislation created at the county or municipal level; nothing in this subsection shall prevent the state legislature from creating laws that permit outdoor growing for personal consumption;

(3) Transfer of one ounce or less of cannabis without remuneration to a person who is twenty-one years of age or older;

(4) Allowing or restricting consumption of cannabis within a private business establishment or on its premises consistent with this section; or

(5) Assisting another person who is twenty-one years of age or older in any of the acts described in paragraphs (1) through (5) of this subsection.

Initiative Information

Date Approved 03/17/2016

Serial Number 16-02

Sponsor Name: Sensible Florida, Inc.

Sponsor Address: Post Office Box 550193, Fort Lauderdale, FL 33355

CONSTITUTIONAL AMENDMENT FULL TEXT

(d) Lawful operation of cannabis establishment. Notwithstanding any other provision of law, the following acts are not unlawful and shall not be an offense under Florida law or be a basis for seizure or forfeiture of assets under Florida law for persons twenty-one years of age or older:

(1) Possessing, displaying, or transporting cannabis or cannabis products; purchase of cannabis from a cannabis cultivation facility; purchase of cannabis or cannabis products from a cannabis product manufacturing facility; or sale of cannabis or cannabis product to consumers, if the person conducting the activities described in this subsection has obtained a current, valid license to operate a retail cannabis store or is acting in his or her capacity as an owner, employee or agent of a licensed retail cannabis store;

(2) Cultivating, harvesting, processing, packaging, transporting, displaying, or possessing cannabis; delivery or transfer of cannabis to a cannabis testing facility; selling cannabis to a cannabis cultivation facility, a cannabis product manufacturing facility, or a retail cannabis store; or the purchase of cannabis from a cannabis cultivation facility, if the person conducting the activities described in this subsection has obtained a current, valid license to operate a cannabis cultivation facility or is acting in his or her capacity as an owner, employee, or agent of a licensed cannabis cultivation facility;

(3) Packaging, processing, transporting, manufacturing, displaying, or possessing cannabis or cannabis products; delivery or transfer of cannabis or cannabis products to a cannabis testing facility; selling cannabis or cannabis products to a retail cannabis store or a cannabis product manufacturing facility; the purchase of cannabis from a cannabis cultivation facility; or the purchase of cannabis or cannabis products from a cannabis product manufacturing facility, if the person conducting the activities described in this subsection has a current, valid license to operate a cannabis product manufacturing facility or is acting in his or her capacity as an owner, employee, or agent of a licensed cannabis product manufacturing facility;

(4) Possessing, cultivating, processing, repackaging, storing, transporting, displaying, transferring or delivering cannabis or cannabis products in connection with testing activities, if the person has obtained a current, valid license to operate a cannabis testing facility or is acting in his or her capacity as an owner, employee, or agent of a licensed cannabis testing facility; or

(5) Leasing or otherwise allowing the use of property owned, occupied or controlled by any person, corporation or other entity for any of the activities conducted lawfully in accordance with paragraphs (1) through (5) of this subsection.

(e) Regulation of cannabis.

(1) No later than 6 months from the effective date, the department shall adopt regulations necessary for implementation of this section to include:

Initiative Information

Date Approved 03/17/2016

Serial Number 16-02

Sponsor Name: Sensible Florida, Inc.

Sponsor Address: Post Office Box 550193, Fort Lauderdale, FL 33355

CONSTITUTIONAL AMENDMENT FULL TEXT

- a. Procedures for the issuance, renewal, suspension, and revocation of a license to operate a cannabis establishment, with such procedures subject to all requirements of s. 120.54, Florida Statutes (2016) or as amended;
- b. Any license issued to an individual person shall only be issued to a person of good moral character who is not less than twenty-one years of age and who has resided in the United States for the preceding five years and who has been a U.S. citizen for the preceding five years or has established lawful permanent residence in the United States for the preceding five years as evidenced by a "Green Card" and has resided in the United States for the preceding five years.
- c. Any license issued to a business entity shall only be issued to a business entity of which all directors of a corporate applicant, members of a limited liability applicant, partners of a partnership applicant, or joint venturers of a joint venture applicant are of good moral character, are not less than twenty-one years of age, and at least 75% thereof have resided in the United States for the preceding five years and have been a U.S. citizen for the preceding five years or have established lawful permanent residence in the United States for the preceding five years as evidenced by a "Green Card" and have resided in the United States for the preceding five years;
- d. That in the case of an individual applicant, any license shall be issued only to a person who has been domiciled in the State of Florida for at least 6 months immediately prior to applying;
- e. That in the case of a business entity applicant, any license shall be issued only to business entities that can show at least 25% of the directors, members, partners, or joint venturor applicants have been domiciled in the State of Florida for at least 6 months immediately prior to applying;
- f. That no license under this section shall be issued to any person, director, member, partner, or joint venturor who has been convicted of a felony offense, except that if the licensing authority determines that the applicant or licensee is otherwise suitable to be issued a license and granting the license would not compromise public safety. In making this determination the licensing authority shall conduct a thorough review of the nature of the crime, conviction, circumstances, and evidence of rehabilitation of the applicant, and shall evaluate the suitability of the applicant or licensee to be issued a license based on the evidence found through the review. In determining which offenses are substantially related to the qualifications, functions, or duties of the business or profession for which the application is made, the licensing authority shall include any felony conviction.
- g. In the case of a business entity applicant, the requirements stated in this subsection shall apply to each and every director, member, partner, or joint venturor in a business entity, but not to persons that are solely investors or owners; and

Initiative Information

Date Approved 03/17/2016

Serial Number 16-02

Sponsor Name: Sensible Florida, Inc.

Sponsor Address: Post Office Box 550193, Fort Lauderdale, FL 33355

CONSTITUTIONAL AMENDMENT FULL TEXT

h. The department may suspend or revoke a license under this section, or may refuse to issue a license under this section to:

1. Any person, firm, or corporation the license of which under this section has been revoked or has been abandoned after written notice that revocation or suspension proceedings had been or would be brought against the license;

2. Any corporation if an officer or director of the corporation has had her or his license under this section revoked or has abandoned her or his license after written notice that revocation or suspension proceedings had been or would be brought against her or his license; or

3. Any person who is or has been an officer or director of a corporation, or who directly or indirectly closely held an ownership interest in a corporation, the license of which has been revoked or abandoned after written notice that revocation or suspension proceedings had been or would be brought against the license.

i. Security requirements for cannabis establishments;

j. Requirements to prevent the sale or diversion of cannabis and cannabis products to persons under the age of twenty-one;

k. Labeling and packaging requirements for cannabis and cannabis products sold or distributed by a cannabis establishment;

l. Health and safety regulations and standards for the manufacture and testing of cannabis products and the cultivation of cannabis;

m. Guidelines on the advertising and display of cannabis and cannabis products; and

n. Civil penalties for the failure to comply with regulations made pursuant to this section.

(2) In order to protect consumer privacy, the department shall not require a consumer to provide a retail cannabis store with personal information other than government-issued identification to determine the consumer's age, and a retail cannabis store shall not be required to acquire and record personal information about consumers other than information typically acquired in a financial transaction conducted at a retail liquor store.

(3) Nothing contained in this section shall be construed to create nor in any way limit any taxing authority to make, collect, administer, enforce or distribute any tax levy relating to this section under any taxing authority's power to tax authorized by the constitution or the laws of this state.

(4) No later than 6 months from the effective date, each county or municipality shall enact an ordinance or regulation specifying the entity within the county or municipality responsible for processing applications submitted for a license to operate a cannabis establishment within the boundaries of the county or municipality

Initiative Information

Date Approved 03/17/2016

Serial Number 16-02

Sponsor Name: Sensible Florida, Inc.

Sponsor Address: Post Office Box 550193, Fort Lauderdale, FL 33355

CONSTITUTIONAL AMENDMENT FULL TEXT

and for the issuance of any such license should the issuance by the county or municipality become necessary because of a failure by the department to adopt regulations pursuant to subsection (e)(1) or failure by the department to process a license application in accordance with subsection (e)(6).

(5) A county or municipality may enact ordinances or regulations not in conflict with this section or state regulations or legislation.

- a. Governing the time, place, manner, and number of cannabis establishment operations;
- b. Establishing procedures for the issuance, suspension, and revocation of a license issued by the county or municipality in accordance with subsections (e)(7) or (e)(8), such procedures to be subject to all requirements of s. 120.54, Florida Statutes (2016) or as amended; and
- c. Establishing civil penalties for violation of an ordinance or regulation governing the time, place, and manner of a cannabis establishment that may operate in such county or municipality, whether licensed by the state, a county or municipality.

(6) Each application for an annual license to operate a cannabis establishment shall be submitted to the department. The department shall:

- a. Begin accepting and processing applications 6 months from the effective date;
- b. Upon request by the county or municipality, immediately forward a copy of each application to the county in which the applicant desires to operate;
- c. Issue an annual license to the applicant between forty-five and ninety days after receipt of an application unless the department finds the applicant is not in compliance with regulations enacted pursuant to subsection (e)(1) or the department is notified by the relevant county or municipality that the applicant is not in compliance with subsection (e)(5) in effect at the time of application, provided, where a county or municipality has enacted a numerical limit on the number of cannabis establishments and a greater number of applicants seek licensing, the department shall solicit and consider input from the county or municipality as to the county or municipality's preference for licensure; and
- d. Upon denial of an application, notify the applicant in writing of the specific reason for its denial.

(7) If the department does not issue a license to an applicant within ninety days of receipt of the application filed in accordance with subsection (e)(6) and does not notify the applicant of the specific reason for its denial, or the specific reason as to why the applicant is not in compliance with regulations enacted pursuant to subsection (e)(1), in writing, within such time period, the applicant may resubmit the application directly to the county or municipality, pursuant to subsection (e)(5), and the county or municipality may issue an annual license to the applicant. A county or municipality issuing a license to an applicant shall do so within ninety days

Initiative Information

Date Approved 03/17/2016

Serial Number 16-02

Sponsor Name: Sensible Florida, Inc.

Sponsor Address: Post Office Box 550193, Fort Lauderdale, FL 33355

CONSTITUTIONAL AMENDMENT FULL TEXT

of receipt of the resubmitted application unless the county or municipality finds and notifies the applicant that the applicant is not in compliance with ordinances and regulations made pursuant to subsection (e)(5) in effect at the time the application is resubmitted. The county or municipality shall notify the department if an annual license has been issued to the applicant. A license issued by a county or municipality in accordance with this subsection shall have the same force and effect as a license issued by the department in accordance with subsection (e)(6). A subsequent or renewed license may be issued under this subsection on an annual basis only upon resubmission to the county or municipality of a new application submitted to the department pursuant to subsection(e)(6), if the department does not issue a license to an applicant within ninety days of receipt of the application for a subsequent or renewed annual license filed in accordance with subsection (e)(6) and does not notify the applicant of the specific reason for its denial, or the specific reason as to why the applicant is not in compliance with regulations enacted pursuant to subsection (e)(1), in writing, within such time period. Nothing in this subsection shall limit such relief as may be available to an aggrieved party under ss. 120.56, 120.565, 120.569, 120.57, 120.573, or 120.574, Florida Statutes (2016) or as amended.

(8) If the department does not adopt regulations in accordance with subsection (e)(1), an applicant may submit an application directly to a county or municipality after 6 months from the effective date, and the county or municipality may issue an annual license to the applicant. A county or municipality issuing a license to an applicant shall do so within ninety days of receipt of the application, unless it finds and notifies the applicant that the applicant is not in compliance with ordinances and regulations made pursuant to subsection (e)(5) in effect at the time of application, and shall notify the department if an annual license has been issued to the applicant. A license issued by a county or municipality in accordance with this subsection shall have the same force and effect as a license issued by the department in accordance with subsection (e)(6). A subsequent or renewed license may be issued under this subsection on an annual basis if the department has not adopted regulations in accordance with subsection (e)(1) at least ninety days prior to the date upon which such subsequent or renewed license would be effective or if the department has adopted regulations pursuant to subsection (e)(1) but has not, at least ninety days after the adoption of such regulations, issued the license pursuant to subsection (e)(6) and has not notified the applicant, in writing, of the specific reason for its denial.

(9) A county or municipality may prohibit the licensing of a cannabis establishment whether licensed by the department, county or municipality, providing the prohibition is approved by a vote of the electorate in a general election during an even numbered year. Grandfather clause. —If any county or municipality prohibits the licensing of any cannabis establishment under this subsection, any license issued prior to the effective date

Initiative Information

Date Approved 03/17/2016

Serial Number 16-02

Sponsor Name: Sensible Florida, Inc.

Sponsor Address: Post Office Box 550193, Fort Lauderdale, FL 33355

CONSTITUTIONAL AMENDMENT FULL TEXT

of any such county or municipal prohibition shall continue in full force, be subject to renewal, and in no way be affected by any post-licensing prohibition enacted under this subsection.

(f) Employers, driving, minors, control of property, and federal law.

(1) Nothing in this section is intended to require an employer to permit or accommodate the use, consumption, possession, transfer, display, transportation, sale, or growing of cannabis in the workplace or to affect or repeal the ability of employers to have policies restricting the use of cannabis by employees during work hours.

(2) Nothing in this section is intended to allow driving while impaired by cannabis, nor shall this section prevent the state from criminal penalties pursuant to s. 316.193, Florida Statutes (2016) or as amended.

(3) Nothing in this section is intended to permit the transfer of cannabis, with or without remuneration, to a person under the age of twenty-one or to allow a person under the age of twenty-one to purchase, possess, use, transport, grow, or consume cannabis, except as otherwise permitted under state law or the Florida Constitution.

(4) Nothing in this section shall prohibit a person, employer, corporation or any other entity who occupies, owns or controls a residency or detention facility, whether public or private, when residence or detention is incidental to the provision of medical, geriatric, educational, counseling, rehabilitation, correctional, or similar services; transient occupancy in a hotel, condominium, motel, rooming house, or similar public lodging, or transient occupancy in a mobile home park; occupancy by a holder of a proprietary lease in a cooperative apartment; or occupancy by an owner of a condominium unit from prohibiting or otherwise regulating the possession, consumption, use, display, transfer, distribution, sale, transportation, or growing of cannabis on or in that property.

(5) Nothing in this section purports to give immunity under federal law for possession, consumption, use, display, transfer, distribution, sale, transportation, or growing of cannabis.

(g) The Florida Cannabis Act's effect on other Florida laws relating to cannabis or marijuana.

(1) Nothing in this section shall be construed to affect or repeal s. 112.0455, Florida Statutes (2016) (Drug-Free Workplace Act) except as stated herein.

(2) Nothing in this section shall be construed to affect or repeal s. 327.38, Florida Statutes (2016) (use of water skis, aquaplane, or similar device from a vessel while under the influence of marijuana).

(3) Nothing in this section shall be construed to limit or extend any privilege, right, or duty on the part of medical cannabis dispensing organizations, qualified patients, physicians, caregivers or any other persons, entities, or activities governed by Florida's Compassionate Use of low-THC Cannabis Act, s. 381.986 et seq., Florida Statutes (2016) or as amended.

Initiative Information

Date Approved 03/17/2016

Serial Number 16-02

Sponsor Name: Sensible Florida, Inc.

Sponsor Address: Post Office Box 550193, Fort Lauderdale, FL 33355

CONSTITUTIONAL AMENDMENT FULL TEXT

(4) The Florida Legislature shall, no later than 6 months from the effective date, revise s. 775.087(2)(a)1(q), Florida Statutes (2016) (actual possession of a firearm or destructive device) to qualify the word "cannabis" to accommodate possession consistent with this section.

(5) The Florida Legislature shall, no later than 6 months from the effective date, revise s. 775.087(3)(a)1(r), Florida Statutes (2016) or as amended (actual possession of a semiautomatic firearm and its high capacity detachable box magazine, or a machine gun) to qualify the word "cannabis" to accommodate possession consistent with this section.

(6) The Florida Legislature shall, no later than 6 months from the effective date, revise s. 812.14(6)(b), Florida Statutes (2016) or as amended (use of utility services to grow marijuana indoors) to accommodate use of utility services consistent with this section.

(7) The Florida Legislature shall, no later than 6 months from the effective date, revise ss. 893.145 -893.147, Florida Statutes (2016) or as amended, to qualify the definition of "drug paraphernalia," the determination of paraphernalia, and the use, possession, manufacture, delivery, transportation, advertisement, or retail sale of drug paraphernalia consistent with this section, and shall otherwise revise, Chapter 893, Florida Statutes (2016) (drug abuse prevention and control) as needed to qualify and quantify cannabis possession and use consistent with this section.

(h) Self-executing, severability, conflicting provisions. All provisions of this section are self-executing except as specified herein. All provisions of this section are severable, and, except where otherwise indicated in the text, shall supersede conflicting state statutory, local charter, ordinance, or resolution, and other state and local provisions.

(i) Effective date. Except as otherwise provided herein, all provisions of this proposed amendment shall be effective as an amendment to the Constitution of the State of Florida on the first Tuesday after the first Monday in January following the election.

Initiative Information

Date Approved 03/17/2016

Serial Number 16-02

Sponsor Name: Sensible Florida, Inc.

Sponsor Address: Post Office Box 550193, Fort Lauderdale, FL 33355

Tab 1

Authorization

Tab 2

Current Law

SECTION 29. Medical marijuana production, possession and use.—**(a) PUBLIC POLICY.**

(1) The medical use of marijuana by a qualifying patient or caregiver in compliance with this section is not subject to criminal or civil liability or sanctions under Florida law.

(2) A physician shall not be subject to criminal or civil liability or sanctions under Florida law solely for issuing a physician certification with reasonable care to a person diagnosed with a debilitating medical condition in compliance with this section.

(3) Actions and conduct by a Medical Marijuana Treatment Center registered with the Department, or its agents or employees, and in compliance with this section and Department regulations, shall not be subject to criminal or civil liability or sanctions under Florida law.

(b) DEFINITIONS. For purposes of this section, the following words and terms shall have the following meanings:

(1) “Debilitating Medical Condition” means cancer, epilepsy, glaucoma, positive status for human immunodeficiency virus (HIV), acquired immune deficiency syndrome (AIDS), post-traumatic stress disorder (PTSD), amyotrophic lateral sclerosis (ALS), Crohn’s disease, Parkinson’s disease, multiple sclerosis, or other debilitating medical conditions of the same kind or class as or comparable to those enumerated, and for which a physician believes that the medical use of marijuana would likely outweigh the potential health risks for a patient.

(2) “Department” means the Department of Health or its successor agency.

(3) “Identification card” means a document issued by the Department that identifies a qualifying patient or a caregiver.

(4) “Marijuana” has the meaning given cannabis in Section 893.02(3), Florida Statutes (2014), and, in addition, “Low-THC cannabis” as defined in Section 381.986(1)(b), Florida Statutes (2014), shall also be included in the meaning of the term “marijuana.”

(5) “Medical Marijuana Treatment Center” (MMTC) means an entity that acquires, cultivates, possesses, processes (including development of related products such as food, tinctures, aerosols, oils, or ointments), transfers, transports, sells, distributes, dispenses, or administers marijuana, products containing marijuana, related supplies, or educational materials to qualifying patients or their caregivers and is registered by the Department.

(6) “Medical use” means the acquisition, possession, use, delivery, transfer, or administration of an amount of marijuana not in conflict with Department rules, or of related supplies by a qualifying patient or caregiver for use by the caregiver’s designated qualifying patient for the treatment of a debilitating medical condition.

(7) “Caregiver” means a person who is at least twenty-one (21) years old who has agreed to assist with a qualifying patient’s medical use of marijuana and has qualified for and obtained a caregiver identification card issued by the Department. The Department may limit the number of qualifying patients a caregiver may assist at one time and the number of caregivers that a qualifying patient may have at one time. Caregivers are prohibited from consuming marijuana obtained for medical use by the qualifying patient.

(8) “Physician” means a person who is licensed to practice medicine in Florida.

(9) “Physician certification” means a written document signed by a physician, stating that in the physician’s professional opinion, the patient suffers from a debilitating medical condition, that the medical use of marijuana would likely outweigh the potential health risks for the patient, and for how long the physician recommends the medical use of marijuana for the patient. A physician certification may only be provided after the physician has conducted a physical examination and a full assessment of the medical history of the patient. In order for a physician certification to be issued to a minor, a parent or legal guardian of the minor must consent in writing.

(10) “Qualifying patient” means a person who has been diagnosed to have a debilitating medical condition, who has a physician certification and a valid qualifying patient identification card. If the Department does not begin issuing identification cards within nine (9) months after the effective date of this section, then a valid physician certification will serve as a patient identification card in order to allow a person to become a “qualifying patient” until the Department begins issuing identification cards.

(c) LIMITATIONS.

(1) Nothing in this section allows for a violation of any law other than for conduct in compliance with the provisions of this section.

(2) Nothing in this section shall affect or repeal laws relating to non-medical use, possession, production, or sale of marijuana.

(3) Nothing in this section authorizes the use of medical marijuana by anyone other than a qualifying patient.

(4) Nothing in this section shall permit the operation of any vehicle, aircraft, train or boat while under the influence of marijuana.

(5) Nothing in this section requires the violation of federal law or purports to give immunity under federal law.

(6) Nothing in this section shall require any accommodation of any on-site medical use of marijuana in any correctional institution or detention facility or place of education or employment, or of smoking medical marijuana in any public place.

(7) Nothing in this section shall require any health insurance provider or any government agency or authority to reimburse any person for expenses related to the medical use of marijuana.

(8) Nothing in this section shall affect or repeal laws relating to negligence or professional malpractice on the part of a qualified patient, caregiver, physician, MMTC, or its agents or employees.

(d) DUTIES OF THE DEPARTMENT. The Department shall issue reasonable regulations necessary for the implementation and enforcement of this section. The purpose of the regulations is to ensure the availability and safe use of medical marijuana by qualifying patients. It is the duty of the Department to promulgate regulations in a timely fashion.

(1) Implementing Regulations. In order to allow the Department sufficient time after passage of this section, the following regulations shall be promulgated no later than six (6) months after the effective date of this section:

a. Procedures for the issuance and annual renewal of qualifying patient identification cards to people with physician certifications and standards for renewal of such identification cards. Before issuing an identification card to a minor, the Department must receive written consent from the minor's parent or legal guardian, in addition to the physician certification.

b. Procedures establishing qualifications and standards for caregivers, including conducting appropriate background checks, and procedures for the issuance and annual renewal of caregiver identification cards.

c. Procedures for the registration of MMTCs that include procedures for the issuance, renewal, suspension and revocation of registration, and standards to ensure proper security, record keeping, testing, labeling, inspection, and safety.

d. A regulation that defines the amount of marijuana that could reasonably be presumed to be an adequate supply for qualifying patients' medical use, based on the best available evidence. This presumption as to quantity may be overcome with evidence of a particular qualifying patient's appropriate medical use.

(2) Identification cards and registrations. The Department shall begin issuing qualifying patient and caregiver identification cards, and registering MMTCs no later than nine (9) months after the effective date of this section.

(3) If the Department does not issue regulations, or if the Department does not begin issuing identification cards and registering MMTCs within the time limits set in this section, any Florida citizen shall have standing to seek judicial relief to compel compliance with the Department's constitutional duties.

(4) The Department shall protect the confidentiality of all qualifying patients. All records containing the identity of qualifying patients shall be confidential and kept from public disclosure other than for valid medical or law enforcement purposes.

(e) LEGISLATION. Nothing in this section shall limit the legislature from enacting laws consistent with this section.

(f) SEVERABILITY. The provisions of this section are severable and if any clause, sentence, paragraph or section of this measure, or an application thereof, is adjudged invalid by a court of competent jurisdiction other provisions shall continue to be in effect to the fullest extent possible.

History.—Proposed by Initiative Petition filed with the Secretary of State January 9, 2015; adopted 2016.

212.08 Sales, rental, use, consumption, distribution, and storage tax; specified exemptions.—The sale at retail, the rental, the use, the consumption, the distribution, and the storage to be used or consumed in this state of the following are hereby specifically exempt from the tax imposed by this chapter.

(2) EXEMPTIONS; MEDICAL.—

^[1](l) Marijuana and marijuana delivery devices, as defined in s. [381.986](#), are exempt from the taxes imposed under this chapter.

^[1]Note.—Section 1, ch. 2017-232, provides that “[i]t is the intent of the Legislature to implement s. 29, Article X of the State Constitution by creating a unified regulatory structure. If s. 29, Article X of the State Constitution is amended or a constitutional amendment related to cannabis or marijuana is adopted, this act shall expire 6 months after the effective date of such amendment.” If such amendment or adoption takes place, paragraph (2)(l), as created by s. 2, ch. 2017-232, is repealed, and paragraph (2)(m) will be redesignated as paragraph (2)(l).”

[1](#) **381.986 Medical use of marijuana.—**

(1) DEFINITIONS.—As used in this section, the term:

- (a) “Caregiver” means a resident of this state who has agreed to assist with a qualified patient’s medical use of marijuana, has a caregiver identification card, and meets the requirements of subsection (6).
- (b) “Chronic nonmalignant pain” means pain that is caused by a qualifying medical condition or that originates from a qualifying medical condition and persists beyond the usual course of that qualifying medical condition.
- (c) “Close relative” means a spouse, parent, sibling, grandparent, child, or grandchild, whether related by whole or half blood, by marriage, or by adoption.
- (d) “Edibles” means commercially produced food items made with marijuana oil, but no other form of marijuana, that are produced and dispensed by a medical marijuana treatment center.
- (e) “Low-THC cannabis” means a plant of the genus *Cannabis*, the dried flowers of which contain 0.8 percent or less of tetrahydrocannabinol and more than 10 percent of cannabidiol weight for weight; the seeds thereof; the resin extracted from any part of such plant; or any compound, manufacture, salt, derivative, mixture, or preparation of such plant or its seeds or resin that is dispensed from a medical marijuana treatment center.
- (f) “Marijuana” means all parts of any plant of the genus *Cannabis*, whether growing or not; the seeds thereof; the resin extracted from any part of the plant; and every compound, manufacture, salt, derivative, mixture, or preparation of the plant or its seeds or resin, including low-THC cannabis, which are dispensed from a medical marijuana treatment center for medical use by a qualified patient.
- (g) “Marijuana delivery device” means an object used, intended for use, or designed for use in preparing, storing, ingesting, inhaling, or otherwise introducing marijuana into the human body, and which is dispensed from a medical marijuana treatment center for medical use by a qualified patient, except that delivery devices intended for the medical use of marijuana by smoking need not be dispensed from a medical marijuana treatment center in order to qualify as marijuana delivery devices.
- (h) “Marijuana testing laboratory” means a facility that collects and analyzes marijuana samples from a medical marijuana treatment center and has been certified by the department pursuant to s. [381.988](#).
- (i) “Medical director” means a person who holds an active, unrestricted license as an allopathic physician under chapter 458 or osteopathic physician under chapter 459 and is in compliance with the requirements of paragraph (3)(c).
- (j) “Medical use” means the acquisition, possession, use, delivery, transfer, or administration of marijuana authorized by a physician certification. The term does not include:
 - 1. Possession, use, or administration of marijuana that was not purchased or acquired from a medical marijuana treatment center.
 - 2. Possession, use, or administration of marijuana in the form of commercially produced food items other than edibles or of marijuana seeds.
 - 3. Use or administration of any form or amount of marijuana in a manner that is inconsistent with the qualified physician’s directions or physician certification.
 - 4. Transfer of marijuana to a person other than the qualified patient for whom it was authorized or the qualified patient’s caregiver on behalf of the qualified patient.
 - 5. Use or administration of marijuana in the following locations:
 - a. On any form of public transportation, except for low-THC cannabis not in a form for smoking.
 - b. In any public place, except for low-THC cannabis not in a form for smoking.
 - c. In a qualified patient’s place of employment, except when permitted by his or her employer.
 - d. In a state correctional institution, as defined in s. [944.02](#), or a correctional institution, as defined in s. [944.241](#).
 - e. On the grounds of a preschool, primary school, or secondary school, except as provided in s. [1006.062](#).
 - f. In a school bus, a vehicle, an aircraft, or a motorboat, except for low-THC cannabis not in a form for smoking.
 - 6. The smoking of marijuana in an enclosed indoor workplace as defined in s. [386.203](#)(5).

(k) "Physician certification" means a qualified physician's authorization for a qualified patient to receive marijuana and a marijuana delivery device from a medical marijuana treatment center.

(l) "Qualified patient" means a resident of this state who has been added to the medical marijuana use registry by a qualified physician to receive marijuana or a marijuana delivery device for a medical use and who has a qualified patient identification card.

(m) "Qualified physician" means a person who holds an active, unrestricted license as an allopathic physician under chapter 458 or as an osteopathic physician under chapter 459 and is in compliance with the physician education requirements of subsection (3).

(n) "Smoking" means burning or igniting a substance and inhaling the smoke.

(o) "Terminal condition" means a progressive disease or medical or surgical condition that causes significant functional impairment, is not considered by a treating physician to be reversible without the administration of life-sustaining procedures, and will result in death within 1 year after diagnosis if the condition runs its normal course.

(2) QUALIFYING MEDICAL CONDITIONS.—A patient must be diagnosed with at least one of the following conditions to qualify to receive marijuana or a marijuana delivery device:

(a) Cancer.

(b) Epilepsy.

(c) Glaucoma.

(d) Positive status for human immunodeficiency virus.

(e) Acquired immune deficiency syndrome.

(f) Posttraumatic stress disorder.

(g) Amyotrophic lateral sclerosis.

(h) Crohn's disease.

(i) Parkinson's disease.

(j) Multiple sclerosis.

(k) Medical conditions of the same kind or class as or comparable to those enumerated in paragraphs (a)-(j).

(l) A terminal condition diagnosed by a physician other than the qualified physician issuing the physician certification.

(m) Chronic nonmalignant pain.

(3) QUALIFIED PHYSICIANS AND MEDICAL DIRECTORS.—

(a) Before being approved as a qualified physician, as defined in paragraph (1)(m), and before each license renewal, a physician must successfully complete a 2-hour course and subsequent examination offered by the Florida Medical Association or the Florida Osteopathic Medical Association which encompass the requirements of this section and any rules adopted hereunder. The course and examination shall be administered at least annually and may be offered in a distance learning format, including an electronic, online format that is available upon request. The price of the course may not exceed \$500. A physician who has met the physician education requirements of former s. [381.986\(4\)](#), Florida Statutes 2016, before June 23, 2017, shall be deemed to be in compliance with this paragraph from June 23, 2017, until 90 days after the course and examination required by this paragraph become available.

(b) A qualified physician may not be employed by, or have any direct or indirect economic interest in, a medical marijuana treatment center or marijuana testing laboratory.

(c) Before being employed as a medical director, as defined in paragraph (1)(i), and before each license renewal, a medical director must successfully complete a 2-hour course and subsequent examination offered by the Florida Medical Association or the Florida Osteopathic Medical Association which encompass the requirements of this section and any rules adopted hereunder. The course and examination shall be administered at least annually and may be offered in a distance learning format, including an electronic, online format that is available upon request. The price of the course may not exceed \$500.

(4) PHYSICIAN CERTIFICATION.—

(a) A qualified physician may issue a physician certification only if the qualified physician:

1. Conducted a physical examination while physically present in the same room as the patient and a full

assessment of the medical history of the patient.

2. Diagnosed the patient with at least one qualifying medical condition.
 3. Determined that the medical use of marijuana would likely outweigh the potential health risks for the patient, and such determination must be documented in the patient's medical record. If a patient is younger than 18 years of age, a second physician must concur with this determination, and such concurrence must be documented in the patient's medical record.
 4. Determined whether the patient is pregnant and documented such determination in the patient's medical record. A physician may not issue a physician certification, except for low-THC cannabis, to a patient who is pregnant.
 5. Reviewed the patient's controlled drug prescription history in the prescription drug monitoring program database established pursuant to s. [893.055](#).
 6. Reviews the medical marijuana use registry and confirmed that the patient does not have an active physician certification from another qualified physician.
 7. Registers as the issuer of the physician certification for the named qualified patient on the medical marijuana use registry in an electronic manner determined by the department, and:
 - a. Enters into the registry the contents of the physician certification, including the patient's qualifying condition and the dosage not to exceed the daily dose amount determined by the department, the amount and forms of marijuana authorized for the patient, and any types of marijuana delivery devices needed by the patient for the medical use of marijuana.
 - b. Updates the registry within 7 days after any change is made to the original physician certification to reflect such change.
 - c. Deactivates the registration of the qualified patient and the patient's caregiver when the physician no longer recommends the medical use of marijuana for the patient.
 8. Obtains the voluntary and informed written consent of the patient for medical use of marijuana each time the qualified physician issues a physician certification for the patient, which shall be maintained in the patient's medical record. The patient, or the patient's parent or legal guardian if the patient is a minor, must sign the informed consent acknowledging that the qualified physician has sufficiently explained its content. The qualified physician must use a standardized informed consent form adopted in rule by the Board of Medicine and the Board of Osteopathic Medicine, which must include, at a minimum, information related to:
 - a. The Federal Government's classification of marijuana as a Schedule I controlled substance.
 - b. The approval and oversight status of marijuana by the Food and Drug Administration.
 - c. The current state of research on the efficacy of marijuana to treat the qualifying conditions set forth in this section.
 - d. The potential for addiction.
 - e. The potential effect that marijuana may have on a patient's coordination, motor skills, and cognition, including a warning against operating heavy machinery, operating a motor vehicle, or engaging in activities that require a person to be alert or respond quickly.
 - f. The potential side effects of marijuana use, including the negative health risks associated with smoking marijuana.
 - g. The risks, benefits, and drug interactions of marijuana.
 - h. That the patient's de-identified health information contained in the physician certification and medical marijuana use registry may be used for research purposes.
- (b) If a qualified physician issues a physician certification for a qualified patient diagnosed with a qualifying medical condition pursuant to paragraph (2)(k), the physician must submit the following to the applicable board within 14 days after issuing the physician certification:
1. Documentation supporting the qualified physician's opinion that the medical condition is of the same kind or class as the conditions in paragraphs (2)(a)-(j).
 2. Documentation that establishes the efficacy of marijuana as treatment for the condition.

3. Documentation supporting the qualified physician's opinion that the benefits of medical use of marijuana would likely outweigh the potential health risks for the patient.
4. Any other documentation as required by board rule.

The department must submit such documentation to the Consortium for Medical Marijuana Clinical Outcomes Research established pursuant to s. [1004.4351](#).

(c) If a qualified physician determines that smoking is an appropriate route of administration for a qualified patient, other than a patient diagnosed with a terminal condition, the qualified physician must submit the following documentation to the applicable board:

1. A list of other routes of administration, if any, certified by a qualified physician that the patient has tried, the length of time the patient used such routes of administration, and an assessment of the effectiveness of those routes of administration in treating the qualified patient's qualifying condition.
2. Research documenting the effectiveness of smoking as a route of administration to treat similarly situated patients with the same qualifying condition as the qualified patient.
3. A statement signed by the qualified physician documenting the qualified physician's opinion that the benefits of smoking marijuana for medical use outweigh the risks for the qualified patient.

(d) A qualified physician may not issue a physician certification for marijuana in a form for smoking to a patient under 18 years of age unless the patient is diagnosed with a terminal condition, the qualified physician determines that smoking is the most effective route of administration for the patient, and a second physician who is a board-certified pediatrician concurs with such determination. Such determination and concurrence must be documented in the patient's medical record and in the medical marijuana use registry. The certifying physician must obtain the written informed consent of such patient's parent or legal guardian before issuing a physician certification to the patient for marijuana in a form for smoking. The qualified physician must use a standardized informed consent form adopted in rule by the Board of Medicine and the Board of Osteopathic Medicine which must include information concerning the negative health effects of smoking marijuana on persons under 18 years of age and an acknowledgment that the qualified physician has sufficiently explained the contents of the form.

(e) The Board of Medicine and the Board of Osteopathic Medicine shall review the documentation submitted pursuant to paragraph (c) and shall each, by July 1, 2021, adopt by rule practice standards for the certification of smoking as a route of administration.

(f) A qualified physician may not issue a physician certification for more than three 70-day supply limits of marijuana or more than six 35-day supply limits of marijuana in a form for smoking. The department shall quantify by rule a daily dose amount with equivalent dose amounts for each allowable form of marijuana dispensed by a medical marijuana treatment center. The department shall use the daily dose amount to calculate a 70-day supply.

1. A qualified physician may request an exception to the daily dose amount limit, the 35-day supply limit of marijuana in a form for smoking, and the 4-ounce possession limit of marijuana in a form for smoking established in paragraph (14)(a). The request shall be made electronically on a form adopted by the department in rule and must include, at a minimum:

- a. The qualified patient's qualifying medical condition.
 - b. The dosage and route of administration that was insufficient to provide relief to the qualified patient.
 - c. A description of how the patient will benefit from an increased amount.
 - d. The minimum daily dose amount of marijuana that would be sufficient for the treatment of the qualified patient's qualifying medical condition.
2. A qualified physician must provide the qualified patient's records upon the request of the department.
 3. The department shall approve or disapprove the request within 14 days after receipt of the complete documentation required by this paragraph. The request shall be deemed approved if the department fails to act within this time period.

(g) A qualified physician must evaluate an existing qualified patient at least once every 30 weeks before issuing a new physician certification. A physician must:

1. Determine if the patient still meets the requirements to be issued a physician certification under paragraph (a).
2. Identify and document in the qualified patient's medical records whether the qualified patient experienced either of the following related to the medical use of marijuana:
 - a. An adverse drug interaction with any prescription or nonprescription medication; or
 - b. A reduction in the use of, or dependence on, other types of controlled substances as defined in s. [893.02](#).
3. Submit a report with the findings required pursuant to subparagraph 2. to the department. The department shall submit such reports to the Consortium for Medical Marijuana Clinical Outcomes Research established pursuant to s. [1004.4351](#).

(h) An active order for low-THC cannabis or medical cannabis issued pursuant to former s. [381.986](#), Florida Statutes 2016, and registered with the compassionate use registry before June 23, 2017, is deemed a physician certification, and all patients possessing such orders are deemed qualified patients until the department begins issuing medical marijuana use registry identification cards.

(i) The department shall monitor physician registration in the medical marijuana use registry and the issuance of physician certifications for practices that could facilitate unlawful diversion or misuse of marijuana or a marijuana delivery device and shall take disciplinary action as appropriate.

(j) The Board of Medicine and the Board of Osteopathic Medicine shall jointly create a physician certification pattern review panel that shall review all physician certifications submitted to the medical marijuana use registry. The panel shall track and report the number of physician certifications and the qualifying medical conditions, dosage, supply amount, and form of marijuana certified. The panel shall report the data both by individual qualified physician and in the aggregate, by county, and statewide. The physician certification pattern review panel shall, beginning January 1, 2018, submit an annual report of its findings and recommendations to the Governor, the President of the Senate, and the Speaker of the House of Representatives.

(k) The department, the Board of Medicine, and the Board of Osteopathic Medicine may adopt rules pursuant to ss. [120.536](#)(1) and [120.54](#) to implement this subsection.

(5) MEDICAL MARIJUANA USE REGISTRY.—

(a) The department shall create and maintain a secure, electronic, and online medical marijuana use registry for physicians, patients, and caregivers as provided under this section. The medical marijuana use registry must be accessible to law enforcement agencies, qualified physicians, and medical marijuana treatment centers to verify the authorization of a qualified patient or a caregiver to possess marijuana or a marijuana delivery device and record the marijuana or marijuana delivery device dispensed. The medical marijuana use registry must also be accessible to practitioners licensed to prescribe prescription drugs to ensure proper care for patients before medications that may interact with the medical use of marijuana are prescribed. The medical marijuana use registry must prevent an active registration of a qualified patient by multiple physicians.

(b) The department shall determine whether an individual is a resident of this state for the purpose of registration of qualified patients and caregivers in the medical marijuana use registry. To prove residency:

1. An adult resident must provide the department with a copy of his or her valid Florida driver license issued under s. [322.18](#) or a copy of a valid Florida identification card issued under s. [322.051](#).
2. An adult seasonal resident who cannot meet the requirements of subparagraph 1. may provide the department with a copy of two of the following that show proof of residential address:
 - a. A deed, mortgage, monthly mortgage statement, mortgage payment booklet or residential rental or lease agreement.
 - b. One proof of residential address from the seasonal resident's parent, step-parent, legal guardian or other person with whom the seasonal resident resides and a statement from the person with whom the seasonal resident resides stating that the seasonal resident does reside with him or her.
 - c. A utility hookup or work order dated within 60 days before registration in the medical use registry.
 - d. A utility bill, not more than 2 months old.
 - e. Mail from a financial institution, including checking, savings, or investment account statements, not more

than 2 months old.

- f. Mail from a federal, state, county, or municipal government agency, not more than 2 months old.
- g. Any other documentation that provides proof of residential address as determined by department rule.
- 3. A minor must provide the department with a certified copy of a birth certificate or a current record of registration from a Florida K-12 school and must have a parent or legal guardian who meets the requirements of subparagraph 1.

For the purposes of this paragraph, the term "seasonal resident" means any person who temporarily resides in this state for a period of at least 31 consecutive days in each calendar year, maintains a temporary residence in this state, returns to the state or jurisdiction of his or her residence at least one time during each calendar year, and is registered to vote or pays income tax in another state or jurisdiction.

(c) The department may suspend or revoke the registration of a qualified patient or caregiver if the qualified patient or caregiver:

- 1. Provides misleading, incorrect, false, or fraudulent information to the department;
- 2. Obtains a supply of marijuana in an amount greater than the amount authorized by the physician certification;
- 3. Falsifies, alters, or otherwise modifies an identification card;
- 4. Fails to timely notify the department of any changes to his or her qualified patient status; or
- 5. Violates the requirements of this section or any rule adopted under this section.

(d) The department shall immediately suspend the registration of a qualified patient charged with a violation of chapter 893 until final disposition of any alleged offense. Thereafter, the department may extend the suspension, revoke the registration, or reinstate the registration.

(e) The department shall immediately suspend the registration of any caregiver charged with a violation of chapter 893 until final disposition of any alleged offense. The department shall revoke a caregiver registration if the caregiver does not meet the requirements of subparagraph (6)(b)6.

(f) The department may revoke the registration of a qualified patient or caregiver who cultivates marijuana or who acquires, possesses, or delivers marijuana from any person or entity other than a medical marijuana treatment center.

(g) The department shall revoke the registration of a qualified patient, and the patient's associated caregiver, upon notification that the patient no longer meets the criteria of a qualified patient.

(h) The department may adopt rules pursuant to ss. [120.536](#)(1) and [120.54](#) to implement this subsection.

(6) CAREGIVERS.—

(a) The department must register an individual as a caregiver on the medical marijuana use registry and issue a caregiver identification card if an individual designated by a qualified patient meets all of the requirements of this subsection and department rule.

(b) A caregiver must:

- 1. Not be a qualified physician and not be employed by or have an economic interest in a medical marijuana treatment center or a marijuana testing laboratory.
- 2. Be 21 years of age or older and a resident of this state.
- 3. Agree in writing to assist with the qualified patient's medical use of marijuana.
- 4. Be registered in the medical marijuana use registry as a caregiver for no more than one qualified patient, except as provided in this paragraph.
- 5. Successfully complete a caregiver certification course developed and administered by the department or its designee, which must be renewed biennially. The price of the course may not exceed \$100.
- 6. Pass a background screening pursuant to subsection (9), unless the patient is a close relative of the caregiver.
- (c) A qualified patient may designate no more than one caregiver to assist with the qualified patient's medical use of marijuana, unless:
 - 1. The qualified patient is a minor and the designated caregivers are parents or legal guardians of the qualified

patient;

2. The qualified patient is an adult who has an intellectual or developmental disability that prevents the patient from being able to protect or care for himself or herself without assistance or supervision and the designated caregivers are the parents or legal guardians of the qualified patient;

3. The qualified patient is admitted to a hospice program; or

4. The qualified patient is participating in a research program in a teaching nursing home pursuant to s. [1004.4351](#).

(d) A caregiver may be registered in the medical marijuana use registry as a designated caregiver for no more than one qualified patient, unless:

1. The caregiver is a parent or legal guardian of more than one minor who is a qualified patient;

2. The caregiver is a parent or legal guardian of more than one adult who is a qualified patient and who has an intellectual or developmental disability that prevents the patient from being able to protect or care for himself or herself without assistance or supervision;

3. All qualified patients the caregiver has agreed to assist are admitted to a hospice program and have requested the assistance of that caregiver with the medical use of marijuana; the caregiver is an employee of the hospice; and the caregiver provides personal care or other services directly to clients of the hospice in the scope of that employment; or

4. All qualified patients the caregiver has agreed to assist are participating in a research program in a teaching nursing home pursuant to s. [1004.4351](#).

(e) A caregiver may not receive compensation, other than actual expenses incurred, for any services provided to the qualified patient.

(f) If a qualified patient is younger than 18 years of age, only a caregiver may purchase or administer marijuana for medical use by the qualified patient. The qualified patient may not purchase marijuana.

(g) A caregiver must be in immediate possession of his or her medical marijuana use registry identification card at all times when in possession of marijuana or a marijuana delivery device and must present his or her medical marijuana use registry identification card upon the request of a law enforcement officer.

(h) The department may adopt rules pursuant to ss. [120.536](#)(1) and [120.54](#) to implement this subsection.

(7) IDENTIFICATION CARDS.—

(a) The department shall issue medical marijuana use registry identification cards for qualified patients and caregivers who are residents of this state, which must be renewed annually. The identification cards must be resistant to counterfeiting and tampering and must include, at a minimum, the following:

1. The name, address, and date of birth of the qualified patient or caregiver.

2. A full-face, passport-type, color photograph of the qualified patient or caregiver taken within the 90 days immediately preceding registration or the Florida driver license or Florida identification card photograph of the qualified patient or caregiver obtained directly from the Department of Highway Safety and Motor Vehicles.

3. Identification as a qualified patient or a caregiver.

4. The unique numeric identifier used for the qualified patient in the medical marijuana use registry.

5. For a caregiver, the name and unique numeric identifier of the caregiver and the qualified patient or patients that the caregiver is assisting.

6. The expiration date of the identification card.

(b) The department must receive written consent from a qualified patient's parent or legal guardian before it may issue an identification card to a qualified patient who is a minor.

(c) The department shall adopt rules pursuant to ss. [120.536](#)(1) and [120.54](#) establishing procedures for the issuance, renewal, suspension, replacement, surrender, and revocation of medical marijuana use registry identification cards pursuant to this section and shall begin issuing qualified patient identification cards by October 3, 2017.

(d) Applications for identification cards must be submitted on a form prescribed by the department. The department may charge a reasonable fee associated with the issuance, replacement, and renewal of identification

cards. The department shall allocate \$10 of the identification card fee to the Division of Research at Florida Agricultural and Mechanical University for the purpose of educating minorities about marijuana for medical use and the impact of the unlawful use of marijuana on minority communities. The department shall contract with a third-party vendor to issue identification cards. The vendor selected by the department must have experience performing similar functions for other state agencies.

(e) A qualified patient or caregiver shall return his or her identification card to the department within 5 business days after revocation.

(8) MEDICAL MARIJUANA TREATMENT CENTERS.—

(a) The department shall license medical marijuana treatment centers to ensure reasonable statewide accessibility and availability as necessary for qualified patients registered in the medical marijuana use registry and who are issued a physician certification under this section.

1. As soon as practicable, but no later than July 3, 2017, the department shall license as a medical marijuana treatment center any entity that holds an active, unrestricted license to cultivate, process, transport, and dispense low-THC cannabis, medical cannabis, and cannabis delivery devices, under former s. [381.986](#), Florida Statutes 2016, before July 1, 2017, and which meets the requirements of this section. In addition to the authority granted under this section, these entities are authorized to dispense low-THC cannabis, medical cannabis, and cannabis delivery devices ordered pursuant to former s. [381.986](#), Florida Statutes 2016, which were entered into the compassionate use registry before July 1, 2017, and are authorized to begin dispensing marijuana under this section on July 3, 2017. The department may grant variances from the representations made in such an entity's original application for approval under former s. [381.986](#), Florida Statutes 2014, pursuant to paragraph (e).

2. The department shall license as medical marijuana treatment centers 10 applicants that meet the requirements of this section, under the following parameters:

a. As soon as practicable, but no later than August 1, 2017, the department shall license any applicant whose application was reviewed, evaluated, and scored by the department and which was denied a dispensing organization license by the department under former s. [381.986](#), Florida Statutes 2014; which had one or more administrative or judicial challenges pending as of January 1, 2017, or had a final ranking within one point of the highest final ranking in its region under former s. [381.986](#), Florida Statutes 2014; which meets the requirements of this section; and which provides documentation to the department that it has the existing infrastructure and technical and technological ability to begin cultivating marijuana within 30 days after registration as a medical marijuana treatment center.

b. As soon as practicable, the department shall license one applicant that is a recognized class member of *Pigford v. Glickman*, 185 F.R.D. 82 (D.D.C. 1999), or *In Re Black Farmers Litig.*, 856 F. Supp. 2d 1 (D.D.C. 2011). An applicant licensed under this sub-subparagraph is exempt from the requirement of subparagraph (b)2.

c. As soon as practicable, but no later than October 3, 2017, the department shall license applicants that meet the requirements of this section in sufficient numbers to result in 10 total licenses issued under this subparagraph, while accounting for the number of licenses issued under sub-subparagraphs a. and b.

3. For up to two of the licenses issued under subparagraph 2., the department shall give preference to applicants that demonstrate in their applications that they own one or more facilities that are, or were, used for the canning, concentrating, or otherwise processing of citrus fruit or citrus molasses and will use or convert the facility or facilities for the processing of marijuana.

4. Within 6 months after the registration of 100,000 active qualified patients in the medical marijuana use registry, the department shall license four additional medical marijuana treatment centers that meet the requirements of this section. Thereafter, the department shall license four medical marijuana treatment centers within 6 months after the registration of each additional 100,000 active qualified patients in the medical marijuana use registry that meet the requirements of this section.

5. Dispensing facilities are subject to the following requirements:

a. A medical marijuana treatment center may not establish or operate more than a statewide maximum of 25 dispensing facilities, unless the medical marijuana use registry reaches a total of 100,000 active registered qualified

patients. When the medical marijuana use registry reaches 100,000 active registered qualified patients, and then upon each further instance of the total active registered qualified patients increasing by 100,000, the statewide maximum number of dispensing facilities that each licensed medical marijuana treatment center may establish and operate increases by five.

b. A medical marijuana treatment center may not establish more than the maximum number of dispensing facilities allowed in each of the Northwest, Northeast, Central, Southwest, and Southeast Regions. The department shall determine a medical marijuana treatment center's maximum number of dispensing facilities allowed in each region by calculating the percentage of the total statewide population contained within that region and multiplying that percentage by the medical marijuana treatment center's statewide maximum number of dispensing facilities established under sub-subparagraph a., rounded to the nearest whole number. The department shall ensure that such rounding does not cause a medical marijuana treatment center's total number of statewide dispensing facilities to exceed its statewide maximum. The department shall initially calculate the maximum number of dispensing facilities allowed in each region for each medical marijuana treatment center using county population estimates from the Florida Estimates of Population 2016, as published by the Office of Economic and Demographic Research, and shall perform recalculations following the official release of county population data resulting from each United States Decennial Census. For the purposes of this subparagraph:

(I) The Northwest Region consists of Bay, Calhoun, Escambia, Franklin, Gadsden, Gulf, Holmes, Jackson, Jefferson, Leon, Liberty, Madison, Okaloosa, Santa Rosa, Taylor, Wakulla, Walton, and Washington Counties.

(II) The Northeast Region consists of Alachua, Baker, Bradford, Clay, Columbia, Dixie, Duval, Flagler, Gilchrist, Hamilton, Lafayette, Levy, Marion, Nassau, Putnam, St. Johns, Suwannee, and Union Counties.

(III) The Central Region consists of Brevard, Citrus, Hardee, Hernando, Indian River, Lake, Orange, Osceola, Pasco, Pinellas, Polk, Seminole, St. Lucie, Sumter, and Volusia Counties.

(IV) The Southwest Region consists of Charlotte, Collier, DeSoto, Glades, Hendry, Highlands, Hillsborough, Lee, Manatee, Okeechobee, and Sarasota Counties.

(V) The Southeast Region consists of Broward, Miami-Dade, Martin, Monroe, and Palm Beach Counties.

c. If a medical marijuana treatment center establishes a number of dispensing facilities within a region that is less than the number allowed for that region under sub-subparagraph b., the medical marijuana treatment center may sell one or more of its unused dispensing facility slots to other licensed medical marijuana treatment centers. For each dispensing facility slot that a medical marijuana treatment center sells, that medical marijuana treatment center's statewide maximum number of dispensing facilities, as determined under sub-subparagraph a., is reduced by one. The statewide maximum number of dispensing facilities for a medical marijuana treatment center that purchases an unused dispensing facility slot is increased by one per slot purchased. Additionally, the sale of a dispensing facility slot shall reduce the seller's regional maximum and increase the purchaser's regional maximum number of dispensing facilities, as determined in sub-subparagraph b., by one for that region. For any slot purchased under this sub-subparagraph, the regional restriction applied to that slot's location under sub-subparagraph b. before the purchase shall remain in effect following the purchase. A medical marijuana treatment center that sells or purchases a dispensing facility slot must notify the department within 3 days of sale.

d. This subparagraph shall expire on April 1, 2020.

If this subparagraph or its application to any person or circumstance is held invalid, the invalidity does not affect other provisions or applications of this act which can be given effect without the invalid provision or application, and to this end, the provisions of this subparagraph are severable.

(b) An applicant for licensure as a medical marijuana treatment center shall apply to the department on a form prescribed by the department and adopted in rule. The department shall adopt rules pursuant to ss. [120.536](#)(1) and [120.54](#) establishing a procedure for the issuance and biennial renewal of licenses, including initial application and biennial renewal fees sufficient to cover the costs of implementing and administering this section, and establishing supplemental licensure fees for payment beginning May 1, 2018, sufficient to cover the costs of administering ss. [381.989](#) and [1004.4351](#). The department shall identify applicants with strong diversity plans reflecting this state's

commitment to diversity and implement training programs and other educational programs to enable minority persons and minority business enterprises, as defined in s. [288.703](#), and veteran business enterprises, as defined in s. [295.187](#), to compete for medical marijuana treatment center licensure and contracts. Subject to the requirements in subparagraphs (a)2.-4., the department shall issue a license to an applicant if the applicant meets the requirements of this section and pays the initial application fee. The department shall renew the licensure of a medical marijuana treatment center biennially if the licensee meets the requirements of this section and pays the biennial renewal fee. An individual may not be an applicant, owner, officer, board member, or manager on more than one application for licensure as a medical marijuana treatment center. An individual or entity may not be awarded more than one license as a medical marijuana treatment center. An applicant for licensure as a medical marijuana treatment center must demonstrate:

1. That, for the 5 consecutive years before submitting the application, the applicant has been registered to do business in the state.
2. Possession of a valid certificate of registration issued by the Department of Agriculture and Consumer Services pursuant to s. [581.131](#).
3. The technical and technological ability to cultivate and produce marijuana, including, but not limited to, low-THC cannabis.
4. The ability to secure the premises, resources, and personnel necessary to operate as a medical marijuana treatment center.
5. The ability to maintain accountability of all raw materials, finished products, and any byproducts to prevent diversion or unlawful access to or possession of these substances.
6. An infrastructure reasonably located to dispense marijuana to registered qualified patients statewide or regionally as determined by the department.
7. The financial ability to maintain operations for the duration of the 2-year approval cycle, including the provision of certified financial statements to the department.
 - a. Upon approval, the applicant must post a \$5 million performance bond issued by an authorized surety insurance company rated in one of the three highest rating categories by a nationally recognized rating service. However, a medical marijuana treatment center serving at least 1,000 qualified patients is only required to maintain a \$2 million performance bond.
 - b. In lieu of the performance bond required under sub-subparagraph a., the applicant may provide an irrevocable letter of credit payable to the department or provide cash to the department. If provided with cash under this sub-subparagraph, the department shall deposit the cash in the Grants and Donations Trust Fund within the Department of Health, subject to the same conditions as the bond regarding requirements for the applicant to forfeit ownership of the funds. If the funds deposited under this sub-subparagraph generate interest, the amount of that interest shall be used by the department for the administration of this section.
8. That all owners, officers, board members, and managers have passed a background screening pursuant to subsection (9).
9. The employment of a medical director to supervise the activities of the medical marijuana treatment center.
10. A diversity plan that promotes and ensures the involvement of minority persons and minority business enterprises, as defined in s. [288.703](#), or veteran business enterprises, as defined in s. [295.187](#), in ownership, management, and employment. An applicant for licensure renewal must show the effectiveness of the diversity plan by including the following with his or her application for renewal:
 - a. Representation of minority persons and veterans in the medical marijuana treatment center's workforce;
 - b. Efforts to recruit minority persons and veterans for employment; and
 - c. A record of contracts for services with minority business enterprises and veteran business enterprises.
 - (c) A medical marijuana treatment center may not make a wholesale purchase of marijuana from, or a distribution of marijuana to, another medical marijuana treatment center, unless the medical marijuana treatment center seeking to make a wholesale purchase of marijuana submits proof of harvest failure to the department.
 - (d) The department shall establish, maintain, and control a computer software tracking system that traces

marijuana from seed to sale and allows real-time, 24-hour access by the department to data from all medical marijuana treatment centers and marijuana testing laboratories. The tracking system must allow for integration of other seed-to-sale systems and, at a minimum, include notification of when marijuana seeds are planted, when marijuana plants are harvested and destroyed, and when marijuana is transported, sold, stolen, diverted, or lost. Each medical marijuana treatment center shall use the seed-to-sale tracking system established by the department or integrate its own seed-to-sale tracking system with the seed-to-sale tracking system established by the department. Each medical marijuana treatment center may use its own seed-to-sale system until the department establishes a seed-to-sale tracking system. The department may contract with a vendor to establish the seed-to-sale tracking system. The vendor selected by the department may not have a contractual relationship with the department to perform any services pursuant to this section other than the seed-to-sale tracking system. The vendor may not have a direct or indirect financial interest in a medical marijuana treatment center or a marijuana testing laboratory.

(e) A licensed medical marijuana treatment center shall cultivate, process, transport, and dispense marijuana for medical use. A licensed medical marijuana treatment center may not contract for services directly related to the cultivation, processing, and dispensing of marijuana or marijuana delivery devices, except that a medical marijuana treatment center licensed pursuant to subparagraph (a)1. may contract with a single entity for the cultivation, processing, transporting, and dispensing of marijuana and marijuana delivery devices. A licensed medical marijuana treatment center must, at all times, maintain compliance with the criteria demonstrated and representations made in the initial application and the criteria established in this subsection. Upon request, the department may grant a medical marijuana treatment center a variance from the representations made in the initial application. Consideration of such a request shall be based upon the individual facts and circumstances surrounding the request. A variance may not be granted unless the requesting medical marijuana treatment center can demonstrate to the department that it has a proposed alternative to the specific representation made in its application which fulfills the same or a similar purpose as the specific representation in a way that the department can reasonably determine will not be a lower standard than the specific representation in the application. A variance may not be granted from the requirements in subparagraph 2. and subparagraphs (b)1. and 2.

1. A licensed medical marijuana treatment center may transfer ownership to an individual or entity who meets the requirements of this section. A publicly traded corporation or publicly traded company that meets the requirements of this section is not precluded from ownership of a medical marijuana treatment center. To accommodate a change in ownership:

- a. The licensed medical marijuana treatment center shall notify the department in writing at least 60 days before the anticipated date of the change of ownership.
- b. The individual or entity applying for initial licensure due to a change of ownership must submit an application that must be received by the department at least 60 days before the date of change of ownership.
- c. Upon receipt of an application for a license, the department shall examine the application and, within 30 days after receipt, notify the applicant in writing of any apparent errors or omissions and request any additional information required.
- d. Requested information omitted from an application for licensure must be filed with the department within 21 days after the department's request for omitted information or the application shall be deemed incomplete and shall be withdrawn from further consideration and the fees shall be forfeited.

Within 30 days after the receipt of a complete application, the department shall approve or deny the application.

2. A medical marijuana treatment center, and any individual or entity who directly or indirectly owns, controls, or holds with power to vote 5 percent or more of the voting shares of a medical marijuana treatment center, may not acquire direct or indirect ownership or control of any voting shares or other form of ownership of any other medical marijuana treatment center.

3. A medical marijuana treatment center may not enter into any form of profit-sharing arrangement with the property owner or lessor of any of its facilities where cultivation, processing, storing, or dispensing of marijuana and

marijuana delivery devices occurs.

4. All employees of a medical marijuana treatment center must be 21 years of age or older and have passed a background screening pursuant to subsection (9).

5. Each medical marijuana treatment center must adopt and enforce policies and procedures to ensure employees and volunteers receive training on the legal requirements to dispense marijuana to qualified patients.

6. When growing marijuana, a medical marijuana treatment center:

a. May use pesticides determined by the department, after consultation with the Department of Agriculture and Consumer Services, to be safely applied to plants intended for human consumption, but may not use pesticides designated as restricted-use pesticides pursuant to s. [487.042](#).

b. Must grow marijuana within an enclosed structure and in a room separate from any other plant.

c. Must inspect seeds and growing plants for plant pests that endanger or threaten the horticultural and agricultural interests of the state in accordance with chapter 581 and any rules adopted thereunder.

d. Must perform fumigation or treatment of plants, or remove and destroy infested or infected plants, in accordance with chapter 581 and any rules adopted thereunder.

7. Each medical marijuana treatment center must produce and make available for purchase at least one low-THC cannabis product.

8. A medical marijuana treatment center that produces edibles must hold a permit to operate as a food establishment pursuant to chapter 500, the Florida Food Safety Act, and must comply with all the requirements for food establishments pursuant to chapter 500 and any rules adopted thereunder. Edibles may not contain more than 200 milligrams of tetrahydrocannabinol, and a single serving portion of an edible may not exceed 10 milligrams of tetrahydrocannabinol. Edibles may have a potency variance of no greater than 15 percent. Edibles may not be attractive to children; be manufactured in the shape of humans, cartoons, or animals; be manufactured in a form that bears any reasonable resemblance to products available for consumption as commercially available candy; or contain any color additives. To discourage consumption of edibles by children, the department shall determine by rule any shapes, forms, and ingredients allowed and prohibited for edibles. Medical marijuana treatment centers may not begin processing or dispensing edibles until after the effective date of the rule. The department shall also adopt sanitation rules providing the standards and requirements for the storage, display, or dispensing of edibles.

9. Within 12 months after licensure, a medical marijuana treatment center must demonstrate to the department that all of its processing facilities have passed a Food Safety Good Manufacturing Practices, such as Global Food Safety Initiative or equivalent, inspection by a nationally accredited certifying body. A medical marijuana treatment center must immediately stop processing at any facility which fails to pass this inspection until it demonstrates to the department that such facility has met this requirement.

10. A medical marijuana treatment center that produces prerolled marijuana cigarettes may not use wrapping paper made with tobacco or hemp.

11. When processing marijuana, a medical marijuana treatment center must:

a. Process the marijuana within an enclosed structure and in a room separate from other plants or products.

b. Comply with department rules when processing marijuana with hydrocarbon solvents or other solvents or gases exhibiting potential toxicity to humans. The department shall determine by rule the requirements for medical marijuana treatment centers to use such solvents or gases exhibiting potential toxicity to humans.

c. Comply with federal and state laws and regulations and department rules for solid and liquid wastes. The department shall determine by rule procedures for the storage, handling, transportation, management, and disposal of solid and liquid waste generated during marijuana production and processing. The Department of Environmental Protection shall assist the department in developing such rules.

d. Test the processed marijuana using a medical marijuana testing laboratory before it is dispensed. Results must be verified and signed by two medical marijuana treatment center employees. Before dispensing, the medical marijuana treatment center must determine that the test results indicate that low-THC cannabis meets the definition of low-THC cannabis, the concentration of tetrahydrocannabinol meets the potency requirements of this section, the labeling of the concentration of tetrahydrocannabinol and cannabidiol is accurate, and all marijuana is

safe for human consumption and free from contaminants that are unsafe for human consumption. The department shall determine by rule which contaminants must be tested for and the maximum levels of each contaminant which are safe for human consumption. The Department of Agriculture and Consumer Services shall assist the department in developing the testing requirements for contaminants that are unsafe for human consumption in edibles. The department shall also determine by rule the procedures for the treatment of marijuana that fails to meet the testing requirements of this section, s. [381.988](#), or department rule. The department may select a random sample from edibles available for purchase in a dispensing facility which shall be tested by the department to determine that the edible meets the potency requirements of this section, is safe for human consumption, and the labeling of the tetrahydrocannabinol and cannabidiol concentration is accurate. A medical marijuana treatment center may not require payment from the department for the sample. A medical marijuana treatment center must recall edibles, including all edibles made from the same batch of marijuana, which fail to meet the potency requirements of this section, which are unsafe for human consumption, or for which the labeling of the tetrahydrocannabinol and cannabidiol concentration is inaccurate. The medical marijuana treatment center must retain records of all testing and samples of each homogenous batch of marijuana for at least 9 months. The medical marijuana treatment center must contract with a marijuana testing laboratory to perform audits on the medical marijuana treatment center's standard operating procedures, testing records, and samples and provide the results to the department to confirm that the marijuana or low-THC cannabis meets the requirements of this section and that the marijuana or low-THC cannabis is safe for human consumption. A medical marijuana treatment center shall reserve two processed samples from each batch and retain such samples for at least 9 months for the purpose of such audits. A medical marijuana treatment center may use a laboratory that has not been certified by the department under s. [381.988](#) until such time as at least one laboratory holds the required certification, but in no event later than July 1, 2018.

e. Package the marijuana in compliance with the United States Poison Prevention Packaging Act of 1970, 15 U.S.C. ss. 1471 et seq.

f. Package the marijuana in a receptacle that has a firmly affixed and legible label stating the following information:

- (I) The marijuana or low-THC cannabis meets the requirements of sub-subparagraph d.
- (II) The name of the medical marijuana treatment center from which the marijuana originates.
- (III) The batch number and harvest number from which the marijuana originates and the date dispensed.
- (IV) The name of the physician who issued the physician certification.
- (V) The name of the patient.
- (VI) The product name, if applicable, and dosage form, including concentration of tetrahydrocannabinol and cannabidiol. The product name may not contain wording commonly associated with products marketed by or to children.
- (VII) The recommended dose.
- (VIII) A warning that it is illegal to transfer medical marijuana to another person.
- (IX) A marijuana universal symbol developed by the department.

12. The medical marijuana treatment center shall include in each package a patient package insert with information on the specific product dispensed related to:

- a. Clinical pharmacology.
- b. Indications and use.
- c. Dosage and administration.
- d. Dosage forms and strengths.
- e. Contraindications.
- f. Warnings and precautions.
- g. Adverse reactions.

13. In addition to the packaging and labeling requirements specified in subparagraphs 11. and 12., marijuana in a form for smoking must be packaged in a sealed receptacle with a legible and prominent warning to keep away from children and a warning that states marijuana smoke contains carcinogens and may negatively affect health.

Such receptacles for marijuana in a form for smoking must be plain, opaque, and white without depictions of the product or images other than the medical marijuana treatment center's department-approved logo and the marijuana universal symbol.

14. The department shall adopt rules to regulate the types, appearance, and labeling of marijuana delivery devices dispensed from a medical marijuana treatment center. The rules must require marijuana delivery devices to have an appearance consistent with medical use.

15. Each edible shall be individually sealed in plain, opaque wrapping marked only with the marijuana universal symbol. Where practical, each edible shall be marked with the marijuana universal symbol. In addition to the packaging and labeling requirements in subparagraphs 11. and 12., edible receptacles must be plain, opaque, and white without depictions of the product or images other than the medical marijuana treatment center's department-approved logo and the marijuana universal symbol. The receptacle must also include a list of all the edible's ingredients, storage instructions, an expiration date, a legible and prominent warning to keep away from children and pets, and a warning that the edible has not been produced or inspected pursuant to federal food safety laws.

16. When dispensing marijuana or a marijuana delivery device, a medical marijuana treatment center:

a. May dispense any active, valid order for low-THC cannabis, medical cannabis and cannabis delivery devices issued pursuant to former s. [381.986](#), Florida Statutes 2016, which was entered into the medical marijuana use registry before July 1, 2017.

b. May not dispense more than a 70-day supply of marijuana within any 70-day period to a qualified patient or caregiver. May not dispense more than one 35-day supply of marijuana in a form for smoking within any 35-day period to a qualified patient or caregiver. A 35-day supply of marijuana in a form for smoking may not exceed 2.5 ounces unless an exception to this amount is approved by the department pursuant to paragraph (4)(f).

c. Must have the medical marijuana treatment center's employee who dispenses the marijuana or a marijuana delivery device enter into the medical marijuana use registry his or her name or unique employee identifier.

d. Must verify that the qualified patient and the caregiver, if applicable, each have an active registration in the medical marijuana use registry and an active and valid medical marijuana use registry identification card, the amount and type of marijuana dispensed matches the physician certification in the medical marijuana use registry for that qualified patient, and the physician certification has not already been filled.

e. May not dispense marijuana to a qualified patient who is younger than 18 years of age. If the qualified patient is younger than 18 years of age, marijuana may only be dispensed to the qualified patient's caregiver.

f. May not dispense or sell any other type of cannabis, alcohol, or illicit drug-related product, including pipes or wrapping papers made with tobacco or hemp, other than a marijuana delivery device required for the medical use of marijuana and which is specified in a physician certification.

g. Must, upon dispensing the marijuana or marijuana delivery device, record in the registry the date, time, quantity, and form of marijuana dispensed; the type of marijuana delivery device dispensed; and the name and medical marijuana use registry identification number of the qualified patient or caregiver to whom the marijuana delivery device was dispensed.

h. Must ensure that patient records are not visible to anyone other than the qualified patient, his or her caregiver, and authorized medical marijuana treatment center employees.

(f) To ensure the safety and security of premises where the cultivation, processing, storing, or dispensing of marijuana occurs, and to maintain adequate controls against the diversion, theft, and loss of marijuana or marijuana delivery devices, a medical marijuana treatment center shall:

1.a. Maintain a fully operational security alarm system that secures all entry points and perimeter windows and is equipped with motion detectors; pressure switches; and duress, panic, and hold-up alarms; and

b. Maintain a video surveillance system that records continuously 24 hours a day and meets the following criteria:

(l) Cameras are fixed in a place that allows for the clear identification of persons and activities in controlled areas of the premises. Controlled areas include grow rooms, processing rooms, storage rooms, disposal rooms or

areas, and point-of-sale rooms.

(II) Cameras are fixed in entrances and exits to the premises, which shall record from both indoor and outdoor, or ingress and egress, vantage points.

(III) Recorded images must clearly and accurately display the time and date.

(IV) Retain video surveillance recordings for at least 45 days or longer upon the request of a law enforcement agency.

2. Ensure that the medical marijuana treatment center's outdoor premises have sufficient lighting from dusk until dawn.

3. Ensure that the indoor premises where dispensing occurs includes a waiting area with sufficient space and seating to accommodate qualified patients and caregivers and at least one private consultation area that is isolated from the waiting area and area where dispensing occurs. A medical marijuana treatment center may not display products or dispense marijuana or marijuana delivery devices in the waiting area.

4. Not dispense from its premises marijuana or a marijuana delivery device between the hours of 9 p.m. and 7 a.m., but may perform all other operations and deliver marijuana to qualified patients 24 hours a day.

5. Store marijuana in a secured, locked room or a vault.

6. Require at least two of its employees, or two employees of a security agency with whom it contracts, to be on the premises at all times where cultivation, processing, or storing of marijuana occurs.

7. Require each employee or contractor to wear a photo identification badge at all times while on the premises.

8. Require each visitor to wear a visitor pass at all times while on the premises.

9. Implement an alcohol and drug-free workplace policy.

10. Report to local law enforcement within 24 hours after the medical marijuana treatment center is notified or becomes aware of the theft, diversion, or loss of marijuana.

(g) To ensure the safe transport of marijuana and marijuana delivery devices to medical marijuana treatment centers, marijuana testing laboratories, or qualified patients, a medical marijuana treatment center must:

1. Maintain a marijuana transportation manifest in any vehicle transporting marijuana. The marijuana transportation manifest must be generated from a medical marijuana treatment center's seed-to-sale tracking system and include the:

a. Departure date and approximate time of departure.

b. Name, location address, and license number of the originating medical marijuana treatment center.

c. Name and address of the recipient of the delivery.

d. Quantity and form of any marijuana or marijuana delivery device being transported.

e. Arrival date and estimated time of arrival.

f. Delivery vehicle make and model and license plate number.

g. Name and signature of the medical marijuana treatment center employees delivering the product.

(I) A copy of the marijuana transportation manifest must be provided to each individual, medical marijuana treatment center, or marijuana testing laboratory that receives a delivery. The individual, or a representative of the center or laboratory, must sign a copy of the marijuana transportation manifest acknowledging receipt.

(II) An individual transporting marijuana or a marijuana delivery device must present a copy of the relevant marijuana transportation manifest and his or her employee identification card to a law enforcement officer upon request.

(III) Medical marijuana treatment centers and marijuana testing laboratories must retain copies of all marijuana transportation manifests for at least 3 years.

2. Ensure only vehicles in good working order are used to transport marijuana.

3. Lock marijuana and marijuana delivery devices in a separate compartment or container within the vehicle.

4. Require employees to have possession of their employee identification card at all times when transporting marijuana or marijuana delivery devices.

5. Require at least two persons to be in a vehicle transporting marijuana or marijuana delivery devices, and require at least one person to remain in the vehicle while the marijuana or marijuana delivery device is being

delivered.

6. Provide specific safety and security training to employees transporting or delivering marijuana and marijuana delivery devices.

(h) A medical marijuana treatment center may not engage in advertising that is visible to members of the public from any street, sidewalk, park, or other public place, except:

1. The dispensing location of a medical marijuana treatment center may have a sign that is affixed to the outside or hanging in the window of the premises which identifies the dispensary by the licensee's business name, a department-approved trade name, or a department-approved logo. A medical marijuana treatment center's trade name and logo may not contain wording or images commonly associated with marketing targeted toward children or which promote recreational use of marijuana.

2. A medical marijuana treatment center may engage in Internet advertising and marketing under the following conditions:

- a. All advertisements must be approved by the department.
- b. An advertisement may not have any content that specifically targets individuals under the age of 18, including cartoon characters or similar images.
- c. An advertisement may not be an unsolicited pop-up advertisement.
- d. Opt-in marketing must include an easy and permanent opt-out feature.

(i) Each medical marijuana treatment center that dispenses marijuana and marijuana delivery devices shall make available to the public on its website:

1. Each marijuana and low-THC product available for purchase, including the form, strain of marijuana from which it was extracted, cannabidiol content, tetrahydrocannabinol content, dose unit, total number of doses available, and the ratio of cannabidiol to tetrahydrocannabinol for each product.

2. The price for a 30-day, 50-day, and 70-day supply at a standard dose for each marijuana and low-THC product available for purchase.

3. The price for each marijuana delivery device available for purchase.

4. If applicable, any discount policies and eligibility criteria for such discounts.

(j) Medical marijuana treatment centers are the sole source from which a qualified patient may legally obtain marijuana.

(k) The department may adopt rules pursuant to ss. [120.536](#)(1) and [120.54](#) to implement this subsection.

(9) **BACKGROUND SCREENING.**—An individual required to undergo a background screening pursuant to this section must pass a level 2 background screening as provided under chapter 435, which, in addition to the disqualifying offenses provided in s. [435.04](#), shall exclude an individual who has an arrest awaiting final disposition for, has been found guilty of, regardless of adjudication, or has entered a plea of nolo contendere or guilty to an offense under chapter 837, chapter 895, or chapter 896 or similar law of another jurisdiction.

(a) Such individual must submit a full set of fingerprints to the department or to a vendor, entity, or agency authorized by s. [943.053](#)(13). The department, vendor, entity, or agency shall forward the fingerprints to the Department of Law Enforcement for state processing, and the Department of Law Enforcement shall forward the fingerprints to the Federal Bureau of Investigation for national processing.

(b) Fees for state and federal fingerprint processing and retention shall be borne by the individual. The state cost for fingerprint processing shall be as provided in s. [943.053](#)(3)(e) for records provided to persons or entities other than those specified as exceptions therein.

(c) Fingerprints submitted to the Department of Law Enforcement pursuant to this subsection shall be retained by the Department of Law Enforcement as provided in s. [943.05](#)(2)(g) and (h) and, when the Department of Law Enforcement begins participation in the program, enrolled in the Federal Bureau of Investigation's national retained print arrest notification program. Any arrest record identified shall be reported to the department.

(10) **MEDICAL MARIJUANA TREATMENT CENTER INSPECTIONS; ADMINISTRATIVE ACTIONS.**—

(a) The department shall conduct announced or unannounced inspections of medical marijuana treatment centers to determine compliance with this section or rules adopted pursuant to this section.

(b) The department shall inspect a medical marijuana treatment center upon receiving a complaint or notice that the medical marijuana treatment center has dispensed marijuana containing mold, bacteria, or other contaminant that may cause or has caused an adverse effect to human health or the environment.

(c) The department shall conduct at least a biennial inspection of each medical marijuana treatment center to evaluate the medical marijuana treatment center's records, personnel, equipment, processes, security measures, sanitation practices, and quality assurance practices.

(d) The Department of Agriculture and Consumer Services and the department shall enter into an interagency agreement to ensure cooperation and coordination in the performance of their obligations under this section and their respective regulatory and authorizing laws. The department, the Department of Highway Safety and Motor Vehicles, and the Department of Law Enforcement may enter into interagency agreements for the purposes specified in this subsection or subsection (7).

(e) The department shall publish a list of all approved medical marijuana treatment centers, medical directors, and qualified physicians on its website.

(f) The department may impose reasonable fines not to exceed \$10,000 on a medical marijuana treatment center for any of the following violations:

1. Violating this section or department rule.
2. Failing to maintain qualifications for approval.
3. Endangering the health, safety, or security of a qualified patient.
4. Improperly disclosing personal and confidential information of the qualified patient.
5. Attempting to procure medical marijuana treatment center approval by bribery, fraudulent misrepresentation, or extortion.
6. Being convicted or found guilty of, or entering a plea of guilty or nolo contendere to, regardless of adjudication, a crime in any jurisdiction which directly relates to the business of a medical marijuana treatment center.
7. Making or filing a report or record that the medical marijuana treatment center knows to be false.
8. Willfully failing to maintain a record required by this section or department rule.
9. Willfully impeding or obstructing an employee or agent of the department in the furtherance of his or her official duties.
10. Engaging in fraud or deceit, negligence, incompetence, or misconduct in the business practices of a medical marijuana treatment center.
11. Making misleading, deceptive, or fraudulent representations in or related to the business practices of a medical marijuana treatment center.
12. Having a license or the authority to engage in any regulated profession, occupation, or business that is related to the business practices of a medical marijuana treatment center suspended, revoked, or otherwise acted against by the licensing authority of any jurisdiction, including its agencies or subdivisions, for a violation that would constitute a violation under Florida law.
13. Violating a lawful order of the department or an agency of the state, or failing to comply with a lawfully issued subpoena of the department or an agency of the state.

(g) The department may suspend, revoke, or refuse to renew a medical marijuana treatment center license if the medical marijuana treatment center commits any of the violations in paragraph (f).

(h) The department may adopt rules pursuant to ss. [120.536\(1\)](#) and [120.54](#) to implement this subsection.

(11) PREEMPTION.—Regulation of cultivation, processing, and delivery of marijuana by medical marijuana treatment centers is preempted to the state except as provided in this subsection.

(a) A medical marijuana treatment center cultivating or processing facility may not be located within 500 feet of the real property that comprises a public or private elementary school, middle school, or secondary school.

(b)1. A county or municipality may, by ordinance, ban medical marijuana treatment center dispensing facilities from being located within the boundaries of that county or municipality. A county or municipality that does not ban dispensing facilities under this subparagraph may not place specific limits, by ordinance, on the number of

dispensing facilities that may locate within that county or municipality.

2. A municipality may determine by ordinance the criteria for the location of, and other permitting requirements that do not conflict with state law or department rule for, medical marijuana treatment center dispensing facilities located within the boundaries of that municipality. A county may determine by ordinance the criteria for the location of, and other permitting requirements that do not conflict with state law or department rule for, all such dispensing facilities located within the unincorporated areas of that county. Except as provided in paragraph (c), a county or municipality may not enact ordinances for permitting or for determining the location of dispensing facilities which are more restrictive than its ordinances permitting or determining the locations for pharmacies licensed under chapter 465. A municipality or county may not charge a medical marijuana treatment center a license or permit fee in an amount greater than the fee charged by such municipality or county to pharmacies. A dispensing facility location approved by a municipality or county pursuant to former s. [381.986](#)(8)(b), Florida Statutes 2016, is not subject to the location requirements of this subsection.

(c) A medical marijuana treatment center dispensing facility may not be located within 500 feet of the real property that comprises a public or private elementary school, middle school, or secondary school unless the county or municipality approves the location through a formal proceeding open to the public at which the county or municipality determines that the location promotes the public health, safety, and general welfare of the community.

(d) This subsection does not prohibit any local jurisdiction from ensuring medical marijuana treatment center facilities comply with the Florida Building Code, the Florida Fire Prevention Code, or any local amendments to the Florida Building Code or the Florida Fire Prevention Code.

(12) PENALTIES.—

(a) A qualified physician commits a misdemeanor of the first degree, punishable as provided in s. [775.082](#) or s. [775.083](#), if the qualified physician issues a physician certification for the medical use of marijuana for a patient without a reasonable belief that the patient is suffering from a qualifying medical condition.

(b) A person who fraudulently represents that he or she has a qualifying medical condition to a qualified physician for the purpose of being issued a physician certification commits a misdemeanor of the first degree, punishable as provided in s. [775.082](#) or s. [775.083](#).

(c) A qualified patient who uses marijuana, not including low-THC cannabis, or a caregiver who administers marijuana, not including low-THC cannabis, in plain view of or in a place open to the general public; in a school bus, a vehicle, an aircraft, or a boat; or on the grounds of a school except as provided in s. [1006.062](#), commits a misdemeanor of the first degree, punishable as provided in s. [775.082](#) or s. [775.083](#).

(d) A qualified patient or caregiver who cultivates marijuana or who purchases or acquires marijuana from any person or entity other than a medical marijuana treatment center violates s. [893.13](#) and is subject to the penalties provided therein.

(e)1. A qualified patient or caregiver in possession of marijuana or a marijuana delivery device who fails or refuses to present his or her marijuana use registry identification card upon the request of a law enforcement officer commits a misdemeanor of the second degree, punishable as provided in s. [775.082](#) or s. [775.083](#), unless it can be determined through the medical marijuana use registry that the person is authorized to be in possession of that marijuana or marijuana delivery device.

2. A person charged with a violation of this paragraph may not be convicted if, before or at the time of his or her court or hearing appearance, the person produces in court or to the clerk of the court in which the charge is pending a medical marijuana use registry identification card issued to him or her which is valid at the time of his or her arrest. The clerk of the court is authorized to dismiss such case at any time before the defendant's appearance in court. The clerk of the court may assess a fee of \$5 for dismissing the case under this paragraph.

(f) A caregiver who violates any of the applicable provisions of this section or applicable department rules, for the first offense, commits a misdemeanor of the second degree, punishable as provided in s. [775.082](#) or s. [775.083](#) and, for a second or subsequent offense, commits a misdemeanor of the first degree, punishable as provided in s. [775.082](#) or s. [775.083](#).

(g) A qualified physician who issues a physician certification for marijuana or a marijuana delivery device and

receives compensation from a medical marijuana treatment center related to the issuance of a physician certification for marijuana or a marijuana delivery device is subject to disciplinary action under the applicable practice act and s. [456.072](#)(1)(n).

(h) A person transporting marijuana or marijuana delivery devices on behalf of a medical marijuana treatment center or marijuana testing laboratory who fails or refuses to present a transportation manifest upon the request of a law enforcement officer commits a misdemeanor of the second degree, punishable as provided in s. [775.082](#) or s. [775.083](#).

(i) Persons and entities conducting activities authorized and governed by this section and s. [381.988](#) are subject to ss. [456.053](#), [456.054](#), and [817.505](#), as applicable.

(j) A person or entity that cultivates, processes, distributes, sells, or dispenses marijuana, as defined in s. 29(b)(4), Art. X of the State Constitution, and is not licensed as a medical marijuana treatment center violates s. [893.13](#) and is subject to the penalties provided therein.

(k) A person who manufactures, distributes, sells, gives, or possesses with the intent to manufacture, distribute, sell, or give marijuana or a marijuana delivery device that he or she holds out to have originated from a licensed medical marijuana treatment center but that is counterfeit commits a felony of the third degree, punishable as provided in s. [775.082](#), s. [775.083](#), or s. [775.084](#). For the purposes of this paragraph, the term "counterfeit" means marijuana; a marijuana delivery device; or a marijuana or marijuana delivery device container, seal, or label which, without authorization, bears the trademark, trade name, or other identifying mark, imprint, or device, or any likeness thereof, of a licensed medical marijuana treatment center and which thereby falsely purports or is represented to be the product of, or to have been distributed by, that licensed medical marijuana treatment facility.

(l) Any person who possesses or manufactures a blank, forged, stolen, fictitious, fraudulent, counterfeit, or otherwise unlawfully issued medical marijuana use registry identification card commits a felony of the third degree, punishable as provided in s. [775.082](#), s. [775.083](#), or s. [775.084](#).

(13) UNLICENSED ACTIVITY.—

(a) If the department has probable cause to believe that a person or entity that is not registered or licensed with the department has violated this section, s. [381.988](#), or any rule adopted pursuant to this section, the department may issue and deliver to such person or entity a notice to cease and desist from such violation. The department also may issue and deliver a notice to cease and desist to any person or entity who aids and abets such unlicensed activity. The issuance of a notice to cease and desist does not constitute agency action for which a hearing under s. [120.569](#) or s. [120.57](#) may be sought. For the purpose of enforcing a cease and desist order, the department may file a proceeding in the name of the state seeking issuance of an injunction or a writ of mandamus against any person or entity who violates any provisions of such order.

(b) In addition to the remedies under paragraph (a), the department may impose by citation an administrative penalty not to exceed \$5,000 per incident. The citation shall be issued to the subject and must contain the subject's name and any other information the department determines to be necessary to identify the subject, a brief factual statement, the sections of the law allegedly violated, and the penalty imposed. If the subject does not dispute the matter in the citation with the department within 30 days after the citation is served, the citation shall become a final order of the department. The department may adopt rules pursuant to ss. [120.536](#)(1) and [120.54](#) to implement this section. Each day that the unlicensed activity continues after issuance of a notice to cease and desist constitutes a separate violation. The department shall be entitled to recover the costs of investigation and prosecution in addition to the fine levied pursuant to the citation. Service of a citation may be made by personal service or by mail to the subject at the subject's last known address or place of practice. If the department is required to seek enforcement of the cease and desist or agency order, it shall be entitled to collect attorney fees and costs.

(c) In addition to or in lieu of any other administrative remedy, the department may seek the imposition of a civil penalty through the circuit court for any violation for which the department may issue a notice to cease and desist. The civil penalty shall be no less than \$5,000 and no more than \$10,000 for each offense. The court may also

award to the prevailing party court costs and reasonable attorney fees and, in the event the department prevails, may also award reasonable costs of investigation and prosecution.

(d) In addition to the other remedies provided in this section, the department or any state attorney may bring an action for an injunction to restrain any unlicensed activity or to enjoin the future operation or maintenance of the unlicensed activity or the performance of any service in violation of this section.

(e) The department must notify local law enforcement of such unlicensed activity for a determination of any criminal violation of chapter 893.

(14) EXCEPTIONS TO OTHER LAWS.—

(a) Notwithstanding s. [893.13](#), s. [893.135](#), s. [893.147](#), or any other provision of law, but subject to the requirements of this section, a qualified patient and the qualified patient's caregiver may purchase from a medical marijuana treatment center for the patient's medical use a marijuana delivery device and up to the amount of marijuana authorized in the physician certification, but may not possess more than a 70-day supply of marijuana, or the greater of 4 ounces of marijuana in a form for smoking or an amount of marijuana in a form for smoking approved by the department pursuant to paragraph (4)(f), at any given time and all marijuana purchased must remain in its original packaging.

(b) Notwithstanding paragraph (a), s. [893.13](#), s. [893.135](#), s. [893.147](#), or any other provision of law, a qualified patient and the qualified patient's caregiver may purchase and possess a marijuana delivery device intended for the medical use of marijuana by smoking from a vendor other than a medical marijuana treatment center.

(c) Notwithstanding s. [893.13](#), s. [893.135](#), s. [893.147](#), or any other provision of law, but subject to the requirements of this section, an approved medical marijuana treatment center and its owners, managers, and employees may manufacture, possess, sell, deliver, distribute, dispense, and lawfully dispose of marijuana or a marijuana delivery device as provided in this section, s. [381.988](#), and by department rule. For the purposes of this subsection, the terms "manufacture," "possession," "deliver," "distribute," and "dispense" have the same meanings as provided in s. [893.02](#).

(d) Notwithstanding s. [893.13](#), s. [893.135](#), s. [893.147](#), or any other provision of law, but subject to the requirements of this section, a certified marijuana testing laboratory, including an employee of a certified marijuana testing laboratory acting within the scope of his or her employment, may acquire, possess, test, transport, and lawfully dispose of marijuana as provided in this section, in s. [381.988](#), and by department rule.

(e) A licensed medical marijuana treatment center and its owners, managers, and employees are not subject to licensure or regulation under chapter 465 or chapter 499 for manufacturing, possessing, selling, delivering, distributing, dispensing, or lawfully disposing of marijuana or a marijuana delivery device, as provided in this section, in s. [381.988](#), and by department rule.

(f) This subsection does not exempt a person from prosecution for a criminal offense related to impairment or intoxication resulting from the medical use of marijuana or relieve a person from any requirement under law to submit to a breath, blood, urine, or other test to detect the presence of a controlled substance.

(g) Notwithstanding s. [893.13](#), s. [893.135](#), s. [893.147](#), or any other provision of law, but subject to the requirements of this section and pursuant to policies and procedures established pursuant to s. [1006.62](#)(8), school personnel may possess marijuana that is obtained for medical use pursuant to this section by a student who is a qualified patient.

(h) Notwithstanding s. [893.13](#), s. [893.135](#), s. [893.147](#), or any other provision of law, but subject to the requirements of this section, a research institute established by a public postsecondary educational institution, such as the H. Lee Moffitt Cancer Center and Research Institute, Inc., established under s. [1004.43](#), or a state university that has achieved the preeminent state research university designation under s. [1001.7065](#) may possess, test, transport, and lawfully dispose of marijuana for research purposes as provided by this section.

(15) APPLICABILITY.—

(a) This section does not limit the ability of an employer to establish, continue, or enforce a drug-free workplace program or policy.

(b) This section does not require an employer to accommodate the medical use of marijuana in any workplace or

any employee working while under the influence of marijuana.

(c) This section does not create a cause of action against an employer for wrongful discharge or discrimination.

(d) This section does not impair the ability of any party to restrict or limit smoking or vaping marijuana on his or her private property.

(e) This section does not prohibit the medical use of marijuana or a caregiver assisting with the medical use of marijuana in a nursing home facility licensed under part II of chapter 400, a hospice facility licensed under part IV of chapter 400, or an assisted living facility licensed under part I of chapter 429, if the medical use of marijuana is not prohibited in the facility's policies.

(f) Marijuana, as defined in this section, is not reimbursable under chapter 440.

(16) FINES AND FEES.—Fines and fees collected by the department under this section shall be deposited in the Grants and Donations Trust Fund within the Department of Health.

^[2](17) Rules adopted pursuant to this section before July 1, 2020, are not subject to ss. [120.54](#)(3)(b) and [120.541](#). Notwithstanding paragraph (8)(e), a medical marijuana treatment center may use a laboratory that has not been certified by the department under s. [381.988](#) until such time as at least one laboratory holds the required certification pursuant to s. [381.988](#), but in no event later than July 1, 2020. This subsection expires July 1, 2020.

History.—s. 2, ch. 2014-157; s. 1, ch. 2016-123; s. 24, ch. 2016-145; ss. 1, 3, 18, ch. 2017-232; s. 29, ch. 2018-10; s. 43, ch. 2018-110; s. 1, ch. 2018-142; s. 1, ch. 2019-1; s. 39, ch. 2019-116.

^[1]**Note.**—

A. Section 1, ch. 2017-232, provides that “[i]t is the intent of the Legislature to implement s. 29, Article X of the State Constitution by creating a unified regulatory structure. If s. 29, Article X of the State Constitution is amended or a constitutional amendment related to cannabis or marijuana is adopted, this act shall expire 6 months after the effective date of such amendment.” If such amendment or adoption takes place, s. 381.986, as amended by s. 1, ch. 2017-232, will read:

381.986 Compassionate use of low-THC and medical cannabis.—

(1) DEFINITIONS.—As used in this section, the term:

(a) “Cannabis delivery device” means an object used, intended for use, or designed for use in preparing, storing, ingesting, inhaling, or otherwise introducing low-THC cannabis or medical cannabis into the human body.

(b) “Dispensing organization” means an organization approved by the department to cultivate, process, transport, and dispense low-THC cannabis or medical cannabis pursuant to this section.

(c) “Independent testing laboratory” means a laboratory, including the managers, employees, or contractors of the laboratory, which has no direct or indirect interest in a dispensing organization.

(d) “Legal representative” means the qualified patient’s parent, legal guardian acting pursuant to a court’s authorization as required under s. 744.3215(4), health care surrogate acting pursuant to the qualified patient’s written consent or a court’s authorization as required under s. 765.113, or an individual who is authorized under a power of attorney to make health care decisions on behalf of the qualified patient.

(e) “Low-THC cannabis” means a plant of the genus *Cannabis*, the dried flowers of which contain 0.8 percent or less of tetrahydrocannabinol and more than 10 percent of cannabidiol weight for weight; the seeds thereof; the resin extracted from any part of such plant; or any compound, manufacture, salt, derivative, mixture, or preparation of such plant or its seeds or resin that is dispensed only from a dispensing organization.

(f) “Medical cannabis” means all parts of any plant of the genus *Cannabis*, whether growing or not; the seeds thereof; the resin extracted from any part of the plant; and every compound, manufacture, sale, derivative, mixture, or preparation of the plant or its seeds or resin that is dispensed only from a dispensing organization for medical use by an eligible patient as defined in s. 499.0295.

(g) “Medical use” means administration of the ordered amount of low-THC cannabis or medical cannabis. The term does not include the:

1. Possession, use, or administration of low-THC cannabis or medical cannabis by smoking.
2. Transfer of low-THC cannabis or medical cannabis to a person other than the qualified patient for whom it was ordered or the qualified patient’s legal representative on behalf of the qualified patient.
3. Use or administration of low-THC cannabis or medical cannabis:
 - a. On any form of public transportation.
 - b. In any public place.
 - c. In a qualified patient’s place of employment, if restricted by his or her employer.
 - d. In a state correctional institution as defined in s. 944.02 or a correctional institution as defined in s. 944.241.
 - e. On the grounds of a preschool, primary school, or secondary school.
 - f. On a school bus or in a vehicle, aircraft, or motorboat.

(h) “Qualified patient” means a resident of this state who has been added to the compassionate use registry by a physician licensed under chapter 458 or chapter 459 to receive low-THC cannabis or medical cannabis from a dispensing organization.

(i) "Smoking" means burning or igniting a substance and inhaling the smoke. Smoking does not include the use of a vaporizer.

(2) PHYSICIAN ORDERING.—A physician is authorized to order low-THC cannabis to treat a qualified patient suffering from cancer or a physical medical condition that chronically produces symptoms of seizures or severe and persistent muscle spasms; order low-THC cannabis to alleviate symptoms of such disease, disorder, or condition, if no other satisfactory alternative treatment options exist for the qualified patient; order medical cannabis to treat an eligible patient as defined in s. 499.0295; or order a cannabis delivery device for the medical use of low-THC cannabis or medical cannabis, only if the physician:

- (a) Holds an active, unrestricted license as a physician under chapter 458 or an osteopathic physician under chapter 459;
- (b) Has treated the patient for at least 3 months immediately preceding the patient's registration in the compassionate use registry;
- (c) Has successfully completed the course and examination required under paragraph (4)(a);
- (d) Has determined that the risks of treating the patient with low-THC cannabis or medical cannabis are reasonable in light of the potential benefit to the patient. If a patient is younger than 18 years of age, a second physician must concur with this determination, and such determination must be documented in the patient's medical record;
- (e) Registers as the orderer of low-THC cannabis or medical cannabis for the named patient on the compassionate use registry maintained by the department and updates the registry to reflect the contents of the order, including the amount of low-THC cannabis or medical cannabis that will provide the patient with not more than a 45-day supply and a cannabis delivery device needed by the patient for the medical use of low-THC cannabis or medical cannabis. The physician must also update the registry within 7 days after any change is made to the original order to reflect the change. The physician shall deactivate the registration of the patient and the patient's legal representative when treatment is discontinued;
- (f) Maintains a patient treatment plan that includes the dose, route of administration, planned duration, and monitoring of the patient's symptoms and other indicators of tolerance or reaction to the low-THC cannabis or medical cannabis;
- (g) Submits the patient treatment plan quarterly to the University of Florida College of Pharmacy for research on the safety and efficacy of low-THC cannabis and medical cannabis on patients;
- (h) Obtains the voluntary written informed consent of the patient or the patient's legal representative to treatment with low-THC cannabis after sufficiently explaining the current state of knowledge in the medical community of the effectiveness of treatment of the patient's condition with low-THC cannabis, the medically acceptable alternatives, and the potential risks and side effects;
- (i) Obtains written informed consent as defined in and required under s. 499.0295, if the physician is ordering medical cannabis for an eligible patient pursuant to that section; and
- (j) Is not a medical director employed by a dispensing organization.

(3) PENALTIES.—

(a) A physician commits a misdemeanor of the first degree, punishable as provided in s. 775.082 or s. 775.083, if the physician orders low-THC cannabis for a patient without a reasonable belief that the patient is suffering from:

- 1. Cancer or a physical medical condition that chronically produces symptoms of seizures or severe and persistent muscle spasms that can be treated with low-THC cannabis; or
- 2. Symptoms of cancer or a physical medical condition that chronically produces symptoms of seizures or severe and persistent muscle spasms that can be alleviated with low-THC cannabis.

(b) A physician commits a misdemeanor of the first degree, punishable as provided in s. 775.082 or s. 775.083, if the physician orders medical cannabis for a patient without a reasonable belief that the patient has a terminal condition as defined in s. 499.0295.

(c) A person who fraudulently represents that he or she has cancer, a physical medical condition that chronically produces symptoms of seizures or severe and persistent muscle spasms, or a terminal condition to a physician for the purpose of being ordered low-THC cannabis, medical cannabis, or a cannabis delivery device by such physician commits a misdemeanor of the first degree, punishable as provided in s. 775.082 or s. 775.083.

(d) An eligible patient as defined in s. 499.0295 who uses medical cannabis, and such patient's legal representative who administers medical cannabis, in plain view of or in a place open to the general public, on the grounds of a school, or in a school bus, vehicle, aircraft, or motorboat, commits a misdemeanor of the first degree, punishable as provided in s. 775.082 or s. 775.083.

(e) A physician who orders low-THC cannabis, medical cannabis, or a cannabis delivery device and receives compensation from a dispensing organization related to the ordering of low-THC cannabis, medical cannabis, or a cannabis delivery device is subject to disciplinary action under the applicable practice act and s. 456.072(1)(n).

(4) PHYSICIAN EDUCATION.—

(a) Before ordering low-THC cannabis, medical cannabis, or a cannabis delivery device for medical use by a patient in this state, the appropriate board shall require the ordering physician to successfully complete an 8-hour course and subsequent examination offered by the Florida Medical Association or the Florida Osteopathic Medical Association that encompasses the clinical indications for the appropriate use of low-THC cannabis and medical cannabis, the appropriate cannabis delivery devices, the contraindications for such use, and the relevant state and federal laws governing the ordering, dispensing, and possessing of these substances and devices. The course and examination shall be administered at least annually. Successful completion of the course may be used by a physician to satisfy 8 hours of the continuing medical education requirements required by his or her respective board for licensure renewal. This course may be offered in a distance learning format.

(b) The appropriate board shall require the medical director of each dispensing organization to hold an active, unrestricted license as a

physician under chapter 458 or as an osteopathic physician under chapter 459 and successfully complete a 2-hour course and subsequent examination offered by the Florida Medical Association or the Florida Osteopathic Medical Association that encompasses appropriate safety procedures and knowledge of low-THC cannabis, medical cannabis, and cannabis delivery devices.

(c) Successful completion of the course and examination specified in paragraph (a) is required for every physician who orders low-THC cannabis, medical cannabis, or a cannabis delivery device each time such physician renews his or her license. In addition, successful completion of the course and examination specified in paragraph (b) is required for the medical director of each dispensing organization each time such physician renews his or her license.

(d) A physician who fails to comply with this subsection and who orders low-THC cannabis, medical cannabis, or a cannabis delivery device may be subject to disciplinary action under the applicable practice act and under s. 456.072(1)(k).

(5) DUTIES OF THE DEPARTMENT.—The department shall:

(a) Create and maintain a secure, electronic, and online compassionate use registry for the registration of physicians, patients, and the legal representatives of patients as provided under this section. The registry must be accessible to law enforcement agencies and to a dispensing organization to verify the authorization of a patient or a patient's legal representative to possess low-THC cannabis, medical cannabis, or a cannabis delivery device and record the low-THC cannabis, medical cannabis, or cannabis delivery device dispensed. The registry must prevent an active registration of a patient by multiple physicians.

(b) Authorize the establishment of five dispensing organizations to ensure reasonable statewide accessibility and availability as necessary for patients registered in the compassionate use registry and who are ordered low-THC cannabis, medical cannabis, or a cannabis delivery device under this section, one in each of the following regions: northwest Florida, northeast Florida, central Florida, southeast Florida, and southwest Florida. The department shall develop an application form and impose an initial application and biennial renewal fee that is sufficient to cover the costs of administering this section. An applicant for approval as a dispensing organization must be able to demonstrate:

1. The technical and technological ability to cultivate and produce low-THC cannabis. The applicant must possess a valid certificate of registration issued by the Department of Agriculture and Consumer Services pursuant to s. 581.131 that is issued for the cultivation of more than 400,000 plants, be operated by a nurseryman as defined in s. 581.011, and have been operated as a registered nursery in this state for at least 30 continuous years.

2. The ability to secure the premises, resources, and personnel necessary to operate as a dispensing organization.

3. The ability to maintain accountability of all raw materials, finished products, and any byproducts to prevent diversion or unlawful access to or possession of these substances.

4. An infrastructure reasonably located to dispense low-THC cannabis to registered patients statewide or regionally as determined by the department.

5. The financial ability to maintain operations for the duration of the 2-year approval cycle, including the provision of certified financials to the department. Upon approval, the applicant must post a \$5 million performance bond. However, upon a dispensing organization's serving at least 1,000 qualified patients, the dispensing organization is only required to maintain a \$2 million performance bond.

6. That all owners and managers have been fingerprinted and have successfully passed a level 2 background screening pursuant to s. 435.04.

7. The employment of a medical director to supervise the activities of the dispensing organization.

(c) Upon the registration of 250,000 active qualified patients in the compassionate use registry, approve three dispensing organizations, including, but not limited to, an applicant that is a recognized class member of *Pigford v. Glickman*, 185 F.R.D. 82 (D.D.C. 1999), or *In Re Black Farmers Litig.*, 856 F. Supp. 2d 1 (D.D.C. 2011), and a member of the Black Farmers and Agriculturalists Association, which must meet the requirements of subparagraphs (b)2.-7. and demonstrate the technical and technological ability to cultivate and produce low-THC cannabis.

(d) Allow a dispensing organization to make a wholesale purchase of low-THC cannabis or medical cannabis from, or a distribution of low-THC cannabis or medical cannabis to, another dispensing organization.

(e) Monitor physician registration and ordering of low-THC cannabis, medical cannabis, or a cannabis delivery device for ordering practices that could facilitate unlawful diversion or misuse of low-THC cannabis, medical cannabis, or a cannabis delivery device and take disciplinary action as indicated.

(6) DISPENSING ORGANIZATION.—An approved dispensing organization must, at all times, maintain compliance with the criteria demonstrated for selection and approval as a dispensing organization under subsection (5) and the criteria required in this subsection.

(a) When growing low-THC cannabis or medical cannabis, a dispensing organization:

1. May use pesticides determined by the department, after consultation with the Department of Agriculture and Consumer Services, to be safely applied to plants intended for human consumption, but may not use pesticides designated as restricted-use pesticides pursuant to s. 487.042.

2. Must grow low-THC cannabis or medical cannabis within an enclosed structure and in a room separate from any other plant.

3. Must inspect seeds and growing plants for plant pests that endanger or threaten the horticultural and agricultural interests of the state, notify the Department of Agriculture and Consumer Services within 10 calendar days after a determination that a plant is infested or infected by such plant pest, and implement and maintain phytosanitary policies and procedures.

4. Must perform fumigation or treatment of plants, or the removal and destruction of infested or infected plants, in accordance with

chapter 581 and any rules adopted thereunder.

(b) When processing low-THC cannabis or medical cannabis, a dispensing organization must:

1. Process the low-THC cannabis or medical cannabis within an enclosed structure and in a room separate from other plants or products.
2. Test the processed low-THC cannabis and medical cannabis before they are dispensed. Results must be verified and signed by two dispensing organization employees. Before dispensing low-THC cannabis, the dispensing organization must determine that the test results indicate that the low-THC cannabis meets the definition of low-THC cannabis and, for medical cannabis and low-THC cannabis, that all medical cannabis and low-THC cannabis is safe for human consumption and free from contaminants that are unsafe for human consumption. The dispensing organization must retain records of all testing and samples of each homogenous batch of cannabis and low-THC cannabis for at least 9 months. The dispensing organization must contract with an independent testing laboratory to perform audits on the dispensing organization's standard operating procedures, testing records, and samples and provide the results to the department to confirm that the low-THC cannabis or medical cannabis meets the requirements of this section and that the medical cannabis and low-THC cannabis is safe for human consumption.

3. Package the low-THC cannabis or medical cannabis in compliance with the United States Poison Prevention Packaging Act of 1970, 15 U.S.C. ss. 1471 et seq.

4. Package the low-THC cannabis or medical cannabis in a receptacle that has a firmly affixed and legible label stating the following information:

- a. A statement that the low-THC cannabis or medical cannabis meets the requirements of subparagraph 2.;
- b. The name of the dispensing organization from which the medical cannabis or low-THC cannabis originates; and
- c. The batch number and harvest number from which the medical cannabis or low-THC cannabis originates.

5. Reserve two processed samples from each batch and retain such samples for at least 9 months for the purpose of testing pursuant to the audit required under subparagraph 2.

(c) When dispensing low-THC cannabis, medical cannabis, or a cannabis delivery device, a dispensing organization:

1. May not dispense more than a 45-day supply of low-THC cannabis or medical cannabis to a patient or the patient's legal representative.

2. Must have the dispensing organization's employee who dispenses the low-THC cannabis, medical cannabis, or a cannabis delivery device enter into the compassionate use registry his or her name or unique employee identifier.

3. Must verify in the compassionate use registry that a physician has ordered the low-THC cannabis, medical cannabis, or a specific type of a cannabis delivery device for the patient.

4. May not dispense or sell any other type of cannabis, alcohol, or illicit drug-related product, including pipes, bongs, or wrapping papers, other than a physician-ordered cannabis delivery device required for the medical use of low-THC cannabis or medical cannabis, while dispensing low-THC cannabis or medical cannabis.

5. Must verify that the patient has an active registration in the compassionate use registry, the patient or patient's legal representative holds a valid and active registration card, the order presented matches the order contents as recorded in the registry, and the order has not already been filled.

6. Must, upon dispensing the low-THC cannabis, medical cannabis, or cannabis delivery device, record in the registry the date, time, quantity, and form of low-THC cannabis or medical cannabis dispensed and the type of cannabis delivery device dispensed.

(d) To ensure the safety and security of its premises and any off-site storage facilities, and to maintain adequate controls against the diversion, theft, and loss of low-THC cannabis, medical cannabis, or cannabis delivery devices, a dispensing organization shall:

- 1.a. Maintain a fully operational security alarm system that secures all entry points and perimeter windows and is equipped with motion detectors; pressure switches; and duress, panic, and hold-up alarms; or

- b. Maintain a video surveillance system that records continuously 24 hours each day and meets at least one of the following criteria:

- (I) Cameras are fixed in a place that allows for the clear identification of persons and activities in controlled areas of the premises. Controlled areas include grow rooms, processing rooms, storage rooms, disposal rooms or areas, and point-of-sale rooms;

- (II) Cameras are fixed in entrances and exits to the premises, which shall record from both indoor and outdoor, or ingress and egress, vantage points;

- (III) Recorded images must clearly and accurately display the time and date; or

- (IV) Retain video surveillance recordings for a minimum of 45 days or longer upon the request of a law enforcement agency.

2. Ensure that the organization's outdoor premises have sufficient lighting from dusk until dawn.

3. Establish and maintain a tracking system approved by the department that traces the low-THC cannabis or medical cannabis from seed to sale. The tracking system shall include notification of key events as determined by the department, including when cannabis seeds are planted, when cannabis plants are harvested and destroyed, and when low-THC cannabis or medical cannabis is transported, sold, stolen, diverted, or lost.

4. Not dispense from its premises low-THC cannabis, medical cannabis, or a cannabis delivery device between the hours of 9 p.m. and 7 a.m., but may perform all other operations and deliver low-THC cannabis and medical cannabis to qualified patients 24 hours each day.

5. Store low-THC cannabis or medical cannabis in a secured, locked room or a vault.

6. Require at least two of its employees, or two employees of a security agency with whom it contracts, to be on the premises at all times.

7. Require each employee to wear a photo identification badge at all times while on the premises.
8. Require each visitor to wear a visitor's pass at all times while on the premises.
9. Implement an alcohol and drug-free workplace policy.
10. Report to local law enforcement within 24 hours after it is notified or becomes aware of the theft, diversion, or loss of low-THC cannabis or medical cannabis.

(e) To ensure the safe transport of low-THC cannabis or medical cannabis to dispensing organization facilities, independent testing laboratories, or patients, the dispensing organization must:

1. Maintain a transportation manifest, which must be retained for at least 1 year.
2. Ensure only vehicles in good working order are used to transport low-THC cannabis or medical cannabis.
3. Lock low-THC cannabis or medical cannabis in a separate compartment or container within the vehicle.
4. Require at least two persons to be in a vehicle transporting low-THC cannabis or medical cannabis, and require at least one person to remain in the vehicle while the low-THC cannabis or medical cannabis is being delivered.
5. Provide specific safety and security training to employees transporting or delivering low-THC cannabis or medical cannabis.

(7) DEPARTMENT AUTHORITY AND RESPONSIBILITIES.—

(a) The department may conduct announced or unannounced inspections of dispensing organizations to determine compliance with this section or rules adopted pursuant to this section.

(b) The department shall inspect a dispensing organization upon complaint or notice provided to the department that the dispensing organization has dispensed low-THC cannabis or medical cannabis containing any mold, bacteria, or other contaminant that may cause or has caused an adverse effect to human health or the environment.

(c) The department shall conduct at least a biennial inspection of each dispensing organization to evaluate the dispensing organization's records, personnel, equipment, processes, security measures, sanitation practices, and quality assurance practices.

(d) The department may enter into interagency agreements with the Department of Agriculture and Consumer Services, the Department of Business and Professional Regulation, the Department of Transportation, the Department of Highway Safety and Motor Vehicles, and the Agency for Health Care Administration, and such agencies are authorized to enter into an interagency agreement with the department, to conduct inspections or perform other responsibilities assigned to the department under this section.

(e) The department must make a list of all approved dispensing organizations and qualified ordering physicians and medical directors publicly available on its website.

(f) The department may establish a system for issuing and renewing registration cards for patients and their legal representatives, establish the circumstances under which the cards may be revoked by or must be returned to the department, and establish fees to implement such system. The department must require, at a minimum, the registration cards to:

1. Provide the name, address, and date of birth of the patient or legal representative.
2. Have a full-face, passport-type, color photograph of the patient or legal representative taken within the 90 days immediately preceding registration.
3. Identify whether the cardholder is a patient or legal representative.
4. List a unique numeric identifier for the patient or legal representative that is matched to the identifier used for such person in the department's compassionate use registry.
5. Provide the expiration date, which shall be 1 year after the date of the physician's initial order of low-THC cannabis or medical cannabis.
6. For the legal representative, provide the name and unique numeric identifier of the patient that the legal representative is assisting.
7. Be resistant to counterfeiting or tampering.

(g) The department may impose reasonable fines not to exceed \$10,000 on a dispensing organization for any of the following violations:

1. Violating this section, s. 499.0295, or department rule.
2. Failing to maintain qualifications for approval.
3. Endangering the health, safety, or security of a qualified patient.
4. Improperly disclosing personal and confidential information of the qualified patient.
5. Attempting to procure dispensing organization approval by bribery, fraudulent misrepresentation, or extortion.
6. Being convicted or found guilty of, or entering a plea of guilty or nolo contendere to, regardless of adjudication, a crime in any jurisdiction which directly relates to the business of a dispensing organization.
7. Making or filing a report or record that the dispensing organization knows to be false.
8. Willfully failing to maintain a record required by this section or department rule.
9. Willfully impeding or obstructing an employee or agent of the department in the furtherance of his or her official duties.
10. Engaging in fraud or deceit, negligence, incompetence, or misconduct in the business practices of a dispensing organization.
11. Making misleading, deceptive, or fraudulent representations in or related to the business practices of a dispensing organization.
12. Having a license or the authority to engage in any regulated profession, occupation, or business that is related to the business practices of a dispensing organization suspended, revoked, or otherwise acted against by the licensing authority of any jurisdiction, including its agencies or subdivisions, for a violation that would constitute a violation under Florida law.
13. Violating a lawful order of the department or an agency of the state, or failing to comply with a lawfully issued subpoena of the

department or an agency of the state.

(h) The department may suspend, revoke, or refuse to renew a dispensing organization's approval if a dispensing organization commits any of the violations in paragraph (g).

(i) The department shall renew the approval of a dispensing organization biennially if the dispensing organization meets the requirements of this section and pays the biennial renewal fee.

(j) The department may adopt rules necessary to implement this section.

(8) PREEMPTION.—

(a) All matters regarding the regulation of the cultivation and processing of medical cannabis or low-THC cannabis by dispensing organizations are preempted to the state.

(b) A municipality may determine by ordinance the criteria for the number and location of, and other permitting requirements that do not conflict with state law or department rule for, dispensing facilities of dispensing organizations located within its municipal boundaries. A county may determine by ordinance the criteria for the number, location, and other permitting requirements that do not conflict with state law or department rule for all dispensing facilities of dispensing organizations located within the unincorporated areas of that county.

(9) EXCEPTIONS TO OTHER LAWS.—

(a) Notwithstanding s. 893.13, s. 893.135, s. 893.147, or any other provision of law, but subject to the requirements of this section, a qualified patient and the qualified patient's legal representative may purchase and possess for the patient's medical use up to the amount of low-THC cannabis or medical cannabis ordered for the patient, but not more than a 45-day supply, and a cannabis delivery device ordered for the patient.

(b) Notwithstanding s. 893.13, s. 893.135, s. 893.147, or any other provision of law, but subject to the requirements of this section, an approved dispensing organization and its owners, managers, and employees may manufacture, possess, sell, deliver, distribute, dispense, and lawfully dispose of reasonable quantities, as established by department rule, of low-THC cannabis, medical cannabis, or a cannabis delivery device. For purposes of this subsection, the terms "manufacture," "possession," "deliver," "distribute," and "dispense" have the same meanings as provided in s. 893.02.

(c) Notwithstanding s. 893.13, s. 893.135, s. 893.147, or any other provision of law, but subject to the requirements of this section, an approved independent testing laboratory may possess, test, transport, and lawfully dispose of low-THC cannabis or medical cannabis as provided by department rule.

(d) An approved dispensing organization and its owners, managers, and employees are not subject to licensure or regulation under chapter 465 or chapter 499 for manufacturing, possessing, selling, delivering, distributing, dispensing, or lawfully disposing of reasonable quantities, as established by department rule, of low-THC cannabis, medical cannabis, or a cannabis delivery device.

(e) An approved dispensing organization that continues to meet the requirements for approval is presumed to be registered with the department and to meet the regulations adopted by the department or its successor agency for the purpose of dispensing medical cannabis or low-THC cannabis under Florida law. Additionally, the authority provided to a dispensing organization in s. 499.0295 does not impair the approval of a dispensing organization.

(f) This subsection does not exempt a person from prosecution for a criminal offense related to impairment or intoxication resulting from the medical use of low-THC cannabis or medical cannabis or relieve a person from any requirement under law to submit to a breath, blood, urine, or other test to detect the presence of a controlled substance.

B. Section 14(1), ch. 2017-232, as amended by s. 41, ch. 2019-116, "[i]n order to implement Specific Appropriations 467, 468, and 474 of the 2019-2020 General Appropriations Act," provides that:

"(1) EMERGENCY RULEMAKING.—

"(a) The Department of Health and the applicable boards shall adopt emergency rules pursuant to s. 120.54(4), Florida Statutes, and this section necessary to implement ss. 381.986 and 381.988, Florida Statutes. If an emergency rule adopted under this section is held to be unconstitutional or an invalid exercise of delegated legislative authority, and becomes void, the department or the applicable boards may adopt an emergency rule pursuant to this section to replace the rule that has become void. If the emergency rule adopted to replace the void emergency rule is also held to be unconstitutional or an invalid exercise of delegated legislative authority and becomes void, the department and the applicable boards must follow the nonemergency rulemaking procedures of the Administrative Procedures Act to replace the rule that has become void.

"(b) For emergency rules adopted under this section, the department and the applicable boards need not make the findings required by s. 120.54(4)(a), Florida Statutes. Emergency rules adopted under this section are exempt from ss. 120.54(3)(b) and 120.541, Florida Statutes. The department and the applicable boards shall meet the procedural requirements in s. 120.54(4)(a), Florida Statutes, if the department or the applicable boards have, before July 1, 2019, held any public workshops or hearings on the subject matter of the emergency rules adopted under this subsection. Challenges to emergency rules adopted under this subsection are subject to the time schedules provided in s. 120.56(5), Florida Statutes.

"(c) Emergency rules adopted under this section are exempt from s. 120.54(4)(c), Florida Statutes, and shall remain in effect until replaced by rules adopted under the nonemergency rulemaking procedures of the Administrative Procedures Act. Rules adopted under the nonemergency rulemaking procedures of the Administrative Procedures Act to replace emergency rules adopted under this section are exempt from ss. 120.54(3)(b) and 120.541, Florida Statutes. By July 1, 2020, the department and the applicable boards shall initiate nonemergency rulemaking pursuant to the Administrative Procedures Act to replace all emergency rules adopted under this section by

publishing a notice of rule development in the Florida Administrative Register. Except as provided in paragraph (a), after July 1, 2020, the department and applicable boards may not adopt rules pursuant to the emergency rulemaking procedures provided in this section."

C. Section 42, ch. 2019-116, provides that "[t]he amendment to s. 14(1) of chapter 2017-232, Laws of Florida, by this act expires July 1, 2020, and the text of that subsection shall revert to that in existence on June 30, 2019, except that any amendments to such text enacted other than by this act shall be preserved and continue to operate to the extent that such amendments are not dependent upon the portions of text which expire pursuant to this section." Effective July 1, 2020, s. 14(1), ch. 2017-232, as amended by s. 42, ch. 2019-116, will read:

"(1) EMERGENCY RULEMAKING.—

"(a) The Department of Health and the applicable boards shall adopt emergency rules pursuant to s. 120.54(4), Florida Statutes, and this section necessary to implement ss. 381.986 and 381.988, Florida Statutes. If an emergency rule adopted under this section is held to be unconstitutional or an invalid exercise of delegated legislative authority, and becomes void, the department or the applicable boards may adopt an emergency rule pursuant to this section to replace the rule that has become void. If the emergency rule adopted to replace the void emergency rule is also held to be unconstitutional or an invalid exercise of delegated legislative authority and becomes void, the department and the applicable boards must follow the nonemergency rulemaking procedures of the Administrative Procedures Act to replace the rule that has become void.

"(b) For emergency rules adopted under this section, the department and the applicable boards need not make the findings required by s. 120.54(4)(a), Florida Statutes. Emergency rules adopted under this section are exempt from ss. 120.54(3)(b) and 120.541, Florida Statutes. The department and the applicable boards shall meet the procedural requirements in s. 120.54(a), Florida Statutes, if the department or the applicable boards have, before [June 23, 2017], held any public workshops or hearings on the subject matter of the emergency rules adopted under this subsection. Challenges to emergency rules adopted under this subsection are subject to the time schedules provided in s. 120.56(5), Florida Statutes.

"(c) Emergency rules adopted under this section are exempt from s. 120.54(4)(c), Florida Statutes, and shall remain in effect until replaced by rules adopted under the nonemergency rulemaking procedures of the Administrative Procedures Act. By January 1, 2018, the department and the applicable boards shall initiate nonemergency rulemaking pursuant to the Administrative Procedures Act to replace all emergency rules adopted under this section by publishing a notice of rule development in the Florida Administrative Register. Except as provided in paragraph (a), after January 1, 2018, the department and applicable boards may not adopt rules pursuant to the emergency rulemaking procedures provided in this section."

^[2]**Note.**—Section 39, ch. 2019-116, amended subsection (17) "[i]n order to implement Specific Appropriations 467, 468, and 474 of the 2019-2020 General Appropriations Act."

581.217 State hemp program.—

(1) **CREATION AND PURPOSE.**—The state hemp program is created within the department to regulate the cultivation of hemp in the state. This section constitutes the state plan for the regulation of the cultivation of hemp for purposes of 7 U.S.C. s. 1639p.

(2) **LEGISLATIVE FINDINGS.**—The Legislature finds that:

(a) Hemp is an agricultural commodity.

(b) Hemp-derived cannabinoids, including, but not limited to, cannabidiol, are not controlled substances or adulterants.

(3) **DEFINITIONS.**—As used in this section, the term:

(a) “Certifying agency” has the same meaning as in s. [578.011](#)(8).

(b) “Contaminants unsafe for human consumption” includes, but is not limited to, any microbe, fungus, yeast, mildew, herbicide, pesticide, fungicide, residual solvent, metal, or other contaminant found in any amount that exceeds any of the accepted limitations as determined by rules adopted by the Department of Health in accordance with s. [381.986](#), or other limitation pursuant to the laws of this state, whichever amount is less.

(c) “Cultivate” means planting, watering, growing, or harvesting hemp.

(d) “Hemp” means the plant *Cannabis sativa* L. and any part of that plant, including the seeds thereof, and all derivatives, extracts, cannabinoids, isomers, acids, salts, and salts of isomers thereof, whether growing or not, that has a total delta-9-tetrahydrocannabinol concentration that does not exceed 0.3 percent on a dry-weight basis.

(e) “Hemp extract” means a substance or compound intended for ingestion that is derived from or contains hemp and that does not contain other controlled substances.

(f) “Independent testing laboratory” means a laboratory that:

1. Does not have a direct or indirect interest in the entity whose product is being tested;

2. Does not have a direct or indirect interest in a facility that cultivates, processes, distributes, dispenses, or sells hemp or hemp extract in the state or in another jurisdiction or cultivates, processes, distributes, dispenses, or sells marijuana, as defined in s. [381.986](#); and

3. Is accredited by a third-party accrediting body as a competent testing laboratory pursuant to ISO/IEC 17025 of the International Organization for Standardization.

(4) **FEDERAL APPROVAL.**—The department shall seek approval of the state plan for the regulation of the cultivation of hemp with the United States Secretary of Agriculture in accordance with 7 U.S.C. s. 1639p within 30 days after adopting rules. If the state plan is not approved by the United States Secretary of Agriculture, the Commissioner of Agriculture, in consultation with and with final approval from the Administration Commission, shall develop a recommendation to amend the state plan and submit the recommendation to the Legislature.

(5) **LICENSURE.**—

(a) It is unlawful for a person to cultivate hemp in this state without a license issued by the department.

(b) A person seeking to cultivate hemp must apply to the department for a license on a form prescribed by the department and must submit a full set of fingerprints to the department along with the application.

1. The department shall forward the fingerprints to the Department of Law Enforcement for state processing, and the Department of Law Enforcement shall forward the fingerprints to the Federal Bureau of Investigation for national processing.

2. Fingerprints submitted to the Department of Law Enforcement pursuant to this paragraph must be retained by the Department of Law Enforcement as provided in s. [943.05](#)(2)(g) and (h) and must be retained as provided in s. [943.05](#)(4) when the Department of Law Enforcement begins participation in the Federal Bureau of Investigation’s national retained fingerprint arrest notification program.

3. Any arrest record identified shall be reported to the department.

(c) The department shall adopt rules establishing procedures for the issuance and annual renewal of a hemp license.

(d) A person seeking to cultivate hemp must provide to the department the legal land description and global

positioning coordinates of the area where hemp will be cultivated.

(e) The department shall deny the issuance of a hemp license to an applicant, or refuse to renew the hemp license of a licensee, if the department finds that the applicant or licensee:

1. Has falsified any information contained in an application for a hemp license or hemp license renewal; or
2. Has been convicted of a felony relating to a controlled substance under state or federal law. A hemp license may not be issued for 10 years following the date of the conviction.

(6) HEMP SEED.—A licensee may only use hemp seeds and cultivars certified by a certifying agency or a university conducting an industrial hemp pilot project pursuant to s. [1004.4473](#).

(7) DISTRIBUTION AND RETAIL SALE OF HEMP EXTRACT.—Hemp extract may only be distributed and sold in the state if the product:

- (a) Has a certificate of analysis prepared by an independent testing laboratory that states:
 1. The hemp extract is the product of a batch tested by the independent testing laboratory;
 2. The batch contained a total delta-9-tetrahydrocannabinol concentration that did not exceed 0.3 percent on a dry-weight basis pursuant to the testing of a random sample of the batch; and
 3. The batch does not contain contaminants unsafe for human consumption.
- (b) Is distributed or sold in packaging that includes:
 1. A scannable barcode or quick response code linked to the certificate of analysis of the hemp extract by an independent testing laboratory;
 2. The batch number;
 3. The Internet address of a website where batch information may be obtained;
 4. The expiration date;
 5. The number of milligrams of hemp extract; and
 6. A statement that the product contains a total delta-9-tetrahydrocannabinol concentration that does not exceed 0.3 percent on a dry-weight basis.

(8) LAND REGISTRY.—The department shall maintain a registry of land on which hemp is cultivated or has been cultivated within the past 3 calendar years, including the global positioning coordinates and legal land description for each location.

(9) DEPARTMENT REPORTING.—The department shall submit monthly to the United States Secretary of Agriculture a report of the locations in the state where hemp is cultivated or has been cultivated within the past 3 calendar years. The report must include the contact information for each licensee.

(10) VIOLATIONS.—

(a) A licensee must complete a corrective action plan if the department determines that the licensee has negligently violated this section or department rules, including negligently:

1. Failing to provide the legal land description and global positioning coordinates pursuant to subsection (5);
2. Failing to obtain a proper license or other required authorization from the department; or
3. Producing *Cannabis sativa* L. that has a total delta-9-tetrahydrocannabinol concentration that exceeds 0.3 percent on a dry-weight basis.

(b) The corrective action plan must include:

1. A reasonable date by which the licensee must correct the negligent violation; and
2. A requirement that the licensee periodically report to the department on compliance with this section and department rules for a period of at least 2 calendar years after the date of the violation.

(c) A licensee who negligently violates the corrective action plan under this subsection three times within 5 years is ineligible to cultivate hemp for 5 years following the date of the third violation.

(d) If the department determines that a licensee has violated this section or department rules with a culpable mental state greater than negligence, the department shall immediately report the licensee to the Attorney General and the United States Attorney General.

(11) ENFORCEMENT.—

(a) The department shall enforce this section.

(b) Every state attorney, sheriff, police officer, and other appropriate county or municipal officer shall enforce, or assist any agent of the department in enforcing, this section and rules adopted by the department.

(c) The department, or its agent, is authorized to enter any public or private premises during regular business hours in the performance of its duties relating to hemp cultivation.

(d) The department shall conduct random inspections, at least annually, of each licensee to ensure that only certified hemp seeds are being used and that hemp is being cultivated in compliance with this section.

(12) **RULES.**—By August 1, 2019, the department, in consultation with the Department of Health and the Department of Business and Professional Regulation, shall initiate rulemaking to administer the state hemp program. The rules must provide for:

(a) A procedure that uses post-decarboxylation or other similarly reliable methods for testing the delta-9-tetrahydrocannabinol concentration of cultivated hemp.

(b) A procedure for the effective disposal of plants, whether growing or not, that are cultivated in violation of this section or department rules, and products derived from those plants.

(13) **APPLICABILITY.**—Notwithstanding any other law:

(a) This section does not authorize a licensee to violate any federal or state law or regulation.

(b) This section does not apply to a pilot project developed in accordance with 7 U.S.C. 5940 and s. [1004.4473](#).

(c) A licensee who negligently violates this section or department rules is not subject to any criminal or civil enforcement action by the state or a local government other than the enforcement of violations of this section as authorized under subsection (10).

(14) **INDUSTRIAL HEMP ADVISORY COUNCIL.**—An Industrial Hemp Advisory Council, an advisory council as defined in s. [20.03](#), is established to provide advice and expertise to the department with respect to plans, policies, and procedures applicable to the administration of the state hemp program.

(a) The advisory council is adjunct to the department for administrative purposes.

(b) The advisory council shall be composed of all of the following members:

1. Two members appointed by the Commissioner of Agriculture.

2. Two members appointed by the Governor.

3. Two members appointed by the President of the Senate.

4. Two members appointed by the Speaker of the House of Representatives.

5. The dean for research of the Institute of Food and Agricultural Sciences of the University of Florida or his or her designee.

6. The president of Florida Agricultural and Mechanical University or his or her designee.

7. The executive director of the Department of Law Enforcement or his or her designee.

8. The president of the Florida Sheriffs Association or his or her designee.

9. The president of the Florida Police Chiefs Association or his or her designee.

10. The president of the Florida Farm Bureau Federation or his or her designee.

11. The president of the Florida Fruit and Vegetable Association or his or her designee.

(c) The advisory council shall elect by a two-thirds vote of the members one member to serve as chair of the council.

(d) A majority of the members of the advisory council constitutes a quorum.

(e) The advisory council shall meet at least once annually at the call of the chair.

(f) Advisory council members shall serve without compensation and are not entitled to reimbursement for per diem or travel expenses.

History.—s. 1, ch. 2019-132.

2019182er

1
2 An act relating to the medical use of marijuana;
3 amending s. 381.986, F.S.; redefining the term
4 "marijuana delivery device" to provide an exception to
5 the requirement that such devices must be purchased
6 from a medical marijuana treatment center for devices
7 that are intended for the medical use of marijuana by
8 smoking; redefining the term "medical use" to include
9 the possession, use, or administration of marijuana in
10 a form for smoking; conforming provisions to changes
11 made by the act; restricting the smoking of marijuana
12 in enclosed indoor workplaces; requiring a patient's
13 informed consent form to include the negative health
14 risks associated with smoking marijuana; conforming a
15 provision to changes made by the act; requiring a
16 qualified physician to submit specified documentation
17 to the Board of Medicine and the Board of Osteopathic
18 Medicine upon determining that smoking is an
19 appropriate route of administration for a qualified
20 patient, other than a patient diagnosed with a
21 terminal condition; prohibiting a physician from
22 certifying a patient under 18 years of age to smoke
23 marijuana for medical use unless the patient is
24 diagnosed with a terminal condition and the physician
25 makes a certain determination in concurrence with a
26 second physician who is a pediatrician; requiring a
27 qualified physician to obtain the written informed
28 consent of such patient's parent or legal guardian
29 before certifying the patient to smoke marijuana for

2019182er

30 medical use; requiring the qualified physician to use
31 a certain informed consent form adopted in rule by the
32 boards; requiring the boards to review specified
33 documentation and adopt certain practice standards by
34 rule by a specified date; establishing a supply limit
35 for a physician certification for marijuana in a form
36 for smoking; authorizing a qualified physician to
37 request an exception to the supply limit and
38 possession limit for marijuana in a form for smoking;
39 authorizing more than one caregiver to assist with a
40 qualified patient's medical use of marijuana if the
41 patient is participating in a certain research program
42 in a teaching nursing home; authorizing a caregiver to
43 be listed in the medical marijuana use registry as a
44 designated caregiver for qualified patients who are
45 participating in a certain research program in a
46 teaching nursing home; prohibiting a medical marijuana
47 treatment center that produces prerolled marijuana
48 cigarettes from using wrapping paper made with tobacco
49 or hemp; requiring that marijuana in a form for
50 smoking meet certain packaging and labeling
51 requirements; requiring the Department of Health to
52 adopt rules regulating the types, appearance, and
53 labeling of marijuana delivery devices; prohibiting a
54 medical marijuana treatment center from dispensing
55 more than a specified supply limit of marijuana in a
56 form for smoking; revising a provision prohibiting a
57 medical marijuana treatment center from dispensing or
58 selling specified products; establishing possession

2019182er

limits on marijuana in a form for smoking for a
qualified patient; allowing marijuana delivery devices
to be purchased from a vendor other than a medical
marijuana treatment center; providing applicability;
amending s. 1004.4351, F.S.; renaming the Coalition
for Medical Marijuana Research and Education as the
Consortium for Medical Marijuana Clinical Outcomes
Research; establishing the consortium for a specified
purpose; renaming the Medical Marijuana Research and
Education Board as the Medical Marijuana Research
Board; requiring the board to direct the operations of
the consortium; providing membership of the board;
providing for the appointment of a consortium
director; providing duties of the consortium director;
requiring the board to annually adopt a plan for
medical marijuana research; requiring the plan to
include specified information; providing research
requirements for the plan; requiring the board to
award funds to members of the consortium; requiring
the board to collaborate with and authorizing the
board to award funds to teaching nursing homes for
certain research; requiring the board to issue an
annual report to the Governor and Legislature by a
specified date; requiring the department to submit
certain data sets to the board; amending s. 381.987,
F.S.; conforming provisions to changes made by the
act; providing appropriations; providing an effective
date.

2019182er

Be It Enacted by the Legislature of the State of Florida:

Section 1. Paragraphs (g) and (j) of subsection (1), subsection (4), paragraphs (c) and (d) of subsection (6), paragraph (e) of subsection (8), subsection (14), and subsection (15) of section 381.986, Florida Statutes, are amended to read:

381.986 Medical use of marijuana.—

(1) DEFINITIONS.—As used in this section, the term:

(g) "Marijuana delivery device" means an object used, intended for use, or designed for use in preparing, storing, ingesting, inhaling, or otherwise introducing marijuana into the human body, and which is dispensed from a medical marijuana treatment center for medical use by a qualified patient, except that delivery devices intended for the medical use of marijuana by smoking need not be dispensed from a medical marijuana treatment center in order to qualify as marijuana delivery devices.

(j) "Medical use" means the acquisition, possession, use, delivery, transfer, or administration of marijuana authorized by a physician certification. The term does not include:

1. Possession, use, or administration of marijuana that was not purchased or acquired from a medical marijuana treatment center.

2. Possession, use, or administration of marijuana ~~in a form for smoking,~~ in the form of commercially produced food items other than edibles, ~~or of marijuana seeds or flower,~~ ~~except for flower in a sealed, tamper-proof receptacle for vaping.~~

3. Use or administration of any form or amount of marijuana

2019182er

117 in a manner that is inconsistent with the qualified physician's
118 directions or physician certification.

119 4. Transfer of marijuana to a person other than the
120 qualified patient for whom it was authorized or the qualified
121 patient's caregiver on behalf of the qualified patient.

122 5. Use or administration of marijuana in the following
123 locations:

124 a. On any form of public transportation, except for low-THC
125 cannabis not in a form for smoking.

126 b. In any public place, except for low-THC cannabis not in
127 a form for smoking.

128 c. In a qualified patient's place of employment, except
129 when permitted by his or her employer.

130 d. In a state correctional institution, as defined in s.
131 944.02, or a correctional institution, as defined in s. 944.241.

132 e. On the grounds of a preschool, primary school, or
133 secondary school, except as provided in s. 1006.062.

134 f. In a school bus, a vehicle, an aircraft, or a motorboat,
135 except for low-THC cannabis not in a form for smoking.

136 6. The smoking of marijuana in an enclosed indoor workplace
137 as defined in s. 386.203(5).

138 (4) PHYSICIAN CERTIFICATION.—

139 (a) A qualified physician may issue a physician
140 certification only if the qualified physician:

141 1. Conducted a physical examination while physically
142 present in the same room as the patient and a full assessment of
143 the medical history of the patient.

144 2. Diagnosed the patient with at least one qualifying
145 medical condition.

2019182er

146 3. Determined that the medical use of marijuana would
147 likely outweigh the potential health risks for the patient, and
148 such determination must be documented in the patient's medical
149 record. If a patient is younger than 18 years of age, a second
150 physician must concur with this determination, and such
151 concurrence must be documented in the patient's medical record.

152 4. Determined whether the patient is pregnant and
153 documented such determination in the patient's medical record. A
154 physician may not issue a physician certification, except for
155 low-THC cannabis, to a patient who is pregnant.

156 5. Reviewed the patient's controlled drug prescription
157 history in the prescription drug monitoring program database
158 established pursuant to s. 893.055.

159 6. Reviews the medical marijuana use registry and confirmed
160 that the patient does not have an active physician certification
161 from another qualified physician.

162 7. Registers as the issuer of the physician certification
163 for the named qualified patient on the medical marijuana use
164 registry in an electronic manner determined by the department,
165 and:

166 a. Enters into the registry the contents of the physician
167 certification, including the patient's qualifying condition and
168 the dosage not to exceed the daily dose amount determined by the
169 department, the amount and forms of marijuana authorized for the
170 patient, and any types of marijuana delivery devices needed by
171 the patient for the medical use of marijuana.

172 b. Updates the registry within 7 days after any change is
173 made to the original physician certification to reflect such
174 change.

2019182er

175 c. Deactivates the registration of the qualified patient
176 and the patient's caregiver when the physician no longer
177 recommends the medical use of marijuana for the patient.

178 8. Obtains the voluntary and informed written consent of
179 the patient for medical use of marijuana each time the qualified
180 physician issues a physician certification for the patient,
181 which shall be maintained in the patient's medical record. The
182 patient, or the patient's parent or legal guardian if the
183 patient is a minor, must sign the informed consent acknowledging
184 that the qualified physician has sufficiently explained its
185 content. The qualified physician must use a standardized
186 informed consent form adopted in rule by the Board of Medicine
187 and the Board of Osteopathic Medicine, which must include, at a
188 minimum, information related to:

189 a. The Federal Government's classification of marijuana as
190 a Schedule I controlled substance.

191 b. The approval and oversight status of marijuana by the
192 Food and Drug Administration.

193 c. The current state of research on the efficacy of
194 marijuana to treat the qualifying conditions set forth in this
195 section.

196 d. The potential for addiction.

197 e. The potential effect that marijuana may have on a
198 patient's coordination, motor skills, and cognition, including a
199 warning against operating heavy machinery, operating a motor
200 vehicle, or engaging in activities that require a person to be
201 alert or respond quickly.

202 f. The potential side effects of marijuana use, including
203 the negative health risks associated with smoking marijuana.

2019182er

g. The risks, benefits, and drug interactions of marijuana.

h. That the patient's de-identified health information contained in the physician certification and medical marijuana use registry may be used for research purposes.

(b) If a qualified physician issues a physician certification for a qualified patient diagnosed with a qualifying medical condition pursuant to paragraph (2)(k), the physician must submit the following to the applicable board within 14 days after issuing the physician certification:

1. Documentation supporting the qualified physician's opinion that the medical condition is of the same kind or class as the conditions in paragraphs (2)(a)-(j).

2. Documentation that establishes the efficacy of marijuana as treatment for the condition.

3. Documentation supporting the qualified physician's opinion that the benefits of medical use of marijuana would likely outweigh the potential health risks for the patient.

4. Any other documentation as required by board rule.

The department must submit such documentation to the Consortium Coalition for Medical Marijuana Clinical Outcomes Research and Education established pursuant to s. 1004.4351.

(c) If a qualified physician determines that smoking is an appropriate route of administration for a qualified patient, other than a patient diagnosed with a terminal condition, the qualified physician must submit the following documentation to the applicable board:

1. A list of other routes of administration, if any, certified by a qualified physician that the patient has tried,

2019182er

the length of time the patient used such routes of administration, and an assessment of the effectiveness of those routes of administration in treating the qualified patient's qualifying condition.

2. Research documenting the effectiveness of smoking as a route of administration to treat similarly situated patients with the same qualifying condition as the qualified patient.

3. A statement signed by the qualified physician documenting the qualified physician's opinion that the benefits of smoking marijuana for medical use outweigh the risks for the qualified patient.

(d) A qualified physician may not issue a physician certification for marijuana in a form for smoking to a patient under 18 years of age unless the patient is diagnosed with a terminal condition, the qualified physician determines that smoking is the most effective route of administration for the patient, and a second physician who is a board-certified pediatrician concurs with such determination. Such determination and concurrence must be documented in the patient's medical record and in the medical marijuana use registry. The certifying physician must obtain the written informed consent of such patient's parent or legal guardian before issuing a physician certification to the patient for marijuana in a form for smoking. The qualified physician must use a standardized informed consent form adopted in rule by the Board of Medicine and the Board of Osteopathic Medicine which must include information concerning the negative health effects of smoking marijuana on persons under 18 years of age and an acknowledgement that the qualified physician has sufficiently

2019182er

262 explained the contents of the form.

263 (e) The Board of Medicine and the Board of Osteopathic
264 Medicine shall review the documentation submitted pursuant to
265 paragraph (c) and shall each, by July 1, 2021, adopt by rule
266 practice standards for the certification of smoking as a route
267 of administration.

268 (f)~~(e)~~ A qualified physician may not issue a physician
269 certification for more than three 70-day supply limits of
270 marijuana or more than six 35-day supply limits of marijuana in
271 a form for smoking. The department shall quantify by rule a
272 daily dose amount with equivalent dose amounts for each
273 allowable form of marijuana dispensed by a medical marijuana
274 treatment center. The department shall use the daily dose amount
275 to calculate a 70-day supply.

276 1. A qualified physician may request an exception to the
277 daily dose amount limit, the 35-day supply limit of marijuana in
278 a form for smoking, and the 4-ounce possession limit of
279 marijuana in a form for smoking established in paragraph
280 (14) (a). The request shall be made electronically on a form
281 adopted by the department in rule and must include, at a
282 minimum:

283 a. The qualified patient's qualifying medical condition.

284 b. The dosage and route of administration that was
285 insufficient to provide relief to the qualified patient.

286 c. A description of how the patient will benefit from an
287 increased amount.

288 d. The minimum daily dose amount of marijuana that would be
289 sufficient for the treatment of the qualified patient's
290 qualifying medical condition.

2019182er

291 2. A qualified physician must provide the qualified
292 patient's records upon the request of the department.

293 3. The department shall approve or disapprove the request
294 within 14 days after receipt of the complete documentation
295 required by this paragraph. The request shall be deemed approved
296 if the department fails to act within this time period.

297 (g) ~~(d)~~ A qualified physician must evaluate an existing
298 qualified patient at least once every 30 weeks before issuing a
299 new physician certification. A physician must:

300 1. Determine if the patient still meets the requirements to
301 be issued a physician certification under paragraph (a).

302 2. Identify and document in the qualified patient's medical
303 records whether the qualified patient experienced either of the
304 following related to the medical use of marijuana:

305 a. An adverse drug interaction with any prescription or
306 nonprescription medication; or

307 b. A reduction in the use of, or dependence on, other types
308 of controlled substances as defined in s. 893.02.

309 3. Submit a report with the findings required pursuant to
310 subparagraph 2. to the department. The department shall submit
311 such reports to the Consortium Coalition ~~Coalition~~ for Medical Marijuana
312 Clinical Outcomes Research and Education ~~and Education~~ established pursuant to
313 s. 1004.4351.

314 (h) ~~(e)~~ An active order for low-THC cannabis or medical
315 cannabis issued pursuant to former s. 381.986, Florida Statutes
316 2016, and registered with the compassionate use registry before
317 June 23, 2017, is deemed a physician certification, and all
318 patients possessing such orders are deemed qualified patients
319 until the department begins issuing medical marijuana use

2019182er

registry identification cards.

(i)~~(f)~~ The department shall monitor physician registration in the medical marijuana use registry and the issuance of physician certifications for practices that could facilitate unlawful diversion or misuse of marijuana or a marijuana delivery device and shall take disciplinary action as appropriate.

(j)~~(g)~~ The Board of Medicine and the Board of Osteopathic Medicine shall jointly create a physician certification pattern review panel that shall review all physician certifications submitted to the medical marijuana use registry. The panel shall track and report the number of physician certifications and the qualifying medical conditions, dosage, supply amount, and form of marijuana certified. The panel shall report the data both by individual qualified physician and in the aggregate, by county, and statewide. The physician certification pattern review panel shall, beginning January 1, 2018, submit an annual report of its findings and recommendations to the Governor, the President of the Senate, and the Speaker of the House of Representatives.

(k)~~(h)~~ The department, the Board of Medicine, and the Board of Osteopathic Medicine may adopt rules pursuant to ss. 120.536(1) and 120.54 to implement this subsection.

(6) CAREGIVERS.—

(c) A qualified patient may designate no more than one caregiver to assist with the qualified patient's medical use of marijuana, unless:

1. The qualified patient is a minor and the designated caregivers are parents or legal guardians of the qualified patient;

2019182er

349 2. The qualified patient is an adult who has an
350 intellectual or developmental disability that prevents the
351 patient from being able to protect or care for himself or
352 herself without assistance or supervision and the designated
353 caregivers are the parents or legal guardians of the qualified
354 patient; ~~or~~

355 3. The qualified patient is admitted to a hospice program;
356 or

357 4. The qualified patient is participating in a research
358 program in a teaching nursing home pursuant to s. 1004.4351.

359 (d) A caregiver may be registered in the medical marijuana
360 use registry as a designated caregiver for no more than one
361 qualified patient, unless:

362 1. The caregiver is a parent or legal guardian of more than
363 one minor who is a qualified patient;

364 2. The caregiver is a parent or legal guardian of more than
365 one adult who is a qualified patient and who has an intellectual
366 or developmental disability that prevents the patient from being
367 able to protect or care for himself or herself without
368 assistance or supervision; ~~or~~

369 3. All qualified patients the caregiver has agreed to
370 assist are admitted to a hospice program and have requested the
371 assistance of that caregiver with the medical use of marijuana;
372 the caregiver is an employee of the hospice; and the caregiver
373 provides personal care or other services directly to clients of
374 the hospice in the scope of that employment; or

375 4. All qualified patients the caregiver has agreed to
376 assist are participating in a research program in a teaching
377 nursing home pursuant to s. 1004.4351.

2019182er

(8) MEDICAL MARIJUANA TREATMENT CENTERS.—

(e) A licensed medical marijuana treatment center shall cultivate, process, transport, and dispense marijuana for medical use. A licensed medical marijuana treatment center may not contract for services directly related to the cultivation, processing, and dispensing of marijuana or marijuana delivery devices, except that a medical marijuana treatment center licensed pursuant to subparagraph (a)1. may contract with a single entity for the cultivation, processing, transporting, and dispensing of marijuana and marijuana delivery devices. A licensed medical marijuana treatment center must, at all times, maintain compliance with the criteria demonstrated and representations made in the initial application and the criteria established in this subsection. Upon request, the department may grant a medical marijuana treatment center a variance from the representations made in the initial application. Consideration of such a request shall be based upon the individual facts and circumstances surrounding the request. A variance may not be granted unless the requesting medical marijuana treatment center can demonstrate to the department that it has a proposed alternative to the specific representation made in its application which fulfills the same or a similar purpose as the specific representation in a way that the department can reasonably determine will not be a lower standard than the specific representation in the application. A variance may not be granted from the requirements in subparagraph 2. and subparagraphs (b)1. and 2.

1. A licensed medical marijuana treatment center may transfer ownership to an individual or entity who meets the

2019182er

requirements of this section. A publicly traded corporation or publicly traded company that meets the requirements of this section is not precluded from ownership of a medical marijuana treatment center. To accommodate a change in ownership:

a. The licensed medical marijuana treatment center shall notify the department in writing at least 60 days before the anticipated date of the change of ownership.

b. The individual or entity applying for initial licensure due to a change of ownership must submit an application that must be received by the department at least 60 days before the date of change of ownership.

c. Upon receipt of an application for a license, the department shall examine the application and, within 30 days after receipt, notify the applicant in writing of any apparent errors or omissions and request any additional information required.

d. Requested information omitted from an application for licensure must be filed with the department within 21 days after the department's request for omitted information or the application shall be deemed incomplete and shall be withdrawn from further consideration and the fees shall be forfeited.

Within 30 days after the receipt of a complete application, the department shall approve or deny the application.

2. A medical marijuana treatment center, and any individual or entity who directly or indirectly owns, controls, or holds with power to vote 5 percent or more of the voting shares of a medical marijuana treatment center, may not acquire direct or indirect ownership or control of any voting shares or other form

2019182er

of ownership of any other medical marijuana treatment center.

3. A medical marijuana treatment center may not enter into any form of profit-sharing arrangement with the property owner or lessor of any of its facilities where cultivation, processing, storing, or dispensing of marijuana and marijuana delivery devices occurs.

4. All employees of a medical marijuana treatment center must be 21 years of age or older and have passed a background screening pursuant to subsection (9).

5. Each medical marijuana treatment center must adopt and enforce policies and procedures to ensure employees and volunteers receive training on the legal requirements to dispense marijuana to qualified patients.

6. When growing marijuana, a medical marijuana treatment center:

a. May use pesticides determined by the department, after consultation with the Department of Agriculture and Consumer Services, to be safely applied to plants intended for human consumption, but may not use pesticides designated as restricted-use pesticides pursuant to s. 487.042.

b. Must grow marijuana within an enclosed structure and in a room separate from any other plant.

c. Must inspect seeds and growing plants for plant pests that endanger or threaten the horticultural and agricultural interests of the state in accordance with chapter 581 and any rules adopted thereunder.

d. Must perform fumigation or treatment of plants, or remove and destroy infested or infected plants, in accordance with chapter 581 and any rules adopted thereunder.

2019182er

465 7. Each medical marijuana treatment center must produce and
466 make available for purchase at least one low-THC cannabis
467 product.

468 8. A medical marijuana treatment center that produces
469 edibles must hold a permit to operate as a food establishment
470 pursuant to chapter 500, the Florida Food Safety Act, and must
471 comply with all the requirements for food establishments
472 pursuant to chapter 500 and any rules adopted thereunder.
473 Edibles may not contain more than 200 milligrams of
474 tetrahydrocannabinol, and a single serving portion of an edible
475 may not exceed 10 milligrams of tetrahydrocannabinol. Edibles
476 may have a potency variance of no greater than 15 percent.
477 Edibles may not be attractive to children; be manufactured in
478 the shape of humans, cartoons, or animals; be manufactured in a
479 form that bears any reasonable resemblance to products available
480 for consumption as commercially available candy; or contain any
481 color additives. To discourage consumption of edibles by
482 children, the department shall determine by rule any shapes,
483 forms, and ingredients allowed and prohibited for edibles.
484 Medical marijuana treatment centers may not begin processing or
485 dispensing edibles until after the effective date of the rule.
486 The department shall also adopt sanitation rules providing the
487 standards and requirements for the storage, display, or
488 dispensing of edibles.

489 9. Within 12 months after licensure, a medical marijuana
490 treatment center must demonstrate to the department that all of
491 its processing facilities have passed a Food Safety Good
492 Manufacturing Practices, such as Global Food Safety Initiative
493 or equivalent, inspection by a nationally accredited certifying

2019182er

body. A medical marijuana treatment center must immediately stop processing at any facility which fails to pass this inspection until it demonstrates to the department that such facility has met this requirement.

10. A medical marijuana treatment center that produces prerolled marijuana cigarettes may not use wrapping paper made with tobacco or hemp.

11.~~10.~~ When processing marijuana, a medical marijuana treatment center must:

a. Process the marijuana within an enclosed structure and in a room separate from other plants or products.

b. Comply with department rules when processing marijuana with hydrocarbon solvents or other solvents or gases exhibiting potential toxicity to humans. The department shall determine by rule the requirements for medical marijuana treatment centers to use such solvents or gases exhibiting potential toxicity to humans.

c. Comply with federal and state laws and regulations and department rules for solid and liquid wastes. The department shall determine by rule procedures for the storage, handling, transportation, management, and disposal of solid and liquid waste generated during marijuana production and processing. The Department of Environmental Protection shall assist the department in developing such rules.

d. Test the processed marijuana using a medical marijuana testing laboratory before it is dispensed. Results must be verified and signed by two medical marijuana treatment center employees. Before dispensing, the medical marijuana treatment center must determine that the test results indicate that low-

2019182er

THC cannabis meets the definition of low-THC cannabis, the concentration of tetrahydrocannabinol meets the potency requirements of this section, the labeling of the concentration of tetrahydrocannabinol and cannabidiol is accurate, and all marijuana is safe for human consumption and free from contaminants that are unsafe for human consumption. The department shall determine by rule which contaminants must be tested for and the maximum levels of each contaminant which are safe for human consumption. The Department of Agriculture and Consumer Services shall assist the department in developing the testing requirements for contaminants that are unsafe for human consumption in edibles. The department shall also determine by rule the procedures for the treatment of marijuana that fails to meet the testing requirements of this section, s. 381.988, or department rule. The department may select a random sample from edibles available for purchase in a dispensing facility which shall be tested by the department to determine that the edible meets the potency requirements of this section, is safe for human consumption, and the labeling of the tetrahydrocannabinol and cannabidiol concentration is accurate. A medical marijuana treatment center may not require payment from the department for the sample. A medical marijuana treatment center must recall edibles, including all edibles made from the same batch of marijuana, which fail to meet the potency requirements of this section, which are unsafe for human consumption, or for which the labeling of the tetrahydrocannabinol and cannabidiol concentration is inaccurate. The medical marijuana treatment center must retain records of all testing and samples of each homogenous batch of marijuana for at least 9 months. The medical

2019182er

marijuana treatment center must contract with a marijuana testing laboratory to perform audits on the medical marijuana treatment center's standard operating procedures, testing records, and samples and provide the results to the department to confirm that the marijuana or low-THC cannabis meets the requirements of this section and that the marijuana or low-THC cannabis is safe for human consumption. A medical marijuana treatment center shall reserve two processed samples from each batch and retain such samples for at least 9 months for the purpose of such audits. A medical marijuana treatment center may use a laboratory that has not been certified by the department under s. 381.988 until such time as at least one laboratory holds the required certification, but in no event later than July 1, 2018.

e. Package the marijuana in compliance with the United States Poison Prevention Packaging Act of 1970, 15 U.S.C. ss. 1471 et seq.

f. Package the marijuana in a receptacle that has a firmly affixed and legible label stating the following information:

(I) The marijuana or low-THC cannabis meets the requirements of sub-subparagraph d.

(II) The name of the medical marijuana treatment center from which the marijuana originates.

(III) The batch number and harvest number from which the marijuana originates and the date dispensed.

(IV) The name of the physician who issued the physician certification.

(V) The name of the patient.

(VI) The product name, if applicable, and dosage form,

2019182er

including concentration of tetrahydrocannabinol and cannabidiol.
The product name may not contain wording commonly associated
with products marketed by or to children.

(VII) The recommended dose.

(VIII) A warning that it is illegal to transfer medical
marijuana to another person.

(IX) A marijuana universal symbol developed by the
department.

~~12.11.~~ The medical marijuana treatment center shall include
in each package a patient package insert with information on the
specific product dispensed related to:

- a. Clinical pharmacology.
- b. Indications and use.
- c. Dosage and administration.
- d. Dosage forms and strengths.
- e. Contraindications.
- f. Warnings and precautions.
- g. Adverse reactions.

13. In addition to the packaging and labeling requirements
specified in subparagraphs 11. and 12., marijuana in a form for
smoking must be packaged in a sealed receptacle with a legible
and prominent warning to keep away from children and a warning
that states marijuana smoke contains carcinogens and may
negatively affect health. Such receptacles for marijuana in a
form for smoking must be plain, opaque, and white without
depictions of the product or images other than the medical
marijuana treatment center's department-approved logo and the
marijuana universal symbol.

14. The department shall adopt rules to regulate the types,

2019182er

610 appearance, and labeling of marijuana delivery devices dispensed
611 from a medical marijuana treatment center. The rules must
612 require marijuana delivery devices to have an appearance
613 consistent with medical use.

614 ~~15.12.~~ Each edible shall be individually sealed in plain,
615 opaque wrapping marked only with the marijuana universal symbol.
616 Where practical, each edible shall be marked with the marijuana
617 universal symbol. In addition to the packaging and labeling
618 requirements in subparagraphs 11. and 12. ~~10. and 11.~~, edible
619 receptacles must be plain, opaque, and white without depictions
620 of the product or images other than the medical marijuana
621 treatment center's department-approved logo and the marijuana
622 universal symbol. The receptacle must also include a list all of
623 the edible's ingredients, storage instructions, an expiration
624 date, a legible and prominent warning to keep away from children
625 and pets, and a warning that the edible has not been produced or
626 inspected pursuant to federal food safety laws.

627 ~~16.13.~~ When dispensing marijuana or a marijuana delivery
628 device, a medical marijuana treatment center:

629 a. May dispense any active, valid order for low-THC
630 cannabis, medical cannabis and cannabis delivery devices issued
631 pursuant to former s. 381.986, Florida Statutes 2016, which was
632 entered into the medical marijuana use registry before July 1,
633 2017.

634 b. May not dispense more than a 70-day supply of marijuana
635 within any 70-day period to a qualified patient or caregiver.
636 May not dispense more than one 35-day supply of marijuana in a
637 form for smoking within any 35-day period to a qualified patient
638 or caregiver. A 35-day supply of marijuana in a form for smoking

2019182er

may not exceed 2.5 ounces unless an exception to this amount is approved by the department pursuant to paragraph (4)(f).

c. Must have the medical marijuana treatment center's employee who dispenses the marijuana or a marijuana delivery device enter into the medical marijuana use registry his or her name or unique employee identifier.

d. Must verify that the qualified patient and the caregiver, if applicable, each have an active registration in the medical marijuana use registry and an active and valid medical marijuana use registry identification card, the amount and type of marijuana dispensed matches the physician certification in the medical marijuana use registry for that qualified patient, and the physician certification has not already been filled.

e. May not dispense marijuana to a qualified patient who is younger than 18 years of age. If the qualified patient is younger than 18 years of age, marijuana may only be dispensed to the qualified patient's caregiver.

f. May not dispense or sell any other type of cannabis, alcohol, or illicit drug-related product, including pipes, ~~bongs,~~ or wrapping papers made with tobacco or hemp, other than a marijuana delivery device required for the medical use of marijuana and which is specified in a physician certification.

g. Must, upon dispensing the marijuana or marijuana delivery device, record in the registry the date, time, quantity, and form of marijuana dispensed; the type of marijuana delivery device dispensed; and the name and medical marijuana use registry identification number of the qualified patient or caregiver to whom the marijuana delivery device was dispensed.

2019182er

h. Must ensure that patient records are not visible to anyone other than the qualified patient, his or her caregiver, and authorized medical marijuana treatment center employees.

(14) EXCEPTIONS TO OTHER LAWS.—

(a) Notwithstanding s. 893.13, s. 893.135, s. 893.147, or any other provision of law, but subject to the requirements of this section, a qualified patient and the qualified patient's caregiver may purchase from a medical marijuana treatment center for the patient's medical use a marijuana delivery device and up to the amount of marijuana authorized in the physician certification, but may not possess more than a 70-day supply of marijuana, or the greater of 4 ounces of marijuana in a form for smoking or an amount of marijuana in a form for smoking approved by the department pursuant to paragraph (4)(f), at any given time and all marijuana purchased must remain in its original packaging.

(b) Notwithstanding paragraph (a), s. 893.13, s. 893.135, s. 893.147, or any other provision of law, a qualified patient and the qualified patient's caregiver may purchase and possess a marijuana delivery device intended for the medical use of marijuana by smoking from a vendor other than a medical marijuana treatment center.

(c) ~~(b)~~ Notwithstanding s. 893.13, s. 893.135, s. 893.147, or any other provision of law, but subject to the requirements of this section, an approved medical marijuana treatment center and its owners, managers, and employees may manufacture, possess, sell, deliver, distribute, dispense, and lawfully dispose of marijuana or a marijuana delivery device as provided in this section, s. 381.988, and by department rule. For the

2019182er

697 purposes of this subsection, the terms "manufacture,"
698 "possession," "deliver," "distribute," and "dispense" have the
699 same meanings as provided in s. 893.02.

700 (d)~~(e)~~ Notwithstanding s. 893.13, s. 893.135, s. 893.147,
701 or any other provision of law, but subject to the requirements
702 of this section, a certified marijuana testing laboratory,
703 including an employee of a certified marijuana testing
704 laboratory acting within the scope of his or her employment, may
705 acquire, possess, test, transport, and lawfully dispose of
706 marijuana as provided in this section, in s. 381.988, and by
707 department rule.

708 (e)~~(d)~~ A licensed medical marijuana treatment center and
709 its owners, managers, and employees are not subject to licensure
710 or regulation under chapter 465 or chapter 499 for
711 manufacturing, possessing, selling, delivering, distributing,
712 dispensing, or lawfully disposing of marijuana or a marijuana
713 delivery device, as provided in this section, in s. 381.988, and
714 by department rule.

715 (f)~~(e)~~ This subsection does not exempt a person from
716 prosecution for a criminal offense related to impairment or
717 intoxication resulting from the medical use of marijuana or
718 relieve a person from any requirement under law to submit to a
719 breath, blood, urine, or other test to detect the presence of a
720 controlled substance.

721 (g)~~(f)~~ Notwithstanding s. 893.13, s. 893.135, s. 893.147,
722 or any other provision of law, but subject to the requirements
723 of this section and pursuant to policies and procedures
724 established pursuant to s. 1006.62(8), school personnel may
725 possess marijuana that is obtained for medical use pursuant to

2019182er

726 this section by a student who is a qualified patient.

727 (h) ~~(g)~~ Notwithstanding s. 893.13, s. 893.135, s. 893.147,
728 or any other provision of law, but subject to the requirements
729 of this section, a research institute established by a public
730 postsecondary educational institution, such as the H. Lee
731 Moffitt Cancer Center and Research Institute, Inc., established
732 under s. 1004.43, or a state university that has achieved the
733 preeminent state research university designation under s.
734 1001.7065 may possess, test, transport, and lawfully dispose of
735 marijuana for research purposes as provided by this section.

736 (15) APPLICABILITY.—

737 (a) This section does not limit the ability of an employer
738 to establish, continue, or enforce a drug-free workplace program
739 or policy.

740 (b) This section does not require an employer to
741 accommodate the medical use of marijuana in any workplace or any
742 employee working while under the influence of marijuana.

743 (c) This section does not create a cause of action against
744 an employer for wrongful discharge or discrimination.

745 (d) This section does not impair the ability of any party
746 to restrict or limit smoking or vaping marijuana on his or her
747 private property.

748 (e) This section does not prohibit the medical use of
749 marijuana or a caregiver assisting with the medical use of
750 marijuana in a nursing home facility licensed under part II of
751 chapter 400, a hospice facility licensed under part IV of
752 chapter 400, or an assisted living facility licensed under part
753 I of chapter 429, if the medical use of marijuana is not
754 prohibited in the facility's policies.

2019182er

755 (f) Marijuana, as defined in this section, is not
756 reimbursable under chapter 440.

757 Section 2. Section 1004.4351, Florida Statutes, is amended
758 to read:

759 1004.4351 Medical marijuana research ~~and education~~.—

760 (1) SHORT TITLE.—This section shall be known and may be
761 cited as the “Medical Marijuana Research ~~and Education~~ Act.”

762 (2) LEGISLATIVE FINDINGS.—The Legislature finds that:

763 (a) The present state of knowledge concerning the use of
764 marijuana to alleviate pain and treat illnesses is limited
765 because permission to perform clinical studies on marijuana is
766 difficult to obtain, with access to research-grade marijuana so
767 restricted that little or no unbiased studies have been
768 performed.

769 (b) Under the State Constitution, marijuana is available
770 for the treatment of certain debilitating medical conditions.

771 (c) Additional clinical studies are needed to ensure that
772 the residents of this state obtain the correct dosing,
773 formulation, route, modality, frequency, quantity, and quality
774 of marijuana for specific illnesses.

775 (d) An effective medical marijuana research ~~and education~~
776 program would mobilize the scientific, ~~educational~~, and medical
777 resources that presently exist in this state to determine the
778 appropriate and best use of marijuana to treat illness.

779 (3) DEFINITIONS.—As used in this section, the term:

780 (a) “Board” means the Medical Marijuana Research ~~and~~
781 ~~Education~~ Board.

782 (b) “Consortium” ~~“Coalition”~~ means the Consortium ~~Coalition~~
783 for Medical Marijuana Clinical Outcomes Research ~~and Education~~.

2019182er

784 (c) "Marijuana" has the same meaning as provided in s. 29,
785 Art. X of the State Constitution.

786 (4) CONSORTIUM COALITION FOR MEDICAL MARIJUANA CLINICAL
787 OUTCOMES RESEARCH AND EDUCATION.—

788 (a) There is established within a state university
789 designated by the Board of Governors ~~the H. Lee Moffitt Cancer~~
790 ~~Center and Research Institute, Inc.,~~ the Consortium Coalition
791 for Medical Marijuana Clinical Outcomes Research which shall
792 consist of public and private universities ~~and Education.~~ The
793 purpose of the consortium coalition is to conduct rigorous
794 scientific research and, ~~provide education,~~ disseminate such
795 ~~research, and guide policy for the adoption of a statewide~~
796 ~~policy on ordering and dosing practices for the medical use of~~
797 ~~marijuana. The coalition shall be physically located at the H.~~
798 ~~Lee Moffitt Cancer Center and Research Institute, Inc.~~

799 (b) The Medical Marijuana Research ~~and Education~~ Board is
800 established to direct the operations of the consortium
801 ~~coalition~~. The board shall be composed of ~~seven~~ members
802 representing each participating university appointed by the
803 president of each participating university ~~the chief executive~~
804 ~~officer of the H. Lee Moffitt Cancer Center and Research~~
805 ~~Institute, Inc.~~ Board members must have experience in a variety
806 of scientific and medical fields, including, but not limited to,
807 oncology, neurology, psychology, pediatrics, nutrition, and
808 addiction. Members shall be appointed to 4-year terms and may be
809 reappointed to serve additional terms. The chair shall be
810 elected by the board from among its members to serve a 2-year
811 term. The board shall meet at least semiannually at the call of
812 the chair or, in his or her absence or incapacity, the vice

2019182er

813 chair. Four members constitute a quorum. A majority vote of the
814 members present is required for all actions of the board. The
815 board may prescribe, amend, and repeal a charter governing the
816 manner in which it conducts its business. A board member shall
817 serve without compensation but is entitled to be reimbursed for
818 travel expenses by the consortium ~~coalition~~ or the organization
819 he or she represents in accordance with s. 112.061.

820 (c) The consortium ~~coalition~~ shall be administered by a
821 ~~coalition~~ director, who shall be appointed by and serve at the
822 pleasure of the board. The ~~coalition~~ director shall, subject to
823 the approval of the board:

824 1. Propose a budget for the consortium ~~coalition~~.

825 2. Foster the collaboration of scientists, researchers, and
826 other appropriate personnel in accordance with the consortium's
827 ~~coalition's~~ charter.

828 3. Engage individuals in public and private university
829 programs relevant to the consortium's work to participate in the
830 consortium.

831 ~~4.3.~~ Identify and prioritize the research to be conducted
832 by the consortium ~~coalition~~.

833 ~~5.4.~~ Prepare a plan for medical marijuana research ~~the~~
834 ~~Medical Marijuana Research and Education Plan~~ for submission to
835 the board.

836 ~~6.5.~~ Apply for grants to obtain funding for research
837 conducted by the consortium ~~coalition~~.

838 ~~7.6.~~ Perform other duties as determined by the board.

839 ~~(d) The board shall advise the Board of Governors, the~~
840 ~~State Surgeon General, the Governor, and the Legislature with~~
841 ~~respect to medical marijuana research and education in this~~

2019182er

842 ~~state. The board shall explore methods of implementing and~~
843 ~~enforcing medical marijuana laws in relation to cancer control,~~
844 ~~research, treatment, and education.~~

845 (d) ~~(e)~~ The board shall annually adopt a plan for medical
846 marijuana research. The plan must organize a program of research
847 that contributes to the body of scientific knowledge on the
848 effects of the medical use of marijuana and informs both policy
849 and medical practice related to the treatment of debilitating
850 medical conditions with marijuana. Research must include
851 tracking clinical outcomes, certification standards, dosing
852 standards, routes of administration, efficacy, and side effects.
853 Research must also include the study of the effects of smoking
854 marijuana to treat debilitating medical conditions. The board
855 must award funds to members of the consortium and to perform
856 research consistent with the plan. The board shall collaborate
857 with and may award funds to teaching nursing homes, as defined
858 in s. 430.08, for research on medical use of marijuana to
859 alleviate conditions related to chronic disease and aging, ~~known~~
860 ~~as the "Medical Marijuana Research and Education Plan," which~~
861 ~~must be in accordance with state law and coordinate with~~
862 ~~existing programs in this state. The plan must include~~
863 ~~recommendations for the coordination and integration of medical,~~
864 ~~pharmacological, nursing, paramedical, community, and other~~
865 ~~resources connected with the treatment of debilitating medical~~
866 ~~conditions; research related to the treatment of such medical~~
867 ~~conditions; and education.~~

868 (e) ~~(f)~~ By February 15 of each year, the board shall issue a
869 report to the Governor, the President of the Senate, and the
870 Speaker of the House of Representatives on research projects,

2019182er

research findings, community outreach initiatives, and future plans for the consortium ~~coalition~~.

(f) ~~(g)~~ Beginning August 1, 2019 ~~January 15, 2018~~, and quarterly thereafter, the Department of Health shall submit to the board a data set that includes, for each patient registered in the medical marijuana use registry, the patient's qualifying medical condition and the daily dose amount, routes of administration, and forms of marijuana certified for the patient. The department shall also provide the board with such data for all patients registered in the medical marijuana use registry before August 1, 2019.

~~(5) RESPONSIBILITIES OF THE H. LEE MOFFITT CANCER CENTER AND RESEARCH INSTITUTE, INC. The H. Lee Moffitt Cancer Center and Research Institute, Inc., shall allocate staff and provide information and assistance, as the coalition's budget permits, to assist the board in fulfilling its responsibilities.~~

Section 3. Paragraph (h) of subsection (2) and paragraph (b) of subsection (3) of section 381.987, Florida Statutes, are amended to read:

381.987 Public records exemption for personal identifying information relating to medical marijuana held by the department.—

(2) The department shall allow access to the confidential and exempt information in the medical marijuana use registry to:

(h) The Consortium ~~Coalition~~ for Medical Marijuana Clinical Outcomes Research and Education established in s. 1004.4351(4).

(3) The department shall allow access to the confidential and exempt information pertaining to the physician certification for marijuana and the dispensing thereof, whether in the

2019182er

registry or otherwise held by the department, to:

(b) The Consortium ~~Coalition~~ for Medical Marijuana Clinical Outcomes Research and Education pursuant to s. 381.986 for the purpose of conducting research regarding the medical use of marijuana.

Section 4. (1) For the 2019-2020 fiscal year, the sum of \$1.5 million in recurring funds is appropriated from the General Revenue Fund to the Board of Governors for the Consortium for Medical Marijuana Clinical Outcomes Research established under s. 1004.4351, Florida Statutes.

(2) For the 2018-2019 fiscal year, the sum of \$391,333 in nonrecurring funds is appropriated from the Grants and Donations Trust Fund to the Department of Health for the purpose of implementing the requirements of this act.

(3) For the 2019-2020 fiscal year, the sum of \$705,331 in recurring funds is appropriated from the Grants and Donations Trust Fund to the Department of Health for the purpose of implementing the requirements of this act.

Section 5. This act shall take effect upon becoming a law.

Tab 3

Federal Guidance



U.S. Department of Justice


Office of the Deputy Attorney General

The Deputy Attorney General

Washington, D.C. 20530

August 29, 2013

MEMORANDUM FOR ALL UNITED STATES ATTORNEYS

FROM: James M. Cole 
Deputy Attorney General

SUBJECT: Guidance Regarding Marijuana Enforcement

In October 2009 and June 2011, the Department issued guidance to federal prosecutors concerning marijuana enforcement under the Controlled Substances Act (CSA). This memorandum updates that guidance in light of state ballot initiatives that legalize under state law the possession of small amounts of marijuana and provide for the regulation of marijuana production, processing, and sale. The guidance set forth herein applies to all federal enforcement activity, including civil enforcement and criminal investigations and prosecutions, concerning marijuana in all states.

As the Department noted in its previous guidance, Congress has determined that marijuana is a dangerous drug and that the illegal distribution and sale of marijuana is a serious crime that provides a significant source of revenue to large-scale criminal enterprises, gangs, and cartels. The Department of Justice is committed to enforcement of the CSA consistent with those determinations. The Department is also committed to using its limited investigative and prosecutorial resources to address the most significant threats in the most effective, consistent, and rational way. In furtherance of those objectives, as several states enacted laws relating to the use of marijuana for medical purposes, the Department in recent years has focused its efforts on certain enforcement priorities that are particularly important to the federal government:

- Preventing the distribution of marijuana to minors;
- Preventing revenue from the sale of marijuana from going to criminal enterprises, gangs, and cartels;
- Preventing the diversion of marijuana from states where it is legal under state law in some form to other states;
- Preventing state-authorized marijuana activity from being used as a cover or pretext for the trafficking of other illegal drugs or other illegal activity;

- Preventing violence and the use of firearms in the cultivation and distribution of marijuana;
- Preventing drugged driving and the exacerbation of other adverse public health consequences associated with marijuana use;
- Preventing the growing of marijuana on public lands and the attendant public safety and environmental dangers posed by marijuana production on public lands; and
- Preventing marijuana possession or use on federal property.

These priorities will continue to guide the Department's enforcement of the CSA against marijuana-related conduct. Thus, this memorandum serves as guidance to Department attorneys and law enforcement to focus their enforcement resources and efforts, including prosecution, on persons or organizations whose conduct interferes with any one or more of these priorities, regardless of state law.¹

Outside of these enforcement priorities, the federal government has traditionally relied on states and local law enforcement agencies to address marijuana activity through enforcement of their own narcotics laws. For example, the Department of Justice has not historically devoted resources to prosecuting individuals whose conduct is limited to possession of small amounts of marijuana for personal use on private property. Instead, the Department has left such lower-level or localized activity to state and local authorities and has stepped in to enforce the CSA only when the use, possession, cultivation, or distribution of marijuana has threatened to cause one of the harms identified above.

The enactment of state laws that endeavor to authorize marijuana production, distribution, and possession by establishing a regulatory scheme for these purposes affects this traditional joint federal-state approach to narcotics enforcement. The Department's guidance in this memorandum rests on its expectation that states and local governments that have enacted laws authorizing marijuana-related conduct will implement strong and effective regulatory and enforcement systems that will address the threat those state laws could pose to public safety, public health, and other law enforcement interests. A system adequate to that task must not only contain robust controls and procedures on paper; it must also be effective in practice. Jurisdictions that have implemented systems that provide for regulation of marijuana activity

¹ These enforcement priorities are listed in general terms; each encompasses a variety of conduct that may merit civil or criminal enforcement of the CSA. By way of example only, the Department's interest in preventing the distribution of marijuana to minors would call for enforcement not just when an individual or entity sells or transfers marijuana to a minor, but also when marijuana trafficking takes place near an area associated with minors; when marijuana or marijuana-infused products are marketed in a manner to appeal to minors; or when marijuana is being diverted, directly or indirectly, and purposefully or otherwise, to minors.

must provide the necessary resources and demonstrate the willingness to enforce their laws and regulations in a manner that ensures they do not undermine federal enforcement priorities.

In jurisdictions that have enacted laws legalizing marijuana in some form and that have also implemented strong and effective regulatory and enforcement systems to control the cultivation, distribution, sale, and possession of marijuana, conduct in compliance with those laws and regulations is less likely to threaten the federal priorities set forth above. Indeed, a robust system may affirmatively address those priorities by, for example, implementing effective measures to prevent diversion of marijuana outside of the regulated system and to other states, prohibiting access to marijuana by minors, and replacing an illicit marijuana trade that funds criminal enterprises with a tightly regulated market in which revenues are tracked and accounted for. In those circumstances, consistent with the traditional allocation of federal-state efforts in this area, enforcement of state law by state and local law enforcement and regulatory bodies should remain the primary means of addressing marijuana-related activity. If state enforcement efforts are not sufficiently robust to protect against the harms set forth above, the federal government may seek to challenge the regulatory structure itself in addition to continuing to bring individual enforcement actions, including criminal prosecutions, focused on those harms.

The Department's previous memoranda specifically addressed the exercise of prosecutorial discretion in states with laws authorizing marijuana cultivation and distribution for medical use. In those contexts, the Department advised that it likely was not an efficient use of federal resources to focus enforcement efforts on seriously ill individuals, or on their individual caregivers. In doing so, the previous guidance drew a distinction between the seriously ill and their caregivers, on the one hand, and large-scale, for-profit commercial enterprises, on the other, and advised that the latter continued to be appropriate targets for federal enforcement and prosecution. In drawing this distinction, the Department relied on the common-sense judgment that the size of a marijuana operation was a reasonable proxy for assessing whether marijuana trafficking implicates the federal enforcement priorities set forth above.

As explained above, however, both the existence of a strong and effective state regulatory system, and an operation's compliance with such a system, may allay the threat that an operation's size poses to federal enforcement interests. Accordingly, in exercising prosecutorial discretion, prosecutors should not consider the size or commercial nature of a marijuana operation alone as a proxy for assessing whether marijuana trafficking implicates the Department's enforcement priorities listed above. Rather, prosecutors should continue to review marijuana cases on a case-by-case basis and weigh all available information and evidence, including, but not limited to, whether the operation is demonstrably in compliance with a strong and effective state regulatory system. A marijuana operation's large scale or for-profit nature may be a relevant consideration for assessing the extent to which it undermines a particular federal enforcement priority. The primary question in all cases – and in all jurisdictions – should be whether the conduct at issue implicates one or more of the enforcement priorities listed above.

As with the Department's previous statements on this subject, this memorandum is intended solely as a guide to the exercise of investigative and prosecutorial discretion. This memorandum does not alter in any way the Department's authority to enforce federal law, including federal laws relating to marijuana, regardless of state law. Neither the guidance herein nor any state or local law provides a legal defense to a violation of federal law, including any civil or criminal violation of the CSA. Even in jurisdictions with strong and effective regulatory systems, evidence that particular conduct threatens federal priorities will subject that person or entity to federal enforcement action, based on the circumstances. This memorandum is not intended to, does not, and may not be relied upon to create any rights, substantive or procedural, enforceable at law by any party in any matter civil or criminal. It applies prospectively to the exercise of prosecutorial discretion in future cases and does not provide defendants or subjects of enforcement action with a basis for reconsideration of any pending civil action or criminal prosecution. Finally, nothing herein precludes investigation or prosecution, even in the absence of any one of the factors listed above, in particular circumstances where investigation and prosecution otherwise serves an important federal interest.

cc: Mythili Raman
Acting Assistant Attorney General, Criminal Division

Loretta E. Lynch
United States Attorney
Eastern District of New York
Chair, Attorney General's Advisory Committee

Michele M. Leonhart
Administrator
Drug Enforcement Administration

H. Marshall Jarrett
Director
Executive Office for United States Attorneys

Ronald T. Hosko
Assistant Director
Criminal Investigative Division
Federal Bureau of Investigation



U.S. Department of Justice

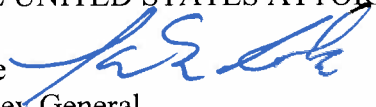
Office of the Deputy Attorney General

The Deputy Attorney General

Washington, D.C. 20530

February 14, 2014

MEMORANDUM FOR ALL UNITED STATES ATTORNEYS

FROM: James M. Cole 
Deputy Attorney General

SUBJECT: Guidance Regarding Marijuana Related Financial Crimes

On August 29, 2013, the Department issued guidance (August 29 guidance) to federal prosecutors concerning marijuana enforcement under the Controlled Substances Act (CSA). The August 29 guidance reiterated the Department's commitment to enforcing the CSA consistent with Congress' determination that marijuana is a dangerous drug that serves as a significant source of revenue to large-scale criminal enterprises, gangs, and cartels. In furtherance of that commitment, the August 29 guidance instructed Department attorneys and law enforcement to focus on the following eight priorities in enforcing the CSA against marijuana-related conduct:

- Preventing the distribution of marijuana to minors;
- Preventing revenue from the sale of marijuana from going to criminal enterprises, gangs, and cartels;
- Preventing the diversion of marijuana from states where it is legal under state law in some form to other states;
- Preventing state-authorized marijuana activity from being used as a cover or pretext for the trafficking of other illegal drugs or other illegal activity;
- Preventing violence and the use of firearms in the cultivation and distribution of marijuana;
- Preventing drugged driving and the exacerbation of other adverse public health consequences associated with marijuana use;
- Preventing the growing of marijuana on public lands and the attendant public safety and environmental dangers posed by marijuana production on public lands; and
- Preventing marijuana possession or use on federal property.

Under the August 29 guidance, whether marijuana-related conduct implicates one or more of these enforcement priorities should be the primary question in considering prosecution

under the CSA. Although the August 29 guidance was issued in response to recent marijuana legalization initiatives in certain states, it applies to all Department marijuana enforcement nationwide. The guidance, however, did not specifically address what, if any, impact it would have on certain financial crimes for which marijuana-related conduct is a predicate.

The provisions of the money laundering statutes, the unlicensed money remitter statute, and the Bank Secrecy Act (BSA) remain in effect with respect to marijuana-related conduct. Financial transactions involving proceeds generated by marijuana-related conduct can form the basis for prosecution under the money laundering statutes (18 U.S.C. §§ 1956 and 1957), the unlicensed money transmitter statute (18 U.S.C. § 1960), and the BSA. Sections 1956 and 1957 of Title 18 make it a criminal offense to engage in certain financial and monetary transactions with the proceeds of a “specified unlawful activity,” including proceeds from marijuana-related violations of the CSA. Transactions by or through a money transmitting business involving funds “derived from” marijuana-related conduct can also serve as a predicate for prosecution under 18 U.S.C. § 1960. Additionally, financial institutions that conduct transactions with money generated by marijuana-related conduct could face criminal liability under the BSA for, among other things, failing to identify or report financial transactions that involved the proceeds of marijuana-related violations of the CSA. *See, e.g.*, 31 U.S.C. § 5318(g). Notably for these purposes, prosecution under these offenses based on transactions involving marijuana proceeds does not require an underlying marijuana-related conviction under federal or state law.

As noted in the August 29 guidance, the Department is committed to using its limited investigative and prosecutorial resources to address the most significant marijuana-related cases in an effective and consistent way. Investigations and prosecutions of the offenses enumerated above based upon marijuana-related activity should be subject to the same consideration and prioritization. Therefore, in determining whether to charge individuals or institutions with any of these offenses based on marijuana-related violations of the CSA, prosecutors should apply the eight enforcement priorities described in the August 29 guidance and reiterated above.¹ For example, if a financial institution or individual provides banking services to a marijuana-related business knowing that the business is diverting marijuana from a state where marijuana sales are regulated to ones where such sales are illegal under state law, or is being used by a criminal organization to conduct financial transactions for its criminal goals, such as the concealment of funds derived from other illegal activity or the use of marijuana proceeds to support other illegal activity, prosecution for violations of 18 U.S.C. §§ 1956, 1957, 1960 or the BSA might be appropriate. Similarly, if the financial institution or individual is willfully blind to such activity by, for example, failing to conduct appropriate due diligence of the customers’ activities, such prosecution might be appropriate. Conversely, if a financial institution or individual offers

¹ The Department of the Treasury’s Financial Crimes Enforcement Network (FinCEN) is issuing concurrent guidance to clarify BSA expectations for financial institutions seeking to provide services to marijuana-related businesses. The FinCEN guidance addresses the filing of Suspicious Activity Reports (SAR) with respect to marijuana-related businesses, and in particular the importance of considering the eight federal enforcement priorities mentioned above, as well as state law. As discussed in FinCEN’s guidance, a financial institution providing financial services to a marijuana-related business that it reasonably believes, based on its customer due diligence, does not implicate one of the federal enforcement priorities or violate state law, would file a “Marijuana Limited” SAR, which would include streamlined information. Conversely, a financial institution filing a SAR on a marijuana-related business it reasonably believes, based on its customer due diligence, implicates one of the federal priorities or violates state law, would label the SAR “Marijuana Priority,” and the content of the SAR would include comprehensive details in accordance with existing regulations and guidance.

services to a marijuana-related business whose activities do not implicate any of the eight priority factors, prosecution for these offenses may not be appropriate.

The August 29 guidance rested on the expectation that states that have enacted laws authorizing marijuana-related conduct will implement clear, strong and effective regulatory and enforcement systems in order to minimize the threat posed to federal enforcement priorities. Consequently, financial institutions and individuals choosing to service marijuana-related businesses that are not compliant with such state regulatory and enforcement systems, or that operate in states lacking a clear and robust regulatory scheme, are more likely to risk entanglement with conduct that implicates the eight federal enforcement priorities.² In addition, because financial institutions are in a position to facilitate transactions by marijuana-related businesses that could implicate one or more of the priority factors, financial institutions must continue to apply appropriate risk-based anti-money laundering policies, procedures, and controls sufficient to address the risks posed by these customers, including by conducting customer due diligence designed to identify conduct that relates to any of the eight priority factors. Moreover, as the Department's and FinCEN's guidance are designed to complement each other, it is essential that financial institutions adhere to FinCEN's guidance.³ Prosecutors should continue to review marijuana-related prosecutions on a case-by-case basis and weigh all available information and evidence in determining whether particular conduct falls within the identified priorities.

As with the Department's previous statements on this subject, this memorandum is intended solely as a guide to the exercise of investigative and prosecutorial discretion. This memorandum does not alter in any way the Department's authority to enforce federal law, including federal laws relating to marijuana, regardless of state law. Neither the guidance herein nor any state or local law provides a legal defense to a violation of federal law, including any civil or criminal violation of the CSA, the money laundering and unlicensed money transmitter statutes, or the BSA, including the obligation of financial institutions to conduct customer due diligence. Even in jurisdictions with strong and effective regulatory systems, evidence that particular conduct of a person or entity threatens federal priorities will subject that person or entity to federal enforcement action, based on the circumstances. This memorandum is not intended, does not, and may not be relied upon to create any rights, substantive or procedural, enforceable at law by any party in any matter civil or criminal. It applies prospectively to the exercise of prosecutorial discretion in future cases and does not provide defendants or subjects of enforcement action with a basis for reconsideration of any pending civil action or criminal prosecution. Finally, nothing herein precludes investigation or prosecution, even in the absence of any one of the factors listed above, in particular circumstances where investigation and prosecution otherwise serves an important federal interest.

² For example, financial institutions should recognize that a marijuana-related business operating in a state that has not legalized marijuana would likely result in the proceeds going to a criminal organization.

³ Under FinCEN's guidance, for instance, a marijuana-related business that is not appropriately licensed or is operating in violation of state law presents red flags that would justify the filing of a Marijuana Priority SAR.



Financial Crimes Enforcement Network

A bureau of the U.S. Department of the Treasury

FinCEN news releases are available on the Internet and by e-mail subscription at www.fincen.gov.
For more information, please contact FinCEN's Office of Public Affairs at (703) 905-3770.

FOR IMMEDIATE RELEASE

February 14, 2014

CONTACT: Steve Hudak

703-905-3770

FinCEN Issues Guidance to Financial Institutions on Marijuana Businesses

Guidance Clarifies Expectations of Financial Institutions Serving Marijuana Businesses

WASHINGTON, DC – The Financial Crimes Enforcement Network (FinCEN), in coordination with the U.S. Department of Justice (DOJ), today issued [guidance](#) that clarifies customer due diligence expectations and reporting requirements for financial institutions seeking to provide services to marijuana businesses. The guidance provides that financial institutions can provide services to marijuana-related businesses in a manner consistent with their obligations to know their customers and to report possible criminal activity.

Providing clarity in this context should enhance the availability of financial services for marijuana businesses. This would promote greater financial transparency in the marijuana industry and mitigate the dangers associated with conducting an all-cash business. The guidance also helps financial institutions file reports that contain information important to law enforcement. Law enforcement will now have greater insight into marijuana business activity generally, and will be able to focus on activity that presents high-priority concerns.

“Now that some states have elected to legalize and regulate the marijuana trade, FinCEN seeks to move from the shadows the historically covert financial operations of marijuana businesses,” noted FinCEN Director Jennifer Shasky Calvery. “Our guidance provides financial institutions with clarity on what they must do if they are going to provide financial services to marijuana businesses and what reporting will assist law enforcement.”

FinCEN writes the rules and regulations that U.S. financial institutions, like banks, credit unions, and money services businesses, must follow to help protect the U.S. financial system from money laundering and terrorist finance. FinCEN also has the civil power to enforce these rules and penalize offenders. To satisfy their regulatory obligations in this area, FinCEN expects

financial institutions to perform thorough customer due diligence on marijuana businesses and file reports that highlight information that is particularly valuable to law enforcement.

###

FinCEN's mission is to safeguard the financial system from illicit use and combat money laundering and promote national security through the collection, analysis, and dissemination of financial intelligence and strategic use of financial authorities.



December 2015

STATE MARIJUANA LEGALIZATION

DOJ Should
Document Its
Approach to
Monitoring the Effects
of Legalization

GAO Highlights

Highlights of [GAO-16-1](#), a report to congressional requesters

Why GAO Did This Study

An increasing number of states have adopted laws that legalize marijuana for medical or recreational purposes under state law, yet federal penalties remain. In 2012, Colorado and Washington became the first states to legalize marijuana for recreational purposes. In 2013, DOJ updated its marijuana enforcement policy by issuing guidance clarifying federal marijuana enforcement priorities and stating that DOJ may challenge those state marijuana legalization systems that threaten these priorities. GAO was asked to review issues related to Colorado's and Washington's actions to regulate recreational marijuana and DOJ's mechanisms to monitor the effects of state legalization.

This report examines, among other issues, (1) DOJ's efforts to monitor the effects of state marijuana legalization relative to DOJ's 2013 guidance and (2) factors DOJ field officials reported affecting their marijuana enforcement in selected states with medical marijuana laws. GAO analyzed DOJ marijuana enforcement guidance and drug threat assessments, and evaluated DOJ's monitoring efforts against internal control standards. GAO also interviewed cognizant DOJ officials, including U.S. Attorneys and DEA officials in six states.

What GAO Recommends

GAO recommends that DOJ document a plan specifying its process for monitoring the effects of state marijuana legalization, and share the plan with DOJ components. DOJ concurred with GAO's recommendations.

View [GAO-16-1](#). For more information, contact Jennifer Grover at (202) 512-7141 or groverj@gao.gov.

December 2015

STATE MARIJUANA LEGALIZATION

DOJ Should Document Its Approach to Monitoring the Effects of Legalization

What GAO Found

Officials from the Department of Justice's (DOJ) Office of the Deputy Attorney General (ODAG) reported monitoring the effects of state marijuana legalization relative to DOJ policy, generally in two ways. First, officials reported that U.S. Attorneys prosecute cases that threaten federal marijuana enforcement priorities (see fig. below) and consult with state officials about areas of federal concern, such as the potential impact on enforcement priorities of edible marijuana products. Second, officials reported they collaborate with DOJ components, including the Drug Enforcement Administration (DEA) and other federal agencies, including the Office of National Drug Control Policy, and assess various marijuana enforcement-related data these agencies provide. However, DOJ has not documented its monitoring process, as called for in *Standards for Internal Control in the Federal Government*. Documenting a plan specifying its monitoring process would provide DOJ with greater assurance that its monitoring activities relative to DOJ marijuana enforcement guidance are occurring as intended. Further, making this plan available to appropriate DOJ components can provide ODAG with an opportunity to gain institutional knowledge with respect to its monitoring plan, including the utility of the data ODAG is using. This can better position ODAG to identify state systems that are not effectively protecting federal enforcement priorities and, if necessary, take steps to challenge these systems in accordance with DOJ marijuana enforcement guidance.

DOJ Marijuana Enforcement Priorities

	Preventing the distribution of marijuana to minors		Preventing violence and the use of firearms in the cultivation and distribution of marijuana
	Preventing revenue from the sale of marijuana from going to criminal enterprises, gangs, and cartels		Preventing drugged driving and the exacerbation of other adverse public health consequences associated with marijuana use
	Preventing the diversion of marijuana from states where it is legal under state law in some form to other states		Preventing the growing of marijuana on public lands and the attendant public safety and environmental dangers posed by marijuana production on public lands
	Preventing state-authorized marijuana activity from being used as a cover or pretext for the trafficking of other illegal drugs or other illegal activity		Preventing marijuana possession or use on federal property

Source: Department of Justice; Department of the Interior (logo). | GAO-16-1

U.S. Attorneys and DEA officials in six states with medical marijuana laws reported their perspectives on various factors that had affected their marijuana enforcement actions. These include

- applying resources to target the most significant public health and safety threats, such as violence associated with drug-trafficking organizations;
- addressing local concerns regarding the growth of the commercial medical marijuana industry; and
- implementing DOJ's updated marijuana enforcement policy guidance.

Contents

Letter		1
	Background	5
	Features of Colorado's and Washington's Regulatory Systems for Recreational Marijuana	13
	DOJ Reports Actions to Monitor the Effects of State Legalization of Marijuana, but Has Not Documented a Plan for Doing So	25
	DOJ Field Officials Reported That Various Factors Have Affected Their Marijuana Enforcement Actions in Selected States That Have Legalized Marijuana for Medical Purposes	32
	Conclusions	38
	Recommendations for Executive Action	39
	Agency Comments and Our Evaluation	39
Appendix I	DOJ Field Components Contacted in Selected States	41
Appendix II	Comments from the Department of Justice	43
Appendix III	GAO Contact and Staff Acknowledgments	44
Tables		
	Table 1: Reported Number of Recreational Marijuana Licenses Issued by Colorado and Washington, as of August 2015	15
	Table 2: Selected Features of Colorado's and Washington's Recreational Marijuana Systems, as of July 2015	23
	Table 3: Summary of Actions ODAG Officials Reported DOJ was Taking to Monitor the Effects of State Marijuana Legalization Relative to DOJ's August 2013 Marijuana Enforcement Policy Guidance	29
Figures		
	Figure 1: Cannabis Plants	6
	Figure 2: DOJ's Marijuana Enforcement Priorities as Outlined in the August 2013 Marijuana Enforcement Guidance	11

Figure 3: Timeline Showing the Years States and the District of Columbia Passed Measures Legalizing Medical and Recreational Marijuana under State Law and the Years DOJ Issued Marijuana Enforcement Policy Guidance	12
Figure 4: Colorado and Washington Recreational Marijuana License Types	14
Figure 5: Marijuana Plants with Inventory-Tracking System Tags at Colorado and Washington Recreational Marijuana Facilities	18
Figure 6: Marijuana-Infused Products Reviewed by the Washington State Liquor and Cannabis Board	21
Figure 7: DOJ Field Components Contacted in Selected States	42

Abbreviations

CBD	cannabidiol
CSA	Controlled Substances Act of 1970
DEA	Drug Enforcement Administration
DOJ	Department of Justice
EOUSA	Executive Office for United States Attorneys
FBI	Federal Bureau of Investigation
HIDTA	High Intensity Drug Trafficking Area
LIONS	Legal Information Online Network System
Colorado MED	Colorado Marijuana Enforcement Division
OCDETF	Organized Crime Drug Enforcement Task Forces Program
ODAG	Office of the Deputy Attorney General
ONDCP	Office of National Drug Control Policy
RFID	radio frequency identification
THC	delta-9-tetrahydrocannabinol
USAO	United States Attorney's Office
Washington State LCB	Washington State Liquor and Cannabis Board

This is a work of the U.S. government and is not subject to copyright protection in the United States. The published product may be reproduced and distributed in its entirety without further permission from GAO. However, because this work may contain copyrighted images or other material, permission from the copyright holder may be necessary if you wish to reproduce this material separately.



December 30, 2015

The Honorable Charles E. Grassley
Chairman
Committee on the Judiciary
United States Senate

The Honorable Dianne Feinstein
United States Senate

Under the Controlled Substances Act of 1970 (CSA), generally it is a federal crime for any person to knowingly or intentionally manufacture, distribute, dispense, or possess marijuana.¹ For many years, all 50 states had uniform drug control laws or similar provisions that mirrored the CSA with respect to their treatment of marijuana, making their violation a state criminal offense. However, as of June 2015, 24 states and the District of Columbia have passed laws legalizing marijuana for medical purposes under certain circumstances—yet federal penalties remain under the CSA with regard to marijuana.² In November 2012, 2 of these states—Colorado and Washington—became the first states to pass ballot initiatives to legalize the possession of marijuana for recreational use under state law. The ballot initiatives in Colorado and Washington generally were to allow for personal possession of up to an ounce of marijuana for those at least 21 years of age and required the states to establish regulatory and enforcement systems to control the production, processing, and sale of marijuana.³ More recently, in November 2014, voters in Alaska, Oregon, and the District of Columbia approved ballot measures legalizing marijuana for recreational use.

¹21 U.S.C. §§ 841, 844.

²In addition to the 24 states and the District of Columbia, that have passed laws legalizing marijuana for medical purposes, 15 states have laws pertaining to only the use of products containing cannabidiol (CBD), one of the active ingredients in marijuana plants. We provide more details later in this report.

³For Colorado's regulatory framework regarding the production, processing, and sale of recreational marijuana, see 1 Colo. Code Regs. 212-2, Retail Marijuana Code. For Washington's regulatory framework regarding the production, processing, and sale of recreational marijuana, see Wash. Admin. Code ch. 314-55, Marijuana Licenses, Application Process, Requirements, and Reporting.

The Department of Justice (DOJ) is responsible for enforcing the CSA and developing policies and strategies to do so. In 2009 and 2011, DOJ issued guidance to prosecutors concerning marijuana enforcement under the CSA. On August 29, 2013, DOJ updated that marijuana enforcement guidance following the passage of Colorado's and Washington's state ballot initiatives legalizing recreational marijuana under state law. The guidance described examples of circumstances where the federal government may seek to challenge the regulatory system implemented by a state to control the production, processing, and sale of marijuana because it was likely to threaten federal enforcement priorities. In particular, the guidance instructed DOJ's prosecutorial and law enforcement components to focus marijuana enforcement efforts on priorities that it stated were particularly important to the federal government, such as preventing revenue from the sale of marijuana from going to criminal enterprises, preventing violence and the use of firearms in the cultivation and distribution of marijuana, and preventing the distribution of marijuana to minors. DOJ indicated that the guidance rests on its expectation that states and local governments that have legalized marijuana will implement strong and effective regulatory and enforcement systems that will address the threat that those state laws could pose to these priorities.

You requested that we review the actions Colorado and Washington had taken to implement their recreational marijuana laws, the mechanisms DOJ and its components have established to monitor their effects, and the lessons learned from DOJ's enforcement efforts in response to states' medical marijuana laws. This report examines the following questions:

- What are the features of Colorado's and Washington's systems to regulate the production, processing, and sale of recreational marijuana?
- To what extent is DOJ monitoring the effects of state marijuana legalization relative to DOJ's 2013 marijuana enforcement policy guidance?
- What factors have DOJ field officials reported affecting their marijuana enforcement actions in selected states that have legalized marijuana for medical purposes?

To determine how Colorado and Washington regulate the production, processing, and sale of recreational marijuana, we reviewed laws and regulations governing recreational marijuana in Colorado and Washington

as well as reports describing the development and implementation of these laws and regulations, such as the state of Colorado task force report providing recommendations for implementing Colorado's recreational marijuana legalization law.⁴ To obtain additional perspectives on these regulations, we interviewed officials from the state regulatory agencies responsible for developing, implementing, and enforcing the regulations, including the Colorado Department of Revenue's Marijuana Enforcement Division (MED) and the Washington State Liquor and Cannabis Board (Washington State LCB). In addition, we observed Washington State LCB officials conduct inspections at three recreational marijuana facilities. We also interviewed officials from each of the states' state patrols and offices of the attorney general, to obtain their perspectives on implementation and enforcement of the regulations.

To determine how DOJ is monitoring the effects of state marijuana legalization laws relative to DOJ's 2013 marijuana enforcement policy, we reviewed DOJ documentation related to its marijuana enforcement and monitoring efforts, including marijuana enforcement guidance memorandums the Office of the Deputy Attorney General (ODAG) issued to federal prosecutors beginning in 2009, and information DOJ provided to the Senate Judiciary Committee regarding its marijuana enforcement policy. We also reviewed DOJ component agency documentation including Drug Enforcement Administration (DEA) reports describing national drug threat and enforcement trends and guidance describing DOJ investigative and prosecutorial case management systems used by DEA and United States Attorneys' offices (USAO). We interviewed DOJ headquarters officials from ODAG, DEA, the Executive Office for United States Attorneys (EOUSA), and other DOJ components including the Criminal Division and the Office of Justice Programs.⁵ We also interviewed officials from the Office of National Drug Control Policy

⁴State of Colorado, *Task Force Report on the Implementation of Amendment 64* (Denver, CO: March 13, 2013).

⁵DOJ's Criminal Division develops, enforces, and supervises the application of all federal criminal laws except those specifically assigned to other divisions. The division and the 93 U.S. Attorneys have the responsibility for overseeing criminal matters as well as certain civil litigation. EOUSA, among other things, facilitates coordination between the Offices of the United States Attorneys and other organizational units of DOJ. The Office of Justice Programs works in partnership with the justice community to identify the most pressing crime-related challenges confronting the justice system and to provide information, training, coordination, and innovative strategies and approaches for addressing these challenges. We discuss DEA and the USAOs later in this report.

(ONDCP), with which DOJ reported coordinating as part of its efforts to monitor the effects of state marijuana legalization.⁶ We then evaluated DOJ's reported efforts to monitor the effects of state legalization of marijuana against standards in *Standards for Internal Control in the Federal Government*.⁷

To determine the factors DOJ field officials reported affecting their marijuana enforcement actions in selected states that have legalized marijuana for medical purposes, we selected 6 states for our review, to include (1) Colorado and Washington because, in addition to their recreational marijuana laws, they have long-standing medical marijuana legalization laws in place, and (2) 4 additional states—Alaska, California, Maine, and Oregon—that were the earliest states to pass laws legalizing marijuana for medical purposes. We interviewed officials from the six DEA field divisions and 10 USAOs with jurisdiction for these selected states.⁸ The information we obtained from DOJ field officials in these selected states is not generalizable to DOJ field officials in all states with medical marijuana legalization laws, but these interviews provided valuable information and perspectives about the experiences of DOJ field offices in the states. We also interviewed and obtained information from officials from federal agencies that DOJ reported partnering with in its marijuana enforcement actions, including the U.S. Postal Inspection Service, U.S. Forest Service, Bureau of Land Management, National Park Service, and ONDCP High Intensity Drug Trafficking Area (HIDTA) Program offices in selected states.⁹ Furthermore, we reviewed

⁶ONDCP is a component of the Executive Office of the President that advises the President on drug control issues, coordinates drug-control activities and related funding across the federal government, and produces the annual [National Drug Control Strategy](#), which outlines administration efforts to reduce illicit drug use, manufacturing and trafficking, drug-related crime and violence, and drug-related health consequences.

⁷GAO, *Standards for Internal Control in the Federal Government*, [GAO/AIMD-00-21.3.1](#) (Washington, D.C.: Nov. 1, 1999).

⁸See app. I for a list of the DEA and USAO field offices whose officials we interviewed.

⁹The HIDTA Program, a federal grant program administered by ONDCP, provides resources to assist federal, state, local, and tribal agencies to coordinate activities in areas determined to be critical drug-trafficking regions of the United States. There are currently 28 HIDTAs, which include approximately 17 percent of all counties in the United States and approximately 60 percent of the U.S. population. HIDTA-designated counties are located in 48 states, as well as in Puerto Rico, the U.S. Virgin Islands, and the District of Columbia.

information provided by DEA field divisions and USAOs in the selected states regarding their marijuana enforcement actions from fiscal years 2007 through 2014, including correspondence sent to medical marijuana dispensaries and case information reported in these field divisions' publicly available press releases.¹⁰ We selected this time period to include information on DOJ marijuana enforcement 2 years before DOJ issued its first public marijuana enforcement guidance in 2009 and after its August 2013 guidance.¹¹

We conducted this performance audit from July 2014 to November 2015 in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

Background

Marijuana refers to the dried leaves, flowers, stems, and seeds from the cannabis plant (shown in fig. 1), which contains the psychoactive or mind-altering chemical delta-9-tetrahydrocannabinol (THC), as well as other related compounds. Marijuana can be smoked or consumed in food or drinks, such as marijuana-infused brownies, cookies, peanut butter, candy, and soda. According to the Substance Abuse and Mental Health Services Administration, marijuana is the most widely used illicit drug in the United States. For example, according to the 2013 National Survey on Drug Use and Health, an estimated 44 percent of Americans aged 12 and older reported they had tried marijuana, and an estimated 7.6 percent of

¹⁰Although the specifics vary by state, medical marijuana dispensaries generally provide for the transfer or sale of medical marijuana products.

¹¹It is important to note that during the course of our review, the Department of Justice's appropriations act was passed and section 538 of the Consolidated and Further Continuing Appropriations Act, 2015, Pub. L. No. 113-235, 128 Stat. 2130, 2217 (Dec. 16, 2014) stated that "[n]one of the funds made available in this Act to the Department of Justice may be used, with respect to the States of Alabama, Alaska, Arizona, California, Colorado, Connecticut, Delaware, District of Columbia, Florida, Hawaii, Illinois, Iowa, Kentucky, Maine, Maryland, Massachusetts, Michigan, Minnesota, Mississippi, Missouri, Montana, Nevada, New Hampshire, New Jersey, New Mexico, Oregon, Rhode Island, South Carolina, Tennessee, Utah, Vermont, Washington, and Wisconsin, to prevent such States from implementing their own State laws that authorize the use, distribution, possession or cultivation of medical marijuana."

Americans aged 12 and older reported having used marijuana in the past month.¹²

Figure 1: Cannabis Plants



Source: Colorado Marijuana Enforcement Division. | GAO-16-1

¹²Funded by the Substance Abuse and Mental Health Services Administration, the National Survey on Drug Use and Health provides information on the use of illicit drugs, alcohol, and tobacco among noninstitutionalized Americans aged 12 and older. See United States Department of Health and Human Services, Substance Abuse and Mental Health Services Administration, Center for Behavioral Health Statistics and Quality, distributed by Inter-university Consortium for Political and Social Research, *National Survey on Drug Use and Health, 2013*, ICPSR35509-v1 (Ann Arbor, MI: Nov. 18, 2014).

Marijuana is a controlled substance under federal law and is classified in the most restrictive of categories of controlled substances by the federal government. The CSA places all federally controlled substances in one of five “schedules,” depending, among other things, on the drug’s likelihood for abuse or dependence, and whether the drug has an accepted medical use. Marijuana is classified under Schedule I,¹³ the classification reserved for drugs that have been found by the federal government to have a high potential for abuse, no currently accepted medical use in treatment in the United States, and a lack of accepted safety for use under medical supervision.¹⁴ In contrast, the other schedules are for drugs of varying addictive properties, but found by the federal government to have a currently accepted medical use. The CSA does not allow Schedule I drugs to be dispensed with a prescription, unlike drugs in the other schedules.¹⁵ Furthermore, the CSA provides federal sanctions for possession, manufacture, distribution, dispensing, or use of Schedule I substances, including marijuana, except in the context of a government-approved research project.¹⁶

Within DOJ, two components have primary responsibility for enforcing the CSA. DEA is the primary federal law enforcement agency responsible for conducting criminal investigations of potential violations of the CSA. U.S. Attorneys are the chief federal law enforcement officers in federal judicial districts responsible for, among other things, prosecution of criminal cases brought by the federal government and prosecution of civil cases in which the United States is a party.¹⁷ As part of their marijuana enforcement efforts, DEA and the U.S. Attorneys collaborate, often with state and local law enforcement, to conduct criminal investigations and

¹³21 U.S.C. § 812(c), Schedule I (c)(10).

¹⁴21 U.S.C. § 812(b)(1).

¹⁵21 U.S.C. § 829.

¹⁶21 U.S.C. §§ 823(f), 841, 844.

¹⁷There are 93 U.S. Attorneys stationed throughout the United States, Puerto Rico, the Virgin Islands, Guam, and the Northern Mariana Islands. U.S. Attorneys are appointed by, and serve at the discretion of, the President of the United States, with the advice and consent of the United States Senate. One U.S. Attorney is assigned to each of the 94 judicial districts, with the exception of Guam and the Northern Mariana Islands, where a single U.S. Attorney serves in both districts. Each U.S. Attorney is the chief federal law enforcement officer of the United States within his or her particular jurisdiction.

prosecutions, civil and criminal forfeiture, seizures, and eradications of cannabis plants.¹⁸

An increasing number of states have adopted laws that legalize the use of marijuana under state law. As of June 2015, 24 states and the District of Columbia had passed legislation or voter initiatives legalizing the possession and distribution of marijuana for medical purposes under state or territorial law.¹⁹ In 1996, California became the first state to do so with its passage of the Compassionate Use Act,²⁰ and an increasing number of states have passed ballot initiatives, propositions, or legislation under state law to legalize medical marijuana in recent years. For example, from 2007 through June 2015, 13 states and the District of Columbia passed some type of measure to legalize marijuana for medical purposes under state law. The laws these states have passed legalizing medical marijuana vary, as does the extent to which the states have established regulatory and enforcement systems to implement them.

As of June 2015, 4 states and the District of Columbia had passed ballot initiatives legalizing marijuana for recreational purposes under state law. In 2012, Colorado and Washington became the first states to pass ballot initiatives legalizing the production, processing, and sale of marijuana for

¹⁸For example, DEA's Domestic Cannabis Eradication/Suppression Program is a nationwide law enforcement program that exclusively targets drug-trafficking organizations involved in cannabis cultivation. According to DEA, in 2014, the program was responsible for the eradication of 3,904,213 cultivated outdoor cannabis plants and 396,620 indoor plants. In addition, the program accounted for 6,310 arrests and the seizure of more than \$27.3 million of cultivator assets.

¹⁹In addition to the 24 states, and the District of Columbia, which have passed laws legalizing marijuana for medical purposes, 15 states have laws pertaining to only the use of products containing CBD, one of the active ingredients in marijuana plants. These states have varying statutory provisions that allow the use of low-THC and high-CBD variants of marijuana to treat certain medical conditions.

²⁰Compassionate Use Act of 1996, Proposition 215, Cal. Health & Safety Code § 11362.5.

recreational use. In 2014, Alaska, Oregon, and the District of Columbia passed ballot initiatives legalizing marijuana for recreational use.²¹

DOJ's Marijuana Enforcement Policy

DOJ has updated its marijuana enforcement policy in recent years in response to the rising number of states that have legalized marijuana under state law. According to a series of memorandums ODAG issued to U.S. Attorneys beginning in 2009, DOJ is committed to enforcing the CSA for marijuana regardless of state law. However, DOJ has directed its field components to focus on the efficient and rational use of its investigative and prosecutorial resources to address the most significant threats to public health and safety. According to one of the memorandums, DOJ has not historically devoted resources to prosecuting individuals whose conduct is limited to possession of small amounts of marijuana for personal use on private property. Rather, DOJ has left such lower-level or localized marijuana activity to state and local law enforcement authorities through enforcement of their own drug laws.

While reiterating the department's approach to enforcing the CSA and focusing its resources to address the greatest public health and safety threats, each of the ODAG's memorandums provided additional clarification with respect to the conditions that may trigger federal action, including criminal investigation and prosecution. For example, in October 2009, ODAG issued guidance stating that DOJ's investigative and prosecutorial resources should be directed towards the prosecution of significant traffickers of illegal drugs, including marijuana, and the disruption of illegal drug manufacturing and trafficking networks. Moreover, the guidance stated as a general matter, pursuing those priorities should not result in a focus of federal resources on individuals whose actions were in clear and unambiguous compliance with state laws providing for the medical use of marijuana, including individuals with cancer or other serious illnesses who use marijuana as part of a recommended treatment regimen consistent with applicable state law or caregivers who provide such individuals with marijuana in compliance

²¹In November 2014, voters in the District of Columbia approved a ballot initiative legalizing recreational marijuana possession and use, but this law does not allow for the sale of recreational marijuana. Legalization of Possession of Minimal Amounts of Marijuana for Personal Use Act of 2014, Ballot Initiative 71, D.C. Law 20-153, D.C. Code § 48-904.01. Similarly, in November 2014, voters in Alaska and Oregon voted for Measure 2, an act to tax and regulate the production, sale, and use of marijuana, and Measure 91, the Control, Regulation, and Taxation of Marijuana and Industrial Hemp Act, respectively.

with existing state law.²² The memorandum identified various conduct that may indicate illegal drug-trafficking activity of federal interest,²³ while reiterating that U.S. Attorneys maintained prosecutorial discretion in addressing criminal matters within their districts.²⁴

In June 2011, ODAG issued guidance stating that the 2009 memorandum was not intended to shield commercial marijuana operations from federal enforcement actions. Among other things, the guidance also stated that while DOJ's efficient use of limited federal resources had not changed, there had been an increase in the scope of commercial cultivation, sale, distribution, and use of marijuana for purported medical purposes, and that this activity remained of federal concern. Furthermore, the guidance stated that the term medical marijuana "caregiver" referred to individuals providing care to individuals with cancer or other serious illnesses, not commercial operations cultivating, selling, or distributing marijuana.

In August 2013, ODAG issued its first public guidance on marijuana enforcement since Colorado and Washington passed state ballot initiatives legalizing marijuana for recreational purposes. The guidance provided additional clarification of DOJ's priorities and certain circumstances that may warrant DOJ to challenge a state's implementation of its marijuana legalization program. The guidance outlined eight enforcement priorities that were particularly important to the federal government. These priorities generally focused on preventing the conduct ODAG outlined in its 2009 guidance, but with some additional activities specified. For example, the guidance included preventing the

²²The specific requirements for medical marijuana caregivers vary by state, but in general caregivers are persons permitted under state law to provide medical marijuana to certain medical marijuana patients.

²³This memorandum identified characteristics of conduct that may indicate illegal drug trafficking of federal interest. These include unlawful possession or unlawful use of firearms; violence; sales to minors; financial and marketing activities inconsistent with the terms, conditions, or purposes of state law, including evidence of money laundering activity or financial gains or excessive amounts of cash inconsistent with purported compliance with state or local law; amounts of marijuana inconsistent with purported compliance with state or local law; illegal possession or sale of other controlled substances; or ties to other criminal enterprises.

²⁴According to the *United States Attorneys' Manual*, prosecutorial discretion provides U.S. Attorneys with wide latitude in determining when, whom, how, and whether to prosecute for apparent violations of federal criminal law. See *United States Attorneys' Manual*, Chapter 9-27.000, Principles of Federal Prosecution.

diversion of marijuana from states where it is legal under state law in some form to other states, preventing the growing of marijuana on public lands, and preventing drugged driving and the exacerbation of other adverse public health consequences associated with marijuana use. Figure 2 lists the eight marijuana enforcement priorities outlined in the August 2013 DOJ guidance.

Figure 2: DOJ's Marijuana Enforcement Priorities as Outlined in the August 2013 Marijuana Enforcement Guidance

	Preventing the distribution of marijuana to minors		Preventing violence and the use of firearms in the cultivation and distribution of marijuana
	Preventing revenue from the sale of marijuana from going to criminal enterprises, gangs, and cartels		Preventing drugged driving and the exacerbation of other adverse public health consequences associated with marijuana use
	Preventing the diversion of marijuana from states where it is legal under state law in some form to other states		Preventing the growing of marijuana on public lands and the attendant public safety and environmental dangers posed by marijuana production on public lands
	Preventing state-authorized marijuana activity from being used as a cover or pretext for the trafficking of other illegal drugs or other illegal activity		Preventing marijuana possession or use on federal property

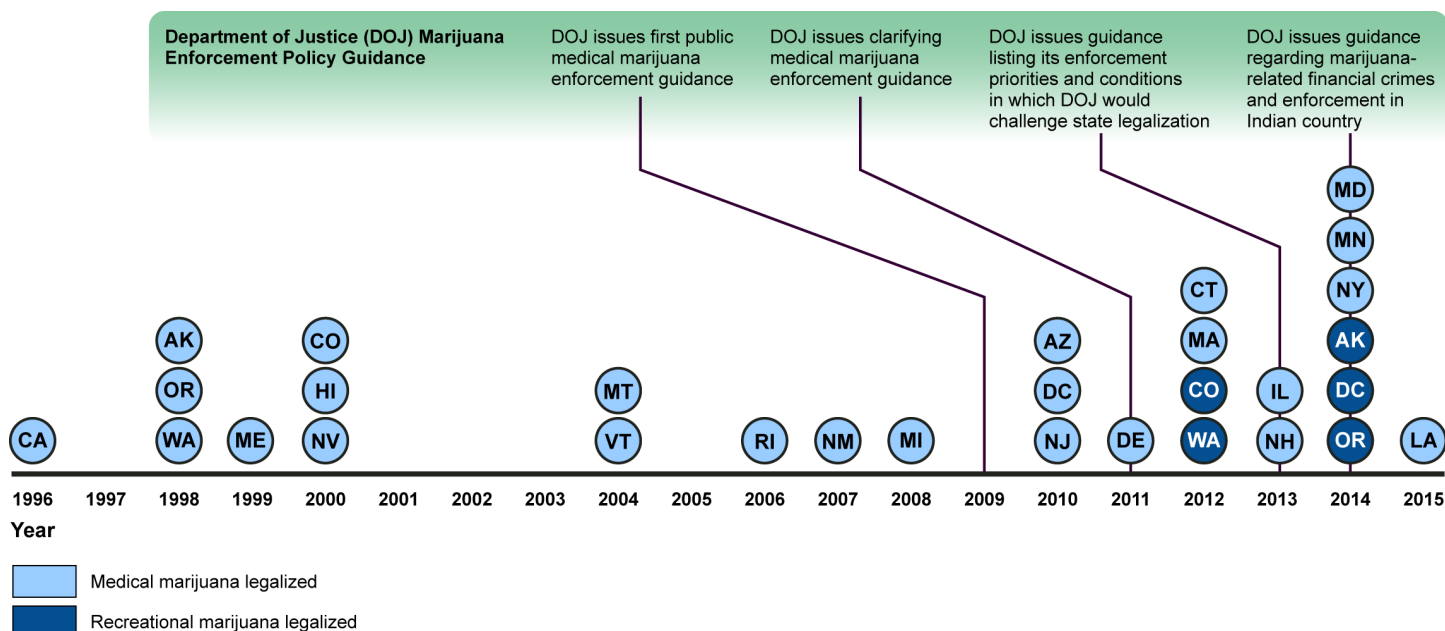
Source: Department of Justice; Department of the Interior (logo). | GAO-16-1

The guidance also stated that outside of these priorities, the enforcement of state law by state and local law enforcement and regulatory bodies should remain the primary means of addressing marijuana-related activity. The guidance stated that in jurisdictions that have enacted laws legalizing marijuana in some form and that have implemented strong and effective regulatory and enforcement systems to control the cultivation, distribution, sale, and possession of marijuana, conduct in compliance with those laws and regulations is less likely to threaten the federal marijuana enforcement priorities. The guidance indicated DOJ's expectation that state systems must not only contain robust controls and procedures on paper, but must also be effective in practice, with jurisdictions providing the necessary resources and demonstrating the willingness to enforce their laws and regulations in a manner that does not undermine federal enforcement priorities. The guidance further stated that if state enforcement efforts are not sufficiently robust to protect

against certain harms outlined in the guidance, the federal government may seek to challenge the state regulatory structures themselves, in addition to continuing to bring individual enforcement actions, including criminal prosecutions, focused on the enforcement priorities.

Figure 3 shows a timeline with the years in which states and the District of Columbia legalized medical and recreational marijuana and the years in which DOJ issued public guidance clarifying its marijuana enforcement policy.²⁵

Figure 3: Timeline Showing the Years States and the District of Columbia Passed Measures Legalizing Medical and Recreational Marijuana under State Law and the Years DOJ Issued Marijuana Enforcement Policy Guidance



Source: GAO analysis of state laws and regulations; Department of Justice. | GAO-16-1

²⁵In 2014, DOJ issued two additional guidance memorandums addressing financial crimes related to commercial marijuana activities and DOJ's marijuana enforcement on tribal lands. Specifically, in February 2014, ODAG issued a memorandum stating that investigations and prosecutions of certain financial crimes based upon marijuana-related activity should be subject to the same consideration and priorities listed in the August 2013 memorandum. The financial crimes listed in this memorandum include violations of money-laundering statutes, the unlicensed money remitter statute, and the Bank Secrecy Act. In October 2014, EOUSA issued a memorandum stating that the eight priorities listed in the August 2013 memorandum will guide USAOs' marijuana enforcement efforts in Indian country.

Features of Colorado's and Washington's Regulatory Systems for Recreational Marijuana

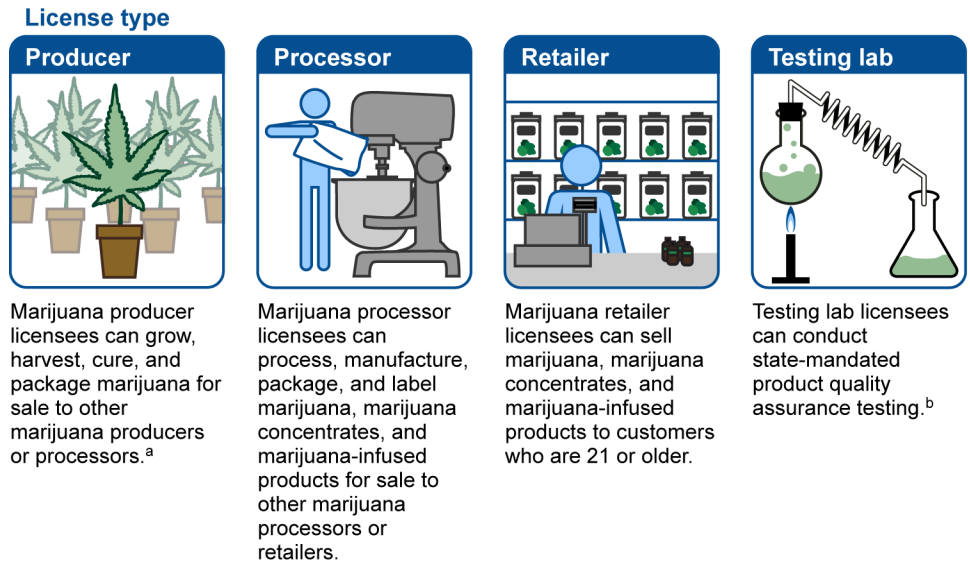
In November 2012, Colorado and Washington passed state ballot measures that legalized recreational marijuana production, processing, sales, and possession and designated regulatory agencies to develop, implement, and enforce regulations governing the recreational marijuana industry. In 2014, these recreational marijuana regulatory agencies—the Colorado MED and the Washington State LCB—began to implement the new regulations. In general, the two state regulatory systems share similar features, including requirements for licensing, licensee and employee background checks, facility security measures, and product labeling and packaging.²⁶ The following describes some of the features of the 2 states' regulatory systems.

Licensing. The Colorado MED and the Washington State LCB have established four types of recreational marijuana licenses that allow licensees (or accredited testing facilities) to conduct specific tasks, including producing, processing, or selling marijuana products, or testing marijuana products for potency and potential contaminants.²⁷ Figure 4 shows the types of recreational marijuana licenses issued in Colorado and Washington.

²⁶For Colorado's regulatory framework regarding the production, processing, and sale of recreational marijuana, see 1 Colo. Code Regs. 212-2, Retail Marijuana Code. See also Colo. Rev. Stat. tit. 12, art. 43.4. For Washington's regulatory framework regarding the production, processing, and sale of recreational marijuana, see Wash. Admin. Code ch. 314-55, Marijuana Licenses, Application Process, Requirements, and Reporting. See also Wash. Rev. Code tit. 69, ch. 69.50.

²⁷Colorado and Washington use different terminology for each type of license. For example, in Colorado's regulations a "retail marijuana products manufacturing facility" license allows the licensee to manufacture, prepare, package, store, and label retail marijuana product, whether in concentrated form or comprised of marijuana and other ingredients intended for use or consumption, such as edible products, ointments, or tinctures. Under Washington's regulations, a "marijuana processor" license allows the licensee to process, dry, cure, package, and label usable marijuana, marijuana concentrates, and marijuana-infused products for sale at wholesale to marijuana retailers. We use the Washington terminology in this report.

Figure 4: Colorado and Washington Recreational Marijuana License Types



Source: GAO analysis of Colorado and Washington recreational marijuana regulations. | GAO-16-1

Notes: Both states require licenses to be renewed annually.

Colorado allows an individual to concurrently hold marijuana producer, processor, and retailer licenses. In contrast, Washington allows individuals to concurrently hold both a marijuana producer and a marijuana processor license, but prohibits producers and processors from having a direct or indirect financial interest in a licensed marijuana retailer. Further, in Colorado, a person who is an owner of a retail marijuana producer, processor, or retailer may not be an owner of a retail marijuana testing facility. In Washington, a person with a financial interest in an accredited testing lab may not have a direct or indirect financial interest in a licensed marijuana producer or processor for whom he or she is conducting required quality assurance testing.

^aIn Colorado, marijuana producer licensees can also sell directly to marijuana retailers.

^bWashington does not issue testing lab licenses, but has implemented a required accreditation process in order for labs to conduct quality assurance tests.

Table 1 shows the number of active recreational marijuana licenses by type as of August 2015, as reported by each of the 2 states' recreational marijuana regulatory agencies.

Table 1: Reported Number of Recreational Marijuana Licenses Issued by Colorado and Washington, as of August 2015

License type	Licenses issued in Colorado ^a	Licenses issued in Washington ^b
Marijuana producer	480	636
Marijuana processor	134	533
Marijuana retailer	380	191
Testing lab ^c	16	14
Total	1,010	1,374

Source: Colorado Marijuana Enforcement Division and Washington State Liquor and Cannabis Board | GAO-16-1

^aData as of August 3, 2015.

^bData as of August 25, 2015. License counts do not include pending issuances or closed facilities.

^cIn Washington, the testing lab count is the number of accredited facilities.

Background checks. Both Colorado and Washington conduct background checks to determine if applicants are eligible to obtain a license to operate a recreational marijuana facility. As part of the licensing process, both states' regulations require applicants to submit documentation that may include biographical information, fingerprints, financial information and funding sources, and facility floor plans. The regulatory agencies review this documentation to determine whether applicants meet eligibility requirements including state residency, age, and criminal history requirements. In order to own, manage, or invest in a marijuana facility, both states' regulations require applicants to be 21 or older and a state resident for at least 2 years in Colorado and 6 months in Washington.²⁸

²⁸In addition, Colorado regulations state that applicants for employment at recreational marijuana facilities must apply for an occupational license that requires them to be 21 or older and undergo a criminal history record check. In contrast, Washington regulations do not include an occupational license: Nonmanagement employees must be 21 or older, but they are not required to undergo criminal history record checks. The Washington State LCB adopted emergency rules, effective June 20, 2015, which changed the residency requirement from 3 to 6 months.

According to state officials, the states' regulatory agencies are to conduct fingerprint-based criminal history record checks against the Federal Bureau of Investigation's (FBI) criminal history records. State regulatory agency officials are to examine the criminal history record check results and compare that information against the list of potentially disqualifying criminal offenses identified in the regulations to determine if an applicant is eligible for a license. According to Colorado and Washington regulations, generally, applicants who have received a felony conviction for controlled substances within the past 10 years of their application are disqualified; however, the 2 states' methods for making this determination differ. For example, in Colorado an applicant with a felony conviction during the past 5 years or a felony conviction for controlled substances during the past 10 years is disqualified.²⁹ In contrast, Washington uses a point system for different types of convictions to consider an applicant's eligibility, whereby an applicant with 8 or more points is normally disqualified. Under this system, a felony conviction during the past 10 years is worth 12 points, a gross misdemeanor or a misdemeanor conviction during the past 3 years is worth 5 or 4 points, respectively, and each failure to report a conviction is worth 4 points. Both states require licensees to inform the regulatory agency of new criminal convictions.³⁰

Facility security measures. Colorado and Washington regulations require that recreational marijuana facilities have physical security measures installed to combat theft and diversion of marijuana. These generally include perimeter fencing at outdoor marijuana producer facilities; a security alarm system on all perimeter entry points and perimeter windows; as well as a video surveillance system with camera coverage of all points of entry and exit to the exterior of the licensed premises, point-of-sale areas, and other areas such as areas where marijuana is grown or manufactured. The regulations specify that licensees must store recordings with the time and date available for a

²⁹The Colorado MED may grant a license to a person if the person has a state felony conviction based on possession or use of marijuana or marijuana concentrate that would not be a felony if the person were convicted of the offense on the date of the application for a license.

³⁰According to state regulations, both the Colorado MED and the Washington State LCB have the option during the license renewal process to fingerprint current licensees and conduct a follow-up criminal history record check. According to state regulations, this is done at the Director's discretion in Colorado and randomly in Washington. Washington State LCB officials reported that they had conducted follow-up criminal history checks for all first-time licensee renewals, and they will do so randomly in the future.

minimum of 40 days in Colorado and 45 days in Washington. According to officials, the stored video records are used to verify information agency officials obtain from inspections as well as actions reported by licensees such as the destruction of a plant or shipping marijuana products to another marijuana licensee. For example, we observed an unannounced premises check of a Washington marijuana producer where there was a delay of approximately 10 minutes before the Washington State LCB officers were able to access the facility. The officers stated that in that type of situation they might examine the last 10 minutes of a facility's recorded video to check for suspicious activity.

Inventory-tracking systems. Both states' regulations require licensees to use inventory-tracking systems that the regulatory agencies operate and monitor. According to state officials, the regulatory agencies have implemented electronic systems for inventory tracking and require that unique identifier tags be attached to marijuana plants and marijuana-infused products. For example, according to state officials, the Colorado MED uses radio frequency identification (RFID) tags, while the Washington State LCB uses tags with a 16-digit number and an optional bar code. Licensees must enter each identifier tag number and information about the marijuana plant or product into the electronic inventory-tracking systems.³¹ Licensees must document all inventory changes in the system, such as harvesting existing plants, transporting plants or products once they are sold to another licensee, destroying plant waste or unused plants and products, thefts, and sales to retail customers.

Colorado MED and Washington State LCB officials stated that they are able to use the inventory-tracking systems to trace specific marijuana plants and products through each stage of the supply chain, including production, processing, delivery to a retail store, and sale to a consumer. For example, Colorado MED officials reported an instance where the agency used the state inventory-tracking system to identify the lot numbers of marijuana-infused products made with potentially mold-contaminated marijuana and the retail stores that received those products in order to prevent them from being sold to consumers. Colorado MED and Washington State LCB officials reported that inventory-tracking

³¹The states' inventory-tracking systems are the Colorado Marijuana Enforcement Tracking Reporting and Compliance system and the Washington Marijuana Traceability System.

system data are actively monitored to identify possible irregularities and verify information from inspections. For example, Washington State LCB officials reported that their agency audited a retail licensee that reported significant sales in 1 month and zero sales in the subsequent month. Figure 5 shows a photo of marijuana plants with RFID and bar code tags at Colorado and Washington recreational marijuana facilities, respectively.

Figure 5: Marijuana Plants with Inventory-Tracking System Tags at Colorado and Washington Recreational Marijuana Facilities



Source: Colorado Marijuana Enforcement Division (left photograph) and Washington State Liquor and Cannabis Board (right photograph). | GAO-16-1

Both states' regulations require licensees to notify the Colorado MED or Washington State LCB about the transport of marijuana or marijuana-infused products to other licensed facilities. Licensees must generate a transport manifest from information entered into the inventory-tracking system, such as the type of product, amount or weight, destination, the driver, and the transport vehicle, as well as the departure time and expected delivery time. Colorado MED and Washington State LCB officials reported that transport manifests can be verified by state and local police if a marijuana delivery driver is stopped for traffic violations to confirm that drivers are legally transporting marijuana or marijuana products.

Product quality assurance testing. The Colorado MED and Washington State LCB have established regulatory provisions for licensees to submit marijuana and marijuana-infused product samples to state-approved testing labs for quality assurance testing. According to the regulations, testing labs are to perform a number of tests on samples, including potency testing to determine the percentage of THC in the sample; screening for harmful microorganisms such as bacteria or fungus; and may include tests for certain contaminants.³² Colorado and Washington regulations state that if a sample fails quality assurance tests, the batch of marijuana or marijuana-infused products it was taken from cannot be sold and must either be destroyed or retested.³³

Labeling and packaging. Both states' regulations include labeling and packaging standards for recreational marijuana products. Marijuana product labels are required to state that the product contains marijuana and include warnings about the potential health impacts of consuming the product.³⁴ In addition, for edible marijuana-infused products, labels must also include an ingredients list, serving size statement and the number of

³²For example, Colorado MED officials reported that contaminant testing was not yet mandatory as of March 2015 and that the processes were being tested before full implementation. According to regulations, contaminant tests may include but are not limited to screening for pesticide, harmful chemicals, adulterants or other types of microbials, molds, metals, filth, or residual solvents. Washington State LCB officials reported that Washington does not currently require testing for pesticides, but they are working on the issue. According to regulations, additional testing includes screening for residual solvent levels in certain products and may include screening for unsafe levels of metals.

³³Washington regulations permit a sample that fails a quality assurance test and the associated trim, leaf, and other usable material to be used to create extracts using hydrocarbon or carbon dioxide closed loop system upon approval of the board. After processing, the extract must still pass all required quality assurance tests.

³⁴For example, Washington's regulations require all usable marijuana sold at retail stores to include the following warnings: "Warning: This product has intoxicating effects and may be habit forming. Smoking is hazardous to your health"; "There may be health risks associated with consumption of this product; Should not be used by women that are pregnant or breast feeding"; "For use only by adults twenty-one and older. Keep out of reach of children"; "Marijuana can impair concentration, coordination, and judgment. Do not operate a vehicle or machinery under the influence of this drug"; and a statement that discloses all pesticides applied to the marijuana plants and growing medium during production and processing. There are similar but separate warning requirements for retail marijuana-infused products.

servings of marijuana in the product, among other things.³⁵ The states' regulations also prohibit the packaging and labeling of a marijuana product from being designed in ways that are appealing to children or other persons under 21 years of age. For example, Colorado requires that multiple-serving edible marijuana product packaging maintain its child-resistant effectiveness for repeated openings or that single-serving edible marijuana products bundled into a larger package contain individually wrapped servings in child-resistant packaging.

Generally, Colorado regulations also require that multiple-serving edible retail marijuana products have single-serving amounts that are physically demarked and easily separated, while liquid edible multiple-serving retail marijuana products can either be marked on the container to show individual servings or include a measuring device. For example, a marijuana-infused chocolate bar may have scored pieces that each contain 10 milligrams of THC.³⁶ Washington regulations require that marijuana-infused edible products in solid form that contain more than one serving in the package must be packaged individually in single servings in childproof packaging and marijuana-infused edible products in liquid form that contain more than one serving in the package must include a measuring device with the product.

According to officials, the Washington State LCB has implemented a process for reviewing marijuana-infused products to determine if they may be sold by licensed retail facilities.³⁷ For example, Washington marijuana processor licensees must obtain approval from the Washington LCB for all marijuana-infused edible products, labeling, and packaging prior to offering these items for sale to a marijuana retailer. The processor licensee must submit a photo of the product, label, and package to the Washington State LCB for approval. According to Washington State LCB officials, a four-person working group meets on a weekly basis to review

³⁵Both states' regulations define a single serving as an amount of marijuana-infused product that contains 10 milligrams of THC and each sale unit of a marijuana-infused product such as a cookie or soda is limited to a maximum of 100 milligrams of THC.

³⁶By regulation, the size of a standard serving of marijuana shall be no more than 10 milligrams of active THC and no individual edible retail marijuana product unit for sale shall contain more than 100 milligrams of active THC.

³⁷Colorado does not currently have a comparable approval process for marijuana-infused products.

submitted products and determine if they are appealing to children. For example, the officials reported that the working group had previously approved marijuana-infused peanut brittle for sale, but did not approve hot chocolate mix, animal cookies, or gummy bears because these products were deemed to be appealing to children.

Figure 6 shows examples of marijuana-infused products that the Washington State LCB reviewed—one that was approved for sale and another that was not.



Source: Washington State Liquor and Cannabis Board. | GAO-16-1

Consumer restrictions. Both Colorado’s and Washington’s recreational marijuana regulations include restrictions on consumer use of marijuana, including limits on who may possess marijuana, how much may be possessed, and where it may be used. For example, both states prohibit marijuana retailers from selling to anyone under age 21. In addition, the 2 states restrict the amount of marijuana that a marijuana retailer is permitted to sell to an individual. For example, Colorado prohibits retail marijuana stores from selling more than 1 ounce of retail marijuana or its equivalent in retail marijuana product during a single transaction to a Colorado resident and more than a quarter ounce of retail marijuana or its equivalent in retail marijuana product during a single sales transaction to

a nonresident.³⁸ In Washington, a single transaction is limited to 1 ounce of usable marijuana, 16 ounces of solid marijuana-infused products meant to be eaten or swallowed, 7 grams of marijuana-infused extract or concentrates for inhalation, or 72 ounces of marijuana-infused products in liquid form meant to be eaten or swallowed. Neither state allows marijuana consumption in public or at marijuana retailer facilities.

To address the risk of drugged driving, both states have established THC blood level limits that are similar to the blood alcohol limits used for determining alcohol impairment.³⁹ Law enforcement can use roadside breath tests to test for alcohol impairment, but Colorado and Washington currently test for THC only using blood draws. According to state laws, generally, drivers suspected of being impaired by law enforcement officers can be required to undergo blood testing to determine if they are under the influence of drugs and if their blood contains 5 nanograms or more of THC per milliliter.

Facility inspections. Both Colorado's and Washington's regulations generally require marijuana licensees to grant regulatory agencies access to their facilities to carry out inspections. Colorado MED and Washington State LCB officials stated that they conduct scheduled and unscheduled inspections to verify regulatory compliance by licensees, including final inspections of new facilities and inspections of existing facilities. Colorado MED and Washington State LCB officials stated that they planned to conduct ongoing facility compliance checks modeled on their agencies' liquor enforcement procedures. For example, Colorado MED and Washington State LCB officials reported performing underage compliance checks at retail stores.

Violations and penalties. In both states, regulatory violations are addressed through penalties that can include monetary fines, suspension or cancellation of a license, and criminal charges. The Colorado MED and Washington State LCB report using a system of progressive discipline

³⁸Colorado allows any person 21 or older to grow up to six marijuana plants, three of which can be mature plants. Up to 1 ounce of marijuana can be given to a person 21 or older so long as there is no payment involved. Washington does not allow individuals to grow recreational marijuana.

³⁹For more information on drug-impaired driving, see GAO, *Drug-Impaired Driving: Additional Support Needed for Public Awareness Initiatives*, [GAO-15-293](#) (Washington, D.C.: Feb. 24, 2015).

with escalating penalties for repeated infractions. For example, in Colorado, the penalty for selling marijuana to a minor could include “license suspension, a fine per individual violation, a fine in lieu of suspension up to \$100,000, and/or license revocation depending on the mitigating and aggravating circumstances.”⁴⁰ Washington regulations state that the sale of marijuana to a minor by a licensed marijuana business will result in a 10-day suspension or \$2,500 fine for the first offense, a 30-day license suspension on the second offense, and cancellation of the license on the third offense. Table 2 shows selected features of Colorado’s and Washington’s recreational marijuana regulations, as of July 2015.

Table 2: Selected Features of Colorado’s and Washington’s Recreational Marijuana Systems, as of July 2015

Selected features	Colorado	Washington
Licensee eligibility requirements		
State residency	At least 2 years ^a	At least 6 months
Age	At least 21 years old	At least 21 years old
Criminal history	Fingerprint-based check against Federal Bureau of Investigation (FBI) records to determine eligibility based on disqualifying offenses	Fingerprint-based check against FBI records to determine eligibility based on disqualifying offenses
Facility location restrictions		
Local approval	Local jurisdictions may prohibit recreational marijuana facilities	Local jurisdictions may raise objections, and prospective facilities must comply with local ordinances
Near areas where minors gather	Not specifically prohibited in state regulations. Local jurisdictions may impose time, place, manner, and location requirements	Not within 1,000 feet of a school, playground, recreation center, childcare center, public park, public transit center, library, or game arcade. Local jurisdictions may further reduce this distance to a minimum of 100 feet for every location except schools and playgrounds.
Facility security measures		
Monitored alarm system	Yes	Yes
Video surveillance system	Yes	Yes
Video recording storage	At least 40 days	At least 45 days

⁴⁰ Applicants and licensees can request an administrative hearing to appeal decisions by the Colorado MED and Washington State LCB, including an initial denial of a license and suspension or revocation of an existing license.

Selected features	Colorado	Washington
Perimeter fencing	No specific height, must prevent public from entering secure areas at outdoor marijuana producers	At least 8 feet high at outdoor marijuana producers
Inventory tracking		
Electronic inventory tracking system	Yes	Yes
Shipments and transport manifests	Shipments are entered into inventory tracking system. Transport manifests include product information, driver, vehicle, destination, departure time, and expected delivery time	Shipments are entered into inventory tracking system and quarantined for 24 hours. Transport manifests include product information, driver, vehicle, destination, departure time, and expected delivery time
Labeling and packaging		
Single serving definition	10 milligrams of THC delta-9-tetrahydrocannabinol (THC)	10 milligrams of THC
Maximum servings per sale unit	100 milligrams of THC	100 milligrams of THC
Child-resistant or childproof packaging required	Yes. Packaging and label design cannot be appealing to children.	Yes. Packaging and label design cannot be appealing to children.
Label statements	Serving size, ingredients, usage instructions, expiration date, health warnings, marijuana symbol, chemicals used in production	Serving size, ingredients, usage instructions, expiration date, health warnings, chemicals used in production
Consumer restrictions		
Marijuana possession limit	Up to 1 ounce of marijuana or equivalent amount of marijuana-infused product	Up to 1 ounce of marijuana, 16 ounces of solid marijuana-infused products, 7 grams of marijuana-infused extract for inhalation, or 72 ounces of liquid marijuana-infused products
Public consumption	No	No
Blood level for drugged driving	5 nanograms of THC per milliliter of blood	5 nanograms of THC per milliliter of blood

Source: GAO analysis of Colorado and Washington recreational marijuana laws and regulations | GAO 16-1

^aNon-owner employees of recreational marijuana facilities are required to obtain an occupational license and be current residents.

Regulatory development and revision. Officials from both states reported using information from commissioned studies and working groups, as well as DOJ's marijuana enforcement guidance, to inform their recreational marijuana regulations and have continued to do so as they have adopted regulatory changes. For example, in Colorado, a state-commissioned task force developed recommendations for implementing

Colorado's recreational marijuana law,⁴¹ while Washington used a crime and drug policy consultant to inform its regulatory development.⁴² Moreover, since recreational marijuana sales began in Colorado in January 2014 and in Washington in July 2014, both states have made revisions to their regulations. For example, in June 2015, the Washington State LCB adopted rules relating to marijuana-infused edible products, while in May 2015, the Colorado MED adopted changes regarding the packaging of marijuana products.

DOJ Reports Actions to Monitor the Effects of State Legalization of Marijuana, but Has Not Documented a Plan for Doing So

DOJ Reports Taking Actions to Monitor Effects of State Marijuana Legalization

As noted earlier, in August 2013, DOJ's ODAG issued guidance stating DOJ's expectation that state and local governments that have enacted laws authorizing marijuana-related conduct will implement strong and effective regulatory and enforcement systems to ensure that the laws do not undermine federal enforcement priorities. However, the guidance noted that if state enforcement efforts are not sufficiently robust to protect against threats to federal enforcement priorities, the federal government may seek to challenge the state regulatory structures themselves, in

⁴¹State of Colorado, *Task Force Report on the Implementation of Amendment 64* (Denver, CO: March 13, 2013).

⁴²For example, see Mark A. R. Kleiman, BOTEK Analysis Corporation, UCLA, *Alternative Bases for Limiting Cannabis Production*, (Los Angeles, CA: June 28, 2013).

addition to conducting individual enforcement actions, including criminal prosecutions, focused on the priorities.⁴³

According to ODAG officials and information DOJ has provided to Congress since issuing the August 2013 guidance, DOJ is taking actions to monitor the effects of state legalization of marijuana relative to DOJ's marijuana enforcement policy generally in two ways. First, DOJ continues to enforce the CSA by conducting individual law enforcement actions targeting those marijuana cases that threaten any of the eight enforcement priorities outlined in the August 2013 ODAG guidance. ODAG officials reported that U.S. Attorneys, as the senior federal law enforcement officials in the states, were effectively monitoring whether cases were implicating DOJ's marijuana enforcement priorities and prosecuting those cases that did. In addition to conducting federal prosecutions, officials from ODAG and the U.S. Attorneys for Colorado and Washington reported that U.S. Attorneys were actively engaged in consultation and discussion with state and local regulatory and law enforcement officials. Through these interactions, officials reported that U.S. Attorneys have been able to communicate federal enforcement priorities, assess the implications of legalization relative to the priorities, and identify specific areas of federal concern as state laws have been implemented. For example, officials reported that as state recreational marijuana legalization was being implemented in Colorado, the U.S. Attorney had consulted with state and local officials to identify concerns about edible marijuana products and the potential that their sale and use could threaten federal enforcement priorities.

Second, ODAG officials reported that DOJ was using various sources of information to monitor the effects of marijuana legalization under state laws. ODAG officials stressed that DOJ's focus was on monitoring the effects that legalization has had relative to DOJ's enforcement priorities,

⁴³It is important to note that during the course of our review, the Department of Justice's appropriations act was passed and section 538 of the Consolidated and Further Continuing Appropriations Act, 2015, Pub. L. No. 113-235, 128 Stat. 2130, 2217 (Dec. 16, 2014) stated that "[n]one of the funds made available in this Act to the Department of Justice may be used, with respect to the States of Alabama, Alaska, Arizona, California, Colorado, Connecticut, Delaware, District of Columbia, Florida, Hawaii, Illinois, Iowa, Kentucky, Maine, Maryland, Massachusetts, Michigan, Minnesota, Mississippi, Missouri, Montana, Nevada, New Hampshire, New Jersey, New Mexico, Oregon, Rhode Island, South Carolina, Tennessee, Utah, Vermont, Washington, and Wisconsin, to prevent such States from implementing their own State laws that authorize the use, distribution, possession or cultivation of medical marijuana."

rather than evaluating specific requirements within states' legalization laws or regulatory systems. ODAG officials reported that DOJ as a whole shared responsibility for collecting information to inform DOJ's monitoring of the effects of state marijuana legalization, while ODAG was responsible for assessing this information to guide DOJ's response to state marijuana legalization—including whether DOJ might challenge the state laws or regulatory systems.

ODAG officials reported that their most detailed description of the data sources DOJ used in its monitoring efforts could be found in information DOJ sent to Congress in early 2015 as part of testimony for confirmation hearings for the Attorney General and Deputy Attorney General. According to this information, DOJ possessed quantitative and qualitative data and used these data to inform its marijuana enforcement efforts. ODAG reported that, as it carried out its monitoring efforts, DOJ would continue to consider all types of data on the degree to which state systems regulating marijuana-related activity protect federal enforcement priorities and public safety and health, including existing federal surveys on drug use; state and local research; and feedback from federal, state, and local law enforcement. To this end, the ODAG officials said that they were reviewing information developed by DOJ components such as DEA and USAOs, and other relevant information developed or published by other federal agencies. From within DOJ, ODAG officials cited DEA, EOUSA, and the Organized Crime Drug Enforcement Task Forces Program (OCDETF) as their primary data sources for monitoring the effects of state marijuana legalization.⁴⁴ In particular, ODAG officials reported that DEA's *National Drug Threat Assessments* were a source for identifying the effects of marijuana legalization. The *National Drug Threat Assessment*, prepared annually by DEA, assesses the threat posed to the United States by the trafficking and abuse of illicit drugs based upon law enforcement, intelligence, and public health data available for the review period. For example, DEA's 2014 *National Drug Threat Assessment* summarizes emerging developments related to drug trafficking and the use of illicit substances of abuse, including marijuana, and highlights

⁴⁴According to DOJ, the OCDETF Program, directed by ODAG, is the centerpiece of the Attorney General's drug strategy to reduce the availability of drugs by disrupting and dismantling major drug trafficking organizations and money laundering organizations and related criminal enterprises. The program operates nationwide and combines the resources and unique expertise of numerous federal, state, and local agencies in a coordinated effort against major drug trafficking and money-laundering organizations.

concerns associated with the legalization of marijuana. Among other things, the report includes information regarding ingestion of marijuana edibles by children in states with medical marijuana availability, marijuana-related emergency department visits, and the increasing use of marijuana concentrates and the public safety threat posed by the process used to make these concentrates—noting that butane extraction has resulted in numerous explosions and injuries.⁴⁵ ODAG officials also cited information that they were considering from DOJ components' case management systems, including EOUSA's Legal Information Online Network System (LIONS) and OCDETF's Management Information System. According to DOJ, these systems include, among other things, information on cases opened or declined by the USAO, cases prosecuted, and their disposition.

ODAG officials also reported relying on information from other federal agencies that conduct public health and safety studies, such as ONDCP's HIDTA program and the National Institute on Drug Abuse.⁴⁶ For example, ODAG officials stated that they had reviewed reports that the Rocky Mountain HIDTA had issued describing the impacts of marijuana legalization in Colorado. These reports included information from various sources regarding impaired driving, youth marijuana use, emergency room and hospital marijuana-related admissions, and the diversion of marijuana from Colorado to other states.⁴⁷

Furthermore, ODAG officials reported that ODAG and other DOJ components were sharing information regarding federal marijuana enforcement efforts in states that have legalized marijuana. In particular, ODAG officials cited the USAOs' establishment of a Marijuana

⁴⁵According to the DEA's 2014 *National Drug Threat Assessment*, marijuana concentrates are extracted from the leafy material of the marijuana plant in many ways, but the most common and potentially most dangerous method is butane extraction, which uses highly flammable butane gas to extract THC from the marijuana plant material.

⁴⁶An institute of the National Institutes of Health, the National Institute on Drug Abuse reports that its mission is to lead the nation in bringing the power of science to bear on drug abuse and addiction. In this role, it reports that it provides strategic support and research across a broad range of disciplines while ensuring the rapid and effective dissemination and use of the results of that research to significantly improve prevention and treatment and to inform policy as it relates to drug abuse and addiction.

⁴⁷Rocky Mountain High Intensity Drug Trafficking Area, Investigative Support Center, *The Legalization of Marijuana in Colorado: The Impact. Volume 3 Preview 2015*. (Denver, CO: 2015)

Enforcement Working Group, composed of U.S. Attorneys with jurisdiction for states that have legalized some form of marijuana who meet on a monthly basis to share information and perspectives regarding marijuana enforcement. ODAG officials reported participating in these meetings to discuss issues associated with DOJ's enforcement efforts. Officials also reported that DOJ is working with ONDCP to identify other mechanisms by which to collect and assess data on the effects of state marijuana legalization. For example, ODAG officials reported participating in ONDCP-led interagency working groups that have met periodically since August 2014 to discuss data collection and evaluation regarding the effects of state marijuana legalization. ODAG officials reported that, as part of their own monitoring efforts, they would consider any information regarding the effects of marijuana legalization on public health and safety that ONDCP developed and shared with them.

Table 3 identifies and summarizes the various actions ODAG officials reported that DOJ was taking to monitor the effects of state legalization of marijuana on its federal enforcement priorities.

Table 3: Summary of Actions ODAG Officials Reported DOJ was Taking to Monitor the Effects of State Marijuana Legalization Relative to DOJ's August 2013 Marijuana Enforcement Policy Guidance

Reported action	How reportedly used to monitor effects of state marijuana legalization
U.S. Attorneys conduct individual enforcement actions in states that have legalized marijuana and consult with state and local agencies in these states to address concerns regarding effects of marijuana legalization efforts.	<ul style="list-style-type: none">Office of the Deputy Attorney General (ODAG) officials reported that U.S. Attorneys, as the senior federal law enforcement officials in the states, were monitoring whether cases involve Department of Justice (DOJ) marijuana enforcement priorities and prosecuting those cases that do.U.S. Attorneys in Colorado and Washington reported working with state and local agencies to address federal concerns regarding the effects of state marijuana legalization systems relative to DOJ's marijuana enforcement priorities.
ODAG officials collaborate with and assess information from DOJ components and other federal agencies.	<ul style="list-style-type: none">ODAG officials reported that they were assessing various data sources with information about the effects of state marijuana legalization, including the Drug Enforcement Administration's <i>National Drug Threat Assessments</i>, data from the U.S. Attorneys' case management system, and various data collected by federal agencies regarding public health and public safety.ODAG officials reported participating in the monthly meetings of U.S. Attorneys from states that have legalized some form of marijuana. These meetings were designed to share information on marijuana enforcement cases.ODAG officials reported that they participate in periodic Office of National Drug Control Policy-led interagency meetings to discuss the effects of state marijuana legalization.

Source: GAO analysis of DOJ provided information. |GAO 16-1

DOJ Has Not Documented Its Plan for Monitoring the Effects of State Marijuana Legalization

Notwithstanding these efforts, DOJ has provided limited specificity with respect to aspects of its plan for monitoring the effect of state marijuana legalization relative to ODAG's August 2013 marijuana enforcement policy guidance. As we noted earlier, ODAG officials reported that they were considering various qualitative and quantitative data sources and identified some of the sources they were using, such as DEA's *National Drug Threat Assessments*. However, ODAG officials did not state how they would make use of the various information from the sources they cited to monitor the effects of state marijuana legalization. For example, ODAG officials reported that the most detailed description of DOJ's monitoring efforts is contained in responses to questions for the record that DOJ sent to Congress in early 2015. According to this information, DOJ identified LIONS and OCDETF data as information sources for its monitoring efforts, noting that these case management systems provided statistical information reflecting the efforts of DOJ in prosecuting violations of federal law. DOJ reported that these data collections systems collectively assist in informing the department's counterdrug policy, establishing law enforcement priorities, and making resource allocations. However, ODAG officials did not make clear how ODAG would be using these data in its efforts to monitor the effects of state marijuana legalization. For example, officials from EOUSA—which maintains LIONS—reported that USAOs do not consistently enter information in LIONS specifying the primary drug type involved in a case. Thus, officials said that LIONS would not provide reliable information regarding the extent of marijuana-related cases in a USAO district.⁴⁸

Similarly, while officials identified DEA and HIDTA reports and various public health studies as sources of data for their monitoring efforts, they did not identify how they would use the data from these various reports and studies to monitor the effects of marijuana legalization relative to each of the eight marijuana enforcement priorities. ODAG officials also did not state how DOJ would use the information to determine whether

⁴⁸The DOJ Office of the Inspector General has previously examined limitations with LIONS, noting that it was not designed as a statistical system, and therefore can be an imperfect tool for responding to specific, detailed inquiries seeking comprehensive, uniform nationwide data sought for purposes other than case management. For example, see U.S. Department of Justice, Office of the Inspector General, *Audit of the Department of Justice's Efforts to Address Mortgage Fraud*, Audit Report 14-12, (Washington, D.C.: March 2014). Also see U.S. Department of Justice, Office of the Inspector General, *Resource Management of United States Attorneys' Offices*, Audit Report 09-03, (Washington, D.C.: November 2008).

the effects of state marijuana legalization necessitated federal action to challenge a state's regulatory system.

Further, ODAG officials reported that they had not documented their monitoring process. These officials reported that they did not see a benefit in DOJ documenting how it would monitor the effects of state marijuana legalization relative to the August 2013 ODAG guidance. Rather, ODAG officials reported that they would continue to consider all sources of available data as part of their ongoing responsibilities and would be using these data to inform DOJ's efforts to protect its marijuana enforcement priorities. ODAG officials said they would consider documenting their monitoring plan in the future if they determined the need; however, they did not identify the conditions that might lead them to do so.

Standards for Internal Control in the Federal Government provides the overall framework for establishing and maintaining an effective internal control system.⁴⁹ The standards specify the need for internal controls to be clearly documented, and the documentation to be readily available for review. Moreover, information should be recorded and communicated to management and others within the entity who need it and in a form and within a timeframe that enables them to carry out their internal control and other responsibilities. Documentation also provides a means to retain organizational knowledge and mitigate the risk of having that knowledge limited to a few personnel, as well as a means to communicate that knowledge as needed to external parties.⁵⁰

⁴⁹[GAO/AIMD-00-21.3.1](#). Internal control is an integral component of an organization's management that provides reasonable assurance that the following objectives are being achieved: effectiveness and efficiency of operations, reliability of financial reporting, and compliance with applicable laws and regulations. These standards, issued pursuant to the requirements of the Federal Managers' Financial Integrity Act of 1982, provide the overall framework for establishing and maintaining internal control in the federal government. Also pursuant to the Federal Managers' Financial Integrity Act of 1982, the Office of Management and Budget issued *Circular A-123*, revised December 21, 2004, to provide the specific requirements for assessing the reporting on internal controls. Internal control standards and the definition of internal control in *Circular A-123* are based on GAO's *Standards for Internal Control in the Federal Government*.

⁵⁰See GAO, *Standards for Internal Control in the Federal Government*, [GAO-14-704G](#) (Washington, D.C.: Sept. 10, 2014). GAO recently revised and reissued its *Standards for Internal Control in the Federal Government*. These new standards became effective October 1, 2015.

Documenting a plan specifying its monitoring process would provide DOJ with greater assurance that control activities—such as the ways DOJ is monitoring the effect of state marijuana legalization relative to federal enforcement priorities—are occurring as intended. Moreover, leveraging existing mechanisms to make this plan available to appropriate officials from DOJ components that are providing the various data can provide ODAG with an opportunity to gain institutional knowledge with respect to its monitoring plan, including the utility of the data ODAG is using. For example, ODAG cited LIONS as a key source of information for monitoring, yet EOUSA reported limitations with LIONS in tracking marijuana enforcement cases, and there may be limitations with other sources of information that ODAG officials are using, or planning to use, to monitor the effects of marijuana legalization. Incorporating the feedback into its monitoring plan can help ODAG ensure it is using the most appropriate data and thus better position it to identify those state systems that are not effectively protecting federal enforcement priorities—so that DOJ can work with states to address concerns and, if necessary, take steps to challenge those systems, in accordance with its 2013 marijuana enforcement guidance.

DOJ Field Officials Reported That Various Factors Have Affected Their Marijuana Enforcement Actions in Selected States That Have Legalized Marijuana for Medical Purposes

We interviewed officials from six DEA field divisions and 10 USAOs with jurisdictions for 6 states that have legalized marijuana for medical purposes: Alaska, California, Colorado, Maine, Oregon, and Washington. Overall, officials from these DEA field divisions and USAOs reported that their marijuana enforcement efforts were focused on addressing DOJ's marijuana enforcement priorities while ensuring they were effectively applying their limited resources. Officials reported their perspectives on factors that had affected their marijuana enforcement actions, including key public health and safety threats, local concerns regarding the commercial medical marijuana industry, and DOJ's updated marijuana enforcement policy.

Applying resources to target most significant public health and safety threats. Officials from all of the DEA divisions and USAOs we spoke with reported that they continued to apply their limited resources to address the most significant threats in their jurisdictions. In this way, officials generally reported that marijuana enforcement, while important, was nonetheless one of many competing priorities, along with investigating and prosecuting other types of drug crimes and, for USAOs, all federal crimes in their districts. For example:

-
- Officials from the USAO for the Northern District of California reported dealing with a wide variety of federal crimes, including non-drug crimes, such as health care fraud, investment fraud, and computer hacking. Officials reported that they needed to be selective in how they directed their resources—and that those resources they directed toward marijuana enforcement generally involved gangs and violent crime, which pose significant threats to public safety.
 - Officials from the USAO for the Eastern District of California reported that their district is one of the largest sources of marijuana production in the country, and many of the district's cases involve marijuana grown on public lands or interstate trafficking involving drug-trafficking organizations; however, the largest portion of the district's drug cases involve methamphetamine cases. Officials attributed this to the district historically being one of the main domestic sources of methamphetamine production and transport, which officials said poses a more significant threat to public health and safety in the district than marijuana, including a high number of hospitalizations and involvement of violent Mexican drug-trafficking organizations. As a result, the USAO has used its prosecutorial discretion to direct greater resources to methamphetamine prosecutions rather than those for marijuana. Similarly, a senior official from the DEA Seattle Division reported that the division's priorities are the investigation of crimes involving heroin, methamphetamine, and Mexican drug cartels.
 - Officials from the DEA San Diego Division and the USAO for the Southern District of California reported that within their jurisdictions, large quantities of drugs are trafficked from Mexico through U.S. maritime and land borders. Accordingly, their top priority is addressing the major poly-drug-trafficking organizations involved in these drug operations and the violent crime that is typically associated with them.⁵¹
 - A senior official from the DEA Anchorage, Alaska, District office reported that the district has generally focused its investigative resources on drugs other than marijuana, including cocaine, heroin, and methamphetamine. This official reported that because most drug-trafficking organizations traffic more than one type of drug, marijuana is often a part of but not the focus of the district's investigations.

⁵¹Poly-drug organizations manufacture or distribute more than one type of drug, such as cocaine, heroin, marijuana, and methamphetamine.

-
- Officials from DEA field divisions and USAOs in 4 of 6 states—California, Colorado, Oregon, and Washington—reported taking actions to target individuals associated with the rising number of butane hash oil explosions in their jurisdictions. For example, according to the DEA San Diego Division, the presence of butane hash oil laboratories at indoor marijuana growing operations was a growing concern and resulted in approximately 20 explosions and fires in the San Diego County area during fiscal year 2014.

Addressing concerns regarding the commercial medical marijuana industry. Officials from DEA field divisions and USAOs reported targeting commercial marijuana operations having the most significant impacts on local communities in their jurisdictions. For example, officials from DEA field divisions and USAOs in 4 of 6 selected states—California, Colorado, Oregon, and Washington—reported sending warning letters to about 1,900 owners and lien holders of medical marijuana dispensaries during fiscal years 2007 through 2013. Officials reported taking this action partly in response to requests from civic leaders, municipalities, and law enforcement officials concerned about the growth in the commercial medical marijuana industry.

In general, the letters emphasized that DOJ has the authority to enforce the CSA even when certain activities may be permitted under state law. The letters also notified the recipients that they could be subject to federal civil and criminal penalties and advised them to discontinue the distribution of marijuana. Some letters, from officials in California, Oregon, and Washington, stated that while the dispensaries they targeted were illegal under the CSA, they were generally also illegal under the states' own medical marijuana programs. Furthermore, some officials in California reported that the dispensaries they targeted were also illegal under local ordinances. DEA and USAO officials reported that sending warning letters was an efficient and effective way to close dispensaries and support local community concerns. For example, officials from the USAO for the Central District of California reported that most of the nearly 700 dispensaries to which they sent letters closed. In addition, the U.S. Attorney for the District of Colorado reported sending letters in fiscal year 2012 to dozens of medical marijuana dispensaries operating within 1,000 feet of schools to protect the health, safety, and welfare of Colorado youth—and that all of the dispensaries that received letters closed or moved.

Officials in 3 states—California, Oregon, and Washington—also reported conducting criminal investigations and prosecutions or civil forfeiture suits

in conjunction with their letter campaigns. For example, the four U.S. Attorneys in California reported that in October 2011, they began coordinated enforcement actions targeting the for-profit medical marijuana industry in California. According to officials from the USAOs, these actions included sending warning letters to owners and lien holders of medical marijuana dispensaries, conducting criminal investigations and prosecutions, and initiating civil forfeiture lawsuits.⁵² Officials from the USAOs in California reported that they initiated these efforts in part to address concerns raised by civic leaders, municipalities, and law enforcement officials regarding the growing numbers of marijuana dispensaries in their districts. Officials reported that the number of dispensaries in their districts rose considerably beginning in 2009, and through discussions with state and local law enforcement, they began efforts to reduce the numbers of these dispensaries.⁵³

DOJ's updated marijuana enforcement policy. Officials from DEA field locations and USAOs we spoke with reported that their implementation of the marijuana enforcement guidance ODAG has issued since 2009 had affected their marijuana enforcement actions to varying degrees.

- Officials from all DEA and USAO locations we spoke with reported that the series of marijuana enforcement guidance ODAG issued had not changed their enforcement focus, which continues to emphasize the most significant threats in their jurisdiction, and that they maintained active partnerships with state and local law enforcement officials. For example, the U.S. Attorney for the District of Colorado reported working closely with the state's Attorney General and the state's marijuana regulatory agency on various issues related to

⁵²For example, officials from the USAO for the Central District of California reported that these actions included a number of federal and state criminal prosecutions, more than 26 federal forfeiture actions, and the execution of more than 55 search warrants at over 100 locations.

⁵³Officials from the USAOs responsible for the Districts of Alaska and Maine reported that they were not aware of any criminal prosecutions in their respective districts associated with the medical marijuana industry in recent years, nor had they sent letters to owners and lien holders of medical marijuana dispensaries. The U.S. Attorney for the District of Alaska attributed this, in part, to the fact that there were no operational dispensaries in Alaska, while officials from the USAO in Maine reported that Maine's eight state-registered dispensaries have generally caused limited problems that have been addressed through state enforcement efforts, but nothing that had risen to the level of federal interest.

marijuana enforcement, including the sale of marijuana edibles and butane hash oil explosions.

- Some DEA and USAO field officials reported examining their existing caseloads following DOJ's August 2013 marijuana enforcement guidance to determine whether the cases were implicating DOJ's marijuana enforcement priorities, and some field officials reported closing a limited number of cases that did not threaten the priorities. For example:
 - Officials from the USAO for the District of Oregon reported that shortly after the August 2013 guidance was issued, they reviewed their open marijuana cases from 2011 to 2013 and determined that all of the cases were in compliance with the updated guidance. Similarly, the U.S. Attorney for the Eastern District of Washington reported that he was not aware of any cases that the USAO prosecuted prior to the August 2013 guidance that the USAO would no longer consider for prosecution.
 - Elsewhere, officials from the DEA Seattle Division and the USAO for the Central District of California reported reviewing their caseloads and closing a limited number of cases that did not threaten one of the eight marijuana enforcement priorities. For example, a senior official from the DEA Seattle Division reported closing seven investigations that did not threaten the priorities in the first several months after the guidance was issued, whereas officials from the USAO for the Central District of California reported closing some forfeiture cases.
- Officials from some DEA and USAO locations reported that the August 2013 DOJ guidance had led them to change their marijuana enforcement tactics, including scaling back their roles in targeting the commercial medical marijuana industry. For example:
 - Officials from USAOs in Alaska, California, and Oregon, and from one DEA field division in California, reported that, in accordance with the 2013 guidance, they would decline to consider for investigation and prosecution some marijuana-growing cases that they may have investigated and prosecuted prior to the 2013

guidance because these cases did not threaten DOJ's marijuana enforcement priorities.⁵⁴

- Officials from two DEA field divisions—Los Angeles and Seattle—reported that because they were now required to demonstrate that at least one marijuana enforcement priority was threatened in an investigation before the USAO would grant them a search warrant, it had become more difficult to gather the additional evidence that may have helped them do so. These officials expressed concern that the August 2013 marijuana enforcement policy guidance had made it more challenging for them to identify crimes that potentially affected DOJ's enforcement priorities.
- Officials from DEA and USAOs in the 4 states that had reported sending warning letters to owners and lien holders of medical marijuana dispensaries—California, Colorado, Oregon, and Washington—reported that they had not sent warning letters since the August 2013 guidance was issued. Officials attributed this change in part to the fact that the guidance requires that they no longer consider the size or commercial nature of a dispensary alone in taking marijuana enforcement actions, but rather whether a dispensary is implicating one or more of the enforcement priorities listed in the August 2013 guidance. For example, officials from one DEA field division reported that they were not directing resources to investigate dispensaries unless there was clear evidence that these priorities were being threatened.
- Officials from the USAO for the District of Alaska reported that while they continued their strong partnerships with state and local law enforcement, they had reduced some marijuana enforcement support to the state. Specifically, officials reported that prior to the issuance of the August 2013 guidance, they had a general understanding with Alaska state and local law enforcement that the USAO would accept for federal prosecution marijuana cases involving recidivists that the state had prosecuted at least twice before. Officials said the USAO had since moved away from supporting the state in this way unless the suspects in the case

⁵⁴According to the August 2013 guidance, in exercising prosecutorial discretion, prosecutors should no longer consider the size or commercial nature of a marijuana operation alone as a proxy for assessing whether marijuana trafficking threatens DOJ's enforcement priorities.

were involved in activities that threatened DOJ's marijuana enforcement priorities.

Conclusions

It has been over 2 years since DOJ's ODAG issued guidance in August 2013 stating that in jurisdictions that have enacted laws legalizing marijuana in some form, if state enforcement efforts are not sufficiently robust to protect against threats to federal enforcement priorities, the federal government may seek to challenge the state regulatory structures themselves, in addition to continuing to bring individual enforcement actions, including criminal prosecutions. ODAG officials reported relying on U.S. Attorneys to monitor the effects of marijuana enforcement priorities through their individual enforcement actions and communication with state agencies about how state legalization may threaten these priorities. ODAG officials also reported using various information sources provided by DOJ components and other federal agencies to monitor the effects of marijuana legalization and the degree to which existing state systems regulating marijuana-related activity protect federal enforcement priorities and public health and safety. However, ODAG officials have not documented their monitoring process or provided specificity about key aspects of it, including potential limitations of the data they report using and how they will use the data to identify states that are not effectively protecting federal enforcement priorities. Given the growing number of states legalizing marijuana, it is important for DOJ to have a clear plan for how it will be monitoring the effects of state marijuana legalization relative to DOJ marijuana enforcement guidance. Documenting a plan that specifies its monitoring process, such as the various data ODAG is using for monitoring along with their potential limitations, the roles of U.S. Attorneys in the monitoring process, and how ODAG is using all these inputs to monitor the effects of state legalization can provide DOJ with greater assurance that its monitoring activities are occurring as intended. Sharing the plan with DOJ components responsible for providing information to ODAG can help ensure that ODAG has an opportunity to gain institutional knowledge with respect to whether its monitoring plan includes the most appropriate information. This will help place DOJ in the best position to identify state systems that are not effectively protecting federal enforcement priorities, and take steps to challenge those systems if necessary in accordance with its 2013 marijuana enforcement guidance.

Recommendations for Executive Action

We recommend that the Attorney General take the following actions:

- direct ODAG to document a plan specifying DOJ's process for monitoring the effects of marijuana legalization under state law, in accordance with DOJ's 2013 marijuana enforcement policy guidance, to include the identification of the various data ODAG will use and their potential limitations for monitoring the effects of state marijuana legalization, and how ODAG will use the information sources in its monitoring efforts to help inform decisions on whether state systems are effectively protecting federal marijuana enforcement priorities, and
- direct ODAG to use existing mechanisms to share DOJ's monitoring plan with appropriate officials from DOJ components responsible for providing information DOJ reports using regarding the effects of state legalization to ODAG, obtain feedback, and incorporate the feedback into its plan.

Agency Comments and Our Evaluation

On September 28, 2015, we provided a draft of this report to DOJ and ONDCP for their review and comment. We also provided excerpts of the draft report for review and comment to the Colorado MED, Colorado Attorney General's office, Washington State LCB, and Washington State Attorney General's office. ONDCP, the Colorado MED, Colorado Attorney General's office, Washington State LCB, and Washington State Attorney General's office provided technical comments, which we incorporated as appropriate.

In its written comments, reproduced in appendix II, DOJ concurred with both of our recommendations. DOJ stated that ODAG will document a plan to identify the various data sources that will assist DOJ and USAO's in making enforcement decisions, including decisions in individual criminal prosecutions or civil enforcement actions, regarding marijuana-related crimes. DOJ stated that it will also monitor these data, as well as other sources of information, to determine whether states that have legalized recreational marijuana are effectively protecting DOJ's federal enforcement priorities as articulated in DOJ's guidance memorandum dated August 28, 2013. Lastly, DOJ stated that to the greatest extent possible DOJ will seek to publicly share the data it receives pursuant to this plan. DOJ also provided technical comments, which we have incorporated as appropriate.

As agreed with your offices, unless you publicly announce the contents of this report earlier, we plan no further distribution until 30 days from the report date. At that time, we will send copies to the Attorney General, the Director of National Drug Control Policy, the Director of the Colorado MED, the Director of the Washington State LCB, the attorney generals of Colorado and Washington, appropriate congressional committees and members, and other interested parties. In addition, the report will be available at no charge on the GAO website at <http://www.gao.gov>.

If you or your staff have any questions, please contact me at (202) 512-7141 or groverj@gao.gov. Contact points for our Offices of Congressional Relations and Public Affairs may be found on the last page of this report. GAO staff who made key contributions to this report are listed in appendix III.

Sincerely yours,

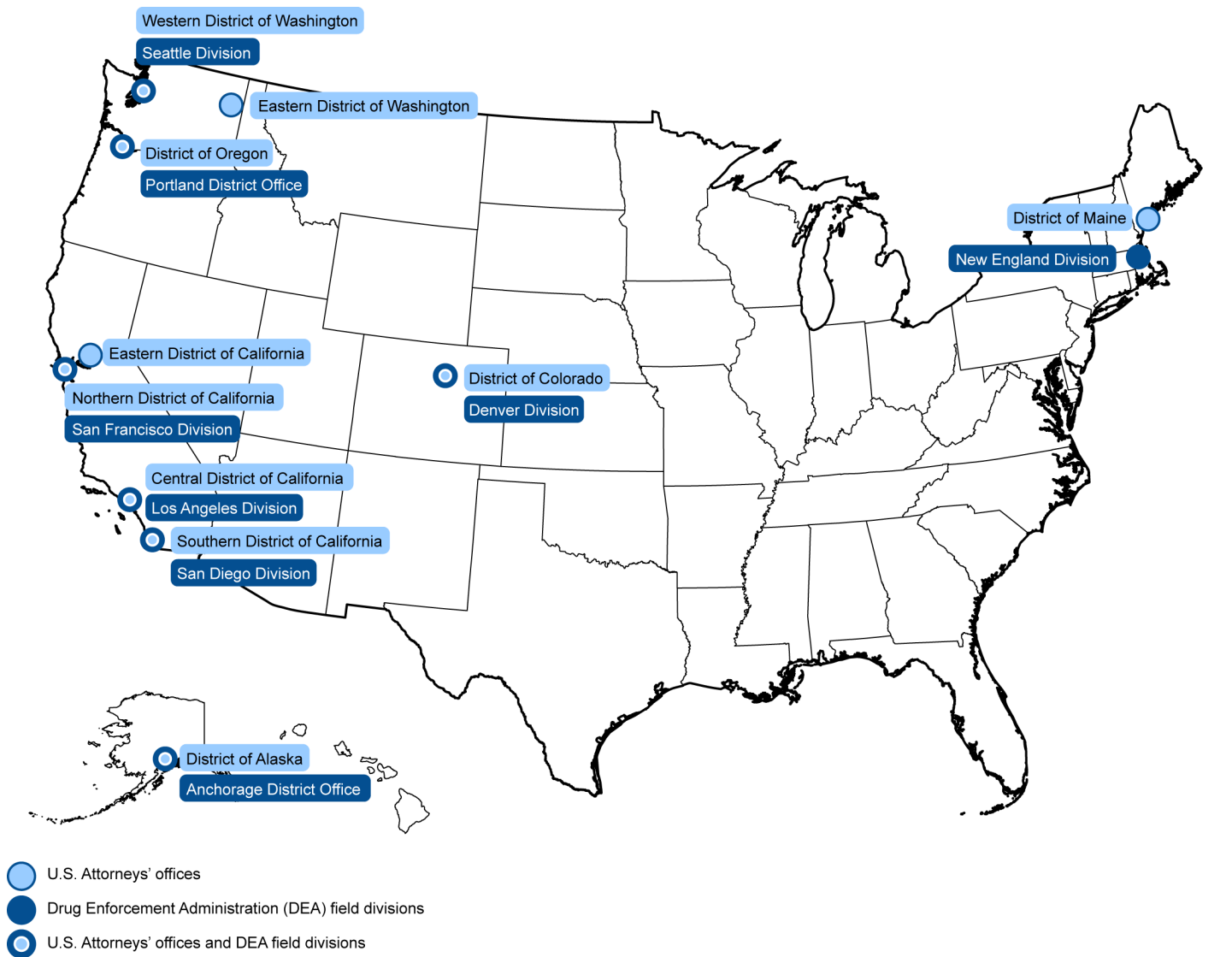
A handwritten signature in black ink that reads "Jennifer Grover". The signature is written in a cursive, flowing style.

Jennifer Grover
Director, Homeland Security and Justice

Appendix I: DOJ Field Components Contacted in Selected States

To determine the factors Department of Justice (DOJ) field officials reported affecting their marijuana enforcement actions in selected states that have legalized marijuana for medical purposes, we selected 6 states for our review, to include (1) Colorado and Washington because, in addition to their recreational marijuana laws, they have long-standing medical marijuana legalization laws in place, and (2) 4 additional states—Alaska, California, Maine, and Oregon—that were the earliest states to pass laws legalizing marijuana for medical purposes. We interviewed officials from the six Drug Enforcement Administration (DEA) field divisions and 10 U.S. Attorneys' offices (USAO) with jurisdiction for these selected states. These DEA field divisions and USAOs include the following.

Figure 7: DOJ Field Components Contacted in Selected States



Source: GAO review of Department of Justice information; Map Resources (map). | GAO-16-1

Note: The DEA New England Division has jurisdiction for Maine. The DEA Seattle Division includes the Anchorage District Office and Portland District Office.

Appendix II: Comments from the Department of Justice



U.S. Department of Justice

November 13, 2015

Washington, D.C. 20530

Jenny Grover
Acting Director
Homeland Security and Justice
U.S. Government Accountability Office
441 G Street, NW
Rm. 6H19
Washington, DC 20548

Re: Draft Report GAO-16-1, STATE MARIJUANA LEGALIZATION: DOJ Should Document Its Approach to Monitoring the Effects of Legalization


Dear Ms. Grover:

Thank you for providing the Department of Justice (Department) with the opportunity to review and comment on the draft Government Accountability Office (GAO) Report referenced above. The Department appreciates the work of the GAO team that prepared the report and the amount of data collected.

The Department concurs with both action items in the recommendation. The Department, through the Office of the Deputy Attorney General (ODAG) will document a plan to identify the various data sources that will assist the Department and the United States Attorneys' Offices in making enforcement decisions, including decisions in individual criminal prosecutions or civil enforcement actions, regarding marijuana-related crimes. The Department will also monitor this data, as well as other sources of information, to determine whether states that have legalized recreational marijuana are effectively protecting the Department's federal enforcement priorities as articulated in the Department's guidance memorandum dated August 28, 2013. To the greatest extent possible, the Department will seek to publicly share the data it receives pursuant to this plan.

Again, thank you for the opportunity to review and comment on this draft Report. Technical comments were previously provided under separate cover. Please feel free to contact me if you have any questions. We look forward to working with the GAO as we strive to improve our programs and further our commitment to make continuous improvements to the management of the Department.

Sincerely,

for 
Lee J. Lofthus
Assistant Attorney General
for Administration

Appendix III: GAO Contact and Staff Acknowledgments

GAO Contact

Jennifer Grover, (202) 512-7141 or groverj@gao.gov

Staff Acknowledgments

In addition to the contact named above, Tom Jessor (Assistant Director) and Jason Berman (Analyst-in-Charge) managed this assignment. David Alexander, David Bieler, Billy Commons, Dominick Dale, Alexandra Gonzalez, Eric Hauswirth, Susan Hsu, Stephen Komadina, Jan Montgomery, and Alexandra Rouse made key contributions to this report.

GAO's Mission

The Government Accountability Office, the audit, evaluation, and investigative arm of Congress, exists to support Congress in meeting its constitutional responsibilities and to help improve the performance and accountability of the federal government for the American people. GAO examines the use of public funds; evaluates federal programs and policies; and provides analyses, recommendations, and other assistance to help Congress make informed oversight, policy, and funding decisions. GAO's commitment to good government is reflected in its core values of accountability, integrity, and reliability.

Obtaining Copies of GAO Reports and Testimony

The fastest and easiest way to obtain copies of GAO documents at no cost is through GAO's website (<http://www.gao.gov>). Each weekday afternoon, GAO posts on its website newly released reports, testimony, and correspondence. To have GAO e-mail you a list of newly posted products, go to <http://www.gao.gov> and select "E-mail Updates."

Order by Phone

The price of each GAO publication reflects GAO's actual cost of production and distribution and depends on the number of pages in the publication and whether the publication is printed in color or black and white. Pricing and ordering information is posted on GAO's website, <http://www.gao.gov/ordering.htm>.

Place orders by calling (202) 512-6000, toll free (866) 801-7077, or TDD (202) 512-2537.

Orders may be paid for using American Express, Discover Card, MasterCard, Visa, check, or money order. Call for additional information.

Connect with GAO

Connect with GAO on [Facebook](#), [Flickr](#), [Twitter](#), and [YouTube](#).
Subscribe to our [RSS Feeds](#) or [E-mail Updates](#).
Listen to our [Podcasts](#) and read [The Watchblog](#).
Visit GAO on the web at www.gao.gov.

To Report Fraud, Waste, and Abuse in Federal Programs

Contact:

Website: <http://www.gao.gov/fraudnet/fraudnet.htm>

E-mail: fraudnet@gao.gov

Automated answering system: (800) 424-5454 or (202) 512-7470

Congressional Relations

Katherine Siggerud, Managing Director, siggerudk@gao.gov, (202) 512-4400, U.S. Government Accountability Office, 441 G Street NW, Room 7125, Washington, DC 20548

Public Affairs

Chuck Young, Managing Director, youngc1@gao.gov, (202) 512-4800, U.S. Government Accountability Office, 441 G Street NW, Room 7149, Washington, DC 20548





Office of the Attorney General
Washington, D. C. 20530

January 4, 2018

MEMORANDUM FOR ALL UNITED STATES ATTORNEYS

FROM: Jefferson B. Sessions, III
Attorney General

SUBJECT: Marijuana Enforcement

In the Controlled Substances Act, Congress has generally prohibited the cultivation, distribution, and possession of marijuana. 21 U.S.C. § 801 *et seq.* It has established significant penalties for these crimes. 21 U.S.C. § 841 *et seq.* These activities also may serve as the basis for the prosecution of other crimes, such as those prohibited by the money laundering statutes, the unlicensed money transmitter statute, and the Bank Secrecy Act. 18 U.S.C. §§ 1956-57, 1960; 31 U.S.C. § 5318. These statutes reflect Congress's determination that marijuana is a dangerous drug and that marijuana activity is a serious crime.

In deciding which marijuana activities to prosecute under these laws with the Department's finite resources, prosecutors should follow the well-established principles that govern all federal prosecutions. Attorney General Benjamin Civiletti originally set forth these principles in 1980, and they have been refined over time, as reflected in chapter 9-27.000 of the U.S. Attorneys' Manual. These principles require federal prosecutors deciding which cases to prosecute to weigh all relevant considerations, including federal law enforcement priorities set by the Attorney General, the seriousness of the crime, the deterrent effect of criminal prosecution, and the cumulative impact of particular crimes on the community.

Given the Department's well-established general principles, previous nationwide guidance specific to marijuana enforcement is unnecessary and is rescinded, effective immediately.¹ This memorandum is intended solely as a guide to the exercise of investigative and prosecutorial discretion in accordance with all applicable laws, regulations, and appropriations. It is not intended to, does not, and may not be relied upon to create any rights, substantive or procedural, enforceable at law by any party in any matter civil or criminal.

¹ Previous guidance includes: David W. Ogden, Deputy Att'y Gen., Memorandum for Selected United States Attorneys: Investigations and Prosecutions in States Authorizing the Medical Use of Marijuana (Oct. 19, 2009); James M. Cole, Deputy Att'y Gen., Memorandum for United States Attorneys: Guidance Regarding the Ogden Memo in Jurisdictions Seeking to Authorize Marijuana for Medical Use (June 29, 2011); James M. Cole, Deputy Att'y Gen., Memorandum for All United States Attorneys: Guidance Regarding Marijuana Enforcement (Aug. 29, 2013); James M. Cole, Deputy Att'y Gen., Memorandum for All United States Attorneys: Guidance Regarding Marijuana Related Financial Crimes (Feb. 14, 2014); and Monty Wilkinson, Director of the Executive Office for U.S. Att'ys, Policy Statement Regarding Marijuana Issues in Indian Country (Oct. 28, 2014).

Tab 4

State Reports

**Extracted from Tab F - Medical Marijuana -
Use of Marijuana for Debilitating Medical Conditions (15-01)**

Estimates of Medical Marijuana Users in Florida

Version II:

Shaded columns are updated to align with the new constitutional amendment (15-01)

- **Reference period updated from April 1, 2015 to April 1, 2017.**
- **Conditions added:**
 - **Epilepsy**
 - **Posttraumatic Stress Disorder (PTSD)**
- **Conditions removed:**
 - **Hepatitis C**
- **Changes in conditions: “other conditions” as per 13-02 replaced with “...or other debilitating medical conditions of the same kind or class as or comparable to those enumerated” as per 15-01.**

**A. Summary of estimates of medical marijuana users in Florida
in 2017 by various estimation approaches**

The Florida Legislature’s Office of Economic and Demographic Research (EDR) developed six approaches that estimate the potential number of medical marijuana users in Florida as of April 1, 2017. Approach I draws on the experience of other states. Approaches II – V attempt to capture eligible users with the specified medical conditions in the proposed ballot initiative, except “other conditions.” It is not possible to precisely estimate the number of users that would qualify under “or other debilitating medical conditions of the same kind or class as or comparable to those enumerated” as these conditions are currently unknown and to be determined by the physician when he or she believes that the medical use of marijuana would likely outweigh the potential health risks for a patient. Approach VI uses the number of illicit recreational marijuana users as a guide.

Estimates of Potential Florida Medical Marijuana Users

	UPDATED	
	April 1, 2015 under 13-02	April 1, 2017 under 15-01
Estimation Approach		
I. States with medical marijuana laws	452 to 417,252	1,586 to 440,552
II. Disease prevalence	1,295,922	2,038,131
III. Disease incidence	116,456	130,237
IV. Use by cancer patients	173,671	247,689
V. Deaths	46,903	47,805
VI. Self-reported marijuana use	1,052,692 to 1,619,217	1,168,775 to 1,752,277
Range	452 to 1,619,217	1,586 to 1,752,277

B. Description of estimation approaches

I. Medical marijuana registrants in states that have legalized medical use of marijuana

Approach I applies rates of medical marijuana use from other states to Florida's 2017 projected population. Using the current experience of 20 other states, there may be an estimated **1,586 to 440,552 Floridians using medical marijuana in 2017**. The lower range of the estimate is more likely if the medical marijuana program is rolled out slowly, such as in New Jersey, or faces implementation, administrative, and/or legal challenges that will limit the number of registrants in the first year. The higher range of the estimate may be more likely at full implementation of a more mature program, such as in Colorado. The estimation assumes usage rates will remain the same.

Version II update (10/12/2015):

- *Reference period updated from April 1, 2015 to April 1, 2017.*
- *This analysis assumes users under CS/CS/SB1030 from Florida's 2014 Legislative session are encompassed in these estimates.*
- *This approach considers overall marijuana usage rates for medical purposes for any condition approved in the respective states, so there was no need to adjust it to account for the changes in medical conditions in the new constitutional amendment (15-01).*
- *Florida has an open-ended "other debilitating conditions..." statement that the analysis found is most similar to laws in California and Massachusetts. It appears that most other states do not have open-ended language, but have a process for adding or approval of new conditions by the respective departments of health.*

**Estimated Marijuana Users for Certain Medical Conditions in Florida
Based on Registered Users in States with Legalized Marijuana for Medical Conditions
Ranked by Estimated Florida Users in 2017**

A	B	C	D	E	F	G	H	I
								UPDATED
State	Year Passed ¹	Report Date	Patient Registry	Marijuana Users ²	Population ³ (2014)	Percent of Population (2014)	Users per 1,000 Population (2014)	Florida Estimates (2017) ⁴
Colorado	2000	2014	Mandatory	115,467	5,355,866	2.16%	22	440,552
Michigan	2008	2015	Mandatory	175,434	9,909,877	1.77%	18	361,755
Oregon	1998	2014	Mandatory	70,139	3,970,239	1.77%	18	361,004
California	1996	2014	Voluntary	572,762	38,802,500	1.48%	15	301,636
Washington	1998	2014	Voluntary	103,444	7,061,530	1.46%	15	299,347
Montana	2004	2014	Mandatory	10,268	1,023,579	1.00%	10	204,990
Hawaii	2000	2012	Mandatory	13,833	1,419,561	0.97%	10	199,128
Arizona	2010	2014	Mandatory	61,272	6,731,484	0.91%	9	186,003
New Mexico	2007	2014	Mandatory	12,647	2,085,572	0.61%	6	123,917
Rhode Island	2006	2014	Mandatory	6,213	1,055,173	0.59%	6	120,322
District of Columbia	2010	2014	Mandatory	2,140	658,893	0.32%	3	66,369
Nevada	2000	2014	Mandatory	8,055	2,839,099	0.28%	3	57,977
Vermont	2004	2014	Mandatory	1,583	626,562	0.25%	3	51,628
Alaska	1998	2015	Mandatory	1,418	736,732	0.19%	2	39,331
Massachusetts	2012	2015	Mandatory	12,396	6,745,408	0.18%	2	37,553
Maine	1999	2014	Voluntary	1,723	1,330,089	0.13%	1	26,471
Connecticut	2012	2014	Mandatory	2,326	3,596,677	0.06%	1	13,215
New Jersey	2010	2013	Mandatory	1,585	8,938,175	0.02%	<1	3,624
Delaware	2011	2014	Mandatory	133	935,614	0.01%	<1	2,905
Illinois	2013	2014	Mandatory	1,000	12,880,580	0.01%	<1	1,586

Note:

Florida 2017 estimates were developed by applying the 2014 use rates to Florida's April 1, 2017 population. The rates are not age-adjusted. The estimation assumes usage rates will remain the same. These states may not be representative of Florida or the nation, so caution should be used when generalizing their usage rates to Florida.

Sources:

¹ ProCon.org, <http://medicalmarijuana.procon.org/view.answers.php?questionID=001199>, Last updated 7/1/2015, accessed 9/9/2015.

² The data sources for each state are as follows:

Alaska: Count of active cardholders. Data as of September 2015, Alaska Division of Public Health, Bureau of Vital Statistics, e-mail dated 9/16/2015.

Arizona: Count of active cardholders. Arizona Medical Marijuana Act End of Year Report 2014, <http://azdhs.gov/documents/licensing/medical-marijuana/reports/2014/arizona-medical-marijuana-end-of-year-report-2014.pdf>, accessed on 9/17/2015.

California: No mandatory patient registry, it is estimated that only a small fraction of patients register on the voluntary registry. ProCon.org, estimates as of 10/27/2014 using Marijuana Policy Project estimates based on the ratio of patients to population in Oregon. <http://medicalmarijuana.procon.org/view.resource.php?resourceID=005889>, accessed on 9/17/2015.

Colorado: Colorado Department of Public Health and Environment, 2014 (December) current patients with valid ID cards, https://www.colorado.gov/pacific/sites/default/files/CHED_MMJ_12_2014_MMR_Report.pdf, accessed on 9/17/2015.

Connecticut: ProCon.org, ProCon.org access to the Connecticut Medical Marijuana Statistics, ct.gov, 9/9/2014 Medical Marijuana Program, October 1, 2014, <http://medicalmarijuana.procon.org/view.resource.php?resourceID=005889>, accessed on 9/17/2015.

Delaware: ProCon.org, ProCon.org phone call with the Delaware Medical Marijuana Program, October 1, 2014, <http://medicalmarijuana.procon.org/view.resource.php?resourceID=005889>, accessed on 9/17/2015.

DC: Count of registered patients. Government of the District of Columbia, Department of Health, Medical Marijuana Program Update, <http://doh.dc.gov/sites/default/files/dc/sites/doh/publication/attachments/MMPPProgramUpdateMemo150105docx.pdf>, accessed 9/17/2015.

Hawaii: Marijuana Policy Project, Medical Marijuana Patient Numbers, estimates through 3/1/2014, <https://www.mpp.org/issues/medical-marijuana/state-by-state-medical-marijuana-laws/medical-marijuana-patient-numbers/>, accessed 9/24/2015.

Illinois: Approximate count of approval letters for patient registration. The program started accepting applications on 9/2/2014, Patient numbers as of 2/4/2015, Illinois Department of Public Health, Illinois Medical Cannabis Pilot Program, <http://www2.illinois.gov/gov/mcgp/Pages/Updates.aspx>, accessed on 9/24/2015.

Maine: Number of patients who voluntarily decided to register during calendar year 2014. Maine Department of Health and Human Services, Medical Use of Marijuana Report, 2014, <http://www.maine.gov/dhhs/dlrs/mmh/documents/2014-MMMP-Annual-Report.pdf>, accessed 9/24/2015.

Massachusetts: Count of registered and active patients. Massachusetts Department of Health and Human Services, Medical Use of Marijuana Program, <http://www.mass.gov/eohhs/gov/departments/dph/programs/hcq/medical-marijuana/>, accessed on 9/18/2015.

Michigan: Count of registered and active patients. Department of Licensing and Regulatory Affairs, Medicinal Marijuana Program, phone call 9/9/2015.

Montana: Patients with current enrollment as of December 2014, <http://dphhs.mt.gov/Portals/85/qad/documents/LicensureBureau/MarijuanaProgram/MMP%20Registry%20Info%202015.pdf>, accessed on 9/17/2015.

Nevada: Count of patients with active registration cards. Nevada Department of Health and Human Services, Division of Public and Behavioral Health, Medical Marijuana Program, monthly reports, December 2014, http://dpbh.nv.gov/uploadedFiles/dpbhnhgov/content/Reg/MM-Patient-Cardholder-Registry/Docs/MMP_December_2014.pdf, accessed on 9/17/2015.

New Jersey: Count of registered and active patients. New Jersey Department of Health, 2013 Annual Report, Medicinal Marijuana Program, http://www.state.nj.us/health/medicalmarijuana/documents/annual_report.pdf, accessed on 9/17/2015.

New Mexico: Count of registered active patients. New Mexico Department of Health, Medical Cannabis Program Statistics as of 1/2/2015, e-mail dated September 16, 2015.

Oregon: 2015 (January) current patients with valid ID cards, Oregon Health Authority, Medical marijuana Program Statistic Snapshot, https://public.health.oregon.gov/DiseasesConditions/ChronicDisease/MedicalMarijuanaProgram/Documents/ed-materials/OMMP%20Statistic%20Snapshot%20-%202001-2015%20Final_3.pdf, accessed on 9/17/2015.

Rhode Island: Count of approved qualifying patients. Biannual Medical Marijuana Report to General Assembly, December 1, 2014, <http://www.health.ri.gov/publications/programreports/2015MedicalMarijuana.pdf>, accessed on 9/17/2015.

Vermont: Count of registered patients. Department of Public Safety, Medical Marijuana Program, email dated 9/19/2015.

Washington: No mandatory patient registry. On 4/24/2015 a new law created a voluntary patient registry. 2014 estimates using Marijuana Policy Project estimates based on the ratio of patients to population in Oregon. <http://medicalmarijuana.procon.org/view.resource.php?resourceID=005889>, accessed on 9/17/2015.

³ U.S. Census Bureau, Population Division, Annual Estimates of the Population for the United States, Regions, and States: July 1, 2014, released December 2014.

⁴ Florida Demographic Estimating Conference, July 2015, population projection for April 1, 2017 was used to generate these estimates.

II. Disease prevalence^a (people alive with the disease)

Approach II uses disease prevalence rates (proportion of people alive diagnosed with a certain disease) for cancer, epilepsy, HIV, multiple sclerosis, Parkinson's, and PTSD to determine the number of eligible patients with the conditions specified in the proposed ballot initiative. There will be an **estimated 2,038,131 patients** alive in 2017 that have been diagnosed with the specified conditions during their lifetime. These patients **represent the pool of eligible patients for medical use of marijuana**. Prevalence data for the remaining conditions specified in the proposed ballot initiative were not available. In addition, there are unspecified "other debilitating conditions..." in the proposed ballot initiative which cannot be estimated under this approach.

Version II update (10/12/2015):

- Reference period updated to April 1, 2017.
- Diseases removed: Hepatitis C
- Diseases added: epilepsy and posttraumatic stress disorder
- Additional diseases for which data are now included: multiple sclerosis, Parkinson's

Florida Prevalence of Selected Diseases

Medical Condition	2013	%	UPDATED
			2017
Cancer ¹	840,263	4.41%	900,187
Epilepsy	385,191	2.00%	408,695
Hepatitis C (2002-2006)	— 318,261		
HIV	126,000		133,688
Multiple sclerosis	17,334	0.09%	18,391
Parkinson's disease	56,773	0.95%	64,471
Posttraumatic Stress Disorder	483,214	2.51%	512,699
Total specified diseases with available data	1,908,775		2,038,131

CS/CS/SB1030 REC 2014 Impact

<i>SB 1030 potential patient pool</i>	1,308,882
Cancer	900,187
Seizures/epilepsy	408,695
Muscle spasms	Not available
<i>SB 1030 with applied % of patients expected to use marijuana</i>	15,719-187,462
Cancer	6,670
Seizures/epilepsy	3,915
Muscle spasms	5,134-176,877

Notes:

Estimates include cancer, epilepsy, HIV, multiple sclerosis, Parkinson's and PTSD prevalence rates. Prevalence rates for the remaining specified conditions in the petition initiative were not identified but they are expected to be relatively low.

¹ Estimates for cancer were developed by applying a national cancer prevalence rate to the Florida's April 1, 2012 population.

Florida 2017 estimates were developed by applying the prevalence rates to Florida's April 1, 2017 population. The rates are not age-adjusted. The estimation assumes prevalence rates will remain the same.

Sources:

Cancer complete prevalence 2012 data, Surveillance, Epidemiology, and End Results (SEER) Program (www.seer.cancer.gov). Prevalence database: "US Estimated Complete Prevalence Counts on 1/1/2012". National Cancer Institute, DCCPS, Surveillance Research Program, Data Modeling Branch, released April 2015, based on the November 2014 SEER data submission.

Hepatitis C complete prevalence 2002-2006 data, Florida Department of Health, Hepatitis C surveillance report 2002-2006, published 2009, http://www.doh.state.fl.us/disease_ctrl/aids/hep/5_Year_Report_Jan2_09_FINAL.pdf

HIV prevalence as of the end of 2013, Florida Department of Health, Florida 2013 HIV/AIDS Annual report, <http://www.floridahealth.gov/diseases-and-conditions/aids/surveillance/epi-profiles/HIVAIDS-annual-morbidity-2013.pdf>.

Florida Demographic Estimating Conference, July 2015, population projection for April 1, 2017.

Epilepsy prevalence: Epilepsy Foundation of Florida, efof.org, email dated 10/6/2015.

PTSD: U.S. Department of Veterans Affairs, National Center for PTSD, <http://www.ptsd.va.gov/public/PTSD-overview/basics/how-common-is-ptsd.asp>

^a Prevalence represents the proportion of people alive on a certain day who were diagnosed with the disease, regardless of how long ago the diagnosis was made; National Cancer Institute definitions; complete prevalence: <http://surveillance.cancer.gov/prevalence/complete.html>; limited prevalence: <http://surveillance.cancer.gov/prevalence/limited.html>

III. Disease incidence^b (newly diagnosed with the disease)

Approach III uses disease incidence rates (proportion of people newly diagnosed with a certain disease) for cancer, epilepsy, HIV, and amyotrophic lateral sclerosis (ALS) to determine the number of eligible patients with the conditions specified in the proposed ballot initiative. Disease incidence cases are a subset of disease prevalence cases, so Approach III has a smaller estimate than Approach II. There will be an estimated **130,237 patients newly diagnosed with ALS, cancer, epilepsy, or HIV in 2017 in Florida**. These patients represent the pool of eligible patients for medical use of marijuana. Incidence data for the remaining conditions specified in the proposed ballot initiative were not available. In addition, there are unspecified “other debilitating conditions...” in the proposed ballot initiative which cannot be estimated under this approach.

Version II update (10/12/2015):

- *Reference period updated to April 1, 2017.*
- *Diseases removed: Hepatitis C*
- *Diseases added: epilepsy*
- *No incidence data was found in the research period for posttraumatic stress disorder*

Florida New Cases with Selected Diseases (Incidence)

Medical Condition	2014		UPDATED
	Number of New Cases	Percent of Population	2017
ALS (Lou Gehrig's disease)	369	0.002%	391
Cancer	107,196	0.425%	113,737
Epilepsy		0.048%	9,809
Hepatitis C	220		
HIV	5,938	0.031%	6,300
Total specified diseases with available data	113,503		130,237

Notes: Estimates include cancer, hepatitis C, HIV, and ALS incidence rates. Incidence rates for the remaining specified conditions in the petition initiative are not available.

Florida 2015 estimates were developed by applying the 2013 incidence rates to Florida's April 1, 2017 population. The rates are not age-adjusted. The estimation assumes incidence rates will remain the same.

Sources:

Florida Cancer Data System, 2012 Annual Report,

[http://fcds.med.miami.edu/downloads/FloridaAnnualCancerReport/2012/Table_No_T1_\(2012\).pdf](http://fcds.med.miami.edu/downloads/FloridaAnnualCancerReport/2012/Table_No_T1_(2012).pdf),

[http://fcds.med.miami.edu/downloads/FloridaAnnualCancerReport/2012/Table_No_T4_1_\(2012\).pdf](http://fcds.med.miami.edu/downloads/FloridaAnnualCancerReport/2012/Table_No_T4_1_(2012).pdf).

Florida Department of Health, 2013 Annual Morbidity Report, http://www.floridahealth.gov/diseases-and-conditions/disease-reporting-and-management/disease-reporting-and-surveillance/data-and-publications/_documents/2013-fl-msr.pdf.

Florida Department of Health, Florida ALS Surveillance Project.

Florida Demographic Estimating Conference, July 2015, population projection for April 1, 2017.

^b Incidence: number of new cases during a given time period, <http://www.cdc.gov/opphss/csels/dsepd/ss1978/lesson3/section2.html>
10/12/2015

IV. Use rates by cancer patients

Approach IV uses medical marijuana penetration rates by disease, specifically cancer, to estimate medical marijuana users in Florida. The number of Florida cancer patients that are likely to use medical marijuana is calculated by applying the average penetration rate among cancer patients from ten other states to the Florida number of cancer patients. Assuming Florida will have the same average proportion of cancer patients in the total medical marijuana users as these ten states, the number of medical marijuana users with cancer is grown to represent total medical marijuana users with all conditions in Florida. This approach estimates that there might be **247,689 medical marijuana users** with all conditions in 2017.

Florida Medical Marijuana User Estimates Based on Average Medical Marijuana Usage Rates among Cancer Patients across Ten States

Population Categories	2012		UPDATED 2017
	Estimate	Percent of Population	Estimate
Population with cancer	840,263	4.41%	900,187
Medical marijuana users	6,226		6,670
% of all medical marijuana users		2.69%	
Total medical marijuana users	183,105		247,689

Note:

Using counts for medical marijuana use by cancer patients and complete cancer prevalence data across the ten states in the table below, an average share of marijuana users among cancer patients was calculated. The share was applied to the Florida cancer prevalence population to estimate potential Florida marijuana users with cancer. The average share that cancer patients represent among all marijuana users from the table below was applied to the estimate of Florida marijuana users with cancer to estimate the total Florida population that may use medical marijuana. The estimation assumes usage rates and cancer prevalence rates will remain the same.

Sources:

100,000 Reasons: Medical Marijuana In The Big Apple, Appendix: Methodology, New York City Comptroller John C. Liu, August 2013.
Cancer complete prevalence 2012 data, Surveillance, Epidemiology, and End Results (SEER) Program (www.seer.cancer.gov). Surveillance, Epidemiology, and End Results (SEER) Program (www.seer.cancer.gov). Prevalence database: "US Estimated Complete Prevalence Counts on 1/1/2012". National Cancer Institute, DCCPS, Surveillance Research Program, Data Modeling Branch, released April 2015, based on the November 2014 SEER data submission.

Florida Demographic Estimating Conference, July 2015, population projection for April 1, 2017.

Cancer Patients Using Medical Marijuana for Selected States

A	B	C	D	E	F	G	H
State	Reference Year	Population 2014	Total Users of Medical Marijuana	Users of Medical Marijuana with Cancer	Cancer patients	Cancer Patients Using Marijuana	
						% of All Cancer Patients	% of Total Users of Medical Marijuana
Arizona	2014	6,731,484	61,272	1,666	296,534	0.56%	2.72%
Colorado	2014	5,355,866	115,467	3,870	235,936	1.64%	3.35%
Hawaii	2012	1,419,561	11,164	152	62,534	0.24%	1.36%
Michigan	2015	9,909,877	103,444	2,526	436,548	0.58%	2.44%
Montana	2014	1,023,579	10,268	674	45,090	1.49%	6.56%
Nevada	2014	2,839,099	10,119	485	125,067	0.39%	4.79%
New Jersey	2013	8,938,175	12,396	172	393,743	0.04%	1.39%
Oregon	2014	3,970,239	175,434	3,666	174,896	2.10%	2.09%
Rhode Island	2014	1,055,173	6,213	288	46,482	0.62%	4.63%
Vermont	2014	626,562	1,723	167	27,601	0.61%	9.69%
Total/ Average		41,869,615	507,500	13,666	1,844,432	0.74%	2.69%

Sources:

Arizona: unique conditions count, indicated cancer as the only debilitating medical condition. Arizona Medical Marijuana Act End of Year Report 2014, <http://azdhs.gov/documents/licensing/medical-marijuana/reports/2014/arizona-medical-marijuana-end-of-year-report-2014.pdf>, accessed on 9/17/2015.

Colorado: Medical conditions counts are not exclusive, some patients report using medical marijuana for more than one debilitating medical condition. 2014 (December) current patients with valid ID cards, https://www.colorado.gov/pacific/sites/default/files/CHED_MMJ_12_2014_MMR_Report.pdf, accessed on 9/17/2015."

Hawaii: The Office of Economic and Demographic Research was not able to obtain updated data for Hawaii. Data are for 2012 from the report "100,000 Reasons: Medical Marijuana In The Big Apple", Appendix: Methodology, New York City Comptroller John C. Liu, August 2013.

Michigan: The number of patients is as of September 2015 but the Office of Economic and Demographic Research was not able to obtain an updated breakdown by condition as of 9/25/2015, so the number of cancer patients is for FY 2012.

Montana: Medical conditions are not exclusive, a patient may have more than one condition. Patients with current enrollment as of December 2014 and patients by condition as of July 2015, <http://dphhs.mt.gov/marijuana/MMPPriorRegistryInformation>, accessed on 9/17/2015.

Nevada: Medical conditions are not exclusive, a patient may have more than one condition. Nevada Department of Health and Human Services, Division of Public and Behavioral Health, Medical Marijuana Program, monthly reports, August 2015, http://dpbh.nv.gov/uploadedFiles/dpbhnmvgov/content/Reg/MM-Patient-Cardholder-Registry/dta/Monthly_Reports/MMPAugust2015.pdf, accessed on 9/17/2015."

New Jersey: Medical conditions are not exclusive. Only terminal cancer qualifies as a condition. 2013 data. New Jersey Department of Health, 2013 Annual Report, Medicinal Marijuana Program, http://www.state.nj.us/health/medicalmarijuana/documents/annual_report.pdf, accessed on 9/17/2015.

Oregon: Conditions are not mutually exclusive; one patient may report one or more conditions. 2015 (January) current patients with valid ID cards, Oregon Health Authority, Medical marijuana Program Statistic Snapshot, https://public.health.oregon.gov/DiseasesConditions/ChronicDisease/MedicalMarijuanaProgram/Documents/ed-materials/OMMP%20Statistic%20Snapshot%20-%202001-2015%20Final_3.pdf, accessed on 9/17/2015.

Rhode Island: Medical conditions are not exclusive, a patient may have more than one condition. The total number of users is updated as of December 2014, the percentage of cancer patients is as of August 2015, Rhode Island Department of Health, e-mail dated 9/25/2015.

Vermont: Count of registered patients. Department of Public Safety, Medical Marijuana Program, email dated 9/19/2015.

V. Deaths from specified diseases (as primary cause of death)

Approach V assumes that mostly terminally ill patients will use medical marijuana. Thus, it uses 2014 death rates by disease for the specified diseases, excluding glaucoma and ALS for which no data were available, in the proposed ballot initiative to estimate the number of users. Adjusting these rates to 2017 population projections produces **47,805 potential medical marijuana patients** with the specified conditions. In addition, there are unspecified "other conditions" in the proposed ballot initiative which cannot be estimated under this approach.

Version II update (10/12/2015):

- *Reference period updated to April 1, 2017.*
- *Diseases removed: viral hepatitis*
- *Diseases added: epilepsy, Parkinson's*

Florida Deaths by Selected Causes

Primary Cause of Death	2014		UPDATED
	Number of Deaths	Percent of Population	2017
Cancer	42,330	0.217%	44,342
AIDS	N/A	N/A	N/A
Amyotrophic lateral sclerosis (ALS)	N/A	N/A	N/A
Crohn's disease	59	0.000%	62
Epilepsy	142	0.001%	149
Glaucoma	N/A	N/A	N/A
HIV	878	0.005%	920
Multiple sclerosis	195	0.001%	204
Parkinson's disease	2,031	0.010%	2,128
Viral Hepatitis	603	0.003%	
Total specified diseases with available data	46,238	0.237%	47,805

N/A – not available

Note: Data for hepatitis C only were not available; data for viral hepatitis were used instead.

Florida 2017 estimates were developed by applying the 2014 cause of death rates to Florida's April 1, 2017 population. The rates are not age-adjusted. The estimation assumes death rates will remain the same.

Sources:

Florida Department of Health, Florida Vital Statistics Annual Report 2014.

Florida Demographic Estimating Conference, July 2015, population projection for April 1, 2017.

VI. Self-identified marijuana users from the National Health and Drug Use Survey

(This approach was used to estimate the potential number of recreational marijuana users in the fiscal impact statement for the Washington State initiative to legalize recreational marijuana)

Approach VI presents self-reported illicit marijuana use from the 2013 National Survey on Drug Use and Health. Adjusting 2013 survey results to the 2017 Florida population projections shows that there may be an estimated **1,752,277 self-reported recreational users of marijuana in Florida. If we exclude the population 18 to 24** from this estimate since they would not be as likely to suffer from the debilitating conditions envisioned in the ballot initiative as their older counterparts, it is estimated that there may be **1,168,775 self-reported recreational users** of marijuana in Florida. However, this may not be a reasonable assumption since some data by age group from other states shows that the younger age groups use more medical marijuana than the older age groups.

Approach VI was included because some of the current illicit use may be for medical purposes. This estimation approach has been used by other states to estimate recreational marijuana use.

Florida Self-Reported Illicit Marijuana Use¹

			UPDATED
Age Group	Marijuana Users (% of Age Group in 2013)	2013	2017
Population 12-17	13.64%	191,678	197,610
Population 18-24	32.06%	568,965	583,502
Population 25+	8.10%	1,089,100	1,168,775
Total population 18+		1,658,065	1,752,277

¹ Has used marijuana once or more times during the past year.

Note:

Marijuana use rates for 18-25 and 26+ groups for Florida for 2013 were applied to Florida's April 1, 2013 and 2017 population estimate/projection for ages 18-24 and 25+ groups, respectively. The estimation assumes usage rates will remain the same.

Sources:

Substance Abuse & Mental Health Services Administration, Center for Behavioral Health Statistics and Quality, National Survey on Drug Use and Health, 2012 and 2013, Table 2 <http://www.samhsa.gov/data/sites/default/files/NSDUHsaeTotals2013/NSDUHsaeTotalsCSVs2013.zip> . Florida Demographic Database, August 2015 based on results from the Florida Demographic Estimating Conference, July 2015.

REVENUE ESTIMATING CONFERENCE

Tax: Medical Use of Marijuana

Issue: Sales tax exemption – medical marijuana and devices

Bill number(s): SB 8A, engrossed, enrolled

☒ **Entire Bill**

☐ **Partial Bill:**

Sponsor(s): Bradley & Young

Month/Year Impact Begins: Upon becoming a law

Date of Analysis: June 21, 2017

Section 1: Narrative

- a. **Current Law:** Under current law, sales of medical marijuana are taxable. The Revenue Estimating Conference met on March 2, 2017 and adopted a Sales Tax Baseline Impact, Absent Law Change (Baseline), for s. 381.986, F.S. and article X, section 29 of the Florida Constitution (Amendment 2). The Conference adopted the middle cash estimate, with the recurring impact equal to the 2021-22 middle recurring impact. The adopted middle impact for FY 2016-17 to FY 2021-22 is listed in the table below:

	Middle (Scenario II)	
	Cash	Recurring
2016-17	0.4	24.3
2017-18	2.6	24.3
2018-19	4.2	24.3
2019-20	7.7	24.3
2020-21	15.6	24.3
2021-22	24.3	24.3

- b. **Proposed Change:** SB 8A implements Amendment 2 “Use of Marijuana for Debilitating Medical Conditions” (article X, section 29 of the Florida Constitution) and is effective upon becoming a law. The bill makes some changes to the medical marijuana program relative to the Baseline. The most pertinent changes include:
- SB 8A exempts marijuana from sales tax by inserting a new paragraph “l” in s. 212.08, F.S. to read: “Marijuana and marijuana delivery devices, as defined in s. 381.986, are exempt from the taxes imposed under this chapter.” Marijuana is defined to include both low-THC cannabis and high-THC marijuana. The bill preserves the current statutory definition of marijuana as only marijuana that is dispensed from a medical marijuana treatment center (replaces dispensing organization) for medical use by a qualified patient.
 - The bill specifies an additional qualifying medical condition.
 - ⇒ Chronic nonmalignant pain “caused by a qualifying medical condition or that originates from a qualifying medical condition and persists beyond the usual course of that qualifying medical condition” is added to the list of conditions.
 - ⇒ Chronic nonmalignant pain was not expressly mentioned in Amendment 2 even though it might have fallen under “other conditions” depending on the physician’s interpretation and the guidance given to physicians.
 - SB 8A amends the pools of potential qualified patients.
 - ⇒ The bill prohibits physicians from ordering medical marijuana for pregnant women but allows them to order low-THC cannabis.
 - ⇒ SB 8A includes “seasonal residents” and defines them as: “...any person who temporarily resides in this state for a period of at least 31 consecutive days in each calendar year, maintains a temporary residence in this state, returns to the state or jurisdiction of his or her residence at least one time during each calendar year, and is registered to vote or pays income tax in another state or jurisdiction.”

REVENUE ESTIMATING CONFERENCE

Tax: Medical Use of Marijuana

Issue: Sales tax exemption – medical marijuana and devices

Bill number(s): SB 8A, engrossed, enrolled

Section 2: Description of Data and Sources

The analysis relied on the following data sources in addition to others:

- Bill Analysis and Fiscal Impact, Senate Committee on Appropriations, Medical Use of Marijuana, June 8, 2017, <http://www.flsenate.gov/Session/Bill/2017A/8A/Analyses/2017s00008A.ap.PDF>
- Medical Marijuana: Sales Tax Baseline Absent Law Changes, March 2, 2017, http://edr.state.fl.us/Content/conferences/generalrevenue/Marijuana_A2_SB1030_HB307_Special-Impact_2017Pre-Session_final.pdf
- Impact of CS/SB 406 (2017), Compassionate Use of Low-THC Cannabis and Marijuana, Revenue Estimating Conference, April 7, 2017, http://edr.state.fl.us/Content/conferences/revenueimpact/archives/2017/_pdf/page527-531.pdf
- Financial Impact Estimating Conference on proposed constitutional amendment “Use of Marijuana for Debilitating Medical Conditions” 15-01, Florida Legislature, Office of Economic and Demographic Research, October 21, 2015, <http://edr.state.fl.us/Content/constitutional-amendments/2016Ballot/MedicalMarijuanaFinancialInformationStatement.cfm>.

Section 3: Methodology

a. Sales Tax Exemption

SB 8A exempts medical marijuana and related devices from sales tax.

b. User Estimates

Even though SB 8A exempts all medical marijuana sales from sales tax, this section discusses some substantive changes in the pool of eligible patients created by SB 8A compared to the Baseline adopted on March 2, 2017. In terms of potential users, SB 8A appears to be very similar to the Baseline adopted on March 2, 2017. In addition, this analysis assumes the bill expands the user populations in three areas:

- **Pregnant women:** Pregnant women were not explicitly assumed to be in the potential user pool in the Baseline, so their exclusion would not have a material impact. The inclusion of low-THC for pregnant women is not expected to have a material impact either as the number of pregnant women for whom doctors will recommend the use of low-THC cannabis is expected to be very small.
- **Seasonal residents (“snowbirds”):** While the Baseline assumed only Florida residents will be eligible for medical marijuana, SB 8A allows non-residents to qualify as users under certain conditions. Based on the impact analysis of CS/SB 406 (2017), this is likely to expand the potential pool of users and to increase the sales tax collections (see the table below).
- **Chronic pain:** When chronic pain is combined with “other debilitating conditions” to allow physicians to write certifications for chronic pain ensuing from “other conditions,” the potential pool of users may expand even more. Based on the impact analysis of CS/SB 406 (2017), the increase in potential users will result in an increase in sales tax collections (see the table below).

REVENUE ESTIMATING CONFERENCE

Tax: Medical Use of Marijuana

Issue: Sales tax exemption – medical marijuana and devices

Bill number(s): SB 8A, engrossed, enrolled

The table below from the impact analysis of CS/SB 406 (with an added top row) shows the estimated effect of adding seasonal residents and chronic pain. The conference adopted a positive indeterminate impact. Even though SB 8A might expand the pool of users and thus sales tax collections, this effect is obviated by the fact that this bill simultaneously exempts the product and the devices from sales tax.

Table 5 from the Impact Analysis of CS/SB 406 (April 7, 2017)
Estimated Sales Tax Collections (Month Collected)

	BASELINE	PLUS SNOWBIRDS		PLUS SNOWBIRDS & CHRONIC PAIN	
Fiscal Year	Scenario I (Baseline, Minimal Snowbirds)	Scenario II (Same Proportion of Snowbirds as of Residents, 1.7%)		Scenario III (Residents and Snowbirds Maximize Use, 2.2%)	
	Tax Estimate	Tax Estimate	Difference from Baseline	Tax Estimate	Difference from Baseline
2016-17	437,898	437,898	0	437,898	0
2017-18	2,552,342	2,636,657	+84,315	2,979,129	+426,787
2018-19	4,206,479	4,694,301	+487,823	6,675,747	+2,469,269
2019-20	7,688,420	8,609,862	+921,443	12,352,594	+4,664,174
2020-21	15,602,428	16,957,491	+1,355,063	22,461,508	+6,859,080
2021-22	24,306,791	25,897,876	+1,591,084	32,354,959	+8,048,168

Section 4: Proposed Fiscal Impact

Sales Tax: There is no cash sales tax impact in FY 2016-17 as sales tax would have been collected under current law (s. 381.986, F.S. 2016). In FY 2017-18, the cash impact of the sales tax exemption is reduced to 11 months as the sales tax paid for June 2017 will be collected in July 2017.

	Cash	Recurring
2016-17	0.0	(24.3)
2017-18	(2.3)	(24.3)
2018-19	(4.2)	(24.3)
2019-20	(7.7)	(24.3)
2020-21	(15.6)	(24.3)
2021-22	(24.3)	(24.3)

REVENUE ESTIMATING CONFERENCE

Tax: Medical Use of Marijuana

Issue: Sales tax exemption – medical marijuana and devices

Bill number(s): SB 8A, engrossed, enrolled

Section 5: Consensus Estimate (Adopted: 06/21/2017): The Conference adopted the proposed estimate. In FY 2016-17, there is a recurring total impact of (\$27.0m), of which (\$21.5m) is against GR, (*) against Trust, and (\$5.5m) against local.

	GR		Trust		Revenue Sharing		Local Half Cent	
	Cash	Recurring	Cash	Recurring	Cash	Recurring	Cash	Recurring
2017-18	(2.1)	(21.5)	(Insignificant)	(Insignificant)	(0.1)	(0.7)	(0.2)	(2.1)
2018-19	(3.7)	(21.5)	(Insignificant)	(Insignificant)	(0.1)	(0.7)	(0.4)	(2.1)
2019-20	(6.8)	(21.5)	(Insignificant)	(Insignificant)	(0.2)	(0.7)	(0.7)	(2.1)
2020-21	(13.8)	(21.5)	(Insignificant)	(Insignificant)	(0.5)	(0.7)	(1.3)	(2.1)
2021-22	(21.5)	(21.5)	(Insignificant)	(Insignificant)	(0.7)	(0.7)	(2.1)	(2.1)

	Local Option		Total Local		Total	
	Cash	Recurring	Cash	Recurring	Cash	Recurring
2017-18	(0.3)	(2.7)	(0.5)	(5.5)	(2.6)	(27.0)
2018-19	(0.5)	(2.7)	(1.0)	(5.5)	(4.7)	(27.0)
2019-20	(0.9)	(2.7)	(1.8)	(5.5)	(8.6)	(27.0)
2020-21	(1.8)	(2.7)	(3.6)	(5.5)	(17.4)	(27.0)
2021-22	(2.7)	(2.7)	(5.5)	(5.5)	(27.0)	(27.0)

REVENUE ESTIMATING CONFERENCE

Tax: Use of marijuana for debilitating medical conditions

Issue: Sales tax

Baseline, absent law change(s): CS/CS/SB 1030, CS/CS/CS/HB 307, and Article X, Section 29 of the Florida Constitution (also known as Amendment 2)

Month/Year Impact Begins: For inclusion in March 2017 sales tax forecast

Date of Analysis: March 2, 2017

Section 1: Narrative

- a. **Current Law (Prior to Amendment 2):** The Compassionate Use of Low-THC and Medical Cannabis Act (act), was created by CS/CS/SB 1030 in 2014 and amended by CS/CS/CS/HB 307 in 2016¹. The act legalized two forms of cannabis for two qualified patient groups. The following highlights the details of these two bills.
- i. Forms of cannabis:
 - ⇒ A low tetrahydrocannabinol (THC) form of cannabis (low-THC cannabis)², defined as “a plant of the genus Cannabis, the dried flowers of which contain 0.8 percent or less of tetrahydrocannabinol and more than 10 percent of cannabidiol weight for weight; the seeds thereof; the resin extracted from any part of such plant; or any compound, manufacture, salt, derivative, mixture, or preparation of such plant or its seeds or resin that is dispensed only from a dispensing organization.” (s. 381.986, F.S. 2016).
 - ⇒ A high-THC form of cannabis (high-THC), defined as “all parts of any plant of the genus Cannabis, whether growing or not; the seeds thereof; the resin extracted from any part of the plant; and every compound, manufacture, sale, derivative, mixture, or preparation of the plant or its seeds or resin that is dispensed only from a dispensing organization for medical use by an eligible patient as defined in s. 499.0295.” (s. 381.986, F.S. 2016).
 - ii. A qualified patient is a resident of Florida who has been added to the Compassionate Use Registry by a physician licensed under ch. 458, F.S. or ch. 459, F.S. to receive low-THC cannabis or medical cannabis from a dispensing organization.
 - ⇒ Residency rules are specified in statute.
 - ⇒ A qualified patient must have been treated by the ordering physician for at least three months immediately preceding the patient’s registration in the compassionate use registry.
 - iii. Qualified patient groups:
 - ⇒ Patients suffering from cancer or a physical medical condition that chronically produces symptoms of seizures or severe and persistent muscle spasms; patients with symptoms of such disease, disorder, or condition, if no other satisfactory alternative treatment options exist for the qualified patient.
 - ⇒ A patient with a terminal condition, as defined per s. 499.0295, F.S., who:
 - Has a terminal condition that is attested to by the patient’s physician and confirmed by a second independent evaluation by a board-certified physician in an appropriate specialty for that condition;
 - Has considered all other treatment options for the terminal condition currently approved by the United States Food and Drug Administration;
 - Has given written informed consent for the use of an investigational drug, biological product, or device; and
 - Has documentation from his or her treating physician that the patient meets the requirements of this paragraph.
 - iv. Section 499.0295, F.S. defines “terminal condition” as “a progressive disease or medical or surgical condition that causes significant functional impairment, is not considered by a treating physician to be reversible even with the administration of available treatment options currently approved by the United States Food and Drug Administration, and, without the administration of life-sustaining procedures, will result in death within 1 year after diagnosis if the condition runs its normal course.”

¹ See ch. 2014-157 and ch. 2016-123, L.O.F., and s. 381.986, F.S. 2016.

² The act defined “low-THC cannabis,” as the dried flowers of the plant Cannabis which contain 0.8 percent or less of tetrahydrocannabinol and more than 10 percent of cannabidiol weight for weight, or the seeds, resin, or any compound, manufacture, salt, derivative, mixture, or preparation of the plant or its seeds or resin. See s. 381.986(1)(b), F.S. Seventeen states allow limited access to marijuana products (low-THC and/or high CBD cannabidiol): Alabama, Florida, Georgia, Iowa, Kentucky, Louisiana, Mississippi, Missouri, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, Utah, Virginia, Wisconsin, and Wyoming. Twenty-nine states (including Florida), the District of Columbia, and Guam have laws that permit the use of marijuana for medicinal purposes. See <http://www.ncsl.org/research/health/state-medical-marijuana-laws.aspx> (Tables 1 and 2), (accessed on 3/2/2017).

REVENUE ESTIMATING CONFERENCE

Tax: Use of marijuana for debilitating medical conditions

Issue: Sales tax

Baseline, absent law change(s): CS/CS/SB 1030, CS/CS/CS/HB 307, and Article X, Section 29 of the Florida Constitution (also known as Amendment 2)

- v. A physician is defined as someone who “holds an active, unrestricted license as a physician under chapter 458 or an osteopathic physician under chapter 459.”
- vi. Smoking of low-THC or medical cannabis is not included as “medical use.”
- vii. The physician may not order more than a 45-day supply.
- viii. A legal representative means the qualified patient’s parent, legal guardian acting pursuant to a court’s authorization as required under s. 744.3215(4), F.S., health care surrogate acting pursuant to the qualified patient’s written consent or a court’s authorization as required under s. 765.113, F.S., or an individual who is authorized under a power of attorney to make health care decisions on behalf of the qualified patient.
- ix. A “dispensing organization” means an organization approved by the department to cultivate, process, transport, and dispense low-THC cannabis or medical cannabis pursuant to this section.
- x. Regarding local governments, the law preempts to the state all matters regarding the regulation of the cultivation and processing of low-THC cannabis or medical cannabis by dispensing organizations. “A municipality may determine by ordinance the criteria for the number and location of, and other permitting requirements that do not conflict with state law or department rule for, dispensing facilities of dispensing organizations located within its municipal boundaries. A county may determine by ordinance the criteria for the number, location, and other permitting requirements that do not conflict with state law or department rule for all dispensing facilities of dispensing organizations located within the unincorporated areas of that county.”

b. Proposed Change (Amendment 2 and DOH proposed rule): In 2016, Florida voters approved the Use of Marijuana for Debilitating Medical Conditions (Amendment 2) to allow medical use of marijuana for individuals with debilitating medical conditions as determined by a licensed Florida physician. The amendment created article X, section 29 of the Florida Constitution and it came into effect on January 3, 2017. However, the amendment allows the Department of Health six months after the effective date to promulgate regulations and nine months after the effective date to begin registering medical marijuana treatment facilities and begin issuing identification cards.

- i. The amendment defines a “debilitating medical condition” as “cancer, epilepsy, glaucoma, positive status for human immunodeficiency virus (HIV), acquired immune deficiency syndrome (AIDS), post-traumatic stress disorder (PTSD), amyotrophic lateral sclerosis (ALS), Crohn’s disease, Parkinson’s disease, multiple sclerosis, or other debilitating medical conditions of the same kind or class as or comparable to those enumerated, and for which a physician believes that the medical use of marijuana would likely outweigh the potential health risks for a patient.”
- ii. The amendment directs the Department of Health to register and regulate Medical Marijuana Treatment Centers that produce and distribute marijuana for medical purposes and to issue identification cards to patients and caregivers.
- iii. It also allows caregivers to assist patients’ medical use of marijuana. The amendment applies only to Florida law and does not immunize violations of federal law or any non-medical use, possession, or production of marijuana.

The Department of Health’s proposed rule includes the following:

- i. “Medical Marijuana Treatment Center (MMTC)” shall have the same definition as a dispensing organization in s. 381.986(1)(b), F.S.
- ii. “Caregiver” shall mean a legal representative as defined by s. 381.986(1)(d), F.S., who is at least twenty-one (21) years old and has successfully passed a Level 1 background screening as defined in s. 435.03, F.S.
- iii. “Qualifying debilitating medical condition” shall mean conditions eligible for physician ordering contained in s. 381.986(2), F.S., or cancer, epilepsy, glaucoma, positive status for human immunodeficiency virus (HIV), acquired immune deficiency syndrome (AIDS), post-traumatic stress disorder (PTSD), amyotrophic lateral sclerosis (ALS), Crohn’s disease, Parkinson’s disease, multiple sclerosis. Also, any debilitating medical conditions of the same kind or class as or comparable to those enumerated, as determined by the Florida Board of Medicine.
- iv. A physician authorized to order medical marijuana means a qualified ordering physician who has met the requirements of s. 381.986(2-4), F.S.
- v. All MMTCs, physicians, patients, and caregivers must be registered in the online compassionate use registry as required by s. 381.986(5)(a), F.S., and Rule 64-4.009, F.A.C. All orders for medical marijuana must be entered into the registry for processing accordingly.
- vi. Rules regarding MMTCs:
 - ⇒ “The process for registering as an MMTC shall be the same approval and selection process outlined in s. 381.986, F.S., and Rule 64-4.002, F.A.C., and subject to the same limitations and operational requirements contained therein.”

REVENUE ESTIMATING CONFERENCE

Tax: Use of marijuana for debilitating medical conditions

Issue: Sales tax

Baseline, absent law change(s): CS/CS/SB 1030, CS/CS/CS/HB 307, and Article X, Section 29 of the Florida Constitution (also known as Amendment 2)

- ⇒ “All MMTCs shall follow the medical record keeping standards as set forth in Rule 64B8-9.003, F.A.C., as adopted and incorporated herein.”
- ⇒ “All MMTCs shall abide by the security, product testing, labeling, inspection and safety standards set forth in s. 381.986, F.S and this chapter.”

The amendment stipulates two important dates:

- “In order to allow the Department sufficient time after passage of this section, the following regulations shall be promulgated no later than six (6) months after the effective date of this section.”
- “The Department shall begin issuing qualifying patient and caregiver identification cards, and registering MMTCs no later than nine (9) months after the effective date of this section.”

If these deadlines are not met, the amendment states: “If the Department does not issue regulations, or if the Department does not begin issuing identification cards and registering MMTCs within the time limits set in this section, any Florida citizen shall have standing to seek judicial relief to compel compliance with the Department’s constitutional duties.”

Section 2: Description of Data and Sources

The analysis relied on the following data sources in addition to others:

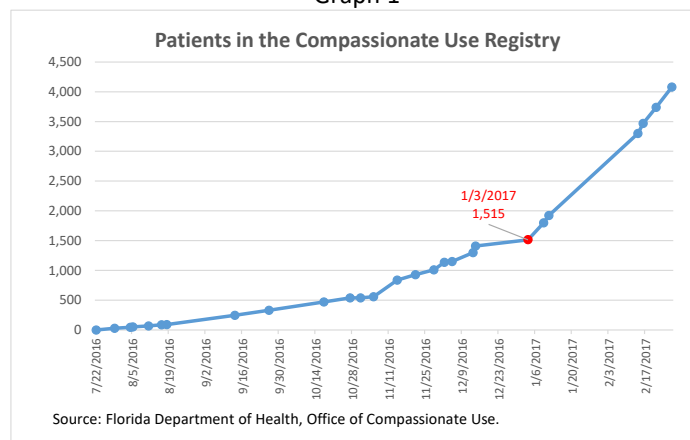
- Financial Impact Estimating Conference on proposed constitutional amendment “Use of Marijuana for Debilitating Medical Conditions” 15-01, Florida Legislature, Office of Economic and Demographic Research, <http://edr.state.fl.us/Content/constitutional-amendments/2016Ballot/MedicalMarijuanaFinancialInformationStatement.cfm>.
- Impact Analysis of CS/CS/SB 1030, Revenue Estimating Conference, May 29, 2014, <http://edr.state.fl.us/Content/conferences/revenueimpact/archives/2014/pdf/page656-667.pdf>.
- Impact Analysis of CS/CS/CS/HB 307, Revenue Estimating Conference, May 10, 2016, http://edr.state.fl.us/Content/conferences/revenueimpact/archives/2016/_pdf/page791-803.pdf.
- Florida Department of Revenue, phone conversations and emails, dated February 19, 21, 2017.
- Florida Department of Health, emails and phone conversations, the weeks of 2/13/17, 2/20/17, and 2/27/17.

Section 3: Methodology

a. Current Program Status

As of the end of February 2017, there are 4,079 patients in the Compassionate Use Registry and there are 573 physicians statewide who have passed the required training to be able to order marijuana for patients under s. 381.986, F.S. 2016.

Graph 1



REVENUE ESTIMATING CONFERENCE

Tax: Use of marijuana for debilitating medical conditions

Issue: Sales tax

Baseline, absent law change(s): CS/CS/SB 1030, CS/CS/CS/HB 307, and Article X, Section 29 of the Florida Constitution (also known as Amendment 2)

There are seven approved Dispensing Organizations (DOs), six of whom are currently selling statewide. The Compassionate Use Registry started functioning in July 2016 and a couple of the DOs started sales in July of that year. However, some dispensing organizations started sales towards the very end of 2016 or early 2017 and one of the authorized DOs has not commenced sales yet. In addition, current law requires the ordering physician to have treated the patient for three months prior to sending in an order.

Table 1

Florida Dispensing Organizations and Stage of Authorization*

Marijuana Dispensing Organization	Affiliated Nursery	Region	Date Approved as a Dispensing Organization	Granted Cultivation Authorization	Authorization Stage	Retail Sales	Statewide Deliveries
Original per SB 1030 (2014)							
Surterra Therapeutics	Alpha Foliage, Inc.	Southwest	11/23/2015	2/17/2016	Dispensing	Tampa	Yes
Trulieve	George Hackney, Inc.	Northwest	11/23/2015	2/29/2016	Dispensing	Tallahassee, Tampa, Clearwater	Yes
Modern Health Concepts	Costa Nursery Farms, LLC	Southeast	11/23/2015	3/14/2016	Dispensing	Miami	Yes
CHT Medical	Chestnut Hill Tree Farm, LLC	Northeast	11/23/2015	6/22/2016	Dispensing	No	Yes
Knox Medical	Knox Nursery, Inc.	Central	11/23/2015	7/7/2016	Dispensing	No	Yes
Additional - I per s. 381.986, F.S.							
The Green Solution	San Felasco Nurseries, Inc. (Approval came after an administrative law judge ruled in February that health officials wrongly rejected the nursery's application last year because of a decade-old drug crime**.)	Northeast	4/4/2016	7/5/2016	Dispensing	No	Yes
GrowHealthy	McCrory's Sunny Hill Nursery, Agri-Starts, Inc., Peckett's, Inc., Eve's Garden, Inc. (After administrative and legal challenges by Sunny Hill Nursery and GrowHealthy, DOH reached a settlement agreement with the farm***)	Central	12/21/2016	N/A	N/A	N/A	N/A
Additional - II, per HB 307 (2016)							
<i>Three more nurseries once 250,000 patients reached in registry.</i>							

Each nursery has a certification from the Florida Department of Agriculture and Consumer Services to have the ability to grow more than 400,000 plants.

* Source: Florida Department of Health, Office of Compassionate Use, Biweekly Updates, February 22, 2017, http://www.floridahealth.gov/programs-and-services/office-of-compassionate-use/resources/_documents/170222-bi-weekly-update.pdf, accessed 2/22/2017, and Implementation Timeline, http://www.floridahealth.gov/programs-and-services/office-of-compassionate-use/_documents/ocu-timeline.pdf, accessed February 23, 2017.

** Source: Orlando Weekly, Florida approves Gainesville nursery to grow medical marijuana, <http://www.orlandoweekly.com/Blogs/archives/2016/04/05/florida-approves-gainesville-nursery-to-grow-medical-marijuana>, accessed 2/23/2017.

*** Source: The Ledger, License issued to Lake Wales medical marijuana grower, <http://www.theledger.com/news/20161220/license-issued-to-lake-wales-medical-marijuana-grower> <http://www.theledger.com/news/20161220/license-issued-to-lake-wales-medical-marijuana-grower>, accessed 2/23/2017.

b. User Estimates

The table below is EDR's interpretation of the application of the current law and Amendment 2 in relation to authorized specified conditions. There may be additional conditions that physicians might consider "muscle spasm" that are authorized under current law. Amendment 2 adds a number of new conditions to the already authorized list and allows all patients to use high-THC, which is currently limited to terminally ill patients with less than a year to live. Moreover, Amendment 2 adds a potentially unlimited list of unspecified conditions under "other debilitating medical conditions of the same kind or class as or comparable to those enumerated." DOH's proposed rule tasks the Florida Board of Medicine with giving further guidance to physicians on this issue.

REVENUE ESTIMATING CONFERENCE

Tax: Use of marijuana for debilitating medical conditions

Issue: Sales tax

Baseline, absent law change(s): CS/CS/SB 1030, CS/CS/CS/HB 307, and Article X, Section 29 of the Florida Constitution (also known as Amendment 2)

Table 2

**Debilitating Conditions Authorized under s. 381.986, F.S. 2016 and Article X, section 29 of the Florida Constitution (Amendment 2)
by Authorized Product Use**

Specified Conditions	Current Law (s. 381.986, F.S. 2016)		Current Law (s. 381.986, F.S. 2016) and Article X, section 29 of the Florida Constitution (Amendment 2)	
	Low-THC	High-THC	Low-THC	High-THC
Cancer	X	X if terminal		X
Seizures/Epilepsy	X		X	X
Muscle spasms (Multiple sclerosis, ALS, Parkinson's)	X			X
Terminal conditions (fatal within 1 year)		X		X
Glaucoma	Not authorized	Not authorized		X
HIV/AIDS	Not authorized	Not authorized		X
PTSD	Not authorized	Not authorized		X
ALS	Included in muscle spasms	Not authorized		X
Crohn's	Not authorized	Not authorized		X
Parkinson's	Included in muscle spasms	Not authorized		X
Multiple sclerosis	Included in muscle spasms	Not authorized		X

Note: "Any debilitating medical conditions of the same kind or class as or comparable to those enumerated" as stated in Amendment 2 are not included here until further clarification on what these conditions are from the Florida Board of Medicine.

This analysis addresses the use of marijuana under s. 381.986, F.S. and Article X section 29 of the Florida Constitution, in light of DOH's proposed implementing rule 64-4.012 published on January 17, 2017. In the fall of 2015, the Financial Impact Estimating Conference (FIEC) estimated that there would be 440,552 users of marijuana based on the proposed amendment. The FIEC estimate included users under CS/CS/SB 1030 from 2014, but was prior to the passage of CS/CS/CS/HB 307 in 2016 and DOH's proposed implementing rule 64-4.012. The estimate was based on Colorado users of medical marijuana.

There are several reasons to review the original estimate produced for the FIEC held in 2015:

- Testimony from the House Health Quality Subcommittee from 1/25/2017 stated that Colorado's medical marijuana patient numbers might have been overinflated because black market actors are using the home-grow allowance to grow marijuana in Colorado and divert it out of state to sell on the black market in other states.
- The proposed DOH rule excludes "other debilitating medical conditions of the same kind or class" from the current definition of "qualifying debilitating medical condition" and directs the Florida Board of Medicine to determine its meaning.
- Moratoriums are currently in place or being considered in some Florida counties and cities.
- Medical use is defined much more narrowly in current law than it is in the amendment.
- The definition of a caregiver is defined much more narrowly in current law than it is in the amendment.
- The definition of a Medical Marijuana Treatment Center is defined much more narrowly in current law than it is in the amendment.
- The current definition of marijuana, as defined in current law, is marijuana obtained only from a DO.

Estimates from the impacts for CS/CS/SB 1030 and CS/CS/CS/HB 307, updated with new medical marijuana and population data from other states and for Florida produce an estimated patient population of **17,218** under the current law, excluding the amendment. Based on current registrations in the Compassionate Use Registry and growth rates, the total estimated number of patients may not be reached in reality until the beginning of FY 2017-2018.

REVENUE ESTIMATING CONFERENCE

Tax: Use of marijuana for debilitating medical conditions

Issue: Sales tax

Baseline, absent law change(s): CS/CS/SB 1030, CS/CS/CS/HB 307, and Article X, Section 29 of the Florida Constitution (also known as Amendment 2)

Table 3

Low-THC and Medical Cannabis Patients under s. 381.986, F.S. 2016 in 2017	
Patients under SB 1030	16,154
Cancer	9,270
Epilepsy	4,596
Muscle spasm	2,288
Patients under HB 307	1,064
Terminal	1,064
Total patients under CS/CS/SB 1030 and CS/CS/CS/HB 307 (s. 381.986, F.S. 2016)	17,218

An updated estimate of Florida users of marijuana using the same methodology as Approach I (medical marijuana use data from other states) in the Financial Impact Estimating Conference for Amendment 2 (2015) shows that there are expected to be 349,503 users of medical marijuana in Florida once the market reaches a mature state. This estimate is based on data from Colorado for December 2016. The estimates done for the FIEC in 2015, using Colorado data for 2014 resulted in an estimated population of 440,552 users. The current estimate is significantly lower for two main reasons: 1) Colorado's medical marijuana users decreased by approximately 12% over that period; and 2) Colorado's population increased by almost 4% over the same period. Colorado's medical marijuana population might have decreased because of the availability of recreational marijuana in Colorado.

However, Colorado allows conditions that are not explicitly allowed in Florida under Amendment 2, most notably chronic pain. The currently proposed rule by DOH lists the specified conditions in Amendment 2 and states "Also, any debilitating medical conditions of the same kind or class as or comparable to those enumerated, as determined by the Florida Board of Medicine." If this proposed rule is interpreted to have a limiting effect on the "other conditions" category, then the estimate based on Colorado data must be controlled for only explicitly specified conditions in Florida. Once the estimate is controlled for conditions most similar to the specified conditions in Amendment 2, the estimated users of medical marijuana in Florida are reduced to 88,687.

Table 4

Florida Users in 2017 under s. 381.986, F.S. 2016 and Based on Colorado's Experience

	Estimates
Florida users under s. 381.986, F.S. 2016	17,218
Florida users under Amendment 2 based on Colorado's experience	349,503
Florida users under Amendment 2 based on Colorado's experience AND meeting Amendment 2's list of <u>specified</u> debilitating conditions	105,905
minus users under s. 381.986, F.S. 2016 (row 1)	88,687

c. Dosages

The most accurate way to estimate sales and sales tax in the early stages of the market development would be through knowing exactly how many plants are grown, processed, and sold at a given point in time through a seed-to-sale tracking system, similar to the metrc™ system in Colorado. However, since there is no such tracking system in Florida, at this point in time we have to use alternative ways that are not as precise to estimate how much product will be sold. One such alternative method is to assume a certain dosage per day per patient and then multiply the amount of product taken by an assumed average price and by the number of patients.

Separate weighted-average dosages are assumed under s. 381.986, F.S. 2016 and under Amendment 2 and such dosages were calculated based on published dosages by condition where available. The weighted-average dosage assumed under s. 381.986, F.S. 2016 is significantly higher than the dosage under Amendment 2 mainly because the dosage for epilepsy patients is significantly higher than published dosages for any other condition and it has a relatively high weight due to the larger assumed users with that

REVENUE ESTIMATING CONFERENCE

Tax: Use of marijuana for debilitating medical conditions

Issue: Sales tax

Baseline, absent law change(s): CS/CS/SB 1030, CS/CS/CS/HB 307, and Article X, Section 29 of the Florida Constitution (also known as Amendment 2)

condition³. Initial versus long-term dosages might differ as well since users might build up tolerance to the drug quickly and may have to keep increasing their dosage. If needed, an alternative method with separate dosages for each condition can be used in the future.

Table 5
Dosages by

Users by Scenario	mg per day	mg per month
I. DOH proposed rule adopted as is.		
<i>Users under s. 381.986, F.S. 2016</i>	73	2,234
<i>User under DOH rule as proposed</i>	20	608
II. DOH rule is challenged and courts allow use under Amendment 2 without any implementing rules.	20	608
III. DOH rule is challenged with a faster participation rate.	20	608

d. Prices

This analysis discusses and uses only price per mg of active ingredient, not prices of actual products or by weight of the product. For this analysis, the assumed price per mg of cannabinoids is **\$0.15 per mg of high-THC or low-THC (high-CBD)**. This is the price per mg of high-THC or low-THC active ingredient, not the price per mg of physical weight. The \$0.15/mg is the most frequently quoted current price for oil-based products, such as vaporizer cartridges, oil solutions, sprays, and tinctures. The price of a mg of low-THC (CBD) and the price of a mg of high-THC in the current Florida market appear to be similar and sometimes the same. There is some price variation depending most likely on the cost of production, processing, and packaging. In contrast, prices used in previous analyses assumed the low-THC product was half the price of the high-THC product. The current analysis assumes the same price of \$0.15/mg of active ingredient for both high-THC and low-THC.

Since the text of the Amendment itself appears not to limit marijuana products to highly processed ones, such as oils and tinctures, it is likely that a large share of the product sold under Scenarios I, II, and III will be probably less processed and thus less expensive to produce. However, to achieve the same psychoactive effect, more of the less processed product must be consumed. Based on EDR's interpretation of studies done in Colorado⁴, the market forces result in a price parity between the different formulations of marijuana (flower versus oils), which accounts for the different amounts of active ingredient in the respective products. Therefore, in this analysis we assume that all products in the market, as measured in mg of THC or CBD active ingredient, will be priced similarly. The difference in pricing due to reduced processing and packaging costs is not taken into consideration in this analysis.

Use, Sales, and Sales Tax Revenues Estimation

User estimates from Table 4 are used to create three proposed scenarios that develop the potential number of users. This analysis assumes that all scenarios allow marijuana use for Florida residents only and that Florida has no reciprocity of medical use with other states. This analysis also assumes that all parties generally act in accordance with the current law and that medical marijuana is subject to the sales tax. Further, the analysis assumes that there are no constraints introduced by the number of prescribing physicians or the availability of product from the facilities.

³ Sources: The Mayo Clinic, <http://www.mayoclinic.org/drugs-supplements/marijuana/dosing/hrb-20059701>, accessed 2/23/2017. Disclaimer from Mayo Clinic: The below doses are based on scientific research, publications, traditional use, or expert opinion. Many herbs and supplements have not been thoroughly tested, and safety and effectiveness may not be proven. Brands may be made differently, with variable ingredients, even within the same brand. The below doses may not apply to all products. You should read product labels, and discuss doses with a qualified healthcare provider before starting therapy. Minnesota Department of Health, A Review of Medical Cannabis Studies relating to Chemical Compositions and Dosages for Qualifying Medical Conditions, December 2014, <http://www.health.state.mn.us/topics/cannabis/practitioners/dosage.pdf>, accessed 2/24/2017.

⁴ Marijuana Equivalency in Portion and Dosage, Marijuana Policy Group, University of Colorado Boulder, August 10, 2015, https://www.colorado.gov/pacific/sites/default/files/MED%20Equivalency_Final%2008102015.pdf, accessed on 2/20/2017.

REVENUE ESTIMATING CONFERENCE

Tax: Use of marijuana for debilitating medical conditions

Issue: Sales tax

Baseline, absent law change(s): CS/CS/SB 1030, CS/CS/CS/HB 307, and Article X, Section 29 of the Florida Constitution (also known as Amendment 2)

Table 6
User Estimates

Scenarios	User Estimates
I. DOH proposed rule for Amendment 2 is adopted as is.	105,905
<i>Users under s. 381.986, F.S. 2016</i>	17,218
<i>Users under DOH rule as proposed</i>	88,687
II. DOH rule is modified or challenged (with the courts allowing use under Amendment 2).	349,503
<i>Users under s. 381.986, F.S. 2016</i>	17,218
<i>Additional users, reached by July 2021.</i>	332,285
III. DOH rule is modified or challenged, and participants enter market earlier.	349,503
<i>Users under s. 381.986, F.S. 2016</i>	17,218
<i>Additional users, reached by June 2021.</i>	332,285

Scenario I

In the first scenario, DOH successfully finalizes the proposed rule without any changes by July 3, 2017, and begins issuing identification cards by October 3, 2017. In this scenario, the 17,218 users allowed the current law (s. 381.986 (1)(f), F.S.) are assumed to enter the market by early FY 2017-2018. In addition to these users, another 88,687 users come on the market gradually through June 2020. These users include the newly allowed debilitating conditions, such as PTSD, HIV/AIDS, Crohn's disease, and glaucoma. This scenario also might be applicable if there are court challenges but the proposed DOH rule stays in place during the forecast horizon if the court challenges are assumed to take longer to resolve than the forecast horizon.

Scenario II

Scenario II assumes that DOH's proposed rule is finalized by July 3, 2017 but has either been modified by DOH on its own prior to adoption or challenged in court after adoption to allow a more expansive interpretation of the amendment. If challenged in court, this analysis implicitly assumes that either that: (1) DOH quickly responds by modifying the rule, or (2) the court grants an injunction sometime after October 3, 2017, which allows for medical use of marijuana as envisioned by the amendment without any implementing rule by DOH. In any of these events, the estimated users are 349,503, fully mirroring Colorado's experience without any restrictions based on qualifying conditions in Florida. In addition to the 17,218 users under current law, an additional 332,285 users register gradually with the total number reached by July 2021.

Scenario III

Scenario III is the same as Scenario II but it assumes a faster participation rate that results in 12% more users per month. The total patients are still capped at 349,503, but that level is reached in June 2021, one month earlier than Scenario II.

Using the assumed price and the two dosages from the above and assuming a daily usage, the three scenarios from above produce the following sales and sales tax collections estimates.

Table 7
Estimated Sales

Fiscal Year	Low (Scenario I)	Middle (Scenario II)	High (Scenario III)
2016-17	9,643,511	9,643,511	10,709,913
2017-18	44,068,238	44,773,327	50,147,051
2018-19	65,873,156	73,336,585	82,137,841
2019-20	106,247,083	135,478,382	151,736,680
2020-21	140,483,445	276,719,512	308,462,844
2021-22	140,483,445	407,223,255	410,166,170

REVENUE ESTIMATING CONFERENCE

Tax: Use of marijuana for debilitating medical conditions

Issue: Sales tax

Baseline, absent law change(s): CS/CS/SB 1030, CS/CS/CS/HB 307, and Article X, Section 29 of the Florida Constitution (also known as Amendment 2)

Table 8
Estimated Sales Tax Collections

Fiscal Year	Low (Scenario I)	Middle (Scenario II)	High (Scenario III)
2016-17	437,898	437,898	484,997
2017-18	2,521,956	2,552,342	2,858,672
2018-19	3,815,449	4,206,479	4,711,313
2019-20	6,104,212	7,688,420	8,611,084
2020-21	8,396,994	15,602,428	17,474,764
2021-22	8,429,007	24,306,791	24,609,970

Table 9
Medical Marijuana Users at the End of the Fiscal Year

Fiscal Year	Month	Users
2016-17	June 2017	7,000
2017-18	June 2018	27,796
2018-19	June 2019	63,178
2019-20	June 2020	143,595
2020-21	June 2021	326,379
2021-22	June 2022	349,503

Section 4: Proposed Fiscal Impact

Sales Tax: Use of marijuana for debilitating medical conditions

	High		Middle		Low	
	Cash	Recurring	Cash	Recurring	Cash	Recurring
2016-17	0.5	0.5	0.4	0.4	0.4	0.4
2017-18	2.9	2.9	2.6	2.6	2.5	2.5
2018-19	4.7	4.7	4.2	4.2	3.8	3.8
2019-20	8.6	8.6	7.7	7.7	6.1	6.1
2020-21	17.5	17.5	15.6	15.6	8.4	8.4
2021-22	24.6	24.6	24.3	24.3	8.4	8.4

Section 5: Consensus Estimate (Adopted: 03/02/2017)

The Conference adopted the middle cash estimate, with the recurring impact equal to the 2021-22 middle recurring impact. There is a current year (FY2016-17) cash impact of \$0.4m to GR, Insignificant to Trust, and \$0.1m to Local.

	GR		Trust		Revenue Sharing		Local Half Cent	
	Cash	Recurring	Cash	Recurring	Cash	Recurring	Cash	Recurring
2017-18	2.3	21.5	Insignificant	Insignificant	0.1	0.7	0.2	2.1
2018-19	3.7	21.5	Insignificant	Insignificant	0.1	0.7	0.4	2.1
2019-20	6.8	21.5	Insignificant	Insignificant	0.2	0.7	0.7	2.1
2020-21	13.8	21.5	Insignificant	Insignificant	0.5	0.7	1.3	2.1
2021-22	21.5	21.5	Insignificant	Insignificant	0.7	0.7	2.1	2.1

REVENUE ESTIMATING CONFERENCE

Tax: Use of marijuana for debilitating medical conditions

Issue: Sales tax

Baseline, absent law change(s): CS/CS/SB 1030, CS/CS/CS/HB 307, and Article X, Section 29 of the Florida Constitution (also known as Amendment 2)

	Local Option		Total Local		Total	
	Cash	Recurring	Cash	Recurring	Cash	Recurring
2017-18	0.3	2.7	0.6	5.5	2.9	27.0
2018-19	0.5	2.7	1.0	5.5	4.7	27.0
2019-20	0.9	2.7	1.8	5.5	8.6	27.0
2020-21	1.8	2.7	3.6	5.5	17.4	27.0
2021-22	2.7	2.7	5.5	5.5	27.0	27.0

Name	Phone	Email	Authorization Status	License Date
<u>3 Boys Farm</u>	813-635-1909	n/a	Dispensing Authorization (delivery only)	<u>7/31/2017</u>
Acreage Florida, Inc.	n/a	n/a	n/a	<u>7/13/2018</u>
<u>AltMed Florida (MüV)</u>	833-880-5420	<u>support@altmed.co</u>	Dispensing Authorization	<u>7/31/2017</u>
Bill's Nursery, Inc.	n/a	n/a	n/a	<u>4/19/2019</u>
<u>Columbia Care Florida</u>	800-714-9215	<u>info@col-carefl.com</u>	Dispensing Authorization	<u>8/9/2017</u>

<u>Curaleaf</u>	877-303-0741	info.fl@curaleaf.com	Dispensing Authorization	11/23/2015
Deleon's Bromeliads, Inc.	n/a	n/a	n/a	4/19/2019
Dewar Nurseries, Inc.	n/a	n/a	n/a	4/19/2019
<u>Fluent</u> (<i>formerly Knox Medical</i>)	833-735-8368	info@getfluent.com	Dispensing Authorization	11/23/2015
<u>GrowHealthy</u>	863-223-8882	info@GrowHealthy.com	Dispensing Authorization	12/21/2016
<u>GTI (Rise Dispensaries)</u>	305-306-8772	FLinfo@gtigrows.com	Dispensing Authorization	10/26/2017
Hart's Plant Nursery, Inc.	n/a	n/a	n/a	4/19/2019

<u>Harvest</u>	407-693-0490	<u>askme@harvestoffl.com</u>	Dispensing Authorization	<u>4/4/2016</u>
<u>Liberty Health Sciences</u>	833-254-4877	<u>Info@libertyhealthsciences.com</u>	Dispensing Authorization	<u>11/23/2015</u>
<u>MedMen</u>	786-288-3145	<u>info.fldelivery@medmen.com</u>	Dispensing Authorization	<u>8/9/2017</u>
Perkin's Nursery, Inc.	n/a	n/a	n/a	<u>4/19/2019</u>
Redland Nursery, Inc.	n/a	n/a	n/a	<u>4/19/2019</u>
Spring Oaks Greenhouses, Inc.	n/a	n/a	n/a	<u>4/19/2019</u>
<u>Surterra Wellness</u>	850-391-5455	<u>wellness@surterra.com</u>	Dispensing Authorization	<u>11/23/2015</u>

Tree King-Tree Farm, Inc.	n/a	n/a	n/a	<u>4/19/2019</u>
<u>Trulieve</u>	844-878-5438	<u>info@trulieve.com</u>	Dispensing Authorization	<u>11/23/2015</u>
<u>VidaCann</u>	800-977-1686	<u>info@vidacann.com</u>	Dispensing Authorization	<u>7/31/2017</u>

August 30, 2019

We are pleased to provide this weekly update on the Department of Health, Office of Medical Marijuana Use's (OMMU) diligent work implementing the many requirements in Amendment 2 and those set by the Florida Legislature in section 381.986, F.S. The Florida Department of Health (Department) continues to focus on the health and safety of Florida's families and is dedicated to ensuring patients have safe access to low-THC cannabis and medical marijuana.

Patients

Qualified Patients (Active ID Card): 260,725
Total Patients: 354,990

Processing Time for Complete Application*: 5 business days
Processing Time for ID Card Printing: 5 business days

**Applications are not deemed to be complete until all required information is received and payment has successfully cleared*

- Check your application status:
<https://mmuregistry.flhealth.gov>
- Questions about your application:
Phone: 1-800-808-9580
- Consumer comments, and concerns:
Email: MedicalMarijuanaUse@flhealth.gov

Physicians

Qualified Physicians: 2,466

A physician must have an active, unrestricted license as a physician under Chapter 458, F.S., or osteopathic physician under Chapter 459, F.S., and complete a 2-hour course and exam before being qualified to order medical marijuana and low-THC cannabis for qualified patients.

Learn more here: <https://knowthefactsmmj.com/physicians>

- Find a qualified physician:
<https://knowthefactsmmj.com/patients>
- Verify your qualified physician:
<http://www.flhealthsource.gov>
- Health care complaint portal:
<https://www.flhealthcomplaint.gov>

Weekly Highlights

- The following dispensing locations were approved by the Department for the week of August 23 - 29, 2019:
 - Curaleaf – Port Charlotte
 - Surterra – Gainesville

Medical Marijuana Treatment Centers

The department is charged with the licensing and regulation of medical marijuana treatment centers (MMTCs). MMTCs are vertically integrated businesses, and are the only businesses authorized to cultivate, process, and dispense low-THC cannabis and medical marijuana.

MMTC Authorization

After initial licensure, each MMTC must receive authorization at three stages prior to dispensing low-THC cannabis or medical marijuana: (1) cultivation authorization, (2) processing authorization, and (3) dispensing authorization.

Low-THC Cannabis & Medical Marijuana Dispensations

MMTCs dispense low-THC cannabis and medical marijuana to qualified patients and caregivers as recommended by their qualified ordering physician at approved dispensing locations, and via delivery. Medical marijuana is dispensed in milligrams of active ingredient tetrahydrocannabinol (THC), and low-THC cannabis is dispensed in milligrams of active ingredient cannabidiol (CBD).

For MMTC contact information and dispensing location addresses, visit <https://knowthefactsmmj.com/mmtc>.

MMTC Dispensations for August 23 – August 29, 2019:

MMTC Name	Dispensing Locations	Medical Marijuana (mgs THC)	Low-THC Cannabis (mgs CBD)	Marijuana in a Form for Smoking (oz)
Trulieve	31	44,985,419	744,689	6,008.369
Surterra Wellness	29	10,316,484	546,305	357.395
Curaleaf	26	10,909,736	468,039	2,279.104
Liberty Health Sciences	16	3,279,188	183,780	2,002.067
Fluent	14	3,822,196	290,580	214.999
VidaCann	12	2,712,223	104,042	0.250
GrowHealthy	8	2,524,865	20,325	396.251
AltMed Florida (MüV)	7	7,387,633	100,234	749.844
Harvest	6	162,550	600	308.997
GTI (Rise Dispensaries)	5	751,187	7,295	391.000
Columbia Care Florida	2	6,900	0	N/A
MedMen	1	276,733	3,981	110.476
3 Boys Farm	<i>Delivery only</i>	0	0	73.932
Acreage Florida, Inc.	N/A	N/A	N/A	N/A
Spring Oaks Greenhouses, Inc	N/A	N/A	N/A	N/A
Redland Nursery, Inc	N/A	N/A	N/A	N/A
Dewar Nurseries, Inc	N/A	N/A	N/A	N/A
Tree King-Tree Farm, Inc	N/A	N/A	N/A	N/A
Perkins Nursery, Inc	N/A	N/A	N/A	N/A
Bills Nursery, Inc	N/A	N/A	N/A	N/A
Deleon's Bromeliads, Inc	N/A	N/A	N/A	N/A
Hart's Plant Nursery, Inc	N/A	N/A	N/A	N/A
Total	157	87,135,114	2,469,870	12,892.684

General Background Information

Medical Marijuana ID Card Application Process: Once a patient has been diagnosed by a qualified physician and entered into the Medical Marijuana Use Registry, they can immediately begin the identification card application process. The department encourages applicants to complete the process online for fastest service. Patients receive an email from OMMU once their email address is added to the registry by their qualified physician, which directs them to the application. Once an application is approved, patients instantly receive an approval email which can be used to fill an order at an approved MMTC while the physical card is printed and mailed. Learn more here: <https://knowthefactsmmj.com/patients/cards>

Medical Marijuana Use Registry: All orders for medical marijuana are recorded and dispensed via the Medical Marijuana Use Registry. The Medical Marijuana Use Registry is accessible online, with real time information to ordering physicians, law enforcement and medical marijuana treatment center staff. Patients and caregivers may also access the Medical Marijuana Use Registry to submit a Medical Marijuana Use Registry Identification Card application, check the status of their application, and review orders and dispensations. Learn more here: <https://knowthefactsmmj.com/registry>

For more information visit www.KnowTheFactsMMJ.com



Office of Medical Marijuana Use

Florida's Official Source for Responsible Use

Know the Facts:
Smoking

Governor DeSantis signed Senate Bill 182 into law on March 18, 2019, and the law became effective upon signature. The law allows a qualified physician to determine that smoking is an appropriate route of administration for medical marijuana.

What Does This Mean For Me?

- Your qualified physician may now determine that smoking is an appropriate route of administration of medical marijuana.
- Delivery devices intended for the medical use of marijuana by smoking do not need to be dispensed from a Medical Marijuana Treatment Center and can be purchased anywhere.

What Are The Restrictions?

- Medical marijuana in a form for smoking must remain in its original plain, white packaging.
- Medical marijuana may not be smoked in public or an indoor workplace.
- A private party may restrict or limit smoking or vaping medical marijuana on his or her private property.
- Patients under the age of 18 may not obtain a certification for marijuana for medical use by smoking unless the patient is diagnosed with a terminal condition and a second physician, who is a board-certified pediatrician, agrees with the determination.

How Much Can I Have?

- Your qualified physician may order up to six 35-day supplies of medical marijuana in a form for smoking within each certification.
- A 35-day order may not exceed 2.5 ounces of smokable medical marijuana.
- Qualified patients may only possess up to 4 ounces of medical marijuana in a form for smoking at any given time.

How Can I Get An Order For Medical Marijuana In A Form For Smoking?

- Patients must first be treated by a qualified physician and be diagnosed with a qualifying medical condition.
- The qualified physician must determine that smoking is an appropriate route of administration for medical marijuana and have the patient sign an updated consent form before placing an order for medical marijuana in a form for smoking for the patient in the Medical Marijuana Use Registry.
- Once the qualified patient receives their certification for smoking, they may then purchase medical marijuana in a form for smoking from a licensed medical marijuana treatment center, using their valid Medical Marijuana Use Registry Identification Card.

For More Information On:

- Senate Bill 182 (2019)
- How to become a qualified patient in Florida
- Where to find a licensed MMTC that can dispense medical marijuana in a form for smoking

Go to **[KnowTheFactsMMJ.com/Smoking](https://www.flhealth.gov/ommj/Smoking)**

The Office of Medical Marijuana Use:

4052 Bald Cypress Way, Bin M-01
Tallahassee, FL 32399
MedicalMarijuanaUse@flhealth.gov

April 2019

TRULIEVE CANNABIS CORP.
MANAGEMENT DISCUSSION AND ANALYSIS
FOR THE QUARTER ENDED JUNE 30, 2019

This management discussion and analysis of the financial condition and results of operations (“MD&A”) of Trulieve Cannabis Corp. and its subsidiaries (“Trulieve” or, the “Corporation”) is for the three and six months ended June 30, 2019. It is supplemental to, and should be read in conjunction with, the Corporation’s unaudited condensed consolidated interim financial statements and the accompanying notes for the three and six months ended June 30, 2019. The Corporation’s unaudited condensed consolidated interim financial statements are prepared in accordance with International Financial Reporting Standards (“IFRS”). All dollar amounts presented in this MD&A are presented in United States dollars (“\$” or “US\$”), unless otherwise indicated.

This MD&A has been prepared by reference to the MD&A disclosure requirements established under National Instrument 51-102 – Continuous Disclosure Obligations of the Canadian Securities Administrators.

Further information about the Corporation, its operations and other continuous disclosure documents, including the Corporation’s Annual Information Form, is available through filings with the securities regulatory authorities in Canada under the Corporation’s profile at www.sedar.com.

This MD&A was prepared as of August 14, 2019.

CAUTIONARY NOTE REGARDING FORWARD-LOOKING STATEMENTS

This MD&A contains certain “forward-looking statements” and certain “forward-looking information” as defined under applicable United States securities laws and Canadian securities laws. All statements, other than statements of historical fact, made by the Corporation that address activities, events or developments that the Corporation expects or anticipates will or may occur in the future are forward-looking statements, including, but not limited to, statements preceded by, followed by or that include words such as “may”, “will”, “would”, “could”, “should”, “believes”, “estimates”, “projects”, “potential”, “expects”, “plans”, “intends”, “anticipates”, “targeted”, “continues”, “forecasts”, “designed”, “goal”, or the negative of those words or other similar or comparable words. Forward-looking statements may relate to future financial conditions, results of operations, plans, objectives, performance or business developments. These statements speak only as at the date they are made and are based on information currently available and on the then current expectations of the party making the statement and assumptions concerning future events, which are subject to a number of known and unknown risks, uncertainties and other factors that may cause actual results, performance or achievements to be materially different from that which was expressed or implied by such forward-looking statements, including, but not limited to, risks and uncertainties related to: the performance of the Corporation’s business and operations; the receipt and/or maintenance by the Corporation of required licenses and permits in a timely manner or at all; the intention to grow the business and operations of the Corporation; the expected growth in the number of the people using medical and/or adult use cannabis products; expectations of market size and growth in the United States; the competitive conditions and increasing competition of the cannabis industry; applicable laws, regulations and any amendments thereof; the competitive and business strategies of the Corporation; the Corporation’s operations in the United States, the characterization and consequences of those operations under federal United States law, and the framework for the enforcement of medical and adult use cannabis and cannabis-related offenses in the United States; the completion of additional cultivation and production facilities; the general economic, financial market, regulatory and political conditions in which the Corporation operates; the United States regulatory landscape and enforcement related to cannabis, including political risks; anti-money laundering laws and regulation; other governmental and environmental regulation; public opinion and perception of the cannabis industry; the enforceability of contracts; reliance on the expertise and judgment of senior management of the Corporation; proprietary intellectual property and potential infringement by third parties; the concentrated voting control of the Corporation by certain shareholders of the Corporation and the unpredictability caused by the capital structure; the management of growth; risks inherent in an agricultural business; risks relating to energy costs; risks associated to cannabis products

manufactured for human consumption including potential product recalls; reliance on key inputs, suppliers and skilled labor; cybersecurity risks; ability and constraints on marketing products; fraudulent activity by employees, contractors and consultants; tax and insurance related risks; risk of litigation; conflicts of interest; risks relating to certain remedies being limited and the difficulty of enforcement of judgments and effect service outside of Canada; risks related to future acquisitions or dispositions; sales by existing shareholders; limited research and data relating to cannabis; the medical benefits, viability, safety, efficacy and social acceptance of cannabis; the availability of financing opportunities, the ability to make payments on existing indebtedness; risks associated with economic conditions, dependence on management; and other risks described in this MD&A and described from time to time in documents filed by the Corporation with Canadian securities regulatory authorities.

The forward-looking statements contained herein are based on certain key expectations and assumptions, including, but not limited to, with respect to expectations and assumptions concerning: (i) receipt and/or maintenance of required licenses and third party consents; and (ii) the success of the operations of the Corporation, are based on estimates prepared by the Corporation using data from publicly available governmental sources, as well as from market research and industry analysis, and on assumptions based on data and knowledge of this industry which the Corporation believes to be reasonable. However, although generally indicative of relative market positions, market shares and performance characteristics, such data is inherently imprecise. While the Corporation is not aware of any misstatement regarding any industry or government data presented herein, the current marijuana industry involves risks and uncertainties and are subject to change based on various factors. Although the Corporation believes that the expectations and assumptions on which such forward-looking statements are based are reasonable, undue reliance should not be placed on the forward-looking statements, because no assurance can be given that they will prove to be correct. Since forward-looking statements address future events and conditions, by their very nature they involve inherent risks and uncertainties. Actual results could differ materially from those currently anticipated due to a number of factors and risks. These include, but are not limited to: the risks described above and other factors beyond the Corporation's control, as more particularly described under the heading "Risk Factors" in this MD&A. Consequently, all forward-looking statements made in this MD&A are qualified by such cautionary statements and there can be no assurance that the anticipated results or developments will actually be realized or, even if realized, that they will have the expected consequences to or effects on the Corporation. The cautionary statements contained or referred to in this MD&A should be considered in connection with any subsequent written or oral forward-looking statements that the Corporation and/or persons acting on its behalf may issue. The Corporation does not undertake any obligation to update or revise any forward-looking statements, whether as a result of new information, future events or otherwise, other than as required by law.

OVERVIEW OF THE CORPORATION

Business of Trulieve

Trulieve is a multi-state cannabis operator which currently operates under licenses in four states. Headquartered in Quincy, Florida, the Corporation is focused on being the brand leader for quality medical and recreational cannabis products and service in all markets it serves. As of July 31, 2019, Trulieve employs over 2,000 people and is committed to providing patients a consistent and welcoming retail experience across Trulieve branded stores.

Trulieve has five material subsidiaries, being Trulieve, Inc. (Trulieve US), Leef Industries, Inc. (Leaf Industries), Life Essence, Inc. (Life Essence), Trulieve Holdings, Inc. (Trulieve Holdings), and The Healing Corner, Inc. (Healing Corner). Trulieve US, Life Essence, Trulieve Holdings and Healing Corner are wholly-owned (directly or indirectly) by Trulieve. Trulieve currently holds 99% of the issued and outstanding membership interests in Leef Industries and is proposing to acquire the balance of the issued and outstanding membership interests upon receipt of final regulatory approval from the State of California.

Florida

Trulieve US is a vertically integrated “seed to sale” cannabis Corporation and is the first and largest fully licensed medical marijuana Corporation in the State of Florida. Trulieve US cultivates and produces all of its products in-house and distributes those products to Trulieve branded stores (dispensaries) throughout the State of Florida, as well as directly to patients via home delivery. Trulieve’s experience in the vertically integrated market of Florida has given the Corporation the ability to scale and penetrate in all necessary business segments (cultivation, production, sales and distribution) which has provided the Corporation with the unique ability to secure and maintain the position of market leader in Florida and to inject that expertise effectively into other regulated market opportunities.

As of July 31, 2019, the Trulieve US operated over 1,612,408 square feet of cultivation facilities across five sites with an estimated 72,000 square feet of indoor cultivation to be added in Q3 2019. In accordance with Florida law, Trulieve US grows in enclosed structures operating both indoor and greenhouse style grows. At July 31, 2019, Trulieve US had the ability to grow 54,609 kg of cannabis annually. Following the completion of the additional 72,000 square feet of indoor cultivation to be added in Q3 2019, Trulieve US will have the ability to grow an additional 8,580 kg of cannabis annually.

Trulieve US operates a Good Manufacturing Practices (“GMP”) certified processing facility, encompassing an estimated 55,000 square feet. Due to its patient-first mantra, Trulieve has developed a suite of Trulieve branded products with over 230 stock keeping units (“SKUs”) including smokable flower, flower pods for vaporizing, concentrates, topicals, capsules, tinctures, and vape cartridges. This wide variety of products gives patients the ability to select the product that provides them with the most desired effect and delivery mechanism.

As of July 31, 2019, Trulieve US has completed more than 1,300,000 unique orders both in-store and via home delivery. Trulieve distributes its products to these customers in Trulieve branded retail stores or home delivery. Trulieve US currently operates 30 stores, encompassing over 74,000 square feet of retail space, throughout the State of Florida and serves over 5,100 in-store patients daily. Trulieve US initiated Florida’s first next-day, state-wide delivery program and, as of July 31, 2019, operates a 74-vehicle delivery-service fleet. E-commerce is anticipated to contribute at least 20% of Trulieve US’s revenue in 2019. Patients are further served by a Clearwater-based call center, which receives an average of 2,700 calls per day. As of July 31, 2019, Trulieve US has a Florida consumer base of over 192,000, who average approximately two visits per month.

Massachusetts

Life Essence is currently in the permitting and development phase for multiple adult-use and medical cannabis retail locations, as well as a cultivation and product manufacturing facility in Massachusetts. Life Essence has been awarded Provisional Certificates of Registration from the Massachusetts Department of Health to operate medical marijuana dispensaries in the Cities of Cambridge, Holyoke, and Northampton, Massachusetts, as well as a 140,000 square-foot medical marijuana cultivation and processing facility. Life Essence has also been awarded letters of support from these cities. Subject to receipt of Final Certificates of Registration and local permitting, these initiatives will allow Life Essence to build out its infrastructure and engage in medical cannabis cultivation, processing and retailing in Massachusetts. Additionally, Life Essence has executed statutorily required Host Community Agreements with the City of Holyoke that, subject to receipt of other state and local approvals, authorizes Life Essence to cultivate and process adult use cannabis, and with the City of Northampton that, subject to receipt of other state and local approvals, authorizes Life Essence to operate a retail marijuana establishment.

California

Leef Industries operates a licensed medical and adult-use cannabis dispensary located in Palm Springs, California. Trulieve believes Leef Industries has demonstrated encouraging growth in the market, offering in-store and online shopping, along with product home delivery. Trulieve acquired an 80% interest in Leef Industries in Q4 2018. During Q2 2019, Trulieve acquired an additional 19% interest in Leef industries.

Trulieve anticipates acquiring the remaining 1% interest in Leef industries during Q3 2019, subject to regulatory approval from applicable state and local authorities in California.

Connecticut

Healing Corner is a licensed medical cannabis dispensary located in Bristol, Connecticut. Healing Corner was founded in 2014 and provides a range of medical marijuana products from its dispensary in Bristol, Connecticut. Patients may also reserve their medical marijuana order through Healing Corner's Canna-Fill online system. Healing Corner scored highest of all applicants on the first Request for Application for licensing and serves approximately 16% of Connecticut's medical marijuana patient population.

DESCRIPTION OF THE UNITED STATES LEGAL CANNABIS INDUSTRY

In accordance with the Canadian Securities Administrators Staff Notice 51-352 (Revised) dated February 8, 2018 – Issuers with U.S. Marijuana-Related Activities (“**Staff Notice 51-352**”), below is a discussion of the federal and state-level United States regulatory regimes in those jurisdictions where the Corporation is currently directly involved, through its subsidiaries, in the cannabis industry. In accordance with Staff Notice 51-352, the Corporation will evaluate, monitor and reassess this disclosure, and any related risks, on an ongoing basis and the same will be supplemented and amended to investors in public filings, including in the event of government policy changes or the introduction of new or amended guidance, laws or regulations regarding marijuana regulation.

Regulation of Cannabis in the United States Federally

The United States federal government regulates drugs through the Controlled Substances Act (the “**CSA**”), which places controlled substances, including cannabis, in one of five different schedules. Cannabis is classified as a Schedule I drug. As a Schedule I drug, the federal Drug Enforcement Agency (“**DEA**”) considers marijuana to have a high potential for abuse; no currently accepted medical use in treatment in the United States; and a lack of accepted safety for use of the drug under medical supervision.¹ The scheduling of marijuana as a Schedule I drug is inconsistent with what the Corporation believes to be many valuable medical uses for marijuana accepted by physicians, researchers, patients, and others. As evidence of this, the federal Food and Drug Administration (“**FDA**”) on June 25, 2018 approved Epidiolex (cannabidiol) (“**CBD**”) oral solution with an active ingredient derived from the cannabis plant for the treatment of seizures associated with two rare and severe forms of epilepsy, Lennox-Gastaut syndrome and Dravet syndrome, in patients two years of age and older. This is the first FDA-approved drug that contains a purified drug substance derived from the cannabis plant. In this case, the substance is CBD, a chemical component of marijuana that does not contain the intoxication properties of tetrahydrocannabinol (“**THC**”), the primary psychoactive component of marijuana. The Corporation believes the CSA categorization as a Schedule I drug is not reflective of the medicinal properties of marijuana or the public perception thereof, and numerous studies show cannabis is not able to be abused in the same way as other Schedule I drugs, has medicinal properties, and can be safely administered.²

¹ 21 U.S.C. 812(b)(1).

² See Lachenmeier, DW & Rehm, J. (2015). Comparative risk assessment of alcohol, tobacco, cannabis and other illicit drugs using the margin of exposure approach. *Scientific Reports*, 5, 8126. doi: 10.1038/srep08126; Thomas, G & Davis, C. (2009). Cannabis, Tobacco and Alcohol Use in Canada: Comparing risks of harm and costs to society. *Visions Journal*, 5. Retrieved from http://www.heretohelp.bc.ca/sites/default/files/visions_cannabis.pdf; Jacobus et al. (2009). White matter integrity in adolescents with histories of marijuana use and binge drinking. *Neurotoxicology and Teratology*, 31, 349-355. <https://doi.org/10.1016/j.ntt.2009.07.006>; Could smoking pot cut risk of head, neck cancer? (2009 August 25). Retrieved from <https://www.reuters.com/article/us-smoking-pot/could-smoking-pot-cut-risk-of-head-neck-cancer-idUSTRE57O5DC20090825>; Watson, SJ, Benson JA Jr. & Joy, JE. (2000). Marijuana and medicine: assessing the science base: a summary of the 1999 Institute of Medicine report. *Arch Gen Psychiatry Review*, 57, 547-552. Retrieved from <https://www.ncbi.nlm.nih.gov/pubmed/10839332>; Hoaken, Peter N.S. & Stewart, Sherry H. (2003). Drugs of abuse and the elicitation of human aggressive behavior. *Addictive Behaviours*, 28, 1533-1554. Retrieved from <http://www.ukcia.org/research/AggressiveBehavior.pdf>; and Fals-Steward, W. Golden, J. & Schumacher, JA. (2003). Intimate partner violence and substance use: a longitudinal day-to-day examination. *Addictive Behaviors*, 28, 1555-1574. Retrieved from <https://www.ncbi.nlm.nih.gov/pubmed/14656545>.

The federal position is also not necessarily consistent with democratic approval of marijuana at the state government level in the United States. Unlike in Canada, which has federal legislation uniformly governing the cultivation, distribution, sale and possession of marijuana under the *Cannabis Act* (Canada), marijuana is largely regulated at the state level in the United States. State laws regulating cannabis are in conflict with the CSA, which makes cannabis use and possession federally illegal. Although certain states and territories of the United States authorize medical or adult-use cannabis production and distribution by licensed or registered entities, under United States federal law, the possession, use, cultivation, and transfer of cannabis and any related drug paraphernalia is illegal, and any such acts are criminal acts. Although the Corporation's activities are compliant with applicable Florida, California and Connecticut state and local laws, strict compliance with state and local laws with respect to cannabis may neither absolve the Corporation of liability under United States federal law nor provide a defense to federal criminal charges that may be brought against the Corporation. The Supremacy Clause of the United States Constitution establishes that the United States Constitution and federal laws made pursuant to it are paramount and, in case of conflict between federal and State law, the federal law shall apply.

Nonetheless, more than 30 states and the District of Columbia in the United States have legalized some form cannabis for medical use, while 11 states and the District of Columbia have legalized the adult use of cannabis for recreational purposes. As more and more states legalized medical and/or adult-use marijuana, the federal government attempted to provide clarity on the incongruity between federal prohibition under the CSA and these state-legal regulatory frameworks. Until 2018, the federal government provided guidance to federal law enforcement agencies and banking institutions through a series of United States Department of Justice ("DOJ") memoranda. The most recent such memorandum was drafted by former Deputy Attorney General James Cole on August 29, 2013 (the "**Cole Memorandum**").³

The Cole Memorandum offered guidance to federal enforcement agencies as to how to prioritize civil enforcement, criminal investigations and prosecutions regarding marijuana in all states. The memo put forth eight prosecution priorities:

1. Preventing the distribution of marijuana to minors;
2. Preventing revenue from the sale of marijuana from going to criminal enterprises, gangs and cartels;
3. Preventing the diversion of marijuana from states where it is legal under state law in some form to other states;
4. Preventing the state-authorized marijuana activity from being used as a cover or pretext for the trafficking of other illegal drugs or other illegal activity;
5. Preventing the violence and the use of firearms in the cultivation and distribution of marijuana;
6. Preventing drugged driving and the exacerbation of other adverse public health consequences associated with marijuana use;
7. Preventing the growing of marijuana on public lands and the attendant public safety and environmental dangers posed by marijuana production on public lands; and
8. Preventing marijuana possession or use on federal property.

The Cole Memorandum was seen by many state-legal marijuana companies as a safe harbor – albeit an imperfect one – for their licensed operations that were conducted in full compliance with all applicable state and local regulations.

³ See James M. Cole, *Memorandum for All United States Attorneys* (Aug. 29, 2013), available at <https://www.justice.gov/iso/opa/resources/3052013829132756857467.pdf>.

On January 4, 2018, former United States Attorney General Sessions rescinded the Cole Memorandum by issuing a new memorandum to all United States Attorneys (the “**Sessions Memo**”). Rather than establish national enforcement priorities particular to marijuana-related crimes in jurisdictions where certain marijuana activity was legal under state law, the Sessions Memo instructs that “[i]n deciding which marijuana activities to prosecute... with the [DOJ’s] finite resources, prosecutors should follow the well-established principles that govern all federal prosecutions.” Namely, these include the seriousness of the offense, history of criminal activity, deterrent effect of prosecution, the interests of victims, and other principles.

In the absence of a uniform federal policy, as had been established by the Cole Memorandum, numerous United States Attorneys with state-legal marijuana programs within their jurisdictions have announced enforcement priorities for their respective offices. For instance, Andrew Lelling, United States Attorney for the District of Massachusetts, stated that while his office would not immunize any businesses from federal prosecution, he anticipated focusing the office’s marijuana enforcement efforts on: (1) overproduction; (2) targeted sales to minors; and (3) organized crime and interstate transportation of drug proceeds. Other United States attorneys provided less assurance, promising to enforce federal law, including the CSA in appropriate circumstances.

Former United States Attorney General Sessions resigned on November 7, 2018. He was replaced by William Barr on February 14, 2019. It is unclear what specific impact this development will have on U.S. federal government enforcement policy. However, in a written response to questions from U.S. Senator Cory Booker made as a nominee, Attorney General Barr stated “I do not intend to go after parties who have complied with state law in reliance on the Cole Memorandum.”⁴ Nonetheless, there is no guarantee that state laws legalizing and regulating the sale and use of cannabis will not be repealed or overturned, or that local governmental authorities will not limit the applicability of state laws within their respective jurisdictions. Unless and until the United States Congress amends the CSA with respect to cannabis (and as to the timing or scope of any such potential amendments there can be no assurance), there is a risk that federal authorities may enforce current U.S. federal law.

The Corporation believes it is too soon to determine if any prosecutorial effects will be undertaken by the rescission of the Cole Memorandum, or if Attorney General Barr will reinstitute the Cole Memorandum or a similar guidance document for United States attorneys. The sheer size of the cannabis industry, in addition to participation by State and local governments and investors, suggests that a large-scale enforcement operation would possibly create unwanted political backlash for the Department of Justice and the Trump administration.

As an industry best practice, despite the recent rescission of the Cole Memorandum, the Corporation abides by the following standard operating policies and procedures to ensure compliance with the guidance provided by the Cole Memorandum:

1. ensure that its operations are compliant with all licensing requirements as established by the applicable state, county, municipality, town, township, borough, and other political/administrative divisions;
2. ensure that its cannabis related activities adhere to the scope of the licensing obtained (for example: in the states where cannabis is permitted only for adult-use, the products are only sold to individuals who meet the requisite age requirements);
3. implement policies and procedures to ensure that cannabis products are not distributed to minors;
4. implement policies and procedures in place to ensure that funds are not distributed to criminal enterprises, gangs or cartels;

⁴ *Questions for the Record William P. Barr Nominee to be United States Attorney General*, available at <https://www.judiciary.senate.gov/imo/media/doc/Barr%20Responses%20to%20Booker%20QFRs1.pdf>.

5. implement an inventory tracking system and necessary procedures to ensure that such compliance system is effective in tracking inventory and preventing diversion of cannabis or cannabis products into those states where cannabis is not permitted by state law, or cross any state lines in general;
6. ensure that its state-authorized cannabis business activity is not used as a cover or pretense for trafficking of other illegal drugs, is engaged in any other illegal activity or any activities that are contrary to any applicable anti-money laundering statutes; and
7. ensure that its products comply with applicable regulations and contain necessary disclaimers about the contents of the products to prevent adverse public health consequences from cannabis use and prevent impaired driving.

In addition, the Corporation frequently conducts background checks to ensure that the principals and management of its operating subsidiaries are of good character, and have not been involved with other illegal drugs, engaged in illegal activity or activities involving violence, or use of firearms in cultivation, manufacturing or distribution of cannabis. The Corporation will also conduct ongoing reviews of the activities of its cannabis businesses, the premises on which they operate and the policies and procedures that are related to possession of cannabis or cannabis products outside of the licensed premises, including the cases where such possession is permitted by regulation. See “*Risk Factors*.”

Although the Cole Memorandum has been rescinded, one legislative safeguard for the medical marijuana industry remains in place: Congress has passed a so-called “rider” provision in the FY 2015, 2016, 2017 and 2018 Consolidated Appropriations Acts to prevent the federal government from using congressionally appropriated funds to enforce federal marijuana laws against regulated medical marijuana actors operating in compliance with state and local law. The rider is known as the “Rohrabacher-Farr” Amendment after its original lead sponsors (it is also sometimes referred to as the “Rohrabacher-Blumenauer” or “Joyce-Leahy” Amendment, but it is referred to in this MD&A as “**Rohrabacher-Farr**”). Most recently, the Rohrabacher-Farr Amendment (now known colloquially as the “Joyce-Leahy Amendment” after its most recent sponsors) was included in the Consolidated Appropriations Act of 2019, which was signed by President Trump on February 14, 2019 and funds the departments of the federal government through the fiscal year ending September 30, 2019. In signing the Act, President Trump issued a signing statement noting that the Act “provides that the Department of Justice may not use any funds to prevent implementation of medical marijuana laws by various States and territories,” and further stating “I will treat this provision consistent with the President’s constitutional responsibility to faithfully execute the laws of the United States.” While the signing statement can fairly be read to mean that the executive branch intends to enforce the CSA and other federal laws prohibiting the sale and possession of medical marijuana, the president did issue a similar signing statement in 2017 and no major federal enforcement actions followed.

There is a growing consensus among marijuana businesses and numerous congressmen and congresswomen that guidance is not law and temporary legislative riders, such as the Rohrabacher-Farr Amendment, are an inappropriate way to protect lawful medical marijuana businesses. Numerous bills have been introduced in Congress in recent years to decriminalize aspects of state-legal marijuana trades. For fiscal year 2019, the strategy amongst the bipartisan Congressional Marijuana Working Group in Congress, is to introduce numerous marijuana-related appropriations amendments in the Appropriations Committee in both the House and Senate, similar to the strategy employed in fiscal year 2018. The amendments will include protections for marijuana-related businesses in states with medical and adult-use marijuana laws, as well as protections for financial institutions that provide banking services to state-legal marijuana businesses. The Corporation also has observed that each year more congressmen and congresswomen sign on and co-sponsor marijuana legalization bills. These include the CARERS Act, REFER Act and others. While there are different perspectives on the most effective route to end federal marijuana prohibition, Congressman Blumenauer and Senator Wyden have introduced the three-bill package, Path to Marijuana Reform, which would amend Internal Revenue Code Section 280E that provides tax burdens for marijuana businesses, eliminate civil asset forfeiture and federal criminal penalties for marijuana businesses complying with state law, reduce barriers to banking, de-schedule marijuana from

the federal list of controlled substances, and tax and regulate marijuana.⁵ Senator Booker has also introduced the Marijuana Justice Act, which would de-schedule marijuana. Congressman Ed Perlmutter introduced the SAFE Banking Act of 2019, which has 206 cosponsors and would prevent federal banking regulators from taking adverse actions against financial institutions solely due to an institution's provision of financial services to state-legal marijuana businesses.⁶ Senators Jeff Merkley and Cory Gardner introduced the Senate companion to the Act in April 2019.⁷ Senators Elizabeth Warren and Cory Gardner reintroduced the STATES Act in April 2019.⁸ The bill, which was first introduced by Senators Warren and Gardner and Representatives Joyce and Blumenauer in 2018, would amend the Controlled Substances Act so that it no longer applies to persons acting in compliance with State or tribal laws relating to the manufacture, production, possession, distribution, dispensation, administration, or delivery of marijuana.⁹ In May 2019, Senator Chuck Schumer and Representative Hakeem Jeffries introduced the Marijuana Freedom and Opportunity Act, which would remove marijuana from the Controlled Substances Act.¹⁰ Finally, , and in 2018 Congresswoman Barbara Lee introduced the House companion. Colorado Republican Senator Cory Gardner has reportedly secured a probable assurance from President Trump that Trump would sign a bill to allow states to legalize and regulate marijuana without federal intervention.¹¹

In light of all of this, it was anticipated that the federal government will eventually repeal the federal prohibition on cannabis and thereby leave the states to decide for themselves whether to permit regulated cannabis cultivation, production and sale, just as states are free today to decide policies governing the distribution of alcohol or tobacco. Given current political trends, however, the Corporation considers these developments unlikely in the near-term. For the time being, marijuana remains a Schedule I controlled substance at the federal level, and neither the Cole Memorandum nor its rescission nor the continued passage of the Rohrabacher-Farr Amendment has altered that fact. The federal government of the United States has always reserved the right to enforce federal law in regard to the sale and disbursement of medical or adult-use marijuana, even if state law sanctions such sale and disbursement. If the United States federal government begins to enforce United States federal laws relating to cannabis in states where the sale and use of cannabis is currently legal, or if existing applicable state laws are repealed or curtailed, the Corporation's business, results of operations, financial condition and prospects would be materially adversely affected.

Additionally, under United States federal law, it may potentially be a violation of federal money laundering statutes for financial institutions to take any proceeds from the sale of any Schedule I controlled substance. Due to the CSA categorization of marijuana as a Schedule I drug, federal law makes it illegal for financial institutions that depend on the Federal Reserve's money transfer system to take any proceeds from marijuana sales as deposits. Banks and other financial institutions could be prosecuted and possibly convicted of money laundering for providing services to cannabis businesses under the United States

⁵ Wyden, Blumenauer. (2017 March 30). Wyden, Blumenauer announce bipartisan path to marijuana reform. Retrieved from <https://blumenauer.house.gov/media-center/press-releases/wyden-blumenauer-announce-bipartisan-path-marijuana-reform>.

⁶ H.R. 1595 – SAFE Banking Act of 2019, 116th Congress (2019-2020), <https://www.congress.gov/bills/116/congress/house-bill/1595/text?q=%7B%22search%22%3A%5B%22SAFE+Banking+Act%22%5D%7D>

⁷ Merkley, Jeff (2019 April 11). Merkley, Gardner Lead Senate Introduction of Bipartisan Legislation to Provide Access to Banking Services for Legal Cannabis Businesses. Retrieved from <https://www.merkley.senate.gov/news/press-releases/merkley-gardner-lead-senate-introduction-of-bipartisan-legislation-to-provide-access-to-banking-services-for-legal-cannabis-businesses-2019>.

⁸ Warren, Elizabeth (2019 April 4). Senators Warren and Gardner Reintroduce Bipartisan, Bicameral Legislation to Protect States' Marijuana Policies. Retrieved from <https://www.warren.senate.gov/newsroom/press-releases/senators-warren-and-gardner-reintroduce-bipartisan-bicameral-legislation-to-protect-states-marijuana-policies>.

⁹ *Id.*

¹⁰ S. 1552 – Marijuana Freedom and Opportunity Act, 116th Congress (2019-2020), <https://www.congress.gov/bills/116/congress/senate-bill/1552/text>; H.R. 2843 – Marijuana Freedom and Opportunity Act, 116th Congress (2019-2020), <https://www.congress.gov/bills/116/congress/house-bill/2843/text>.

¹¹ Mark. K. Matthews, *Donald Trump would "probably" support legalizing Colorado's marijuana industry – through bid by Cory Gardner and Elizabeth Warren*, THE DENVER POST (June 8, 2018), available at <https://www.denverpost.com/2018/06/08/colorado-marijuana-industry-sanctioning-donald-trump/>.

Currency and Foreign Transactions Reporting Act of 1970 (the “**Bank Secrecy Act**”). Therefore, under the Bank Secrecy Act, banks or other financial institutions that provide a cannabis business with a checking account, debit or credit card, small business loan, or any other service could be charged with money laundering or conspiracy.

While there has been no change in U.S. federal banking laws to accommodate businesses in the large and increasing number of U.S. states that have legalized medical and/or adult-use marijuana, the Department of the Treasury Financial Crimes Enforcement Network (“**FinCEN**”), in 2014, issued guidance to prosecutors of money laundering and other financial crimes (the “**FinCEN Guidance**”). The FinCEN Guidance advised prosecutors not to focus their enforcement efforts on banks and other financial institutions that serve marijuana-related businesses so long as that business is legal in their state and none of the federal enforcement priorities referenced in the Cole Memorandum are being violated (such as keeping marijuana away from children and out of the hands of organized crime). The FinCEN Guidance also clarifies how financial institutions can provide services to marijuana-related businesses consistent with their Bank Secrecy Act obligations, including thorough customer due diligence, but makes it clear that they are doing so at their own risk. The customer due diligence steps include:

1. Verifying with the appropriate state authorities whether the business is duly licensed and registered;
2. Reviewing the license application (and related documentation) submitted by the business for obtaining a state license to operate its marijuana-related business;
3. Requesting from state licensing and enforcement authorities available information about the business and related parties;
4. Developing an understanding of the normal and expected activity for the business, including the types of products to be sold and the type of customers to be served (e.g., medical versus adult-use customers);
5. Ongoing monitoring of publicly available sources for adverse information about the business and related parties;
6. Ongoing monitoring for suspicious activity, including for any of the red flags described in this guidance; and
7. Refreshing information obtained as part of customer due diligence on a periodic basis and commensurate with the risk.

With respect to information regarding state licensure obtained in connection with such customer due diligence, a financial institution may reasonably rely on the accuracy of information provided by state licensing authorities, where states make such information available.

Because most banks and other financial institutions are unwilling to provide any banking or financial services to marijuana businesses, these businesses can be forced into becoming “cash-only” businesses. While the FinCEN Guidance decreased some risk for banks and financial institutions considering serving the industry, in practice it has not increased banks’ willingness to provide services to marijuana businesses. This is because, as described above, the current law does not guarantee banks immunity from prosecution, and it also requires banks and other financial institutions to undertake time-consuming and costly due diligence on each marijuana business they accept as a customer.

The few state-chartered banks and/or credit unions that have agreed to work with marijuana businesses are limiting those accounts to small percentages of their total deposits to avoid creating a liquidity risk. Since, theoretically, the federal government could change the banking laws as it relates to marijuana businesses at any time and without notice, these credit unions must keep sufficient cash on hand to be able

to return the full value of all deposits from marijuana businesses in a single day, while also keeping sufficient liquid capital on hand to serve their other customers. Those state-chartered banks and credit unions that do have customers in the marijuana industry charge marijuana businesses high fees to pass on the added cost of ensuring compliance with the FinCEN Guidance.

Unlike the Cole Memorandum, however, the FinCEN Guidance from 2014 has not been rescinded. The Secretary of the U.S. Department of the Treasury, Stephen Mnuchin, has publicly stated that the Department was not informed of any plans to rescind the Cole Memorandum. Secretary Mnuchin stated that he does not have a desire to rescind the FinCEN Guidance.¹²

As an industry best practice and consistent with its standard operating procedures, the Corporation adheres to all customer due diligence steps in the FinCEN Guidance.

In the United States, a bill has been tabled in Congress to grant banks and other financial institutions immunity from federal criminal prosecution for servicing marijuana-related businesses if the underlying marijuana business follows state law. This bill has not been passed and there can be no assurance with that it will be passed in its current form or at all. In both Canada and the United States, transactions involving banks and other financial institutions are both difficult and unpredictable under the current legal and regulatory landscape. Legislative changes could help to reduce or eliminate these challenges for companies in the cannabis space and would improve the efficiency of both significant and minor financial transactions.

An additional challenge to marijuana-related businesses is that the provisions of the Internal Revenue Code Section 280E are being applied by the IRS to businesses operating in the medical and adult-use marijuana industry. Section 280E prohibits marijuana businesses from deducting their ordinary and necessary business expenses, forcing them to pay higher effective federal tax rates than similar companies in other industries. The effective tax rate on a marijuana business depends on how large its ratio of non-deductible expenses is to its total revenues. Therefore, businesses in the legal cannabis industry may be less profitable than they would otherwise be.

CBD is a product that often is derived from hemp, which contains only trace amounts of THC, the psychoactive substance found in marijuana. On December 20, 2018, President Trump signed the Agriculture Improvement Act of 2018 (popularly known as the “**2018 Farm Bill**”) into law.¹³ Until the 2018 Farm Bill became law hemp and products derived from it, such as CBD, fell within the definition of “marijuana” under the CSA and the DEA classified hemp as a Schedule I controlled substance because hemp is part of the cannabis plant.¹⁴

The 2018 Farm Bill defines hemp as the plant *Cannabis sativa* L. and any part of the plant with a delta-9 THC concentration of not more than 0.3 percent by dry weight and removes hemp from the CSA. The 2018 Farm Bill also allows states to create regulatory programs allowing for the licensed cultivation of hemp and production of hemp-derived products. Hemp and products derived from it, such as CBD, may then be sold into commerce and transported across state lines provided that the hemp from which any product is derived was cultivated under a license issued by an authorized state program approved by the U.S. Department of Agriculture and otherwise meets the definition of hemp removed from the CSA. The introduction of hemp and products derived from it, such as CBD, in foods, beverages, and dietary supplements has not – except in limited circumstances – been approved by the FDA. FDA expects to engage in rulemaking on this subject.

¹² Angell, Tom. (2018 February 6). Trump Treasury Secretary Wants Marijuana Money In Banks, *available at* <https://www.forbes.com/sites/tomangell/2018/02/06/trump-treasury-secretary-wants-marijuana-money-in-banks/#2848046a3a53>; see also Mnuchin: Treasury is reviewing cannabis policies. (2018 February 7), *available at* <http://www.scotsmanguide.com/News/2018/02/Mnuchin--Treasury-is-reviewing-cannabis-policies/>.

¹³ H.R.2 - 115th Congress (2017-2018): Agriculture Improvement Act of 2018, Congress.gov (2018), <https://www.congress.gov/bills/115th-congress/house-bill/2/text>.

¹⁴ See, e.g., 21 C.F.R. § 1308.35.

Regulation of the Medical Cannabis Market in Florida

In 2014, the Florida Legislature passed the Compassionate Use Act (the “**CUA**”) which was a low-THC (CBD) law, allowing cannabis containing less than 0.8%THC to be sold to patients diagnosed with severe seizures or muscle spasms and cancer. The CUA created a competitive licensing structure and originally allowed for one vertically integrated license to be awarded per five regions of the State. The CUA set forth the criteria for applicants as well as the minimum qualifying criteria which included the requirement to hold a nursery certificate evidencing the capacity to cultivate a minimum of 400,000 plants, to be operated by a nurseryman and to be a registered nursery for at least 30 continuous years. The CUA also created a state registry to track dispensations. In 2016, the Florida Legislature passed the Right to Try Act (the “**RTA**”), which expanded the State’s medical cannabis program to allow for full potency THC products to be sold as “medical cannabis” to patients with a terminal condition that had been diagnosed by two physicians.

In November of 2016, the Florida Medical Marijuana Legalization ballot initiative (the “**Initiative**”) to expand the medical cannabis program under the RTA was approved by 71.3% of voters, thereby amending the Florida constitution. The Initiative is now Article X, Section 29 of the Florida Constitution. The Initiative added 10 medical conditions to the list of conditions for which the use of medical cannabis is permitted in Florida. The Initiative also provided for the implementation of state-issued medical cannabis identification cards. In 2017, the Florida Legislature passed legislation implementing the constitutional amendment and codifying the changes set forth in the constitution. The 2017 law provides for the issuance of ten licenses to specific entities and another four licenses to be issued for every 100,000 active qualified patients added to the registry. The 2017 law also initially limited license holders to a maximum of 25 dispensary locations with the ability to purchase additional dispensary locations from one another and for an additional five locations to be allowed by the State for every 100,000 active qualified patients added to the registry. The 2017 legislation’s cap on dispensing facilities expires on April 1, 2020.

Trulieve License

Under Florida law, a licensee is required to cultivate, process and dispense medical cannabis. Licenses are issued by the Florida Department of Health, Office of Medical Marijuana Use (the “**Department**”) and may be renewed biennially. Trulieve, Inc. received its most recent license renewal on June 13, 2018 and is classified as a Medical Marijuana Treatment Center (“**MMTC**”) under Florida law.

In Florida, there is no state-imposed limitation on the permitted size of cultivation or processing facilities, nor is there a limit on the number of plants that may be grown.

Under its license, the Corporation is permitted to sell cannabis to those patients who are entered into the State’s electronic medical marijuana use registry by a qualified physician and possess a state-issued medical marijuana identification card and a valid certification from the qualified physician. The physician determines patient eligibility as well as the routes of administration (e.g. topical, oral, inhalation) and number of milligrams per day a patient is able to obtain under the program. The physician may order a certification for up to three 70-day supply limits of marijuana, following which the certification expires and a new certification must be issued by a physician. The number of milligrams dispensed, the category of cannabis (either low-THC or medical cannabis) and whether a delivery device such as a vaporizer has been authorized is all recorded in the registry for each patient transaction. In addition, smokable flower was approved by the legislature and signed into law in Florida in March 2019. Patients must obtain a specific recommendation from their physician to purchase smokable flower. The maximum amount a patient may obtain is 2.5 ounces (measured by weight) of smokable flower per 35-day supply.

The Corporation is authorized to sell a variety of products and currently offers over 230 SKUs in various product categories for sale. Edible products were authorized by the Florida Legislature in 2017 pending rulemaking by the Department. The Department has held workshops regarding edibles but has not yet drafted the contemplated regulations. Hydrocarbon extracted products are also contemplated in the 2017 law and are awaiting rulemaking by the Department.

Dispensaries may be located in any location zoned as appropriate for a pharmacy throughout the State of Florida as long as the local government has not issued a prohibition against MMTC dispensaries in their respective municipality. Provided there is not a local prohibition, the Corporation may locate a dispensary in a site zoned for a pharmacy so long as the location is greater than 500 feet from a public or private elementary, middle, or secondary school. Pursuant to section 381.986, Florida Statutes (2017), the State provides for a limitation of 25 dispensary locations per MMTC with an additional five locations per MMTC authorized once the registry reaches 100,000 active patients.¹⁵ Prior to the 2017 amendment of the law, the number of locations an MMTC could open was not limited. The Corporation filed a claim in the Court for the Second Judicial Circuit in Leon County (the “**Court**”) asking the Court to disregard the dispensary locations the Corporation had open and/or applied for prior to the limitation becoming effective. On February 4, 2019, Trulieve announced that it had won its lawsuit in the trial court. The Court ruled that Trulieve may open an additional 14 dispensary locations based on previous vesting and, in the alternative, the statutory caps placed on the number of dispensaries allowed across the state were not only unconstitutionally added after Amendment 2 had been approved by voters, but were adversely impacting patient access. The Corporation has settled its challenge with the Florida Department of Health. Trulieve’s 14 dispensaries that were established before the statewide cap was enacted are now excluded from the statutory cap. The Corporation currently has 31 approved dispensaries operating in the State of Florida. In addition, the Corporation’s license allows the Corporation to deliver products directly to patients.

Florida Reporting Requirements

The Department is to establish, maintain, and control a computer software tracking system that traces cannabis from seed to sale and allows real-time, 24-hour access by the Department to such data. The tracking system must allow for integration of other seed-to-sale systems and, at a minimum, include notification of certain events, including when marijuana seeds are planted, when marijuana plants are harvested and destroyed and when cannabis is transported, sold, stolen, diverted, or lost. Each medical marijuana treatment center shall use the seed-to-sale tracking system established by the department or integrate its own seed-to-sale tracking system with the seed-to-sale tracking system established by the department. Additionally, the Department also maintains a patient and physician registry and the licensee must comply with all requirements and regulations relative to the provision of required data or proof of key events to said system in order to retain its license. Florida requires all MMTCs to abide by representations made in their original application to the State of Florida. Any changes or expansions must be requested via an amendment or variance process.

Florida Licensing Requirements

Licenses issued by the Department may be renewed biennially so long as the licensee continues to meet the requirements of the Florida Statute 381.986 and pays a renewal fee. License holders can only own one license within the State of Florida. MMTC’s can operate up to a maximum of 25 dispensaries throughout the State with an additional five locations granted with every 100,000 additional patients added to the registry provided, however, as noted above, Trulieve’s 14 dispensaries that were established before the statewide cap was enacted are now excluded from the statutory cap. Applicants must demonstrate (and licensed MMTC’s must maintain) that: (i) they have been registered to do business in the State of Florida for the previous five years, (ii) they possess a valid certificate of registration issued by the Florida Department of Agriculture & Consumer Services, (iii) they have the technical and technological ability to cultivate and produce cannabis, including, but not limited to, low-THC cannabis, (iv) they have the ability to secure the premises, resources, and personnel necessary to operate as an MMTC, (v) they have the ability to maintain accountability of all raw materials, finished products, and any by-products to prevent diversion or unlawful access to or possession of these substances, (vi) they have an infrastructure reasonably located to dispense cannabis to registered qualified patients statewide or regionally as determined by the Department, (vii) they have the financial ability to maintain operations for the duration of the two-year approval cycle, including the provision of certified financial statements to the Department, (viii) all owners, officers, board members and managers have passed a Level II background screening, inclusive of fingerprinting, and ensure that a medical director is employed to supervise the activities of the MMTC, and

¹⁵ As of the date of this MD&A, MMTCs are permitted up to 35 dispensary locations.

(ix) they have a diversity plan and veterans plan accompanied by a contractual process for establishing business relationships with veterans and minority contractors and/or employees. Upon approval of the application by the Department, the applicant must post a performance bond of up to US \$5 million, which may be reduced to US \$2 million once the licensee has served 1,000 patients (which Trulieve has accomplished).

Regulation of the Medical Cannabis Market in Massachusetts

The Commonwealth of Massachusetts has authorized the cultivation, possession and distribution of marijuana for medical purposes by certain licensed Massachusetts marijuana businesses. The Medical Use of Marijuana Program (the “**MUMP**”) registers qualifying patients, personal caregivers, Registered Marijuana Dispensaries (“**RMDs**”), and RMD agents. The MUMP was established by Chapter 369 of the Acts of 2012, “An Act for the Humanitarian Medical Use of Marijuana”, following the passage of the Massachusetts Medical Marijuana Initiative, Ballot Question 3, in the 2012 general election. Additional statutory requirements governing the MUMP were enacted by the Legislature in 2017 and codified at G.L. c. 94I, et. seq. (the “**Massachusetts Medical Act**”). RMD Certificates of Registration are vertically integrated licenses in that each RMD Certificate of Registration entitles a license holder to one cultivation facility, one processing facility and one dispensary locations. There is a limit of three RMD licenses per person/entity.

The Commonwealth of Massachusetts Cannabis Control Commission (the “**CCC**”) regulations, 935 CMR 501.000 et seq. (the “**Massachusetts Medical Regulations**”), provide a regulatory framework that requires RMDs to cultivate, process, transport and dispense medical cannabis in a vertically integrated marketplace. Patients with debilitating medical conditions qualify to participate in the program, including conditions such as cancer, glaucoma, positive status for human immunodeficiency virus (HIV), acquired immune deficiency virus (AIDS), hepatitis C, amyotrophic lateral sclerosis (ALS), Crohn's disease, Parkinson's disease, and multiple sclerosis (MS) when such diseases are debilitating, and other debilitating conditions as determined in writing by a qualifying patient's healthcare provider. The CCC assumed control of the MUMP from the Department of Public Health on December 23, 2018.

Massachusetts Licensing Requirements (Medical)

The Massachusetts Medical Regulations delineate the licensing requirements for RMDs in Massachusetts. Licensed entities must demonstrate the following: (i) they are licensed and in good standing with the Secretary of the Commonwealth of Massachusetts; (ii) no executive, member or any entity owned or controlled by such executive or member directly or indirectly controls more than three RMD licenses; (iii) vaporizers must be made available for sale; (iv) an RMD may not cultivate and dispense medical cannabis from more than two locations statewide; (v) dispensary agents must be registered with the Massachusetts Cannabis Control Commission; (vi) an RMD must have a program to provide reduced cost or free marijuana to patients with documented verifiable financial hardships; (vii) one executive of an RMD must register with the Massachusetts Department of Criminal Justice Information Services on behalf of the entity as an organization user of the Criminal Offender Record Information (iCORI) system; (viii) the RMD applicant has at least \$500,000 in its control as evidenced by bank statements, lines of credit or equivalent; and (ix) payment of the required application fee.

In an RMD application, an applicant must also demonstrate or include: (i) the name, address date of birth and resumes of each executive of the applicant and of the members of the entity; (ii) proof of liability insurance coverage in compliance with statutes; (iii) detailed summary of the business plan for the RMD; (iv) an operational plan for the cultivation of marijuana including a detailed summary of policies and procedures; and (v) a detailed summary of the operating policies and procedures for the operations of the RMD including security, prevention of diversion, storage of marijuana, transportation of marijuana, inventory procedures, procedures for quality control and testing of product for potential contaminants, procedures for maintaining confidentiality as required by law, personnel policies, dispensing procedures, record keeping procedures, plans for patient education and any plans for patient or personal caregiver home delivery. An RMD applicant must also demonstrate that it has (i) a successful track record of running a business; (ii) a history of providing healthcare services or services providing marijuana for medical purposes in or outside

of Massachusetts; (iii) proof of compliance with the laws of the Commonwealth of Massachusetts; (iv) complied with the laws and orders of the Commonwealth of Massachusetts; and (v) a satisfactory criminal and civil background.

Upon the determination by the CCC that an RMD applicant has responded to the application requirements in a satisfactory fashion, the RMD applicant is required to pay the applicable registration fee and shall be issued a provisional certificate of registration ("PCR"). Trulieve's wholly owned subsidiary, Life Essence, Inc. ("**Life Essence**"), holds the following PCRs.

Massachusetts Licenses (Medical)

Holding Entity	Permit/License	City	Expiration/Renewal Date (if applicable) (MM/DD/YY)	Description
Life Essence	Provisional RMD Certificate of Registration	Holyoke, MA	12/6/19	Dispensary Cultivation/Product Manufacturing
Life Essence	RMD Provisional Certificate of Registration	Northampton, MA Holyoke, MA	12/6/19	Dispensary Cultivation/Product Manufacturing
Life Essence	RMD Provisional Certificate of Registration	Cambridge, MA Holyoke, MA	12/6/19	Dispensary Cultivation/Product Manufacturing

Thereafter, the CCC shall review architectural plans for the building of the RMD's cultivation facility and/or dispensing facilities, and shall either approve, modify or deny the same. Once approved, the RMD provisional license holder shall construct its facilities in conformance with the requirements of the Massachusetts Regulations. Once the CCC completes its inspections and issues approval for an RMD of its facilities, the CCC shall issue a final certificate of registration ("FCR") to the RMD applicant. FCRs are valid for one year, and shall be renewed by filing the required renewal application no later than sixty days prior to the expiration of the certificate of registration.

PCRs and FCRs in Massachusetts are renewed annually. Before expiry, licensees are required to submit a renewal application. While renewals are granted annually, there is no ultimate expiry after which no renewals are permitted. Additionally, in respect of the renewal process, provided that the requisite renewal fees are paid, the renewal application is submitted in a timely manner, and there are no material violations noted against the applicable license, Life Essence, Inc. would expect to receive the applicable renewed license in the ordinary course of business.

Massachusetts Dispensary Requirements (Medical)

A RMD shall follow its written and approved operation procedures in the operation of its dispensary locations. Operating procedures shall include (i) security measures in compliance with the Massachusetts Regulations; (ii) employee security policies including personal safety and crime prevention techniques; (iii) hours of operation and after-hours contact information; (iv) a price list for marijuana; (v) storage protocols in compliance with state law; (vi) a description of the various strains of marijuana that will be cultivated and dispensed, and the forms that will be dispensed; (vii) procedures to ensure accurate recordkeeping including inventory protocols; (viii) plans for quality control; (ix) a staffing plan and staffing records; (x) diversion identification and reporting protocols; and (xi) policies and procedures for the handling of cash on RMD premises including storage, collection frequency and transport to financial institutions. The siting of dispensary locations is expressly subject to local/municipal approvals pursuant to state law, and municipalities control the permitting application process that a RMD must comply with. More specifically, a RMD is to comply with all local requirements regarding siting, provided however that if no local requirements exist, a RMD shall not be sited within a radius of five hundred feet of a school, daycare center, or any facility in which children commonly congregate. The 500-foot distance under this section is measured in a straight line from the nearest point of the facility in question to the nearest point of the proposed RMD. The Massachusetts Regulations require that RMDs limit their inventory of seeds, plants, and useable marijuana

to reflect the projected needs of registered qualifying patients. A RMD may only dispense to a registered qualifying patient who has a current valid certification.

Massachusetts Security and Storage Requirements (Medical)

A RMD is to implement sufficient security measures to deter and prevent unauthorized entrance into areas containing marijuana and theft of marijuana at the RMD. These measures must include: (i) allowing only registered qualifying patients, caregivers, dispensary agents, authorized persons, or approved outside contractors access to the RMD facility; (ii) preventing individuals from remaining on the premises of a RMD if they are not engaging in activities that are permitted; (iii) disposing of marijuana or byproducts in compliance with law; (iv) establishing limited access areas accessible only to authorized personnel; (v) storing finished marijuana in a secure locked safe or vault; (vi) keeping equipment, safes, vaults or secured areas securely locked; (vii) ensuring that the outside perimeter of the RMD is sufficiently lit to facilitate surveillance; and (viii) ensuring that landscaping or foliage outside of the RMD does not allow a person to conceal themselves. A RMD shall also utilize a security/alarm system that: (i) monitors entry and exit points and windows and doors, (ii) includes a panic/duress alarm, (iii) includes system failure notifications, (iv) includes 24-hour video surveillance of safes, vaults, sales areas, areas where marijuana is cultivated, processed or dispensed, and (v) includes date and time stamping of all records and the ability to produce a clear, color still photo. The video surveillance system shall have the capacity to remain operational during a power outage. The RMD must also maintain a backup alarm system with the capabilities of the primary system, and both systems are to be maintained in good working order and are to be inspected and tested on regular intervals.

Massachusetts Transportation Requirements (Medical)

Marijuana or marijuana-infused products ("MIPs") may only be transported by dispensary agents on behalf of a RMD: (i) between separately-owned RMDs in compliance with 935 CMR 501.110(5); (ii) between RMD sites owned by the same non-profit entity; (iii) between a RMD and a testing laboratory; (iv) from the RMD to the destruction or disposal site; or (v) from a RMD to the primary residences of registered qualifying patients. A RMD shall staff transport vehicles with a minimum of two dispensary agents. At least one dispensary agent shall remain with the vehicle when the vehicle contains marijuana or MIPs. Prior to leaving the origination location, a RMD must weigh, inventory, and account for, on video, the marijuana to be transported.

Marijuana must be packaged in sealed, labeled, and tamper-proof packaging prior to and during transportation. In the case of an emergency stop, a log must be maintained describing the reason for the stop, the duration, the location, and any activities of personnel exiting the vehicle. A RMD shall ensure that delivery times and routes are randomized. Each dispensary agent shall carry his or her CCC-issued MUMP ID Card when transporting marijuana or MIPs and shall produce it to CCC representatives or law enforcement officials upon request. Where videotaping is required when weighing, inventorying, and accounting of marijuana before transportation or after receipt, the video must show each product being weighed, the weight, and the manifest. A RMD must document and report any unusual discrepancy in weight or inventory to the CCC and local law enforcement within 24 hours. A RMD shall report to the CCC and local law enforcement any vehicle accidents, diversions, losses, or other reportable incidents that occur during transport, within 24 hours. A RMD shall retain transportation manifests for no less than one year and make them available to the CCC upon request. Any cash received from a qualifying patient or personal caregiver must be transported to a RMD immediately upon completion of the scheduled deliveries. Vehicles used in transportation must be owned, leased or rented by the RMD, be properly registered, and contain a GPS system that is monitored by the RMD during transport of marijuana and said vehicle must be inspected and approved by the CCC prior to use.

During transit, a RMD is to ensure that: (i) marijuana or MIPs are transported in a secure, locked storage compartment that is part of the vehicle transporting the marijuana or MIPs; (ii) the storage compartment cannot be easily removed (for example, bolts, fittings, straps or other types of fasteners may not be easily accessible and not capable of being manipulated with commonly available tools); (iii) marijuana or MIPs are not visible from outside the vehicle; and (iv) product is transported in a vehicle that bears no markings

indicating that the vehicle is being used to transport marijuana or MIPs and does not indicate the name of the RMD. Each dispensary agent transporting marijuana or MIPs shall have access to a secure form of communication with personnel at the origination location when the vehicle contains marijuana or MIPs.

CCC Inspections (Medical)

The CCC or its agents may inspect a RMD and affiliated vehicles at any time without prior notice. A RMD shall immediately upon request make available to the CCC information that may be relevant to a CCC inspection, and the CCC may direct a RMD to test marijuana for contaminants. Any violations found will be noted in a deficiency statement that will be provided to the RMD, and the RMD shall thereafter submit a Plan of Correction to the CCC outlining with particularity each deficiency and the timetable and steps to remediate the same. The CCC shall have the authority to suspend or revoke a certificate of registration in accordance with 105 CMR 725.405 of the Regulation of adult-use cannabis in Massachusetts.

Regulation of the Adult Use Cannabis Market in Massachusetts

Adult-use (recreational) marijuana has been legal in Massachusetts since December 15, 2016, following a ballot initiative in November of that year. The CCC licenses adult use cultivation, processing and dispensary facilities (collectively, **"Marijuana Establishments"**) pursuant to 935 CMR 500.000 et seq. The first adult-use marijuana facilities in Massachusetts began operating in November 2018.

Massachusetts Licensing Requirements (Adult-Use)

Many of the same application requirements exist for a Marijuana Establishment license as a RMD application, and each owner, officer or member must undergo background checks and fingerprinting with the CCC. Applicants must submit the location and identification of each site, and must establish a property interest in the same, and the applicant and the local municipality must have entered into a host agreement authorizing the location of the adult-use Marijuana Establishment within the municipality, and said agreement must be included in the application. Applicants must include disclosure of any regulatory actions against it by the Commonwealth of Massachusetts, as well as the civil and criminal history of the applicant and its owners, officers, principals or members. The application must include the RMD applicant's plans for separating medical and adult-use operations, proposed timeline for achieving operations, liability insurance, business plan, and a detailed summary describing and/or updating or modifying the RMD's existing medical marijuana operating policies and procedures for adult-use including security, prevention of diversion, storage, transportation, inventory procedures, quality control, dispensing procedures, personnel policies, record keeping, maintenance of financial records and employee training protocols.

No person or entity may own more than 10% or "control" more than three licenses in each Marijuana Establishment class (i.e., marijuana retailer, marijuana cultivator, marijuana product manufacturer). Additionally, there is a 100,000 square foot cultivation canopy for adult-use licenses; however, there is no canopy restriction for RMD license holders relative to their cultivation facility.

Massachusetts Dispensary Requirements (Adult-Use)

Marijuana retailers are subject to certain operational requirements in addition to those imposed on marijuana establishments generally. Dispensaries must immediately inspect patrons' identification to ensure that everyone who enters is at least twenty-one years of age. Dispensaries may not dispense more than one ounce of marijuana or five grams of marijuana concentrate per transaction. Point-of-sale systems must be approved by the CCC, and retailers must record sales data. Records must be retained and available for auditing by the CCC and Department of Revenue.

Dispensaries must also make patient education materials available to patrons. Such materials must include:

- A warning that marijuana has not been analyzed or approved by the FDA, that there is limited information on side effects, that there may be health risks associated with using marijuana, and that it should be kept away from children;

- A warning that when under the influence of marijuana, driving is prohibited by M.G.L. c. 90, § 24, and machinery should not be operated;
- Information to assist in the selection of marijuana, describing the potential differing effects of various strains of marijuana, as well as various forms and routes of administration;
- Materials offered to consumers to enable them to track the strains used and their associated effects;
- Information describing proper dosage and titration for different routes of administration, with an emphasis on using the smallest amount possible to achieve the desired effect;
- A discussion of tolerance, dependence, and withdrawal;
- Facts regarding substance abuse signs and symptoms, as well as referral information for substance abuse treatment programs;
- A statement that consumers may not sell marijuana to any other individual;
- Information regarding penalties for possession or distribution of marijuana in violation of Massachusetts law; and
- Any other information required by the CCC.

Massachusetts Security and Storage Requirements (Adult-Use)

Each marijuana establishment must implement sufficient safety measures to deter and prevent unauthorized entrance into areas containing marijuana and theft of marijuana at the establishment. Security measures taken by the establishments to protect the premises, employees, consumers and general public shall include, but not be limited to, the following:

- Positively identifying individuals seeking access to the premises of the Marijuana Establishment or to whom or marijuana products are being transported pursuant to 935 CMR 500.105(14) to limit access solely to individuals 21 years of age or older;
- Adopting procedures to prevent loitering and ensure that only individuals engaging in activity expressly or by necessary implication permitted by these regulations and its enabling statute are allowed to remain on the premises;
- Disposing of marijuana in accordance with 935 CMR 500.105(12) in excess of the quantity required for normal, efficient operation as established within 935 CMR 500.105;
- Securing all entrances to the Marijuana Establishment to prevent unauthorized access;
- Establishing limited access areas pursuant to 935 CMR 500.110(4), which shall be accessible only to specifically authorized personnel limited to include only the minimum number of employees essential for efficient operation;
- Storing all finished marijuana products in a secure, locked safe or vault in such a manner as to prevent diversion, theft and loss;
- Keeping all safes, vaults, and any other equipment or areas used for the production, cultivation, harvesting, processing or storage of marijuana products securely locked and protected from entry, except for the actual time required to remove or replace marijuana;
- Keeping all locks and security equipment in good working order;
- Prohibiting keys, if any, from being left in the locks or stored or placed in a location accessible to persons other than specifically authorized personnel;
- Prohibiting accessibility of security measures, such as combination numbers, passwords or electronic or biometric security systems, to persons other than specifically authorized personnel;
- Ensuring that the outside perimeter of the marijuana establishment is sufficiently lit to facilitate surveillance, where applicable;
- Ensuring that all marijuana products are kept out of plain sight and are not visible from a public place without the use of binoculars, optical aids or aircraft;
- Developing emergency policies and procedures for securing all product following any instance of diversion, theft or loss of marijuana, and conduct an assessment to determine whether additional safeguards are necessary;
- Developing sufficient additional safeguards as required by the CCC for marijuana establishments that present special security concerns;

- Sharing the marijuana establishment's security plan and procedures with law enforcement authorities and fire services and periodically updating law enforcement authorities and fire services if the plans or procedures are modified in a material way; and
- Marijuana must be stored in special limited access areas, and alarm systems must meet certain technical requirements, including the ability to record footage to be retained for at least 90 days.

Massachusetts Transportation Requirements (Adult-Use)

Marijuana products may only be transported between licensed marijuana establishments by registered marijuana establishment agents. A licensed marijuana transporter may contract with a licensed marijuana establishment to transport that licensee's marijuana products to other licensed establishments. The originating and receiving licensed establishments shall ensure that all transported marijuana products are linked to the seed-to-sale tracking program. For the purposes of tracking, seeds and clones will be properly tracked and labeled in a form and manner determined by the CCC. Any marijuana product that is undeliverable or is refused by the destination marijuana establishment shall be transported back to the originating establishment. All vehicles transporting marijuana products shall be staffed with a minimum of two marijuana establishment agents. At least one agent shall remain with the vehicle at all times that the vehicle contains marijuana or marijuana products. Prior to the products leaving a marijuana establishment for the purpose of transporting marijuana products, the originating marijuana establishment must weigh, inventory, and account for, on video, all marijuana products to be transported. Within eight hours after arrival at the destination marijuana establishment, the destination establishment must re-weigh, re-inventory, and account for, on video, all marijuana products transported. When videotaping the weighing, inventorying, and accounting of marijuana products before transportation or after receipt, the video must show each product being weighed, the weight, and the manifest. Marijuana products must be packaged in sealed, labeled, and tamper or child-resistant packaging prior to and during transportation. In the case of an emergency stop during the transportation of marijuana products, a log must be maintained describing the reason for the stop, the duration, the location, and any activities of personnel exiting the vehicle. A marijuana establishment or a marijuana transporter transporting marijuana products is required to ensure that all transportation times and routes are randomized. An establishment or transporter transporting marijuana products shall ensure that all transport routes remain within Massachusetts. All vehicles and transportation equipment used in the transportation of cannabis products or edibles requiring temperature control for safety must be designed, maintained, and equipped as necessary to provide adequate temperature control to prevent the cannabis products or edibles from becoming unsafe during transportation, consistent with applicable requirements pursuant to 21 CFR 1.908(c).

Vehicles used for transport must be owned or leased by the marijuana establishment or transporter, and they must be properly registered, inspected, and insured in Massachusetts. Marijuana may not be visible from outside the vehicle, and it must be transported in a secure, locked storage compartment. Each vehicle must have a global positioning system, and any agent transporting marijuana must have access to a secure form of communication with the originating location.

CCC Inspections

The CCC or its agents may inspect a marijuana establishment and affiliated vehicles at any time without prior notice in order to determine compliance with all applicable laws and regulations. All areas of a marijuana establishment, all marijuana establishment agents and activities, and all records are subject to such inspection. Marijuana establishments must immediately upon request make available to the Commission all information that may be relevant to a CCC inspection, or an investigation of any incident or complaint. A marijuana establishment must make all reasonable efforts to facilitate the CCC's inspection, or investigation of any incident or complaint, including the taking of samples, photographs, video or other recordings by the CCC or its agents, and to facilitate the CCC's interviews of marijuana establishment agents. During an inspection, the CCC may direct a Marijuana Establishment to test marijuana for contaminants as specified by the CCC, including but not limited to mold, mildew, heavy metals, plant-growth regulators, and the presence of pesticides not approved for use on marijuana by the Massachusetts Department of Agricultural Resources.

Moreover, the CCC is authorized to conduct a secret shopper program to ensure compliance with all applicable laws and regulations.

Regulation of the Marijuana Market in California

In 1996, California was the first state to legalize medical marijuana through Proposition 215, the Compassionate Use Act of 1996 ("**CUA**"). This provided an affirmative defense for defendants charged with the use, possession and cultivation of medical marijuana by patients with a physician recommendation for treatment of cancer, anorexia, AIDS, chronic pain, spasticity, glaucoma, arthritis, migraine, or any other illness for which marijuana provides relief. In 2003, Senate Bill 420 was signed into law, decriminalizing the use, possession, and collective cultivation of medical marijuana, and establishing an optional identification card system for medical marijuana patients.

In September 2015, the California legislature passed three bills collectively known as the "Medical Marijuana Regulation and Safety Act" ("**MCRSA**"). The MCRSA established a licensing and regulatory framework for medical marijuana businesses in California. The system created testing laboratories, and distributors. Edible infused product manufacturers would require either volatile solvent or non-volatile solvent manufacturing licenses depending on their specific extraction methodology. Multiple agencies would oversee different aspects of the program and businesses would require a state license and local approval to operate. However, in November 2016, voters in California overwhelmingly passed Proposition 64, the "Adult Use of Marijuana Act" ("**AUMA**") creating an adult-use marijuana program for adult-use 21 years of age or older. In June 2017, the California State Legislature passed Senate Bill No. 94, known as Medicinal and Adult-Use Marijuana Regulation and Safety Act ("**MAUCRSA**"), which amalgamated MCRSA and AUMA to provide a set of regulations to govern the medical and adult-use licensing regime for marijuana businesses in the State of California. MAUCRSA went into effect on January 1, 2018. The three primary licensing agencies that regulate marijuana at the state level are the Bureau of Cannabis Control ("**BCC**"), California Department of Food and Agriculture ("**CDFA**"), and the California Department of Public Health ("**CDPH**")¹⁶.

One of the central features of MAUCRSA is known as "local control." In order to legally operate a medical or adult-use marijuana business in California, an operator must have both a local and state license. This requires license-holders to operate in cities or counties with marijuana licensing programs. Cities and counties in California are allowed to determine the number of licenses they will issue to marijuana operators, or, alternatively, can choose to ban marijuana licenses.

California License Categories/ Types

Once an operator obtains local approval, the operator must obtain state licenses before conducting any commercial marijuana activity. There are multiple license categories that cover all commercial activity. Categories include: (1) cultivation/nurseries, (2) testing laboratories, (3) distributors/transporters, (4) retailers, (5) microbusinesses, (6) event organizers, and (7) manufacturers. Categories of licenses are further broken down into subtypes. For example, there are multiple types of cultivation licenses available depending upon the size of the cultivation operation and whether the operation is indoors/outdoors, or uses mixed lighting. Different manufacturing licenses are available depending upon whether volatile or non-volatile solvents are used. Retail licenses are available depending upon whether the retailer operates from a store-front or a non-store front.

California Agencies Regulating the Commercial Cannabis Industry

The CDFA oversees nurseries and cultivators; the CDPH oversees manufacturers, and the BCC oversees distributors, retailers, delivery services, and testing laboratories. Operators must apply to one or more of these agencies for their licenses, and each agency has released regulations specific to the operation of the

¹⁶ Other state agencies regulate aspects of marijuana businesses in California, including the California Department of Tax and Fee Administration, California State Water Board, California Department of Fish and Wildlife, California Department of Pesticide Regulation.

types of businesses they oversee. The BCC has a number of regulations that apply to all licensees, but the CDFA and CDPH regulations only apply to the licensees in their charge.

The Marijuana Supply Chain in California

In California, depending on a local government's own marijuana ordinances, plants may be cultivated outdoors, using mixed-light methods, or fully indoors. Cultivators must initially acquire seeds, clones, teens, or other immature plants from nurseries.

The cultivation, processing, and movement of marijuana within the state is tracked by the METRC system, into which all licensees are required to input their track and trace data (either manually or using another software that automatically uploads to METRC). Immature plants are assigned a Unique Identifier number (UID), and this number follows the flowers and biomass resulting from that plant through the supply chain, all the way to the consumer. Each licensee in the supply chain is required to meticulously log any processing, packaging, and sales associated with that UID.

When marijuana plants mature and complete their life cycle, they are harvested cured, and trimmed, in preparation of being sold to distributors or manufacturers. Cultivators have two main products: flowers, or "buds," and the biomass, or "trim," which is typically removed from the mature flowers. Trim is commonly sold to Manufacturers for further processing into cannabis extracts. Buds may also be sold to Manufacturers, or to Distributors for sale to Retailers. The Cultivator may package and label its marijuana flowers, or may sell flower in bulk and the Distributor may package and label the flower.

Manufactured marijuana goods may be sold from a manufacturer to a Distributor, but have to be provided to Distributors in their final packaging. Distributors may not package manufactured marijuana goods. Certain tax rates apply to the marijuana flower and biomass, which are assessed per ounce of product sold. The tax is paid by the Cultivator to the Distributor, or alternatively the Manufacturer, who has the responsibility of tendering the fees to the State of California.

Marijuana in California may only be transported by licensed distributors. Some cultivators and manufacturers have their own distribution licenses, and others contract with third-party distributors. Distributors may or may not take possession of the marijuana and marijuana products. How this is evolving in California currently is that, similar to the alcohol distribution model, retailers are choosing from a portfolio of products carried by the Distributors they work with. Brands are doing some direct marketing to Retailers, but many Brands target their marketing to Distributors.

Distributors are the point in the supply chain where final quality assurance testing is performed on products before they go to a retailer. Retailers may not accept product without an accompanying certificate of analysis (COA). Distributors must hold product to be tested on their premises in "quarantine" and arrange for an employee of a licensed testing laboratory to come to their premises and obtain samples from any and all goods proposed to be shipped to a retailer. Marijuana and marijuana products are issued either a "pass" or "fail" by the testing laboratory. Under some circumstances, the BCC's regulations allow for failing product to be "remediated" or to be re-labeled to more accurately reflect the COA.

Retail Compliance in California

California requires that certain warnings, images, and content information be printed on all marijuana packaging. BCC regulations also include certain requirements about tamper-evident and child-resistant packaging. Distributors and retailers are responsible for confirming that products are properly labeled and packaged before they are sold to a customer.

Consumers aged 21 and up may purchase marijuana in California from a dispensary with an "adult-use" license. Some localities still only allow medicinal dispensaries. Consumers aged 18 and up with a valid physician's recommendation may purchase marijuana from a medicinal-only dispensary or an adult-use dispensary. Consumers without valid physician's recommendations may not purchase marijuana from a

medicinal-only dispensary. All marijuana businesses are prohibited from hiring employees under the age of 21.

Security Requirements

Each local government in California has its own security requirements for cannabis businesses, which usually include comprehensive video surveillance, intrusion detection and alarms, and limited access areas in the dispensary. The State also has similar security requirements, including that there be limited-access areas where only employees and other authorized individuals may enter. All Licensee employees must wear employee badges. The limited access areas must be locked with “commercial-grade, nonresidential door locks on all points of entry and exit to the licensed premises.”

Each licensed premises must have a digital video surveillance system that can “effectively and clearly” record images of the area under surveillance. Cameras must be in a location that allows the camera to clearly record activity occurring within 20 feet of all points of entry and exit on the licensed premises. The regulations list specific areas which must be under surveillance, including places where cannabis goods are weighed, packed, stored, loaded, and unloaded, security rooms, and entrances and exits to the premises. Retailers must record point of sale areas on the video surveillance system.

Licensed retailers must hire security personnel to provide on-site security services for the licensed retail premises during hours of operation. All security personnel must be licensed by the Bureau of Security and Investigative Services.

California also has extensive record-keeping and track and trace requirements for all licensees.

Inspections

All licensees are subject to annual and random inspections of their premises. Cultivators may be inspected by the California Department of Fish and Wildlife, the California Regional Water Quality Control Boards, and the California Department of Food and Agriculture. Manufacturers are subject to inspection by the California Department of Public Health, and Retailers, Distributors, Testing Laboratories, and Delivery services are subject to inspection by the Bureau of Cannabis Control. Inspections can result in notices to correct, or notices of violation, fines, or other disciplinary action by the inspecting agency.

Marijuana taxes in California

Several taxes are imposed at the point of sale and are required to be collected by the retailer. The State imposes an excise tax of 15%, and a sales and use tax is assessed on top of that. Cities and Counties apply their sales tax along with the State’s sales and use tax, and many cities and counties have also authorized the imposition of special cannabis business taxes which can range from 2% to 10% of gross receipts of the business.

In connection with the acquisition of all of the issued and outstanding membership interests of Leef Industries, a licensed dispensary in the City of Palm Springs, the Corporation has retained legal counsel and/or other advisors in connection with California’s marijuana regulatory program. The Corporation has currently owns 99% of Leef Industries. The remaining 1% is to be acquired upon receipt of final regulatory approval from the State of California. The Corporation has and will only engage in transactions with other licensed California marijuana businesses, and has a compliance officer to oversee dispensary operations in the State. The Corporation is developing standard operating procedures for this and future California holdings to ensure consistency and compliance across its California holdings. The Corporation and, to the best of the knowledge of the Corporation, Leef Industries, are in compliance with California’s marijuana regulatory program.

Regulation of the Medical Cannabis Market in Connecticut

The State of Connecticut has authorized cultivation, possession, and distribution of marijuana for medical purposes by certain licensed Connecticut marijuana businesses. The Medical Marijuana Program (the “**MMP**”) registers qualifying patients, primary caregivers, Dispensary Facilities (“**DFs**”), and Dispensary Facility Employees (“**DFEs**”). The MMP was established by Connecticut General Statutes §§ 21a-408–21a-429. DFs and production facilities are separately licensed.

The MMP is administered by the Department of Consumer Protection (the “**Department**”). The Department has issued regulations at RCSA 21a-408-1 et seq. regarding the program. Patients with debilitating medical conditions qualify to participate in the program, including patients with such conditions as cancer, glaucoma, positive status for human immunodeficiency virus (HIV) or acquired immune deficiency syndrome (AIDS), Parkinson’s disease, or multiple sclerosis (MS). A physician or advanced practice registered nurse must issue a written certification for an MMP patient, and the qualifying patient or caregiver must choose one designated DF where the patient’s marijuana will be obtained.

Connecticut Licensing Requirements

The Connecticut Regulations delineate the licensing requirements for DFs in Connecticut. Marijuana may not be produced or dispensed without the appropriate license. The Department determines how many facility licenses to issue based on based on the size and location of the dispensary facilities in operation, the number of qualifying patients registered with the department, and the convenience and economic benefits to qualifying patients.

When the Department determines that additional licenses for DFs should be granted, it publishes a notice of open applications for DF licenses. This notice must include the maximum number of licenses to be granted and the deadline for receipt of applications, as well as the criteria that will be considered when awarding the licenses. Such criteria must include character and fitness of any person who may have control or influence over the operation of the proposed DF; the location for the proposed DF; the applicant's ability to maintain adequate control against the diversion, theft, and loss of marijuana; the applicant's ability to maintain the knowledge, understanding, judgment, procedures, security controls and ethics to ensure optimal safety and accuracy in the dispensing and sale of marijuana; and the extent to which the applicant or any of the applicant's dispensary facility backers have a financial interest in another licensee, registrant, or applicant.

Applicants for DF license must submit the application and any additional documentation prescribed by the Commissioner. Among other things, the application must include the proposed DF location, financial statements, criminal background check applications for the applicant and applicant's backers, a plan to prevent theft and diversion, and a blueprint of the proposed DF. The Department may verify any information in the application by contacting the applicant, conducting on-site visits, contacting third parties, conducting background checks, or requiring meetings with the applicant or the submission of additional documents. An application for a dispensary facility license also requires the payment of a \$5,000 fee. If approved, the licensee must pay an additional \$5,000 before receiving its license. The decision of the Department’s Commissioner (the “**Commissioner**”) not to award a dispensary facility license to an applicant is final.

Connecticut Licenses

Holding Entity	Permit/License	City	Expiration/Renewal Date (if applicable) (MM/DD/YY)	Description
The Healing Corner, Inc.	Medical Marijuana Dispensary Facility License	Bristol	04/15/20	Dispensary

Connecticut Dispensary Facility Requirements

A DF may not dispense marijuana from, obtain marijuana from, or transfer marijuana to, a location outside of the state of Connecticut. DFs are limited to the following modes of obtaining, delivering, transferring, transporting, and selling marijuana:

- A DF may acquire marijuana from a producer;
- A DF may dispense and sell marijuana to a qualifying patient or primary caregiver registered to their facility and who is registered with the Department;
- A DF may dispense or sell to a research program subject pursuant to the protocols of a research program approved by the Commissioner;
- A DF may transfer, distribute, deliver, transport, or sell to a research program employee pursuant to the protocols of a research program approved by the Commissioner;
- A DF may transfer, distribute, deliver or transport to a hospice or other inpatient care facility licensed by the Department of Public Health that has a protocol for handling and distributing marijuana that has been approved by the Department; and
- A DF may transfer, distribute, deliver or transport marijuana to an approved laboratory.

Only a pharmacist licensed as a Dispensary may dispense marijuana, and only a Dispensary or dispensary technician may sell marijuana to qualifying patients, primary caregivers, or research program subjects who are registered with the Department. A dispensary technician may assist, under the direct supervision of a Dispensary, in the dispensing of marijuana. A DF may not engage in marijuana compounding, except that a Dispensary may dilute a medical marijuana product with a USP grade substance with no active ingredient for the purposes of dose titration, tapering, for the addition of a flavoring agent, or to create a maintenance dose that is not available from any producer at the time of purchase. No person associated with a DF may enter into any agreement with a certifying health care provider or health care facility concerning the provision of services or equipment that may adversely affect any person's freedom to choose the DF at which the qualifying patient or primary caregiver will purchase marijuana, except in the case of an approved research program.

All DFEs must, at all times while at the DF, have their current dispensary license, dispensary technician registration or DFE registration available for inspection by the Commissioner. The DF shall establish, implement and adhere to a written alcohol-free, drug-free and smoke-free work place policy, which must be available to the Department upon request. Marijuana may not be applied, ingested, or consumed inside a dispensary facility.

Each DF must make publicly available the price of all its marijuana products to prospective qualifying patients and primary caregivers. All marijuana must be sold in child-resistant, sealed containers except upon a written request from the qualifying patient or primary caregiver. No marijuana may be sold without the producer label. All products sold to the qualifying patient or primary caregiver must be placed in an opaque package that shall not indicate the contents of the package, the originating facility or in any other way cause another person to believe that the package may contain marijuana. Each DF must also provide information to qualifying patients and primary caregivers regarding the possession and use of marijuana. The DF manager must submit all informational material to the Commissioner for approval prior to such information being provided to qualifying patients and primary caregivers.

Connecticut Security and Storage Requirements

All facilities must have an adequate security system to prevent and detect loss of marijuana. These systems must use commercial grade equipment, including perimeter alarms, motion detectors, video cameras with 24-hour recordings (which must be retained for at least 30 days), silent alarms, panic alarms, a failure notification system, and the ability to remain operational during a power outage. Each facility must also have a back-up alarm system approved by the commissioner. The outside perimeter of every facility must be well-lit. All equipment must be kept in good working order and tested at least twice per year.

A DF must:

- Not maintain marijuana in excess of the quantity required for normal, efficient operation;
- Store all marijuana in an approved safe or approved vault and in such a manner as to prevent diversion, theft or loss;
- Maintain all marijuana in a secure area or location accessible only to specifically authorized employees, which shall include only the minimum number of employees essential for efficient operation;
- Keep all approved safes and approved vaults securely locked and protected from entry, except for the actual time required to remove or replace marijuana;
- Keep all locks and security equipment in good working order;
- Keep the dispensary department securely locked and protected from entry by unauthorized employees; and
- Post a sign at all entry ways into any area of the DF containing marijuana stating, "Do Not Enter - Limited Access Area - Access Limited to Authorized Employees Only." All deliveries must be carried out under the direct supervision of a pharmacist licensed as a dispensary, who must be present to accept the delivery. Upon delivery, the marijuana must immediately be placed in an approved safe or approved vault within the Dispensary Department (the "DD") (that is, the area within a DF where marijuana is stored, dispensed and sold).

No person may enter the area where marijuana is dispensed and sold unless such person is licensed or registered by the Department; such person's responsibilities necessitate access to the dispensary department and then for only as long as necessary to perform the person's job duties; or such person has a patient or caregiver registration certificate, in which case such person must not be permitted behind the service counter or in other areas where marijuana is stored.

During times when the pharmacist licensed as a Dispensary leaves the DD for a few moments, he or she must take measures to ensure that adequate security of the is provided and that entry by unauthorized persons is prevented or immediately detected. The presence of a dispensary technician in the DD during these times is considered adequate security. If no such dispensary technician is available for this purpose, the Dispensary must physically or electronically secure the DD through the use of mechanisms such as a locked barrier or an alarm system that will prevent or immediately detect access to such DD. During times when the DD is closed, it must be securely locked and equipped with an alarm system. Such alarm must be activated and operated separately from any other alarm system at the DF and must be able to immediately detect entrance to the DD at times when it is closed. Keys and access codes to the alarm system must be controlled in such a manner so as to prevent access to the dispensary department by anyone other than authorized DFEs. Only a Dispensary may have the authority to deactivate the alarm system. A DF must store marijuana in an approved safe or approved vault within the dispensary department and may not sell marijuana products when the DD is closed.

Connecticut Transportation Requirements

Prior to transporting any marijuana or marijuana product, a DF must complete a shipping manifest using a form prescribed by the Commissioner and securely transmit a copy of the manifest to the laboratory, research program location, hospice, or other inpatient care facility that will receive the products and to the Department at least twenty-four hours prior to transport. These manifests must be maintained and made available to the Department. Marijuana may only be transported in a locked, secure storage compartment that is part of the vehicle transporting the marijuana. This compartment may not be visible from outside the vehicle. Routes must be randomized.

All transport vehicles must be staffed with a minimum of two employees. At least one delivery team member is required remain with the vehicle at all times that the vehicle contains marijuana. A delivery team member must have access to a secure form of communication with employees at the originating facility at all times that the vehicle contains marijuana. A delivery team member must physically possess a department-issued identification card at all times when transporting or delivering marijuana and must produce it to the Commissioner or law enforcement official upon request.

No marijuana may be sold, dispensed or distributed via a delivery service or any other manner outside of a DF, except that a primary caregiver may deliver marijuana to the caregiver's qualified patient and a DFE may deliver to a hospice or other inpatient care facility licensed by the Department of Public Health that has a protocol for handling and distributing marijuana that has been approved by the Department.

Inspections by the Commissioner

All documents required to be kept by a facility must be maintained in an auditable format for no less than three years. These records must be provided to the Commissioner or an authorized delegate immediately upon request. Additionally, the Commissioner and authorized delegates may enter any place, including a vehicle, where marijuana is held, produced, or otherwise handled, and inspect in a reasonable manner such place and all pertinent items and documents within it.

Compliance with Applicable State Law in the United States

The Corporation is classified as having a “direct” involvement in the United States cannabis industry and is in compliance with applicable United States state law and related licensing requirements and the regulatory framework enacted by the State of Florida, the Commonwealth of Massachusetts, the State of California and the State of Connecticut. The Corporation is not subject to any citations or notices of violation with applicable licensing requirements and the regulatory frameworks which may have an impact on its licenses, business activities or operations. The Corporation uses reasonable commercial efforts to ensure that its business is in compliance with applicable licensing requirements and the regulatory frameworks enacted by Florida, Massachusetts, California and Connecticut, through the advice of its Director of Compliance, who monitors and reviews its business practices and changes to United States Federal enforcement priorities. The Corporation’s General Counsel works with external legal advisors in Florida, Massachusetts, California and Connecticut to ensure that the Corporation is in on-going compliance with applicable state laws.

In the United States, cannabis is largely regulated at the State level. As of November 7, 2018, More than 30 states and the District of Columbia have passed laws broadly legalizing marijuana for medicinal use by eligible patients.¹⁷ In the District of Columbia and 11 of these states – Alaska, California, Colorado, Illinois, Maine, Massachusetts, Michigan, Nevada, Oregon, Vermont and Washington – marijuana is legal for adult-use regardless of medical condition. Additional States have pending legislation regarding the same. The large increase in recent statewide referenda and legislation that liberalizes marijuana laws is consistent with public opinion. Public polling routinely shows large majorities of Americans in favor of the legalization of marijuana. For instance, a Gallup Organization survey in October of 2018 found that 66% of respondents in the United States support the legalization of marijuana compared to the 32% who do not.¹⁸

Although each State in which Trulieve operates (and anticipates operating) authorizes, as applicable, medical and/or adult-use cannabis production and distribution by licensed or registered entities, and numerous other States have legalized cannabis in some form, under U.S. federal law, the possession, use, cultivation, and transfer of cannabis and any related drug paraphernalia is illegal, and any such acts are criminal acts under federal law under any and all circumstances under the CSA. The concepts of “medical cannabis”, “retail cannabis” and “adult-use cannabis” do not exist under U.S. federal law. Marijuana is a Schedule I drug under the CSA. Under U.S. federal law, a Schedule I drug or substance has a high potential for abuse, no accepted medical use in the United States, and a lack of safety for the use of the drug under medical supervision. Although Trulieve believes that its business activities are compliant with applicable state and local laws of the United States, strict compliance with state and local laws with respect to cannabis may neither absolve the Corporation of liability under United States federal law nor provide a defense to any federal proceeding which may be brought against the Corporation. Any such proceedings brought against the Corporation may result in a material adverse effect on the Corporation. Trulieve derives 100%

¹⁷ *Governing Magazine*, State Marijuana Laws in 2018 Map, available at <http://www.governing.com/gov-data/safety-justice/state-marijuana-laws-map-medical-recreational.html> (visited Nov. 7, 2018).

¹⁸ Justin McCarthy, *Two in Three Americans Now Support Legalizing Marijuana*, GALLUP (Oct. 22, 2018), available at <https://news.gallup.com/poll/243908/two-three-americans-support-legalizing-marijuana.aspx>.

of its revenues from the cannabis industry in certain States, which industry is illegal under United States federal law. Even where the Corporation's cannabis-related activities are compliant with applicable State and local law, such activities remain illegal under United States federal law. The enforcement of relevant federal laws is a significant risk.

United States Customs and Border Protection ("**CBP**") enforces the laws of the United States. Crossing the border while in violation of the CSA and other related United States federal laws may result in denied admission, seizures, fines, and apprehension. CBP officers administer the United States Immigration and Nationality Act to determine the admissibility of travelers who are non-U.S. citizens into the United States. An investment in the Corporation, if it became known to CBP, could have an impact on a non-U.S. citizen's admissibility into the United States and could lead to a lifetime ban on admission. See "*Risk Factors - U.S. border officials could deny entry of non-US citizens into the U.S. to employees of or investors in companies with cannabis operations in the United States and Canada.*"

Medical cannabis has been protected against enforcement by enacted legislation from the United States Congress in the form of the Rohrabacher-Farr Amendment, which prevents federal prosecutors from using federal funds to impede the implementation of medical cannabis laws enacted at the state level, subject to the United States Congress restoring such funding. This amendment has historically been passed as an amendment to omnibus appropriations bills, which by their nature expire at the end of a fiscal year or other defined term. Subsequent to the issuance of Sessions Memo, the United States Congress passed its omnibus appropriations bill, SJ 1662, which for the fourth consecutive year contained the Rohrabacher-Farr Amendment language (referred to in 2018 as the Leahy Amendment) and continued the protections for the medical cannabis marketplace and its lawful participants from interference by the Department of Justice. The Rohrabacher-Farr Amendment again was included in the Consolidated Appropriations Act of 2019, which was signed by President Trump on February 14, 2019 and funds the departments of the federal government through the fiscal year ending September 30, 2019.¹⁹ Notably, such Amendments have always applied only to medical cannabis programs, and have no effect on pursuit of recreational cannabis activities.

Regulatory Risks

The activities of the Corporation are subject to regulation by governmental authorities. The Corporation's business objectives are contingent upon, in part, compliance with regulatory requirements enacted by these governmental authorities and obtaining all regulatory approvals, where necessary, for the sale of its products in each jurisdiction in which it operates. Any delays in obtaining, or failure to obtain regulatory approvals would significantly delay the development of markets and products and could have a material adverse effect on the business, results of operations and financial condition of the Corporation. Furthermore, although the operations of the Corporation are currently carried out in accordance with all applicable rules and regulations, no assurance can be given that new rules and regulations will not be enacted or that existing rules and regulations will not be applied in a manner which could limit or curtail the Corporation's ability to import, distribute or, in the future, produce marijuana. Amendments to current laws and regulations governing the importation, distribution, transportation and/or production of marijuana, or more stringent implementation thereof could have a substantial adverse impact on the Corporation.

As a result of the conflicting views between State legislatures and the federal government regarding cannabis, investments in cannabis businesses in the United States are subject to inconsistent legislation and regulation. The response to this inconsistency was addressed in the Cole Memorandum addressed to all United States district attorneys acknowledging that notwithstanding the designation of cannabis as a controlled substance at the federal level in the United States, several states have enacted laws relating to cannabis for medical purposes. The Cole Memorandum outlined certain priorities for the United States Department of Justice relating to the prosecution of cannabis offenses. In particular, the Cole Memorandum noted that in jurisdictions that have enacted laws legalizing cannabis in some form and that have also implemented strong and effective regulatory and enforcement systems to control the cultivation, distribution, sale and possession of cannabis, conduct in compliance with those laws and regulations is

¹⁹ 2019 Appropriations Act, Public Law No. 116-6, Div. C § 537.

less likely to be a priority at the federal level. Notably, however, the United States Department of Justice has never provided specific guidelines for what regulatory and enforcement systems it deems sufficient under the Cole Memorandum standard. In light of limited investigative and prosecutorial resources, the Cole Memorandum concluded that the United States Department of Justice should be focused on addressing only the most significant threats related to cannabis. States where medical cannabis had been legalized were not characterized as a high priority.

In March 2017, then Attorney General Sessions again noted limited federal resources and acknowledged that much of the Cole Memorandum had merit; however, he had previously stated that he did not believe it had been implemented effectively and, on January 4, 2018, former Attorney General Sessions issued the Sessions Memo, which rescinded the Cole Memorandum. The Sessions Memo rescinded previous nationwide guidance specific to the prosecutorial authority of United States Attorneys relative to cannabis enforcement on the basis that they are unnecessary, given the well-established principles governing federal prosecution that are already in place. Those principles are included in chapter 9.27.000 of the United States Attorneys Manual and require federal prosecutors deciding which cases to prosecute to weigh all relevant considerations, including federal law enforcement priorities set by the Attorney General, the seriousness of the crime, the deterrent effect of criminal prosecution, and the cumulative impact of particular crimes on the community. As a result of the Sessions Memo, federal prosecutors are now free to utilize their prosecutorial discretion to decide whether to prosecute cannabis activities despite the existence of State-level laws that may be inconsistent with federal prohibitions. No direction was given to federal prosecutors in the Sessions Memo as to the priority they should ascribe to such cannabis activities, and it is uncertain how active U.S. federal prosecutors will be in relation to such activities, particularly under Attorney General Barr.

Attorney General Sessions was replaced by William Barr on February 14, 2019. In a written response to questions from U.S. Senator Cory Booker made as a nominee, Attorney General Barr stated “I do not intend to go after parties who have complied with state law in reliance on the Cole Memorandum.”²⁰ Attorney General Barr served in the same position under former President George H.W. Bush and promoted an anti-drug stance during his tenure. However, during his Senate confirmation hearing, Mr. Barr testified (similar to his written responses) that although he disagrees with efforts by states to legalize marijuana, he “won’t go after” marijuana companies in states that have authorized regulated adult use. He stated further that he would not upset settled expectations that have arisen as a result of the Cole Memorandum, notwithstanding his predecessor’s rescission of the Cole Memorandum.

Notwithstanding this testimony, there is no guarantee that Attorney General Barr plans to or will forbid federal prosecution of state-licensed marijuana companies. It is important to note that in the United States, individual United States attorneys operate within state- or district-level jurisdictions and enjoy a substantial degree of autonomy in determining which criminal actions to pursue. While dozens of United States attorneys from across the country have affirmed that their view of federal enforcement priorities has not changed, there can be no assurances that such views are universally held or will continue in the near future. In California, at least one United States Attorney has made comments indicating a desire to enforce the CSA, stating that the Sessions Memorandum and the rescission of the Cole Memorandum “returns trust and local control to federal prosecutors” to enforce the CSA. These and other so called “enforcement hawks” in California or elsewhere may choose to enforce the CSA in accordance with federal policies prior to the issuance of the Cole Memorandum. As such, there can be no assurance that the United States federal government will not seek to prosecute cases involving cannabis businesses that are otherwise compliant with State law. Contrastingly, Andrew Lelling, the United States Attorney for the District of Massachusetts, issued a statement explaining that while marijuana is illegal under federal law, his “office’s resources [...] are primarily focused on the opioid epidemic.” In this statement, United States Attorney Lelling also clarified that his marijuana enforcement efforts will be focused on overproduction, targeted sales to minors, and organized crime and interstate transportation of drug proceeds. In sum, there is no certainty as to how the Department of Justice, Federal Bureau of Investigation and other government agencies will handle cannabis matters in the future. There can be no assurances that the Trump

²⁰ *Questions for the Record William P. Barr Nominee to be United States Attorney General*, available at <https://www.judiciary.senate.gov/imo/media/doc/Barr%20Responses%20to%20Booker%20QFRs1.pdf>.

administration would not change the current enforcement policy and decide to strongly enforce the federal laws. The Corporation regularly monitors the activities of the current administration in this regard.

Money Laundering Laws and Access to Banking

The Corporation is subject to a variety of laws and regulations in the United States that involve money laundering, financial recordkeeping and proceeds of crime, including the Currency and Foreign Transactions Reporting Act of 1970 (commonly known as the Bank Secrecy Act), as amended by Title III of the Uniting and Strengthening America by Providing Appropriate Tools Required to Intercept and Obstruct Terrorism Act of 2001 (USA PATRIOT Act), and any related or similar rules, regulations or guidelines, issued, administered or enforced by governmental authorities in the United States.

In February 2014, FinCen issued the FinCen Memo providing instructions to banks seeking to provide services to cannabis-related businesses. The FinCEN Memo states that in some circumstances, it is permissible for banks to provide services to cannabis-related businesses without risking prosecution for violation of federal money laundering laws. It refers to supplementary guidance that Deputy Attorney General Cole issued to federal prosecutors relating to the prosecution of money laundering offenses predicated on cannabis-related violations of the CSA. It is unclear at this time whether the current administration will follow the guidelines of the FinCEN Memo.

In the event that any of the Corporation's operations, or any proceeds thereof, any dividends or distributions therefrom, or any profits or revenues accruing from such operations in the United States were found to be in violation of money laundering legislation or otherwise, such transactions could be viewed as proceeds of crime under one or more of the statutes noted above or any other applicable legislation. This could restrict or otherwise jeopardize the ability of the Corporation to declare or pay dividends or effect other distributions.

United States Border Entry

Because cannabis remains illegal under United States federal law, those investing in Canadian companies with operations in the United States cannabis industry could face detention, denial of entry, or lifetime bans from the United States for their business associations with United States cannabis businesses. Entry happens at the sole discretion of CBP officers on duty, and these officers have wide latitude to ask questions to determine the admissibility of a non-US citizen or foreign national. The government of Canada has started warning travelers on its website that previous use of cannabis, or any substance prohibited by United States federal laws, could mean denial of entry to the United States. Business or financial involvement in the cannabis industry in the United States could also be reason enough for United States border guards to deny entry. On September 21, 2018, CBP released a statement outlining its current position with respect to enforcement of the laws of the United States. It stated that Canada's legalization of cannabis will not change CBP enforcement of United States laws regarding controlled substances and because cannabis continues to be a controlled substance under United States law, working in or facilitating the proliferation of the legal marijuana industry in U.S. states where it is deemed legal may affect admissibility to the United States. As a result, CBP has affirmed that, employees, directors, officers, managers and investors of companies involved in business activities related to cannabis in the United States (such as Trulieve), who are not United States citizens face the risk of being barred from entry into the United States for life.

Ability to Access Public and Private Capital

Given the current laws regarding cannabis at the federal level in the United States, traditional bank financing is typically not available to United States cannabis companies. Specifically, the federal illegality of marijuana in the United States means that financial transactions involving proceeds generated by cannabis-related conduct can form the basis for prosecution under money laundering statutes, the unlicensed money transmitter statute and the Bank Secrecy Act (the "BSA"). As a result, businesses involved in the cannabis industry often have difficulty finding a bank willing to accept their business. Banks who do accept deposits from cannabis-related businesses in the United States must do so in compliance with the Cole Financial Crime Memo and the FinCEN Memo, each dated February 14th, 2014. The Cole Financial Crime Memo states that prosecutors should apply the enforcement priorities of the Cole Memorandum in determining

whether to charge individuals or institutions with crimes related to financial transactions involving the proceeds of marijuana-related conduct. The FinCen Memo provides guidelines to banks on how to accept deposits from cannabis-related businesses while remaining compliant with the BSA. The Financial Crime Enforcement Network has not rescinded the FinCEN Memo following the United States Department of Justice's January 4, 2018 announcement rescinding the Cole Memorandum.

Trulieve has banking relationships with Florida and Connecticut state-chartered banks for deposits and payroll, however Trulieve does not have access to traditional bank financing. Trulieve has been successful at raising capital privately. The Corporation expects to generate adequate cash to fund its continuing operations. The Corporation's business plan includes aggressive growth, both in the form of additional acquisitions and through facility expansion and improvements. Accordingly, the Corporation expects to raise additional capital. There can be no assurance that additional financing will be available to the Corporation when needed or on terms which are acceptable.

SUMMARY OF OPERATING BUSINESS

Trulieve is a successful cannabis company working in highly-regulated markets requiring expertise in cultivation, processing, retail, and distribution activities. Trulieve has developed proficiencies in each of these functions and is committed to utilizing predictive analytics which inform Trulieve of sales trends, patient demographics, new product launch criteria and capacity requirements. This is the foundation upon which Trulieve has built sustainable, profitable growth.

In states that require cannabis companies to be vertically integrated, ownership of the entire supply chain mitigates potential third-party risks and allows Trulieve to completely control the quality of the product and the brand experience. This results in high patient retention and repeat customers. Trulieve successfully operates at scale the core business functions of cultivation, production and distribution. The Trulieve brand philosophy of "Patients First" permeates the Trulieve culture beginning with cultivation to production, distribution to Trulieve stores and continued customer services through the Corporation's in-house call center.

Data Utilization to create Predictive Analytics

Trulieve collects and analyzes data throughout the entire seed to sale process of the enterprise. All strategic and tactical business decisions are driven by historical data coupled with predictive analytics to ensure the best possible solution is formulated and executed. Data collection systems are based on a state-of-the art SAP platform, which is cloud based and backed up to ensure the utmost security and integrity of data repositories.

In the Corporation's cultivation activities, Trulieve uses data analytics to predict future yields and planning of future crop rotations to meet patient demands. The predictive analysis ensures Trulieve operates in an efficient manner to maximize the harvest output to cost ratio.

Trulieve also uses data analytics throughout the entire manufacturing process to monitor progress real-time, ensure quality is maintained at the highest level and analyzed to maximize lean flow efficiency. Consistency is paramount to Trulieve and tracking of the recorded data guarantees uniformity for all products shipped.

Once the Corporation's products are in Trulieve stores, each sales transaction is recorded. The reports derived from the recorded information allows Trulieve to track and analyze, by retail location, sales trends, grams dispensed, and products sold by subcategory. Trulieve uses this data for regression and predictive analysis, for cultivation crop planning, final derivative product production planning and patient marketing. The data is also key in planning future cultivation, processing and retail expansion.

High-Yield Cultivation Facilities and Techniques

Trulieve transforms raw cannabis flower into the Trulieve portfolio of products sold in Trulieve stores. With a focus on scalable operations, Trulieve has detailed Standard Operating Procedures as well as robust training protocols across its cultivation facilities to grow a consistent, quality product.

The Corporation currently operates over 1,612,408 square feet of cultivation facilities across five sites in Florida. In accordance with Florida law, Trulieve grows in enclosed structures operating both indoor and greenhouse style grows. Trulieve currently has the ability to grow 54,609 kg of cannabis annually. Trulieve is working to rapidly and substantially increase its greenhouse capacity. In Florida, Trulieve anticipates adding an estimated 72,000 square feet of indoor cultivation in Q3 2019. The Corporation recently announced the acquisition of property in Florida whereupon it plans to develop 750,000 square feet of indoor cultivation. In Massachusetts, Trulieve anticipates completion of a 140,000 square-foot medical marijuana cultivation and processing in Q1 2020.

The ability to quickly execute and operate high-yield, scaled cultivation operations is critical in Florida as well as other vertical markets. Trulieve grows a variety of 56 cannabis flower strains and is poised for expansion to meet demand for smokable cannabis flower in Florida.

Scaled, Quality Production

As a vertically-integrated company in Florida, Trulieve US produces 100% of all products sold in Florida stores. As of July 2019, Trulieve extracts an average of 70,000 grams of active THC or CBD per week (depending on the product requirements) and manufactures on average 150,000 products for sale each week. Trulieve has successfully obtained Good Manufacturing Practices (“**GMP**”) certification for its Florida production facilities and has detailed Standard Operating Procedures and Quality Control measures in place to ensure quality products are delivered to Trulieve’s patients.

Trulieve primarily utilizes super critical ethanol extraction systems and techniques for the majority of its products in Florida. Trulieve also utilizes carbon dioxide extraction for both terpene extraction as well as a line of CO2 vaporizer products. The Corporation has a 55,000 square foot building that houses the Corporation’s production and shipping activities, which also has a state-of-the-art kitchen for edible cannabis products and a hydrocarbon extraction facility in anticipation of the legal sale of edible and hydrocarbon cannabis products under Florida law.

As of July 2019, Trulieve manufactures, assembles, packages and ships products in a variety of market segments with over 230 SKUs.

Marketing and Community Outreach

Trulieve’s marketing strategies center around education and outreach to three main customer categories: physicians, patients and potential patients.

Trulieve provides industry leading education, outreach and support to all registered Florida medical cannabis Physicians. The Corporation’s educational materials are designed to help physicians understand the science behind cannabis, the high standards to which Trulieve plants are cultivated and that the Corporation’s products are created to provide relief to their patients. Trulieve’s dedicated physician education team delivers in-person outreach as well as immediate phone support through a dedicated physician education team member within the Trulieve call center.

Patients learn about Trulieve through the success of the Corporation’s physician education program as well as many patient-centric community activities. Trulieve participates in dozens of patient outreach and community events on a monthly basis. An engaged patient audience is captured through the Corporation’s digital content marketing. Trulieve engages with its consumer base via multiple social media platforms. As of July 31, 2019, Trulieve had 74,538 followers on Facebook, 23,200 followers on Instagram, and 6,931

followers on Twitter. 75% of Trulieve's customers had opted-in to receive emails from the Corporation, and 20% of Trulieve's customers had opted-in to receive texts from the Corporation.

Trulieve also attends many events focused on educating non-patients who may benefit such as veterans, seniors, condition specific organizations and general health and wellness events. Search engine optimization of the Corporation's website also captures potential patients researching the benefits of medical marijuana.

Patient Focused Experiences

It is Trulieve's goal to create raving fans who are loyal to the Trulieve brand and in return to provide these patients a superior level of customer service and product selection. Trulieve accomplishes this goal through several key strategies:

Training

Patient experience is an area of high-focus for the Corporation. Trulieve employs a number of training protocols and systems in an effort to ensure the patient experience is a positive one across all Trulieve branded locations and with each interaction with a Trulieve employee.

Branded Store Experiences

The patient experience continues through Trulieve dispensaries with a consistent atmosphere in every store. Brand and development guidelines have been implemented in an effort to ensure each store utilizes the same design, color scheme and layout to provide a comfortable, welcoming environment across each location. On the highest single sales day in 2018 approximately 4,425 patients were served in 22 open locations. On July 10, 2019 Trulieve set a new record in serving approximately 7,000 patients across 29 open locations. As of July 31, 2019, Trulieve has completed more than 1,300,000 unique orders both in-store and via home delivery.

Brand Strategy

The foundational tier of the Trulieve brand strategy is continuing to make top quality Trulieve branded products. The Trulieve house brand is already established in Florida as synonymous with quality and consistency. In addition, the Corporation is partnering with strategic brands that will be featured in Trulieve locations. To date, Trulieve has announced partnerships with Bhang, Binske, Loves Oven, SLANG and Blue River. Each of these companies are customer-favorites with a unique value proposition and market penetration strategy.

The third tier of the Trulieve brand strategy consists of local partnerships. Trulieve's first local partnership was Sunshine Cannabis, a Florida based company whose focus has been on bringing back unique Florida-based cannabis strains such as "Sunshine Kush" and "Gainesville Green". As a testament to their grass roots marketing efforts, each of the two vape pen SKUs featuring these cannabis strains sold out within 48 hours of launch.

Multiple Channels of Distribution

To meet patient needs, Trulieve provides patients with several different purchase options. Patients can order products for delivery on-line or by calling the Trulieve call-center. The Corporation's fully-staffed call center fields on average 2,760 calls per day answering patient questions and facilitating patient orders. Trulieve offers next day delivery service in most areas of Florida. Patients can also place orders for in-store pick-up either online or via the call center. Finally, patients are able to walk-in to any Trulieve dispensary location and place an order in person.

Loyalty Program and Communication Platforms

The Truliever program was created as a patient-based loyalty program whereby patients can earn points for dollars spent with a discount at pre-determined point values. Trulievers also are notified first with special discounts or limited release product offerings and also have access to Truliever-only promotions and events. Trulieve communicates with patients and physicians through a variety of methods including email, text, social media and online chat.

Research and Development

Trulieve has a dedicated research and development team focused on technology innovations and product development. The R&D team evaluates new technologies and performs rigorous testing prior to recommending introduction into production.

ACQUISITIONS

On December 13, 2018, the Corporation acquired all of the issued and outstanding shares of Life Essence. Life Essence is a seed-to-sale cannabis company with multiple locations under development in the Commonwealth of Massachusetts. Life Essence was recently awarded letters of support from the cities of Northampton, Cambridge and Holyoke, Massachusetts, and is applying for licenses to build and operate three medical Registered Marijuana Dispensaries, three recreational marijuana licenses, and a 140,000 square foot cultivation and processing facility.

Life Essence has held pre-application permitting meetings and submitted all required municipal permit applications in Q2 2019 for the 140,000 square foot cultivation and processing facility. Life Essence has not yet begun permitting or construction of its three medical registered marijuana dispensaries in Massachusetts. The Corporation cannot predict the timing or grant of regulatory approvals.

On November 30, 2018, the Corporation acquired 80% of the issued and outstanding membership interests of Leef Industries. The Corporation acquired an additional 19% of the membership interests of Leef Industries on June 27, 2019. The remaining 1% is to be acquired upon receipt of final regulatory approval from the State of California, which is expected to occur in the third quarter of 2019. Leef Industries is a licensed medical and adult-use cannabis dispensary located in Palm Springs, California.

On May 21, 2019, the Corporation acquired 100% of the equity of Healing Corner, a medical marijuana dispensary licensed in the State of Connecticut. Healing Corner is a licensed medical cannabis dispensary located in Bristol, Connecticut.

NON-IFRS FINANCIAL AND PERFORMANCE MEASURES

In addition to providing financial measurements based on IFRS, the Corporation provides additional financial metrics that are not prepared in accordance with IFRS. Management uses non-IFRS financial measures, in addition to IFRS financial measures, to understand and compare operating results across accounting periods, for financial and operational decision making, for planning and forecasting purposes and to evaluate the Corporation's financial performance. These non-IFRS financial measures are adjusted EBITDA and working capital.

Management believes that these non-IFRS financial measures reflect the Corporation's ongoing business in a manner that allows for meaningful comparisons and analysis of trends in the business, as they facilitate comparing financial results across accounting periods and to those of peer companies.

As there are no standardized methods of calculating these non-IFRS measures, the Corporation's methods may differ from those used by others, and accordingly, the use of these measures may not be directly comparable to similarly titled measures used by others. Accordingly, these non-IFRS measures are

intended to provide additional information and should not be considered in isolation or as a substitute for measures of performance prepared in accordance with IFRS.

ADJUSTED EBITDA

Adjusted EBITDA is a financial measure that is not defined under IFRS. Trulieve uses this non-IFRS financial measure, and believe it enhances an investor's understanding of the Corporation's financial and operating performance from period to period, because it excludes certain material non-cash items and certain other adjustments management believes are not reflective of the Corporation's ongoing operations and performance. The adjusted EBITDA excludes from net income as reported interest, tax, depreciation, non-cash expenses, RTO expense, other income, grow cost expensed for biological assets and unsold inventory, and the non-cash fair value effects of accounting for biological assets and inventories. Trulieve reports adjusted EBITDA to help the investors assess the operating performance of the Corporation's business.

Other companies in the Corporation's industry may calculate these measures differently than Trulieve does, limiting their usefulness as comparative measures.

WORKING CAPITAL

The calculation of working capital provides additional information and is not defined under IFRS. The Corporation defines working capital as current assets less current liabilities. This measure should not be considered in isolation or as a substitute for any standardized measure under IFRS. This information is intended to provide investors with information about the Corporation's liquidity.

Other companies in the Corporation's industry may calculate this measure differently than the Corporation does, limiting its usefulness as a comparative measure.

RECONCILIATIONS OF NON-IFRS FINANCIAL AND PERFORMANCE MEASURES

The table below reconciles net income to adjusted EBITDA for the periods indicated.

	Three Months Ended June 30,		Six Months Ended June 30,	
	2019	2018	2019	2018
Net Income (IFRS)	\$ 57,528,785	\$ 7,882,721	\$ 72,231,059	\$ 14,746,427
Add (Deduct) Impact of:				
Net Effect of Change in Fair Value	\$ (66,230,340)	\$ (3,020,633)	\$ (76,453,658)	\$ (8,232,633)
Grow Cost Expensed for Biological Assets & Unsold Inventory <i>Note 4 FS</i>	\$ 7,118,120	\$ 284,986	\$ 7,149,286	\$ 4,808,054
Interest Expense, Net	\$ 1,910,064	\$ 792,174	\$ 3,136,025	\$ 1,119,338
Depreciation and Amortization	\$ 1,839,890	\$ 184,228	\$ 3,300,727	\$ 347,163
Depreciation included in Cost of Goods Sold <i>Note 5 FS</i>	\$ 1,729,288	\$ 392,809	\$ 2,663,342	\$ 622,809
Provision For Income Taxes	\$ 27,714,464	\$ 5,402,197	\$ 38,551,464	\$ 9,164,197
Other Income, Net	\$ 5,801	\$ (10,322)	\$ (5,237)	\$ (16,457)
Total Adjustments	\$ (25,912,713)	\$ 4,025,439	\$ (21,658,051)	\$ 7,812,471
Adjusted EBITDA (Non-IFRS)	\$ 31,616,072	\$ 11,908,160	\$ 50,573,008	\$ 22,558,898

SELECTED FINANCIAL INFORMATION

The following is selected financial data derived from the unaudited condensed consolidated interim financial statements of the Corporation for the three and six months ended June 30, 2019 and 2018.

The selected consolidated financial information set out below may not be indicative of the Corporation's future performance:

	Three Months Ended June 30,		Six Months Ended June 30,	
	2019	2018	2019	2018
Revenues, Net of Discounts	\$ 57,920,112	\$ 23,298,771	\$ 102,396,077	\$ 38,545,570
Cost of Goods Sold	\$ 20,361,947	\$ 6,037,135	\$ 34,949,446	\$ 10,714,575
Gross Profit before Biological Asset Adjustment	\$ 37,558,165	\$ 17,261,636	\$ 67,446,631	\$ 27,830,995
Net Effect of Change in Fair Value of Biological Assets	\$ (66,230,340)	\$ (3,020,633)	\$ (76,453,658)	\$ (8,232,633)
Gross Profit	\$ 103,788,505	\$ 20,282,269	\$ 143,900,289	\$ 36,063,628
Total Expenses	\$ 16,629,391	\$ 6,215,499	\$ 29,986,978	\$ 11,050,123
Operating Income	\$ 87,159,114	\$ 14,066,770	\$ 113,913,311	\$ 25,013,505
Total Other Expenses	\$ 1,915,865	\$ 781,852	\$ 3,130,788	\$ 1,102,881
Provision For Income Taxes	\$ 27,714,464	\$ 5,402,197	\$ 38,551,464	\$ 9,164,197
Net Income	\$ 57,528,785	\$ 7,882,721	\$ 72,231,059	\$ 14,746,427

	Six Months Ended June 30,	
	2019	2018
Cash	\$ 54,031,919	\$ 8,866,618
Total Current Assets	\$ 192,499,755	\$ 33,679,262
Total Assets	\$ 372,622,575	\$ 72,629,237
Total Current Liabilities	\$ 63,213,761	\$ 14,177,818
Total Long-Term Liabilities	\$ 133,817,395	\$ 32,355,295
Total Shareholders' Equity	\$ 175,591,419	\$ 26,096,124

Three and Six Months Ended June 30, 2019

Revenue

Revenue for the three months ended June 30, 2019 was \$57.9 million, up \$34.6 million or 149%, from \$23.3 million for the three months ended June 30, 2018 due to increased retail sales. The state registry which approves and maintains the status of the medical cannabis license holders reached approximately 238,000 active patients during the second quarter of 2019. Trulieve's statewide retail and home delivery presence along with its broad product mix of over 230 sku's were the main reasons for the continued market growth.

Revenue for the six months ended June 30, 2019 was \$102.4 million, up \$63.9 million or 166%, from \$38.5 million for the six months ended June 30, 2018 due to increased retail sales. Trulieve opened 14 additional dispensary locations in Florida between July 1, 2018 and June 30, 2019.

Cost of Goods Sold & Biological Assets

Cost of goods sold are derived from cost related to the internal cultivation and production of cannabis.

Cost of goods sold, excluding any adjustments to the fair value of biological assets, for the three months ended June 30, 2019 was \$20.4 million, up \$14.4 million or 237%, from \$6.0 million for the three months ended June 30, 2018. This growth was driven by continued market growth and higher sales volume in 2019. Cost of goods sold as a percentage of revenue was 35% for the three months ended June 30, 2019, as compared to 26% for the three months ended June 30, 2018.

Cost of goods sold, excluding any adjustments to the fair value of biological assets, for the six months ended June 30, 2019 was \$34.9 million, up \$24.2 million or 226%, from \$10.7 million for the three months ended June 30, 2018. This growth was driven by continued market growth and higher sales volume in 2019. Cost of goods sold as a percentage of revenue was 34% for the six months ended June 30, 2019, as compared to 28% for the six months ended June 30, 2018.

Inventory of plants under production is considered a biological asset. Under IFRS, biological assets are to be recorded at fair value at the time of harvest, less costs to sell, which are transferred to inventory and the transfer becomes the deemed cost on a go-forward basis.

When the product is sold, the fair value is relieved from inventory and the transfer is booked to cost of sales. In addition, in jurisdictions where products are acquired from other producers and sold by the Corporation the cost of sales also includes costs related to such products.

Gross Profit

Gross profit after net gains on biological asset transformation for the three months ended June 30, 2019 was \$103.8 million, up \$83.5 million or 412%, from \$20.3 million for the three months ended June 30, 2018. This increase was driven by an increased gain on biological assets and increased retail sales. Additionally, because the Corporation was growing more plants as of June 30, 2019 than it was as of June 30, 2018, there are more plants undergoing transformation and therefore more gain.

Gross profit after net gains on biological asset transformation for the six months ended June 30, 2019 was \$143.9 million, up \$107.8 million or 299%, from \$36.1 million for the six months ended June 30, 2018. This increase was driven by an increased gain on biological assets and increased retail sales. Additionally, because the Corporation was growing more plants as of June 30, 2019 than it was as of June 30, 2018, there are more plants undergoing transformation and therefore more gain.

Total Expenses

Total expenses for the three months ended June 30, 2019 was \$16.6 million, up \$10.4 million or 168%, from \$6.2 million for the three months ended June 30, 2018, which is mainly due to scaling of the business. Total expenses as a percentage of revenue was 29% for the three months ended June 30, 2019, as compared to 27% for the three months ended June 30, 2018.

The increase in total expenses was attributable to an increase of retail, sales and marketing expenses which for the three months ended June 30, 2019 was \$11.4 million, up \$6.5 million or 133%, from \$4.9 million for the three months ended June 30, 2018. Retail, sales and marketing expenses as a percentage of revenue was 20% for the three months ended June 30, 2019, as compared to 21% for the three months ended June 30, 2018. The overall increase in retail, sales and marketing expenses was due to the opening of additional dispensary locations and the associated costs including payroll, insurance, and rent.

The increase in total expenses was also attributable to an increase of general and administrative expenses which for the three months ended June 30, 2019 was \$3.4 million, up \$2.3 million or 200%, from \$1.1 million for the three months ended June 30, 2018. General and administrative expenses as a percentage of revenue was 6% for the three months ended June 30, 2019, as compared to 5% for the three months ended June 30, 2018. The overall increase in general and administrative expenses was due to increased infrastructure expenses to support business growth and issuance cost associated with our recent debt offering.

Total expenses for the six months ended June 30, 2019 was \$30.0 million, up \$18.9 million or 171%, from \$11.1 million for the six months ended June 30, 2018, which is mainly due to scaling of the business. Total expenses as a percentage of revenue was 29% for both the six months ended June 30, 2019 and June 30, 2018.

The increase in total expenses was attributable to an increase of retail, sales and marketing expenses which for the six months ended June 30, 2019 was \$21.2 million, up \$12.3 million or 139%, from \$8.9 million for the six months ended June 30, 2018. Retail, sales and marketing expenses as a percentage of revenue was 21% for the six months ended June 30, 2019, as compared to 23% for the six months ended June 30, 2018. The overall increase in retail, sales and marketing expenses was due to the opening of additional dispensary locations and the associated costs including payroll, insurance, and rent.

The increase in total expenses was also attributable to an increase of general and administrative expenses which for the six months ended June 30, 2019 was \$5.5 million, up \$3.7 million or 200%, from \$1.8 million for the six months ended June 30, 2018. General and administrative expenses as a percentage of revenue was 6% for the six months ended June 30, 2019 and 5% for the six months ended June 30, 2018. The overall increase in general and administrative expenses was due to increased infrastructure expenses to support business growth and issuance cost associated with our recent debt offering.

Total Other Expenses

Total other expenses for the three months ended June 30, 2019 was \$1.9 million, up \$1.1 million or 145%, from \$0.8 million for the three months ended June 30, 2018. Total other expenses as a percentage of revenue was 3% for both the three months ended June 30, 2019 and June 30, 2018. The overall increase in other expenses was mainly attributable to the \$0.8 million of interest expense on lease liabilities.

Total other expenses for the six months ended June 30, 2019 was \$3.1 million, up \$2.0 million or 184%, from \$1.1 million for the six months ended June 30, 2018. Total other expenses as a percentage of revenue was 3% for both the six months ended June 30, 2019 and June 30, 2018. The overall increase in other expenses was mainly attributable to the \$1.4 million of interest expense on lease liabilities.

Provision for Income Taxes

Income tax expense is recognized based on the expected tax payable on the taxable income for the year, using tax rates enacted or substantively enacted at year-end. For the three months ended June 30, 2019, provisions for Federal and State income tax totaled \$27.7 million, up \$22.3 million, from \$5.4 million for the three months ended June 30, 2018. The tax rate for both the three months ended June 30, 2019 and June 30, 2018 was 27%, when the tax expense is taken as a percentage of gross profit (i.e., effective tax rate).

For the six months ended June 30, 2019, provisions for Federal and State income tax totaled \$38.6 million, up \$29.4 million, from \$9.2 million for the six months ended June 30, 2018. The tax rate for the six months ended June 30, 2019 was 27% as compared to 25% for the six months ended June 30, 2018, when the tax expense is taken as a percentage of gross profit (i.e., effective tax rate).

Net Income

Net income for the three months ended June 30, 2019 was \$57.5 million, up \$49.6 million or 630%, from \$7.9 million for the three months ended June 30, 2018. The increase in net income was driven by the factors described above, namely business expansion.

Net income for the six months ended June 30, 2018 was \$72.2 million, up \$57.5 million or 390%, from \$14.7 million for the three months ended June 30, 2019. The increase in net income was driven by the factors described above, namely business expansion.

Drivers of Results of Operations

Revenue

The Corporation derives its revenue from cannabis products which it manufactures, sells and distributes to its customers by home delivery and in its retail stores.

Gross Profit

Gross profit is revenue less cost of goods sold. Cost of goods sold includes the costs directly attributable to product sales and includes amounts paid to produce finished goods, such as flower, and concentrates, as well as packaging and other supplies, fees for services and processing, allocated overhead which includes allocations of rent, administrative salaries, utilities, and related costs. Cannabis costs are affected

by various state regulations that limits the sourcing and procurement of cannabis product, which may create fluctuations in gross profit over comparative periods as the regulatory environment changes. Gross margin measures Trulieve's gross profit as a percentage of revenue.

During the three and six months ended June 30, 2019, the Corporation continued to be focused on executing sustainable profitable growth of the Corporation's base business while investigating expansion. Trulieve continued to expand within Florida with an additional seven locations opening during the first six months of 2019.

Total Expenses

Total expenses other than the cost of goods sold consist of selling costs to support the Corporation's customer relationships and to deliver products to Trulieve's retail stores. It also includes a significant investment in marketing and brand activities and the corporate infrastructure required to support ongoing business.

Selling costs generally correlate to revenue. As a percentage of sales, Trulieve expects sales to increase at a higher rate, in the Corporation's currently operational market, compared to selling costs.

General and administrative expenses represent costs incurred at the Corporation's corporate offices, primarily related to personnel costs, including salaries, incentive compensation, benefits, and other professional service costs, including legal and accounting. Trulieve expects to continue to invest considerably in this area to support the Corporation's expansion plans and to support the increasing complexity of the cannabis business. Furthermore, Trulieve expects to continue to incur acquisition and transaction costs related to the Corporation's expansion plans, and the Corporation anticipates a significant increase in compensation expenses related to recruiting and hiring talent, accounting, legal and professional fees associated with being a publicly traded company.

Provision for Income Taxes

The Corporation is subject to federal income taxes and state income taxes in the jurisdictions in which Trulieve operates and, consequently, income tax expense is a function of the allocation of taxable income by jurisdiction and the various activities that impact the timing of taxable events. As the Corporation operates in the legal cannabis jurisdictions, the Corporation is subject to the limits of IRC Section 280E under which the Corporation is only allowed to deduct expenses directly related to cost of producing the products or cost of products. This results in permanent differences between ordinary and necessary business expenses deemed non-allowable under IRC Section 280E and a higher effective tax rate than most industries.

Summary of Quarterly Results

The table below presents selected financial information for each of the eight most recently completed quarters.

Three Months Ended	Revenues	Net Income/(Loss)
June 30, 2019	\$ 57,920,112	\$ 57,528,785
March 31, 2019	\$ 44,475,965	\$ 14,702,274
December 31, 2018	\$ 35,945,457	\$ 10,719,673
September 30, 2018	\$ 28,325,604	\$ 17,501,692
June 30, 2018	\$ 23,298,771	\$ 7,882,721
March 31, 2018	\$ 15,246,799	\$ 6,863,706
December 31, 2017	\$ 13,240,804	\$ 338,261
September 30, 2017	\$ 3,374,718	\$ 462,234

Revenue has increased quarter over quarter driven by Trulieve's increased customer base and open dispensaries. The Corporation had 31 operating dispensaries as of June 30, 2019 compared to 15 operating dispensaries as of June 30, 2018.

There were no other significant factors, economically or industry wide relating to customer buying patterns, competition, production output, or Trulieve's selling practices including pricing that contributed to Trulieve's noted variances.

For the three months ended June 30, 2019, the net income of \$57.5 million consists of revenue of \$57.9 million and adjustments to the fair value of biological assets of \$66.2 million. This was offset by cost of goods sold of \$20.4 million, operating expenses of \$16.6 million, other expenses of \$1.9 million, and income tax expense of \$27.7 million.

For the three months ended March 31, 2019, the net income of \$14.7 million consists of revenue of \$44.5 million and adjustments to the fair value of biological assets of \$10.2 million. This was offset by cost of goods sold of \$14.6 million, operating expenses of \$13.4 million, other expenses of \$1.2 million, and income tax expense of \$10.8 million.

For the three months ended December 31, 2018, the net income of \$10.7 million consists primarily of revenue of \$35.9 million and adjustments to the fair value of biological assets of \$12.9 million. This was offset by cost of goods sold of \$15.1 million, operating expenses of \$10.9 million, other expenses of \$0.7 million, and income tax expense of \$11.4 million. The primary reason for the lower net income from the previous quarter was due to lower net effect of change in fair value of biological (i.e. gain) of \$2.8 million, higher retail expenses of \$3.1 million because of five new store openings in the fourth quarter of 2018 and the preparation of four new store openings in the first quarter of 2019, higher income tax expense of \$3.3 million offset by \$0.7 million of lower G&A expenses.

For the three months ended September 30, 2018, the net income of \$17.5 million consists primarily of revenue of \$28.3 million and adjustments to the fair value of biological assets of \$15.8 million. This was offset by cost of goods sold of \$8.3 million, operating expenses of \$8.3 million, other expenses of \$1.8 million, and income tax expense of \$8.2 million.

For the three months ended June 30, 2018, the net income of \$7.9 million consists primarily of revenue of \$23.3 million and adjustments to the fair value of biological assets of \$3.0 million. This was offset by cost of goods sold of \$6.0 million, operating expenses of \$6.2 million, other expenses of \$0.8 million, and income tax expense of \$5.4 million.

For the three months ended March 31, 2018, the net income of \$6.9 million consists primarily of revenue of \$15.2 million and adjustments to the fair value of biological assets of \$5.2 million. This was offset by cost of goods sold of \$4.7 million, operating expenses of \$4.8 million, other expenses of \$0.3 million, and income tax expense of \$3.8 million.

For the three months ended December 31, 2017, the net income of \$0.3 million consists primarily of revenue of \$13.2 million and adjustments to the fair value of biological assets of \$1.1 million. This was offset by cost of goods sold of \$7.1 million, operating expenses of \$4.2 million, other expenses of \$0.3 million, and income tax expense of \$2.4 million.

For the three months ended September 30, 2017, the net income of \$0.5 million consists primarily of revenue of \$3.4 million and adjustments to the fair value of biological assets of \$2.3 million. This was offset by cost of goods sold of \$2.1 million, operating expenses of \$2.3 million, other expenses of \$0.2 million, and income tax expense of \$0.6 million.

Liquidity, Financing Activities During the Period, and Capital Resources

In February 2019, the Corporation entered into a 24-month unsecured loan with an 8% annual interest rate with a former director and shareholder for \$257,337.

On June 18, 2019, the Corporation completed a prospectus offering of 70,000 units of the Corporation (the "Units"), comprised of an aggregate principal amount of US\$70,000,000 of 9.75% senior secured notes of the Corporation maturing in 2024 (the "Notes") and an aggregate amount of 1,470,000 subordinate voting share warrants of the Corporation (each individual warrant being a "Warrant") at a price of U.S.\$980 per Unit for a gross proceeds of U.S.\$68,600,000. Each Unit was comprised of one Note issued in denominations of \$1,000 and 21 Warrants.

The offering was conducted on a "best-efforts" basis pursuant to the terms of an agency agreement dated June 11, 2019, between the Corporation and Canaccord Genuity Corp., as exclusive. The Units were offered in each of the provinces of Canada, other than the Province of Quebec, by way of a prospectus supplement dated June 13, 2019 to the short form base shelf prospectus of the Corporation dated May 14, 2019.

Each Warrant entitles the holder thereof to acquire one subordinate voting share of the Corporation at a exercise price of C\$17.25 until June 18, 2022. The obligations of the Corporation under the Notes are fully and unconditionally guaranteed, jointly and severally, by Trulieve US, pursuant to a guarantee delivered at the time of closing. The Notes and Warrants trade on the Canadian Securities Exchange under the symbols TRUL.DB.U and TRUL.WT, respectively. The Notes accrue interest at the rate of 9.75% per annum, payable on a semi-annual basis, maturing on June 18, 2024. The net proceeds of the offering are to be used for capital expenditures, acquisitions, to repay indebtedness and for general corporate purposes.

As at June 30, 2019, the Corporation had total current liabilities of \$63.2 million and cash of \$54.0 million compared to June 30, 2018 which had current liabilities of \$14.2 million and cash equivalents of \$8.9 million to meet its current obligations. As at June 30, 2019, the Corporation had working capital of \$129.3 million an increase of \$109.8 million compared to working capital of \$19.5 million at June 30, 2018.

The Corporation is an early-stage growth company. It is generating cash from sales and is deploying its capital reserves to acquire and develop assets capable of producing additional revenues and earnings over both the immediate and near term. Capital reserves are being utilized for acquisitions in the medical and adult use cannabis markets, for capital expenditures and improvements in existing facilities, product development and marketing, as well as customer, supplier and investor and industry relations.

Cash Flows

The table below highlights the Corporation's cash flows for the periods indicated.

	Six Months Ended June 30,	
	2019	2018
Net Cash Provided By Operating Activities	\$ 19,619,601	\$ 8,182,692
Net Cash Used In Investing Activities	\$(53,211,329)	\$(15,907,717)
Net Cash Provided By Financing Activities	\$ 63,193,539	\$ 15,184,584
Net Increase In Cash and Cash Equivalents	\$ 29,601,811	\$ 7,459,559
Cash and Cash Equivalents, Beginning of Period	\$ 24,430,108	\$ 1,407,059
Cash and Cash Equivalents, End of Period	\$ 54,031,919	\$ 8,866,618

Cash Flow from Operating Activities

Net cash generated from operating activities was \$19.6 million for the six months ended June 30, 2019, an increase of \$11.4 million compared to \$8.2 million net cash generated during the six months ended June 30, 2018. The increase in net cash generated from operating activities was related to the increase in net income of \$57.5 million, increase in income tax payable and deferred tax liabilities of \$19.1 million and

various other items netting to \$3.9 million. The increases were offset by an increase in inventories and biological assets of \$69.1 million.

Cash Flow from Investing Activities

Net cash used in investing activities was \$53.2 million for the six months ended June 30, 2019, an increase of \$37.3 million compared to the \$15.9 million net cash used in investing activities for the six months ended June 30, 2018. The increase was used for the addition of dispensary locations and expansions of Trulieve's cultivation and processing facilities as well as our recent acquisition for The Healing Corner.

Cash Flow from Financing Activities

Net cash provided by financing activities was \$63.2 million for the six months ended June 30, 2019, an increase of \$48.0 million compared to the \$15.2 million net cash provided by financing activities for the six months ended June 30, 2018. The increase was primarily related to the net proceeds received from our recent debt issuance.

Off-Balance Sheet Arrangements

As of the date of this filing, the Corporation does not have any off-balance-sheet arrangements that have, or are reasonably likely to have, a current or future effect on the results of operations or financial condition of the Corporation, including, and without limitation, such considerations as liquidity and capital resources.

Transactions with Related Parties

The Corporation had raised funds by issuing a note to various related parties including directors, officers, and shareholders and the balance at June 30, 2019 and December 31, 2018 was \$13.7 million and \$14.2 million, respectively.

The Corporation uses a general contractor that is the spouse of an officer and director of the Corporation and for the six months ended June 30, 2019 and 2018, property and equipment purchases totaled \$18.0 million and \$1.5 million. As of June 30, 2019, \$3.8 million was included in accounts payable.

Proposed Transactions

N/A

Changes in or Adoption of Accounting Practices

The Corporation has adopted IFRS 16 —Leases ("IFRS 16") with the date of initial application of January 1, 2019 using the modified retrospective approach. Comparative information has not been restated and continues to be reported under IAS 17 —Leases ("IAS 17") (accounting standard in effect for those periods).

IFRS 16 sets out the principles for the recognition, measurement, presentation and disclosure of leases for both parties to a contract, i.e. the customer ('lessee') and the supplier ('lessor'). The standard introduces a single, on-balance sheet recognition and measurement model for lessees, eliminating the distinction between operating and finance leases. Lessees recognize a right-of-use asset representing its control of and right to use the underlying asset and a lease liability representing its obligation to make future lease payments.

Right-of-use assets

At commencement date, the Corporation has measured the right-of-use asset at cost which comprises of:

- the amount of the initial measurement of the lease liability;
- any lease payments made at or before the commencement date, less any lease incentives received;
- any initial direct costs incurred by the lessee; and
- an estimate of costs to be incurred by the lessee in dismantling and removing the underlying asset, restoring the site on which it is located or restoring the underlying asset to the condition required by the terms and conditions of the lease, unless those costs are to produce inventories. The lessee incurs the obligation for those costs either at the commencement date or as a consequence of having used the underlying asset during a particular period.

There are no dismantling, removal and restoration costs included in the cost of the right-of-use asset as management has not incurred an obligation for those costs.

Lease liabilities

At the commencement date, The Corporation measured the lease liability at the present value of the lease payments that are not paid at that date. The lease payments are discounted using the interest rate implicit in the lease, if that rate can be readily determined. If that rate cannot be readily determined, the lessee uses the lessee's incremental borrowing rate.

The lease payments included in the measurement of the lease liability comprise the following payments for the right to use the underlying asset during the lease term that are not paid at the commencement date:

- fixed payments (including in-substance fixed payments), less any lease incentives receivable;
- variable lease payments that depend on an index or a rate, initially measured using the index or rate as at the commencement date;
- amounts expected to be payable by the lessee under residual value guarantees;
- the exercise price of a purchase option if the lessee is reasonably certain to exercise that option; and
- payments of penalties for terminating the lease, if the lease term reflects the lessee exercising an option to terminate the lease.

Subsequent Measurements

After the commencement date, the Corporation recognized depreciation and impairment of the right-of-use asset in profit or loss. The Corporation also recognized in profit or loss the interest on the lease liability. There were no variable lease payments which were not included in the measurement of the lease liability.

Exemptions and practical expedients

IFRS 16 permits the use of exemptions and practical expedients. The Corporation applied the following recognition exemptions and practical expedients:

- grandfather lease definition for existing contracts at the date of initial application;
- exclude low-value and short-term leases from IFRS 16 lease accounting;
- use portfolio application for leases with similar characteristics, such as vehicle and equipment leases;
- apply a single discount rate to a portfolio of leases with reasonably similar characteristics at the date of initial application;
- exclude initial direct costs from the measurement of the right-of-use assets at the date of initial application;
- use hindsight in determining lease term at the date of initial application

The financial impact of applying the standard upon initial application on January 1, 2019, resulted in a \$24.4 million increase of in right-of-use assets (included in property, plant and equipment Note 5), an increase of \$25.7 million in lease liability, and a \$0.9 million adjustment to retained earnings. The weighted average incremental borrowing rate applied to the lease liabilities was 4.76%.

CRITICAL ACCOUNTING ESTIMATES

The Corporation makes judgements, estimates and assumptions about the future that affect the reported amounts of assets and liabilities, and revenues and expenses. Actual results may differ from these estimates. The estimates and underlying assumptions are reviewed on an ongoing basis. Revisions to accounting estimates are recognized in the period in which the estimate is revised if the revision affects only that period or in the period of the revision and future periods if the review affects both current and future periods.

The preparation of the Corporation's consolidated financial statements in conformity with IFRS requires management to make judgments, estimates, and assumptions about the carrying amounts of assets and liabilities that are not readily apparent from other sources. The estimates and associated assumptions are based on historical experience and other factors that are considered to be relevant. Actual results may differ from these estimates.

The estimates and underlying assumptions are reviewed on an ongoing basis. Revisions to accounting estimates are recognized in the period in which the estimate is revised if the revision affects only that period, or in the period of the revision and future periods if the revision affects both current and future periods.

Significant judgments, estimates, and assumptions that have the most significant effect on the amounts recognized in the consolidated financial statements are described below.

Estimated Useful Lives and Depreciation of Property and Equipment and Intangible Assets

Depreciation and amortization of property and equipment and intangible assets are dependent upon estimates of useful lives, which are determined through the exercise of judgment. The assessment of any impairment of these assets is dependent upon estimates of recoverable amounts that take into account factors such as economic and market conditions and the useful lives of assets.

Biological assets and inventory

In calculating the value of the biological assets and inventory, management is required to make a number of estimates, including estimating the stage of growth of the cannabis up to the point of harvest, harvesting costs, selling costs, sales price, wastage and expected yields for the cannabis plant. In calculating final inventory values, management is required to make an estimate of spoiled or expired inventory and compare the inventory cost to estimated net realizable value.

Summary of Outstanding Share Data

At August 14, 2019, the Corporation had the following securities issued and outstanding:

Securities	Number of Shares
Issued and Outstanding	
Subordinate Voting Shares	32,408,159
Super Voting Shares	710,133
Multiple Voting Shares	67,107
Warrants	1,684,178

Each Multiple Voting Share, including those issued upon conversion of the Super Voting Shares, is convertible into 100 Subordinate Voting Shares at the option of the holder or upon certain triggering events.

Financial Instruments and Financial Risk Management

The Corporation's financial instruments consist of cash, accounts payable and accrued liabilities; short-term note payable; and long-term debt. The carrying values of these financial instruments approximate their fair values. Financial instruments recorded at fair value are classified using a fair value hierarchy that reflects the significance of the inputs to fair value measurements. The three levels of hierarchy are:

Level 1:	Unadjusted quoted prices in active markets for identical assets or liabilities;
Level 2:	Inputs other than quoted prices that are observable for the asset or liability, either directly or indirectly; and
Level 3:	Inputs for the asset or liability that are not based on observable market data.

Financial Risk Management

The Corporation is exposed in varying degrees to a variety of financial instrument related risks. The board of directors of the Corporation mitigates these risks by assessing, monitoring and approving the Corporation's risk management processes:

Credit Risk

Credit risk is the risk of a potential loss to the Corporation if a customer or third party to a financial instrument fails to meet its contractual obligations. The Corporation is moderately exposed to credit risk from its cash. The risk exposure is limited to the carrying amount at the statements of financial position date. The risk for cash is mitigated by holding these instruments with highly rated U.S. state financial institutions.

Liquidity Risk

Liquidity risk is the risk that the Corporation will not be able to meet its financial obligations associated with financial liabilities. The Corporation manages liquidity risk through the management of its capital structure. The Corporation's approach to managing liquidity is to ensure that it will have sufficient liquidity to settle obligations and liabilities when due.

Market Risk

Currency Risk

The operating results and financial position of the Corporation are reported in U.S. dollars. Some of the Corporation's financial transactions are denominated in currencies other than the U.S. dollar. The results of the Corporation's operations are subject to currency transaction and translation risks.

The Corporation has no hedging agreements in place with respect to foreign exchange rates. The Corporation has not entered into any agreements or purchased any instruments to hedge possible currency risks at this time.

Interest Rate Risk

Interest rate risk is the risk that the fair value or the future cash flows of a financial instrument will fluctuate as a result of changes in market interest rates. Cash and cash equivalents bear interest at market rates. The Corporation's financial debts have fixed rates of interest and therefore expose the Corporation to a limited interest rate fair value risk.

Concentration Risk

The Corporation's operations are substantially located in Florida. Should economic conditions deteriorate within that region, its results of operations and financial position would be negatively impacted.

Price Risk

Price risk is the risk of variability in fair value due to movements in equity or market prices.

Banking Risk

Notwithstanding that a majority of states have legalized medical marijuana, there has been no change in U.S. federal banking laws related to the deposit and holding of funds derived from activities related to the marijuana industry. Given that U.S. federal law provides that the production and possession of cannabis is illegal, there is a strong argument that banks cannot accept for deposit funds from businesses involved with the marijuana industry. Consequently, businesses involved in the marijuana industry often have difficulty accessing the U.S. banking system and traditional financing sources. The inability to open bank accounts with certain institutions may make it difficult to operate the businesses of the Corporation, its subsidiaries and investee companies, and leaves their cash holdings vulnerable. The Corporation has banking relationships in all jurisdictions in which it operates.

RISK FACTORS

Cannabis is Illegal under Federal United States Law

In the United States, cannabis is largely regulated at the State level. More than 30 states and the District of Columbia have passed laws broadly legalizing marijuana for medicinal use by eligible patients.²¹ In the District of Columbia and 11 of these states – Alaska, California, Colorado, Illinois, Maine, Massachusetts, Michigan, Nevada, Oregon, Vermont and Washington – marijuana is legal for adult-use regardless of medical condition. Additional States have pending legislation regarding the same. The large increase in recent statewide referenda and legislation that liberalizes marijuana laws is consistent with public opinion. Public polling routinely shows large majorities of Americans in favor of the legalization of marijuana. For instance, a Gallup Organization survey in October of 2018 found that 66% of respondents in the United States support the legalization of marijuana compared to the 32% who do not.²²

Although each State in which Trulieve operates (and anticipates operating) authorizes, as applicable, medical and/or adult-use cannabis production and distribution by licensed or registered entities, and numerous other States have legalized cannabis in some form, under U.S. federal law, the possession, use, cultivation, and transfer of cannabis and any related drug paraphernalia is illegal, and any such acts are criminal acts under federal law under any and all circumstances under the CSA. The concepts of "medical cannabis", "retail cannabis" and "adult-use cannabis" do not exist under U.S. federal law. Marijuana is a Schedule I drug under the CSA. Under U.S. federal law, a Schedule I drug or substance has a high potential for abuse, no accepted medical use in the United States, and a lack of safety for the use of the drug under medical supervision. Although Trulieve believes that its business activities are compliant

²¹ *Governing Magazine*, State Marijuana Laws in 2018 Map, available at <http://www.governing.com/gov-data/safety-justice/state-marijuana-laws-map-medical-recreational.html> (visited Nov. 7, 2018).

²² Justin McCarthy, *Two in Three Americans Now Support Legalizing Marijuana*, GALLUP (Oct. 22, 2018), available at <https://news.gallup.com/poll/243908/two-three-americans-support-legalizing-marijuana.aspx>.

with applicable state and local laws of the United States, strict compliance with state and local laws with respect to cannabis may neither absolve the Corporation of liability under United States federal law nor provide a defense to any federal proceeding which may be brought against the Corporation. Any such proceedings brought against the Corporation may result in a material adverse effect on the Corporation. Trulieve derives 100% of its revenues from the cannabis industry in certain States, which industry is illegal under United States federal law. Even where the Corporation's cannabis-related activities are compliant with applicable State and local law, such activities remain illegal under United States federal law. The enforcement of relevant federal laws is a significant risk.

United States **CBP** enforces the laws of the United States. Crossing the border while in violation of the CSA and other related United States federal laws may result in denied admission, seizures, fines, and apprehension. CBP officers administer the United States Immigration and Nationality Act to determine the admissibility of travelers, who are non-U.S. citizens, into the United States. An investment in the Corporation, if it became known to CBP, could have an impact on a shareholder's admissibility into the United States and could lead to a lifetime ban on admission. See *"Risk Factors - U.S. border officials could deny entry of non-US citizens into the U.S. to employees of or investors in companies with cannabis operations in the United States and Canada."*

Medical cannabis has been protected against enforcement by enacted legislation from the United States Congress in the form of the Rohrabacher-Farr Amendment, which prevents federal prosecutors from using federal funds to impede the implementation of medical cannabis laws enacted at the state level, subject to the United States Congress restoring such funding. This amendment has historically been passed as an amendment to omnibus appropriations bills, which by their nature expire at the end of a fiscal year or other defined term. Subsequent to the issuance of the Sessions Memo, the United States Congress passed its omnibus appropriations bill, SJ 1662, which for the fourth consecutive year contained the Rohrabacher-Farr Amendment language (referred to in 2018 as the Leahy Amendment) and continued the protections for the medical cannabis marketplace and its lawful participants from interference by the Department of Justice. The Rohrabacher-Farr Amendment again was included in the Consolidated Appropriations Act of 2019, which was signed by President Trump on February 14, 2019 and funds the departments of the federal government through the fiscal year ending September 30, 2019.²³ Notably, such Amendments have always applied only to medical cannabis programs, and have no effect on pursuit of recreational cannabis activities.

United States Regulatory Uncertainty

The activities of the Corporation are subject to regulation by governmental authorities. The Corporation's business objectives are contingent upon, in part, compliance with regulatory requirements enacted by these governmental authorities and obtaining all regulatory approvals, where necessary, for the sale of its products in each jurisdiction in which it operates. Any delays in obtaining, or failure to obtain regulatory approvals would significantly delay the development of markets and products and could have a material adverse effect on the business, results of operations and financial condition of the Corporation. Furthermore, although the operations of the Corporation are currently carried out in accordance with all applicable rules and regulations, no assurance can be given that new rules and regulations will not be enacted or that existing rules and regulations will not be applied in a manner which could limit or curtail the Corporation's ability to import, distribute or, in the future, produce marijuana. Amendments to current laws and regulations governing the importation, distribution, transportation and/or production of marijuana, or more stringent implementation thereof could have a substantial adverse impact on the Corporation.

As a result of the conflicting views between State legislatures and the federal government regarding cannabis, investments in cannabis businesses in the United States are subject to inconsistent legislation and regulation. The response to this inconsistency was addressed in the Cole Memorandum addressed to all United States district attorneys acknowledging that notwithstanding the designation of cannabis as a controlled substance at the federal level in the United States, several states have enacted laws relating to cannabis for medical purposes. The Cole Memorandum outlined certain priorities for the United States

²³ 2019 Appropriations Act, Public Law No. 116-6, Div. C § 537.

Department of Justice relating to the prosecution of cannabis offenses. In particular, the Cole Memorandum noted that in jurisdictions that have enacted laws legalizing cannabis in some form and that have also implemented strong and effective regulatory and enforcement systems to control the cultivation, distribution, sale and possession of cannabis, conduct in compliance with those laws and regulations is less likely to be a priority at the federal level. Notably, however, the United States Department of Justice has never provided specific guidelines for what regulatory and enforcement systems it deems sufficient under the Cole Memorandum standard. In light of limited investigative and prosecutorial resources, the Cole Memorandum concluded that the United States Department of Justice should be focused on addressing only the most significant threats related to cannabis. States where medical cannabis had been legalized were not characterized as a high priority.

In March 2017, then Attorney General Sessions again noted limited federal resources and acknowledged that much of the Cole Memorandum had merit; however, he had previously stated that he did not believe it had been implemented effectively and, on January 4, 2018, former Attorney General Sessions issued the Sessions Memo, which rescinded the Cole Memorandum. The Sessions Memo rescinded previous nationwide guidance specific to the prosecutorial authority of United States Attorneys relative to cannabis enforcement on the basis that they are unnecessary, given the well-established principles governing federal prosecution that are already in place. Those principles are included in chapter 9.27.000 of the United States Attorneys Manual and require federal prosecutors deciding which cases to prosecute to weigh all relevant considerations, including federal law enforcement priorities set by the Attorney General, the seriousness of the crime, the deterrent effect of criminal prosecution, and the cumulative impact of particular crimes on the community. As a result of the Sessions Memo, federal prosecutors are now free to utilize their prosecutorial discretion to decide whether to prosecute cannabis activities despite the existence of State-level laws that may be inconsistent with federal prohibitions. No direction was given to federal prosecutors in the Sessions Memorandum as to the priority they should ascribe to such cannabis activities, and it is uncertain how active U.S. federal prosecutors will be in relation to such activities, particularly under Attorney General Barr.

Attorney General Sessions was replaced by William Barr on February 14, 2019. In a written response to questions from U.S. Senator Cory Booker made as a nominee, Attorney General Barr stated “I do not intend to go after parties who have complied with state law in reliance on the Cole Memorandum.”²⁴ Attorney General Barr served in the same position under former President George H.W. Bush and promoted an anti-drug stance during his tenure. However, during his Senate confirmation hearing, Mr. Barr testified (similar to his written responses) that although he disagrees with efforts by states to legalize marijuana, he “won’t go after” marijuana companies in states that have authorized regulated adult use. He stated further that he would not upset settled expectations that have arisen as a result of the Cole Memorandum, notwithstanding his predecessor’s rescission of the Cole Memorandum.

Notwithstanding this testimony, there is no guarantee that Attorney General Barr plans to or will forbid federal prosecution of state-licensed marijuana companies. It is important to note that in the United States, individual United States attorneys operate within state- or district-level jurisdictions and enjoy a substantial degree of autonomy in determining which criminal actions to pursue. While dozens of United States attorneys from across the country have affirmed that their view of federal enforcement priorities has not changed, there can be no assurances that such views are universally held or will continue in the near future. In California, at least one United States Attorney has made comments indicating a desire to enforce the CSA, stating that the Sessions Memorandum and the rescission of the Cole Memorandum “returns trust and local control to federal prosecutors” to enforce the CSA. These and other so called “enforcement hawks” in California or elsewhere may choose to enforce the CSA in accordance with federal policies prior to the issuance of the Cole Memorandum. As such, there can be no assurance that the United States federal government will not seek to prosecute cases involving cannabis businesses that are otherwise compliant with State law. Contrastingly, Andrew Lelling, the United States Attorney for the District of Massachusetts, issued a statement explaining that while marijuana is illegal under federal law, his “office’s resources [...] are primarily focused on the opioid epidemic.” In this statement, United States Attorney

²⁴ *Questions for the Record William P. Barr Nominee to be United States Attorney General*, available at <https://www.judiciary.senate.gov/imo/media/doc/Barr%20Responses%20to%20Booker%20QFRs1.pdf>.

Lelling also clarified that his marijuana enforcement efforts will be focused on overproduction, targeted sales to minors, and organized crime and interstate transportation of drug proceeds. In sum, there is no certainty as to how the Department of Justice, Federal Bureau of Investigation and other government agencies will handle cannabis matters in the future. There can be no assurances that the Trump administration would not change the current enforcement policy and decide to strongly enforce the federal laws. The Corporation regularly monitors the activities of the current administration in this regard.

Money Laundering Laws and Access to Banking

The Corporation is subject to a variety of laws and regulations in the United States that involve money laundering, financial recordkeeping and proceeds of crime, including the Currency and Foreign Transactions Reporting Act of 1970 (commonly known as the Bank Secrecy Act), as amended by Title III of the Uniting and Strengthening America by Providing Appropriate Tools Required to Intercept and Obstruct Terrorism Act of 2001 (USA PATRIOT Act), and any related or similar rules, regulations or guidelines, issued, administered or enforced by governmental authorities in the United States.

In February 2014, FinCen issued the FinCen Memo providing instructions to banks seeking to provide services to cannabis-related businesses. The FinCEN Memo states that in some circumstances, it is permissible for banks to provide services to cannabis-related businesses without risking prosecution for violation of federal money laundering laws. It refers to supplementary guidance that Deputy Attorney General Cole issued to federal prosecutors relating to the prosecution of money laundering offenses predicated on cannabis-related violations of the CSA. It is unclear at this time whether the current administration will follow the guidelines of the FinCEN Memo.

In the event that any of the Corporation's operations, or any proceeds thereof, any dividends or distributions therefrom, or any profits or revenues accruing from such operations in the United States were found to be in violation of money laundering legislation or otherwise, such transactions could be viewed as proceeds of crime under one or more of the statutes noted above or any other applicable legislation. This could restrict or otherwise jeopardize the ability of the Corporation to declare or pay dividends or effect other distributions.

Competition

The Corporation may face increasing and intense competition from other companies, some of which can be expected to have longer operating histories and more financial resources and manufacturing and marketing experience than the Corporation. Increased competition by larger and better financed competitors could materially and adversely affect the business, financial condition and results of operations of the Corporation.

If the number of users of medical marijuana in the United States increases, the demand for products will increase and the Corporation expects that competition will become more intense, as current and future competitors begin to offer an increasing number of diversified products. To remain competitive, the Corporation will require a continued level of investment in research and development, marketing, sales and client support. The Corporation may not have sufficient resources to maintain research and development, marketing, sales and client support efforts on a competitive basis which could materially and adversely affect the business, financial condition and results of operations of the Corporation.

The Corporation's industry is experiencing rapid growth and consolidation that may cause the Corporation to lose key relationships and intensify competition. The cannabis industry is undergoing rapid growth and substantial change, which has resulted in an increase in competitors, consolidation and formation of strategic relationships. Acquisitions or other consolidating transactions could harm the Corporation in a number of ways, including losing customers, revenue and market share, or forcing the Corporation to expend greater resources to meet new or additional competitive threats, all of which could harm the Corporation's operating results. As competitors enter the market and become increasingly sophisticated, competition in the Corporation's industry may intensify and place downward pressure on retail prices for its products and services, which could negatively impact its profitability.

Re-Classification of Cannabis or Changes in United States Controlled Substance Laws and Regulations

If cannabis is re-categorized as a Schedule II or lower controlled substance, the ability to conduct research on the medical benefits of cannabis would most likely be more accessible; however, if cannabis is re-categorized as a Schedule II or other controlled substance, the resulting re-classification would result in the need for approval by the FDA if medical claims are made for the Corporation's products, such as medical cannabis. As a result, the manufacture, importation, exportation, domestic distribution, storage, sale and use of such products may be subject to a significant degree of regulation by the **DEA**. In that case, Trulieve may be required to be registered (licensed) to perform these activities and have the security, control, recordkeeping, reporting and inventory mechanisms required by the DEA to prevent drug loss and diversion. Obtaining the necessary registrations may result in delay of the manufacturing or distribution of the Corporation's products. The DEA conducts periodic inspections of certain registered establishments that handle controlled substances. Failure to maintain compliance could have a material adverse effect on the Corporation's business, financial condition and results of operations. The DEA may seek civil penalties, refuse to renew necessary registrations, or initiate proceedings to restrict, suspend or revoke those registrations. In certain circumstances, violations could lead to criminal proceedings.

Potential FDA Regulation

Should the United States federal government legalize cannabis, it is possible that the FDA, would seek to regulate it under the Food, Drug and Cosmetics Act of 1938. Additionally, the FDA may issue rules and regulations including good manufacturing practices related to the growth, cultivation, harvesting and processing of medical cannabis. Clinical trials may be needed to verify efficacy and safety. It is also possible that the FDA would require that facilities where medical-use cannabis is grown register with the agency and comply with certain federally prescribed regulations. In the event that some or all of these regulations are imposed, the impact on the cannabis industry is uncertain, including what costs, requirements, and possible prohibitions may be imposed. If the Corporation is unable to comply with the regulations or registration as prescribed by the FDA it may have an adverse effect on the Corporation's business, operating results, and financial condition.

United States Border Entry

Because cannabis remains illegal under United States federal law, those investing in Canadian companies with operations in the United States cannabis industry could face detention, denial of entry, or lifetime bans from the United States for their business associations with United States cannabis businesses. Entry happens at the sole discretion of CBP officers on duty, and these officers have wide latitude to ask questions to determine the admissibility of a non-US citizen or foreign national. The government of Canada has started warning travelers on its website that previous use of cannabis, or any substance prohibited by United States federal laws, could mean denial of entry to the United States. Business or financial involvement in the cannabis industry in the United States could also be reason enough for United States border guards to deny entry. On September 21, 2018, CBP released a statement outlining its current position with respect to enforcement of the laws of the United States. It stated that Canada's legalization of cannabis will not change CBP enforcement of United States laws regarding controlled substances and because cannabis continues to be a controlled substance under United States law, working in or facilitating the proliferation of the legal marijuana industry in U.S. states where it is deemed legal may affect admissibility to the United States. As a result, CBP has affirmed that, employees, directors, officers, managers and investors of companies involved in business activities related to cannabis in the United States (such as Trulieve), who are not United States citizens face the risk of being barred from entry into the United States for life.

Heightened Scrutiny of Cannabis Companies in Canada

The Corporation's existing operations in the United States, and any future operations, may become the subject of heightened scrutiny by regulators, stock exchanges and other authorities in the United States and Canada.

Given the heightened risk profile associated with cannabis in the United States, CDS Clearing and Depository Services Inc. ("**CDS**") may implement procedures or protocols that would prohibit or significantly impair the ability of CDS to settle trades for companies that have cannabis businesses or assets in the United States.

On February 8, 2018, following discussions with the Canadian Securities Administrators and recognized Canadian securities exchanges, the TMX Group announced the signing of a Memorandum of Understanding ("**TMX MOU**") with Aequitas NEO Exchange Inc., the CSE, the Toronto Stock Exchange, and the TSX Venture Exchange. The TMX MOU outlines the parties' understanding of Canada's regulatory framework applicable to the rules, procedures, and regulatory oversight of the exchanges and CDS as it relates to issuers with cannabis-related activities in the United States. The TMX MOU confirms, with respect to the clearing of listed securities, that CDS relies on the exchanges to review the conduct of listed issuers. As a result, there is no CDS ban on the clearing of securities of issuers with cannabis-related activities in the United States. However, there can be no assurances given that this approach to regulation will continue in the future. If such a ban were to be implemented, it would have a material adverse effect on the ability of holders of the Subordinate Voting Shares to settle trades. In particular, the Subordinate Voting Shares would become highly illiquid as until an alternative was implemented, investors would have no ability to effect a trade of the Subordinate Voting Shares through the facilities of a stock exchange.

Costs and Obligations Related to Investment in Infrastructure, Growth, Regulatory Compliance and Operations

The Corporation expects to incur significant ongoing costs and obligations related to its investment in infrastructure and growth and for regulatory compliance, which could have a material adverse impact on the Corporation results of operations, financial condition and cash flows. In addition, future changes in regulations, more vigorous enforcement thereof or other unanticipated events could require extensive changes to the Corporation's operations, increased compliance costs or give rise to material liabilities, which could have a material adverse effect on the business, results of operations and financial condition of the Corporation. The Corporation's efforts to grow its business may be more costly than expected, and the Corporation may not be able to increase its revenue enough to offset its higher operating expenses. The Corporation may incur significant losses in the future for a number of reasons, including unforeseen expenses, difficulties, complications and delays, and other unknown events. If the Corporation is unable to achieve and sustain profitability, the market price of the securities of the Corporation may significantly decrease.

Availability of Favorable Locations

In Massachusetts and other states, the local municipality has authority to choose where any cannabis establishment will be located. These authorized areas are frequently removed from other retail operations. Because the cannabis industry remains illegal under United States federal law, the disadvantaged tax status of businesses deriving their income from cannabis, and the reluctance of the banking industry to support cannabis businesses, it may be difficult for Trulieve to locate and obtain the rights to operate at various preferred locations. Property owners may violate their mortgages by leasing to the Corporation, and those property owners that are willing to allow use of their facilities may require payment of above fair market value rents to reflect the scarcity of such locations and the risks and costs of providing such facilities.

Unfavorable Tax Treatment of Cannabis Businesses

Under Section 280E (“**Section 280E**”) of the United States Internal Revenue Code of 1986, as amended (the “**U.S. Tax Code**”), “no deduction or credit shall be allowed for any amount paid or incurred during the taxable year in carrying on any trade or business if such trade or business (or the activities which comprise such trade or business) consists of trafficking in controlled substances (within the meaning of Schedule I and II of the Controlled Substances Act) which is prohibited by Federal law or the law of any State in which such trade or business is conducted.” This provision has been applied by the United States Internal Revenue Service to cannabis operations, prohibiting them from deducting expenses directly associated with the sale of cannabis. Section 280E, therefore, has a significant impact on the retail side of cannabis, but a lesser impact on cultivation and manufacturing operations. A result of Section 280E is that an otherwise profitable business may, in fact, operate at a loss, after taking into account its United States income tax expenses.

United States Tax Classification of the Corporation

The Corporation, which is and will continue to be a Canadian company as of the date of this AIF, generally would be classified as a non-United States company under general rules of United States federal income taxation. Section 7874 of the U.S. Tax Code, however, contains rules that can cause a non-United States company to be taxed as a United States company for United States federal income tax purposes. Under section 7874 of the U.S. Tax Code, a company created or organized outside the United States. (i.e., a non-United States company) will nevertheless be treated as a United States company for United States federal income tax purposes (such treatment is referred to as an “**Inversion**”) if each of the following three conditions are met:

(i) the non-United States company acquires, directly or indirectly, or is treated as acquiring under applicable United States Treasury Regulations, substantially all of the assets held, directly or indirectly, by a United States company, (ii) after the acquisition, the former stockholders of the acquired United States Corporation hold at least 80% (by vote or value) of the shares of the non-United States company by reason of holding shares of the United States acquired company, and (iii) after the acquisition, the non-United States company’s expanded affiliated group does not have substantial business activities in the non-United States company’s country of organization or incorporation when compared to the expanded affiliated group’s total business activities (clauses (i) – (iii), collectively, the “**Inversion Conditions**”).

For this purpose, “expanded affiliated group” means a group of corporations where (i) the non-United States corporation owns stock representing more than 50% of the vote and value of at least one member of the expanded affiliated group, and (ii) stock representing more than 50% of the vote and value of each member is owned by other members of the group. The definition of an “expanded affiliated group” includes partnerships where one or more members of the expanded affiliated group own more than 50% (by vote and value) of the interests of the partnership.

The Corporation intends to be treated as a United States company for United States federal income tax purposes under section 7874 of the U.S. Tax Code and is expected to be subject to United States federal income tax on its worldwide income. However, for Canadian tax purposes, the Corporation is expected, regardless of any application of section 7874 of the U.S. Tax Code, to be treated as a Canadian resident company (as defined in the Income Tax Act (Canada) (the “**ITA**”) for Canadian income tax purposes. As a result, the Corporation will be subject to taxation both in Canada and the United States, which could have a material adverse effect on its financial condition and results of operations.

Lack of Access to United States Bankruptcy Protections

Because cannabis is a Schedule I substance under the CSA, many courts have denied cannabis businesses federal bankruptcy protections, making it difficult for lenders to be made whole on their investments in the cannabis industry in the event of a bankruptcy. If the Corporation were to experience a bankruptcy, there is no guarantee that United States federal bankruptcy protections would be available to the Corporation, which would have a material adverse effect.

The Corporation is a Holding Corporation

The Corporation is a holding company and essentially all of its assets are the capital stock of its subsidiaries. The Corporation currently conducts substantially all of its business through Trulieve US, which currently generates substantially all of the Corporation's revenues. Consequently, the Corporation's cash flows and ability to complete current or desirable future enhancement opportunities are dependent on the earnings of Trulieve US and the other subsidiaries of the Corporation and the distribution of those earnings to the Corporation. The ability of Trulieve US and the other subsidiaries of the Corporation to pay dividends and other distributions will depend on such subsidiaries' operating results and will be subject to applicable laws and regulations which require that solvency and capital standards be maintained by a subsidiary company and contractual restrictions contained in the instruments governing any current or future indebtedness of the Corporation's subsidiaries. In the event of a bankruptcy, liquidation or reorganization of Trulieve US or another of the Corporation's subsidiaries, holders of indebtedness and trade creditors of such subsidiary may be entitled to payment of their claims from the assets of such subsidiary before the Corporation.

Inability to Enforce Contracts

It is a fundamental principle of law that a contract will not be enforced if it involves a violation of law or public policy. Because cannabis remains illegal at a federal level in the United States, judges in multiple states have on a number of occasions refused to enforce contracts for the repayment of money when the loan was used in connection with activities that violate United States federal law, even if there is no violation of state law. There remains doubt and uncertainty that the Corporation will be able to legally enforce contracts it enters into if necessary. The Corporation cannot be assured that it would have a remedy for breach of any given contract, which would have a material adverse effect on the Corporation.

Limitations on Ownership of Licenses

In certain states, the cannabis laws and regulations limit not only the number of cannabis licenses issued, but also the number of cannabis licenses that one person may own. For example, in Massachusetts, no person may have an ownership interest, or control over, more than three medical licenses or three adult-use licenses in any category – for example, cultivation, product manufacturing, transport or retail. Such limitations on the acquisition of ownership of additional licenses within certain states may limit the Corporation's ability to grow organically or to increase its market share in such states.

The Cannabis Industry is Difficult to Forecast

The Corporation must rely largely on its own market research to forecast sales, as detailed forecasts are not generally obtainable from other sources at this early stage of the cannabis industry. A failure in the demand for its products to materialize as a result of competition, technological change or other factors could have a material adverse effect on the business, results of operations, financial condition or prospects of the Corporation. Reliable data on the medical and adult-use cannabis industry is not available. As a result of recent and ongoing regulatory and policy changes in the medical and adult-use cannabis industry, the market data available is limited and unreliable. United States federal and state laws prevent widespread participation and hinder market research. Therefore, market research and projections by the Corporation of estimated total retail sales, demographics, demand, and similar consumer research, are based on assumptions from limited and unreliable market data, and generally represent the personal opinions of the Corporation's management team as of the date of this AIF.

Voting Control

As a result of the Super Voting Shares that they hold, certain shareholders of the Corporation exercise a significant majority of the voting power in respect of the Corporation's outstanding shares. The Subordinate Voting Shares are entitled to one vote per share, Multiple Voting Shares are entitled to 100 votes per share, and the Super Voting Shares are entitled to up to 200 votes per share. As a result, the

holders of the Super Voting Shares have the ability to control the outcome of all matters submitted to the Corporation's shareholders for approval, including the election and removal of directors and any arrangement or sale of all or substantially all of the assets of the Corporation.

This concentrated control could delay, defer, or prevent a change of control of the Corporation, arrangement or amalgamation involving the Corporation or sale of all or substantially all of the assets of the Corporation that its other shareholders support. Conversely, this concentrated control could allow the holders of the Super Voting Shares to consummate such a transaction that the Corporation other shareholders do not support.

Future Acquisitions or Dispositions Bear Inherent Risks

Material acquisitions, dispositions and other strategic transactions involve a number of risks, including: (i) potential disruption of the Corporation's ongoing business; (ii) distraction of management; (iii) the Corporation may become more financially leveraged; (iv) the anticipated benefits and cost savings of those transactions may not be realized fully or at all or may take longer to realize than expected; (v) increased scope and complexity of the Corporation's operations; and (vi) loss or reduction of control over certain of the Corporation's assets. Additionally, the Corporation may issue additional Subordinate Voting Shares in connection with such transactions, which would dilute a shareholder's holdings in the Corporation. The presence of one or more material liabilities of an acquired company that are unknown to the Corporation at the time of acquisition could have a material adverse effect on the business, results of operations, prospects and financial condition of the Corporation. A strategic transaction may result in a significant change in the nature of the Corporation's business, operations and strategy. In addition, the Corporation may encounter unforeseen obstacles or costs in implementing a strategic transaction or integrating any acquired business into the Corporation's operations.

Requirement to Maintain Licenses

The Corporation's ability to grow, store and sell medical marijuana and cannabis oil is dependent on maintaining its licenses and permits. Failure to comply with the requirements of such licenses and permits, or any failure to maintain any such licenses and permits held would have a material adverse impact on the business, financial condition and operating results of the Corporation.

To date, the activities and resources of Trulieve US have been focused primarily within the state of Florida. The Corporation expects to continue the focus on this state as it continues to review further expansion opportunities into other jurisdictions in the United States, including Massachusetts, California and Connecticut. Adverse changes or developments within Florida could have a material and adverse effect on the Corporation's business, financial condition and results of operations.

Agricultural Risks

The Corporation's business involves the growing of medical marijuana, an agricultural product. Such business will be subject to the risks inherent in the agricultural business, such as insects, plant diseases and similar agricultural risks.

Existing Indebtedness

Following the offering of the Units, the Corporation incurred additional indebtedness. See "Liquidity, Financing Activities During the Period, and Capital Resources". This indebtedness could adversely affect the Corporation's business, financial condition or results of operations and prevent Trulieve from fulfilling its obligations under its existing indebtedness and the Notes offered hereby.

The ability of Trulieve to make certain payments or advances will be subject to applicable laws and contractual restrictions in the instruments governing any indebtedness of Trulieve. The degree to which Trulieve is leveraged could have important consequences, including: (i) the Corporation's ability to obtain additional financing for working capital, capital expenditures, or acquisitions may be limited; and (ii) all or

part of the Corporation's cash flow from operations may be dedicated to the payment of the principal of and interest on the Corporation's indebtedness, thereby reducing funds available for operations. These factors may adversely affect the Corporation's cash flow.

Ability to Make Payment

The ability of the Corporation to make scheduled payments on or to refinance its debt obligations, including the Notes, depends on the Corporation's financial condition and operating performance, which are subject to a number of factors beyond the Corporation's control. Trulieve may be unable to maintain a level of cash flow from operating activities sufficient to permit the Corporation to pay the principal, premium, if any, and interest on its indebtedness, including the Notes.

If the Corporation's cash flow and capital resources are insufficient to fund its debt service obligations, Trulieve could face liquidity problems and could be forced to reduce or delay investments and capital expenditures or to dispose of material assets or operations, seek additional debt or equity capital or restructure or refinance its indebtedness, including the Notes. The Corporation may not be able to effect any such alternative measures on commercially reasonable terms or at all and, even if successful, those alternative actions may not allow Trulieve to meet its scheduled debt service obligations.

The Corporation's inability to generate sufficient cash flow to satisfy its debt obligations, or to refinance its indebtedness on commercially reasonable terms or at all, would materially and adversely affect the Corporation's business, results of operations, financial condition and its ability to satisfy its obligations under the Notes.

Additional Financing

The Corporation may require equity and/or debt financing to support on-going operations, to undertake capital expenditures or to undertake acquisitions or other business combination transactions. There can be no assurance that additional financing will be available to the Corporation when needed or on terms which are acceptable. The Corporation's inability to raise financing to fund on-going operations, capital expenditures or acquisitions could limit its growth and may have a material and adverse effect on the Corporation's business, financial condition and results of operations or prospects. If additional funds are raised through further issuances of equity or convertible debt securities, existing shareholders could suffer significant dilution, and any new equity securities issued could have rights, preferences and privileges superior to those of holders of Subordinate Voting Shares.

Intellectual Property Risks

As long as cannabis remains illegal under United States federal law as a Schedule I controlled substance pursuant to the CSA, the benefit of certain federal laws and protections which may be available to most businesses, such as federal trademark and patent protection regarding the intellectual property of a business, may not be available to the Corporation. As a result, the Corporation's intellectual property may never be adequately or sufficiently protected against the use or misappropriation by third-parties. In addition, since the regulatory framework of the cannabis industry is in a constant state of flux, the Corporation can provide no assurance that it will ever obtain any protection of its intellectual property, whether on a federal, state or local level.

Risk of Civil Asset Forfeiture

Because the cannabis industry remains illegal under United states federal law, any property owned by participants in the cannabis industry which are either used in the course of conducting such business, or are the proceeds of such business, could be subject to seizure by law enforcement and subsequent civil asset forfeiture. Even if the owner of the property were never charged with a crime, the property in question could still be seized and subject to an administrative proceeding by which, with minimal due process, it could be subject to forfeiture.

Dependence on Personnel

The Corporation will depend on key managerial personnel for its continued success and the Corporation's anticipated growth may require additional expertise and the addition of new qualified personnel. The loss of the services of existing personnel, as well as the failure to recruit additional key managerial personnel in a timely manner, could harm the Corporation's business development programs, and the Corporation's ability to manage day-to-day operations, attract collaboration partners, attract and retain other employees, generate revenues, and could have a material adverse effect on the Corporation's business, financial condition and results of operations.

Greater Risk of Audits

Based on anecdotal information, the Corporation believes there is a greater likelihood that the Internal Revenue Service will audit cannabis-related businesses, including the Corporation. Any such audit could result in the Corporation paying additional tax, interest and penalties, as well as incremental accounting and legal expenses.

Dividends

It is unlikely that the Corporation will pay any dividends on the Subordinate Voting Shares in the foreseeable future. However, dividends received by shareholders who are residents of Canada for purpose of the ITA will be subject to United States withholding tax. Any such dividends may not qualify for a reduced rate of withholding tax under the Canada-United States tax treaty. In addition, a foreign tax credit or a deduction in respect of foreign taxes may not be available.

Dividends received by United States shareholders will not be subject to United States withholding tax but will be subject to Canadian withholding tax. Dividends paid by the Corporation will be characterized as United States source income for purposes of the foreign tax credit rules under the United States Tax Code. Accordingly, United States shareholders generally will not be able to claim a credit for any Canadian tax withheld unless, depending on the circumstances, they have an excess foreign tax credit limitation due to other foreign source income that is subject to a low or zero rate of foreign tax.

Dividends received by shareholders that are neither Canadian nor United States shareholders will be subject to United States withholding tax and will also be subject to Canadian withholding tax. These dividends may not qualify for a reduced rate of United States withholding tax under any income tax treaty otherwise applicable to a shareholder of the Corporation, subject to examination of the relevant treaty.

Because the Subordinate Voting Shares will be treated as shares of a United States domestic corporation, the United States gift, estate and generation-skipping transfer tax rules generally apply to a non- United States shareholder of Subordinate Voting Shares.

Liability Claims

As a distributor of products designed to be ingested by humans, the Corporation faces an inherent risk of exposure to product liability claims, regulatory action and litigation if its products are alleged to have caused significant loss or injury. The Corporation may be subject to various product liability claims, including, among others, that the Corporation's products caused injury or illness, include inadequate instructions for use or include inadequate warnings concerning possible side effects or interactions with other substances. A product liability claim or regulatory action against the Corporation could result in increased costs, could adversely affect the Corporation's reputation with its clients and consumers generally, and could have a material adverse effect on the results of operations and financial condition of the Corporation.

Manufacturers and distributors of products are sometimes subject to the recall or return of their products for a variety of reasons, including product defects, such as contamination, unintended harmful side effects or interactions with other substances, packaging safety and inadequate or inaccurate labelling disclosure. If any of the Corporation's products are recalled due to an alleged product defect or for any other reason, the Corporation could be required to incur the unexpected expense of the recall and any legal proceedings that might arise in connection with the recall. The Corporation may lose a significant amount of sales and may not be able to replace those sales at an acceptable margin or at all. In addition, a product recall may require significant management attention. Additionally, if one of the Corporation's brands were subject to recall, the image of that brand and the Corporation could be harmed. A recall for any of the foregoing reasons could lead to decreased demand for the Corporation's products and could have a material adverse effect on the Corporation's results of operations and financial condition.

Consumer Perception

The Corporation believes the medical marijuana industry is highly dependent upon consumer perception regarding the safety, efficacy and quality of medical marijuana distributed to such consumers. Consumer perception of the Corporation's products may be significantly influenced by scientific research or findings, regulatory investigations, litigation, media attention and other publicity regarding the consumption of medical marijuana products. There can be no assurance that future scientific research, findings, regulatory proceedings, litigation, media attention or other research findings or publicity will be favourable to the medical marijuana market or any particular product, or consistent with earlier publicity. Future research reports, findings, regulatory proceedings, litigation, media attention or other publicity that are perceived as less favourable than, or that question, earlier research reports, findings or publicity could have a material adverse effect on the demand for the Corporation's products and the business, results of operations, financial condition and cash flows.

Security Risks

Given the nature of the Corporation's product and its lack of legal availability outside of channels approved by the Government of the United States, as well as the concentration of inventory in its facilities, despite meeting or exceeding all legislative security requirements, there remains a risk of shrinkage as well as theft. A security breach at one of the Corporation's facilities could expose the Corporation to additional liability and to potentially costly litigation, increase expenses relating to the resolution and future prevention of these breaches and may deter potential patients from choosing the Corporation's products.

In addition, the Corporation collects and stores personal information about its patients and is responsible for protecting that information from privacy breaches. A privacy breach may occur through procedural or process failure, information technology malfunction, or deliberate unauthorized intrusions. Theft of data for competitive purposes, particularly patient lists and preferences, is an ongoing risk whether perpetrated via employee collusion or negligence or through deliberate cyber-attack. Any such theft or privacy breach would have a material adverse effect on the Corporation's business, financial condition and results of operations.

The Corporation's operations will depend, in part, on how well it protects its networks, equipment, information technology ("IT") systems and software against damage from a number of threats, including, natural disasters, intentional damage and destruction, fire, power loss, hacking, computer viruses, vandalism and theft. The Corporation's operations will also depend on the timely maintenance, upgrade and replacement of networks, equipment, IT systems and software, as well as pre-emptive expenses to mitigate the risks of failures. Any of these and other events could result in information system failures, delays and/or increase in capital expenses. The failure of information systems or a component of information systems could, depending on the nature of any such failure, adversely impact the Corporation's reputation and results of operations.

Unpredictability Caused by Anticipated Capital Structure and Voting Control

Although other Canadian-based companies have dual class or multiple voting share structures, given the capital structure contemplated in respect of the Corporation and the concentration of voting control held by the holders of the Super Voting Shares, this structure and control could result in a lower trading price for, or greater fluctuations in, the trading price of the Corporation's Subordinate Voting Shares or adverse publicity to the Corporation or other adverse consequences.

Sales of Substantial Amounts of Subordinate Voting Shares

Sales of substantial amounts of Subordinate Voting Shares, or the availability of such securities for sale, could adversely affect the prevailing market prices for the Subordinate Voting Shares. A decline in the market prices of the Subordinate Voting Shares could impair the Corporation's ability to raise additional capital through the sale of securities should it desire to do so.

Volatile market price for the Subordinate Voting Shares

The market price for the Subordinate Voting Shares may be volatile and subject to wide fluctuations in response to numerous factors, many of which will be beyond the Corporation's control, including, but not limited to, the following:

- actual or anticipated fluctuations in the Corporation's quarterly results of operations;
- recommendations by securities research analysts;
- changes in the economic performance or market valuations of companies in the cannabis industry;
- addition or departure of the Corporation's executive officers and other key personnel;
- release or expiration of transfer restrictions on the issued and outstanding shares of the Corporation;
- regulatory changes affecting the cannabis industry generally and the business and operations of the Corporation;
- announcements of developments and other material events by the Corporation or its competitors;
- fluctuations to the costs of vital production materials and services;
- changes in global financial markets and global economies and general market conditions, such as interest rates and pharmaceutical product price volatility;
- significant acquisitions or business combinations, strategic partnerships, joint ventures or capital commitments by or involving the Corporation or its competitors;
- operating and share price performance of other companies that investors deem comparable to the Corporation or from a lack of market comparable companies; and
- news reports relating to trends, concerns, technological or competitive developments, regulatory changes and other related issues in the Corporation's industry or target markets.

Financial markets have experienced significant price and volume fluctuations that have particularly affected the market prices of equity securities of companies and that have often been unrelated to the operating performance, underlying asset values or prospects of such companies. Accordingly, the market price of the Subordinate Voting Shares may decline even if the Corporation's operating results, underlying asset values or prospects have not changed. Additionally, these factors, as well as other related factors, may cause decreases in asset values that are deemed to be other than temporary, which may result in impairment losses. There can be no assurance that continuing fluctuations in price and volume will not occur. If such increased levels of volatility and market turmoil continue, the Corporation's operations could be adversely impacted, and the trading price of the Subordinate Voting Shares may be materially adversely affected.

Liquidity

The Corporation cannot predict at what prices the Subordinate Voting Shares of the Corporation will trade and there can be no assurance that an active trading market will develop or be sustained. There is a significant liquidity risk associated with an investment in the Corporation.

Litigation

The Corporation may become party to litigation from time to time in the ordinary course of business which could adversely affect its business. Should any litigation in which the Corporation becomes involved be determined against the Corporation, such a decision could adversely affect the Corporation's ability to continue operating and the market price for the Subordinate Voting Shares. Even if the Corporation is involved in litigation and wins, litigation can redirect significant company resources.

Management of Growth

The Corporation may be subject to growth-related risks, including capacity constraints and pressure on its internal systems and controls. The ability of the Corporation to manage growth effectively will require it to continue to implement and improve its operational and financial systems and to expand, train and manage its employee base. The inability of the Corporation to deal with this growth may have a material adverse effect on the Corporation's business, financial condition, results of operations or prospects.

Increased Costs as a Result of Being a Public Corporation

As a public issuer, the Corporation is subject to the reporting requirements and rules and regulations under the applicable Canadian securities laws and rules of any stock exchange on which the Corporation's securities may be listed from time to time. Additional or new regulatory requirements may be adopted in the future. The requirements of existing and potential future rules and regulations will increase the Corporation's legal, accounting and financial compliance costs, make some activities more difficult, time-consuming or costly and may also place undue strain on its personnel, systems and resources, which could adversely affect its business, financial condition, and results of operations.

Conflicts of Interest

Certain of the directors and officers of the Corporation are, or may become directors and officers of other companies, and conflicts of interest may arise between their duties as directors and officers of the Corporation and as directors and officers of such other companies.

Insurance Coverage

The Corporation believes will have insurance coverage with respect to workers' compensation, general liability, directors' and officers' insurance, fire and other similar policies customarily obtained for businesses to the extent commercially appropriate; however, because the Corporation is engaged in and operates within the cannabis industry, there are exclusions and additional difficulties and complexities associated with such insurance coverage that could cause the Corporation to suffer uninsured losses, which could adversely affect the Corporation's business, results of operations, and profitability. There is no assurance that the Corporation will be able to obtain insurance coverage at a reasonable cost or fully utilize such insurance coverage, if necessary.

Reliance on Key Utility Services

The Corporation's business is dependent on a number of key inputs and their related costs including raw materials and supplies related to its growing operations, as well as electricity, water and other local utilities. Any significant interruption or negative change in the availability or economics of the supply chain for key inputs could materially impact the business, financial condition and operating results of the Corporation. Any inability to secure required supplies and services or to do so on appropriate terms could

have a materially adverse impact on the business, financial condition and operating results of the Corporation.

Difficulty in Enforcing Judgments and Effecting Service of Process on Directors and Officers

The directors and officers of the Corporation reside outside of Canada. Some or all of the assets of such persons may be located outside of Canada. Therefore, it may not be possible for the shareholders of the Corporation to collect or to enforce judgments obtained in Canadian courts predicated upon the civil liability provisions of applicable Canadian securities laws against such persons. Moreover, it may not be possible for the shareholders of the Corporation shareholders to effect service of process within Canada upon such persons.

Community Redevelopment Agency Investigation

In 2015, the United States Grand Jury for the North District of Florida began an investigation in to alleged corruption by local officials in Tallahassee, Florida. In June 2017, the grand jury issued subpoenas to the City of Tallahassee and the Community Redevelopment Agency (the “**Agency**”) for records of communications, bids for proposals, applications, and more from approximately two dozen business entities and individuals, including Ms. Rivers, the Chief Executive Officer of the Corporation, her husband, J.T. Burnette, and Inkbridge LLC, a business associated with Ms. Rivers. The grand jury also directly subpoenaed Ms. Rivers for information related to her involvement with the Agency, a specific commissioner of the Agency, and political contributions Ms. Rivers made through an associated business. Ms. Rivers timely complied with the subpoena. Ms. Rivers has not been charged with any crime. No information was requested of Ms. Rivers in her capacity as an officer, director or employee of the Corporation. Ms. Rivers promptly disclosed the subpoena to the Board and agreed to notify the Board of further developments. Upon disclosure, the Board met independently to consider the matter, the allegations raised thereunder and Ms. Rivers’ response to same. In addition, a member of the Board retained counsel to investigate the matter. Based on such review, counsel to the Board member concluded Ms. Rivers was not a targetⁱ of the investigation. The Board considered the impact of any potential liability in allowing Ms. Rivers to continue as Chief Executive Officer of the Corporation in the face of the investigation and determined that no independent, formal investigation or further action was warranted at the time based on its understanding of the facts as represented by Ms. Rivers. The Corporation remains confident the investigation does not relate to the Corporation or Ms. Rivers’ conduct as a director, officer or employee thereof and believes that Ms. Rivers has complied with all requests made of her to date pursuant to the investigation. The investigation however remains ongoing. While there can be no assurances given with respect to the outcome of the investigation, no government official has contacted Ms. Rivers or the Corporation as part of the investigation since Ms. Rivers produced documents in response to the subpoena in June, 2017. Ms. Rivers’ counsel contacted the federal prosecutor supervising the investigation in July, 2018, who stated Ms. Rivers was currently not a target of the investigation. The Corporation does not know what impact, if any, this investigation will have on the Corporation’s future efforts to maintain and obtain licenses in Florida or elsewhere. Any negative impact on the Corporation’s Florida license could have a material adverse effect on the Corporation’s business, revenues, operating results and financial condition. It is the Corporation’s goal to create patients loyal to the Corporation’s brand and in return to provide these patients a superior level of customer service and product selection. Any allegation of wrong doing on the part of Ms. Rivers as a result of the Agency investigation could harm the Corporation’s reputation with its customers and could have a material adverse effect on the Corporation’s business, revenues, operating results and financial condition as well as the Corporation’s reputation, even if the Agency investigation was concluded successfully in favour of Ms. Rivers. In addition, in the event the Agency investigation results in any allegation of wrongdoing or otherwise further targets Ms. Rivers, Ms. Rivers may be unable to continue serving as Chief Executive Officer and director of the Corporation. Qualified individuals within the cannabis industry are in high demand and the Corporation may incur significant costs to attract and retain qualified management personnel. The loss of the services of Ms. Rivers, or an inability to attract other suitably qualified persons when needed, could have a material adverse effect on the Corporation’s ability to execute on its business plan and strategy, and the Corporation may be unable to find an adequate replacement on a timely basis. Upon the occurrence of certain events that would be considered to negatively impact Ms.

Rivers' involvement with the Corporation, including her becoming a target of the investigation, Ms. Rivers has agreed to convert any Super Voting Shares controlled by her into Multiple Voting Shares.

General Economic Risks

The Corporation's operations could be affected by the economic context should the unemployment level, interest rates or inflation reach levels that influence consumer trends and spending and, consequently, impact the Corporation's sales and profitability.

ⁱ A "target" is a person as to whom the prosecutor or the grand jury has substantial evidence linking him or her to the commission of a crime and who, in the judgment of the prosecutor, is a putative defendant. <https://www.justice.gov/usam/usam-9-11000-grand-jury#9-11.151>

Tab 5

Reports

Marijuana Overview

7/26/2019

Legalization

Eleven states and the District of Columbia now have legalized small amounts of marijuana for adult recreational use.

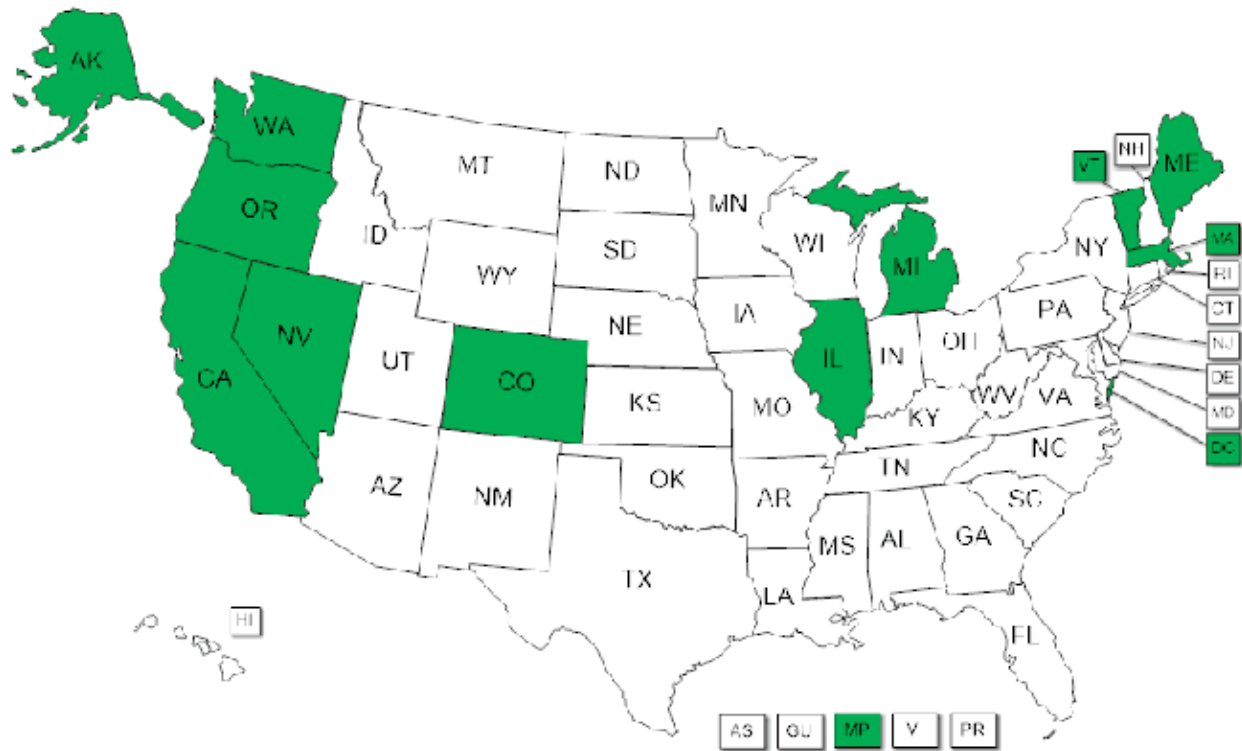
Colorado and Washington approved adult-use recreational marijuana measures in 2012. Alaska, Oregon and District of Columbia followed suit in fall of 2014. In 2015, Ohio voters defeated a ballot measure that addressed commercial production and sale of recreational marijuana. On Nov. 8, 2016, voters in four states, California, Maine, Massachusetts and Nevada, approved adult-use recreational marijuana, while voters in Arizona disapproved.

In 2018, Michigan voters approved "Proposal 1" by a margin of 56 percent to 44 percent to legalize, regulate, and tax marijuana in the state.

In 2018, Vermont became the first state to legalize marijuana for adult use through the legislative process (rather than a ballot initiative.) Vermont's law went into effect July 1, 2018.

In May 2019, the Illinois General Assembly passed the Cannabis Regulation and Tax Act, House Bill 1438 and the Governor signed the legislation in June. Legal sales will begin Jan. 1, 2020.

States that Have Legalized Recreational Marijuana for Adults



In 2018, 21 states considered bills that would legalize adult-use marijuana: Connecticut, Delaware, Georgia, Hawaii, Kansas, Kentucky, Maryland, Minnesota, Mississippi, Missouri, New Hampshire, New Jersey, New Mexico, New York, Pennsylvania, Rhode Island, South Carolina, Wisconsin and West Virginia.

In addition, measures in Minnesota, Missouri, New Mexico, proposed a constitutional initiative or other voter approval for adult-use legal marijuana but none of these measures passed.

Study bills were filed in Hawaii, Massachusetts, New Hampshire, New Mexico, North Dakota and Rhode Island. The measures in New Hampshire and Rhode Island were enacted and established commissions to study the legalization, regulation and taxation of marijuana.

Bills to repeal voter initiatives approving adult-use legal marijuana were introduced in 2018 but did not pass in Washington and a repeal bill is still pending in Massachusetts.

Federalism

Several bills before state legislatures in 2018 year addressed the federal role in marijuana policies. California passed a resolution urging Congress to pass legislation that would allow financial institutions to provide services to the cannabis industry. Bills or resolutions were introduced in 2018 in Alaska California, Georgia, Iowa, Massachusetts Michigan, New Jersey,



and Pennsylvania call on Congress to reschedule or otherwise allow state authority for marijuana policy. NCSL has sent a letter to Congress in 2018 in support of a recently introduced bill to protect state sovereignty with respect to marijuana regulation. NCSL also sent a letter in support of language prohibiting the DOJ from using justice funding for enforcement actions against states with legal medical marijuana laws. NCSL's Law, Criminal Justice and Public Safety committee also recently enacted a policy resolution on cannabis.

Under federal law, marijuana is still a Schedule I illegal substance.

Decriminalization

Twenty-six states and the District of Columbia have decriminalized small amounts of marijuana. This generally means certain small, personal-consumption amounts are a civil or local infraction, not a state crime (or are a lowest misdemeanor with no possibility of jail time). In 2014 and preceding the successful legalization ballot measure, the District of Columbia enacted legislation, which passed congressional review, and made possession or transfer without remuneration of one ounce or less of marijuana a civil violation.

States that have decriminalized small amounts of marijuana include:

- Alaska (also now with legal provisions)
- California (also now with legal provisions)
- Colorado (also now with legal provisions)
- Connecticut
- Delaware
- Hawaii
- Illinois (also now with legal provisions)
- Maine (also now with legal provisions)
- Maryland
- Massachusetts (also now with legal provisions)
- Minnesota
- Mississippi

- Missouri
- Nebraska
- Nevada (also now with legal provisions)
- New Hampshire
- New Mexico
- New York
- North Carolina
- North Dakota
- Ohio
- Oregon (also now with legal provisions),
- Rhode Island
- Vermont (also now with legal provisions)
- Washington (also now with legal provisions)
- District of Columbia (also now with legal provisions).

Of the states above, Minnesota, Missouri, Nevada, North Carolina and Ohio designate it as a low-level misdemeanor, with no possibility of jail for qualifying offenses. The other states with decriminalization policy have specified small amounts of marijuana as a civil infraction, or the like.

In 2018, decriminalization bills were considered in Alaska, Arizona, Georgia, Hawaii, Iowa, Indiana, Louisiana, Massachusetts, Maryland, Mississippi, North Carolina, New Jersey, New York, Tennessee, Virginia and Wisconsin. None of the measures had been passed as of October 4, 2018.

Recent Decriminalization Enactments 2013 – 2019

- In 2019, Hawaii passed House Bill 1383. When the bill goes into effect January 11, 2020, possession of three grams or less of marijuana will be punishable by a \$130 fine. New Mexico also passed HB 323 in 2019 and it went into effect on July 1, 2019. The penalty for the possession of up to a half an ounce of marijuana is a \$50 civil fine, instead of potential jail time. North Dakota passed House Bill 1050. The bill goes into effect August 1, 2019 and reclassifies possession of up to a half an ounce of marijuana as an infraction that carries a maximum fine of \$1000.
- In 2017, New Hampshire became the latest state to decriminalize (HB 640) small amounts of marijuana. Fines for possession of up to three-quarters of an ounce of marijuana were

reduced from \$2,000 to just \$100 for a first or second offense. In 2016, New Hampshire passed legislation (SB 498) that made possession of one ounce or less of marijuana an unspecified misdemeanor, stopping short of decriminalization.

- In 2016, the Illinois General Assembly enacted and the governor signed legislation (SB 2228) to decriminalize 10 grams or less of marijuana, making it an infraction that does not result in a criminal record.
- In early 2016, the Maryland General Assembly overrode the governor's veto of a 2015 measure (SB 517) that decriminalized marijuana paraphernalia and imposes civil fines of \$500 for public cannabis use.

Penalties

Other state actions have reduced criminal penalties for marijuana convictions, generally following a trend to reduce adverse consequences of some marijuana crimes.

In the last five years, legislation in at least 16 states have amended marijuana penalties.

In 2018, criminal penalty measures were considered in Alaska, Alabama, Arizona, Florida, Hawaii, Kansas, Massachusetts, Nebraska, New Mexico, New Jersey, Virginia, Washington, West Virginia and Wyoming. None of these measures were enacted.

Significant legislation in 2017 affecting marijuana penalties included:

- Kansas (SB 112) reduced the severity level for unlawful possession for drug paraphernalia from a class A to a class B non-person misdemeanor.
- Montana's sweeping sentencing bill (HB 133) includes provisions that reduced penalties for possession of marijuana under 60 grams to a misdemeanor with no jail time.
- North Dakota (HB 1041) reduced the drug possession (including marijuana) charge level from a Class C felony to a Class A misdemeanor for first-time offenders and establishes probation as the presumptive sentence for low-level, nonviolent felonies. Another bill (HB 1269) reduced mandatory minimum sentences for controlled substances including marijuana.
- To create consistency in state law in response to Measure 91, Oregon enacted (SB 302) which repealed some penalties related to unlawful possession of marijuana.
- West Virginia (HB 2579) increased the penalties for transporting controlled substances into the state but provided a differing, lesser penalty for an offense involving marijuana.

Significant legislation in 2016 affecting marijuana penalties included:

- Vermont (HB 858) raised to one ounce the amount of marijuana being unlawfully sold or dispensed for which an imprisonment penalty applies.
- Indiana lawmakers enacted a penalty measure (SB 290) that sets amounts of drugs for which a person may be convicted of possession with intent to deliver without additional evidence of trafficking. The marijuana amount is 10 pounds or more.
- A Maryland enactment (HB 565) made possession of 10 grams or more of marijuana a misdemeanor.
- In Minnesota, an act (SB 3481) modified threshold amounts for several drugs, including marijuana. The enactment also created new possession crimes for specified amounts of marijuana plants and a new gross misdemeanor offense for possession offenses involving trace amounts of drugs.
- Oklahoma (HB 2479) shortened sentences for many drug crimes, including marijuana possession.
- An enactment in Louisiana decreased criminal penalties for some drug paraphernalia offenses and also removed such offenses as a predicate conviction for sentence enhancement purposes.
- A justice reinvestment act in Maryland (HB 1312) addressed mandatory penalties for possession and distribution of 50 pounds or more of marijuana.
- A Delaware (HB 332) enactment allows probation before judgment for misdemeanor marijuana offenses.

Significant legislation in 2015 affecting marijuana penalties included:

- Utah lawmakers enacted broad sentencing and corrections reform legislation (HB 348) that included reduction of most marijuana penalties to misdemeanors.
- A Connecticut act (HB 7104) created a new penalty structure that makes half an ounce or more of marijuana a Class A misdemeanor instead of a felony. Other drug possession also became a misdemeanor rather than a felony, while courts have options for repeat offenses.
- An act in Wyoming in 2015 (SB 38) provided for deferred prosecution for first offenses of using or being under the influence of controlled substances, including marijuana.
- The North Dakota Legislative Assembly enacted a bill (HB 1394) that reduced from a Class A to a Class B misdemeanor the possession of less than one ounce of marijuana.
- Legislation approved in Louisiana (HB 149) created graduated penalties for marijuana possession based on amounts and number of convictions.

- And a 2015 Texas act (HB 642) allows judges to require that minors who possess marijuana participate in drug education programming.

Significant legislation in 2014 affecting marijuana penalties included:

- A Mississippi (HB 585) measure addressed drug courts and penalties for certain drug possession offenses, including marijuana.
- Utah (SB 205) provided that increased sentences for some drug possession crimes, including marijuana, may not result in an offense greater than a second-degree felony.
- Oklahoma legislation (SB 1875) allows a deferred sentence for certain drug offenders, including marijuana, and provides for no conviction record upon completion of conditions.

In 2013, Oregon passed two marijuana penalty measures, one that reduced the penalty for marijuana manufacture from a class A to a class B felony and created varying penalties for marijuana possession based on weight of the drug. Another enactment modified sentences for felony marijuana offenses.

Expungement-related Legislation

The past four years, at least fifteen states have passed laws addressing expungement of certain marijuana convictions. In most of these states, expungement measures pair with other policies to decriminalize or legalize.

In 2019, Illinois, Nevada, New Hampshire, and Washington all enacted legislation related to vacating or expunging records.

Significant legislation in 2019 related to expungement:

- Illinois' 2019 Cannabis Regulation and Tax Act allows the state to automatically grant clemency to residents who were convicted for possessing up to 30 grams of cannabis. A person can also petition a court to get charges rescinded if they were convicted with between 30 and 500 grams of cannabis.
- New Hampshire enacted House Bill 399 in 2019, which provides an opportunity for those convicted of offenses involving the possession of three-quarters of one ounce of cannabis or less to petition the court to have their convictions annulled. If the prosecuting attorney does not object to the request within ten days, the petition will be granted.

- Nevada passed a broad decriminalization measure that included marijuana offenses. Assembly Bill 192 allows those who have been convicted of misdemeanor cannabis possession charges to apply for expungement.
- In 2019, the Washington legislature passed Senate Bill 5605 that vacates misdemeanor marijuana convictions.

Significant legislation in 2018 related to expungement:

- California (AB 1793) addresses expungement of records. Proposition 64, the ballot measure that legalized recreational marijuana use for people 21 and older also contained language for the “resentencing and destruction of records for prior marijuana convictions”. A process for the expungement of records was not specified in the ballot measure and AB 1793 established such a process. The Department of Justice must now search its state criminal history information for eligible cases from 1975 to 2016 and notify prosecutors of all eligible cases in their jurisdiction. Prosecutors across the state have one year to challenge any case they do not agree is eligible for resentencing, case dismissal or expungement.
- Massachusetts (M.G.L c276 § 100A and M. G.L. c. 94G, § 13) allows the sealing of records for offenses that are no longer crimes, therefore, a past criminal case for possession of marijuana under 2 ounces can be sealed without a waiting period.

Significant legislation in 2017 related to expungement:

- Colorado (HB 1266) now allows defendants convicted of misdemeanor offense for use or possession of marijuana to petition to seal criminal records if offense would not have been a crime if committed on or after Dec. 10, 2012.
- Maryland (SB 949) reduced the waiting period for expungement of a marijuana possession offense from 10 years to four years.
- The Nevada Assembly and Senate both passed a measure (AB 259) that would have permitted those with criminal convictions for offenses involving the possession of one ounce or less of marijuana prior to Jan. 1, 2017 to have their convictions vacated. The measure was vetoed by the governor.

Significant legislation in 2016 related to expungement:

- Missouri (SB 588) expanded eligibility for, reduces waiting periods, and creates presumption in favor of expungement if certain criteria are met, for all misdemeanors and many felonies, including but not limited to marijuana crimes.

- New Hampshire (SB 391) amended to 2 years the waiting period for petitioning for annulment of a misdemeanor marijuana or hashish offense.
- An Oregon enactment (SB1598) instructed courts with respect to expungement orders for marijuana convictions for offenses that no longer are a crime.

Significant legislation in 2015 related to expungement:

- Following the successful legalization ballot measure there, an act in Oregon (SB 364) now requires courts to consider set-aside of records of certain misdemeanor marijuana offenses when probation has been successfully completed; and another Oregon act (SB 844) made eligible for expunction an adjudication for marijuana possession crimes.
- Laws in Maryland (SB 651) and Vermont (SB 115) allow expungement of an offense for which the underlying conduct is no longer a criminal offense. Similarly, a Rhode Island act (SB 518) provided that records of marijuana violations are not open to the public.

In 2014, a New Jersey enactment (A 3206 and SB 2663) allows expungement of records of those who successfully complete special probation drug court.

Additional Resources

- NCSL Marijuana Deep Dive
- Alaska Marijuana Control Board
- Oregon Liquor Control Commission, Recreational Marijuana
- NCSL Blog, October 2, 2015 “Legislatures on Legal MJ: No Thanks”
- Archived recording NCSL 2015 Summit program “Marijuana and Federalism”
- Session resources NCSL 2015 Summit program “Legalizing Marijuana: Potholes and Possibilities”
- The Green and Winding Road, March 2015 *State Legislatures* magazine
- What’s Hot for 2015?, January 2015 *State Legislatures* magazine
- NCSL state medical marijuana laws
- NCSL state traffic safety and drugged driving
- NCSL state industrial hemp statutes
- Legally Green, November 2013 *State Legislatures* magazine
- Ballot measures, December 2014 *State Legislatures* magazine

- Colorado 2013 approved Legislative Referendum for retail sales and excise taxes under 64
- Colorado Task Force work to regulate, control and tax marijuana under approved Amendment 64
- Washington State Liquor and Cannabis Board

Powered by
LexisNexis® State Net®

Lexis Nexis Terms and Conditions

Copyright 2019 by National Conference of State Legislatures



Forecasts Hazy for State Marijuana Revenue

Unknown price and demand, lack of historical data leave planners with limited information

The Pew Charitable Trusts

Susan K. Urahn, *executive vice president and chief program officer*

Kil Huh, *vice president, government performance*

Project team

Jeff Chapman

Adam Levin

Mary Murphy

Alexandria Zhang

Reviewers and advisers

This report benefited from the insights and expertise of external reviewers Beau Whitney, vice president and senior economist of New Frontier Data, and Steve Lerch, executive director and chief economist of the Washington State Economic and Revenue Forecast Council. Although they reviewed the report, neither they nor their organizations necessarily endorse its findings or conclusions. We also thank the state officials who were so generous with their time, knowledge, and expertise.

Acknowledgments

We would like to thank our Pew colleagues, including Catherine An, Louisa Barnes, Richard Friend, Carol Hutchinson, Mary Markley, Cindy Murphy-Tofig, Bernard Ohanian, Avi Schlosburg, Anne Usher, and Thad Vinson for their valuable editing and production assistance on this report.

Contact: Catherine An

Email: can@pewtrusts.org

Project website: pewtrusts.org/fiscal-health

The Pew Charitable Trusts is driven by the power of knowledge to solve today's most challenging problems. Pew applies a rigorous, analytical approach to improve public policy, inform the public, and invigorate civic life.

Overview

Revenue from “sin taxes” is notoriously volatile and difficult to predict, even when the taxes—such as those on cigarettes, liquor, or gambling—have been around for decades. Although consumption of or participation in these “sins” can change dramatically, analysts at least have historical data from across the nation to guide forecasts.

But now that 10 states and the District of Columbia have legalized recreational marijuana, officials are grappling with projecting collections from a new sin tax.¹ Forecasting revenue from a product that was illegal just a few years ago, and remains so under federal law and in most states, presents a unique challenge for state budget planning. For example, in Nevada’s first six months of collecting marijuana taxes, revenue came in 40 percent higher than budget officials expected, but in neighboring California revenue was 45 percent below projections in the first six months of collecting marijuana taxes.²

And with more states considering legalizing marijuana, forecasting and budgeting difficulties for revenue from recreational marijuana taxes are likely to become widespread. These challenges have consequences: If tax collections come in below forecasted amounts, for example, programs that are funded by these dollars could suffer.

In 2018, The Pew Charitable Trusts released an analysis of state sin taxes that urged caution about reliance on these taxes as longer-term fixes to budget shortfalls. This follow-up report, based on interviews with officials from states where marijuana has been sold and taxed for at least a year, describes how states are forecasting and planning specifically for using revenue from recreational marijuana.

In the interviews, officials reported lacking much of the information they typically depend on when making revenue forecasts. But they said they are applying available resources, learning from each other, and pioneering new approaches. Over time, they hope to identify answers to key questions, including:

- How many people use legal recreational marijuana and how will demand change?
- How will the price for recreational marijuana fluctuate?
- How will the market develop for cultivators, manufacturers, and retailers?
- How will tourism and cross-border sales affect revenue?
- Will revenue growth slow over time?

Given how unpredictable recreational marijuana is as a revenue source, states should adopt prudent policies for budgeting collections. Treating it like other volatile or nonrecurring sources will reduce the chance of a budget imbalance if reality does not meet expectations.

How states tax marijuana

States are taxing legalized recreational marijuana with a general retail sales tax, a marijuana-specific excise tax, or both. An excise tax is on the sale of a specific good or service. For marijuana, it can be levied on a per-unit basis, such as per ounce or per seed, or be calculated as a percentage of the value of the sale.

In California, for example, when a company purchases marijuana flowers to sell or to manufacture into a cannabis product, the state collects \$9.25 in taxes for each ounce. Then, when the final product is purchased by a consumer, the state collects the general sales tax of 7.25 percent plus an additional 15 percent excise tax. Washington state, by contrast, has no per-unit excise tax, but marijuana sales are taxed at 37 percent on top of its general sales tax. Alaska has no sales tax and does not tax the value of the drug’s sale, but places a per-unit excise tax on it.

Some states also allow local governments to add an additional tax on recreational marijuana to fund their needs. For example, cities and towns in Massachusetts can add up to a 3 percent tax for sales within the community.

Table 1

Tax Rates on Legalized Recreational Marijuana by State, as of February 2019

State	Cultivator excise tax	Retail excise tax	General sales tax
Alaska*	\$50 per ounce, mature bud and flower \$25 per ounce, immature or abnormal bud \$15 per ounce, remainder of plant \$1 per clone	n/a	n/a
California†	\$9.25 per ounce on flowers \$2.75 per ounce on leaves \$1.29 per ounce on fresh cannabis plant	15 percent	7.25 percent
Colorado‡	15 percent	15 percent	n/a
Maine§	\$335 per pound of flower or mature plant \$94 per pound of trim \$1.50 per immature plant or seedling \$0.30 per seed	10 percent	5.5 percent
Massachusetts¶	n/a	10.75 percent	6.25 percent
Michigan#	n/a	10 percent	6 percent
Nevada**	15 percent	10 percent	6.85 percent
Oregon††	n/a	17 percent	n/a
Washington‡‡	n/a	37 percent	6.5 percent

Note: Maine, Michigan, Vermont, and the District of Columbia have legalized recreational marijuana but do not have active markets. Vermont also has not decided on tax rates. Retail excise taxes are sometimes referred to as retail sales taxes, but apply only to recreational marijuana and are separate from general sales taxes.

* Alaska Department of Revenue, "Marijuana Tax," accessed Nov. 1, 2018, <http://tax.alaska.gov/programs/programs/index.aspx?60000>

† California Department of Tax and Fee Administration, "Tax Rates—Special Taxes and Fees" <https://www.cdtfa.ca.gov/taxes-and-fees/tax-rates-stfd.htm>

‡ Larson Silbaugh, principal economist, Colorado Legislative Council, memorandum to interested persons, "Marijuana Revenue in the State Budget," Nov. 17, 2017, https://leg.colorado.gov/sites/default/files/marijuana_revenue_in_the_state_budget.pdf

§ State of Maine, An Act to Implement a Regulatory Structure for Adult Use Marijuana (2018), <http://www.mainelegislature.org/legis/bills/getPDF.asp?paper=HP1199&item=4&snum=128>

¶ Massachusetts Department of Revenue, Marijuana Retail Taxes (2018), <https://www.mass.gov/regulations/830-CMR-64n11-marijuana-retail-taxes>

Michigan House Fiscal Agency, "Ballot Proposal 1 of 2018: Marijuana Initiative" (2018), https://www.house.mi.gov/hfa/PDF/Alpha/Ballot_Proposal_2018-1_Marijuana_Initiative.pdf

** State of Nevada Department of Taxation, "Marijuana in Nevada," accessed Nov. 1, 2018, <http://marijuana.nv.gov/Businesses/Taxes/>

†† Oregon Department of Revenue, "Recreational Marijuana FAQs: Taxes," accessed Nov. 1, 2018, <https://www.oregon.gov/olcc/marijuana/Pages/FAQs-Taxes.aspx>

‡‡ Tax Foundation, "How High are Recreational Marijuana Taxes in Your State?," accessed Nov. 1, 2018, <https://taxfoundation.org/state-marijuana-taxes-2018/>, and Tax Foundation, "States and Local Sales Tax Rates," accessed May 2, 2019, <https://taxfoundation.org/sales-tax-rates-2019/>

© 2019 The Pew Charitable Trusts

The challenge of forecasting marijuana revenue

When forecasting revenue from sales of alcohol or cigarettes, forecasters can draw on decades of data. In the case of marijuana, “the biggest issue is lack of data, lack of history,”³ said Josh Lehner, senior economist with Oregon’s Office of Economic Analysis. In 2017, the state was among the first to conduct an official forecast of marijuana revenue.⁴

“For standard forecasting models, it’s helpful to have more detail about demographics, consumption, and product types. We’re not there, and other states I’ve talked to aren’t there yet either,” Lehner said. However, he and forecasters in other states are pioneering strategies they can refine as they gain experience and more reliable data.

Table 2

Recreational Marijuana Legalization and Sales Dates

State	Legalization date	Beginning of sales
Colorado	November 2012	January 2014
Washington	November 2012	July 2014
Oregon	November 2014	October 2015
Alaska	November 2014	October 2016
Nevada	November 2016	January 2017
California	November 2016	January 2018
Massachusetts	November 2016	November 2018
Maine	November 2016	Not yet started
Vermont	January 2018	Not yet started
Michigan	November 2018	Not yet started

Source: National Conference of State Legislatures, “Marijuana Laws,” <http://www.ncsl.org/bookstore/state-legislatures-magazine/marijuana-deep-dive.aspx>

© 2019 The Pew Charitable Trusts

Marijuana use

Revenue forecasters need estimates on marijuana use in their state, but note that getting reliable information has proved difficult. Ken Alper, who directed the tax division of Alaska’s Department of Revenue until December 2018, said polls about drug use were problematic, in part because they were taken before the drug was legalized and may have underestimated use.⁵ “Clearly if some random person calls on the phone and asks, ‘Have you smoked marijuana?’ at a time when it’s illegal, many people are inclined to lie,” Alper said.

It is even trickier to gauge how consumption patterns will change. “Sixty percent of Oregonians say they’ve had a drink in the last month. Twenty percent say they’ve used marijuana. Does marijuana go all the way up there, where the majority of Oregonians say they’ve used it in the past month? That’s the big-picture uncertainty,” said Lehner.⁶

Larson Silbaugh, principal economist with Colorado's Legislative Council, said his office used data from two surveys for its initial forecasts: the annual federal National Survey on Drug Use and Health, which breaks down substance use (including alcohol, tobacco, and illegal drugs) in each state; and a survey of marijuana consumption commissioned by Washington state.⁷

Without knowing how applicable these sources were, Silbaugh said his team aimed to make the best estimates that it could.⁸ In fact, early forecasts in Colorado were on the mark: The state estimated that it would bring in \$67 million from recreational marijuana excise taxes in fiscal year 2015, the first full year of sales, and collections totaled \$66.1 million.⁹

Changes in demand

Recreational cannabis products have diversified beyond the raw, cut plant to include oils, extracts, and edibles—the popularity of which has varied by state. In Washington,¹⁰ for example, consumption has shifted toward extracts, but Colorado has seen strong growth in concentrates and edibles.¹¹ Just as forecasters consider changing demands for beer, wine, and spirits when projecting revenue from alcohol taxes, they are trying to do so with marijuana. But given how new these products are, analysts have little available data with which to gauge trends.

Another challenging calculation is to what extent and how quickly consumers will transition from the black market to the legal one. Forecasters note that legal market prices tend to be higher because licensed businesses must pay taxes, fees, and the cost of testing to ensure consumer safety. The California Cannabis Advisory Committee, for example, found that the state's legal marijuana market does not present an attractive alternative to the black market, in large part due to higher prices.¹² Not knowing how to account for the competition with the black market may be one reason why California's legal market hasn't met revenue expectations.

Colorado's Department of Revenue has contracted with the University of Colorado to assess the extent to which the black market is competing with the legal market.¹³ Nevada is closely monitoring the experiences of Colorado and Washington to learn about black market conversion, said Kile Porter, deputy executive director of Nevada's Department of Taxation.¹⁴

Another challenge is estimating a potential transition from the largely untaxed medical market. In Colorado, Silbaugh said his office thought most medical users would switch to the legal recreational market.¹⁵ But it found that the reverse was true: at least initially, some recreational users bought medical marijuana instead, likely to avoid the taxes on recreational products.¹⁶

The price of cannabis

Since most states that collect taxes on recreational marijuana set tax rates based on the price of the drug, understanding how much it sells for is critical for forecasting revenue. States that were among the earliest to legalize marijuana were particularly disadvantaged when it came to forecasting prices, while later-adopting states had the advantage of being able to examine the earlier states' data.

Colorado, one of the first states to legalize the drug, used medical marijuana prices as an approximation of what recreational products would cost in the legal market; California heard from early-adopting states that prices tend to spike at the start when supply is relatively scarce, then gradually decline as more product becomes available.¹⁷ One challenge for forecasters is determining whether this trend will continue and, if so, how far prices will drop and how quickly they will stabilize.

Price changes, in turn, affect tax revenue. When prices fall, for example, state revenue will shrink unless there is an offsetting boost in sales. Research on how price changes influence demand for marijuana is still developing. “Lower prices should entice more consumption, but it’s not necessarily a one-to-one tradeoff,” said Oregon’s Josh Lehner.¹⁸

Market friction

In Colorado, economist Silbaugh acknowledged that one of his biggest miscalculations when preparing his first few forecasts was underestimating the amount of time the market would take to run smoothly, including how quickly businesses would be licensed and operating.¹⁹ In Alaska, meanwhile, Ken Alper noted that his state did not consider that it takes three to four months for seeds to mature.²⁰

Irena Asmundson, chief economist with California’s Department of Finance, said it took some time for local governments to put necessary regulations in place and license businesses.²¹ To the north, Oregon was initially swamped with applications from potential marijuana producers, which created a bottleneck. State economist Lehner noted that it is still unclear how many producers may one day be in the market—whether through expansion, consolidation, or exiting the market—and how market churn will affect revenues, if at all.²²

Originally, Colorado required marijuana growers to sell most of their product themselves. In 2018, the state loosened this restriction in an effort to open up the market, which has helped drive down marijuana’s wholesale price and lowered excise tax revenue, according to Silbaugh.²³ Nevada’s regulations, in contrast, have increasingly encouraged the grower and the seller to be part of the same company, a trend the state Department of Taxation is closely monitoring.²⁴

Sales across borders

Other complications when trying to gauge collections are competition from neighboring states and the slice of revenue generated by visitors. In tourism-heavy Alaska and Nevada, sightseers contribute to surging recreational marijuana sales. Alaska’s capital, Juneau, welcomes multiple cruise ships each day and has three recreational marijuana stores. But the state still needs more data showing to what extent tourists will drive future revenue growth from this new product. Nevada’s Porter said revenue data so far indicate that higher-than-anticipated visitor demand contributed to collections for the first fiscal year exceeding forecasts.²⁵

Colorado’s Larson Silbaugh noted that his state does not anticipate much competition across state borders because the region’s large cities are spread out and neighboring states are unlikely to legalize. On the other hand, Oregon and Washington likely have competing markets, especially because Washington’s retail operations were up and running first. States such as Massachusetts and Vermont may also need to consider cross-border issues.

Long-term growth

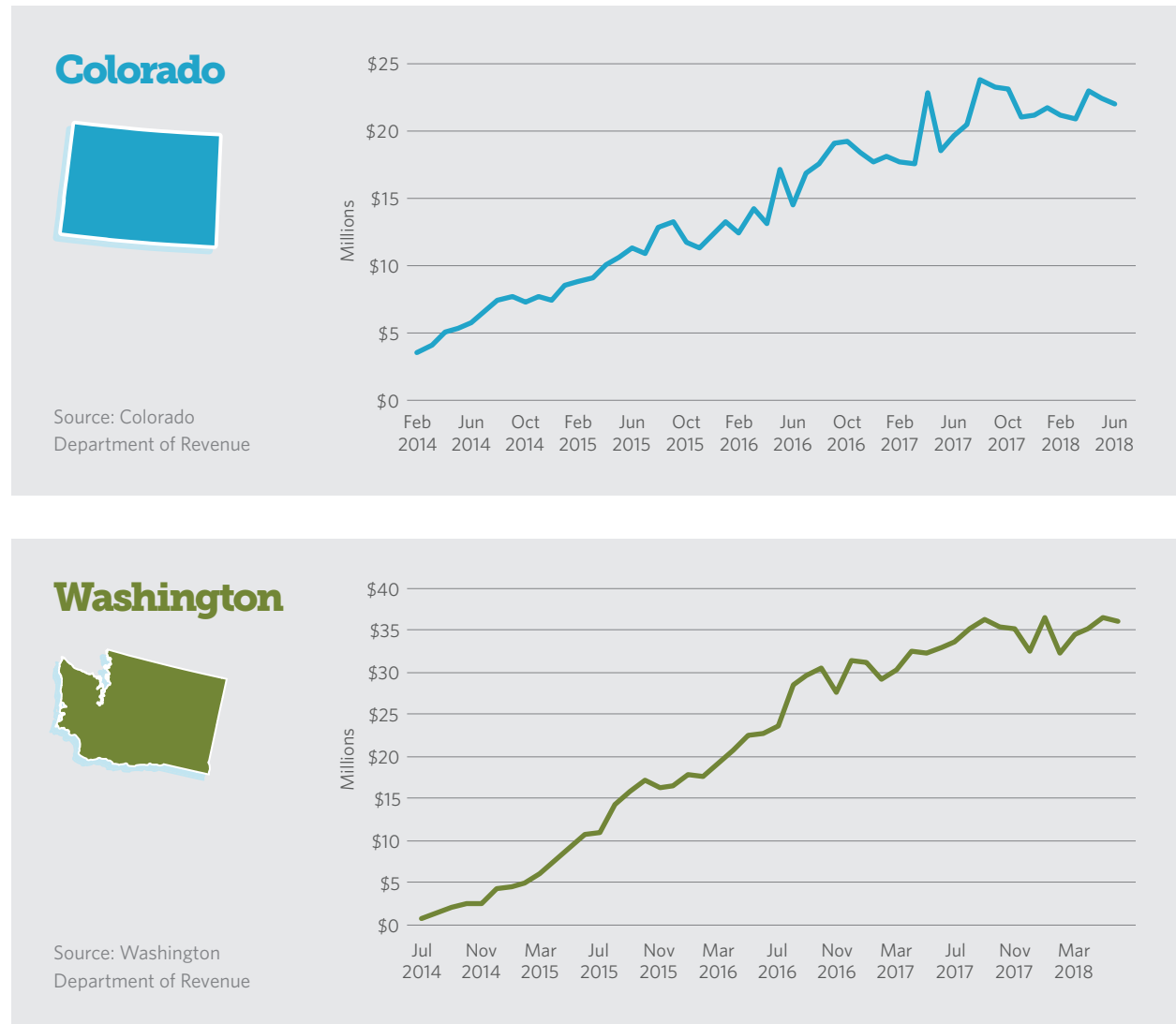
Excise tax collections from marijuana have been booming in the five states with available data. In Washington, marijuana accounted for more revenue (\$361 million) than liquor (\$314 million) or cigarettes (\$357 million) in fiscal year 2018.²⁶ In Alaska, revenue spiked from \$2 million to \$11 million in a single year.²⁷

All five states saw a strong early boost in tax collections. However, forecasters expect this growth to slow, as early indications show in Colorado and Washington. Figure 2 shows the year-over-year percentage changes in revenue in the two states with the oldest recreational marijuana markets. Growth is high at the start and then declines steeply. To avoid projecting unrealistically high long-term growth, Colorado’s Silbaugh has built an assumption into the state’s forecasting model that revenue will not continue to rise at past rates.²⁸

Figure 1

Legalized Recreational Marijuana Tax Revenue

Monthly collections continue to grow as markets develop



Oregon



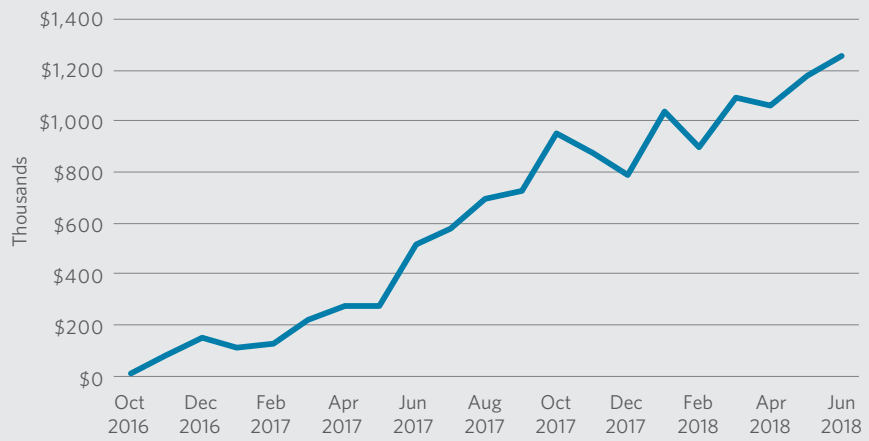
Source: Oregon Department of Revenue



Alaska



Source: Alaska Department of Revenue



Nevada



Note: Nevada's figures do not include revenue from the state's general sales tax on marijuana products.

Source: Nevada Department of Revenue

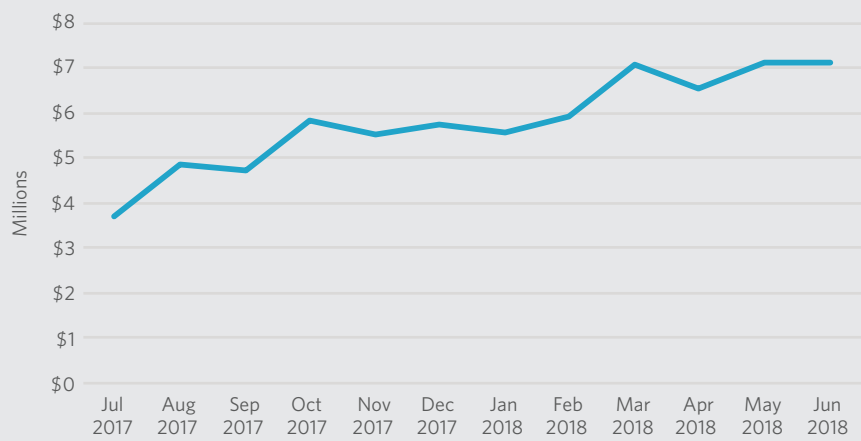
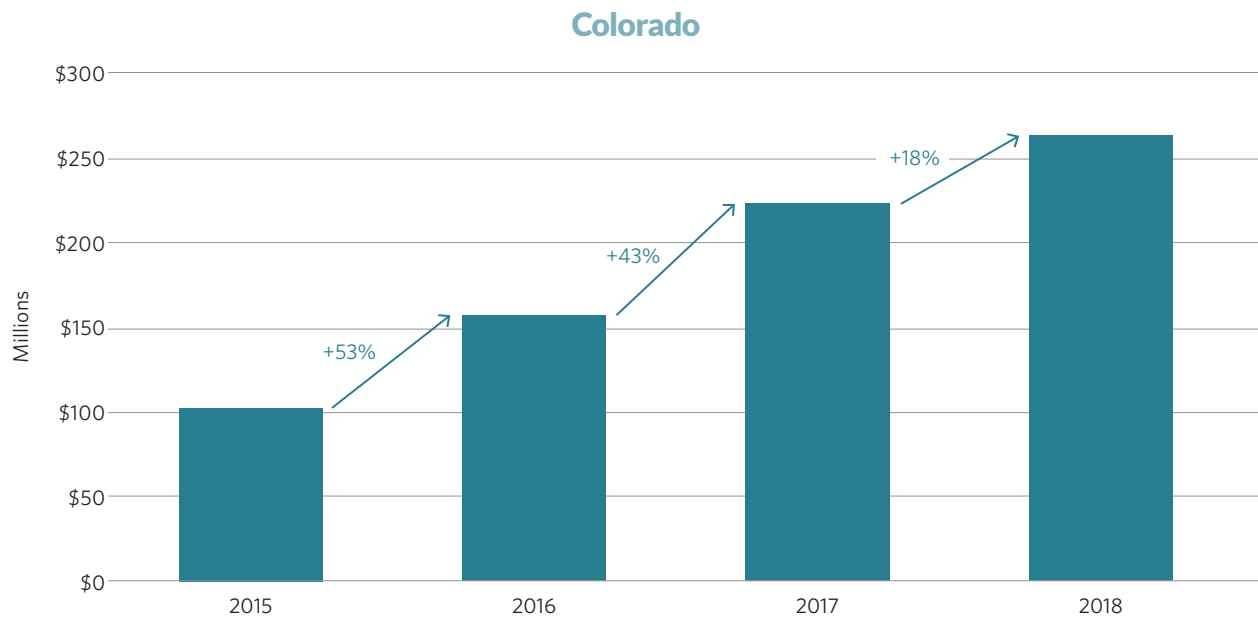


Figure 2

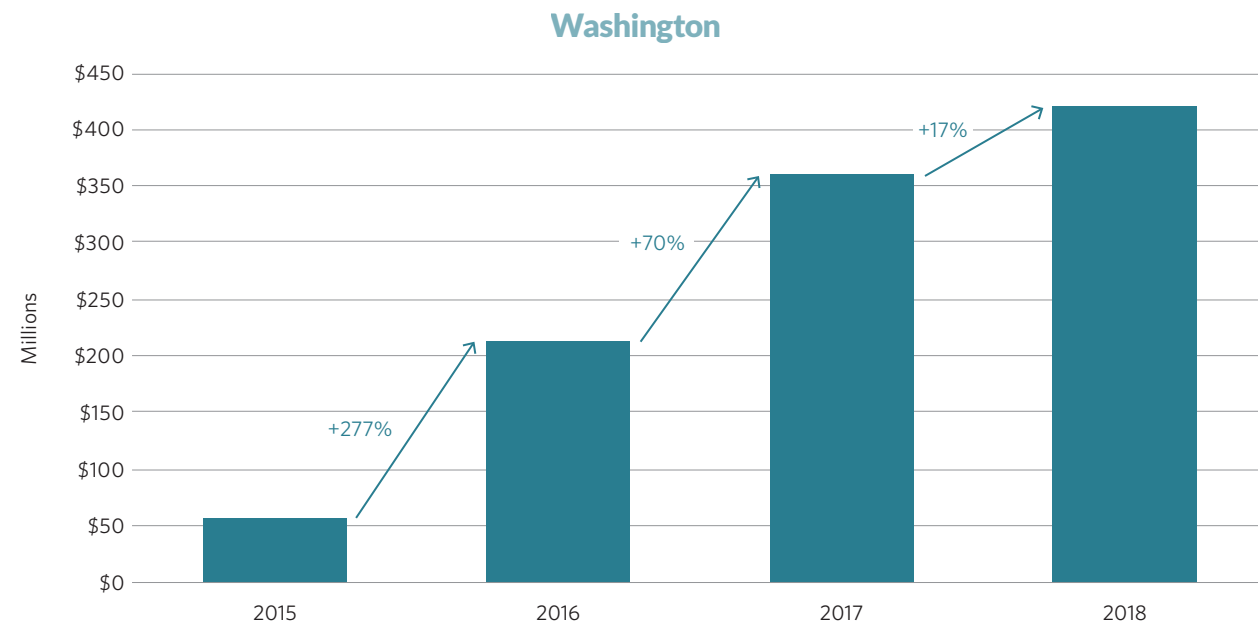
Strong Early Growth in Revenue Slows as Markets Mature

Tax collections from legalized recreational marijuana, FY 2015-2018



Source: Colorado Department of Revenue

© 2019 The Pew Charitable Trusts



Source: Washington Department of Revenue

© 2019 The Pew Charitable Trusts

Insuring against uncertainty

Given the rapid growth in revenue from marijuana taxes, policymakers may be tempted to use the additional cash to fund ongoing spending initiatives. But the hurdles of forecasting recreational marijuana revenue will persist. Given how unpredictable the marijuana market is, states should exercise caution in budget planning to ensure that the money strengthens, rather than weakens, their long-term fiscal position.

One strategy is to collect the money before spending it. States typically use forecasts of how much revenue they will collect during the next year to develop budgets. Recognizing the uncertainty with marijuana revenue, Colorado and California collect the taxes in a separate fund and then use the money for the following year. “We have new revenue, we should spend it, but we don’t know how volatile it’s going to be,” Colorado’s Silbaugh said. “We don’t want to have to make agencies give money back if there’s not enough, or rescind appropriations, so we’ll just budget it in the year after it’s collected.”²⁹

Another option is to use revenue from marijuana taxes to shore up savings. Nevada contributes the proceeds from its retail tax to its rainy day fund. However, nearly every state that taxes the drug is directing at least some revenue toward recurring costs (see Appendix). Washington, for example, relies on the revenue for health care programs.

Policymakers should be careful not to assume that revenue growth from such a new and volatile market will be sustainable, especially since some sin taxes, such as cigarettes, have provided diminishing revenue over time.

Conclusion

Supporters of legalizing recreational marijuana expected a new revenue source for states, but market uncertainties continue to challenge revenue forecasters and policymakers. The difficulty in forecasting revenue is compounded by the fact that states have only recently begun to understand the recreational marijuana market: the level of consumer demand for recreational marijuana products, the types of users and how much they might pay for the drug, and competition with the black market. States have learned some lessons but continue to grapple with unknowns.

While forecasters and budget staff gain more information, state officials can avoid budget shortfalls and keep program funding stable by being prudent in how they use these new collections. States should be careful to distinguish between marijuana revenue’s short-term growth and long-term sustainability. While these new dollars can fill immediate budget needs, they may prove unreliable for ongoing spending demands. Policymakers should look to other, more familiar sin taxes for lessons on how to manage marijuana tax revenue most effectively.

Appendix

Table A.1

Tax Revenue Distributions by State, as of FY 2019

State	Distribution
Alaska	50 percent to Recidivism Reduction Fund, split between the departments of public safety, health and social services, and corrections 25 percent to health education 25 percent to general fund*
California	\$10 million to \$50 million to Community Reinvestment Grant Program \$10 million to public universities to evaluate effects of ballot measure and \$2 million to study medical cannabis \$3 million to California Highway Patrol Remaining revenue: 60 percent to Youth Education, Prevention, Early Intervention and Treatment Account 20 percent to Environmental Restoration and Protection Account 20 percent to State and Local Government Law Enforcement Account†
Colorado	90 percent of special sales tax to general fund (72 percent to the Marijuana Cash Fund and 13 percent to the state public school fund, 15 percent retained) 10 percent of special sales tax to local governments that allow retail sales First \$40 million or 90 percent of excise tax to Building Excellent Schools Today fund Remainder to public school fund‡
Maine	Excise and sales tax to general fund Once a month, 12 percent of general fund marijuana sales and excise tax revenue is transferred to the Adult Use Marijuana Public Health and Safety Funds
Massachusetts	Excise tax revenue goes to the Marijuana Regulation Fund Local option revenue goes to the municipality Sales tax revenue follows conventional sales tax allocation rules: 16 percent to Massachusetts Bay Transportation Authority 16 percent to School Modernization and Reconstruction Trust 68 percent to Commonwealth General Fund†
Michigan	Amount needed to cover costs of implementation, administration, and enforcement, then: \$20 million to clinical trials studying efficacy of marijuana in treating veterans 30 percent of remaining to municipalities and counties with retail sales 35 percent to School Aid Fund 35 percent to transportation fund#
Nevada	Excise tax revenue to fund administrative costs; \$5 million to local governments, remainder to Distributive School Account Retail tax revenue to rainy day fund**
Oregon	40 percent to education 20 percent to mental health treatment or alcohol and drug abuse prevention, early intervention, and treatment 15 percent to state law enforcement 10 percent to cities 10 percent to counties 5 percent to drug abuse prevention, early intervention, and treatment††

Continued on next page

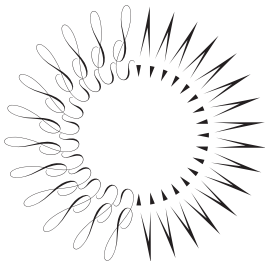
State	Distribution
Vermont	Undecided; Marijuana Advisory Commission proposed using current statutory guidelines to allocate sales and local option tax (sales tax goes to education fund; local option goes to administrative fees, towns with local option tax, and state PILOT special fund) ^{‡‡}
Washington	Majority to health-related programs, including the Department of Health, the basic health plan trust account, and the state health care authority; remainder to general fund and local governments ^{§§}

- * Shannon Ballard, “Marijuana Money: How the State is Spending its Cannabis Cash,” KTVA, Dec. 7, 2018, <https://www.ktva.com/story/39609294/marijuana-money-how-the-state-is-spending-its-cannabis-cash>
- † California Legislative Analyst’s Office, “Proposition 64 Revenues” (2017), <https://lao.ca.gov/handouts/crimjust/2017/Proposition-64-Revenues-021617.pdf>
- ‡ Colorado Department of Revenue, “Disposition of Marijuana Tax Revenue,” accessed Jan. 4, 2019, <https://www.colorado.gov/pacific/revenue/disposition-marijuana-tax-revenue>
- § State of Maine, An Act to Implement a Regulatory Structure for Adult Use Marijuana (2018), <http://www.mainelegislature.org/legis/bills/getPDF.asp?paper=HP1199&item=4&snum=128>
- || Massachusetts Legislature, An Act to Ensure Safe Access to Marijuana (2017), <https://malegislature.gov/Laws/SessionLaws/Acts/2017/Chapter55>; Massachusetts Cannabis Advisory Board, “Overview of 2017 Law: Basic Summary,” <https://www.mass.gov/files/documents/2017/11/08/CannabisAdvisoryBoardOverviewof2017LawBasicSummary.pdf>
- # Michigan House Fiscal Agency, “Ballot Proposal 1 of 2018: Marijuana Initiative” (2018), https://www.house.mi.gov/hfa/PDF/Alpha/Ballot_Proposal_2018-1_Marijuana_Initiative.pdf
- ** State of Nevada Department of Taxation, “October Marijuana Revenue Statistics,” news release, Dec. 31, 2018, <https://tax.nv.gov/uploadedFiles/taxnv.gov/Content/TaxLibrary/News-Release-October-2018-Marijuana.pdf>
- †† Oregon Department of Revenue, “Marijuana Taxes,” fact sheet, updated March 8, 2018, https://www.oregon.gov/DOR/press/Documents/marijuana_fact_sheet.pdf
- ‡‡ Governor’s Marijuana Advisory Commission, “Findings and Recommendations for Taxing and Regulating Adult-Use Marijuana in Vermont” (2018), https://marijuanacommission.vermont.gov/sites/mc/files/doc_library/TR%20Report%20to%20MAC-Oct%202018-Draft.pdf
- §§ Lance Carey, senior economist, Washington State Economic and Revenue Forecast Council, email to Alexandria Zhang, officer, The Pew Charitable Trusts, Oct. 29, 2018

© 2019 The Pew Charitable Trusts

Endnotes

- 1 An 11th state, Illinois, legalized recreational marijuana in June 2019 but will not begin sales until Jan. 1, 2020.
- 2 State of Nevada Department of Taxation, "June Marijuana Revenue Statistics," news release, Aug. 28, 2018, <https://tax.nv.gov/uploadedFiles/taxnv.gov/Content/TaxLibrary/News-Release-June-Marijuana.pdf>; Legislative Analyst's Office, "California Economy and Taxes: Cannabis Tax Revenue Update," Nov. 15, 2018, <https://lao.ca.gov/LAOEconTax/Article/Detail/326>.
- 3 Josh Lehner (senior economist, Oregon Office of Economic Analysis), interview with The Pew Charitable Trusts, Sept. 25, 2018.
- 4 Oregon started with an "early sales" period from October 2015 through 2016 and did not do its first official forecast until May 2017.
- 5 Ken Alper (tax division director, Alaska Department of Revenue), interview with The Pew Charitable Trusts, Sept. 5, 2018.
- 6 Lehner interview.
- 7 Larson Silbaugh (principal economist, Colorado Legislative Council), interview with The Pew Charitable Trusts, Aug. 31, 2018.
- 8 Silbaugh interview.
- 9 Silbaugh interview.
- 10 Lance Carey (senior economist, Washington State Economic and Revenue Forecast Council), interview with The Pew Charitable Trusts, Sept. 26, 2018.
- 11 Joe Rubino, "Colorado cracks a billion in annual marijuana sales in record time, generating \$200M in tax revenue," The Denver Post, Oct. 18, 2018, <https://www.denverpost.com/2018/10/18/colorado-cracks-billion-marijuana-sales-record/>.
- 12 Bureau of Cannabis Control, "California Cannabis Advisory Committee 2018 Annual Report," https://www.bcc.ca.gov/about_us/documents/cac_annual_report_2018.pdf.
- 13 Silbaugh interview.
- 14 Kile Porter (deputy executive director, Nevada Department of Taxation), interview with The Pew Charitable Trusts, Sept. 13, 2018.
- 15 Silbaugh interview.
- 16 Silbaugh interview.
- 17 Irena Asmundson (chief economist, California Department of Finance), interview with The Pew Charitable Trusts, Aug. 29, 2018.
- 18 Lehner interview.
- 19 Silbaugh interview.
- 20 Alper interview.
- 21 Asmundson interview.
- 22 Lehner interview.
- 23 Silbaugh interview.
- 24 Porter interview.
- 25 Porter interview.
- 26 Washington State Department of Revenue, "Tax Statistics 2018," https://dor.wa.gov/sites/default/files/legacy/Docs/Reports/2018/Tax-Statistics_2018/Tax_Statistics_2018.pdf.
- 27 Alaska Department of Revenue, "Marijuana Tax Reports," <http://tax.alaska.gov/programs/programs/reports/index.aspx?60000>.
- 28 Silbaugh interview.
- 29 Silbaugh interview.



THE
PEW
CHARITABLE TRUSTS





STATE OF NEVADA DEPARTMENT OF TAXATION

Web Site: <https://tax.nv.gov>

1550 College Parkway, Suite 115
Carson City, Nevada 89706-7937
Phone: (775) 684-2000 Fax: (775) 684-2020

RENO OFFICE
4600 Kietzke Lane
Building L, Suite 235
Reno, Nevada 89502
Phone: (775) 687-9999
Fax: (775) 688-1303

BRIAN SANDOVAL
Governor
JAMES DEVOLLD
Chair, Nevada Tax Commission
WILLIAM D. ANDERSON
Executive Director

LAS VEGAS OFFICE
Grant Sawyer Office Building, Suite 1300
555 E. Washington Avenue
Las Vegas, Nevada 89101
Phone: (702) 486-2300 Fax: (702) 486-2373

HENDERSON OFFICE
2550 Paseo Verde Parkway, Suite 180
Henderson, Nevada 89074
Phone: (702) 486-2300
Fax: (702) 486-3377

Contacts: Bill Anderson, Executive Director
(775) 684-2060
andersonb@tax.state.nv.us

Stephanie Klapstein, Public Information Officer
(775) 684-2199
sklapstein@tax.state.nv.us

JUNE MARIJUANA REVENUE STATISTICS NEWS RELEASE

August 28, 2018

Nevada collects \$69.8 million in tax revenue during first year of legal adult-use sales—about 140 percent of what the state anticipated

\$27.5 million in marijuana tax revenue transferred to the state Distributive School Account

Statement from Bill Anderson, Executive Director, Nevada Department of Taxation

With June's marijuana revenue figures now on the books, Nevada closed out the first full year of adult-use sales with marijuana tax collections totaling \$69.8 million for the fiscal year—about 140 percent of what the state expected to bring in. The last four months of the fiscal year proved to be the most robust months for marijuana tax revenue, with each month's totals topping \$6.5 million. At the end of June, there were 64 medical marijuana dispensaries open in Nevada, with 61 of those licensed to also sell adult-use marijuana. For the fiscal year, these state-licensed dispensaries and retail stores saw total taxable sales—which includes adult-use marijuana, medical marijuana, and marijuana-related tangible goods—of \$529.9 million. Adult-use marijuana sales totaled \$424.9 million for the year, generating \$42.5 million in tax collections through the 10 percent Retail Marijuana Tax. The 15 percent Wholesale Marijuana Tax brought in close to \$27.3 million for the fiscal year. Revenues from the wholesale tax, along with application and licensing fees, go primarily to education in Nevada, via the state Distributive School Account. With the closing of the fiscal year, the Department of Taxation transferred a total of \$27.5 million to that education account. All revenues from the Retail Marijuana Tax have been distributed to the state's Rainy Day Fund.

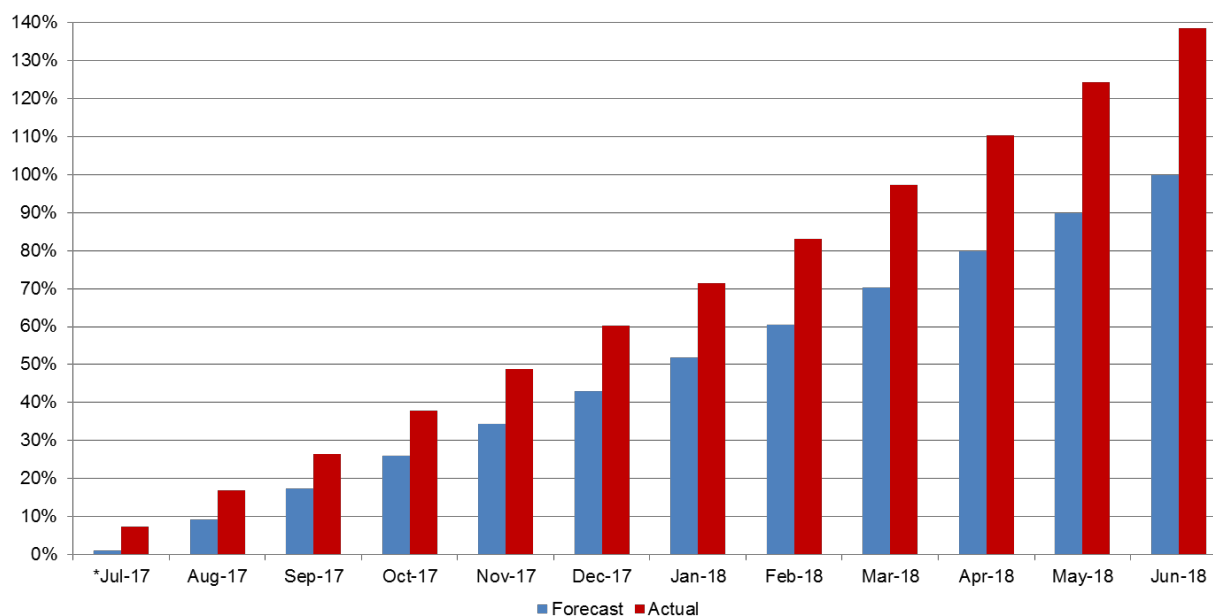
Nevada's first year with a legal adult-use market has not only exceeded revenue expectations, but proven to be a largely successful one from a regulatory standpoint. We have not experienced any major hiccups or compliance issues, and our enforcement staff has worked diligently to make sure these businesses understand and comply with the laws and regulations that govern them. As we move into fiscal year 2019, we expect to see continued growth in the industry by way of additional businesses opening up, and we expect revenues to continue to be strong. The state's consensus forecast for fiscal year 2019 combined marijuana tax revenue is \$69.4 million.

Highlights

- Marijuana tax revenues totaled \$7.12 million in June
 - The Wholesale Marijuana Tax generated \$3.06 million in June
 - The Retail Marijuana Tax generated \$4.06 million in June
- The last four months of the fiscal year were the largest revenue months; April revenues totaled \$6.6 million and March, May, and June each totaled around \$7.1 million

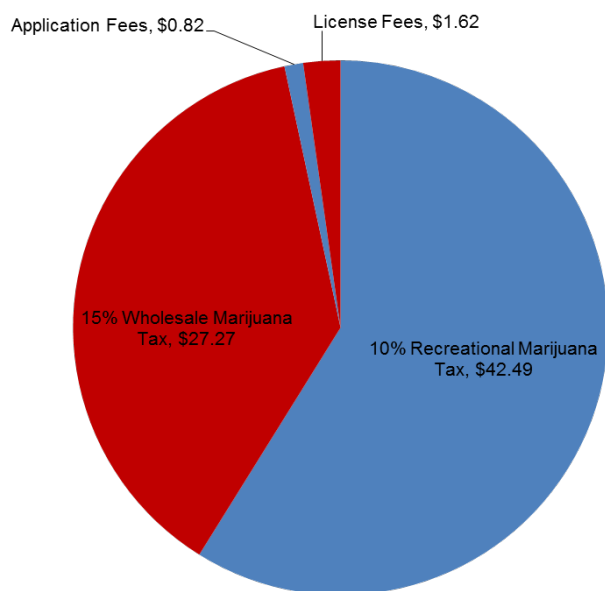
- Marijuana tax revenues total \$69.8 for fiscal year 2018 (July 2017-June 2018)
 - The Wholesale Marijuana Tax generated \$27.3 million in fiscal year 2018
 - The Retail Marijuana Tax generated \$42.5 million in fiscal year 2018
- The total amount of marijuana tax revenue projected for fiscal year 2018 was \$50.3 million
 - Fiscal year 2018 projections for Wholesale Marijuana Tax were \$23.8 million
 - Fiscal year 2018 projections for Retail Marijuana Tax were \$26.5 million
- Total taxable sales of adult-use marijuana totaled \$424.9 million in fiscal year 2018
- Total combined taxable sales for medical marijuana, adult-use marijuana, and marijuana-related tangible goods totaled \$529.9 million in fiscal year 2018
- Marijuana-related fees, penalties, and assessments generated \$10.7 million in fiscal year 2018
- The Wholesale Marijuana Tax rate is 15 percent; the revenues from this tax, along with fees/penalties/assessments, first go to fund the Department's costs of administering the marijuana program, \$5 million per fiscal year goes to local governments, and the remainder goes to the state Distributive School Account
 - **In August, the Department completed the fiscal year 2018 distribution to the DSA in the amount of \$27.5 million**
- The Retail Marijuana Tax rate is 10 percent; the revenues from this tax go the state Rainy Day Fund
 - **The Department distributed a total of \$42.5 million to the state Rainy Day Fund in fiscal year 2018**

Marijuana excise tax collections came in at nearly 140% of what was projected for fiscal year 2018

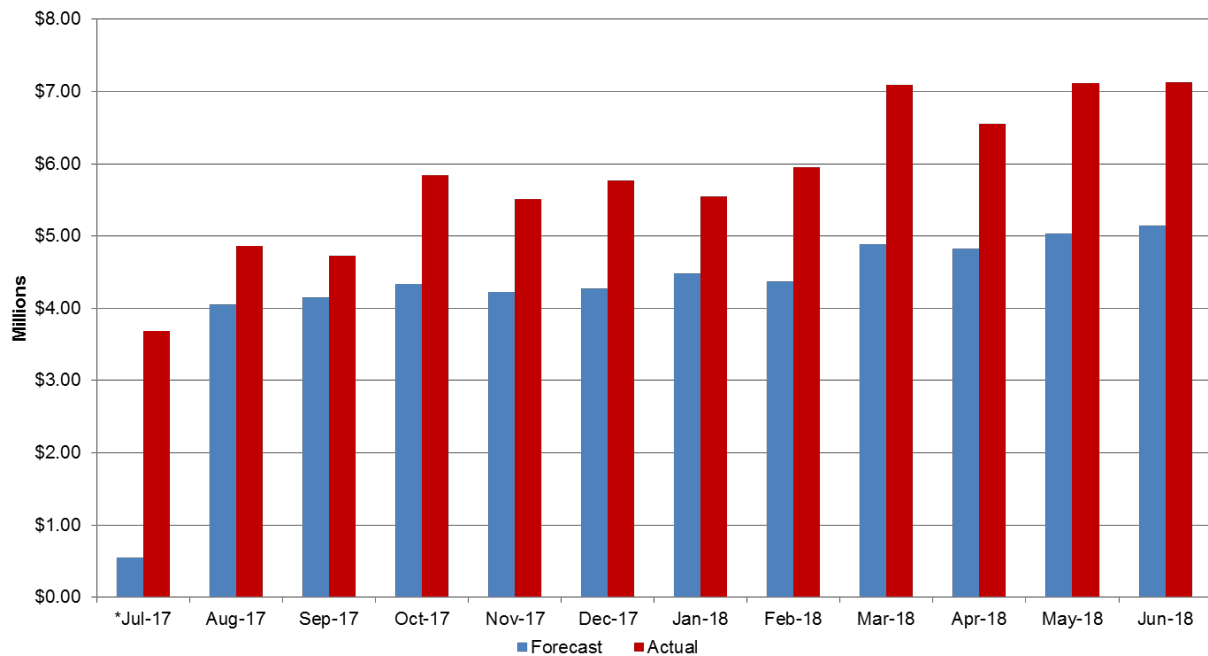


*No revenue estimated in recreational market for July 2017 due to uncertainty of local governments issuing permits before July 1st.

Fiscal year 2018: \$69.8 million in excise tax collections vs. \$50.3 million projected

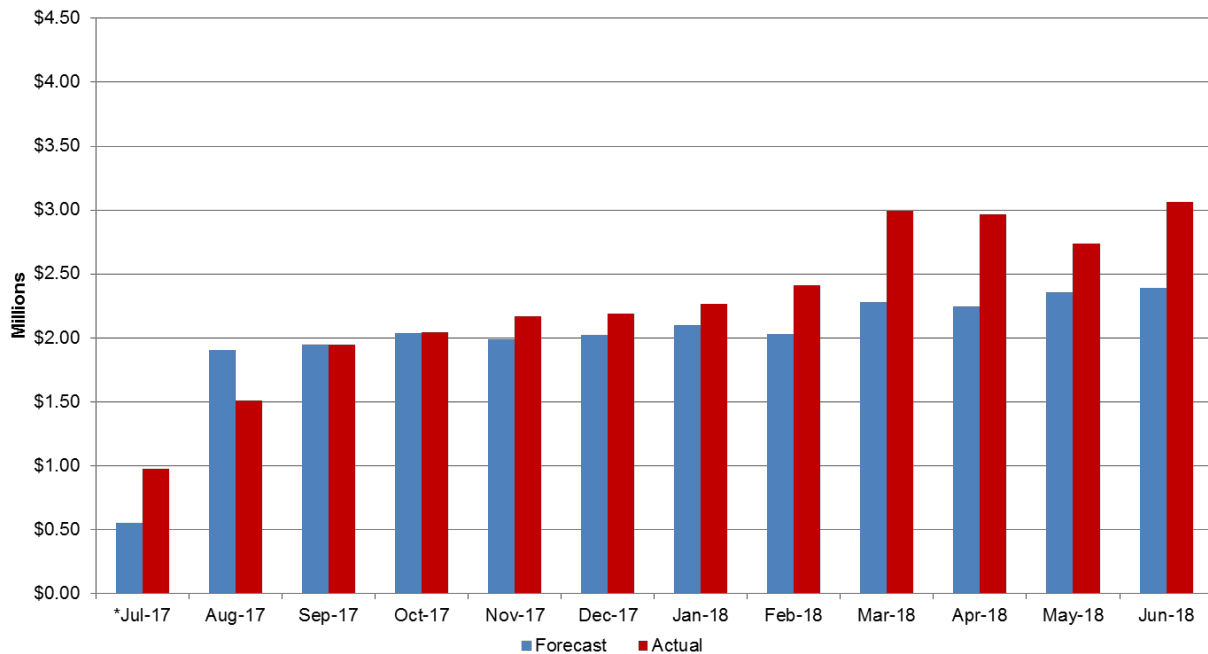


Last four months of tax revenue collections were the largest months in fiscal year 2018



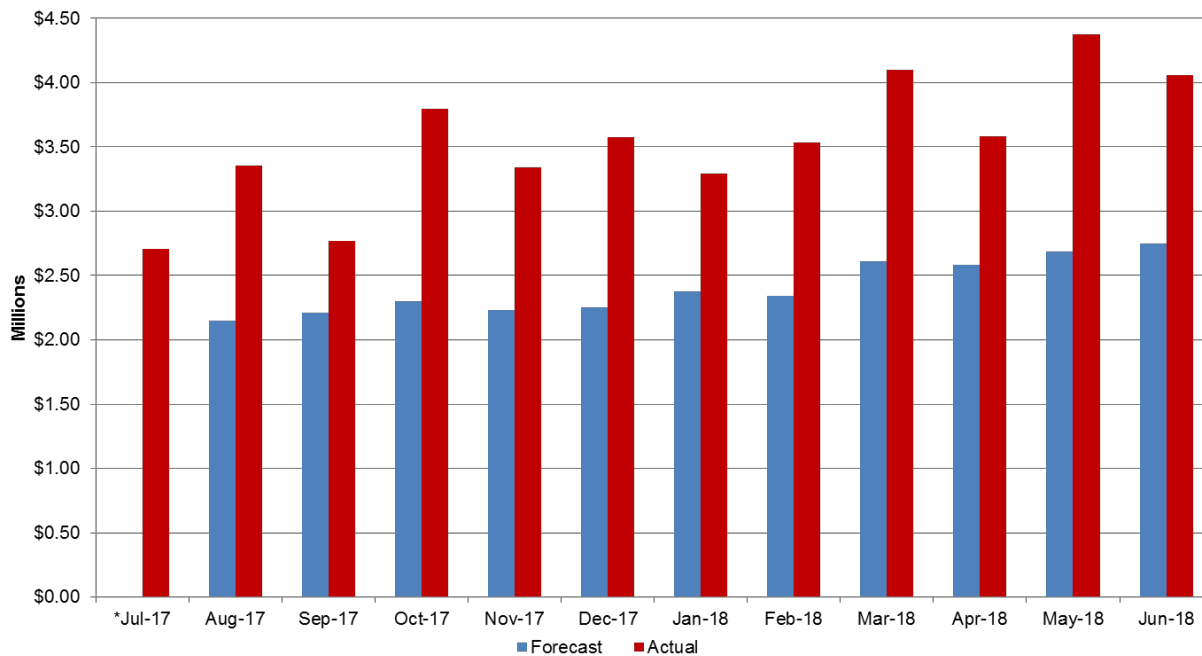
*No revenue estimated in recreational market for July 2017 due to uncertainty of local governments issuing permits before July 1st.

15% Wholesale Marijuana Tax revenues were more than \$3 million for June
Above forecast and trending upward



*No revenue estimated in recreational market for July 2017 due to uncertainty of local governments issuing permits before July 1st.

**10% Retail Marijuana Tax revenues were more than \$4.5 million for June
Coming in well above projections**



*No revenue estimated for July 2017 due to uncertainty of local governments issuing permits before July 1st.

###

<https://www.denverpost.com/2018/10/18/colorado-cracks-billion-marijuana-sales-record/>

The Denver Post

Colorado cracks a billion in annual marijuana sales in record time, generating \$200M in tax revenue

Growth in popularity of edibles, concentrates drives sales, state officials find

By [Joe Rubino](#) | jrubino@denverpost.com | The Denver Post

PUBLISHED: October 18, 2018 at 2:22 pm | UPDATED: October 19, 2018 at 7:35 am

Marijuana sales in Colorado exceeded \$1 billion as of August of this year, with tax revenue from those sales coming in at \$200 million, according to a report from the Colorado Department of Revenue and its [Marijuana Enforcement Division](#).

It's the earliest point in any of the four years Colorado has had legal recreational marijuana that combined medical and rec sales have cracked the billion-dollar mark.

Total combined recreational and medical marijuana sales through August hit \$1,022,245,511, according to the MED, setting the state on a trajectory to break [last year's record of more than \\$1.5 billion in sales](#).

State officials highlighted the industry's growth in a news release Thursday. The release also shared findings from the [Marijuana Enforcement Division's 2018 Mid-Year Update](#), released Sept. 10.

The quarterly report found Denver, Boulder, El Paso and Pueblo counties are the industry's hot spots, growing 80 percent of all plants in the state as of June.

It also found that while sales of marijuana flower remained relatively steady, sales of edible products and concentrates like hash oil and live resin grew significantly. Between January and June, edibles sales shot up 13.8 percent over the first six months of last year, and concentrates sales skyrocketed, growing 94.6 percent over the same period.

That growth comes as little surprise to [Nancy Whiteman](#). She's the founder and CEO of [Wana Brands, the leading infused products and edibles brand in the state](#). After clearing \$14.2 million in sales last year, Whiteman said her company — led by its marquee gummies — is on pace for 25 percent growth in 2018. Wana is in the process of ramping up production of a new disposable vaporizer line that Whiteman said uses high-end mechanical components and high-end concentrates.

Continuing sales growth in Colorado can be linked to the shifting demographics of who is buying, in Whiteman's view.

"I think there has been sort of a stereotype that the cannabis user is a young male," she said. "The total pie is growing because new people are entering the market."

Who are those people? More women and more older folks, Whiteman said. They are being drawn in by diversifying options including more products containing [cannabidiol, or CBD](#), the non-psychoactive marijuana ingredient that many people embrace for physical relaxation and pain management.

“I think in the early years of legalization a dominant story in the media was ‘This is not your parents’ THC. It is much stronger and you have to be careful,’” Whiteman said. “And I think that was off-putting for a lot of people who didn’t necessarily want that experience, but now there’s a lot more good options of them.”

Colorado will almost certainly set a new marijuana sales record in 2018, but the rate of growth is slowing, data show.

Year-to-date sales totals through August grew 2.6 percent this year over the \$996.4 million in combined med and rec sales seen to the point in 2017. But that 2017 total was up 18.7 percent over the \$839.4 million in sales to that point in 2016. The 2016 total was 31.5 percent higher than a year prior.



BUREAU OF
CANNABIS
CONTROL
CALIFORNIA

CALIFORNIA CANNABIS ADVISORY COMMITTEE

2 0 1 8 A N N U A L R E P O R T

TABLE OF CONTENTS

ACKNOWLEDGMENTS	IV
CANNABIS ADVISORY COMMITTEE (CAC) MEMBERS	VI
EXECUTIVE SUMMARY	1
BACKGROUND	3
SUBCOMMITTEE RECOMMENDATIONS ADOPTED BY THE CAC	5
Subcommittee on Cultivators	5
Subcommittee on Distributors	6
Subcommittee on Enforcement	7
Subcommittee on Equity	9
Subcommittee on Retailers	11
Subcommittee on Public Health and Youth	12
Subcommittee on Testing Laboratories	13
Subcommittee on Licensing Application	15
Subcommittee on Manufacturers	16
Subcommittee on Microbusiness	17
TABLED SUBCOMMITTEE RECOMMENDATIONS REQUIRING STATUTORY AMENDMENT(S)	19
Subcommittee on Cultivators	19
Subcommittee on Enforcement	20
Subcommittee on Public Health and Youth	21
Subcommittee on Laboratory Testing	22
Subcommittee on Distributors	22
Subcommittee on Microbusiness	22
SUBCOMMITTEE RECOMMENDATIONS (NOT ADOPTED BY THE FULL COMMITTEE)	23
Subcommittee on Enforcement	23
Subcommittee on Licensing Application	24
Subcommittee on Retailers	25
Subcommittee on Microbusiness	26

TABLE OF CONTENTS

INFORMAL PRESENTATIONS	27
“California Quality Act Process Overview”	27
“Cannabis Enforcement from the Local Perspective”	27
“Overview of California’s Cannabis Taxes”	27
“California Cannabis Track-and-Trace System: Overview and Implementation Update”	27
GLOBAL ISSUES	28
Equity Issues	28
Small Business Issues	29
Microbusiness Issues	29
Excessive Regulatory Burden	29
Banking Issues	30
Enforcement Issues	30
Compassionate Use Issues	30
Public Education Issues	31
Taxation Issues	31
Regulatory Fragmentation Issues	31
CONCLUSION	32

ACKNOWLEDGMENTS

The Cannabis Advisory Committee (CAC) would like to acknowledge and thank the following individuals for their leadership and commitment to the mission and work of the committee.

We are grateful for the valuable support we received from the state cannabis licensing authorities' staff, legal counsel, and the technical and stenographic team throughout the course of the year.

The Cannabis Advisory Committee benefited from the active participation from experts, local officials, business leaders, patient advocates, veteran groups, compassionate use collectives, industry-specific organizations, and members of the community. We would like to thank the individuals who attended the meetings, provided thoughtful public comment, and engaged with the work of the committee. We look forward to your continued participation to improve the industry.

LEADERSHIP

Edmund G. Brown Jr., Governor

Alexis Podesta, Secretary, California Business, Consumer Services and Housing Agency

Sonya Logman, Deputy Secretary of Business and Consumer Relations, California Business, Consumer Services and Housing Agency

Dean R. Grafilo, Director, Department of Consumer Affairs

BUREAU OF CANNABIS CONTROL

Lori Ajax, Bureau Chief

Melanie V. Ramil, Deputy Chief

Tamara Colson, Assistant Chief Counsel

Connie Bouvia, Assistant Chief of Licensing

Ricardo V. DeLaCruz, Assistant Chief of Administration

Andre Jones, Assistant Chief of External and Intergovernmental Affairs

Alex Traverso, Assistant Chief of Communications

Paul Tupy, Assistant Chief of Enforcement

Ashlynn Blackshire, Legal Secretary

Kaila Fayne, Staff Services Analyst

Aaron Francis, Public Affairs Analyst

ACKNOWLEDGMENTS

CALIFORNIA DEPARTMENT OF FOOD AND AGRICULTURE | CALCANNABIS CULTIVATION LICENSING DIVISION

Richard Parrott, Director

Melissa Eidson, Assistant Director

Nicole Newkirk, Administrative Manager

Amanda Brown, Legislative Analyst

John Halligan, Enforcement Branch Chief

Margaret Cornell, Enforcement Legislative Analyst

Richard Breuer, Licensing Branch Chief

Lindsay Rains, Licensing and Regulatory Manager

Fiona Mattson, Regulatory Comments Analyst

Sarah Wassmund, Regulatory Comments Analyst, CDFA Legal Office

CALIFORNIA DEPARTMENT OF PUBLIC HEALTH | MANUFACTURED CANNABIS SAFETY BRANCH

Miren Klein, Assistant Deputy Director, Center for Environmental Health

Shannon George, Manager, Policy and Regulations Unit, Manufactured Cannabis Safety Branch

Margaret Golbar, Associate Government Program Analyst, Policy and Regulations Unit, Manufactured Cannabis Safety Branch

Dawn Gordon, Health Program Specialist, Policy and Regulations Unit, Manufactured Cannabis Safety Branch

John McMahon, Associate Governmental Program Analyst, Policy and Regulations Unit, Manufactured Cannabis Safety Branch

Rasha Salama, Assistant Branch Chief, Manufactured Cannabis Safety Branch

Peggy Campbell, Attorney IV, Office of Legal and Regulations Services

Paul Hamill, Attorney III, Office of Legal and Regulations Services

Amir Javed, Food and Drug Program Specialist, Food and Drug Branch

John A. Wallace, Ph.D., Research Scientist, Food and Drug Branch

Steve Woods, Division Chief (retired), Food, Drug, and Cannabis Safety Division

Margaret Wener, Assistant Division Chief, Food, Drug, and Cannabis Safety Division

David Mazzera, Ph.D., Division Chief, Food, Drug, and Cannabis Safety Division

Asif Maan, Ph.D., Branch Chief, Manufactured Cannabis Safety Branch

CANNABIS ADVISORY COMMITTEE (CAC) MEMBERS

MATT RAHN (*Chair*), *City Representative; Mayor Pro-Tem, City of Temecula*; Member of the Subcommittee on Enforcement; Member of the Subcommittee on Equity

TAMAR TODD (*Vice Chair*), *Community Equity Representative*; Legal Director, Drug Policy Alliance; Member of the Subcommittee on Enforcement; Member of the Subcommittee on Equity

AVIS BULBULYAN, *Cannabis Industry Representative*; CEO, SIVA Enterprises / President, Los Angeles Cannabis Task Force; Chair of the Subcommittee on Distributors; Member of the Subcommittee on Manufacturers; Member of the Annual Report Subcommittee on Global Issues

TIMMEN CERMAK, MD, *Physician Representative*; Psychiatrist, California Society of Addiction Medicine; Chair of the Subcommittee on Public Health and Youth; Member of the Subcommittee on Enforcement; Member of the Annual Report Subcommittee on Global Issues

MATT CLIFFORD, *Environmental Expert Representative*; California Water Project Attorney, Trout Unlimited; Member of the Subcommittee on Cultivators; Member of the Subcommittee on Microbusiness

BILL DOMBROWSKI, *Business Representative*; President and CEO, California Retailers Association; Chair of the Subcommittee on Retailers; Member of the Subcommittee on Distributors

JEFFREY P. FERRO, *Labor Organization Representative*; Director, Cannabis Workers Rising / Executive Assistant to the Director of Organizing, United Food and Commercial Workers International Union; Chair of the Subcommittee on Manufacturers; Member of the Subcommittee on Cultivators

KRISTIN HEIDELBACH-TERAMOTO, *Labor Organization Representative*; International Representative / Cannabis Division Director, Teamsters; Member of the Subcommittee on Distributors; Member of the Subcommittee on Microbusiness

ERIC HIRATA, *Alcoholic Beverage Control Representative*; Chief Deputy Director, Department of Alcoholic Beverage Control; Member of the Subcommittee on Enforcement; Member of the Subcommittee on Licensing Application

ALICE A. HUFFMAN, *Community Equity Representative*; President, California Hawaii NAACP; Member of the Subcommittee on Equity; Member of the Subcommittee on Microbusiness

CATHERINE JACOBSON, *Cannabis Patient Advocate*; Director of Clinical Research Subcommittee on Public Health and Youth

CANNABIS ADVISORY COMMITTEE (CAC) MEMBERS

ARNOLD S. LEFF, MD, REHS, *Public Health Expert*; County Health Officer, Santa Cruz County; Member of the Subcommittee on Public Health and Youth; Member of the Subcommittee on Testing Laboratories

KRISTIN LYNCH, *Labor Organization Representative*; Deputy Executive Director, Service Employees International Union, Local 1021; Chair of the Subcommittee on Enforcement; Member of the Subcommittee on Public Health and Youth

KRISTIN NEVEDAL, *Cannabis Industry Representative*; Chief Compliance Officer, Sunfed, Inc. / Chair, International Cannabis Farmers Association; Chair of the Subcommittee on Cultivators; Member of the Subcommittee on Microbusiness; Member of the Annual Report Writing Subcommittee

JOE NICCHITTA, *County Representative*; Cannabis Management Officer, Office of Cannabis Management, Los Angeles County; Member of the Subcommittee on Enforcement; Member of the Subcommittee on Public Health and Youth

LAVONNE PECK, *Cannabis Industry Representative*; Owner, Native Network Consulting; Member of the Subcommittee on Licensing Application; Member of the Subcommittee on Manufacturers

KEITH STEPHENSON, *Cannabis Industry Representative*; Founder and CEO, Purple Heart; Member of the Subcommittee on Distributors; Member of the Subcommittee on Retailers

JAMES W. SWEENEY, *Community Equity Representative*; Consultant, James W. Sweeney and Associates; Chair of the Subcommittee on Equity; Chair of the Subcommittee on Microbusiness

HELENA WILLIAMS, *State Law Enforcement Representative*; Captain, Drug Evaluation and Classification Program, California Highway Patrol; Member of the Subcommittee on Enforcement; Member of the Subcommittee on Public Health and Youth

DAVID WOOLSEY, *Local Law Enforcement Representative*; Sergeant, Division of Medical Marijuana Control, San Jose Police Department; Member of the Subcommittee on Enforcement; Member of the Subcommittee on Equity

BEN WU, *Cannabis Industry Representative*; Chief Operating Officer, Kush Bottles; Member of the Subcommittee on Manufacturers; Member of the Subcommittee on Distributors

BEVERLY YU, *Labor Organization Representative*; *Policy Analyst*, United Domestic Workers / American Federation of State, County and Municipal Employees Local 3930; Chair of the Subcommittee on Licensing Application; Member of the Subcommittee on Retailers; Member of the Annual Report Writing Subcommittee

EXECUTIVE SUMMARY

In 1996, California was the first state in the union to legalize the use of medical cannabis under Proposition 215, the Compassionate Use Act. California established the Medical Marijuana Program (MMP) through Senate Bill 420 (Vasconcellos, 2003) which increased access to medical cannabis for qualified patients and primary caregivers and provided protections from prosecution for the possession and cultivation of medical cannabis. Subsequently, the cannabis industry in California experienced a period of rapid expansion along with the emergence of compassionate use programs to meet the needs of chronically ill patients.

Nearly 20 years after the passage of the Compassionate Use Act, the California State Legislature in 2015 established the Medical Cannabis Regulation and Safety Act (MCRSA) through a series of bills – Assembly Bill 243 (Wood), Assembly Bill 266 (Bonta, Cooley, Jones-Sawyer, Lackey, and Wood), and Senate Bill 643 (McGuire) to create a statewide framework to regulate and tax medical cannabis. In November 2016, California voters approved Proposition 64 which enacted the Control, Regulate and Tax Adult Use of Marijuana Act (AUMA), permitting adults 21 years of age and over to possess and grow specified amounts of marijuana for recreational use.

In June 2017, the California State Legislature passed budget trailer bill, Senate Bill 94, the Medicinal and Adult-Use Cannabis Regulation and Safety Act (MAUCRSA) to integrate MCRSA with AUMA into a consolidated system for the regulation, licensing, taxation, and enforcement for both medicinal and adult-use commercial cannabis activities.

Under MAUCRSA, the Bureau of Cannabis Control (Bureau) is the lead agency. The Bureau is charged with licensing, regulation, and enforcement of the following types of commercial cannabis businesses: distributors, retailers, microbusinesses, temporary cannabis events, and testing laboratories. The Manufactured Cannabis Safety Branch, a division of the California Department of Public Health (CDPH), is responsible for regulating and licensing manufacturers. CalCannabis Cultivation Licensing, a division of the California Department of Food and Agriculture (CDFA), is responsible for licensing cultivators and implementing the Track-and-Trace system.

Currently comprised of 22 appointed members from different sectors to represent the diverse backgrounds of California and the cannabis industry, the Cannabis Advisory Committee (CAC) is charged with advising the licensing authorities in the development of “standards and regulations... including best practices and guidelines that protect public health and safety while ensuring a regulated environment for commercial cannabis activity that does not impose such barriers so as to perpetuate, rather than reduce and eliminate, the illicit market for cannabis.”¹

¹ Business and Profession Code section 26014

EXECUTIVE SUMMARY

The CAC began its work in November 2017, holding 10 meetings statewide in its inaugural year. The CAC is charged with publishing an annual report on its activities, including the recommendations the committee made to the licensing authorities and whether those recommendations were implemented.

Per legislative mandate, on January 1, 2018, the state began issuing licenses for commercial cannabis activity. Additionally, on January 1, 2018, two new cannabis taxes went into effect: a cultivation tax on all harvested cannabis that enters the commercial market and a 15 percent excise tax on the purchase of cannabis and cannabis products. At the January 18, 2018 meeting, the CAC voted to establish 10 subcommittees to discuss and develop recommendations for the state cannabis licensing authorities' regulations on topics within their subcommittee's issue area. The subcommittees were designated as follows: Cultivators, Distributors, Enforcement, Equity, Licensing Application, Manufacturers, Microbusiness, Public Health and Youth, Retailers, and Testing Laboratories.

Given the substantial scope of its charge and given the ongoing need for further action to address a range of cannabis related issues by the state Legislature and Congress, the committee worked to take a meaningful look at pressing industry challenges and develop recommendations for solutions to the greatest extent possible, consistent with its statutory purpose.

We hope this report provides insight into our work within an evolving regulatory environment and serves as a resource to show the range of issues and options to inform the public and policymakers alike.

For more information, please visit the Bureau of Cannabis Control website:
<https://bcc.ca.gov/>

BACKGROUND

Though cannabis remains illegal under U.S. federal law, many states have enacted varying degrees of legalization. In 2018, 62 percent of Americans report supporting cannabis legalization, double what it was in 2000 (31 percent).² According to the National Conference of State Legislatures, more than 31 states—plus the District of Columbia, Guam and Puerto Rico—have legalized cannabis for medical purposes.³ Nine states plus the District of Columbia have legalized cannabis for adult-use purposes.

On October 2018, Canada became the second country in the world to allow for legalized recreational cannabis. Canada's entry into the market will undoubtedly have marked impacts on California's nascent cannabis industry. The total cannabis market in Canada, including medical, illegal, and legal recreational products, is expected to generate up to \$7.17 billion in sales in 2019.⁴ California's overall legal cannabis market projected to grow with retail revenue estimated at \$5 billion. The state's market is projected to produce between 1.55–1.69 million pounds in all segments by 2018.⁵ Many in the industry believe in the need to preserve the rich cultural heritage and unique product branding that is unique a variety of well-known California cultivation regions, akin to other unique to regional products protected under internationally recognized Appellation of Origin programs.

California faces inherent challenges to regulating an industry that has not been federally decriminalized and has only been newly regulated in other states.⁶ The challenge before us is two-fold. First, converting an established industry that had not been comprehensively regulated by the state to a regulatory framework mandated by MAUCRSA. Although MAUCRSA provides guidance on the macro issues, much of the implementation specifics and clarification of terms were left to the discretion of the licensing authorities.

Second, ensuring that the regulations do not create high compliance costs for legitimate California businesses relative to the costs and risks involved in remaining in the illicit drug trade. For perspective, the Bureau's Standardized Regulatory Impact Analysis (SRIA) prepared in April 2018 found that the proposed regulations, compared to no regulation baseline alternative, would add approximately \$408 in compliance costs per pound of marketable dried flower.⁷ Most of the added cost is attributable to cannabis testing with other direct quantifiable costs attributed to general regulatory compliance.

² Pew Research Survey, <http://www.pewresearch.org/fact-tank/2018/10/08/americans-support-marijuana-legalization/>

³ <http://www.ncsl.org/research/health/state-medical-marijuana-laws.aspx>

⁴ <https://www2.deloitte.com/content/dam/Deloitte/ca/Documents/consulting/ca-cannabis-2018-report-en.PDF>

⁵ "Economic Impact Study of the Cannabis Sector in the Greater Sacramento Area" (University of the Pacific 2016)

⁶ BUREAU OF CANNABIS CONTROL CALIFORNIA CODE OF REGULATIONS TITLE 16, DIVISION 42 MEDICAL AND ADULT-USE CANNABIS REGULATION INITIAL STATEMENT OF REASONS

⁷ SRIA, PAGE. 286 OF 567

BACKGROUND

This report covers over 79 subcommittee recommendations, 47 of which were adopted by the CAC. The remaining subcommittee recommendations either failed to be adopted by the CAC or were not brought before the CAC due to a declaration by the licensing authorities that the recommendation would require statutory changes. Within those subcommittee recommendations that were either not adopted or not addressed by the CAC, a portion of these subcommittee recommendations were implemented, either in part or fully by the licensing authorities.

All subcommittee recommendations are summarized below in three clearly defined sections:

- Subcommittee Recommendations Adopted by the CAC.
- Subcommittee Recommendations Tabled by the CAC Due to Requiring Statutory Changes.
- Subcommittee Recommendations That Failed to Be Adopted by the CAC.

SUBCOMMITTEE RECOMMENDATIONS ADOPTED BY THE CAC

Subcommittee recommendations fall into 10 issue areas as summarized below. This section of the report summarizes the purpose of the regulations within each subcommittee's purview, describes subcommittee recommendation(s) adopted by the CAC, and identifies the related regulatory section(s) or Initial Statement of Reason section(s) relevant to the adopted recommendation. At the time of the drafting of this report, proposed regulations refer to the newly modified text released on October 19, 2018, and assumes implementation as drafted.

SUBCOMMITTEE ON CULTIVATORS

Under the proposed regulations, commercial cannabis cultivators may be eligible to license existing cultivation sites and / or establish new cultivation sites as commercial cannabis cultivation licensees. The proposed regulations also provide new protections to commercial California cannabis cultivators from state prosecution while safeguarding the environment through implementation of environmental protection measures and enforcement of existing environmental protection laws.

The Subcommittee on Cultivators made a total of 11 recommendations. Of these, five were adopted by the committee. Of the adopted recommendations, the licensing authorities have: implemented two, partially implemented one, and not implemented two.

Generator Hour Meters (Recommendation #1) — Amend section 8306(d) to allow after-market non-resettable hour meters be installed, if feasible.

Status: Implemented in CDFA's proposed permanent regulations for section 8306.

Outdoor Cultivation Definition (Recommendation #2) — The definition of outdoor cultivation should allow the use of light deprivation techniques, provided that, it does not allow for the increase in the number of crop cycles. Recommendation #2 was amended to the following: "The definition of outdoor cultivation should allow the use of light deprivation techniques."

Status: Not implemented by CDFA.

Transfer Between A and M Licenses (Recommendation #6) — Recognizing that the existing system of keeping Adult Use and Medicinal Use separate place a great financial, planning and efficiency burden on cultivators, potentially affecting the supply chain, recommend allowing cultivated materials to be transferred between A and M license types until the point of sale.

Status: Implemented by CDFA. This recommendation was addressed by allowing cultivators to sell cannabis to adult-use licensees and medical-use licenses without being required to establish separate and distinct cultivation areas. See section 40175. License Constraints. And section 5032 Commercial Cannabis Activity for details.

SUBCOMMITTEE RECOMMENDATIONS ADOPTED BY THE CAC

Compassionate Use Programs (Recommendation #7) — Language should be developed to create a cultivation-based tax incentive for products being set aside for compassionate use programs.

Status: Not implemented by CDFA. CDFA determined that implementation of this recommendation would require statutory changes.

Self-Transport Distribution (Recommendation #11) — Create a mechanism for cultivators to conduct self-transport distribution of their own product to a centralized processing facility, manufacturing facility, distributor or a laboratory for pre-testing, without the same requirements of the existing transportation license—including Bureau regulation sections 5044 and 5047—by either amending the existing transportation distribution license or creating a new license type.

Status: Partially implemented by the Bureau. See section 5315. Distributor Transport Only License (g) for details.

SUBCOMMITTEE ON DISTRIBUTORS

Distributors play a pivotal role in the commercial cannabis supply chain. Ensuring a seamless transition from the cultivation and manufacturing of the cannabis goods through the distribution process is key to a well-regulated market. The subcommittee took into consideration the following goals of the regulations on distribution: (1) ensure that commercial cannabis goods are properly stored, handled, packaged, and tested, (2) ensure commercial cannabis goods are safely and securely transported between licensees, and (3) ensure distributors keep and maintain records that are adequate to effectively track and trace commercial cannabis goods to prevent entry of untested commercial cannabis goods into the legal market.

The Subcommittee on Distributors made a total of five recommendations. Of these, four were adopted by the committee. Of the adopted recommendations, the licensing authorities have: implemented two and not implemented two.

Selling Samples (Recommendation #1) — The Bureau should address how, if at all, licensees may provide samples for a nominal fee, both for B to B (Business to Business) and B to C (Business to Consumer) situations.

Status: Not implemented by the Bureau. Per Bureau comments, the lead agency does not require cannabis goods to be sold at a specific price therefore, no language change occurred.

Additional Label (Recommendation #2) — In addition to all the rights and responsibilities afforded to a licensee regarding packaging and labeling, how a distributor would also be allowed to apply an additional label to the final product, if the final product's test results are inconsistent with the existing printed results. Variations within a 10 percent range excluded.

SUBCOMMITTEE RECOMMENDATIONS ADOPTED BY THE CAC

Status: Implemented by the Bureau. Please see the following regulatory sections for further details: section 5303. Packaging, Labeling, and Rolling, (a); section 5307. Quality-Assurance Review; and section 5307.1. Quality-Assurance Review for Labeling Cannabinoids and Terpenoids.

Storage Only Center License (Recommendation #3) — Create a subcategory license, under the distribution license, designated as storage-only center that's allowed to hold inventory and transport product. The transaction portion would remain under the full distribution license holder.

Status: Not implemented by the Bureau. See section 5301. Storage Services for regulatory details.

Transition Period Extension (Recommendation #4) — Extend the transition period from six months to 12 months to allow transactions between A and M licenses.

Status: Implemented by the Bureau. All three licensing authorities included a provision that allows applicants to conduct both A and M activities at the same licensed premises as well as to conduct business across license types regardless of A or M designation. This provision went into effect on June 6, 2018, with the re-adoption of the emergency regulations. See section 5032. Commercial Cannabis Activity, subsection (c) for language addressing transactions between M-designation or A-designation licenses.

SUBCOMMITTEE ON ENFORCEMENT

Under the MAUCRSA, each licensing authority has the power to create, issue, deny, renew, suspend, revoke, place on probation with terms and conditions, or otherwise discipline a licensee for any acts or omissions constituting grounds for disciplinary action. The subcommittee worked to ensure strong and fair enforcement provisions to improve public safety in our communities and to ensure that there is a balance between allowing for the feasible operation of cannabis businesses while deterring illegal and criminal activities.

The Subcommittee on Enforcement made a total of 15 recommendations. Of these, five were adopted by the committee. Of the adopted recommendations, the licensing authorities have: implemented two, partially implemented one and not implemented two.

Enforcement Authority (Recommendation #1) — The Bureau should: 1) clearly identify the enforcement authority regarding advertisement and placement; 2) clearly communicate who the enforcement authority is and how to contact them with complaints; 3) collect data on enforcement actions; and 4) require all advertisements have information regarding the license holder placing the advertisement.

SUBCOMMITTEE RECOMMENDATIONS ADOPTED BY THE CAC

Status: Not implemented by the Bureau. The Bureau determined that this recommendation does not constitute a regulatory recommendation. However, the Bureau has provided additional clarification in the advertising section regarding the content of licensee advertisements.

Clarify Difference Between Citations and Orders of Abatement and Clarify References (Recommendations #2) — The Bureau should: 1) clarify an order of abatement versus a citation; 2) clean up language and clarify its process and procedural guidelines within the regulations, reference, and citation sections.

Status: Implemented by the Bureau. See section 5802. Citations; Orders of Abatement; Administrative Fines for details.

Advertising (Recommendation #6) — The Bureau should: 1) clarify rules and provide direction regarding what type and where advertising is allowed; 2) collect data on when and where advertising rules were violated and if the violation was targeted to minors.

Status: Implementation of the proposed permanent regulations would result in partial implementation by the Bureau. The first part of the recommendation was adopted via section 5040. Advertising Placement and section 5415.1. Deliveries Facilitated by Technology Platforms.

Public Records Act Requests (Recommendation #8) — The Bureau should include language in regard to sharing information between the Bureau and local government entities that acknowledge the information shared is in accordance with the Public Records Act and protects information that is not discoverable under the Public Records Act.

Status: Not implemented by the Bureau.

Labor Standards (Recommendation #9) — All licensing authorities should explore amending the regulations to include violations of labor standards as part of the licensing process and enforcement, which should include revocation of the license.

This recommendation was amended to state: “all licensing authorities are required to include violations of labor standards as part of the licensing process and enforcement, which shall include revocation of the license.”

Status: Implemented by the Bureau via language changes found in section 5002. Annual License Application Requirements, section 5035. Notification of Criminal Acts, Civil Judgments, Violations of Labor Standards, and Revocation of a Local License, Permit, or Other Authorization After Licensure and section 5600. Cannabis Event Organizer License.

SUBCOMMITTEE RECOMMENDATIONS ADOPTED BY THE CAC

SUBCOMMITTEE ON EQUITY

As of July 2018, four California cities have moved to establish equity programs and identify common barriers to entry into the cannabis industry. The equity programs are the result of studies and reports that analyze in part, the disproportionate impacts of cannabis law enforcement on disadvantaged communities.

The equity subcommittee sought to continue to address racial and economic disparities in California's diverse population and redress decades of punitive criminal justice policies through community reinvestment, workforce development, public awareness and education, data collection and accountability, and increasing access to capital for equity applicants.

The Subcommittee on Equity made a total of eight recommendations. Of these, eight were adopted by the committee. Of the adopted recommendations, the licensing authorities have: implemented one, partially implemented one, and not implemented six.

State Level Equity Licensing Program (Recommendation #1) — The Bureau and the state licensing authorities should develop a state-level equity licensing program that supports the local equity licensing programs that have been developed and supports equity applicants from jurisdictions where programs have not been developed.

Status: Not implemented by the Bureau / CDFA / CDPH.

Earmarks, Fee Waivers, and Loans (Recommendation #2) — Consider providing earmarks from tax revenue for equity programs, licensing fee waivers, and possible loans and / or low interest loan programs to allow for the payment of licensing fees at a later date for applicants that have already been approved for extensions at the city level. Use transparent, voluntary information and data collection regarding equity applicants, such as an applicant's race, to drive policy decisions.

Status: Not implemented by the Bureau / CDFA / CDPH. The licensing authorities determined that this recommendation would require statutory changes.

Fee Installments and Deferrals (Recommendation #3) — Include an option to pay fees in installments or defer fees for social equity applicants. Modify the regulations to allow a license to be issued, contingent on continued payment of the fee if in installments.

SUBCOMMITTEE RECOMMENDATIONS ADOPTED BY THE CAC

Status: Not implemented by the Bureau / CDFA / CDPH.

Research Support (Recommendation #4) — All types of funding and bidding processes are considered by the state to acquire funds to cover the cost of research on diversity issues in the cannabis industry.

Status: Implemented by the Bureau. The Bureau's regulations specify the requirements for applying for, and receiving, research funding for public universities. See section 5900 Eligibility.

Access to Property and Premises (Recommendation #5) — As part of a social equity program, the three licensing authorities to the extent allowed by statute, should explore access for equity applicants to property and premises. This could include working with local licensing programs to allow annual licensees to sublease a portion of their licensed premises to an equity applicant; allowing co-location or shared premises by equity applicants; developing pre-licensing programs for equity applicants; and, to the extent possible, creating incentives and protections for property owners to lease to equity applicants.

Status: Partially implemented by CDPH. CDPH MCSB allows cannabis manufacturers to utilize shared-use facilities to provide opportunities for small manufacturing businesses and in response to demand from cities and counties wishing to implement equity programs. Shared-use facilities resemble community kitchens that are cannabis specific or are locations in which a larger manufacturer offers use of space and equipment to a smaller manufacturer. See CDPH regulations Article 6, Shared-Use Facilities.

Data Collection (Recommendation #6) — Strongly urge the state licensing authorities to voluntarily and anonymously collect demographic and other data (e.g. prior convictions, veteran status, etc.) to determine equity in licensing and explore options for making the data available to the public. Create a data use policy that characterizes the quality of the data collected.

Status: Not implemented by the Bureau / CDFA / CDPH.

Funding of a Social Equity Program (Recommendation #7) — The three licensing authorities should develop a social equity program that takes into consideration the work that the local licensing authorities have done in this area and consider developing a mechanism to prioritize the funding and the costs of developing a social equity program.

SUBCOMMITTEE RECOMMENDATIONS ADOPTED BY THE CAC

Status: Not implemented by the Bureau / CDFA / CDPH.

Local Program Models (Recommendation #8) — In the development of a state equity program, information, processes, and models from existing equity programs in Sacramento, Los Angeles, San Francisco, and Oakland should be examined and utilized. This information should be used to support the development of a state-adopted policy statement that embraces a statewide equity program.

Status: Not implemented by the Bureau / CDFA / CDPH.

SUBCOMMITTEE ON RETAILERS

Retailers provide commercial cannabis goods to customers who are the end users of the product in the supply chain. The proposed retailer regulations are designed with three main goals for holding a state license to operate a commercial cannabis retail premises and are necessary as retailers engage directly with the consumer and the public. First, the regulations are designed to ensure that retailers follow the MAUCRSA supply chain requirements. Second, the regulations are designed to protect public health and safety. Third, the proposed regulations are designed to limit the risk of diversion.

The Subcommittee on Retailers made a total of nine recommendations. Of these, one was adopted by the committee and this has been partially implemented by the licensing authorities.

Methods of Delivery (Recommendation #1) — Clarify and simplify methods of delivery. Increase flexibility regarding vehicles and hours, consider increasing the value amounts that can be carried at one time. Clarification on the delivery receipt that eliminates the need for an address and instead uses the state license number on the delivery receipt. Flexibility in allowing local government to allow changes in hours of operation if they so choose.

Status: Partially implemented by the Bureau. This recommendation addressed multiple concerns expressed by the public regarding “methods of delivery.” As such, this recommendation involved language changes in multiple sections of the regulations. Below, is a detailed description regarding the portions of this recommendation implemented by the Bureau:

- “Clarify and simplify methods of delivery...” —Implemented by the Bureau. See section 5415. Delivery Employees, section 5415.1. Deliveries Facilitated by Technology Platforms, section 5416. Delivery to a Physical Address and section 5421. Delivery Route.
- “Increase Flexibility regarding vehicle and hours” —Not implemented by the Bureau.
- “...increasing the value amounts that can be carried” —Implemented by the Bureau. See section 5418. Cannabis Goods Carried During Delivery.

SUBCOMMITTEE RECOMMENDATIONS ADOPTED BY THE CAC

SUBCOMMITTEE ON PUBLIC HEALTH AND YOUTH

The MAUCRSA mandates that the protection of public health be amongst the highest priority for all licensing authorities. As such, the subcommittee worked to limit youth access to cannabis, encouraging education to workers to prevent improper sales to minors and generally ensure the health and safety of the public. The subcommittee also considered the importance of increasing access for compassionate medical cannabis and data collection to inform the public and policymakers going forward.

The Subcommittee on Public Health and Youth made a total of 11 recommendations. Of these, seven were adopted by the committee. Of the adopted recommendations, the licensing authorities have not implemented any and determined that three require legislative changes.

Proper Identification Training (Recommendation #1) — The Bureau should include in its regulations an employee-training requirement on proper identification verification to prevent sales of cannabis and cannabis products to youth at the point of sale or upon the delivery of product.

Status: Not implemented by the Bureau / CDFA / CDPH.

Compassionate Medical Cannabis (Recommendation #2) — All regulatory agencies should create a special state and local licensing processes for those providing free compassionate medical cannabis that is exempt from fees and taxes. This change should be incorporated in the emergency rules and be promulgated as soon as possible to implement this motion. The motion includes all noncommercial cannabis activity.

Status: Not implemented by the Bureau / CDFA / CDPH..

Branded Vehicles (Recommendation #3) — The Bureau should study whether branded vehicles fall under advertising restrictions.

Status: Not implemented by the Bureau. The Bureau determined that this recommendation is not a regulatory recommendation. The Bureau has and continues to evaluate what constitutes an advertisement and is subject to the advertising restrictions.

Health Claim Advertising (Recommendation #4) — Adult-use cannabis should not be allowed to make health claims in advertising.

Status: Not implemented by the Bureau / CDFA / CDPH. However, statute clearly prohibits a licensee from publishing or disseminating any advertising containing a health-related statement that is untrue or creates a misleading impression as to the effects of cannabis consumption on health conditions. As such, the Bureau has included this in the disciplinary guidelines. CDPH regulations further state that health-related statements must be supported by a totality of publicly-available scientific evidence and be supported by significant scientific agreement. CDPH conducts product label reviews when conducting

SUBCOMMITTEE RECOMMENDATIONS ADOPTED BY THE CAC

inspections of manufacturers to ensure they adhere to the statutory and regulatory requirements. See section 40410 Labeling Restrictions.

Data Collection (Recommendation #5) — The Bureau should collect data and report yearly on youth and adult cannabis use and overuse; ER visits and treatment episodes; DUI and poison control calls related to cannabis.

Status: Not implemented by the Bureau.

Advertising to Age Specific Audience (Recommendation #6) — The Bureau should amend Title 16, California Code of Regulations section 5040(a) to read as follows: Any advertising or marketing placed in broadcast, cable, radio, print, and digital communication shall only be displayed where at least 85 percent of the audience is reasonably expected to be 21 years of age or older, as determined by reliable up-to-date audience composition data.

Status: Not implemented by the Bureau. The Bureau determined that this recommendation would require a statutory change.

Compassionate Care Program (Recommendation #7) — The full advisory committee should recommend to seek a legislative fix for the compassionate care program.

Status: Not implemented by the Bureau / CDFA / CDPH.

SUBCOMMITTEE ON TESTING LABORATORIES

The MAUCRSA mandates that protection of the public be the highest priority for all licensing authorities. Under the Act, the Bureau is required to develop procedures for ensuring that all cannabis goods are tested by a licensed testing laboratory prior to distribution to a retailer. The goal of testing is to ensure that cannabis goods sold to consumers are safe for consumption and that consumers receive accurate information regarding the cannabis goods they consume in the spirit of consumer protection.

Objective information and science should guide the regulation of testing laboratories to achieve these consumer protection goals. The subcommittee recommendations stress the need to rely on objective and consistent available scientific and technical information and flexibility to allow for research and development.

In preparation for the writing of this report, the CAC heard reports from each subcommittee chair. The conversation stemming from the Subcommittee on Testing Laboratories' report led to an additional recommendation and is included below.

The Subcommittee on Testing Laboratories made a total of six recommendations. Of these, five were adopted by the committee. Of the adopted recommendations, the licensing authorities have: partially implemented one and not implemented four.

SUBCOMMITTEE RECOMMENDATIONS ADOPTED BY THE CAC

Testing for Research and Development (Recommendation #1) — Regulations should allow for licensed laboratories to accept materials from any licensed entity that is part of the supply chain for research and development, without a requirement to report the results.

Status: Not implemented by the Bureau. Currently no changes have been made to section 5710. Laboratory Receipt of Samples Obtained from a Distributor or Microbusiness, (a), which clarifies that licensed laboratories may, “...accept and analyze a sample from a licensed distributor or licensed authorized to engage in distribution for the required testing under section 5714 of this division only if there is an accompanying COC form for the sample.”

Expiration Date (Recommendation #2) — Regulations should clarify that the testing results are valid on a finished manufactured cannabis product until the expiration date of the finished product, as determined by the manufacturer. The expiration date must be supported by in-house or third-party data.

Status: Not implemented by the Bureau. See section 5307, subsections (b) and (e). Quality-Assurance Review, as well as section 5406, subsection (b) Cannabis Goods for Sale, for regulatory language regarding expiration dates and the verification by in-house or third-party data.

Standard Testing Analytical Methodology (Recommendation #3) — The Bureau should incorporate standard testing analytical methodology in final regulations. This recommendation was modified to state: “The Bureau should define acceptable reference standards in the final regulations.”

Status: Not implemented by the Bureau. See section 5700. Definitions, subsection (r) “Certified reference material,” for regulatory definition of reference standards. Additional information on this topic can be found in section 5713. Validation of Test Methods, subsection (c) (2).

Waste Disposal (Recommendation #4) — The Bureau should revisit cannabis waste disposal from testing laboratories.

Status: Partially implemented by the Bureau. The Bureau revisited the sections on cannabis waste disposal in the draft proposed permanent regulations. See section 5054. Destruction of Cannabis Goods Prior to Disposal.

Recommendation # 5 — Recommend to the Bureau, in the Committee’s annual report, to require testing labs to use commercially available standardized cannabinoid reference standards.

Status: Not implemented by the Bureau.

SUBCOMMITTEE RECOMMENDATIONS ADOPTED BY THE CAC

SUBCOMMITTEE ON LICENSING APPLICATION

Under Business and Professions Code section 26053, all commercial cannabis activity must be conducted between licensees. In recognizing that many commercial cannabis businesses were already in operation for medicinal cannabis prior to January 1, 2018, the Legislature created a temporary license with fewer requirements than an annual license so that licensing authorities could quickly process an application to allow the businesses in operation to continue operations or allowing them to shut down for a very brief time while the application was processed. Temporary licenses can be issued until December 31, 2018.

The MAUCRSA requires an applicant to provide certain information to the licensing authorities for processing of an annual license. The regulations identify additional required information, clarification on special terms, prohibitions, and conditions for licensure to allow commercial cannabis businesses to legally engage in the marketplace.

The Subcommittee on Licensing Application sought to address the concerns regarding a small number of large consolidated businesses dominating California's cannabis market by increasing transparency in the licensing application, providing financial relief to lower barriers to entry, encouraging market stability, and protecting the health and safety of workers.

The Subcommittee on Licensing Application made a total of six recommendations. Of these, four were adopted by the committee. Of the adopted recommendations, the licensing authorities have: implemented two, partially implemented one, and not implemented two.

Disclosure of Owners (Recommendation #2) — Require an applicant for an annual license who lists any corporation or other entity as an owner, to also disclose the names of the owner(s) of the corporation or other entity.

Status: Implemented by the Bureau / CDFA / CDPH. This recommendation was adopted via regulatory language found in section 5002. Annual License Application Requirements, section 5003. Designation of Owner, section 5600. Cannabis Event Organizer License, and section 40102 Owners and Financial Interest Holders.

Annual Fees (Recommendation #4) — The licensing authorities should evaluate the amount of annual fees, especially fees paid by people with disabilities, military veterans, locally licensed equity applicants, and nonprofit compassion programs.

Status: Partially implemented by the Bureau. This recommendation has been partially addressed via draft language found in section 5014. Fees., of the draft proposed permanent regulations.

⁸ DPH-17-004 Medical Cannabis Manufacturing INITIAL STATE OF REASONS (Rep.). (n.d.).

SUBCOMMITTEE RECOMMENDATIONS ADOPTED BY THE CAC

A and M Licenses and Transition Period (Recommendation #5) — Combine application and annual renewal fees for A and M licensees conducting the same business activities at the same licensed premises and to extend the grace period until January 1, 2020 under section 5029 subdivision (b)(1).

Status: Implemented by the Bureau / CDFA / CDPH. Please see section 5032. Commercial Cannabis Activity, subsection (c) for details. All three licensing authorities included a provision that allows applicants to conduct both A and M activities at the same licensed premises as well as to conduct business across licensing types regardless of A or M designation. This provision went into effect on June 6, 2018 with the re-adoption of the emergency regulations.

Use of Preparers (Recommendation #6) — Allow the use of preparers to assist applicant in preparing applications.

Status: Not implemented by the Bureau / CDFA / CDPH. The Bureau and CDPH determined that the owner must verify the accuracy, attest, and submit the application. Owners are not prohibited from using or seeking the guidance and assistance from experts.

SUBCOMMITTEE ON MANUFACTURERS

“Manufacturing” or “manufacturing operation” means all aspects of the extraction, infusion, and packaging and labeling processes, including processing, preparing, holding, and storing of cannabis products. Manufacturing also includes any processing, preparing, holding, or storing of components and ingredients. Manufacturers produce nearly all non-flower products including edibles, oils, tinctures, etc. The proposed regulations establish the licensing scheme for manufacturers of cannabis products,⁸ set minimum standards for sanitary manufacturing practices; and establish packaging and labeling standards for manufactured cannabis products.

The Subcommittee on Manufacturers made a total of four recommendations. Of these, four were adopted by the committee. Of the adopted recommendations, the licensing authorities have implemented two, partially implemented one, and not implemented one.

Illustrative Guide (Recommendation #1) — Create an illustrative guide for packaging and labeling broken down by the components of packaging and labeling.

Status: Partially Implemented by CDPH. CDPH developed and published three guides in June in response to this recommendation: Packaging Checklist, Cannabis Products Labeling Checklist, and Cannabis Products (Small Containers) Checklist, as well as more than 20 FAQs on packaging and labeling. These materials can be found online at: cdph.ca.gov/mcsb. CDPH will release a revised set of checklists, updated FAQs and an illustrative guide after adoption of the permanent regulations.

SUBCOMMITTEE RECOMMENDATIONS ADOPTED BY THE CAC

Clarification on Packaging (Recommendation #2) — Provide clarification on the concepts of primary packaging, secondary packaging, and child-resistant packaging (with respect to primary versus secondary) and labeling.

Status: Implemented by CDPH. The CDPH issued a Packaging Checklist, which included guidance for child-resistant packaging, as well as FAQs related to this recommendation in June of 2018. These materials can be found online at: cdph.ca.gov/mcsb. CDPH further clarified these concepts in revisions included in the permanent regulations. See section 40403 General Provisions and section 40417 Child-Resistant Packaging Requirements.

Child-Resistant Packaging (Recommendation #3) — Clarify how and where child-resistant packing should be used.

Status: Implemented by CDPH. The questions regarding how and where child-resistant packaging will be required, and the timeline associated with child-resistant packaging is still unclear as of the drafting this report. The licensing authorities have adopted this recommendation as reflected in section 5303 of the Bureau's regulations and section 40417 of CDPH's proposed regulations.

Dosage Limits (Recommendation #4) — Increase the limitation on dosage from 2,000 mg to 4,000 mg for any non-edible medical product that is not restricted by statute; and raise the dosage limitation from 1,000 mg to 2,000 mg for non-edible adult use products.

Status: Not implemented by CDPH.

SUBCOMMITTEE ON MICROBUSINESS

The microbusiness license allows the licensee to engage in multiple types of licensed commercial cannabis activities under a single license. Microbusiness licensees must qualify for, and conduct, a minimum of three out of four allowed commercial cannabis activities including:

- The commercial cultivation of cannabis on an area less than 10,000 square feet.
- The ability to act as a licensed distributor.
- The ability to manufacture commercial cannabis as a Type 6 manufacturer.
- The ability to sell commercial cannabis as a retailer.

Established by the voter initiative, AUMA, the microbusiness license ultimately ended up replacing the 10A license type established by the MCRSA in 2015. During the reconciliation of the MCRSA and AUMA statutes, the 10A license type, which allowed for vertical integration of pre-existing vertically integrated operations, was stricken from statute and the microbusiness license was clarified.

It is important to note that the public commented on the microbusiness license type during every CAC meeting. At the August CAC meeting, the committee

SUBCOMMITTEE RECOMMENDATIONS ADOPTED BY THE CAC

agreed to reconvene the Subcommittee on Microbusiness in September 2018. The recommendations below (1–3) were adopted prior to the September 2018 general meeting. The Subcommittee on Microbusiness made a total of nine recommendations. Of these, four were adopted by the committee. Of the adopted recommendations, the licensing authorities have: partially implemented one and not implemented three.

License Tiers, Incentives for Compassionate Use and Rural Operators, and Fee Schedule Cap (Recommendation #2) — In an effort to create an onramp to legalization, there should be a clarification of microbusiness that includes tiers based on gross receipts and number of employees. The fee schedule should be redefined to include a ceiling that delineates when the business is no longer considered a microbusiness. Incentives should be provided based on equity for compassionate use and rural operators.

Status: Not implemented by the Bureau.

The following recommendations were passed by the subcommittee during the September 20, 2018 meeting. During the November 8, 2018 Cannabis Advisory Committee meeting the committee voted to include all three of the following recommendations in this report.

Recommendation #1 — Provide a “sub-microbusiness” or “microbusiness A” license that allows up to 10,000 square feet of cultivation including nurseries, three out of four activities to be fulfilled by allowing any type of non-volatile solvent manufacturing including shared space manufacturing, retail sales to happen at events in addition to storefront sale and delivery, and distribution to be fulfilled by full distribution or distribution transport only.

Status: Partially implemented by the Bureau. The Bureau has stated that nursery licenses qualify as cultivation so long as the nursery does not exceed 10,000 square feet. The Bureau has also stated that microbusinesses authorized to engage in retail and / or distribution activities may conduct any activities allowable by the corresponding type of license. Additionally, the Bureau has amended language to include licensed infusion as a license type option to fulfill the manufacturing activity requirement.

Recommendation #2 — The Bureau and CDPH should work together to create a document that they could distribute jointly to clarify that local governments may further limit the types of activities that are permitted to occur under a microbusiness authorized to engage in level one manufacturing within their jurisdiction. Even though the state permits multiple activities under the license type, the community could restrict certain types of activities if they so choose.

Status: Not implemented by the Bureau / CDPH.

Recommendation #3 — The Bureau should consider removing the prohibition on activities allowed within the home, so long as the activities that the applicant is choosing to conduct are activities commonly allowed under cottage business.

Status: Not implemented by the Bureau.

TABLED SUBCOMMITTEE RECOMMENDATIONS REQUIRING STATUTORY CHANGES

Several subcommittee recommendations were tabled upon determination by the licensing authorities that the recommendation would require a statutory change to address. To address these recommendations, the CAC agreed to compile the tabled recommendations into a letter to be penned by Chair Rahn and Vice Chair Todd and presented on behalf of the CAC to the California State Legislature.

Within those subcommittee recommendations that were tabled, common themes emerged highlighting issues that pose challenges to all aspects of the supply chain, including consumers. As such, the subcommittees heard repeated public comment, in turn passing subcommittee recommendations, related the following common topics, including but not limited to:

- Remove bifurcation of adult-use and medical-use licenses;
- Urgent need to establish a medical compassion program for patients unable to afford the cost and taxation associated with the newly regulated commercial medical cannabis marketplace;
- Ease the requirement that each license occupy separate contiguous premises;
- Reduce the barriers to entry for all license types, with emphasis on the needs of small businesses to access the microbusiness license;
- Establish a pathway for commercial cannabis licenses to operate in a manner that is analogous to California’s ‘home occupation’ guidelines; and
- Clarify the cannabis waste sections of regulations to allow for the remediation and sale of cannabis waste.

This section captures all tabled subcommittee recommendations and provides further insight into the implementation status of each recommendation.

SUBCOMMITTEE ON CULTIVATORS

Composting and Waste (Recommendation #3) — Allow Chair Nevedal to make a recommendation based on public and committee comments to provide clarity on composting, the definition of waste, and the ability to sell unused waste products lacking cannabinoids.

Status: Implemented by CDFA.

Cottage Licenses (Recommendation #4) — Add square footage (“or 2,500 square feet” and “or 5,000 square feet”) to specialty cottage and cottage licenses, respectively, if possible, and if not direct staff to pursue a legislative fix to allow for the change.

Status: Not implemented by CDFA.

TABLED SUBCOMMITTEE RECOMMENDATIONS REQUIRING STATUTORY CHANGES

Transport by Cultivators (Recommendation #5) — Cultivators should be allowed to transport their product to nearby licensed processors without obtaining additional licensure, so long as they account for the net weight of the product.

Status: Not implemented by CDFA.

Harvest Batch (Recommendation #8) — Cultivators should be able to batch per area at the time of harvest for track and trace purposes and that they should not need to identify each harvest back to the individual plant.

Status: Not implemented by CDFA.

Lab Testing System (Recommendation #9) — The CAC should make changes to the lab testing system to address the burdens that may impede a path to legalization, such as the loss of strains, high costs, insufficient accuracy levels, lack of protections to the cultivator among others.

Status: Not implemented by CDFA.

Requirements for Nurseries (Recommendation #10) — Consideration of issues related to scaled licensing tiers for nurseries, packaging seeds in batch count by bulk weight, establishing genetic repositories, providing flexibility to develop genetic diversity, allowing cultivators to transport propagated plant material and seeds, removing the requirement for nurseries to designate seed and / or plant stock as A or M material; allowing cultivators to provide nurseries with genetic stock; and allowing cultivators to provide other cultivators with plant materials in an emergency, provided proper documentation for all of the above.

Status: Not implemented by CDFA.

SUBCOMMITTEE ON ENFORCEMENT

Video Surveillance (Recommendation #3) — All licensing authorities should require that all areas where waste is stored, processed, handled, and properly disposed of, be covered by video surveillance.

Status: Not implemented by the Bureau / CDFA / CDPH. Per Bureau comments, implementing the committee's recommendation would increase the costs for licensees to have additional video surveillance equipment and video storage.

TABLED SUBCOMMITTEE RECOMMENDATIONS REQUIRING STATUTORY CHANGES

SUBCOMMITTEE ON PUBLIC HEALTH AND YOUTH

Youth Education and Prevention Programs (Recommendation #8) — CDPH should designate staff and necessary resources to the education of youth and youth prevention programs relating to cannabis.

Status: Not Implemented by CDPH. This recommendation is outside of the authority of the CDPH cannabis regulatory office, as MCSB regulates and licenses cannabis manufacturers only. Separately from the state regulatory framework, Proposition 64 provided funding to the California Department of Health Care Services for a public education campaign targeting youth, parents and mentors, and pregnant and breastfeeding women. This campaign was executed by CDPH as “Let’s Talk Cannabis” and can be found at www.letstalkcannabisca.com.

Advisory Committee (Recommendation #9) — CDPH should designate / form an advisory committee that would help establish a more comprehensive program including prevention, early intervention and continuing of care.

Status: Not implemented by CDPH. This recommendation is outside of the authority of the CDPH cannabis regulatory office, as MCSB regulates and licenses cannabis manufacturers only.

Local Government Coordination (Recommendation #10) — All licensing authorities should cooperate and coordinate with local agencies and local governments to close unlicensed and unregulated cannabis businesses that make it difficult for licensed cannabis businesses to succeed.

Status: Implemented by the Bureau / CDFA / CDPH. Per Bureau comments, the licensing authorities currently share information with local agencies and local governments as permitted in response to a California Public Records Act requests, as permitted by the Information Practices Act, to another government agency as required by state or federal law, in response to a court or administrative order, a subpoena, or a search warrant. The licensing authorities are working cooperatively with local law enforcement on matters related to licensing and enforcement.

Multilingual Public Information Campaign (Recommendation #11) — The three regulatory agencies should develop a culturally competent multilingual public information campaign about the means for lodging complaints about inaccuracy in advertising, particularly of health claims.

Status: Partially implemented by the Bureau. Per Bureau comments, the licensing authorities have established a process to submit complaints via online, phone hotline (which includes an interpretation service if needed), or email. This process allows for the public to lodge complaints. Additionally, the Bureau will be launching a public awareness and education campaign in 2019.

TABLED SUBCOMMITTEE RECOMMENDATIONS REQUIRING STATUTORY CHANGES

SUBCOMMITTEE ON LABORATORY TESTING

Testing by Individuals (Recommendation #5) — Allow any adult to have a cannabis product tested at a licensed testing lab.

Status: Not implemented by the Bureau.

SUBCOMMITTEE ON DISTRIBUTORS

Multiple Distribution Hubs (Recommendation #5) — The Bureau should consider allowing multiple distribution hubs without requiring separate licenses for each location.

Status: Not implemented by the Bureau.

SUBCOMMITTEE ON MICROBUSINESS

Farm Stand Sales (Recommendation #3) — Microbusiness licensees should be allowed to utilize farm stand sales as well as farm direct sales model (such as CSAs) without a brick and mortar store to satisfy the retail component of the license.

Status: Not implemented by the Bureau.

Single Premise (Recommendation #4) — All microbusiness activities should not have to take place on a single premise.

Status: Not implemented by the Bureau.

Qualifying Activities (Recommendation #5) — Microbusiness licensees should be allowed to conduct offsite processing as one of their qualifying activities and use shared facilities for any of their activities.

Status: Not implemented by the Bureau.

License for Non-Contiguous Premises (Recommendation #6) — Recognizing that microbusinesses frequently cannot operate at one contiguous location in large part because of local land use ordinances, and that it can be cost prohibitive for microbusinesses to obtain multiple licenses, an accessory license should be created to tie premises together beyond the simple geographic locations, while ensuring that flow of the product maintains a single chain of custody.

Status: Not implemented by the Bureau.

SUBCOMMITTEE RECOMMENDATIONS (NOT ADOPTED BY THE COMMITTEE)

During the CAC's review of subcommittee recommendations, several recommendations failed to be adopted by the CAC. However, some of these recommendations were implemented, either in full or partially, by the licensing authorities. Subcommittee recommendations, not adopted by the full committee, are listed below, including details about each recommendation's implementation status.

SUBCOMMITTEE ON ENFORCEMENT

Security Personnel Standards (Recommendation #4) — All licensing authorities should consider establishing standards for security personnel for cultivation, manufacturing and distribution.

Status: Partially implemented by the Bureau / CDFA / CDPH. See section 5045. Security Personnel of the Bureau's proposed regulations for additional security personnel requirements for retail and distribution licensees.

Health-Related Claims (Recommendation #5) — The CDPH should develop enforcement provisions to ensure that the public has the ability to challenge health related claims about cannabis and a means to adjudicate evidence for their claims.

Status: Not implemented by CDPH.

Unlicensed Collectives (Recommendation #7) — The Bureau, before taking any enforcement action on unlicensed collectives should give the business the opportunity to demonstrate an attempted effort for good faith compliance.

Status: Not implemented by the Bureau.

Waste (Recommendation #10) — To be consistent with the protection of health and safety, we recommend to all licensing authorities that they explore differentiating types of waste and explore the possibility of a cannabis-specific licensed waste hauler, and the possibilities of usage of waste beyond destruction.

Status: Partially implemented by the Bureau / CDFA / CDPH. All three licensing authorities significantly revised waste requirements in drafting the proposed permanent regulations.

Online Advertising (Recommendation #11) — Look into the possibility of having an unlicensed businesses' online advertising and marketing removed.

Status: Partially implemented by the Bureau. See regulatory section 5415.1. Deliveries Facilitated by Technology Platforms and section 5040. Advertising Placement.

SUBCOMMITTEE RECOMMENDATIONS (NOT ADOPTED BY THE COMMITTEE)

Local Government Communication on Licensees (Recommendation #12)

— The Bureau should clearly identify a path for communication between the Bureau and local governments to share information regarding licensees' application information, criminal or civil judgments or disciplinary action. The communication should happen within a mandated timeframe with protocols in place for communication acknowledgment.

Status: Partially implemented by the Bureau. See section 5002. Annual License Application Requirements, subsection (20) (M) and section 5035. Notification of Criminal Acts, Civil Judgments, Violations of Labor Standards, and Revocation of a Local License, Permit, or Other Authorization After Licensure of the draft proposed permanent regulations for details.

Local Government Communication on Violations (Recommendation #13) —

The Bureau should clearly identify a path for communication between the bureau and local governments regarding labor code violations, OSHA violations, fire code violations and any other local violations.

Status: Not implemented by the Bureau.

Hazard Identification Standards (Recommendation #14) — All regulatory agencies should standardize how hazards that are unique to the cannabis industry are identified and how fire agencies statewide are notified of such hazards.

Status: Not implemented by the Bureau / CDFA / CDPH.

Education for First Responders (Recommendation #15) — Licensing agencies should quickly start to address the educational needs of first responders related to cannabis.

Status: Not implemented by the Bureau / CDFA / CDPH.

SUBCOMMITTEE ON LICENSING APPLICATION

Labor Standards (Recommendation #1) — Applicants should be required to submit a plan for compliance with labor standards and disclose previous labor law violations.

Status: Partially implemented by the Bureau. While the regulations do not require an applicant to submit a plan for compliance with labor standards, the draft proposed permanent regulations do require disclosure of previous labor law violations. See section 5002. Annual License Application Requirements, subsection (c) (20) (M) and section 5035. Notification of Criminal Acts, Civil Judgments, Violations of Labor Standards, and Revocation of a Local License, Permit, or Other Authorization After Licensure for more details.

SUBCOMMITTEE RECOMMENDATIONS (NOT ADOPTED BY THE COMMITTEE)

Information from Corporation Owners (Recommendation #3) — Require any corporation or other entity listed on the annual license application who has a financial interest, to disclose the name, birth date, and copy of government-issued identification for all individuals who are the owner(s) of the corporation or other entity. These individuals shall not be required to submit the information required of owners under section 5002, subsection (c) (20).

Status: Implemented by the Bureau / CDPH. The draft proposed permanent regulations address this recommendation via language changes to section 5002. Annual License Application Requirements, section 5004. Financial Interest in a Commercial Cannabis Business and section 5600. Cannabis Event Organizer License. CDPH only requires the first, last name, and Driver License for Financial Interested holders or tax ID number for business section 40102.

SUBCOMMITTEE ON RETAILERS

Hours of Operation (Recommendation #2) — Restore local control over hours of operation. The state can establish suggested operating hours however, local government can waive those hours.

Status: Not implemented by the Bureau.

Barriers to Entry (Recommendation #3) — Reduce barriers to entry into the industry, including issues with taxation, insurance and other fees.

Status: Partially implemented by the Bureau. Please see section 5014. Fees for details.

Waste (Recommendation #4) — Retailer should be allowed to haul or destroy waste that's generated on their property.

Status: Partially implemented by the Bureau, via elimination of section 5055. Cannabis Waste Management.

California Code of Regulations, Title 16, section 5411 (Recommendation #5) — Regarding section 5411 subsection B-1, strike language starting from “in possession of valid ID card” through the end of the sentence.

Status: Not implemented by the Bureau.

SUBCOMMITTEE RECOMMENDATIONS (NOT ADOPTED BY THE COMMITTEE)

A and M Licenses (Recommendation #6)—Retailers should be allowed to purchase product and not have to differentiate between A and M licenses.

Status: Partially implemented by the Bureau. Only cannabis goods that can only be sold by medicinal retailers are restricted to sale to and by M licensees.

Sampling (Recommendation #7) — Establish greater flexibility on sampling within statute and regulations.

Status: Not implemented by the Bureau.

Product Liability Insurance (Recommendation #8) — Product liability insurance should be applied to the manufacturer not the retailer within context of statute.

Status: Not implemented by the Bureau.

Banking System (Recommendation #9) — The state should continue to explore establishing a banking system for the California cannabis industry.

Status: Not implemented by the Bureau.

SUBCOMMITTEE ON MICROBUSINESS

Security Requirements (Recommendation #1) — Security requirements for microbusinesses should be determined by the local jurisdiction and the regulations should not be unduly burdensome to small businesses and microbusinesses.

Status: Not implemented by the Bureau. While this recommendation passed unanimously at the subcommittee level, it failed to pass adoption by the CAC.

INFORMATIONAL PRESENTATIONS

In addition to establishing the subcommittees referenced earlier in this report, the CAC was fortunate to receive several educational presentations designed to provide the committee and the public with additional information on specific topics as requested by the CAC.

Over the course of the 2018 CAC meetings, the following educational presentations were provided to the committee:

“CALIFORNIA ENVIRONMENTAL QUALITY ACT PROCESS OVERVIEW” —

Presented by Michael Stevenson, Horizon Water and Environment, LLC

“CANNABIS ENFORCEMENT FROM THE LOCAL PERSPECTIVE” —

Presented by Joe Devlin, Chief of Cannabis Policy and Enforcement, City of Sacramento and Jonathan Feldman, Legislative Advocate, California Police Chiefs Association

“OVERVIEW OF CALIFORNIA’S CANNABIS TAXES” —

Presented by Nicolas Maduros, Director, California Department of Tax and Fee Administration

“CALIFORNIA CANNABIS TRACK-AND-TRACE SYSTEM: OVERVIEW and IMPLEMENTATION UPDATE” —

Presented by John Halligan, Branch Chief, Compliance and Enforcement Branch, CalCannabis

The purpose of this section is to highlight for the licensing authorities the overarching concerns of the Cannabis Advisory Committee. This authority is granted by Business and Professions Code section 26014(a), which states:

- *“The bureau shall convene an advisory committee to advise the licensing authorities on the development of standards and regulations pursuant to this division, **including best practices and guidelines** that protect public health and safety while ensuring a regulated environment for commercial cannabis activity that does not impose such barriers as to perpetuate, rather than reduce and eliminate, the illicit market for cannabis.”*

Toward the goals outlined above, the Cannabis Advisory Committee deems it necessary to include in its first Annual Report a brief statement regarding global issues repeatedly identified during the past year that have created cause for concern. **Because the following concerns often cannot be remedied by regulatory agents without legislative action and because the Cannabis Advisory Committee has determined that each concern contributes in its own way to difficulties, we are communicating our findings not only to the regulatory agencies, but also to the California State Legislature and general public.**

The overarching reality after one year of legal cannabis sales is that the regulatory process to licensure insufficiently incentivizes unlicensed businesses to seek licensure and insufficiently de-incentivizes the illegal unlicensed underground market in order to effectively “protect public health and safety while ensuring a regulated environment for commercial cannabis activity.” The variety of issues contributing to this include, but are not limited to, the following:

- **Equity Issues** — Efforts to promote participation in the new legal cannabis industry by members of communities disproportionately impacted by enforcement of the War on Drugs have by most measures been unsuccessful for several reasons, including:
 - “Social Equity” means different things for different parts of the state. As such, a single equity program does not properly address the different communities impacted.
 - Lack of funding for social equity programs.
 - Lack of guidance, support, and general tools for equity qualified businesses to survive let alone be successful.

The Bureau's efforts to remedy some of the shortcomings of this is not unnoticed. Senate Bill 1294 intends to address some of the aforementioned issues by allocating a \$10 million fund to assist eligible local equity applicants to operate in a regulated marketplace.

- **Small Business Issues** — The intention of Proposition 64 to favor small businesses / farmers over big money operations, at least initially, has not yet reached the success anticipated by the Bureau.
 - The continued layering of additional regulations on top of stringent statutory requirements favor larger business organizations and goes against the spirit of Proposition 64.
 - High costs to entry do not favor the small business.
 - Lack of clarity on compliance requirements make compliance for the smaller businesses near impossible.
- **Microbusiness Issues** — The intended purpose of the microbusiness license is being subverted, in part because the definition of a microbusiness is insufficiently clear and detailed.
 - The initial spirit of the microbusiness license was to provide an opportunity for the small cultivator to be vertically integrated and have an opportunity to control margin compression and have an opportunity to survive. The current nature of the microbusiness license does not do this and offers no added value to the small cultivator.
 - The current status of the microbusiness license is simply a vertically integrated license no different than acquiring four individual licenses in retail, cultivation, manufacturing, and distribution. In actuality, the additional restrictions placed on the microbusiness license creates a handicap for the microbusiness license holder.
- **Excessive Regulatory Burden** — Small businesses are having difficulty emerging from their historically underground status due to the inability to modify regulations to meet local conditions, the fragmentation of regulations among the different agencies and local jurisdictions, and the amount of upfront capital required to comply with all regulations.
 - The dual nature of the licensing process (i.e., state and local) has created a bottleneck in licensing at the local municipal level where unless a local municipality actually issues a license, permit, or other authorization, businesses are not able to apply for a state license. Therefore, as willing and able as the state agencies are to issue licenses, unless a qualified applicant has successfully navigated the licensing process at the local level, the state agencies are left out of the process.

GLOBAL ISSUES

- The majority of local municipalities are either not issuing licenses or are slow in rolling out their cannabis programs. Of the municipalities issuing licenses, most are not issuing retail licenses.
 - Patchwork ordinances at the local level is creating a patchwork system that is not always in line with state requirements and is lacking in uniformity on a statewide level.
- **Banking Issues** — Continued lack of access to normal business banking services remains an unnecessary burden on businesses, complicates tax collection and presents public safety issues due to having to rely on a cash economy.
 - Though not strictly a state issue, federal banking issues have created public safety issues.
 - Where banking is mostly a federal issue that would need to be addressed by federal regulators, certain state banking options should be explored.
- **Enforcement Issues** — The unlicensed market continues to flourish, due in part to the competitive financial advantage such operations have over legal cannabis businesses, which are committed to paying license fees and collecting taxes. Until recently, there were insufficient enforcement efforts by both state and local authorities to support licensed businesses. It should be acknowledged that the state agencies initially took a slower than expected approach to enforcement in an effort to provide opportunity for businesses to come into compliance with licensing regulations. That said, some of the enforcement issues businesses continue to face are:
 - Lack of enforcement is creating a thriving environment for the unregulated “underground market.”
 - Lack of enforcement is creating unfair competition for the businesses that go through the stringent licensing process and receive their licenses by having to compete with businesses not licensed and not paying taxes.
 - Enforcement is fragmented and uncoordinated.
- **Compassionate Use Issues** — Nonprofit programs are being devastated by the inability to receive free, compliant cannabis donations that are tested and in the legal marketplace from growers who must pay taxes on their product.
 - The importance of patient needs has been outweighed and replaced by business interests that are better able to navigate the generally complex regulatory process required to obtain licensure, as well as ongoing compliance requirements to ensure safe, tested, and compliant cannabis products.

GLOBAL ISSUES

- Not all businesses are seeking to profit and a regulatory or licensing scheme is needed to address businesses serving compassionate use needs, particularly for patients unable to afford medical cannabis.
- **Public Education Issues** — Efforts to inform and educate the public regarding the new laws legalizing cannabis for those 21 and older, the need to support legal cannabis businesses in order to ensure safe products, and the potential side effects of cannabis use have been insufficient. While the Bureau is expected to launch an education program in 2019, the following issues currently persist in the legal marketplace:
 - Public education on safe cannabis use is severely lacking.
 - The general public is not sufficiently being helped to differentiate the difference between licensed and unlicensed businesses.
- **Taxation Issues** — There does not appear to be an objective method for determining the contribution of current tax rates to maintaining the underground market.
 - The cumulative tax burden is in excess of 35 percent and may not be sustainable.
 - Excessive tax burdens can de-incentivize licensure.
- **Regulatory Fragmentation Issues** — The need for licensees to interact with three separate regulatory agencies (Bureau, CDPH and CDFA) is burdensome. Increasing coherence by providing one single point of contact would be advantageous for business operators.
 - Current regulatory agency structure and oversight is overcomplicating licensing processes without clear enough direction and authority.

CONCLUSION

The regulated cannabis industry is off the ground and many are deeply and personally invested. The CAC, along with the cannabis licensing authorities, share the vision to ensure the long-term sustainability and stability for the industry. California is in a unique position to finalize regulations that meet the needs of different communities.

Each of the 10 subcommittees adopted recommendations seeking to balance an existing industry without making it too burdensome as to perpetuate the illicit market. The committee took a meaningful look at the 84 recommendations that came forward, adopting 47 of the recommendations, in an effort to address pressing Industry challenges. To date the Bureau, CDFA, and CDPH have implemented 11 recommendations, partially implemented eight recommendations, and have not implemented 28 recommendations.

After the adoption of recommendations, the committee heard a number of informational presentations and continued to hear public comment regarding unaddressed regulatory concerns. The committee heard comments from businesses, including operators that have traditionally operated within their homes and are seeking a pathway to licensure. The committee also heard the need for Compassionate Use Programs that facilitate access to safe medicine for veterans, chronically ill patients, and low-income communities. In addition, the committee heard the need to better promote health and public safety especially for youth and workers in the industry. Due to the passage of the Compassionate Use Act in 1996, California's commercial medical cannabis marketplace developed and has flourished for over two decades in an unregulated climate. As these businesses transition into the regulated marketplace, it would be a disservice not to learn from this industry experience.

While the committee has accomplished a great deal over the course of the past year, there remain issues that have not yet been addressed, including but not limited to, the needs of tribal businesses, the development of a state equity program, comprehensive banking, and reducing the barriers associated with onerous taxation. To this end, the committee has questioned the scope and function of its work. Many committee members have publicly expressed concern about having enough impact on policymaking and the need to elevate issues to comprehensively consider their impacts on a broader level. The global issues section affirms that while the committee has affected positive progress, the issues facing the developing industry are complex and continue to pose significant challenges, many of which cannot be remedied by the licensing authorities without legislative action. It may be helpful for the CAC to consider these issues in future work.

The CAC would like to acknowledge the remarkable amount of effort the Bureau, CDFA, and CDPH have invested during this critical time of development. The policies implemented by the state for this industry should reflect our state's values, environmental policies, and the economic needs of small businesses. The CAC looks forward to continuing to work with the state's licensing authorities along with every involved individual to build a healthy market for cannabis in California. This will take continued engagement between the legislative, regulatory, and budget process, at both the state and federal level. As a committee, we recognize that our work remains unfinished and hope this report serves as an important marker in this long-term project.



**BUREAU OF
CANNABIS
CONTROL**
CALIFORNIA

**CALIFORNIA CANNABIS
ADVISORY COMMITTEE**



Bureau of Cannabis Control
2920 Kilgore Road
Rancho Cordova, CA 95670
(833) 768-5880
www.bcc.ca.gov

**Alaska Department of Revenue
Report of Marijuana Transferred or Sold**

**Tax Period
6/1/2019 - 6/30/2019**

The reports will be available on the tenth day of the month, or the first business day if the tenth day falls on a weekend or holiday. The reported data for prior months will continue to be updated on the tenth day of each month to reflect late or amended returns. Tax Return data will be updated on the tenth day of each month to report amended, late, or adjusted returns under Tax Period.

Prepared on 9/9/2019

Monthly

Category	Ounces Sold Tax Rate / oz		Calculated Tax
Bud and Flower	24,197	\$50.00	\$1,209,834
Immature/Seedy/Failed	8,801	\$25.00	\$220,019
Trim - Remainder of Plant	23,162	\$15.00	\$347,433
SubTotal	56,160		\$1,777,285
Number of Clones	1,320	\$1.00	\$1,320
Total Calculated Tax			\$1,778,605

2019 Fiscal Year to Date

Category	Ounces Sold Tax Rate / oz		Calculated Tax
Bud and Flower	268,665	\$50	\$13,433,173
Immature/Seedy/Failed	42,140	\$25	\$1,053,528
Trim - Remainder of Plant	221,940	\$15	\$3,329,116
SubTotal	532,745		\$17,815,813
Number of Clones	6,746	\$1	\$6,746
Total Calculated Tax			\$17,822,559

Hit Counter #: 7420

Considering Marijuana Legalization

Insights for Vermont and Other Jurisdictions

By:

Jonathan P. Caulkins, Beau Kilmer, Mark A. R. Kleiman, Robert J. MacCoun,
Gregory Midgette, Pat Oglesby, Rosalie Liccardo Pacula, Peter H. Reuter

Published by the RAND Corporation, Santa Monica, Calif.

© Copyright 2015 RAND Corporation

PDF: https://www.rand.org/content/dam/rand/pubs/research_reports/RR800/RR864/RAND_RR864.pdf

Website: https://www.rand.org/pubs/research_reports/RR864.html

After the Grand Opening

Assessing Cannabis Supply and Demand in Washington State

By:

Beau Kilmer, Steven Davenport, Rosanna Smart,
Jonathan P. Caulkins, Gregory Midgette

Prepared for the Washington State Liquor and Cannabis Board

Published by the RAND Corporation, Santa Monica, Calif.

© Copyright 2019 RAND Corporation

PDF: https://www.rand.org/content/dam/rand/pubs/research_reports/RR3100/RR3138/RAND_RR3138.pdf

Website: https://www.rand.org/pubs/research_reports/RR3138.html

Table 2. Marijuana Use in the Past Year, by Age Group and State: Percentages, Annual Averages Based on 2016 and 2017 NSDUHs

NOTE: State and census region estimates, along with the 95 percent Bayesian confidence (credible) intervals, are based on a survey-weighted hierarchical Bayes estimation approach and generated by Markov Chain Monte Carlo techniques. For the "Total U.S." row, design-based (direct) estimates and corresponding 95 percent confidence intervals are given.

NOTE: The column labeled "Order" can be used to sort the data to the original sort order.

Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Survey on Drug Use and Health, 2016 and 2017.

Order	State	12 or Older Estimate	12 or Older 95% CI (Lower)	12 or Older 95% CI (Upper)	12-17 Estimate	12-17 95% CI (Lower)	12-17 95% CI (Upper)	18-25 Estimate	18-25 95% CI (Lower)	18-25 95% CI (Upper)	26 or Older Estimate	26 or Older 95% CI (Lower)	26 or Older 95% CI (Upper)	18 or Older Estimate	18 or Older 95% CI (Lower)	18 or Older 95% CI (Upper)
1	Total U.S.	14.50%	14.20%	14.80%	12.19%	11.77%	12.63%	33.91%	33.17%	34.66%	11.61%	11.27%	11.95%	14.73%	14.41%	15.06%
2	Northeast	15.10%	14.51%	15.71%	12.29%	11.48%	13.15%	37.92%	36.47%	39.39%	11.77%	11.06%	12.51%	15.36%	14.73%	16.02%
3	Midwest	13.88%	13.37%	14.41%	12.74%	12.04%	13.47%	33.63%	32.50%	34.78%	10.74%	10.12%	11.39%	14.00%	13.44%	14.57%
4	South	12.25%	11.82%	12.69%	10.99%	10.38%	11.62%	30.28%	29.30%	31.29%	9.49%	8.96%	10.05%	12.38%	11.91%	12.86%
5	West	18.17%	17.51%	18.85%	13.58%	12.69%	14.51%	36.86%	35.44%	38.29%	15.62%	14.82%	16.45%	18.64%	17.93%	19.38%
6	Alabama	10.54%	9.16%	12.11%	9.67%	7.87%	11.82%	26.35%	23.02%	29.98%	8.08%	6.60%	9.86%	10.63%	9.16%	12.30%
7	Alaska	22.73%	20.53%	25.10%	16.51%	13.99%	19.39%	39.44%	35.37%	43.66%	20.74%	18.20%	23.53%	23.43%	21.06%	25.98%
8	Arizona	13.85%	12.03%	15.89%	11.05%	9.08%	13.40%	29.75%	25.86%	33.96%	11.55%	9.58%	13.86%	14.14%	12.20%	16.34%
9	Arkansas	12.60%	11.07%	14.31%	10.87%	8.97%	13.11%	27.09%	23.66%	30.82%	10.43%	8.75%	12.39%	12.78%	11.15%	14.61%
10	California	17.39%	16.46%	18.37%	13.30%	11.95%	14.79%	36.53%	34.37%	38.74%	14.63%	13.54%	15.80%	17.81%	16.79%	18.87%
11	Colorado	24.86%	22.61%	27.25%	16.97%	14.25%	20.08%	48.81%	44.51%	53.12%	21.88%	19.31%	24.69%	25.65%	23.24%	28.23%
12	Connecticut	16.22%	14.47%	18.13%	14.73%	12.26%	17.59%	45.21%	40.97%	49.52%	11.68%	9.82%	13.85%	16.37%	14.51%	18.41%
13	Delaware	14.80%	13.08%	16.70%	13.48%	11.18%	16.17%	37.20%	33.10%	41.50%	11.60%	9.75%	13.75%	14.92%	13.10%	16.95%
14	District of Columbia	26.35%	24.04%	28.81%	14.60%	12.07%	17.56%	53.20%	48.47%	57.87%	21.90%	19.34%	24.69%	27.01%	24.59%	29.57%
15	Florida	13.69%	12.69%	14.76%	13.46%	11.98%	15.10%	35.77%	33.45%	38.17%	10.69%	9.56%	11.93%	13.71%	12.63%	14.85%
16	Georgia	11.64%	10.41%	12.99%	10.39%	8.68%	12.39%	29.91%	26.89%	33.12%	8.73%	7.41%	10.26%	11.78%	10.47%	13.24%
17	Hawaii	13.14%	11.39%	15.11%	11.43%	9.39%	13.84%	27.14%	23.50%	31.11%	11.39%	9.45%	13.66%	13.29%	11.43%	15.41%
18	Idaho	12.62%	11.08%	14.35%	12.00%	9.91%	14.46%	28.40%	24.82%	32.27%	10.09%	8.42%	12.05%	12.70%	11.05%	14.56%
19	Illinois	13.83%	12.70%	15.05%	13.34%	11.68%	15.18%	35.26%	32.55%	38.07%	10.42%	9.17%	11.83%	13.88%	12.68%	15.19%
20	Indiana	14.42%	12.81%	16.19%	13.31%	11.07%	15.93%	33.87%	30.13%	37.82%	11.16%	9.45%	13.15%	14.54%	12.83%	16.44%
21	Iowa	11.39%	9.97%	12.98%	10.22%	8.30%	12.52%	30.88%	27.35%	34.64%	8.05%	6.55%	9.86%	11.51%	9.99%	13.21%
22	Kansas	11.93%	10.41%	13.65%	11.76%	9.69%	14.21%	28.87%	25.33%	32.69%	8.93%	7.30%	10.87%	11.95%	10.33%	13.80%
23	Kentucky	12.86%	11.27%	14.64%	11.94%	9.91%	14.31%	28.74%	25.11%	32.68%	10.39%	8.66%	12.41%	12.95%	11.26%	14.85%
24	Louisiana	12.23%	10.72%	13.94%	9.92%	8.11%	12.07%	28.98%	25.28%	32.98%	9.76%	8.13%	11.66%	12.48%	10.85%	14.32%
25	Maine	21.94%	19.74%	24.31%	15.81%	13.26%	18.75%	45.67%	41.47%	49.92%	19.36%	16.85%	22.13%	22.46%	20.11%	24.99%
26	Maryland	15.48%	13.83%	17.28%	13.76%	11.42%	16.49%	39.47%	35.41%	43.67%	12.00%	10.22%	14.05%	15.65%	13.90%	17.58%
27	Massachusetts	19.96%	17.96%	22.12%	16.39%	13.77%	19.39%	44.93%	40.59%	49.36%	16.03%	13.83%	18.51%	20.28%	18.16%	22.58%
28	Michigan	16.69%	15.52%	17.92%	14.15%	12.48%	16.01%	38.00%	35.30%	40.79%	13.41%	12.07%	14.87%	16.94%	15.69%	18.27%
29	Minnesota	13.71%	12.11%	15.47%	12.95%	10.85%	15.38%	32.75%	29.01%	36.72%	10.78%	9.05%	12.79%	13.78%	12.09%	15.67%
30	Mississippi	11.40%	9.93%	13.05%	10.69%	8.77%	12.98%	26.78%	23.26%	30.63%	8.82%	7.25%	10.68%	11.48%	9.91%	13.25%
31	Missouri	13.75%	12.16%	15.51%	11.81%	9.74%	14.24%	31.87%	28.09%	35.92%	11.03%	9.34%	12.99%	13.95%	12.26%	15.82%
32	Montana	19.53%	17.53%	21.69%	15.91%	13.43%	18.76%	40.51%	36.64%	44.50%	16.57%	14.34%	19.07%	19.86%	17.74%	22.17%
33	Nebraska	11.51%	10.12%	13.07%	12.04%	9.96%	14.48%	30.55%	26.88%	34.49%	8.06%	6.63%	9.76%	11.46%	9.98%	13.12%
34	Nevada	16.82%	14.82%	19.02%	14.37%	11.94%	17.19%	35.81%	31.75%	40.08%	14.34%	12.11%	16.90%	17.06%	14.93%	19.43%
35	New Hampshire	18.62%	16.74%	20.65%	15.44%	13.06%	18.16%	43.17%	38.97%	47.47%	15.15%	13.07%	17.49%	18.90%	16.91%	21.07%
36	New Jersey	12.04%	10.77%	13.43%	10.28%	8.49%	12.39%	35.36%	31.71%	39.19%	8.77%	7.45%	10.31%	12.21%	10.87%	13.70%
37	New Mexico	17.51%	15.57%	19.63%	15.62%	13.08%	18.55%	33.63%	29.64%	37.87%	15.09%	12.88%	17.59%	17.71%	15.63%	20.00%
38	New York	14.50%	13.51%	15.55%	11.88%	10.51%	13.40%	36.10%	33.61%	38.68%	11.26%	10.15%	12.47%	14.74%	13.68%	15.86%
39	North Carolina	12.06%	10.84%	13.40%	10.48%	8.86%	12.35%	29.70%	26.72%	32.88%	9.47%	8.12%	11.01%	12.23%	10.91%	13.67%
40	North Dakota	10.95%	9.50%	12.59%	10.27%	8.38%	12.51%	24.99%	21.51%	28.83%	8.13%	6.63%	9.94%	11.02%	9.49%	12.76%
41	Ohio	13.76%	12.65%	14.95%	12.17%	10.68%	13.82%	34.53%	31.97%	37.17%	10.65%	9.42%	12.02%	13.92%	12.74%	15.20%
42	Oklahoma	12.09%	10.55%	13.83%	11.31%	9.26%	13.75%	29.15%	25.50%	33.10%	9.26%	7.64%	11.19%	12.18%	10.54%	14.04%
43	Oregon	26.51%	24.19%	28.97%	17.01%	14.37%	20.01%	47.57%	43.39%	51.78%	24.36%	21.70%	27.22%	27.38%	24.89%	30.02%
44	Pennsylvania	13.21%	12.14%	14.35%	10.36%	8.92%	12.00%	33.74%	31.12%	36.45%	10.34%	9.13%	11.69%	13.47%	12.33%	14.70%
45	Rhode Island	20.76%	18.70%	22.98%	15.27%	12.76%	18.18%	43.67%	39.40%	48.03%	17.21%	14.94%	19.74%	21.24%	19.05%	23.60%
46	South Carolina	11.09%	9.69%	12.67%	10.57%	8.70%	12.78%	28.27%	24.88%	31.91%	8.48%	6.99%	10.26%	11.14%	9.66%	12.83%
47	South Dakota	12.35%	10.85%	14.01%	12.51%	10.39%	14.99%	29.11%	25.56%	32.93%	9.48%	7.89%	11.36%	12.33%	10.75%	14.11%
48	Tennessee	13.38%	11.74%	15.21%	11.68%	9.71%	13.98%	32.11%	28.38%	36.07%	10.61%	8.86%	12.66%	13.55%	11.81%	15.51%
49	Texas	10.55%	9.73%	11.43%	9.61%	8.36%	11.03%	26.19%	24.12%	28.36%	7.88%	6.96%	8.91%	10.67%	9.79%	11.62%
50	Utah	10.40%	9.02%	11.97%	9.20%	7.36%	11.44%	23.74%	20.30%	27.56%	7.64%	6.22%	9.35%	10.58%	9.10%	12.27%
51	Vermont	23.84%	21.53%	26.31%	17.88%	15.00%	21.18%	50.08%	45.49%	54.67%	19.86%	17.23%	22.77%	24.34%	21.89%	26.97%
52	Virginia	11.78%	10.59%	13.08%	10.35%	8.70%	12.28%	30.99%	28.12%	34.02%	8.87%	7.57%	10.36%	11.92%	10.64%	13.32%
53	Washington	22.49%	20.26%	24.89%	14.97%	12.51%	17.81%	42.12%	37.97%	46.39%	20.30%	17.78%	23.07%	23.21%	20.81%	25.78%
54	West Virginia	12.91%	11.28%	14.73%	10.70%	8.79%	12.95%	28.80%	25.16%	32.74%	10.81%	9.03%	12.90%	13.10%	11.37%	15.05%
55	Wisconsin	12.70%	11.16%	14.41%	12.61%	10.55%	15.02%	30.13%	26.46%	34.07%	9.84%	8.22%	11.75%	12.71%	11.08%	14.53%
56	Wyoming	12.15%	10.59%	13.89%	11.75%	9.56%	14.36%	29.33%	25.65%	33.30%	9.46%	7.79%	11.44%	12.19%	10.54%	14.05%

Table 3. Marijuana Use in the Past Month, by Age Group and State: Percentages, Annual Averages Based on 2016 and 2017 NSDUHS Data

NOTE: State and census region estimates, along with the 95 percent Bayesian confidence (credible) intervals, are based on a survey-weighted hierarchical Bayes estimation approach and generated by Markov Chain Monte Carlo techniques. For the "Total U.S." row, design-based (direct) estimates and corresponding 95 percent confidence intervals are given.

NOTE: The column labeled "Order" can be used to sort the data to the original sort order.

Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Survey on Drug Use and Health, 2016 and 2017.

Order	State	12 or Older Estimate	12 or Older 95% CI (Lower)	12 or Older 95% CI (Upper)	12-17 Estimate	12-17 95% CI (Lower)	12-17 95% CI (Upper)	18-25 Estimate	18-25 95% CI (Lower)	18-25 95% CI (Upper)	26 or Older Estimate	26 or Older 95% CI (Lower)	26 or Older 95% CI (Upper)	18 or Older Estimate	18 or Older 95% CI (Lower)	18 or Older 95% CI (Upper)
1	Total U.S.	9.23%	9.00%	9.47%	6.46%	6.12%	6.82%	21.45%	20.84%	22.08%	7.56%	7.30%	7.83%	9.51%	9.26%	9.77%
2	Northeast	9.83%	9.35%	10.34%	6.76%	6.19%	7.37%	24.86%	23.58%	26.18%	7.77%	7.21%	8.37%	10.12%	9.60%	10.66%
3	Midwest	8.76%	8.35%	9.19%	6.40%	5.91%	6.92%	20.83%	19.84%	21.85%	7.04%	6.57%	7.54%	9.00%	8.57%	9.46%
4	South	7.47%	7.15%	7.82%	5.78%	5.37%	6.22%	18.44%	17.63%	19.29%	5.91%	5.53%	6.32%	7.65%	7.30%	8.02%
5	West	11.98%	11.45%	12.54%	7.42%	6.80%	8.10%	24.18%	22.91%	25.49%	10.51%	9.86%	11.19%	12.45%	11.87%	13.06%
6	Alabama	6.37%	5.29%	7.66%	5.26%	4.14%	6.65%	16.48%	13.65%	19.75%	4.86%	3.74%	6.30%	6.48%	5.34%	7.85%
7	Alaska	15.81%	13.87%	17.98%	8.84%	7.15%	10.88%	26.27%	22.67%	30.22%	14.97%	12.66%	17.61%	16.59%	14.49%	18.94%
8	Arizona	8.38%	7.00%	10.00%	6.31%	4.99%	7.96%	19.09%	16.01%	22.60%	6.85%	5.39%	8.67%	8.59%	7.13%	10.32%
9	Arkansas	8.19%	6.90%	9.71%	5.81%	4.60%	7.32%	15.96%	13.22%	19.13%	7.21%	5.78%	8.96%	8.44%	7.06%	10.07%
10	California	11.33%	10.57%	12.14%	6.93%	6.03%	7.96%	24.07%	22.13%	26.12%	9.70%	8.81%	10.66%	11.78%	10.96%	12.65%
11	Colorado	16.43%	14.50%	18.56%	9.02%	7.29%	11.11%	31.74%	27.67%	36.10%	14.81%	12.61%	17.31%	17.18%	15.11%	19.47%
12	Connecticut	10.59%	9.05%	12.36%	7.91%	6.28%	9.92%	30.35%	26.29%	34.75%	7.69%	6.06%	9.71%	10.86%	9.22%	12.74%
13	Delaware	9.95%	8.50%	11.61%	7.45%	5.94%	9.31%	23.73%	20.26%	27.58%	8.17%	6.62%	10.04%	10.18%	8.66%	11.94%
14	District of Columbia	17.17%	15.14%	19.41%	8.26%	6.59%	10.32%	34.85%	30.61%	39.35%	14.32%	12.06%	16.92%	17.67%	15.55%	20.00%
15	Florida	8.65%	7.86%	9.51%	7.48%	6.48%	8.62%	22.39%	20.27%	24.66%	6.88%	6.00%	7.89%	8.75%	7.91%	9.67%
16	Georgia	6.74%	5.82%	7.79%	5.39%	4.34%	6.66%	18.38%	15.97%	21.05%	4.95%	3.98%	6.15%	6.89%	5.91%	8.01%
17	Hawaii	8.17%	6.78%	9.80%	6.54%	5.09%	8.38%	17.45%	14.47%	20.89%	7.06%	5.55%	8.94%	8.31%	6.85%	10.05%
18	Idaho	7.62%	6.41%	9.04%	6.34%	5.00%	8.02%	16.07%	13.33%	19.25%	6.40%	5.08%	8.02%	7.78%	6.49%	9.29%
19	Illinois	8.81%	7.90%	9.82%	6.89%	5.78%	8.18%	23.51%	21.12%	26.07%	6.66%	5.65%	7.84%	9.01%	8.04%	10.09%
20	Indiana	9.29%	7.96%	10.81%	6.51%	5.18%	8.14%	20.70%	17.56%	24.23%	7.65%	6.20%	9.40%	9.59%	8.18%	11.21%
21	Iowa	6.65%	5.58%	7.89%	5.11%	4.00%	6.51%	17.29%	14.54%	20.44%	4.93%	3.83%	6.32%	6.80%	5.68%	8.13%
22	Kansas	6.62%	5.42%	8.05%	5.16%	3.99%	6.64%	16.04%	13.27%	19.27%	5.12%	3.88%	6.73%	6.78%	5.51%	8.31%
23	Kentucky	7.77%	6.53%	9.22%	6.01%	4.74%	7.58%	17.38%	14.55%	20.64%	6.41%	5.08%	8.06%	7.95%	6.64%	9.48%
24	Louisiana	7.60%	6.40%	9.00%	5.67%	4.48%	7.15%	18.80%	15.89%	22.11%	5.99%	4.70%	7.61%	7.80%	6.53%	9.30%
25	Maine	15.81%	13.90%	17.92%	9.89%	8.01%	12.16%	34.38%	30.15%	38.87%	13.89%	11.73%	16.38%	16.31%	14.28%	18.56%
26	Maryland	10.68%	9.27%	12.28%	7.13%	5.75%	8.80%	26.24%	22.75%	30.06%	8.71%	7.17%	10.54%	11.04%	9.53%	12.74%
27	Massachusetts	13.38%	11.71%	15.24%	8.91%	7.23%	10.93%	30.27%	26.46%	34.38%	10.94%	9.10%	13.10%	13.78%	12.01%	15.77%
28	Michigan	11.61%	10.55%	12.77%	7.73%	6.56%	9.08%	24.24%	21.92%	26.72%	9.95%	8.73%	11.32%	12.00%	10.86%	13.25%
29	Minnesota	7.71%	6.52%	9.10%	5.81%	4.62%	7.29%	19.12%	16.08%	22.57%	6.13%	4.85%	7.72%	7.91%	6.64%	9.40%
30	Mississippi	6.96%	5.80%	8.32%	5.05%	3.92%	6.48%	15.79%	13.01%	19.04%	5.67%	4.43%	7.23%	7.17%	5.94%	8.63%
31	Missouri	8.42%	7.13%	9.92%	5.80%	4.55%	7.37%	18.57%	15.50%	22.08%	7.08%	5.69%	8.78%	8.68%	7.32%	10.28%
32	Montana	13.01%	11.32%	14.90%	8.80%	7.18%	10.75%	25.13%	21.71%	28.89%	11.52%	9.62%	13.75%	13.40%	11.60%	15.43%
33	Nebraska	7.70%	6.50%	9.12%	6.00%	4.70%	7.62%	18.76%	15.65%	22.32%	5.96%	4.69%	7.53%	7.89%	6.61%	9.40%
34	Nevada	11.81%	10.15%	13.69%	8.82%	7.11%	10.89%	25.86%	22.30%	29.79%	10.11%	8.29%	12.27%	12.11%	10.36%	14.11%
35	New Hampshire	12.90%	11.24%	14.76%	8.64%	7.00%	10.61%	28.93%	25.32%	32.82%	10.86%	9.04%	13.00%	13.28%	11.52%	15.26%
36	New Jersey	7.15%	6.15%	8.29%	5.16%	4.06%	6.52%	22.34%	19.24%	25.78%	5.12%	4.07%	6.42%	7.35%	6.29%	8.56%
37	New Mexico	11.96%	10.33%	13.81%	9.74%	7.88%	11.99%	24.39%	20.84%	28.32%	10.19%	8.38%	12.33%	12.20%	10.46%	14.17%
38	New York	9.47%	8.66%	10.35%	6.75%	5.80%	7.85%	23.35%	21.26%	25.57%	7.50%	6.59%	8.52%	9.72%	8.86%	10.66%
39	North Carolina	7.92%	6.92%	9.06%	6.04%	4.93%	7.38%	19.04%	16.45%	21.94%	6.40%	5.30%	7.70%	8.12%	7.05%	9.33%
40	North Dakota	6.44%	5.31%	7.78%	4.99%	3.85%	6.43%	14.50%	11.75%	17.75%	4.93%	3.76%	6.45%	6.57%	5.38%	8.00%
41	Ohio	8.58%	7.71%	9.54%	6.33%	5.35%	7.47%	21.27%	19.00%	23.73%	6.83%	5.86%	7.94%	8.81%	7.88%	9.83%
42	Oklahoma	6.90%	5.72%	8.30%	5.38%	4.14%	6.95%	16.80%	13.91%	20.16%	5.39%	4.15%	6.97%	7.06%	5.82%	8.55%
43	Oregon	19.23%	17.22%	21.41%	10.35%	8.43%	12.64%	33.15%	29.33%	37.21%	18.07%	15.76%	20.64%	20.04%	17.89%	22.38%
44	Pennsylvania	8.23%	7.36%	9.19%	5.59%	4.69%	6.66%	21.38%	19.17%	23.76%	6.48%	5.51%	7.60%	8.47%	7.54%	9.50%
45	Rhode Island	15.75%	13.83%	17.87%	9.49%	7.71%	11.61%	31.86%	28.00%	35.99%	13.51%	11.34%	16.01%	16.30%	14.27%	18.56%
46	South Carolina	6.66%	5.53%	8.00%	5.47%	4.26%	7.00%	18.38%	15.47%	21.70%	4.97%	3.79%	6.49%	6.77%	5.58%	8.20%
47	South Dakota	7.13%	5.97%	8.51%	5.94%	4.70%	7.49%	18.25%	15.26%	21.68%	5.40%	4.16%	6.96%	7.26%	6.03%	8.72%
48	Tennessee	8.00%	6.73%	9.48%	5.75%	4.56%	7.22%	19.49%	16.26%	23.19%	6.44%	5.10%	8.10%	8.23%	6.88%	9.81%
49	Texas	5.98%	5.36%	6.66%	4.86%	4.08%	5.76%	14.63%	12.93%	16.51%	4.59%	3.90%	5.39%	6.11%	5.45%	6.85%
50	Utah	6.25%	5.17%	7.55%	4.71%	3.62%	6.10%	14.71%	11.99%	17.93%	4.63%	3.50%	6.11%	6.47%	5.31%	7.87%
51	Vermont	18.64%	16.59%	20.88%	10.75%	8.72%	13.18%	38.80%	34.16%	43.66%	15.91%	13.55%	18.59%	19.30%	17.12%	21.69%
52	Virginia	6.96%	6.02%	8.03%	5.48%	4.41%	6.80%	18.47%	16.03%	21.18%	5.28%	4.28%	6.50%	7.10%	6.11%	8.24%
53	Washington	15.30%	13.41%	17.39%	8.96%	7.25%	11.02%	26.48%	22.87%	30.45%	14.28%	12.12%	16.75%	15.90%	13.89%	18.15%
54	West Virginia	7.59%	6.35%	9.04%	5.45%	4.25%	6.97%	16.94%	14.10%	20.22%	6.44%	5.12%	8.08%	7.78%	6.48%	9.32%
55	Wisconsin	7.89%	6.58%	9.44%	5.91%	4.65%	7.47%	18.82%	15.81%	22.25%	6.33%	4.94%	8.08%	8.09%	6.70%	9.74%
56	Wyoming	7.10%	5.89%	8.54%	5.76%	4.50%	7.35%	16.50%	13.69%	19.75%	5.77%	4.47%	7.42%	7.24%	5.96%	8.76%

The State of Legal Cannabis Markets

Executive Summary

7th Edition

SPONSORED BY



CANNASURE

MAZAKALI

The State of Legal Cannabis Markets

7TH EDITION

PUBLISHED BY



ARCVIEW
Market Research



BDS *Analytics*



OUR SPONSORS



Mazakali

Based in San Francisco with offices in Denver and Chicago, MAZAKALI offers capital placement services to family offices, institutions, financial advisors and high-net-worth individuals via its Outsourced Cannabis Investment Officer (OCIO) service. MAZAKALI was founded to counteract the negative consequences of business practices that deplete resources by making investments in sustainable cannabis and hemp. By shepherding capital in a responsible and ethical manner, MAZAKALI and its clients envision a world where cannabis investment will play a significant role Beyond Impact. The MAZAKALI GreenPaper™ has gained authority through knowledge on deep trends in the industry that matter to investors and operators alike.



CanIdeal

CanIdeal is the first fully-legal, B2B digital marketplace for the entire cannabis industry. Our mission is to provide an easy-to-use and safe ecommerce solution for entrepreneurs in the market for THC, CBD and ancillary products. Using a software platform optimized for geo-specific transactions, CanIdeal provides a tool for the full spectrum of cannabis supply chain sales, connecting licensed cultivators, processors and dispensaries with a broad range of vendors and products, in compliance with their local regulations. These products include non-plant-touching grow supplies, handling and packaging materials, as well as commercial-quantity wholesale of regulated cannabis source material and retail consumer products.



Cannasure Insurance Services

We work with cannabis collectives, cooperatives, cultivators, dispensaries, infused product manufacturers, physicians, and marijuana advocates to protect their assets, employees and customers. Maintaining a deep-sector focus allows Cannasure to provide unparalleled depth of knowledge, comprehensive risk assessments and unique product offerings to the evolving cannabis industry.



Cannabiz Team

CannabizTeam is an Executive Search and Staffing firm focused exclusively in the Cannabis Industry - placing talent in all verticals including cultivation, extraction, manufacturing, labs, operations, sales, retail and C-suite.

2018 put *Cannabis sativa* at the heart of something much bigger than the “legal cannabis market” as it has been thought of in the past. In the U.S. alone, it is forecast that the “Total Cannabinoid Market” (TCM) in state-regulated dispensaries, pharmacies and general retail outlets will soar to \$44.8 billion by 2024

The State of Legal Cannabis Markets

7th Edition

Executive Summary	11
CHAPTER 1: TOTAL CANNABINOID MARKET	
US Leads Total CBD Revolution	23
Worldwide Regulatory Roundup	25
From the Legal Cannabis Market to the Total Cannabinoid Market	26
Sizing the US Total Cannabinoid Market	28
CHAPTER 2: US CBD OPPORTUNITY	
CBD: Opportunity Knocks Twice	33
How Dispensaries Got the Ball Rolling	34
Pharmacies vs. Dispensaries	35
General Retail—Which Pipelines?	38
General Retail—Which Product Categories?	40
CHAPTER 3: HOW MARKETS DEVELOP	
Global Legal Cannabis Breaks \$40 Billion by 2024	43
The Market Basics	45
The Model Basics	46
How Markets Develop: A Two-Part Approach to Market Forecasts	47
Life Cycle of a Legal Cannabis Market	48
From Theory to Application	55

CHAPTER 4: CANNABIS INVESTMENT**Suddenly Money is Everywhere 57**

Cannabis Goes Public	59
Where Investors are Investing	63
Where Companies are Investing	64
What is Next in Cannabis Investment?	65

CHAPTER 5: CANADA**The Noble Experiment 79**

Alberta	87	Nova Scotia	97
British Columbia	89	Ontario	99
Manitoba	91	Prince Edward Island	101
New Brunswick	93	Quebec	103
Newfoundland and Labrador	95	Saskatchewan	105
		The Territories	107

CHAPTER 6: UNITED STATES**The Inexorable March of Legalization 109**

Alaska	114	Montana	189
Arizona	118	Nevada	193
Arkansas	123	New Hampshire	198
California	127	New Jersey	201
Colorado	133	New Mexico	205
Connecticut	139	New York	209
Delaware	143	North Dakota	213
District of Columbia	147	Ohio	217
Florida	151	Oklahoma	221
Hawaii	155	Oregon	225
Illinois	158	Pennsylvania	229
Louisiana	162	Rhode Island	233
Maine	166	Utah	237
Maryland	170	Vermont	239
Massachusetts	173	Washington	244
Michigan	177	West Virginia	248
Minnesota	181	US Territories	252
Missouri	185		

CHAPTER 7: GLOBAL**The Seeds of an Enormous Worldwide Market 255**

Argentina 261	Mexico 295
Australia 264	Netherlands 298
Austria 267	New Zealand 301
Belgium 270	Peru 304
Brazil 273	Poland 307
Colombia 276	Portugal 310
Finland 279	Spain 313
France 282	Switzerland 316
Germany 285	United Kingdom 319
Israel 288	Uruguay 322
Italy 291	Emerging Markets 325

CHAPTER 8: CANNABIS SCIENCE**Patenting the Future of the Industry 337**

Clinical Trials: What the Science Says	337
Patients and IP	342
Protecting Cannabis Plant Innovations	346
The Money in the Science	348

END NOTE: Humans and *Cannabis Sativa* 349

Acknowledgements

Publisher

Arcview Market Research
in partnership with BDS Analytics

Editor In Chief

Tom Adams

Industry Intelligence Team

Michael Arrington – Editorial Director
Maya Jasmin – Research Director
Antonette Goroch – Consulting Director
Laura Lee – Operations Director
Christine Arrington – Senior Analyst
Brendan Mitchel-Cheseboro – Analyst
Hans Dobbratz – Associate Analyst
James Oakley – Research Associate
John Oakley – Research Associate

Copy Editors

Sandra Leader
Antonn Park
Jan Saxton
Molly Woulfe

Report Design

Jason Deller
Micah Daigle

Advisors

David Abernathy
Roy Bingham
Troy Dayton

Thanks to our data partners:



Viridian Capital Advisors

NEW
CANNABIS
VENTURES

New Cannabis Ventures

Disclosure

There are many companies mentioned in this report. Some of them are clients of The Arcview Group/Arcview Market Research, BDS Analytics, and/or their officers and employees. In some cases, the publishers have minority stakes, warrants, or options in the companies featured. Neither Arcview nor BDS Analytics has received any compensation for coverage in this report. Since such a high percentage of companies in the sector are Arcview or BDS Analytics clients, it's part of what makes them most suited to have the deepest understanding of the markets.

Copyright

This report's copyright is jointly owned by Arcview Market Research and BDS Analytics. All rights reserved. No part of this publication may be reproduced, distributed, or transmitted in any form or by any means, including photocopying, recording, or other electronic or mechanical methods, without the prior written permission of the publisher, except in the case of brief quotations embodied in critical reviews and certain other non-commercial uses permitted by copyright law. For permission requests, contact the publisher at the email below.

Additional Thanks

Too many people to mention by name have helped educate our team on the cannabis industry since we began our study of it in 2016. But those who have contributed specifically to the findings in the 7th Edition of the State of Legal Cannabis Markets include: Jonathan Rubin at Cannabis Benchmarks; Matt Schweich and Karen O'Keefe at the Marijuana Policy Project; Diane Czarkowski and the team at Canna Advisors; Scott Fortune at Roth Capital; Bobby Burleson and Jonathan DeCoursey at Canaccord Genuity; Barrington Miller at the Canadian Securities Exchange; Chuck Drake at Grupo Flor; Jeff Chen at UCLA's Cannabis Research Institute; Troy Ivan at ExtractCraft; Jon Trauben at Altitude Investment; Alex Howe at Harvest; Jon Cooper at Canopy Growth; Rob Clarke at BioAgronomics Group; and of course the "brain trust" at BDS Analytics: Roy Bingham, Liz Stahura, Micah Tapman, Greg Schoenfeld, Jessica Lukas, Chris Lohman and Tamar Maritz.

Arcview Market Research
info@arcviewgroup.com | 855-892-1951

BDS Analytics
info@bdsanalytics.com | 720-465-9692

Cannabis, meet capital.

Prohibition is crumbling. Invest in what comes next.

197

Funded Companies

\$225M+

Invested

1200+

Investors



THE
ARCVIEW
GROUP

Arcview is the #1 source of deal flow in the fastest growing industry. If you qualify as a high net worth accredited investor or if you are an entrepreneur raising capital, Arcview might be right for you.

Letter From the Publisher

Thank you for purchasing the “7th Edition of The State of Legal Cannabis Markets.” It’s an honor to serve you as the worldwide cannabis market continues to evolve.

At every moment before now, prominent elected officials, big investors and big companies entering the cannabis space were considered mavericks and big risk takers. Not anymore. All of a sudden, everyone who hasn’t entered already is trying to play catch-up.

While people in the know have been talking about CBD for years, all of a sudden CBD is everywhere. The passage of the Farm Bill which legalized hemp CBD has made CBD the main entry point for big Fortune 500 companies. I don’t believe we have ever seen a single product go from relative obscurity to this level of interest so quickly.

Nobody is even asking “if” cannabis will become legal in the U.S. anymore. It’s now a question of exactly when and how.

At the same time, the massive increase in the velocity of this market changes the playing field of where money is to be made. Making sense of the enormous amount of fast-moving parts worldwide is dizzying.

That’s why The Arcview Group and BDS Analytics worked tirelessly to produce this report.

Luck favors the most knowledgeable and prepared. With that in mind, good luck out there.

Be well, be free,



A handwritten signature in black ink, appearing to read 'Troy Dayton'.

Troy Dayton

CEO, The ArcView Group

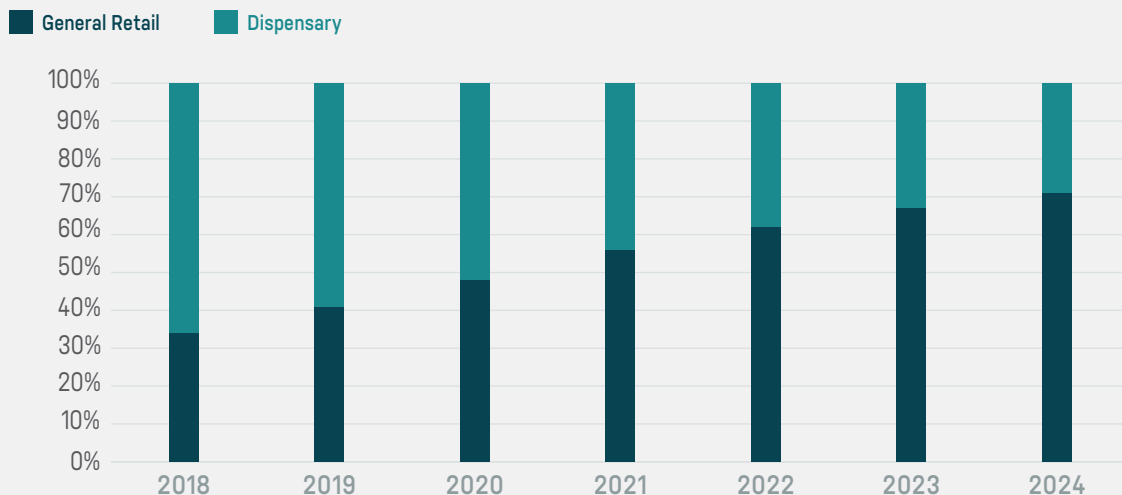
Executive Summary

The cannabis industry was changed in dramatic ways by three major events in 2018:

- June 25—The pharmaceutical market opened up with the U.S. Food and Drug Administration's (FDA) approval of GW Pharmaceutical's Epidiolex.
- Oct. 17—The regulated legal cannabis market saw adult-use legalization come to Canada.
- Dec. 20—The general retail channel was opened to cannabidiol (CBD) product sales by the signing of the Agricultural Improvement Act of 2018 (AKA the "2018 Farm Bill"), legalizing the commercial production of hemp.

The year's events put *Cannabis sativa* at the heart of something much bigger than the "legal cannabis market" as it has been thought of in the past. In the U.S.

US CBD Spending, Licensed Dispensary vs. General Retail Channels, 2018–2024



Source: BDS Analytics/Arcview Market Research

alone, it is forecast that the “Total Cannabinoid Market” (TCM) in state-regulated dispensaries, pharmacies and general retail outlets will soar to \$44.8 billion by 2024.

- The largest percentage of that \$44.8 billion will be spent in regulated cannabis dispensaries that are now coming to all 50 states, Washington, D.C., and the U.S. territories by 2024.
- The second biggest percentage will be spent on CBD products in U.S. general retail outlets, in both online and brick-and-mortar stores of every stripe.
- The smallest piece of the pie in the near term will go to pharmacies, though giant pharmaceutical companies are furiously working now to increase that share with new cannabinoid-related drugs.

The devil is in the regulatory details for all three components of the TCM, as the legal regulated dispensary sector found out to its dismay with California’s disappointing adult-use launch in 2018. Much remains unclear about how Washington, D.C., will handle the regulation of pharmaceutical cannabinoids and the general retail market for CBD products. The FDA just held its first hearing on the subject May 31, 2019 (see “US Leads Total Cannabinoid Revolution”).

Even less certain is the future of CBD sales in other countries, which is why this report only presents detailed analysis of the TCM in the U.S. The Canadian (see “The Noble Experiment”) and other international markets (see “The Seeds of an Enormous Worldwide Market”) are discussed and forecast only in terms of their legal cannabis markets.

Legalization Advances in Washington

CBD’s escape from the state-regulated dispensary via legalization action in Congress and the executive branch is undoubtedly a harbinger of things to come for THC and the hundred-plus other cannabinoids already identified. But for now, Washington, D.C., is sticking to its prohibitionist guns on other *C. sativa*-based products—i.e. those containing more than the 0.3% THC that the 2018 Farm Bill set as the limit to be considered hemp.

With that definition, Congress effectively ceded regulatory control of the cannabis dispensary market to the states. That may, in fact, remain the case for some time since the most likely route to the easing of federal prohibition is the Strengthening the Tenth Amendment Through Entrusting States (STATES) Act. Rather than descheduling or rescheduling “marihuana” out of Schedule 1 of the Controlled Substances Act (CSA), the STATES Act would exempt state-legal cannabis activities from the CSA, allowing businesses to operate free from fear of federal legal action and, at least initially, free from federal regulatory oversight as well.

Given how much regulators abhor a vacuum, federal forbearance may not last long. But the TCM had a good run in Washington, D.C., over the past 18 months despite the troubling Jan. 4, 2018, rescission of the Cole Memo by then Attorney General Jeff Sessions. That internal Justice Department memo advising local U.S. attorneys to forego enforcement actions in medically legal states did not have the force of law, and budget restraints kept Justice in check through Sessions’ November resignation.

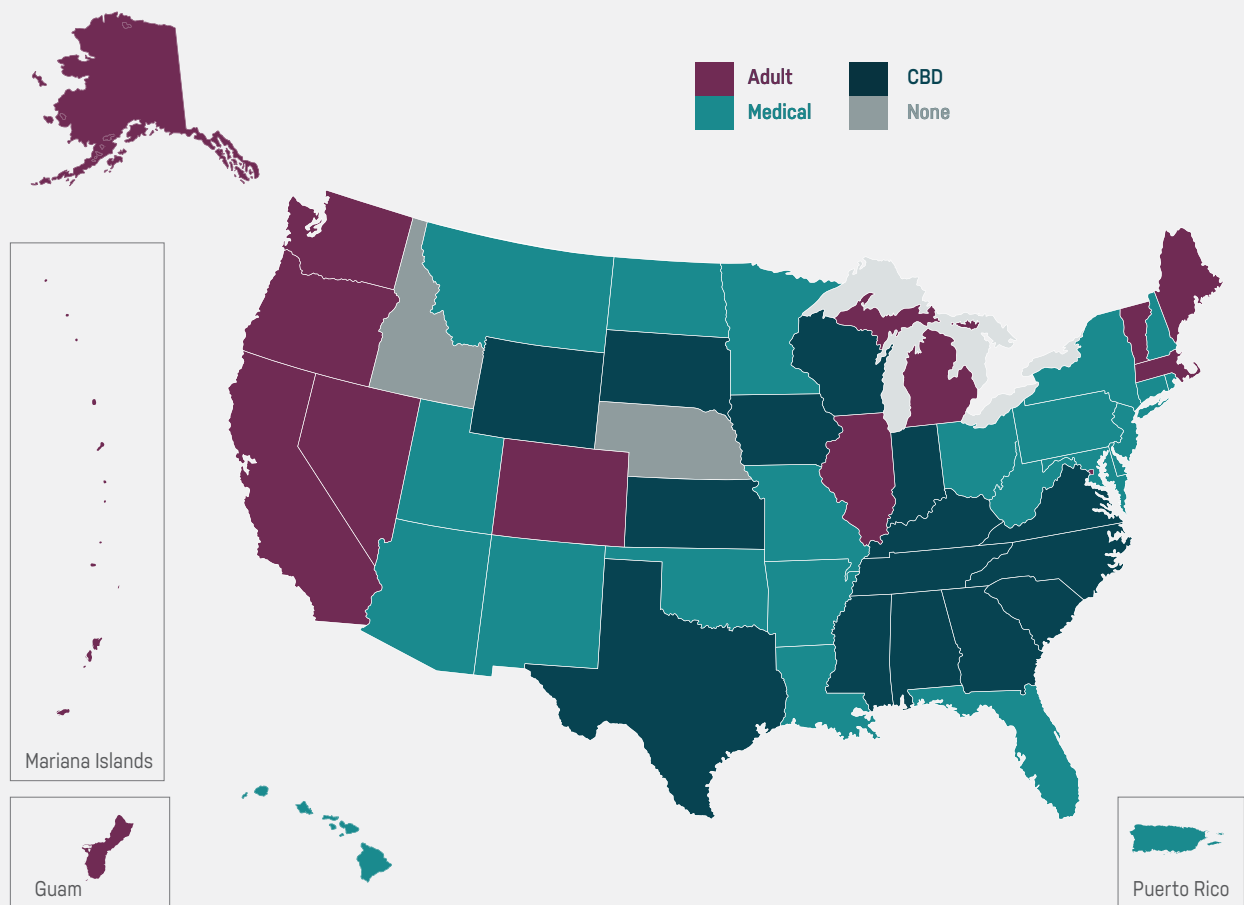
Democrats taking control of the House of Representatives after the midterm 2018 elections removed several roadblocks to incremental progress there. The STATES Act

was introduced on June 7, 2018, and was endorsed by President Trump the next day. It has been reintroduced in the 116th Congress with a growing list of sponsors, along with the SAFE Banking Act, which would allow federally chartered banks to more easily accept money from state-legal cannabis businesses.

Medical and Adult-Use Markets in the US

Total legal cannabis spending in the U.S., putting aside the pharmaceutical and general retail CBD sales, grew to \$9.8 billion in 2018, up from \$8.5 billion in 2017. That 16% growth is less than half the 35% compound annual

US Legal Status



Legal status as of May 31, 2019.

Source: Arcview Market Research/BDS Analytics

growth rate (CAGR) at which the regulated dispensary market grew from 2013 to 2017 as the first adult-use states (Colorado, Washington, Oregon, Alaska and Nevada) came on line.

The main reason for the slowdown was the troubled launch of adult-use sales in California on Jan. 1, 2018. The home of both the hippie movement that sparked wider cannabis popularity in the '60s, and the first public medical cannabis dispensary (the San Francisco Cannabis Buyers Club) in 1992, California surprised most in the industry by becoming the first state to launch adult-use sales and actually shrink its legal cannabis market—from \$3 billion in 2017 to \$2.5 billion in 2018.

Nevertheless, legal cannabis markets are popping up like spring flowers throughout the U.S. and its territories, as detailed in “The Inexorable March of Legalization.” But California is not the only place where the legal market is struggling to compete with a well-established illicit market. Regulators are ambivalent, publicly supporting the value of moving cannabis out of the illicit market and redressing the harms prohibition has done—such as overincarceration of minorities for minor possession offenses—but they have often proved unwilling to allow enough stores and keep regulatory and tax costs low enough to make the legal market competitive.

In the last year, adult-use legalization came to predictably liberal U.S. states like Massachusetts and medical access to swing states like Ohio and even to traditionally conservative states like Oklahoma. The comparative results have been surprising and useful in forecasting states that have not yet begun legal sales.

The range of regulatory schemes and the market results in what are now 33 state “laboratories of legalization,”

with at least medical programs (plus Washington, D.C., and three territories), have provided a growing amount of clarity about what drives (or prevents) growth in legal cannabis markets in the U.S. Six of those factors, from basic measures of the relative popularity of cannabis to the cost and other handicaps of each state's tax and regulatory load, have been factored into a proprietary “Growth Indicator Matrix” that now drives the individual market forecasts (see “Global Legal Cannabis Breaks \$40 Billion by 2024”).

These market and regulatory factors can make a huge difference in eventual market size, but legal status—illicit-only, medical-only or full adult-use legalization—is still the key. The November 2018 election saw a flurry of activity, with voters passing medical and adult-use initiatives in Michigan, Missouri, Oklahoma and Utah, making it second only to the watershed year of 2016, when voters in eight states took action. By 2024, every U.S. state, Washington, D.C., and four U.S. territories are forecast to have active medical cannabis programs, and 20 states, Washington, D.C., and two territories will have active adult-use markets. Despite pockets of regulatory resistance, the wave of legalization actions will drive the U.S. legal cannabis market to nearly \$30 billion in 2024, increasing at a CAGR of more than 20%.

Canada's Noble Experiment

Canada made history when it became the second country to legalize adult-use on the federal level in 2018, and it did so without the severe limits on access that Uruguay—whose legislature voted to legalize in 2013—imposed when it finally launched its retail market in 2017. Canadian spending on adult-use is expected to grow from just under \$113 million in the partial year of 2018 to \$4.8 billion in 2024. Medical cannabis will start to decline as the market shifts to adult-use access with no medical card required.

It will fall from nearly \$457 million in 2018 to just over \$381 million in 2024.

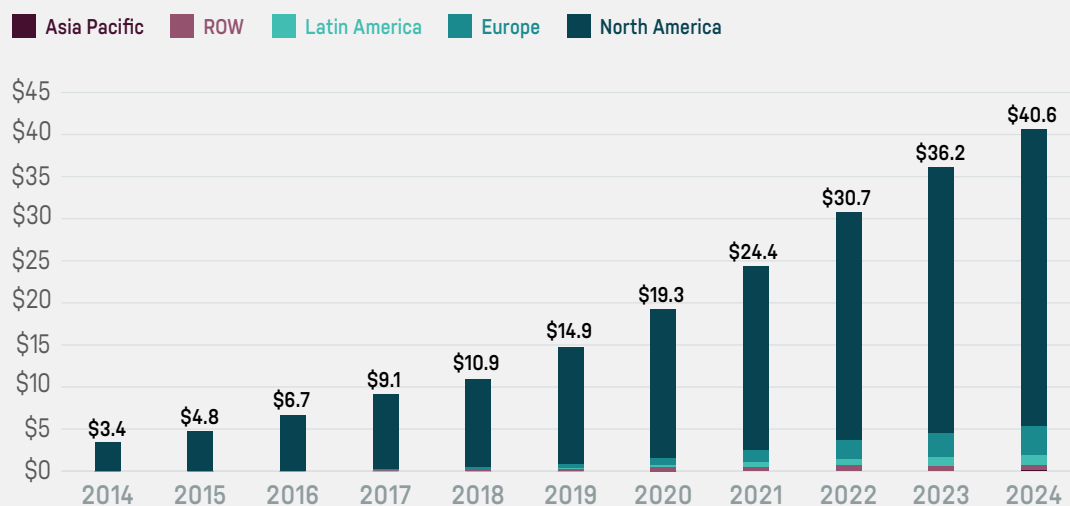
But Canada's market is really 13 different provincial and territorial markets, each with its own regulatory schemes that will substantially impact their success at building a legal market to replace Canada's robust illicit one. For the first time, this year's report analyzes and forecasts Canada on a province-by-province basis.

While total spending will grow, the federal-level prohibition of edibles and most concentrates will be a drag on the market in the near term. Final regulations for sales of those products are expected in October 2019, but it will take time for suppliers to catch up with the branding and marketing strategies that make those products chief drivers of U.S. market growth.

Beyond North America: Planting the Seed

Growth in international markets continues to be characterized by expanding access both through liberalization in existing medical markets and legalization in new medical ones. While international legal cannabis revenue will overwhelmingly come from spending in medical markets, adult-use spending is forecast to see a boost from a few new entrants. In addition to the global adult-use pioneer, Uruguay, and Switzerland's unrestricted adult access to products with less than 1% THC content, several new national markets are expected to begin adult-use sales within the forecast period. Looking forward, markets as diverse as Luxembourg, Mexico and New Zealand have signaled that adult access to cannabis products is in the offing.

Global Legal Spending in Key Markets by Continent (In Billions)



Source: Arcview Market Research/BDS Analytics

Newly broadened access to cannabis products in major European markets such as the U.K. will significantly impact international spending. But more impactful is the news of medical access in places that many assumed were still far from approving any type of cannabis legalization. In Asia, both South Korea and Thailand have approved medical access for qualifying patients, albeit through highly regimented programs. In Africa, Lesotho, South Africa, Zambia and Zimbabwe are in various stages of program development. As the market broadens, growth will accelerate, and spending outside of North America will substantially increase—growing from \$517 million in 2018 to \$5.4 billion in 2024.

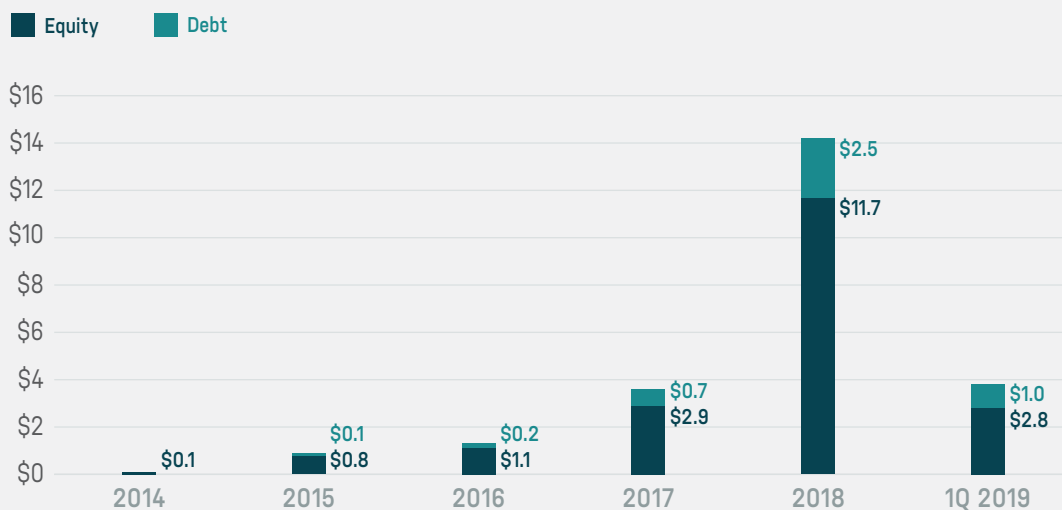
Fortune Passes Everywhere

The immense progress on legalizing cannabis around the world in 2018 and 2019 has completely changed the investment picture for cannabis companies. Even two

years ago, companies struggled to put together a \$10 million tranche, and many investors ruled out companies that “crossed the green line,” meaning they took possession of cannabis-derived substances in the course of conducting their business. By the first quarter of 2019, nine-figure capital raises were not uncommon, and Canadian licensed producers (LPs) Canopy Growth and Cronos Group had taken in billion-dollar investments from beverage conglomerate Constellation Brands and tobacco giant Altria, respectively.

All told, in 2018, cannabis companies raised \$14 billion according to tracking by Viridian Capital Advisors, more than twice the money that was raised in 2014-2017 in total. Investors of every stripe rushed in, emboldened by the willingness of publicly traded companies from adjacent industries to put money into cannabis companies.

Annual Capital Raised (In Billions)



Source: Viridian Capital Advisors

But the events of 2018 have, if anything, increased the volatility of public cannabis stocks. Led by the Cronos Group, which in March 2018 convinced the NASDAQ exchange to list in the U.S. the shares of a Canadian company not in violation of its own country's laws, the largest of the Canadian LPs have now gained listings on American exchanges. Privateer Holdings-backed Tilray conducted its initial public offering on the NASDAQ in July 2018.

That move south for greater access to capital prompted American companies to look north for the same. Los Angeles-based multistate operator MedMen went first with a May 2018 listing on the Canadian Securities Exchange (CSE), which has played a pivotal role in giving cannabis companies access to public money since the mid-2010s. Now some 30 U.S. cannabis companies are traded on Canadian exchanges, according to tracking by New Cannabis Ventures (NCV).

It has been a wild ride. The celebratory mood around California's Jan. 1, 2018, adult-use legalization was quickly punctured by Attorney General Sessions' rescission of the Cole Memo on January 5, and NCV's Global Cannabis Stock Index was down 54.9% for the full calendar year. It has since recovered smartly, though still is well below its early 2018 multiyear peak.

The volatility is nothing new for cannabis stocks: NCV's Global Cannabis Stock Index was set to 100 at launch on Dec. 31, 2012, and broke 1,000 in the excitement around Colorado's launch of adult-use sales on Jan. 1, 2014. After the first-quarter rally in 2019, it stood again at 100.76. But the gyrations should not obscure a fundamental fact: Public cannabis companies are no longer penny stocks being traded over the counter but are instead exchange-traded shares of companies generally following government disclosure

NCV Global Cannabis Stock Index



Source: New Cannabis Ventures

requirements in anticipation of ever-more-certain U.S. legalization.

While they wait to clear that final hurdle to becoming companies like any other, they are aggressively putting the cash they are raising into hard assets in cultivation, processing and product development and retail footprint. Meanwhile, they are using the currency of their exchange-traded shares by rolling up companies in their core sectors and diversifying into other types of operations.

Total Cannabinoid Market: The US Leads the Way

But legal cannabis is just the beginning of the story. The cannabis market—well past its illicit modern roots during prohibition—is now moving beyond the licensed dispensary channel and into the broader general retail and pharmaceutical markets. It is an historical irony that the U.S., which led the world to criminalize cannabis in the first half of the 20th Century, is leading the switch back to legal status. In that context, the regulatory changes in the 2018 Farm Bill in the U.S., which created an opening for hemp-based CBD in general retail channels, and the FDA's approval of the first naturally derived cannabis-based pharmaceutical, Epidiolex, have enormous historical significance.

Hemp-derived CBD is now available in a broad range of general retail channels outside of the licensed cannabis dispensaries including online, drug stores, natural products, beauty, convenience, grocery and even pet stores. After the FDA sorts out the rules for CBD as a food additive, CBD products will also start to appear on the shelves of mass-merchants. CBD product categories with anecdotal evidence of efficacy range from pain relief to anti-aging skin applications to calming treats for pets. It was apparent at the May FDA hearings on cannabinoids

that the complexity of regulation is a big hurdle for the industry, but the FDA is clearly open to how it can successfully regulate CBD separately from other compounds in cannabis, particularly THC.

Including general retail and pharmaceutical channels, the U.S. TCM is expected to grow to \$44.8 billion in 2024. This opens up a whole new set of opportunities for everyone already in the cannabis business ecosystem.

But the TCM opportunity is also there for companies that may be reluctant to join the state-regulated, adult-use—or even medical-use—cannabis market. There was a rush of consolidation in cannabis companies during 2018 and early 2019, but it also marked the first time that giant consumer brands, from Altria to Constellation to Heineken to Molson Coors, entered the market. CBD outside of the licensed dispensary market will make it much easier for other well-known consumer brands to become involved in the booming cannabis business.

To enable all of this market activity, the industry has been hard at work developing the science and intellectual property that will be the bedrock of business assets going forward. The cannabis, CBD and pharmaceutical industries, academics, cultivators and processors, as well as many individual participants have already been involved in scientific research over the last few decades, but the moves in Washington, D.C., in 2018 will prompt a redoubling of those efforts.

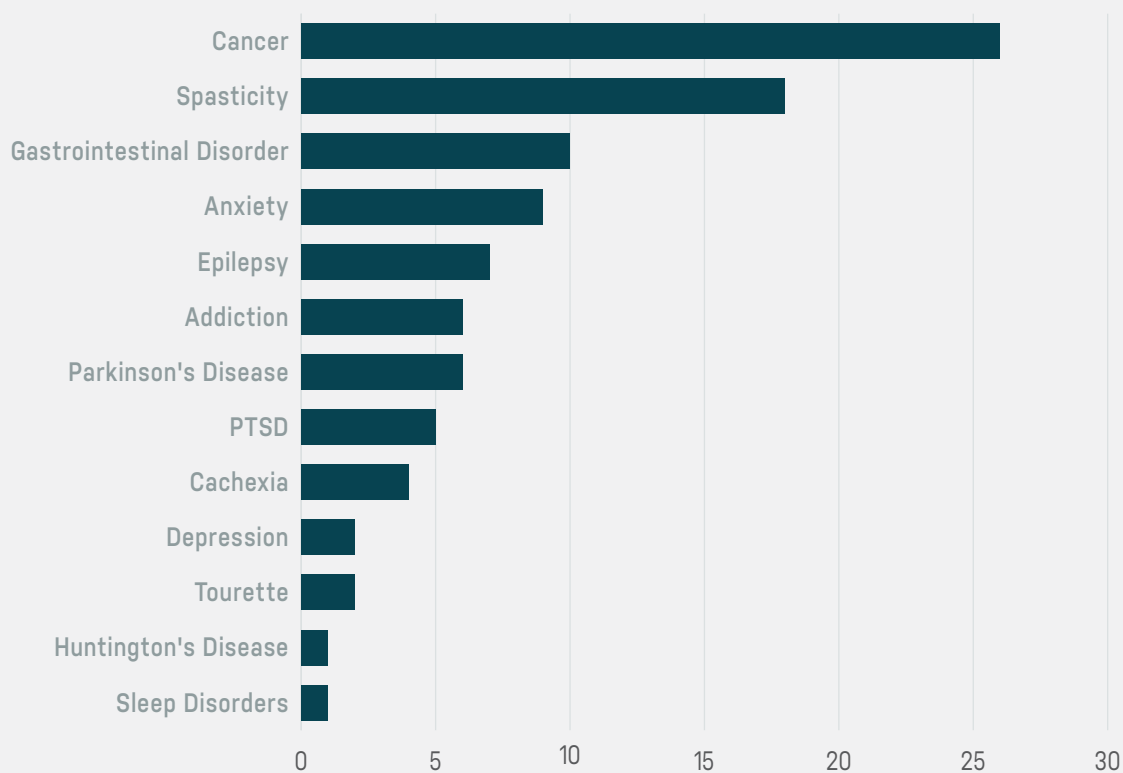
These participants have also begun to use the full force of intellectual property protection through patent and plant protection processes all over the world. The most visible was the FDA's approval of GW's Epidiolex, but the activity around testing the efficacy and effects of cannabis as a medicine is in full swing. Longtime players

and new entrants alike are also lawyering up to more aggressively protect all of their intellectual property, whether that be scientific medical discoveries or the genetics and techniques that bring cannabinoids like THC and CBD to market.

The next few years will see a dramatically quickened pace of innovation in all areas of the cannabinoid ecosystem. Regulatory changes that may allow interstate

commerce, public consumption or export are all being explored in the U.S. and elsewhere. CBD is expanding the potential market in the U.S., and countries around the world are closely watching to see what the FDA does in the wake of its May hearings on the compound. In the Orwellian doublespeak of Washington, there has never really been a “legal cannabis market” all these years. Only FDA rule-setting will act as a starting gun for the creation of a Total Cannabinoid Market.

Clinical Trials by Disease or Disorder



Source: clinicaltrials.gov



The leader in cannabis business intelligence and market share tracking

It's simple. We provide answers. You make more money.

We answer the **WHO, WHAT, WHEN, WHERE, WHY, HOW MUCH**, and **WHAT'S NEXT** in cannabis.

"BDS Analytics has been a great partner from Day 1. The retail data they provide our business helps us in so many ways. We're able to track trends, more smartly merchandise our dispensary, and just make better business decisions all-around."

Debby Goldsberry, Executive Director, Magnolia Wellness



Ready to build a successful cannabis business?

We recommend you subscribe to our industry-leading GreenEdge™ Platform which powers our retail sales tracking data, unrivaled cannabis consumer research, and industry intelligence reports and services.

And for dispensaries across the US, we are actively recruiting GreenEdge dispensary partners in medical-only and adult-use markets.

Contact us today to learn more.

info@bdsanalytics.com | bdsanalytics.com | 720.465.9692

Letter From the Editor

The state of legal cannabis markets has always been complex, but you will find an even more nuanced story than ever before in this seventh edition of our annual report, now renamed “The State of Legal Cannabis Markets.” The new name reflects the industry’s growing maturity and the now common practice of using the scientific name for the product rather than “marijuana,” which, after all, is just one of the many popular names the useful plant has had over the millennia.

But the report’s new name also reflects the dramatic expansion of the ways in which products containing cannabinoids, derived from the *Cannabis sativa* plant, will be developed and distributed in the future, and the regulatory regimes under which that will happen:

- Legal regulated cannabis markets in the U.S. will continue to be regulated at the state level only—for now.
- The pharmaceutical cannabinoid market, launched in earnest in June 2018 with the Food and Drug Administration’s (FDA) approval of Epidiolex, will have the most tightly regulated supply chain at the federal level.
- The U.S. general retail CBD market can now exit its gray market past with the legalization of hemp cultivation by the 2018 Farm Bill while awaiting FDA rulemaking on the compound’s use as a food additive.

It has become clear to our team in this annual exercise that the “legal cannabis market” is quickly becoming the “total cannabinoid market” with three components: 1) regulated dispensaries, 2) pharmacies and 3) general retail. For now, we have modeled it that way just in the U.S., which, ironically given its role in turning cannabis from remedy and relaxant into a controlled substance, is actually leading the world back to a more rational approach.

This year’s report is also different because three years of cannabis industry experience has enabled us to isolate and analyze the factors that drive growth (or kill it) in that regulated dispensary market. We have revised all U.S. state forecasts accordingly and, for the first time, have applied the same thinking to individual Canadian provinces and territories to forecast them individually.

We hope you find reading the “7th Edition of The State of Legal Cannabis Markets” as fascinating as we found researching and writing it.



Tom Adams

Editor in Chief
Arcview Market Research
Managing Director
BDS Analytics

MARKET SIZE AND DEMAND FOR MARIJUANA IN COLORADO 2017 MARKET UPDATE

PREPARED FOR THE COLORADO DEPARTMENT OF REVENUE





Marijuana Policy Group LLC (MPG) (www.mjpolicygroup.com) is a consulting and research firm focused on legal cannabis markets. MPG helps governments design best-practice regulations and monitoring programs to meet public-sector goals. Private operators and investors rely upon MPG insights to excel in emerging legal markets for cannabis and hemp products. MPG was formed in 2014 by consultants and university researchers in Denver, Colorado.

This report was commissioned by the Colorado Department of Revenue, Marijuana Enforcement Division, and was conducted as a joint effort by experts from MPG and the University of Colorado Boulder, Leeds School of Business, Business Research Division. This report reflects the independent analysis of the study team.

Release: August 2018

Authors: Adam Orens
Miles Light
Brian Lewandowski
Jacob Rowberry
Clinton Saloga

Corresponding Author: Adam Orens - adam@mjpolicygroup.com

Graphic Design: Conley+Design - conleyryand@gmail.com

The authors are grateful for suggestions and assistance from Michael Hartman, Jim Burack, Shannon Gray, Kyle Lambert, Philip Martin, and Eric Hurley. Any omissions or errors are the sole responsibility of the report team.

TABLE OF CONTENTS

- Executive Summary 1**
- 1. Overview 4**
- 2. Supply, Demand and Consumption..... 5**
 - 2.1 New Methods of Quantity Estimation 5
 - 2.2 Demand, Supply and Statewide Product Flows..... 8
 - 2.3 Colorado Resident and Visitor Consumption 10
 - 2.4 Comparing Supply, Demand and Consumption 13
- 3. Regulated Market Trends 16**
 - 3.1 Price Trends by Unit and Weight.....17
 - 3.2 Potency Trends 21
 - 3.3 Price per Serving Trends 21
 - 3.4 Product Shares 23
 - 3.5 Regional Product Shares 24
 - 3.6 Total Sales and Per Capita Spending 26
- 4. Emerging Topics 28**
 - 4.1 License Allocation..... 28
 - 4.2 Plant Counts and Utilization Rates 29
 - 4.3 Market Concentration and Consolidation..... 30
- Appendix A 34**
- Appendix B 38**
- Appendix C 39**
- Appendix D 44**
- References..... 46**

GLOSSARY

- **Adult use marijuana.** Marijuana that is grown and sold pursuant to the Retail Code and includes seeds and immature Plants. Unless the context otherwise requires, Adult use marijuana concentrate is considered adult use marijuana and is included in the term. The terms “retail” and “recreational” were often used in this context previously.
- **Cannabinoid.** Any of the chemical compounds that are the active principles of marijuana. Cannabinoids include THC, THCa, CBD, CBDa, CBN, and other naturally occurring compounds.
- **Caregiver.** Colorado Revised Statute 25-1.5-106 defines four types of caregivers for medical marijuana patients, the services they provide, and legal requirements: (1) Cultivating- grows marijuana on behalf of patients; (2) Transporting- transports marijuana for homebound or minor patients; (3) Parents of a minor patient- Parents of a patient under age 18; and (4) Advising- Advises patients on the medicinal use of marijuana. All cultivating and transporting caregivers are required to register.
- **Concentrate.** Refers to any product which refines marijuana flower into something more clean and potent. This umbrella term includes any type of hash, solventless (kief), as well as any hash oils (BHO, CO2 oil, shatter, wax, etc.) and indicates that these products are a concentrated form of cannabis, carrying a higher potency.
- **Edible.** Any adult use or medical marijuana product for which the intended use is oral consumption, including but not limited to, any type of food, drink, or pill.
- **Flower equivalent.** A measure developed specifically for this study that converts non- flower consumption or production into weight-based units of flower. This method allows regulators to properly compare supply, demand, potency, and pricing across different product types.
- **Infused product.** A product infused with marijuana that is intended for use or consumption other than by smoking, including but not limited to edible product, ointments, and tinctures.
- **Inventory tracking system.** The required seed-to-sale tracking system that tracks adult use and medical marijuana from either the seed or immature plant stage until the marijuana, marijuana concentrate, or marijuana product is sold to a customer at an adult use marijuana store or medical marijuana center.
- **Licensee or license holder.** Any individual licensed pursuant to the Colorado Retail Code or Medical Code.
- **Marijuana demand.** Marijuana demand is defined as the annual amount of marijuana sold in regulated adult use stores and medical centers expressed in weight.
- **Marijuana flower.** The flowering buds of the female marijuana plant that are harvested and cured for sale to processors, adult use stores or medical centers.
- **Marijuana supply.** The annual amount of marijuana flower and trim harvested expressed in weight (metric tons).
- **Medical marijuana.** Marijuana that is grown and sold pursuant to the Medical Code and includes seeds and immature Plants. Unless the context otherwise requires, Medical Marijuana Concentrate is considered Medical Marijuana and is included in the term.
- **Regulated marijuana.** Adult use and medical marijuana that is under the regulatory oversight of the Colorado Department of Revenue’s Marijuana Enforcement Division.
- **THC.** Delta-9-tetrahydrocannabinol, the main psychoactive compound in marijuana.
- **Trim (Shake).** After harvest, the marijuana plant is generally trimmed of its leaf matter, leaving behind only the buds. Trim refers to the leftover leaves, which can be used for making concentrates and infused products.

EXECUTIVE SUMMARY

Shortly after the legalization of adult use marijuana in Colorado in 2014, the Colorado Department of Revenue's Marijuana Enforcement Division (MED) requested an estimate of the market size, in metric tons, for marijuana for medical and adult use consumers. It was also noted that it would be helpful to revisit market size and demand over time as more official market data are collected through the state's inventory tracking system. This market update is the culmination of those efforts. It provides an updated view and assessment of Colorado's regulated marijuana markets through 2017, and it improves upon the original 2014 market study methods.

This report relies on marijuana inventory tracking data, provided by the state in accordance to the terms of an interagency agreement, and contains several new findings that provide insights into the nation's most mature regulated marijuana market. This information will be valuable as the state evaluates its early regulatory outcomes. Through careful inventory tracking, data analysis, and program evaluation, regulators can ensure a well-organized market as envisioned by voters who approved Amendment 64 in 2012.

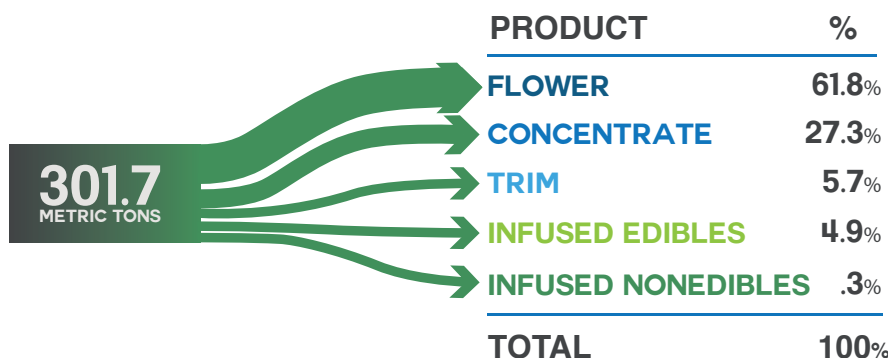
Key topics examined in the report are summarized here and presented in detail within the main report.

- Flower Equivalent Measures.** Smoking marijuana flower is still the predominant consumption method in the regulated market, but there is a clear trend toward consumption of non-flower products, such as concentrates and edibles. The study team has developed a new measure, called "Flower Equivalent", to account for non-flower consumption.

This measure converts non-flower sales or production into weight-based units of flower. This method allows regulators to properly compare supply, demand, potency, and pricing across different product types. Flower equivalent is a tool that can help regulators to establish rules, measure demand quantity, and achieve regulatory objectives going forward.

The use of a stable constant—which the flower equivalent represents—will better inform officials about adjusting tax rates, plant allocations, and other regulatory parameters. For example, plant counts or canopy size can be adjusted to account for the supply of trim, which can improve regulatory accuracy (refer to page 6-7 more information).

Colorado Marijuana Demand, 2017 Actual Sales, Metric Tons of Flower Equivalent

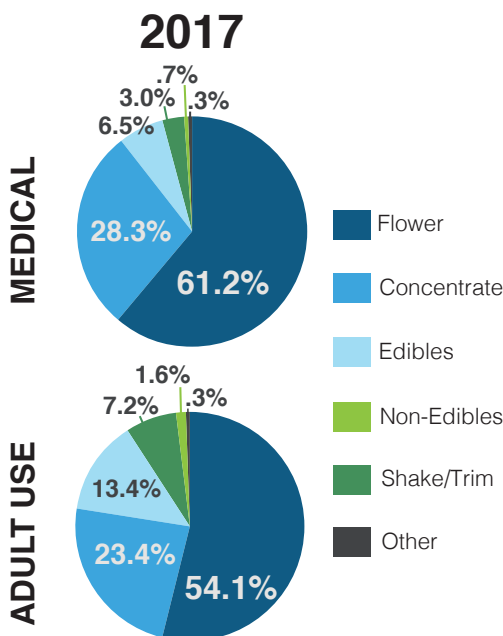


Source: Study team calculations and methods, using state sales data.

- **Improved Licensee Compliance.** The trend over the last three years shows improved licensee compliance. Total contaminated, destroyed, or seized products as a percent of total production volume over time has declined from 9.2 percent in 2015, to 2.9 percent in 2016, and down to 1.9 percent in 2017. This measure indicates broad improvement in compliance, more accurate reporting, better internal controls, better use of the inventory tracking system by state and industry, and an effective regulatory and enforcement system (refer to page 9-10 more information).

- **Market Trends.** Price trends within Colorado's adult use and medical markets continue to evolve as the marketplace matures; and as non-flower products gain market share compared to flower marijuana. Demand for flower marijuana products as a portion of overall sales has declined each year since the market opened in 2014. The study team has derived a new measure, called the "price per standard serving" of marijuana, to reflect how the price of a single serving of marijuana has declined relative to the price of each gram or unit. The price of marijuana flower is falling gradually, while the price for a "standard serving" of THC has declined more rapidly. It is unclear whether this is a long-term trend that leads to a "high THC/ low price" paradigm, or whether the market price will stabilize to suggest an equilibrium (refer to page 21-23 for more information).

Product Type Market Share by Value, 2017



Source: Study team calculations using state sales data.

Note: "Other" sales includes immature plants, seeds and related products.

- **Geographic Variation.** Observed prices are generally above average in mountain tourist regions but are highest in regions with a limited number of adult use store locations. This indicates that retail margins are larger in markets with limited competition than in tourism-based or in high-volume markets. Per capita sales are high in regions with large numbers of annual visitors, including border regions, which indicates that visitors account for a sizable portion of sales. Denver County, which is home to 13 percent of the Colorado population, accounted for nearly 34 percent of all marijuana sales in 2017. The broader Denver Metro Area (51 percent of the state population) combined for 54.9 percent of the state marijuana sales (refer to page 24 more information).

- **Supply, Demand and Consumption.** For the purposes of this study, regulated marijuana supply is defined as the annual amount of marijuana flower and trim harvested expressed in weight (metric tons). Regulated marijuana demand is defined as the annual amount of marijuana sold in regulated adult use stores and medical centers expressed in weight. Consumption is the estimated amount of marijuana consumed by Colorado residents and tourists calculated using survey results.

In 2017, regulated cultivators in Colorado supplied 340.7 metric tons of flower equivalent to the market. Demand for regulated marijuana in 2017 is 301.7 metric tons of flower equivalent as calculated from actual sales of marijuana product. Companies held 32.6 metric tons of inventories and there was a 1.9 percent residual value. Several factors contribute to the residual value, including seizure and destruction of

marijuana; failure to meet quality assurance standards; losses in harvest, trimming and extraction processes; inventory shrinkage; and other factors. Refer to Section 2 (page 5) for a detailed discussion of supply/demand dynamics.

The study team estimates Colorado residents and tourists consumed 208.7 metric tons of flower equivalent in 2017, using standard consumption estimation techniques updated from the 2014 study.

A comparison of inventory tracking data and consumption estimates signals that Colorado's preexisting illicit marijuana market for residents and visitors has been fully absorbed into the regulated market. The 2017 results also highlight an evolution from the last study, conducted in 2014. In 2014, the study team estimated that the regulated market would capture about 65 percent of resident and tourist consumption.

For 2017, the results also suggest there is additional demand for Colorado marijuana that is not captured in standard resident and tourist consumption estimation techniques. This discrepancy between demand and consumption estimates can be caused by several factors including: at-home consumer inventory; legal in-state purchases that are consumed out of state; demand from the under-21 population; under-estimated demand or waste by visitors; and the inclusion of edible and concentrate products that were not fully considered in federal surveys. A full discussion of these factors is included in Section 2.

It is not surprising to observe a variance between supply, demand and consumption figures, because this is the first full-scale study to use official sales data that captures all product types and converts them to flower equivalent units, thus enabling comparison of total supply, demand and estimated consumption by residents and visitors. Stakeholders may wish to monitor these supply, demand and consumption factors going forward and to establish benchmarks or standards. Such benchmarking allows regulators, stakeholders, and policymakers to compare outcomes over time, and between different states. Colorado offers valuable insights as the most mature and evolved legal market in the U.S.

- **Plant Allocations and Utilization.** The authorized medical marijuana plant allocation in Colorado is driven by patients' physician recommendations regarding consumption amounts. The authorized adult use marijuana plant allocation is controlled through state issued licenses that determine the maximum plant count in a tiered system. At the end of 2017, medical marijuana cultivators were growing 322,800 plants, while permitted to grow up to 555,000 plants—an average utilization of 58 percent. In the adult use market, cultivators were growing 675,005 plants at the end of 2017, while permitted to grow up to 1,985,400—an average utilization of 34 percent. This suggests a saturated market, where producers are adjusting production to pricing and consumer demand (refer to page 29 more information).

- **Market Competitiveness and Consolidation.** An emerging topic of interest is the consolidation of cannabis companies in the United States and worldwide. To assess the degree of market concentration in Colorado, the study team applied economic measures of consolidation to Colorado's regulated marijuana market, and then compared those indicators to other markets. The study team found that while there exists some consolidation, the marijuana market is relatively more competitive (i.e., has more corporate entities vying to capture the same market share) than other markets such as beverages, food products, jewelry, and tobacco. Further consolidation may occur, but the economic and market implications related to this pattern remain to be seen (refer to page 32 more information).

The report is organized in four sections: 1. Overview; 2. Supply, Demand and Consumption; 3. Regulated Market Trends; and 4. Emerging Topics. The report also includes appendices that provide detail on resident and tourist consumption estimation and on market dynamics from 2016.

1 OVERVIEW

The Colorado Department of Revenue's Marijuana Enforcement Division (MED) occasionally commissions technical studies to highlight key aspects of the state's regulated market.¹ The MED provides this information to improve market transparency and to inform decision makers about the status of Colorado's marketplace. The report provides several key metrics to the MED and the public for the first time and highlights the use of the state inventory tracking database to evaluate regulatory performance. This report is part of the state's continuous efforts to monitor a comprehensive marijuana regulatory framework.

This report is the second edition of the *Market Size and Demand for Marijuana in Colorado* that was originally published in June 2014. This second edition is fundamentally different from the 2014 study, mainly because the results are based primarily upon official data from the state marijuana inventory tracking system (METRC), rather than estimations. This edition provides new views into the legal marketplace from a systemwide to a licensee perspective.²

In the past four years, the state has experienced major shifts in consumption patterns, supply patterns, and market balance. This report highlights some of the more important developments in Colorado's regulated marijuana markets over the past four years—as viewed from a regulatory perspective.

A deliberate focus of this report is on the past two years, 2016 and 2017, as the market has evolved since 2014. Important changes in state regulatory practices since 2014 include: allowing new, non-vertically integrated entities to enter the market; introducing testing requirements for several product types that were previously exempted; and changing tax regulations.

Key Market Changes: 2014-2017

- Vertical integration not required for adult use cultivations starting October 2014.
 - Mandatory adult use marijuana potency testing began in July 2014.
 - Non-resident investment, known as a “permitted economic interest,” is allowed starting in January 2016.
 - Standardized edible serving amounts of 10 mg or 100 mg packages in October 2016.
 - Combined state retail sales tax rates for adult use marijuana increase from 12.9 percent to 15 percent in July August 2017.
-

Primary themes in this report are:

- New methods in demand and supply estimation
- Systemwide supply, demand and consumption comparison
- Regulated marijuana market trends
 - Price trends
 - Potency trends
 - Price trends by serving
 - Licensee market share trends
- Market concentration and consolidation in Colorado
- Plant allocations and utilization rates

The rest of this report provides detailed assessments of the topics presented in the Overview.

¹ Please refer to the MED Statistics and Resources page for more information: <https://www.colorado.gov/pacific/enforcement/med-resources-and-statistics>

² The MED currently regulates parallel medical and adult use marijuana markets. In most instances, this report presents a merged view of both markets referred to as the “regulated” market, if not explicitly identified as the “adult use” or “medical” market.

2 SUPPLY, DEMAND AND CONSUMPTION

Section 2 presents a new approach to measure supply and demand, derived from the state inventory tracking system and using a new unit called “Flower Equivalent” quantity. The need for an updated method to account for non-flower product types became clear in early 2015, as demand for concentrates and edibles continued to grow. In 2015, non-flower products represented about 25 percent of total sales, and data through 2017 indicate non-flower product market share continued to increase, now comprising 37.7 percent of the regulated market.

A flower equivalent measure allows regulators to monitor the quantity or weight of sales, in addition to a measure of value, to observe product movements as closely as possible. This is necessary because marijuana is a Schedule 1 controlled substance in the Federal Controlled Substances Act, and unlike tobacco or alcohol, not all states have legalized adult use marijuana markets.

Section 2.1 describes the Flower Equivalent approach; Section 2.2 identifies market demand, supply and statewide product flows using inventory tracking data; Section 2.3 provides estimates of marijuana consumption using best practice estimation methods; and Section 2.4 compares results with actual demand to draw conclusions on the illicit market.

2.1 NEW QUANTITY ESTIMATION METHODS

A growing share of regulated marijuana sales are in marijuana flower alternatives, such as concentrates or edibles. In 2017, for example, more than one third (37.7 percent) of total sales were non-flower products, compared to 25.4 percent in 2015. The most popular alternatives are oil-filled vaporizer cartridges, wax/shatter concentrates, and infused edibles. Compared to the overall increase in marijuana sales of 51.6 percent from 2015 to 2017 (\$996 million to \$1.5 billion)³, concentrated product sales increased by 114 percent and infused edible sales increased by 67 percent over the same period. The increase in market share of concentrates and edibles requires a common unit of measure for the state to evaluate supply and demand factors.

Non-flower products require different amounts of marijuana plant material according to production method and have a different number of servings in each package depending on product type. The “Flower Equivalent” method translates infused and concentrated products into their flower-weight equivalent. Conversion factors were constructed by the study team to develop in-store sales limitations as part of the “Marijuana Equivalency in Portion and Dosage” commissioned by the MED in 2015.⁴ The process traces marijuana weight and potency through the concentrate and edible production process and matches inputs (marijuana plant material) with outputs (concentrates and infused products) actually produced.

This measure is used to adjust the actual demand calculation to convert demand that occurs in multiple product types into the same units as supply or harvests, which are denominated in grams (or tons) of marijuana flower and trim. This is also the same unit of measure used in resident and tourist consumption estimation.

Plant Material Equivalencies

To construct flower equivalent supply and demand, different product types are scaled together with their respective conversion units. The calculation also accounts for different loss ratios between input plant material and product outputs. A systemwide assessment must also account for the fact that marijuana shake and trim is used in various manufacturing processes. While flower is typically sold directly to customers, shake and trim is primarily used as an intermediate input. A smaller amount of shake and trim is sold directly to consumers, often as pre-rolled joints.

As non-flower products grow to represent a larger portion of the overall market, the role of marijuana

³ Colorado Department of Revenue, Marijuana Sales Reports. <https://www.colorado.gov/pacific/revenue/colorado-marijuana-sales-reports>

⁴ Marijuana Policy Group. (2015). “Marijuana Equivalency in Portion and Dosage.” https://www.colorado.gov/pacific/sites/default/files/MED%20Equivalency_Final%2008102015_1.pdf

trim is increasingly important as part of the supply-side plant yield. Using the plant trim increases yields per plant or per square foot of canopy. Consequently, the number of plants that are necessary to satisfy total demand is less than previously considered. Increases in potency or total cannabinoids in each plant and increased production efficiencies may also have the same effect.

As part of the 2015 marijuana equivalency study, interviews were conducted with edible manufacturers and with extraction specialists to determine different production processes for each product type. Average yields were established for flower or shake and trim as the primary input. This information was then combined with official production, yield, and potency testing data from the state inventory tracking system to determine input and output ratios for each broad product category.

Key Factors for Flower Equivalent Measures of Supply and Demand

- **Shake and trim as a THC source.** Many non-flower products can be produced using shake and trim. Shake is the industry term used to describe the small pieces of flower marijuana that have broken off the larger marijuana buds. Trim consists of the leftover leaves that are trimmed from the marijuana flower. For manufacturing purposes, shake and trim offer a more cost-effective input than flower and provide reasonable levels of THC for extraction.
- **Plant-material input price.** Similar to any business seeking to minimize production costs, infused product manufacturers will choose a least-cost combination of flower and trim as inputs to produce infused and concentrated extract marijuana-based products. Shake and trim is the preferred input because the price per unit of THC is less than flower. For example, the official average market rate (AMR) for trim at the end of 2017 was \$405 per pound and \$1,305 per pound of flower.⁵ Using the 2017 estimates of THC content for trim and flower, the wholesale price per milligram of THC from trim equals 0.52 cents. In contrast, the cost per milligram of THC from flower equals 1.7 cents. Thus, THC borne from marijuana flower in Colorado is 3.3 times more expensive than THC from trim.
- **Extraction yields.** Extraction yield is the ratio of input plant material needed to produce one gram of concentrated product. For example, it is commonly understood that about 7 grams of trim is needed to produce one gram of butane hash oil (BHO).⁶ However, these yields are different depending on the solvent used in extraction. Yields are always changing as production and refinement technology evolves.

During the production process for concentrates and infused products, some amount of plant material and THC dissipates. For example, THC is commonly infused into cookies, brownies, and other baked goods by first constructing cannabis-infused butter, where THC is extracted from plant material and is then reconstituted into THC-infused butter. This butter is combined with other confectionary inputs to provide a final edible product. However, some of the THC in the plant material dissipates in the process.

Marijuana consumption, demand and supply quantities are estimated using different methods.

Shake and Trim – Prices

The cost of shake and trim is much lower than flower when measured per milligram of THC. At the end of 2016, wholesale flower prices in the adult use market were more than three times the price of trim, with DOR-defined average market rates of \$1,816 per pound of flower and \$505 per pound of trim in the adult use market. Average market rates at the end of 2017 showed this trend had continued, with the adult use flower rate at \$1,305 per pound and adult use trim at \$405 per pound.

Shake and Trim – Potency

In previous years, the average potency of shake and trim was lower than flower (14.9 percent versus 16.6 percent in 2015). Current data indicate that the potency in both shake and trim (17.2 percent) and flower (19.6 percent) has increased noticeably. This increase in input product potency leads to higher THC yields following the extraction process.

⁵ Colorado Department of Revenue, Average Market Rate report. <https://www.colorado.gov/pacific/sites/default/files/AverageMarketRatesforPriorPeriods.pdf>

⁶ Marijuana Policy Group. (2015). "Marijuana Equivalency in Portion and Dosage." https://www.colorado.gov/pacific/sites/default/files/MED%20Equivalency_Final%2008102015_1.pdf

Consumption is based upon demographics, consumer responses to surveys, and upon pre-existing literature on use. In other words, it must be estimated. In contrast, legal marijuana supply and demand do not need to be estimated – the measures can be counted using official, verified data from the state's inventory tracking system. In order to standardize different products back into grams of flower equivalent, the study team constructed a generalized equivalency approach. The general formula is written. This approach can be used to convert different products – such as edibles, concentrates, or processed flower, back into the weight of plant material needed to produce the product. The formula is below:

$$W_{it} = f(n, mg, \pi_t, \sigma_t, L, \phi_i)$$

Where each component is defined as follows:

- W_{it} is the equivalent weight of flower or trim needed as an input for each product type.
- The index “ i ” is the type of plant material (flower or trim).
- The index “ t ” denotes the type of non-flower product (wax, vaporizer cartridge, infused edible, infused non-edible, etc.) being considered.
- The function, $f(n, mg, \pi_t, \sigma_t, L, \phi_i)$, depends upon the following input parameters:
 - n is the number of units produced or sold. For example, n equals 2.7 million units in 2017 in the case of edible marijuana products for Colorado.
 - mg is the weight of the product, in milligrams or grams, of the product sold. For example, “wax” type concentrates are typically sold in units of 1 gram. Vaporizer cartridges are sold in units of 250 milligrams or 500 milligrams. For edibles, this weight is set to be the official THC weight itself (e.g., 10 or 100 milligrams).
 - π_t represents the potency of the product, as a percentage of the product weight, using official laboratory test data. If a concentrate batch test equals 65 percent, then 0.65 is used for π_t .
 - σ_t represents the share of total sales by product type, t . σ_t can be used to compute systemwide supply equivalencies, or it can be omitted from the formula, if only a specific product type is under consideration.
 - L is the loss rate between plant-based input THC and the output THC. The loss rate can vary between 20 percent for concentrates up to 40 percent for edibles, if more than one chemical transaction is enacted.
 - ϕ_i is the THC potency of the input material, based upon official test data. For example, average potency testing for flower in 2017 suggests potency during that year of 19.6 percent combined THC-A and THC. Trim potencies are 17.2 percent THC, on average, in 2017.

Formula estimates for legal jurisdictions outside of Colorado may differ based upon relative potencies, plant yields, and other factors that affect production.

2.2 DEMAND, SUPPLY AND STATE-WIDE PRODUCT FLOWS

The study team used Colorado's inventory tracking system to account for regulated cultivation, production, and sales in a detailed manner.

Supply and demand can be described in different terms. Almost universally, economists use value, because it circumvents difficult unit calculations. However, for cannabis, it must be described by both – value and weight. Ideally, a common unit for weight – flower equivalent units – will allow for calculations across product types.

Total supply is computed using harvest data from the inventory tracking system, then traced through the supply chain until it is ultimately sold to the customer or held as inventory. Total marijuana demand is calculated from actual sales to consumers and reported in the inventory tracking system.

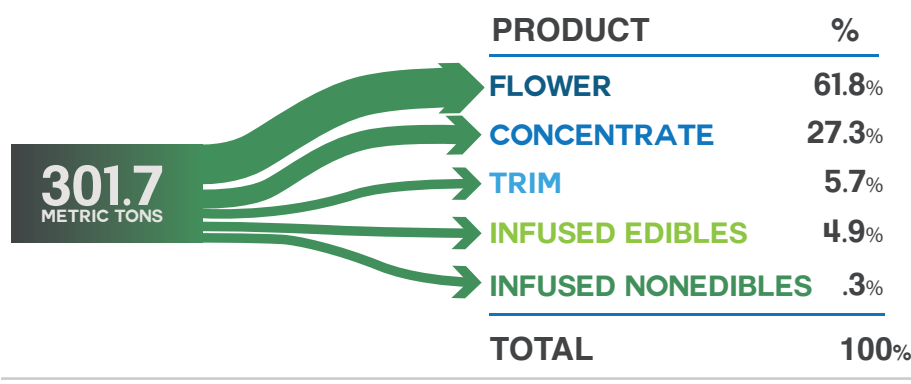
Demand Calculation

Based on 2017 inventory tracking data, sales were 186.5 metric tons of flower, 19.7 metric tons of trim, 4.5 million units of packaged concentrates, 15 metric tons of concentrate material, 11.1 million infused edible units, and 1.1 million units of infused non-edible products. Together, 16.7 million units were sold of different non-flower marijuana products. Using flower equivalent measures specific to each product category, the study team converts the varying units to estimate total demand at 301.7 metric tons of marijuana flower equivalent in 2017. Figure 1 shows how each product contributes to the total sum.

New Supply Paradigm

Starting in October 2014, new adult use business entrants were allowed into the market who were not part of a pre-existing, vertically integrated dispensary. This invited a wave of new investment and construction for cultivators and infused product manufacturing facilities (not subject to vertical integration). As these new operations came online, the subsequent supply of marijuana has grown, and production management continues to be a focal-point for regulators.

Figure 1. Colorado Marijuana Demand, 2017 Actual Sales, MT of Flower Equivalent



Source: Study team calculations and methods, using state sales data.

According to the 2017 inventory tracking data, about one-third of demand by weight is for concentrates (82.4 MT), edibles (14.8 MT) and other infused products (0.9 MT). The remaining two-thirds of demand (203.6 MT) is for flower, and shake and trim sold directly to the consumer usually in the form of pre-rolled joints.

Statewide Product Flows

In order to reconcile total supply with demand, the study team traced production from the point of harvest, through the transfer and repacking system to manufacturing facilities, and finally to adult use stores and medical centers.

Figure 2 below depicts key inflection points of supply and demand throughout the inventory tracking system. For calendar year 2017, licensees reported 340.7 metric tons of marijuana flower equivalent were harvested and packaged – or actual marijuana supply. These totals represent the dried weight that was packaged for transfer as reported in the state's inventory tracking system.

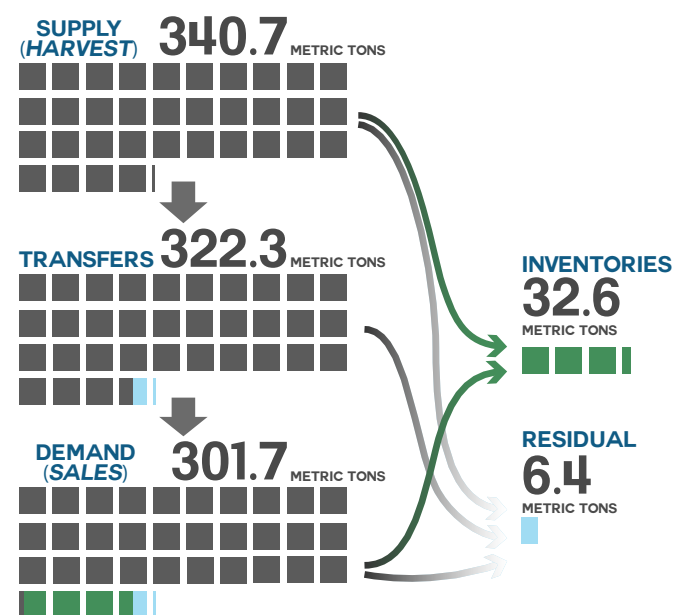
The study team used detailed transfer reports to calculate a 2017 end-of-year net inventory of 32.6 metric tons of flower equivalent for licensed businesses. Cultivation facilities accounted for 9.6 metric tons of on hand flower equivalent net inventory, while store and processing facility inventories accounted for the remaining 23.0 metric tons of flower equivalent. As shown above, total demand is 301.7 metric tons of flower equivalent. When inventories of 32.6 tons are added to this, a total of 334.3 metric tons of flower equivalent marijuana were either sold to consumers in 2017 or remained in inventory at the end of the year. The 6.4 metric tons of flower equivalent identified as residual in the inventory tracking system at the end of 2017 is discussed below.

Additional Factors in Product Flow

There is a residual between total reported supply or harvest and total reported demand (sales) plus inventories, equal to 6.4 metric tons or 1.8 percent of total supply, based on study team calculations. The residual amount occurring at the retail level is 2 metric tons, with the remaining residual amount of 4 metric tons traced to cultivation and manufacturing operations. The retail residual total in Colorado in 2017 was approximately 0.6 percent of the total retail sales, while the cultivation and manufacturing residual in 2017 was about 1.2 percent of the total harvest amount.

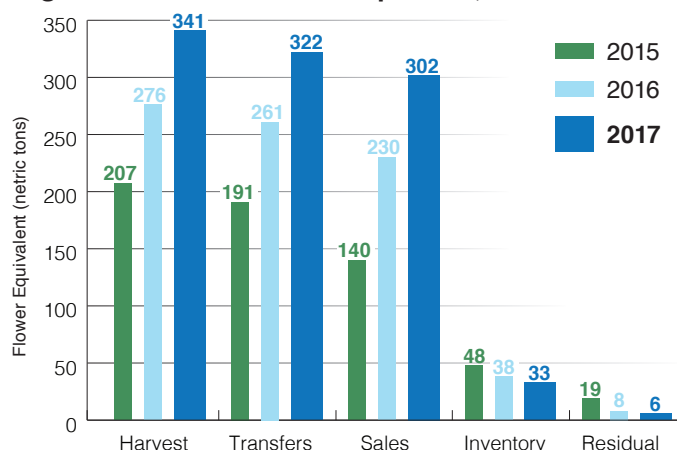
The trend over the last three years shows a decreasing residual as a percent of total production volume over time, 9.2 percent to 2.9 percent, and down to 1.8 percent in 2017, which indicates broad improvement in compliance, more accurate reporting, better internal controls, and other factors maintaining the tracking within the system from harvest to final sale. For context, general retail shrink rates in the United States range from 0.28 percent to 2.25 percent.⁷

Figure 2. Statewide Product Flows, 2017



Source: MPG, LLC, State of Colorado.

Figure 3: Product Flow Comparison, 2015 - 2017



Source: Study team calculations using state harvest, transfer, and sales data.

⁷ According to the Global Retail Theft Barometer, general U.S. retail shrink rates are 1.27 percent. Shrink rates range from 0.28 percent (big box) to 2.25 percent (pharmacies) of sales.

Figure 3 shows the product flow totals and resulting residual totals for 2015 through 2017. Colorado regulators should compare the residual figure year over year going forward to establish standards for tracking residuals.

A number of potential factors contribute to the residual figure.⁸ A key factor is the seizure of marijuana and marijuana products by law enforcement when licensees are found to be in violation of state and/or local regulations. Licensees are required to destroy non-compliant product. Another factor is the drying process as there is no standardized time in regulation to weigh the cultivated products, and the weight changes over time as the water continues to evaporate from the flower.⁹

Additional factors include failure to meet quality assurance standards, losses during the harvest and trimming process, inefficient extraction processes, inaccurate scales at harvest or sale, sales entry errors and withdrawal from packages (e.g., package adjustments without a corresponding sale), retail inventory shrinkage from employee theft or shoplifting, and potential diversion of product outside regulated channels.

The state's inventory tracking system, combined with a risk-based approach to field investigation and enforcement, allows regulators and the law enforcement community to effectively partition different components of the statewide product flows into compliant and non-compliant categories. Regulators continuously monitor product flows and take regulatory or criminal enforcement actions where necessary.

2.3 COLORADO RESIDENT & VISITOR CONSUMPTION ESTIMATION

Best practice resident consumption estimates combine the prevalence, frequency, and average quantity consumed by different consumer types together with population data. Surveys on marijuana consumption quantity are typically described using flower weight, such as “grams per day” of marijuana flower.

The study team compares actual supply and demand figures from the inventory tracking data with updated resident and tourist consumption estimates to better understand the components of demand and to estimate how much of the existing illicit market is now captured by the regulated market.

The analysis builds off the estimation methodology used in the 2014 Market Size and Demand Study—incorporating new marijuana prevalence survey data and updated visitor consumption estimates. Colorado resident consumption, which was referred to as “demand” in the 2014 study, is updated using new data from the Substance Abuse and Mental Health Services Administration (SAMHSA) National Survey on Drug Use and Health (NSDUH) and the Colorado Behavioral Risk Factor Surveillance System (BRFSS).

Potential Factors in Residual Amount

- Seizure or destruction of product by law enforcement due to regulatory infringement
- Wet versus dry weight entries — post-harvest curing and drying (typically 2 - 4 weeks) can lead to sizeable weight differences.
- Underreporting entry errors in the inventory tracking system database
- Extraction yield inefficiencies
- Removal of product for quality assurance purposes
- Supply chain product loss
- Retail inventory shrinkage
- Potential diversion of product outside regulated market

Use Amounts per Day

Heavy marijuana consumers have been found to consume approximately 1.6 grams of flower per day. This corresponds to inhaling roughly 314 milligrams of THC per day based on 2017 average potency in Colorado of 19.6% THC content for flower.

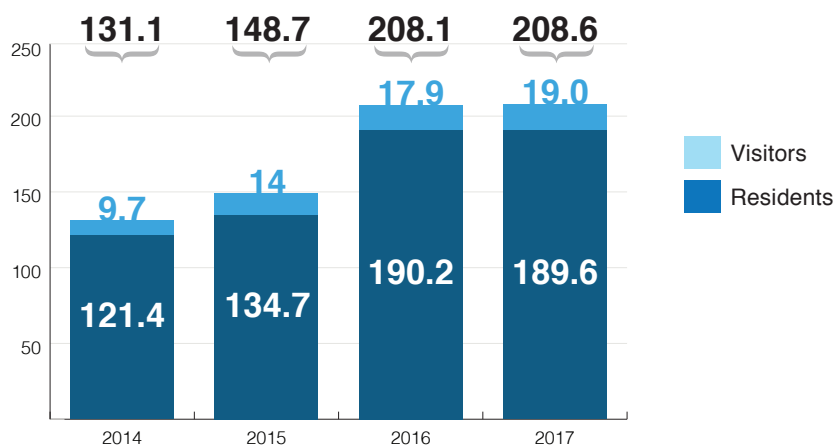
The amount of plant material necessary to produce 314 milligrams of THC will be different if the consumption method is flower, concentrates or infused products.

⁸ The inventory tracking data reveals a total residual amount but the breakdown of residual amount by factor could not be quantified.

⁹ A survey of relevant literature indicates typical drying periods range from 2 to 4 weeks and weight loss throughout the drying process averages between 15 percent and 70 percent, largely dependent upon individual strains and local climate.

Combining these data sources, we estimate total annual resident consumption to be 189.6 metric tons of flower and another 19.0 metric tons for state visitors for a total consumption of 208.6 metric tons. Figure 4 provides a summary of Colorado resident and visitor marijuana consumption estimates over the last four

Figure 4. Colorado Resident and Visitor Marijuana Consumption Estimates, 2014-2017 (Metric Tons)



Source: SAMHSA NSDUH 2014-2016; 2014-2016 Colorado BRFSS. Study team calculations.

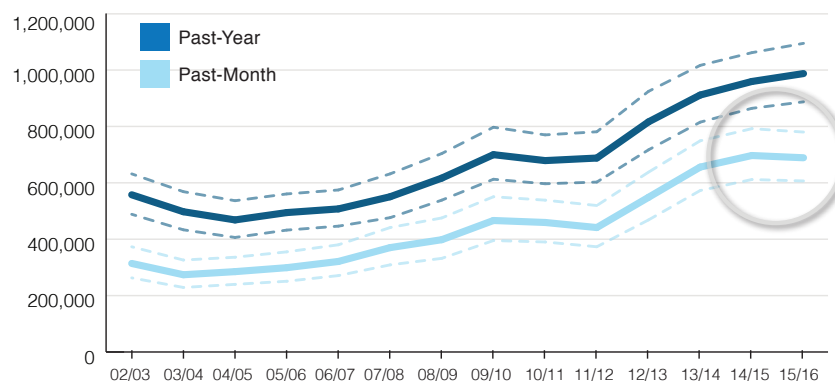
years. Growth trends are described in detail in the subsequent discussion and in Appendix A.

Marijuana consumption estimates increased steadily between 2014 and 2016 and plateaued between 2016 and 2017. The increase in estimated consumption between 2014 and 2016 can be linked to different factors, including higher consumer prevalence, higher frequency of use, and an increase in tourist visits and the state population. The decline in estimated resident consumption in 2017 can be traced to the number of reported past-month marijuana consumers. Rather than continue to increase as it has between 2014 and 2016, the number of past-month consumers decreased from 17.1 percent to 16.6 percent.

Resident Consumption Estimates

According to the NSDUH survey, the number of past-month consumers in Colorado increased by about 56 percent between the 2011/2012 survey (captured during the last year before legalization) and the most recent 2015/2016 survey (highlighted below). “Past year” consumers – who did not consume in the past month, increased by about 44 percent. Figure 5 shows the number of adult residents who reported using marijuana products within the past year and the past month, respectively. The solid line shows the point estimate and dotted lines show upper and lower bound estimates.

Figure 5: Colorado Past-Year and Past-Month Adult Marijuana Consumers



Source: SAMHSA NSDUH. 2002/03-2015/16 Population Estimates.

Total resident demand is calculated by combining estimates of adult population, marijuana use prevalence, frequency of use, and typical daily use quantities. Table 1 presents 2017 consumption estimates for Colorado residents, showing a point estimate of 189.6 metric tons. Appendix A provides a detailed discussion of the methodology.

Table 1: 2017 Consumption by Colorado Residents Age 21+ (in Metric Tons)

Frequency of Group Use (days per month)	“Group Population”	“Annual Usage Quantity (Metric Tons)”			Share of..	
		Lower Bound	Mean Estimate	Upper Bound	Users	Demand
Less than once	297,592	0.4	0.7	1.3	30.2%	0.3%
1-5	216,387	4.1	6.4	9.0	22.0%	3.4%
6-10	68,694	3.5	5.4	7.7	7.0%	2.8%
11-15	58,390	4.8	7.5	10.6	5.9%	3.9%
16-20	78,998	9.0	14.0	19.8	8.0%	7.4%
21-25	42,590	17.0	20.9	24.8	4.3%	11.0%
26-31	221,882	109.6	134.9	160.2	22.5%	71.1%
Total	984,534	148.3	189.6	233.4	100.0%	100.0%

Source: Study team calculations.

Visitor Consumption Estimate

To calculate visitor demand, the study team uses official 2016 state tourism data¹⁰ and national marijuana use survey data to project marijuana consumption patterns for visitors from different regions. In 2016, Colorado welcomed approximately 17 million out-of-state day visitors and 26.7 million out-of-state business and leisure overnight visitors, with an average length of stay of 3.6 days. The state tourism report provides the state of origin and age profile for each type of visitor. Combining these data with NSDUH survey data on adult use prevalence in each state, the study team estimates the number of annual marijuana use days by overnight and day visitors from each state, shown in Table 2 below.

Table 2: 2016 Out-of-State Visitor Marijuana Use Days, by Origin

State of Origin	% of Visitor Use Days	Visitor Use Days
CA	19.4%	3,477,792
NY	8.7%	1,068,146
FL	7.6%	923,487
TX	6.0%	1,369,107
IL	5.2%	1,555,775
KS	3.6%	516,158
NM	3.4%	31,215
AZ	2.9%	61,379
VA	2.1%	604,685
WY	0.3%	645,481
NE	0.2%	376,394
Remainder	40.7%	7,301,562
TOTAL	100.0%	17,931,182

Source: Longwoods International. Colorado Travel Year 2016. June 2017. Study team calculations.

¹⁰ 2017 tourism data were not available at report publishing time.

Based on the data, approximately 6.5 million out-of-state visitors had 17.9 million marijuana use days in 2016. Tourist data for 2017 was not yet available, so the study team assumes 2017 tourism grew six percent¹¹, bringing marijuana use days to 19.0 million. Based on national survey data, visitors consume one gram of marijuana flower per use day while visiting Colorado. These figures combine for a total visitor demand of 19.0 metric tons of marijuana flower in 2017. Estimates for visitor demand reflect increased tourist visitation, higher state and national prevalence rates, and a wider acceptance nationwide for marijuana use over previous years.¹²

Total resident and visitor consumption figures are presented in Table 3.

Table 3: 2017 Resident and Visitor Marijuana Use Days and Consumption Quantity

	Residents	Visitors	Total
Adult Marijuana Users	984,534	6,467,952	7,452,486
Annual Marijuana Use Days	139,107,010	19,007,053	158,114,064
Annual Demand (Metric Tons)	189.6	19.0	208.6
Annual Demand (Range)	(148.3 - 233.4)	(14.3 - 23.8)	(162.6 - 257.2)

Source: Study team calculations.

The study team estimates total 2017 resident and visitor consumption estimates for Colorado marijuana to be 208.6 metric tons, with residents' consumption at 189.6 metric tons and visitors at 19.0 metric tons.

2.4 Comparing Supply, Demand and Consumption

Using official data from Colorado's inventory tracking system, the study team can evaluate how resident and visitor consumption estimates compare to actual marijuana demand from official state data.

Bringing together actual demand (301.7 metric tons flower equivalent) and estimated consumption (208.6 metric tons flower), a noticeable difference is observed across these two values. As presented in Table 4, actual demand for Colorado marijuana exceeds the theoretical resident and visitor consumption point estimate by 93.1 metric tons of flower equivalent. A full discussion of results follows.

Table 4: 2017 Supply-Demand Balance Overview

Category	Value (Metric Tons)
Marijuana Demand - 2017 (Flower Equivalent)	301.7
Estimated Colorado Resident and Tourist Consumption	208.6
Potential Excess Demand	93
Range	44.5 – 139.1

Source: METRC; Study team calculations.

The difference between actual demand and estimated demand could vary between 40-140 metric tons based upon the range of estimated consumption (see appendix A).

¹¹ Colorado Business Review. https://www.colorado.edu/business/sites/default/files/attached-files/cbr_2017_issue_2.pdf

¹² The study team applies the same underreporting adjustments to tourist demand as it did to resident demand.

Discussion

The comparison in this study provides a better understanding of overlapping marijuana supply and demand – in legal and illicit markets. In 2014, the study team estimated that about 65 percent of resident and visitor consumption would be supplied through legal channels. The 2014 result suggests the presence of a lingering illicit marijuana market for Colorado residents and tourists to purchase marijuana outside of the regulated market.

In 2017, the results suggest that the state’s pre-existing illicit market for residents and visitors has been fully absorbed into the regulated market, which was a key goal of the voter-approved ballot measure in 2012 and subsequent state implementation efforts.¹³ These results also suggest there is additional demand for Colorado marijuana that is not quantified in standard resident and tourist consumption estimation techniques.

It should be noted that the supply and demand estimates include only the MED-regulated market. The figures do not include legal home grown and medical marijuana caregiver supplies, which are not considered part of the regulated market. Including these relatively small and hard-to-quantify supplies would increase the marijuana supply figures presented in this report. The study also does not consider the segment of the illicit market that grows and supplies marijuana outside of the regulated market in Colorado, often in unpermitted home grows, with the specific intention of selling outside of the state. The study only considers consumption of marijuana by Colorado residents and tourists, which can now be fully supplied by the regulated market.

Supply, demand and estimated consumption have changed in this study, because unlike previous studies, this assessment uses official sales data and converts these sales into flower equivalent, something that has not been done before. A combination of the following factors can influence the estimate of supply, demand and estimated consumption:

- **At home inventory.** The Colorado resident and tourist consumption estimate is a measure of how much marijuana is consumed by residents and tourists and says nothing about actual consumer purchases. Conversely, the official sales data that are converted into flower equivalent says nothing about how much is being consumed. As with other consumer products, it is highly likely that some marijuana consumers will purchase a product that is kept for a long time or never completely consumed, creating a statewide home inventory of marijuana products that are captured in the demand figure but not the consumption estimate.
- **Non-flower products.** The federal NSDUH prevalence survey and existing consumption surveys do not account very well for the presence of non-flower products. Non-flower products are relatively new and federal surveys have not been fully adjusted to account for their use. While the study team converts non-flower sales into marijuana flower equivalent, consumers may be effectively purchasing more non-flower products on a flower equivalent basis than if they purchased flower itself—the novice or average consumer may find it difficult to conceptualize 100 mg of edible products or 0.5 g of concentrate product. If this is the case, as non-flower product market share increases, this discrepancy will become more pronounced. This also demonstrates the need to better understand frequency of use and usage patterns associated with non-flower products.
- **Visitor quantification.** The study team’s methodology for calculating visitor marijuana demand relies on visitors’ state of origin and applying the corresponding federal NSDUH survey data. State tourism accounting likely does not accurately capture the number of “sole-purpose” visitors—those visitors choosing Colorado exclusively for its legalized marijuana market, and the existing consumption surveys do not account for the likely higher than the average consumption from those visitors.
- **Excluded age cohorts.** The consumption estimate only includes individuals age 21 and over, the legal age to purchase regulated marijuana in Colorado. However, the NSDUH survey data show that there are individuals under the age of 21 who

¹³ Colorado Constitution, Article XVIII, Section 16, Subsection (1)(b)(iv)

consume marijuana, and it seems reasonable that the source for some portion of the marijuana consumed is from the regulated market (initial purchaser of marijuana could be of legal age).

- **External demand.** None of Colorado's bordering states have adult use marijuana markets; in fact, Colorado is the closest regulated adult use market to the major population centers in the Midwest and East Coast (as of December 2017). Marijuana products are significantly more valuable in states with prohibitive marijuana policies. There is a strong profit incentive to buy marijuana in Colorado for transport to other states, where it is more legally risky and difficult to obtain. Observed regional sales data (presented in Section 3.5.2) indicate high per capita sales in several border regions, which further supports the existence of sales in these areas to non-residents who drive to Colorado to purchase marijuana legally and then return to their origin. This illegal activity is expected to decrease as other states adopt less-prohibitive policies towards marijuana.

The study signals the need to monitor and establish standard values for key regulatory performance metrics (i.e., demand, inventories, residual values, consumption) over time, and in comparison to other states with regulated markets. The flower-equivalent measures employed in this analysis could prove to facilitate more meaningful analysis of non-flower product relation to flower and trim inputs and inventory trends.

Stakeholders should also work to improve demand-side data collection, which will allow for improved accuracy of resident and visitor consumption estimates. The analysis identifies the need to improve upon current survey efforts, which target many forms of substance use and mental health issues, by focusing more closely on marijuana consumption in its varying forms. Currently, the surveys only include questions on marijuana flower consumption.

When taken together, however, the results of the study indicate that the illicit market for resident and visitor marijuana has been largely, if not entirely, absorbed into the legal market, where it is regulated and taxed for the protection of public health and safety.

3 REGULATED MARKET TRENDS

This section provides an in-depth analysis of regulated market trends in Colorado, which is the longest operating and, arguably, most sophisticated legal market in the nation at the present time. The regulated market trends are particularly interesting in the context of Colorado's legalization approach versus different approaches taken in other states and countries. These trends may assist policymakers to see how markets might evolve in their own state or country. Of course, where other jurisdictions choose different rules from the Colorado model, one can expect different outcomes.

Key Findings

This section contains detailed time series and geographical depictions of trends and patterns in both the medical and adult use marijuana markets. All data in this section are sourced from the state inventory tracking system. Over time, the regulated market has evolved in prices and potency, while the characteristics of local marijuana markets within Colorado vary greatly. These trends and patterns are likely influenced by several factors. Several key findings emerge from these analyses and are summarized below.

Regulated Marijuana Market Product Pre-tax Price Trends

- Adult use prices are declining in general. From 2014 through 2017, average annual adult use flower prices fell 62.0 percent, from \$14.05 to \$5.34 per gram weighted average. Over the same period, adult use concentrate prices fell 47.9 percent, from \$41.43 to \$21.57 per gram. Adult use infused edible prices hovered around \$18.00 per 100mg package but have not exhibited a consistent trend over time.
- Prices for medical marijuana products have declined over the past four years at a pace similar to the adult use market (in terms of percentage decline). Average medical flower prices fell 40.9 percent, from \$5.55 per gram in 2014 to \$3.28 at the end of 2017. Medical concentrate prices declined 34.6 percent, from \$25.83 per gram to \$16.89, over the same period, and the average price for a 100 mg medical infused edible hovered around \$9.00.
- Falling prices in both markets have several implications for consumers, producers, and governments. For consumers, lower prices mean more affordable marijuana, which will likely increase overall demand and total sales, but may also increase addiction and dependency rates.¹⁴ In most cases, producers and retailers operate with narrowing profit margins as prices fall, putting pressure on the less-efficient and often smaller businesses. Since sales tax revenues are based on retail prices, per unit tax revenues will fall as prices fall. However, public revenues will likely continue to rise if sales volumes are increasing overall. As market growth slows and prices fall, tax revenues will eventually plateau.

Marijuana Product Potency Trends

- According to state testing data, average marijuana flower potency has increased slightly since 2014. While the data contains some flower samples with up to 30-35 percent THC, the average THC content of all tested flower in 2017 was 19.6 percent statewide compared to 17.4 percent in 2016, 16.6 percent in 2015, and 16.4 percent in 2014. This trend indicates a slow but steady increase in flower potency.
- The average potency of concentrated extract products increased steadily from

¹⁴ American Society of Addiction Medicine. https://www.asam.org/docs/default-source/public-policy-statements/state-level-proposals-to-legalize-marijuana-final2773DD668C2D.pdf?sfvrsn=e6c7ad4_2

56.6 percent THC content by weight in 2014 to 68.6 percent at the end of 2017. While there are concentrate products with potency at 90 percent or above, such products are outliers, and when considering all forms of concentrates (wax, shatter, oil, vape pens, etc.), the true average is much lower.

- The increase in average potency, combined with falling prices, result in falling prices per “serving” of THC for most products on the market. This trend means that consumers can achieve the same psychoactive and therapeutic effects at lower prices as the market continues to mature.

Geographical Trends

- Edibles account for 13 percent of the overall adult use market, but account for nearly 25 percent of the market in tourist areas.¹⁵ For individuals traveling to tourist destinations, edibles provide a smokeless form of consumption that may appeal to inexperienced marijuana consumers, non-smokers or tourists with limited spaces for consumption.¹⁶
- Higher marijuana prices are more common in areas with fewer dispensaries compared to tourist areas. This pattern suggests that competition is a more important factor for regional pricing and margins than tourist demand.
- Per capita sales are high in regions with large numbers of annual visitors, including border regions, which indicates that visitors account for a sizable portion of sales.
- The medical marijuana market still accounts for a major component of the overall marijuana market in the Front Range and Denver Metro area. Colorado lawmakers, regulators, and researchers did not necessarily expect a medical market of this size to endure since there would be no barrier to accessing the adult use market beyond proof of age, whereas medical patients must qualify and apply for a medical card.¹⁷ The lower pricing and abundance of medical marijuana centers are attractive to the patient population that is more likely to live near or travel to the more developed Front Range medical infrastructure.

3.1 PRICE TRENDS BY UNIT AND WEIGHT

The study team computed the weighted-average pre-tax price of marijuana products for each regulated market based on state inventory tracking sales data.

In general, average prices for adult use marijuana products declined significantly from 2014 to 2017. The largest price declines were seen in concentrates¹⁸, which fell 47.9 percent, from \$41.43 to \$21.57 per gram. The price of one gram of adult use flower exhibited a steady downward trend, decreasing 62.0 percent, from \$14.05 to \$5.34 per gram. For the past three and a half years, packages of adult use infused edible products containing 100 mg of THC stayed relatively constant around \$18, with no clear trend over time.

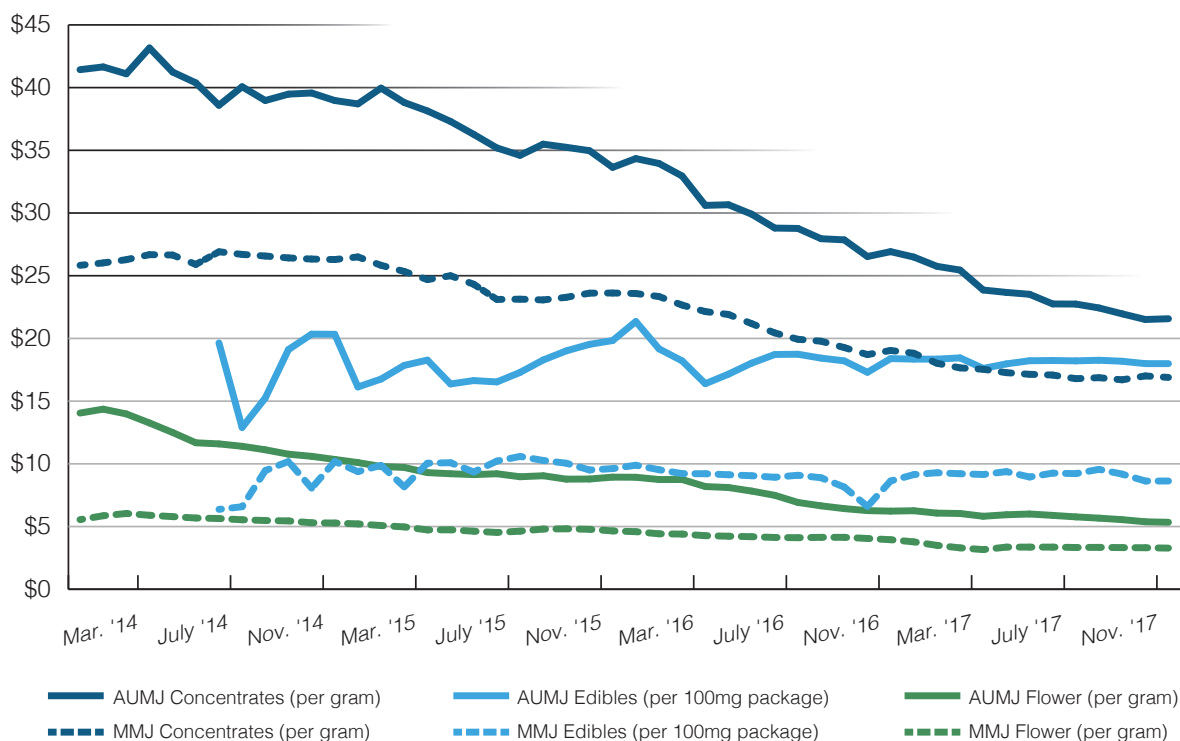
From 2014 to 2017, the average price per gram for medical flower fell 40.9 percent, from \$5.55 to \$3.28 per gram. Over the same period, the price of concentrates in the medical marijuana market decreased 34.6 percent, from \$25.83 to \$16.89 per gram. Medical infused edibles sold in 100 mg THC packages have consistently cost around \$9.00, with a slight downward trend over time. Figure 6 illustrates the price trends for these marijuana products in both markets.

¹⁵ Tourist areas for this report are defined as Clear Creek, Eagle, Gilpin, Grand, Gunnison, Pitkin, Routt, San Miguel and Summit Counties.

¹⁶ Public consumption of marijuana products is forbidden in Colorado and most hotels do not allow smoking or vaporization indoors.

¹⁷ See Scott, Dylan. Marijuana Legalization Blurs Lines Between Medicinal and Retail Dispensaries. [Governing.com](http://www.governing.com/topics/public-justice-safety/gov-marijuana-legalization-blurs-lines.html), July 2013. <http://www.governing.com/topics/public-justice-safety/gov-marijuana-legalization-blurs-lines.html>.

¹⁸ It is important to note that there are many different types of concentrates (i.e., wax, shatter, oils, cartridges, etc.) with significantly different pricing. Businesses have the ability to individually identify each type in their unique way; because of this, it is difficult to separate each type so the prices presented here include all forms of concentrated extracts.

Figure 6: Price Trends for Marijuana Products in Colorado

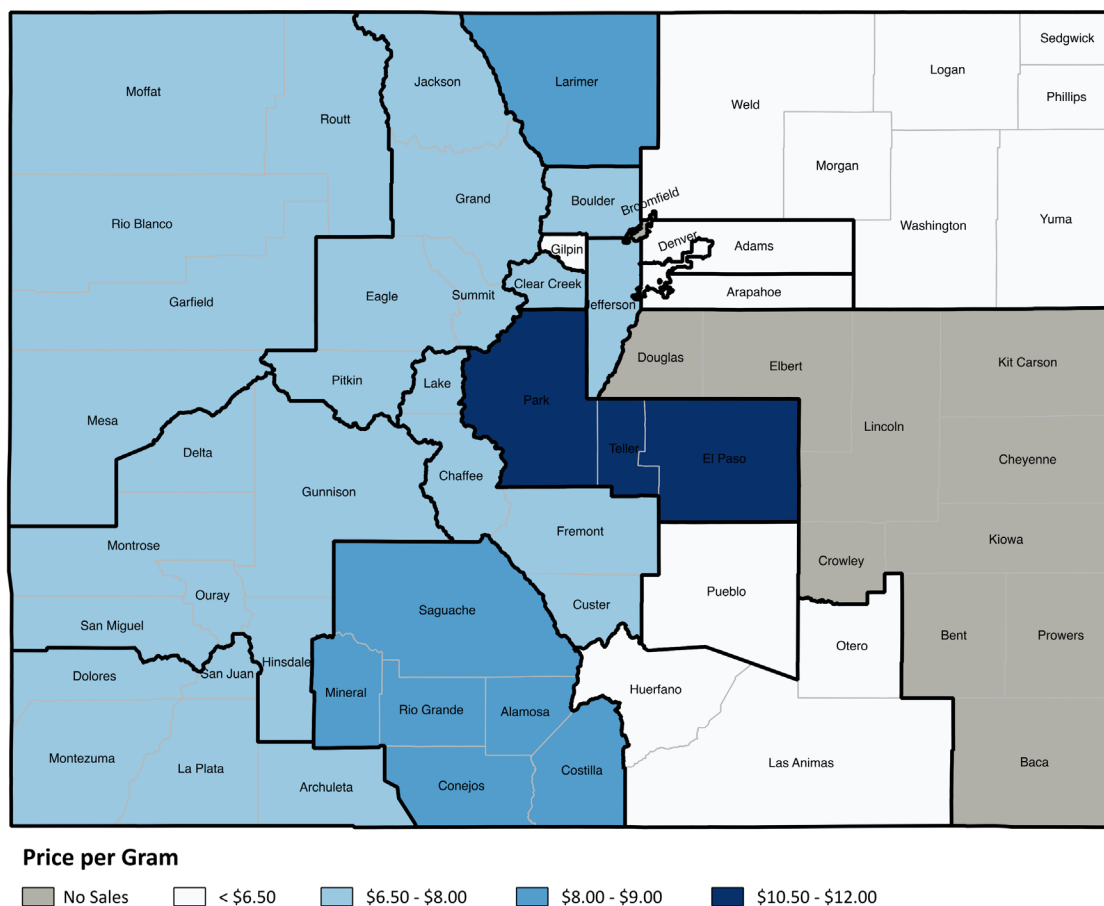
Source: Study team calculations using state sales data.

Prices exhibited substantial geographic variation within the state. In line with standard competition theory, regions with more outlets had lower average prices, and regions with few outlets had prices that were above the state average. The following figures illustrate the weighted-average regional price per gram of marijuana products in the adult use and medical marijuana markets.^{19,20,21}

¹⁹ In order to comply with state taxpayer confidentiality requirements and to provide consistency, we aggregate county-level data based on adjustments to the Colorado Planning and Management Regions as defined by the Colorado Department of Local Affairs.

²⁰ Under Colorado Revised Statutes §39-21-113(4), any data derived from taxpayer returns must be combined in order to protect the confidentiality of individual taxpayers when there are fewer than three taxpayers in a given category, or any one of them represents more than 80 percent of the total.

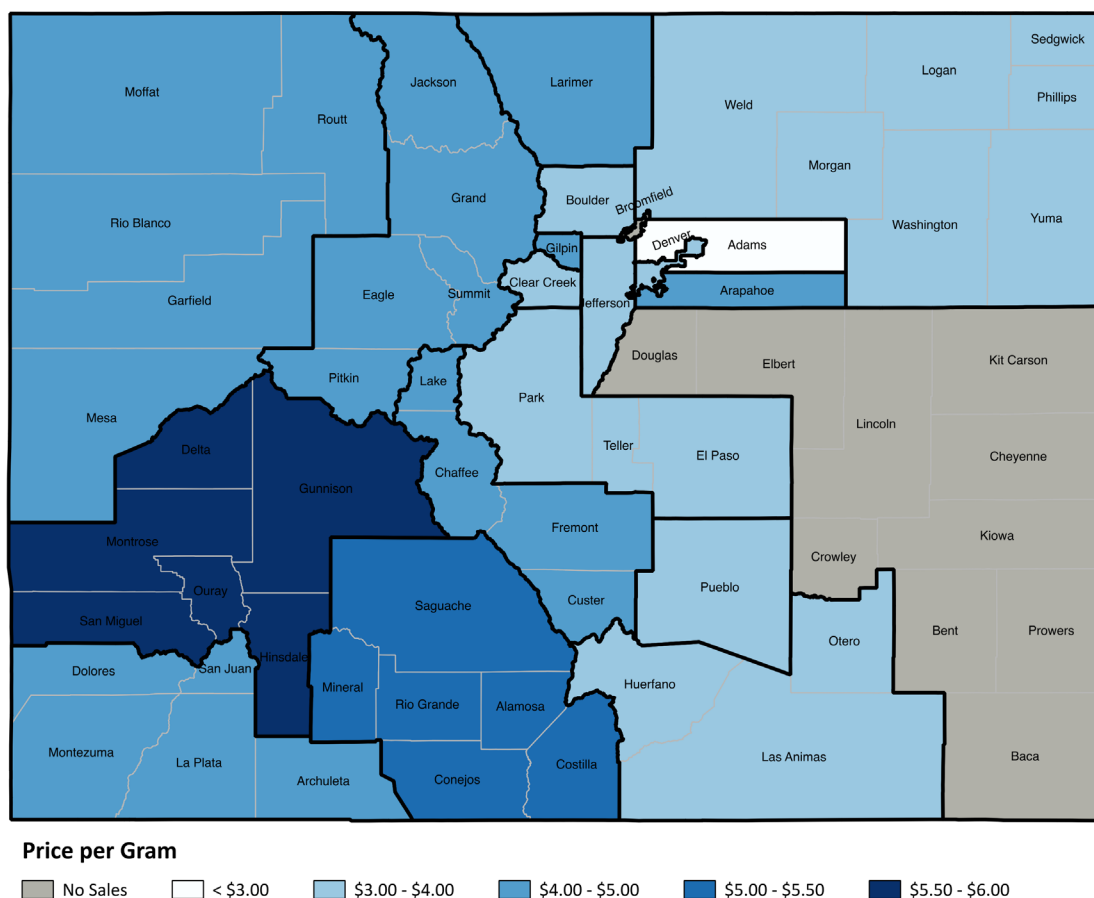
²¹ A map and table of the official Colorado Planning and Management Regions is included in Appendix B.

Figure 7. Adult Use Marijuana Flower – Weighted Average Price per Gram, 2017

Source: Study team calculations using state sales data.

The statewide average price per gram of adult use flower in 2017 was \$5.79. The lowest prices for adult use flower were found in Denver County at \$4.57 per gram. Adult use flower is also priced lower in the more populous counties along the I-70 corridor and in the central part of the state, ranging from \$6.50 to \$9.00 per gram. The most expensive adult use flower was found in Larimer County and the region comprising Park, Teller, and El Paso counties, with weighted average per gram prices of over \$8.30 and \$11.75, respectively. In general, lower adult use flower prices tend to be found in counties with a high density of retail outlets, reflecting increased competition.

Prices in the medical market also vary across the state. Figure 8 below illustrates the geographic variation in medical marijuana flower prices.

Figure 8: Medical Marijuana Flower – Weighted Average Price per Gram, 2017

Source: Study team calculations using state sales data.

In 2017, the statewide weighted average price per gram for medical flower was \$3.36. The highest medical flower prices were observed in the counties of the Western Slope region (Delta, Gunnison, Montrose, San Miguel, Ouray, and Hinsdale), with an average price of \$5.52 per gram. As with adult use flower, lower prices are generally observed in the populous central regions and counties, with patients in Denver paying \$3.12 per gram, which is second only to Adams County at \$2.99 per gram.

Table 6 provides 2017 prices for four counties. Denver and Boulder counties represent typical metropolitan areas. Eagle and Summit counties characterize mountain resort areas where visitors engage in activities such as skiing, camping, and hiking. Summit County has the highest prices in three out the four product categories (adult use flower, medical flower, and adult use concentrate), while Boulder County has the highest price for medical concentrate. Denver has the lowest prices across all product categories.

Table 6: 2017 Pricing for Marijuana Products in Colorado

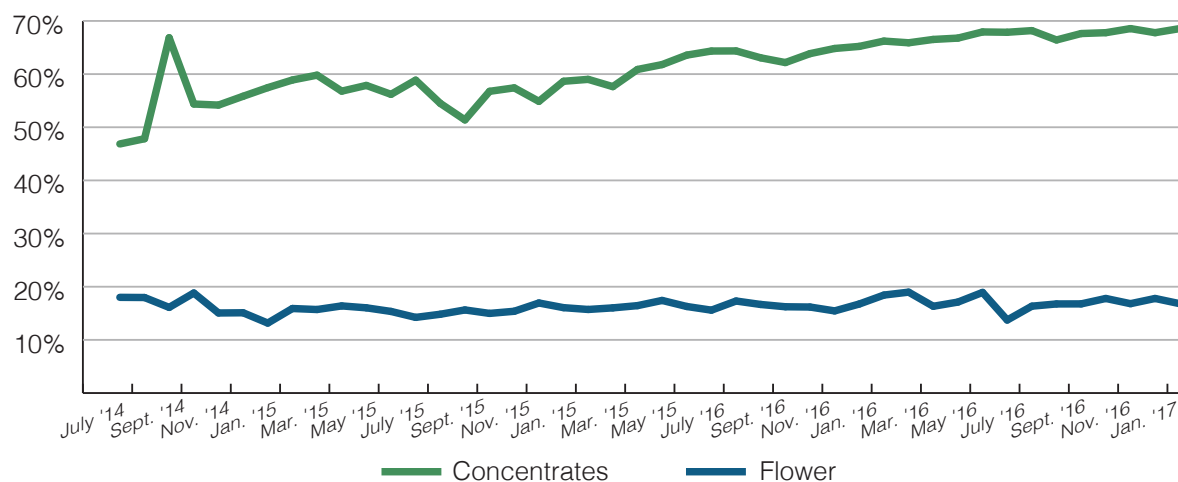
Market	Colorado	Denver County	Boulder County	Summit County	Eagle County
Price per Gram of Flower - 2017 Weighted Average					
Medical	\$3.36	\$3.12	\$3.90	\$4.37	\$4.46
Adult Use	\$5.79	\$4.82	\$7.05	\$7.17	\$7.08
Price per Gram of Concentrate - 2017 Weighted Average					
Medical	\$17.25	\$15.89	\$20.44	\$19.15	\$17.53
Adult Use	\$23.23	\$20.38	\$24.18	\$27.02	\$24.63

Source: Study team calculations using state inventory tracking data.

3.2 POTENCY TRENDS

In 2014, Colorado began implementing mandatory testing requirements for adult use marijuana products. Since then, potency and contaminant testing were required for adult use marijuana products, although similar regulations did not apply to medical marijuana products until November 2016. This state laboratory testing data allow the study team to examine potency trends for adult use flower and concentrates, illustrated in Figure 9 below.²²

Figure 9: Potency Trends for Marijuana Products in Colorado



Source: Study team calculations using state laboratory testing data.

The average potency of flower has remained fairly steady from 2014 through 2017, with a slight increase in trend from 16.4 percent in 2014 to 16.6 percent in 2015, 17.4 percent in 2016, and 19.6 percent in 2017.²³ In 2017, the highest flower potency consistently observed was between 20 and 25 percent.²⁴ The relatively flat trend in flower potency suggests that while a small number of skilled growers are able to achieve high THC content, the average grower is producing only a slightly more potent flower over time.

The average potency of concentrated products has increased steadily since 2014, from 56.6 percent to 68.6 percent at the end of 2017, a 21.2 percent increase. As with flower, certain concentrate batches tested significantly higher than the average potency, with several observations over 80 percent. In recent years, the proportion of higher-potency concentrates has increased significantly. In 2015, only 5 percent of the testing results for concentrates were higher than 75 percent THC content. However, in 2017 the share of concentrate test results with over 75 percent THC increased to 24.7 percent.

The market for concentrates has evolved rapidly with a wide range of products, such as wax, shatter, oil, vaporizer cartridges, etc., each with varying average levels of THC. The state laboratory testing data do not allow us to reliably distinguish between these subcategories of concentrates, and future research with improved data will provide more insights into the range of concentrates on the market and the trend toward higher-potency products.

3.3 “PRICE PER SERVING” TRENDS

The price trends discussed above use weight or unit measures to demonstrate the price. However, due to changes in potency and patterns of consumption, that simple pricing model is becoming less relevant. A new pricing model—called the “price per serving”—can reveal more directly how much consumers are paying to achieve the same psychoactive effects across different product types and whether a “high

²² Due to the prevalence of dual-licensed businesses, medical and adult use products are often cultivated and produced in an identical manner. For flower and concentrated extracts, the product mix available in both markets is very similar. The study team considers potency testing results from the adult use market to also be representative of the medical market.

²³ Lab testing data reports THCa and THC content by weight; however, total active THC content is only realized once THCa undergoes decarboxylation. Prior to this conversion, THCa has a molecular mass that is 12.3 percent more than THC. To calculate pre-decarboxylation Total Active THC from the lab results for this report, the study team uses the following calculation for flower and concentrates: Total THC = THCa * (0.877) + THC.

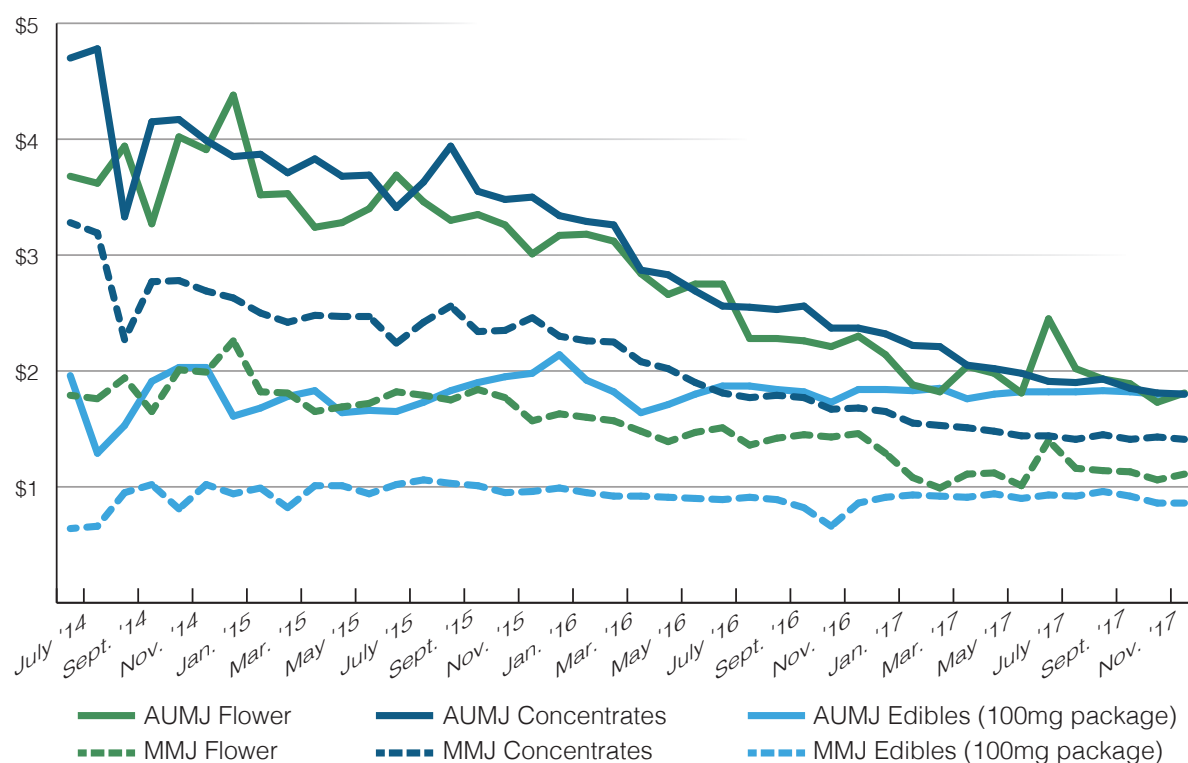
²⁴ The study team's potency calculation yields more accurate but slightly lower potency values than the commonly reported method of simply adding THC and THCa.

THC/low price” paradigm is emerging as concentrated products become more popular and as smoking flower marijuana becomes less prevalent.

We rely upon the state regulations that define a single serving for adult use marijuana edibles to be 10 mg of THC to derive the common denominator of a “serving.”²⁵ We do not attempt to specify exactly what a standard serving size is, but rather use the state’s description of one serving of edible THC as a basis for one “serving.” It is important to note that we use the word “serving” simply to describe a quantity of THC by consumption method, not as a reference to medical value or a recommendation to consumers.

The study team combines state price and potency data with the results from its 2015 equivalency study to make these calculations.²⁶ Ingested THC has a relative effectiveness factor of 5.71 compared to inhaled THC, so an equivalent serving size of smoked marijuana products (flower and concentrates, including hash, wax, shatter, and cartridges) is 57.1 mg of THC, based on the state designation of 10 mg of edible THC as one serving size for packaging requirement purposes. Combining the monthly average potency and weighted average prices per gram of each adult use product, the average price per serving can be computed for each product type.²⁷ Figure 10 illustrates how the price per serving of THC has changed over time for marijuana products in the adult use and medical marijuana markets.

Figure 10: Price per THC Serving Trends for Marijuana Products in Colorado



Source: Study team calculations using state sales and laboratory testing data.

In 2017, edibles purchased in 100 mg packages cost an average of \$1.80 per 10 mg serving of ingested THC in the adult use market and \$0.86 in the medical market. The price trends of infused edibles in both markets remained relatively flat over the past four years, although short-term fluctuations are observed.

The average cost of a 57.1 mg serving of inhaled THC from adult use flower has decreased 50.8 percent, from \$3.68 in 2014 to \$1.81 in 2017. A serving of THC from medical flower cost an average of \$1.11 in 2017, down 40.0 percent from the 2014 average of \$1.79. In both cases, the rate of decline in price-per-serving outpaced the price-per-gram declines, due to a combination of falling flower prices and slightly increasing potency from 2014 through 2017.

²⁵ Marijuana Enforcement Division - Code of Colorado Regulations (1 CCR 212-2). R 103 – Definitions. “Standardized Serving Of Marijuana” means a standardized single serving of active THC. The size of a Standardized Serving Of Marijuana shall be no more than 10mg of active THC.”

²⁶ Marijuana Policy Group. (2015). “Marijuana Equivalency in Portion and Dosage.” https://www.colorado.gov/pacific/sites/default/files/MED%20Equivalency_Final%2008102015_1.pdf

²⁷ The study team calculates potency as the total THC content, by weight (%), using the following calculation: THCa * (0.877) + THC.

The cost of a serving of THC from concentrated extract products exhibited the largest decrease of all marijuana products in both markets. The average price of a serving of THC from adult use concentrates fell 61.7 percent, from \$4.70 in 2014 to \$1.80 in 2017, while a serving from medical concentrates fell 57.0 percent, from \$3.28 in 2014 to \$1.41 in 2017. Once again, the price per serving of concentrated THC fell significantly faster than the per gram price of concentrates due to the increase in average potency from 2014 to 2017, coupled with a steady decline in concentrate prices.

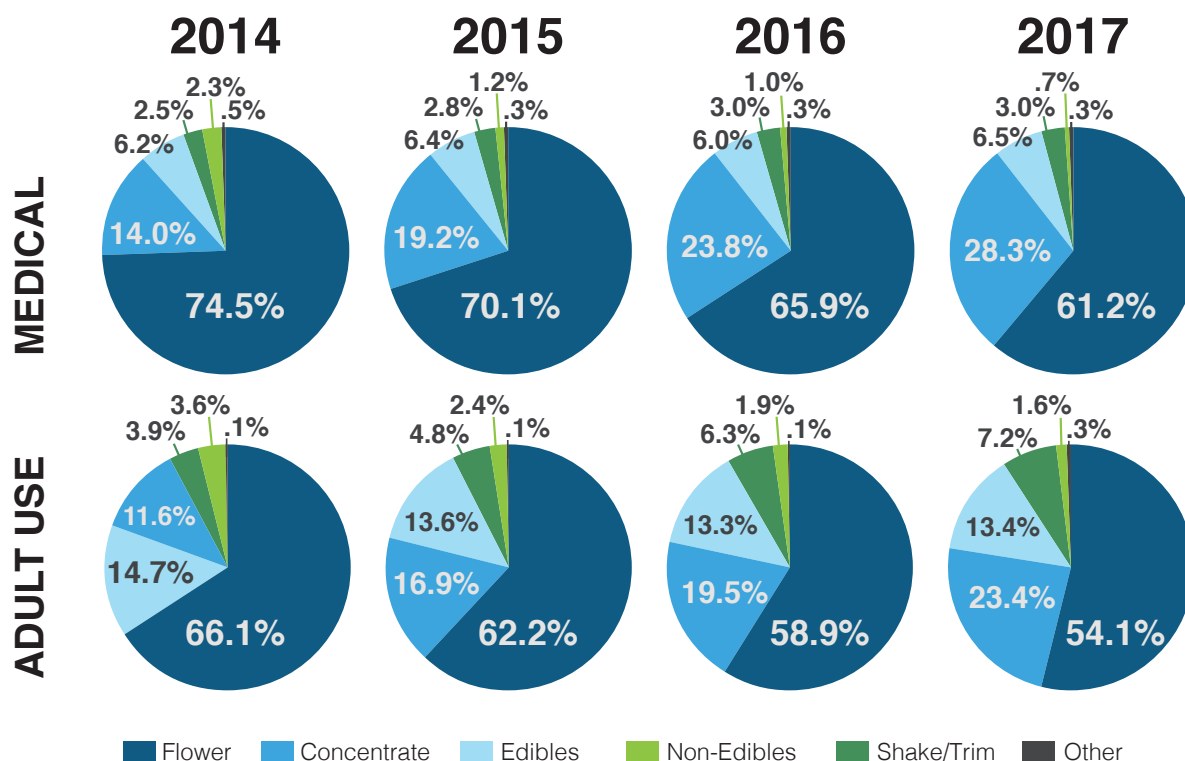
The trends presented above reflect an increasingly competitive market. As producers and retailers improve their operations and achieve economies of scale, prices have declined to account for lower production costs. At the same time, as the market matures and consumers grow accustomed to lower prices, producers and retailers are increasingly competing for business by offering lower prices.

3.4 PRODUCT SHARES

In order to understand the market shares for each marijuana product type, the study team examined inventory tracking system data on product sales by value. The study team calculated market shares for each product for the medical and adult use markets in 2014 through 2017. It is important to note that the product market shares by sales are different from the market share based on the flower equivalent quantities of each product sold (see Figure 3).

A notable shift in product mix occurred in both markets from 2014 through 2017. The proportion of flower sales decreased from 74.5 to 61.2 percent in the medical market and from 66.1 to 54.1 percent in the adult use market. At the same time, the share of concentrate sales increased steadily, from 14.0 to 28.3 percent in the medical market and 11.6 to 23.4 percent in the adult use market. This shift illustrates the continued growth in popularity of concentrates. The relatively stable market shares for other products, combined with the falling price per serving from concentrates, suggest that consumers in both markets are switching from flower to concentrates. Figure 11 illustrates the total sales and corresponding market share for each product type.

Figure 11: Product Type Market Share, by Year and Market



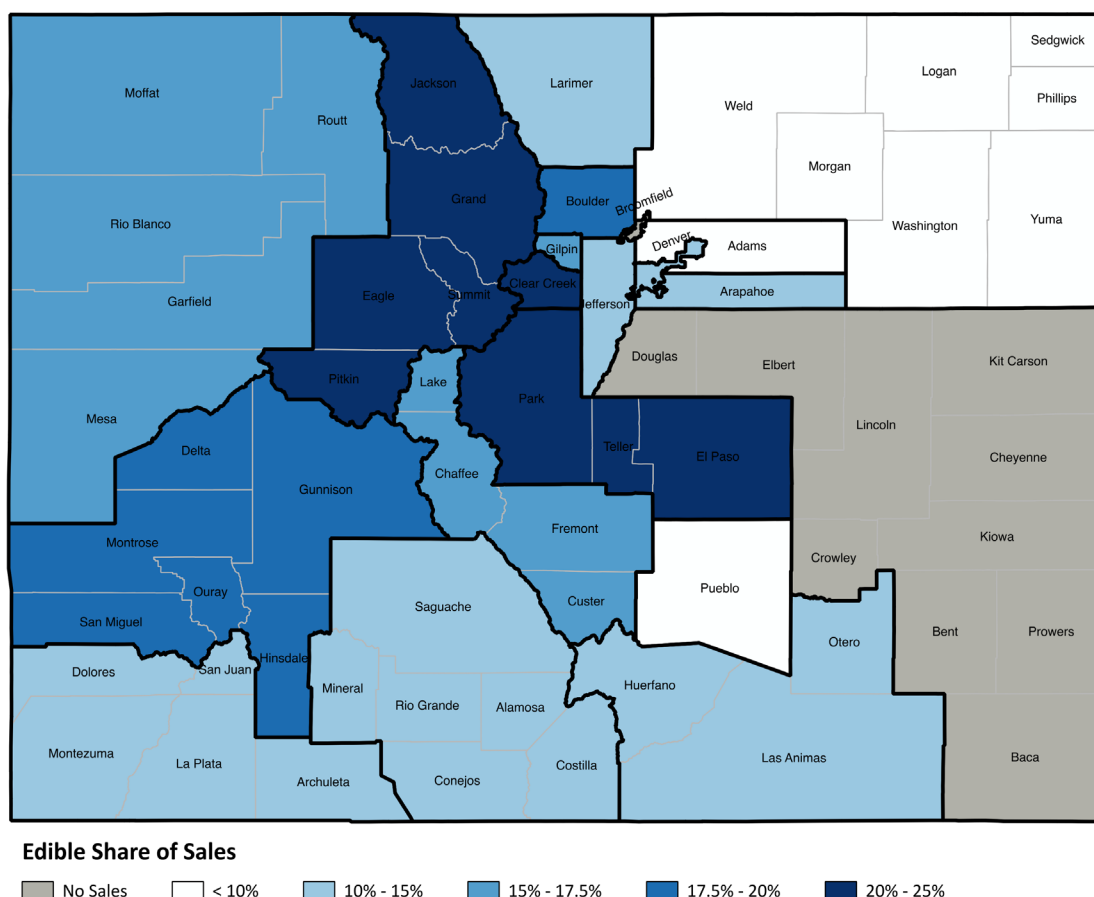
Source: Study team calculations using state sales data.

Note: "Other" sales includes immature plants, seeds and related products.

3.5 Regional Product Shares – Adult Use Marijuana Market

There are wide geographic differences in the market shares for marijuana products. Edibles accounted for 13.4 percent of all adult use marijuana sales in 2017. Figure 12 shows that edibles account for a sizable portion of all adult use marijuana sales in many areas. In the mountain tourist region (Jackson, Grand, Summit, Eagle, and Pitkin counties), central Colorado region (Park, Teller, and El Paso counties), and Clear Creek County, marijuana-infused edibles account for almost a quarter of all adult use marijuana sales. For individuals traveling to tourist destinations, edibles provide a smokeless form of consumption that may appeal to inexperienced marijuana consumers or non-smokers. Edibles also provide an inconspicuous consumption form for tourists given the illegality of consuming marijuana and marijuana products on public lands/public spaces, as well as many tourist accommodations (hotels, private rentals, etc.) banning marijuana use on the premises.

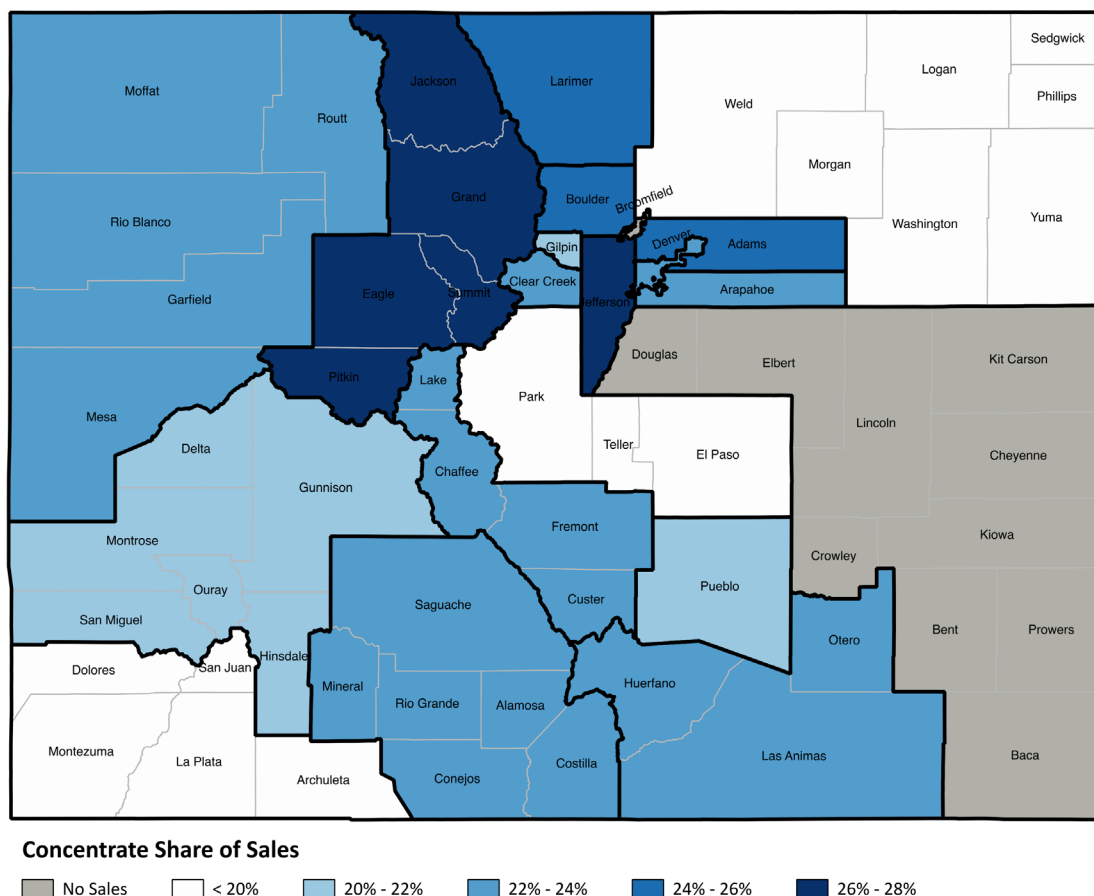
Figure 12: Infused Edible Share of Total Sales in Adult Use Market, 2017



Source: Study team calculations using state sales data.

Figure 13 illustrates the proportion of adult use marijuana sales of concentrated extract products. Statewide, concentrates made up 23.4 percent of all 2017 adult use marijuana sales. The share of adult use concentrate sales is particularly high in the mountain tourist region (Jackson, Grand, Summit, Eagle, and Pitkin counties) and Jefferson County, accounting for 27 percent and 26 percent, respectively. The northeastern region, southwestern region, and central region had the lowest concentrate share of adult use sales, all below 20 percent.

Figure 13: Concentrate Share of Total Sales in Adult Use Market, 2017

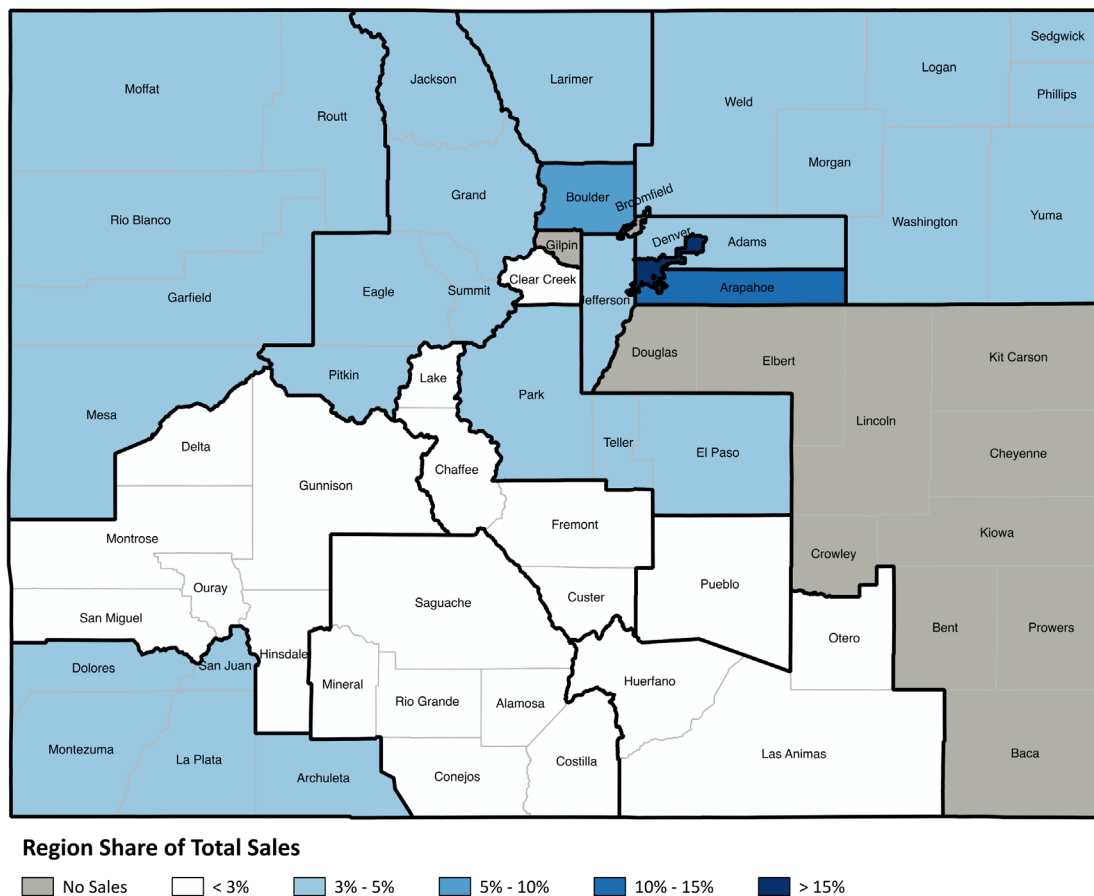


Source: Study team calculations using state sales data.

3.6 TOTAL SALES AND PER CAPITA SPENDING

Reflecting the state's population distribution, the majority of adult use marijuana sales in Colorado in 2017 occurred in Front Range counties. Figure 14 illustrates each region's proportion of the state's total marijuana sales in 2017.

Figure 14: Share of Statewide Total Adult Use Sales, 2017

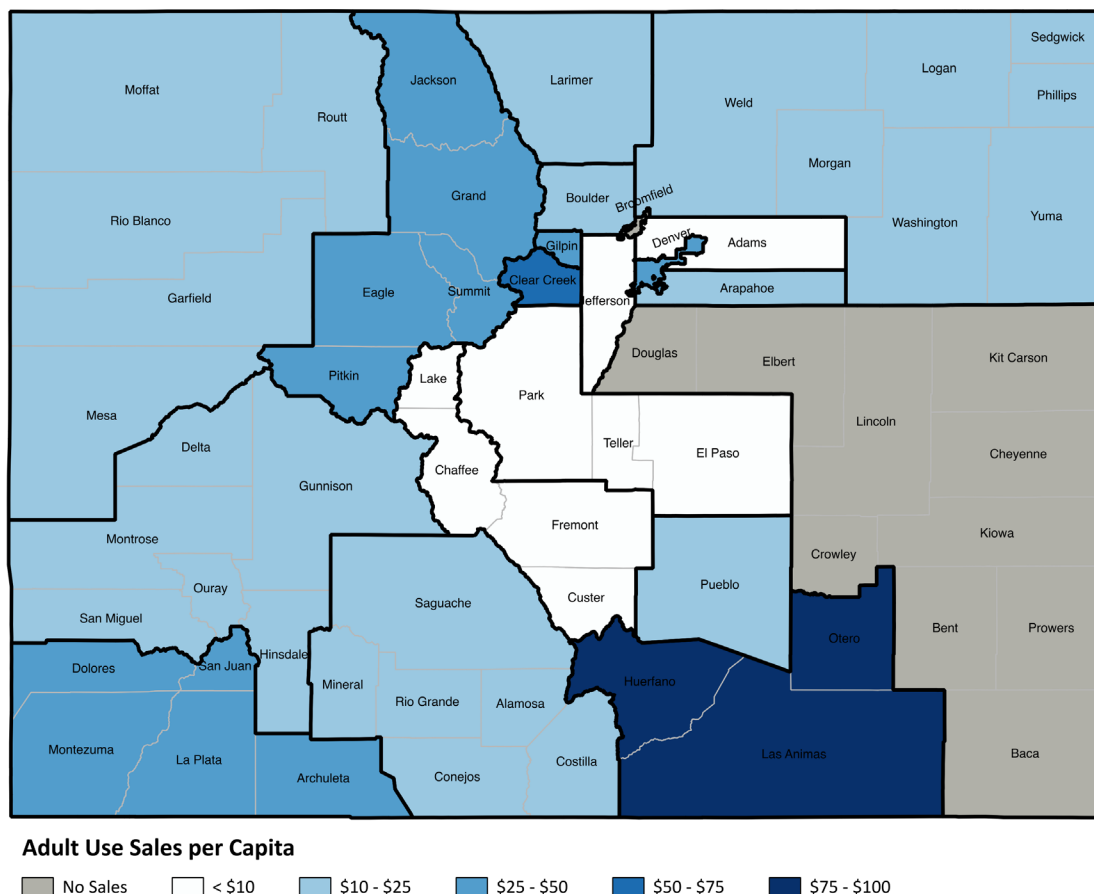


Source: Study team calculations using state sales data.

Denver County, which is home to 13 percent of the Colorado population, accounted for nearly 34 percent of all marijuana sales in 2017. The broader Denver Metro Area (Adams, Arapahoe, Broomfield, Denver, Douglas, and Jefferson counties)—51 percent of the state population) combined for 54.9 percent of the state marijuana sales, even though Broomfield and Douglas counties had no legal sales in 2017. The more populous Boulder and Larimer counties contributed 7 and 5 percent of all 2017 sales, respectively. In general, marijuana sales correlate closely with population. This pattern remains consistent across regions when distinguishing between adult use and medical marijuana sales.

Monthly per capita marijuana expenditure patterns also exhibit geographic variability across Colorado. The statewide average per capita monthly expenditures on adult use marijuana was \$16.46. Figure 15 illustrates the per capita adult use marijuana sales by region.

Figure 15: Monthly per Capita Adult Use Sales, 2017



Source: U.S. Census Bureau.
Study team calculations using state sales data.

The figure above reveals that the highest average monthly per capita sales of adult use marijuana occurred in the southern Colorado region comprising Huerfano, Las Animas, and Otero counties, with \$98 in adult use sales per month per resident. Clear Creek (\$60), Gilpin (\$50), and Denver (\$45) counties followed. The differences observed across counties is likely caused by a significant number of out-of-state visitor purchases, which inflate the per capita calculation. It is important to note that data are not available on the origin of marijuana consumers; these per capita figures therefore reflect the total sales to residents, as well as transient populations, tourists, and travelers along the main highways.

4 EMERGING TOPICS

4.1 LICENSE ALLOCATION

In Colorado, there are parallel licensing systems for medical and adult use production and retail facilities. In the adult use system, the state issues plant-count limits per licensee, and then the local jurisdiction can impose additional constraints. At the state level, each applicant receives an upper-limit for the number of plants that can be cultivated at one time. There are limits to the number of plants allowed per license and the number of adult use cultivation licenses per location. License holders can request a limit increase directly from the state to an adult use cultivation license so long as they can meet certain criteria²⁸, or they can increase their limit by obtaining additional licenses at other physical locations. While each licensee is limited, the state has not imposed a statewide limit for aggregate production.

As of June 2018, medical cultivators must be vertically integrated with medical centers and expand their plant count by signing up patients, each with an assigned plant count.²⁹ The same parallel state/local system described above applies to medical operations. A medical cultivator that is vertically integrated with a processing (MIP) license is capped at 500 plants.

Benefits and Risks of Alternative License Allocation Systems

The study team is frequently asked to explain the benefits and risks associated with different licensing schemes for marijuana cultivation, manufacturing, and retail businesses. The answer depends upon the specific goals set out by the regulatory agent and the type of market in question.

The approach in Colorado does not explicitly limit the number of cultivation licenses, but instead maintains high standards and quality requirements for license applications and ongoing operations. This is a free market-based approach, where the economic factors of price, supply, and demand are used to determine which licensees will ultimately succeed or fail over time. In most cases, the market-based approach is desirable because it helps identify winners and losers through competition without costly and sometimes ill-conceived administrative intervention.

However, because marijuana is a controlled substance and is illegal in other jurisdictions, two unique risks are associated with the current market-based approach for the adult use and medical marijuana licensing process and supply control mechanisms.

First, there is a risk that the unprofitable licensees will engage in noncompliant activity to improve profit margins. The second risk is overcapacity that causes price or quantity volatility in the marketplace. If supply were to rise significantly above demand, it would lead to market price declines. While such price volatility is fairly common in regular agricultural markets, it presents a specific risk to regulators for a controlled substance. In a typical market, there is a single market price (after allowing for transportation), so agricultural businesses cannot “divert” their product at a higher price. But due to legal prohibitions in other states, there are other marijuana markets with much higher prices, which creates incentives for product diversion. This effect is well-known in tobacco markets, where different tax regulations from state to state have led to smuggling operations between low-tax and high-tax states.³⁰

If these risks become a concern for Colorado, one of the alternatives is to begin restricting the number of licenses issued to control total potential output. There are several options for designing license restrictions. In general, the adoption of license restrictions is likely to bring a cost in the form of higher prices and a sharply higher incidence of rent-seeking activities. The flow of economic rents depends upon how a restricted set of licenses is allocated—either among licensees or to the government itself. A secondary concern is that higher-cost licenses and rents will eventually eliminate small and medium enterprises from the market. Only well-funded, large enterprises can afford to compete when there are high up-front costs and license fees. This effect can potentially accelerate the emergence of a “big marijuana” market outcome, which has been identified as a specific concern by drug policy experts in the past.³¹

²⁸ Production management criteria including sales history, plant count utilization rates, and current and future sales contracts. See MED Rule R 506. <https://www.colorado.gov/pacific/sites/default/files/ColoradoRegister.pdf1%20CCRB%20212%20-2%20Retail%20Effective%2002022018.pdf>

²⁹ This requirement has been in place since 2010 but will expire in July 2019. The state will then transition to a production management system similar to the adult use market. See House Bill 18-1381. <https://leg.colorado.gov/bills/hb18-1381>.

³⁰ Tax Foundation, Cigarette Taxes and Cigarette Smuggling by State, 2015. <https://taxfoundation.org/cigarette-tax-cigarette-smuggling-2015/>

³¹ New England Journal of Medicine, Vol. 371 No. 5, Big Marijuana—Lessons from Big Tobacco. <https://www.nejm.org/doi/full/10.1056/NEJMp1406074>

4.2 PLANT COUNTS AND UTILIZATION RATES

As shown in Table 7 below, total medical and adult use allocation in 2017 was approximately 2.5 million plants. This figure is thought to be inflated because of rule changes that occurred during 2015 and a resulting “no harm approach” taken by the state when slotting existing adult use cultivations into a new plant count tier system.³² Upon license renewal in future time periods, the utilization rate—defined as actual plant number usage over allotted plant usage—of these adult use cultivations will be analyzed and adjusted as necessary to reflect the actual utilization of the license. The 2017 utilization rate was 39% at the year-end.

Table 7: Total Plant Allocations and Market-Wide Utilization Rate (2017)

	Total	Medical	Adult Use
2017 Cultivation			
2017 Year End (Actual)	997,842	322,819	675,005
Allocations			
2017 Year End Allowed / Permitted	2,540,536	555,136	1,985,400
Utilization Rate			
2017 Year End	39%	58%	34%
Potential Harvest (Metric Tons)			
Flower Yield	711	155	556
Trim Yield	142	31	111
Total Material	853	186	667

Source: Study team calculations using state harvest and license data.

Some licensees use almost all their allotted plant counts (90%-100%), while others use very little or none of these allocations (0%-10%). In 2017, utilization rates were 1.7 times higher for medical licensees, at 58%, compared to adult use licensees, at 34%. Nine percent of license holders who obtained their state-level cultivation permits did not use them at all. Some of these license holders may be waiting for local-level approval before they can begin operations. Others may be holding permits speculatively, in case they become more valuable as they become scarce or more difficult to obtain in the future.

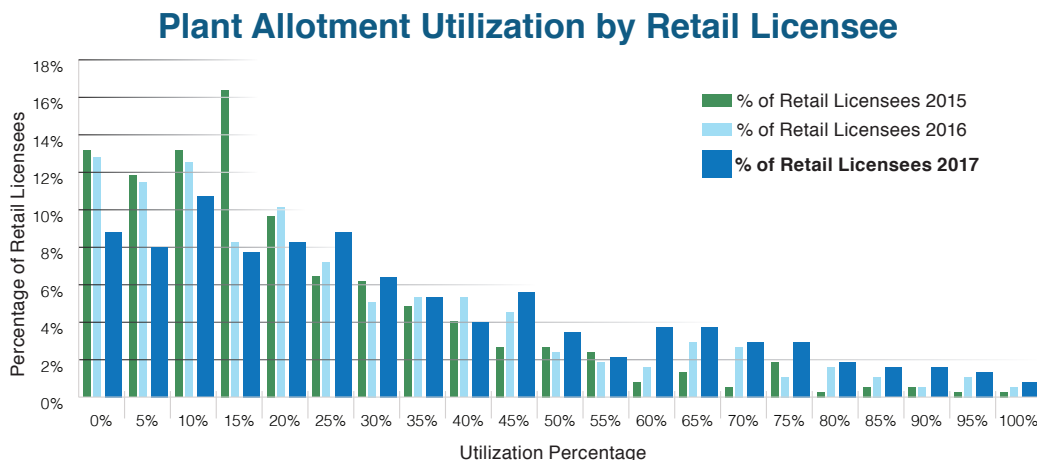
Using statewide totals, the study team calculates the average yield per plant per harvest at 70 grams of flower, plus 14 grams of trim (2.47 ounces flower, 0.49 ounces trim). Using this yield estimate and assuming four harvests per year, we find the total potential market supply was equal to 853 metric tons at the end of 2017. At the current rate of utilization (39%), Colorado cultivators produced a total of 340.7 metric tons of marijuana flower equivalent according to the state’s inventory tracking data.

³² The MED collapsed multiple licenses at a single address and allowed a licensee to keep the aggregate sum of the maximum plant count rather than forcing them to reduce the maximum authorized at a single address. This allowed licensees who had made business plans based on the original understanding of their maximum plant count to be unaffected.

Plant Count Utilization – By Licensee

To further understand allocation, results are presented by adult use cultivation licensee. This is shown in Figure 16 below.

Figure 16: Plant Count Utilization Rates for Colorado Adult Use Licensees - Organized into Histogram Bins (2015 - 2017)



Source: Study team calculations using state harvest and license data.

Figure 16 shows that most adult use cultivation licenses are less than 50% utilized and that about 9% of licensees did not cultivate any plants in 2017. As stated above, this may be related to timing as state licenses must be issued before local licenses, so that some operators may not have had local authority to start growing. If this is indeed the case, and more licensees will begin cultivating as soon as they receive local approvals, there will be increased supply in the Colorado marketplace, leading to more intense price competition and a potential for excess supply for 2018 and beyond. An additional consideration with the number of cultivation licenses issued is the possibility, and likelihood, that some operations exit the marketplace due to competition and inability to remain financially viable. Therefore, any concern over cultivation license utilization rates may be less pronounced, assuming a declining number of cultivation operations in the state.

4.3 MARKET CONCENTRATION AND CONSOLIDATION

For some drug policy experts, an emerging concern in the marijuana literature is the potential for “Big Marijuana” to emerge. This moniker describes the potential consolidation of the marijuana market until just a few, large entities exist that grow, manufacture, and distribute marijuana throughout the state or in multiple states. A fear of Big Marijuana is the potential that a large entity can exert strong lobbying pressure upon the government, in the mold of the tobacco industry in the 1960s and 1970s. These entities would be expected to encourage consumption of marijuana, especially among the heaviest consumers, which could lead to increased dependence and the potential problems associated with the heavy use of the drug.³³ Colorado market consolidation has never been explicitly researched, although local news outlets have begun to identify the largest operators in Colorado in terms of license ownership.³⁴

After connecting a number of licensees with owners and sales reports, the study team found that in Colorado, the largest 10 operators accounted for 26.6 percent of total market sales in 2015, 25.4 percent of total market sales in 2016, and 23.1 percent of total market sales in 2017.

Measuring Market Concentration

³³ New England Journal of Medicine, Vol. 371 No. 5, Big Marijuana—Lessons from Big Tobacco. <https://www.nejm.org/doi/full/10.1056/NEJMp1406074>

³⁴ See, for example, Denver Post, <http://www.denverpost.com/2016/05/07/for-the-first-time-we-know-who-is-behind-denvers-pot-industry/>.

The study team reviewed officially reported sales and organized them by licensee. The sales structure by licensee can be viewed in cohorts, where each \$100 million of sales is allocated to licensees, and then sorted from largest to smallest. The largest 7 licensees account for the first \$100 million, while the smallest 260 licensees account for the last \$39.5 million. This is shown in Table 8 below.

Table 8: Number of Firms per \$100 Million in 2017 Sales, and Average Sales Value per Firm

Firm-Size	# of Firms	Avg. Sales Value	Total Sales*
Largest	7	\$14,280,921	\$100,000,000
	11	\$9,244,682	\$100,000,000
	14	\$7,395,584	\$100,000,000
	16	\$5,980,234	\$100,000,000
	20	\$5,039,228	\$100,000,000
	23	\$4,286,195	\$100,000,000
	28	\$3,647,224	\$100,000,000
	32	\$3,137,320	\$100,000,000
	35	\$2,805,359	\$100,000,000
	42	\$2,394,142	\$100,000,000
	50	\$1,972,805	\$100,000,000
	62	\$1,614,647	\$100,000,000
	78	\$1,280,900	\$100,000,000
	107	\$934,951	\$100,000,000
	179	\$559,145	\$100,000,000
Smallest	260	\$151,792	\$10,000,000
Totals:	964		\$1,510,000,000

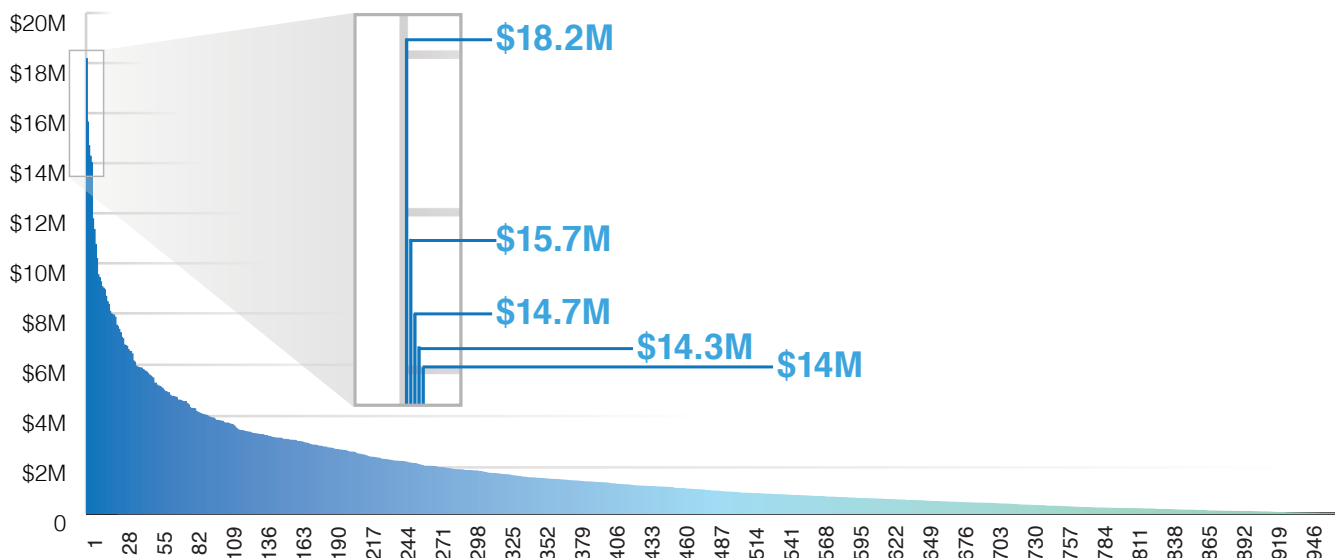
Source: Study team calculations using state sales and license data. Figures are rounded to the nearest \$1 million.

Alternatively, it is possible to apply preexisting metrics for market concentration to Colorado's marijuana marketplace. The best-known indicator of market concentration (or consolidation) is the Herfindahl-Hirschman Index, or HHI, named after economists Orris C. Herfindahl and Albert O. Hirschman.

The HHI provides a summary indication of market consolidation, using a number between 0 and 10,000. A value below 100 indicates that there are numerous competitors with no dominant operators. On the other hand, a value of 10,000 (which is equal to 100²) indicates that the market is organized as a pure monopoly, where one company accounts for 100% of sales. The HHI is the most widely used indicator for competition law and antitrust legal actions.

In order to begin tracking the development of Colorado's market, sales are computed by market type and licensee class. Figure 17 ranks relative sales values by license in Colorado.

Figure 17: Total Sales by License in 2017



Source: Study team calculations using state sales and license data.

As seen in Figure 17, the number of licensees reporting sales of \$1 million or more grew to 451, out of a total of 964 adult use and medical licenses in 2017. Nine licensees had annual sales in excess of \$10 million, with the highest being \$18.2 million.

This information can be tabulated, and then converted into the HHI. The HHI is computed by summing the squared value of each participant's market share. The mathematical formula for the HHI is:

$$H = \sum_{i=1}^N s_i^2$$

Where s is the share of sales for each licensee, among the total number of licensees, N . After summing the squared values for each of the 964 market competitors in Colorado, the HHI index was computed to be 27.6. A value of HHI < 100 indicates a highly competitive marketplace that is contestable. The market is, however, slightly asymmetric, which highlights the broad disparity of sales totals among licensees. The best way to view asymmetry is to compare the number of firms currently competing in the marketplace and compare it to the number of firms that would exist if the market were perfectly symmetric at the same level of HHI competitiveness.

If the market were perfectly symmetric, and the **HHI = 27.6**, then there would be **362 firms**. So, the level of asymmetry in the Colorado market is: $ASY = 964 / 362 = 2.66$. This level of asymmetry suggests that over time, there is likely to be additional consolidation as small companies elect either to exit the market or to be purchased by larger, more efficient operators.

Market Concentration Among Companies

Some have argued that using individual licenses for market shares does not represent the true level of competition, because a single company can own several licenses and brand names. The more licenses that each company owns, the less competition there exists in the market. The challenge faced by researchers is that the state does not currently produce a mapping that links corporate entities or owners with their respective licenses. Each license can be represented using a different company name or brand name, which may be different from the actual owner. In addition, ownership structures across several LLCs within one branded business can differ slightly in their ownership, which complicates the analysis.

In lieu of an explicit table that links owners to licenses, researchers were able to leverage various metadata to approximate the ownership structure in Colorado.

Using the metadata technique, the study team recalculated the HHI by company, rather than by licensee. The corresponding competitiveness index becomes noticeably larger, at **HHI^M = 100.9**, which is much closer to the threshold of 100 that divides “highly competitive” from “competitive” types of industries. But the value remains well below the threshold of 1,500 defined by the Department of Justice as a “moderately concentrated” industry.

Comparison of HHI Indices

The U.S. Department of Justice (DOJ) has outlined clear guidelines regarding market concentration and its opinion related to how mergers and acquisitions impact the level of market competition. For example, the DOJ and related agencies state in their Guidelines publication that an HHI that is below 1,500 is “unconcentrated.”³⁵ Concentrated markets exist between 1,500 and 2,000 and highly concentrated markets have an HHI = 2,500 or higher.

A brief comparison of HHI indices is shown above in Table 9. Most comparable results were taken from statistics by the United States Census. These figures show that when viewed broadly, a large sector in the United States may appear competitive. For example, the Food Manufacturing Sector has an HHI value of 118, which is considered competitive. But certain subsectors are far more consolidated. Breakfast cereal manufacturers have an HHI of nearly 3,000, which is somewhat anticompetitive, yielding higher prices than a competitive market. Vehicle manufacturing is another consolidated market.

By comparison, the Colorado marijuana market is considered either highly competitive (HHI=27.6) when viewed by licensee or competitive when viewed by holding company (HHI = 100.9). Consolidation is evident over time, as the company HHI has increased between 2014 and 2017 (Figure 18). Further research into the market concentration and pricing of marijuana would be helpful to understand the relative influence of market concentration in marijuana pricing.

In the geographical analysis presented in Section 3, the pricing data suggest that the number of storefronts (or competition) had a larger influence upon price than the relative share of tourists. At the state level, so far, it appears that average prices are impacted equally by market competition, as well as by relative supply and demand overall. This issue will be revisited in subsequent market assessments for Colorado and elsewhere.

Table 9: Examples of HHI Indexes in Recent Literature

Sector	HHI
Food Manufacturing (sector)	118
Breakfast Cereal Manufacturing	2,999
Motor Vehicle Manufacturing	2,323
Household Furniture Manufacturing	308
Global Beer (2003)	276
Global Beer (2013)	725
Colorado Marijuana Retailing*	28
Colorado Marijuana Companies**	101

Source: [Census.gov](https://www.census.gov) (1997 & 2012) Source: Study team calculations

Note: Top 50 firms used for Census Data

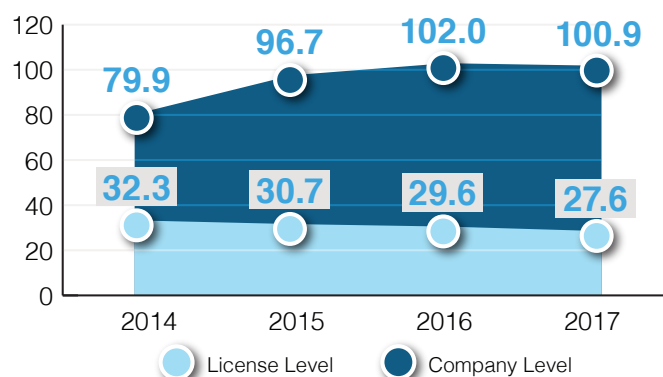
* HHI by licensee

** HHI by company

HHI < 100 indicates highly competitive

HHI > 2,500 indicates highly concentrated

Figure 18: HHI Index Trends



Source: Study team calculations using state sales and license data.

APPENDIX A:

DETAILED RESIDENT CONSUMPTION DERIVATION

Available Data

Several data sources were utilized to estimate the resident marijuana consumption in Colorado. The primary source of data on marijuana use patterns comes from two well established and widely utilized surveys, the National Survey on Drug Use and Health (NSDUH) and the Behavioral Risk Factor Surveillance System (BRFSS).

The NSDUH collects representative state-level data on Colorado marijuana use prevalence, as well as estimates of the frequency of use among current marijuana consumers. NSDUH has been administered each year since 2002, allowing for trend and comparative analysis with other states and the U.S.

The Behavioral Risk Factor Surveillance System (BRFSS) is a nationwide telephone survey that collects state-level data regarding health-related risk behaviors. In 2014, the Colorado BRFSS began collecting data about marijuana use, following the legalization of adult use marijuana in Colorado.

The final survey incorporated in this study is the 2014 Colorado Marijuana Use Survey, completed by the study team. This survey asked Colorado marijuana consumers about their frequency of marijuana consumption, as well as the average quantity consumed on a typical use day. In addition to survey data, this study is the first to utilize transaction-level data from the state inventory tracking system.

These sources are combined with state- and county-level population and demographic data from the American Community Survey and the U.S. Census Bureau.

Resident Consumption Estimation

Total resident consumption in Colorado includes consumption by state residents, and visitors. We consider these market segments separately, first estimating the resident consumption and then the visitor consumption.³⁶ The total Colorado resident consumption is computed using the following formula:

$$D_r = \sum_{t=1}^7 \frac{\text{days}_t \times g_t \times n_t}{1,000,000}$$

where

D_r = total consumption by adult residents, measured in metric tons of marijuana

days_t = average number of use days per year for each consumer type 't' (1-365)

g_t = average number of grams consumed per day for each consumer type 't'

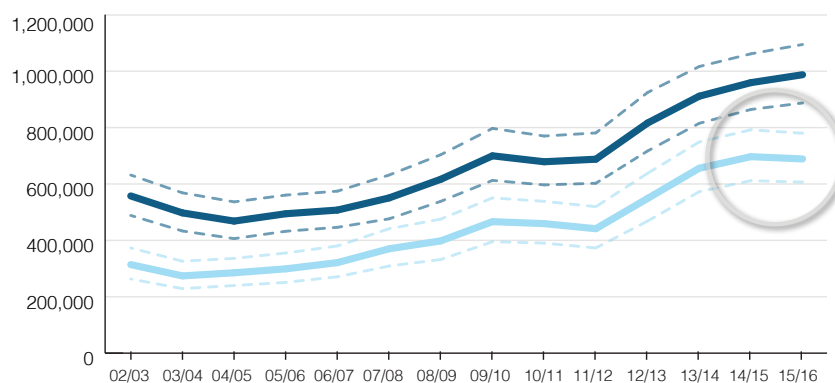
n_t = total number of people included in each marijuana consumer classification 't'

This approach is the most straightforward method to estimate resident consumption since estimates are available (or can be calculated) for each component. The number of marijuana consumers is estimated by combining prevalence data from NSDUH with population data from the ACS. NSDUH also provides estimates of marijuana consumers by type, based on their frequency of consumption, in days. Finally, the average daily consumption quantity for each consumer type is estimated using a combination of recent literature and primary survey data from Colorado residents.

Marijuana Use Prevalence Trends

The figure below illustrates the estimated population of past-year and past-month marijuana consumers in Colorado from the 2002/03 to 2015/16 NSDUH survey results. The solid lines represent the point estimate, while the dotted lines represent the 95% confidence intervals. It is important to note that number of marijuana consumers is also likely to reflect state population growth and immigration, to a degree.

³⁶ See Section 2 for visitor consumption estimation.

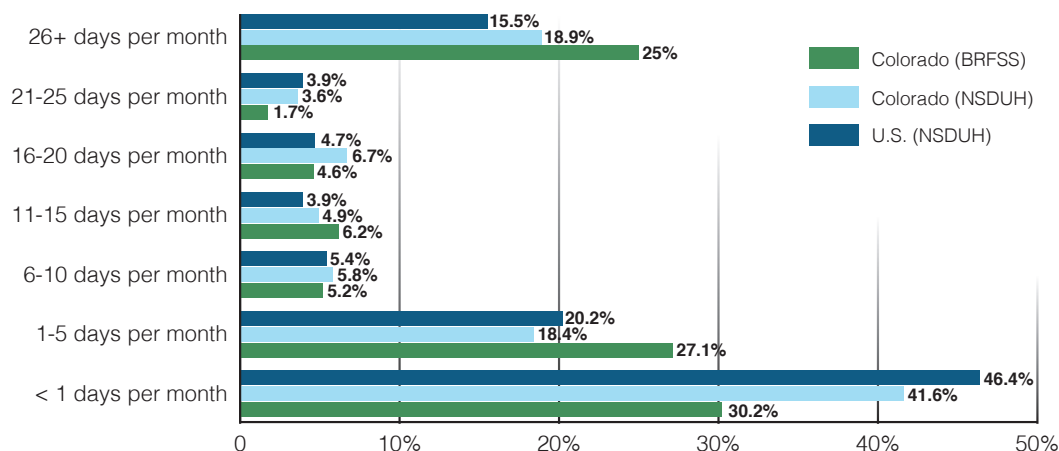
Appendix Figure 1: Colorado Past-Year and Past-Month Adult Marijuana Consumers

Source: SAMHSA NSDUH. 2002/03-2015/16 Population Estimates.

Beginning in 2014, the Colorado BRFSS survey began asking questions about marijuana use among individuals aged 18 and over. After adjusting survey results³⁷ to reflect the population aged 21 and over, BRFSS data suggests that there were over 551,000 past-month adult marijuana consumers.

Marijuana Use Prevalence

Use prevalence is a commonly used indicator of marijuana use, however the frequency and intensity of marijuana use are also important components of estimating total consumption. Both the NSDUH and BRFSS report the prevalence of marijuana use frequency in seven groups, ranging from 1-5 days of use in the past, to 26 and over days. Marijuana consumers can be classified into three broad categories based on their frequency of use: occasional consumers consume marijuana less than once per month, regular consumers consume between one and 20 days per month, and heavy consumers consume more than 20 days per month. Appendix Figure 2 below compares the 2014 survey estimates³⁸ for Colorado from NSDUH, BRFSS, and compares them to the U.S. NSDUH estimates.

Appendix Figure 2: Frequency of Use Distribution Among Adult Past-Year Marijuana Consumers

Source: SAMHSA NSDUH 2013/14; 2014 Colorado BRFSS.

Appendix Figure 2 reveals that Colorado has a much higher share of “heavy” marijuana consumers compared to the national average. Between 20.3-26.2 percent of the state’s marijuana consumers report near-daily use of marijuana (26 and over days), compared to just 15.5 percent nationwide. At the same

³⁷ Based on U.S. Census data, 5.13% of the Colorado population aged 18 and over is between the ages of 18 and 20. We therefore adjust all BRFSS figures downward by this amount to calculate estimates for those aged 21 and over.

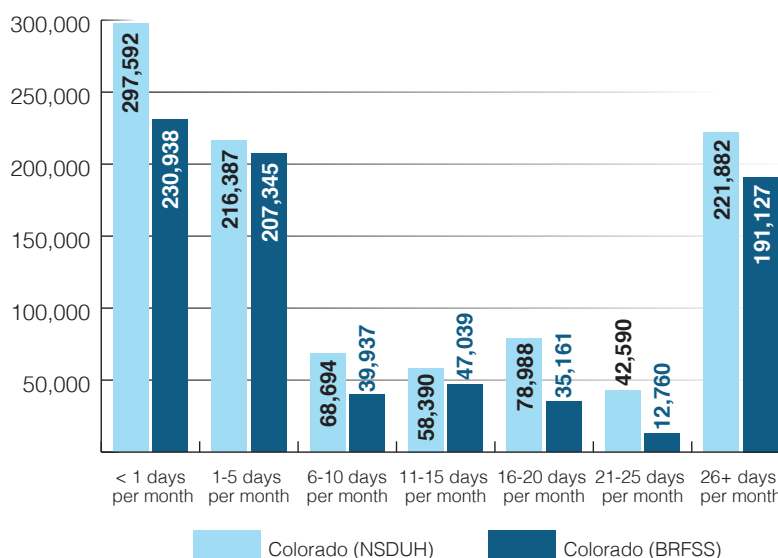
³⁸ Most recent survey year with detail frequency use data publicly available for all datasets.

time, the proportion of consumers who reported occasional marijuana use (less than one day per month) is much lower in Colorado (26.8 to 37.3 percent) compared to the national average (46.4 percent).

Updated Population by Days of Use

In order to estimate the number of Colorado consumers in each frequency-of-use cohort, we multiply the Colorado NSDUH and BRFSS prevalence data by data from the U.S. Census Bureau on the state population aged 21 and over. Approximately 985,000 Colorado residents aged 21 and over have consumed marijuana in the past year, which represents about 24 percent of the state's total adult population. About 687,000 or 16.6 percent of the adult population consume marijuana at least once a month. Appendix Figure 3 below shows the estimated population of Colorado marijuana consumers aged 21 and over for each survey source, segmented by frequency of use. The numbers in the figure represent the average of the NSDUH and BRFSS estimates.

Appendix Figure 3: Number of Adult Past-Year Marijuana Consumers by Frequency of Use



Source: SAMHSA NSDUH 2015/16; 2016 Colorado BRFSS; MPG calculations.

Based on the averaged NSDUH and BRFSS estimates, about 265,000 Coloradans report using marijuana less than once per month, while approximately 206,000 residents consume marijuana nearly every day. About 212,000 people used marijuana roughly once per week.

Survey Estimate Adjustments

Historical 2014 survey data has two primary issues that must be accounted for in order to estimate 2017 demand. Since the most recent survey data is from 2015/16, we first adjust estimates of marijuana consumers upwards by 2.03% to account for population growth from 2016 to 2017, as estimated by the State Demography Office.³⁹

Survey data on marijuana is also prone to underreporting for a number of reasons, such as an unwillingness to admit to using a federally illegal substance. In our 2014 study and in this study, we adjust marijuana consumer population estimates for heavy consumers by 11.1 percent and for all other consumer types by 22.2 percent to account for underreporting.

³⁹ <https://demography.dola.colorado.gov/population/data/sya-regions/>

Daily Consumption by Consumer Type

In order to translate the number of adult marijuana consumers into an overall quantity of marijuana demanded, the physical amount of marijuana used by the average consumer on an average use-day must be estimated for each cohort.

In 2014, the study team fielded a survey to collect primary data from Colorado residents about daily use habits. A number of notable results emerged from the survey, but the most important finding for this report is that Colorado resident respondents confirmed the estimated daily consumption quantities from several other studies. The average daily consumption quantities for each consumer type are presented in Appendix Table 1 below.

Appendix Table 1: Quantity Consumed per Use-Day, by Consumer Type

Use Days per Month	Grams per Use Day		
	Lower Bound	Mean Estimate	Upper Bound
<1	0.20	0.30	0.60
1-5	0.43	0.67	0.95
6-10	0.43	0.67	0.95
11-15	0.43	0.67	0.95
16-20	0.43	0.67	0.95
21-25	1.30	1.60	1.90
26-31	1.30	1.60	1.90

Note: Estimates based on Kilmer et al. (2013) and Colorado Marijuana Use Survey results.

As seen in Appendix Table 2, marijuana consumption is estimated at 208.1 metric tons in 2016. As presented in the report (Figure 4), the demand estimate remains virtually unchanged for 2017, at 208.7 metric tons.

Appendix Table 2: 2016 Resident and Visitor Marijuana Use Days and Consumption

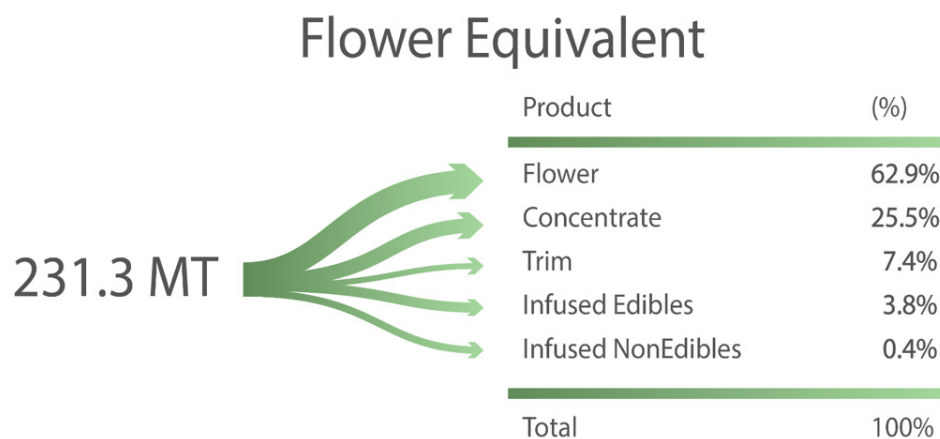
	Residents	Visitors	Total
Adult Marijuana Users	948,739	6,4101,620	7,050,359
Annual Marijuana Use Days	149,295,377	17,930,532	167,225,908
Annual Demand (Metric Tons)	190.2	17.9	208.1
Annual Demand (Range)	(148.7 - 234.0)	(13.4 - 22.4)	(162.1 - 256.4)

Source: Study team calculations.

APPENDIX B: SUPPLY-DEMAND BALANCE, FIGURES FOR 2016

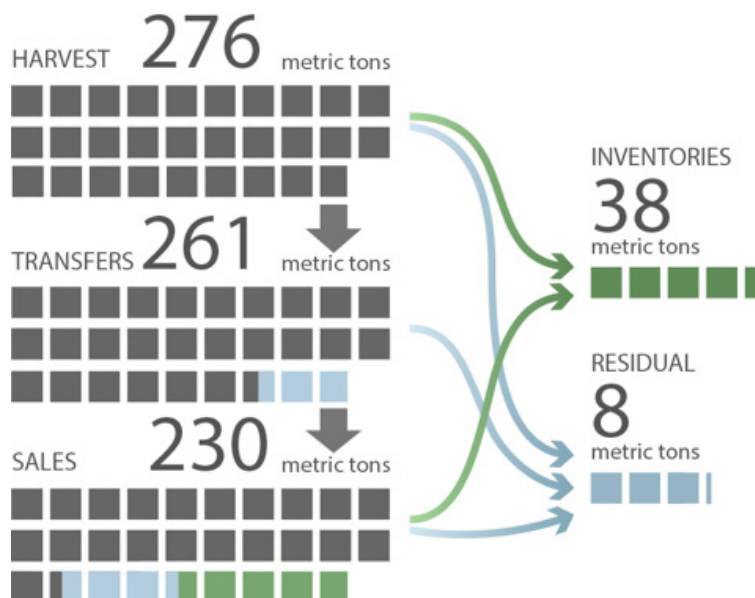
Appendix Figure 3 below shows 231.3 metric tons of flower equivalent sold in Colorado's regulated marijuana market in 2016. In 2017, the amount increased to 301.7 (Figure 3 in report).

Appendix Figure 3: Contributions to 2016 Flower Equivalent Supply Measure – How Different Products Translate into Flower Equivalent Weight.



Source: Study team calculations and methods, using state sales data.

Appendix Figure 4: Estimates of Harvest, Transfers, and Final Sale of Marijuana Products in Colorado - Quantities in Metric Tons of Flower Equivalent



Source: MPG, LLC, State of Colorado

APPENDIX C: GEOGRAPHIC VARIATION IN COLORADO'S MARIJUANA MARKETS FIGURES FOR 2016

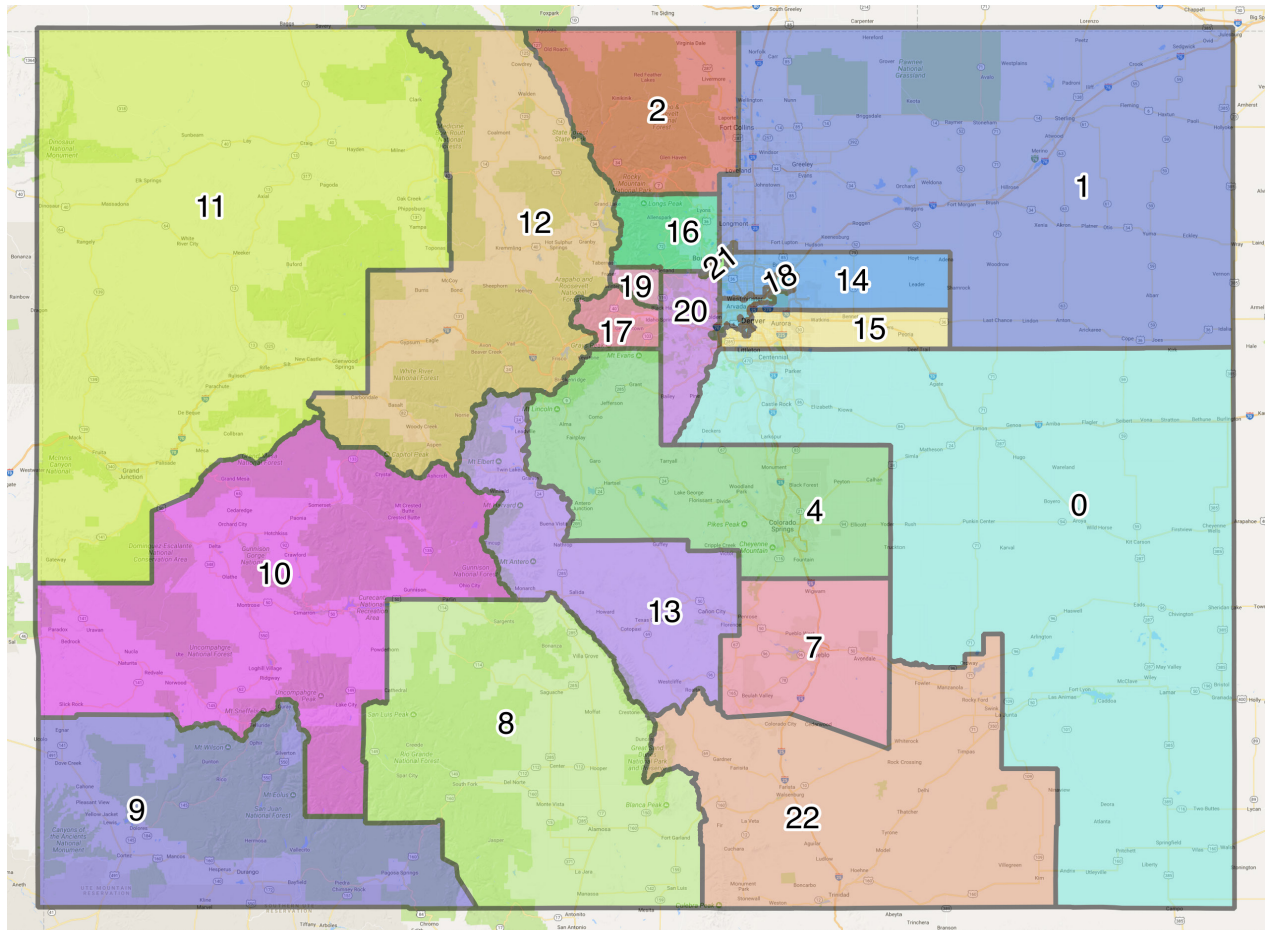
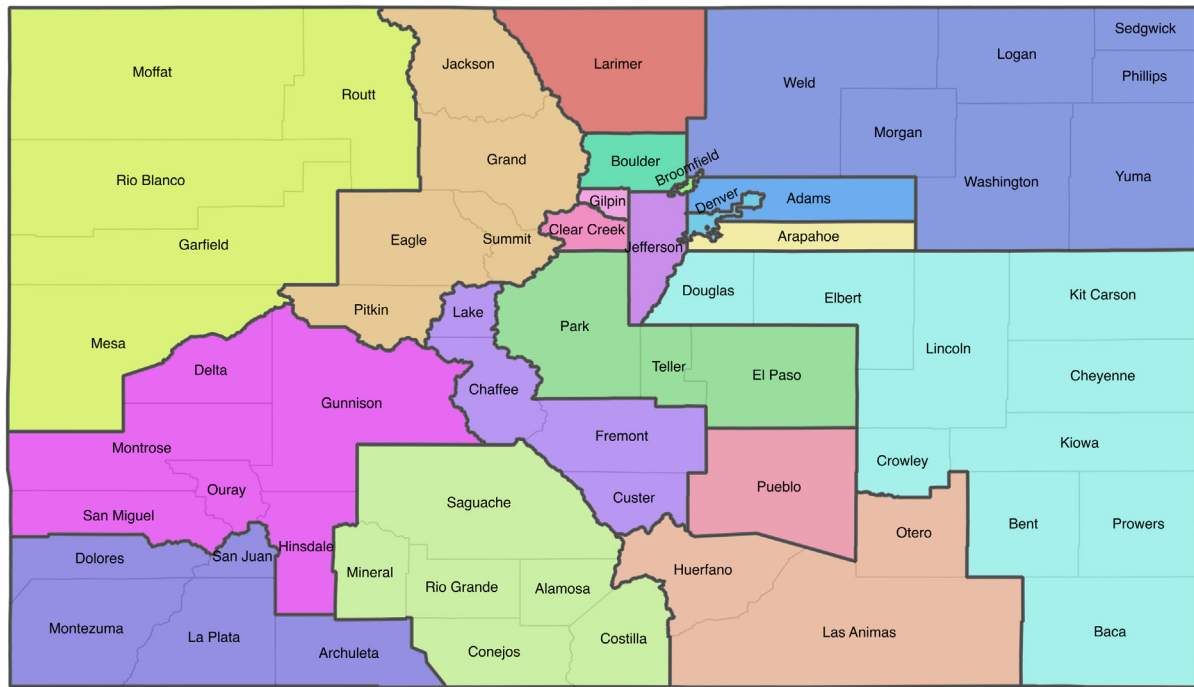
Aggregating Local Medical and Adult Use Marijuana Sales

In order to comply with state taxpayer confidentiality requirements and to provide consistency, the study team aggregates county-level data based on adjustments to the Colorado Planning and Management Regions as defined by the Colorado Department of Local Affairs.^{40,41} Appendix Figure 5 on the following page shows the Colorado counties and corresponding regions. Appendix Figures 6 - 11 are the 2016 counterparts to the geographic maps found in the report.

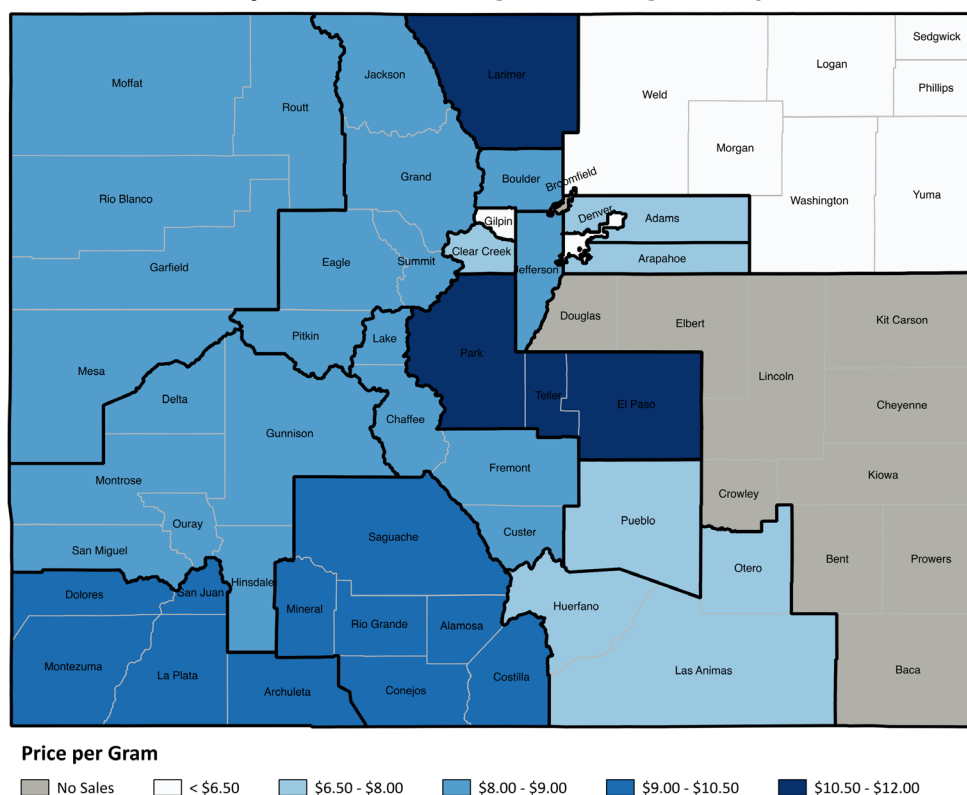
⁴⁰ Under Colorado Revised Statutes §39-21-113(4), any data derived from taxpayer returns must be combined in order to protect the confidentiality of individual taxpayers when there are fewer than three taxpayers in a given category, or any one of them represents more than 80% of the total.

⁴¹ To construct our analytical regions, Weld County is incorporated into Region 1, all counties within Region 3 and Larimer County are presented individually, and Regions 8 and 14 are combined.

Appendix Figure 5. Mapping Regions

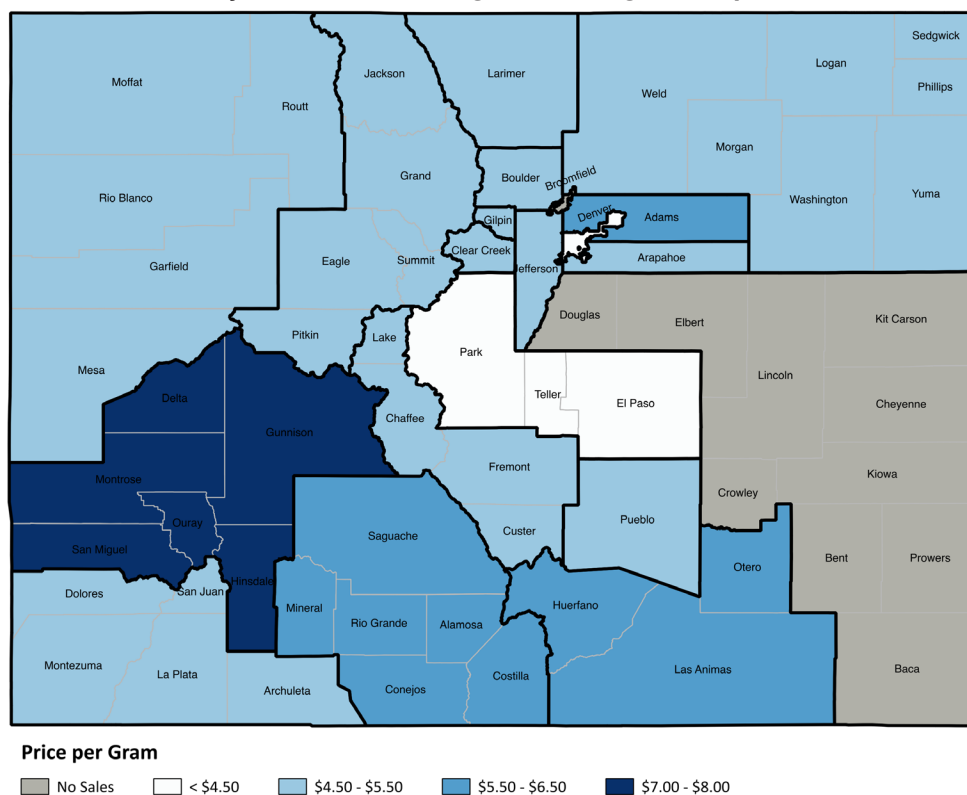


Appendix Figure 6. Adult use Marijuana Flower – Weighted Average Price per Gram, 2016



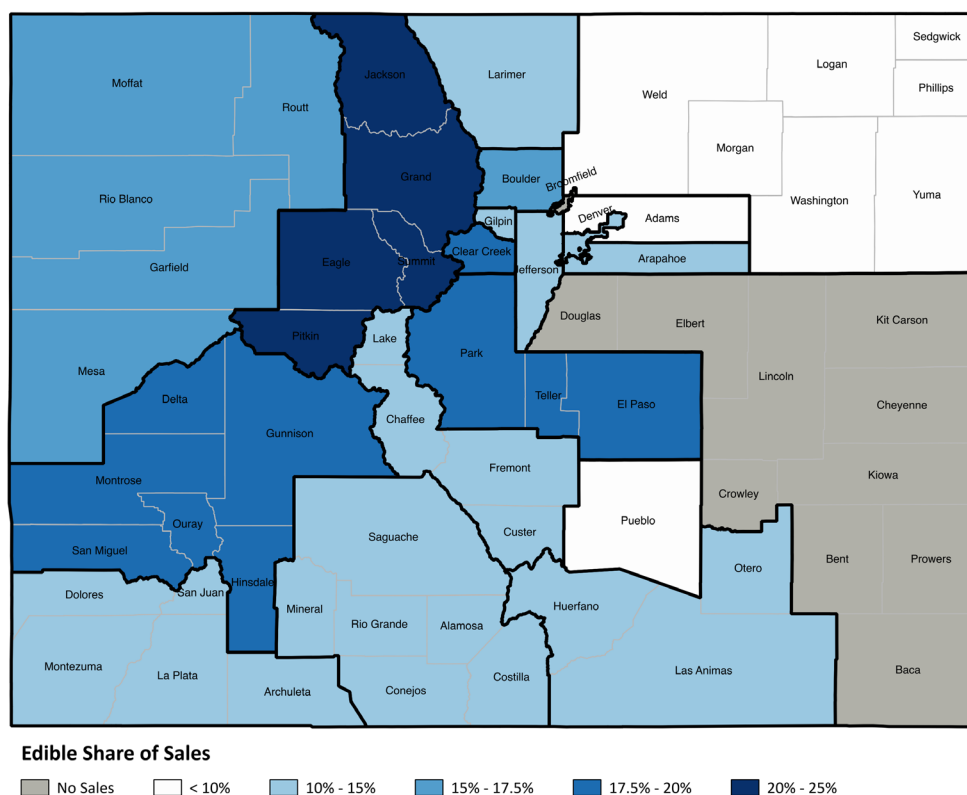
Source: Study team calculations using state sales data.

Appendix Figure 7: Medical Marijuana Flower – Weighted Average Price per Gram, 2016



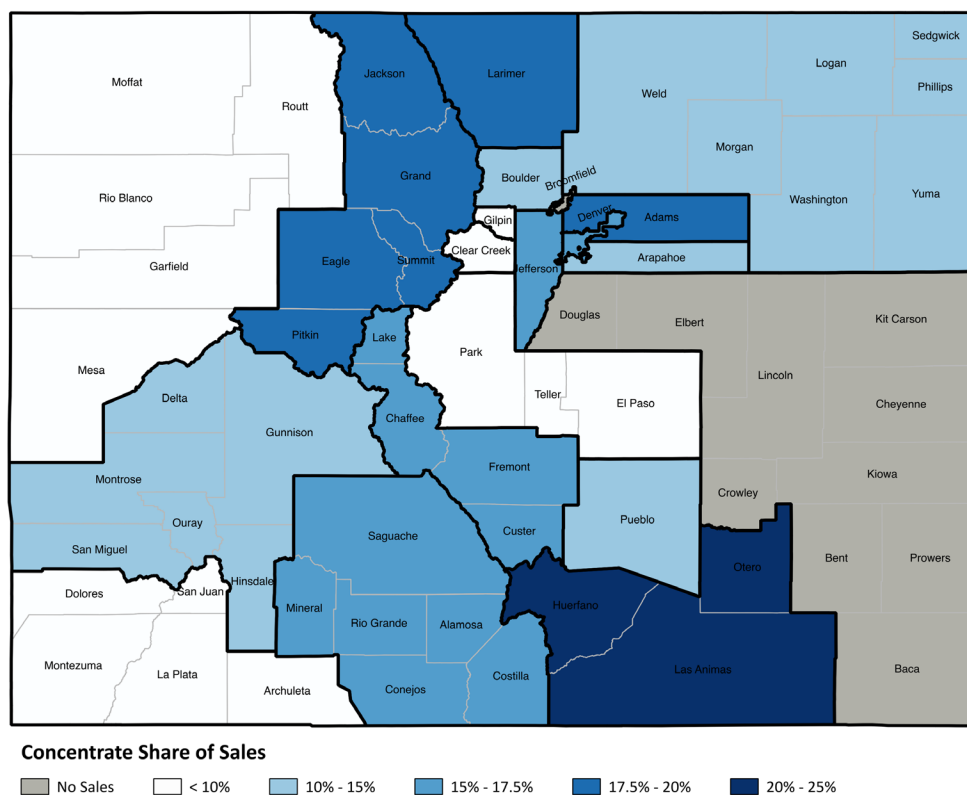
Source: Study team calculations using state sales data.

Appendix Figure 8: Edible Share of Total Sales in Adult Use Market, 2016



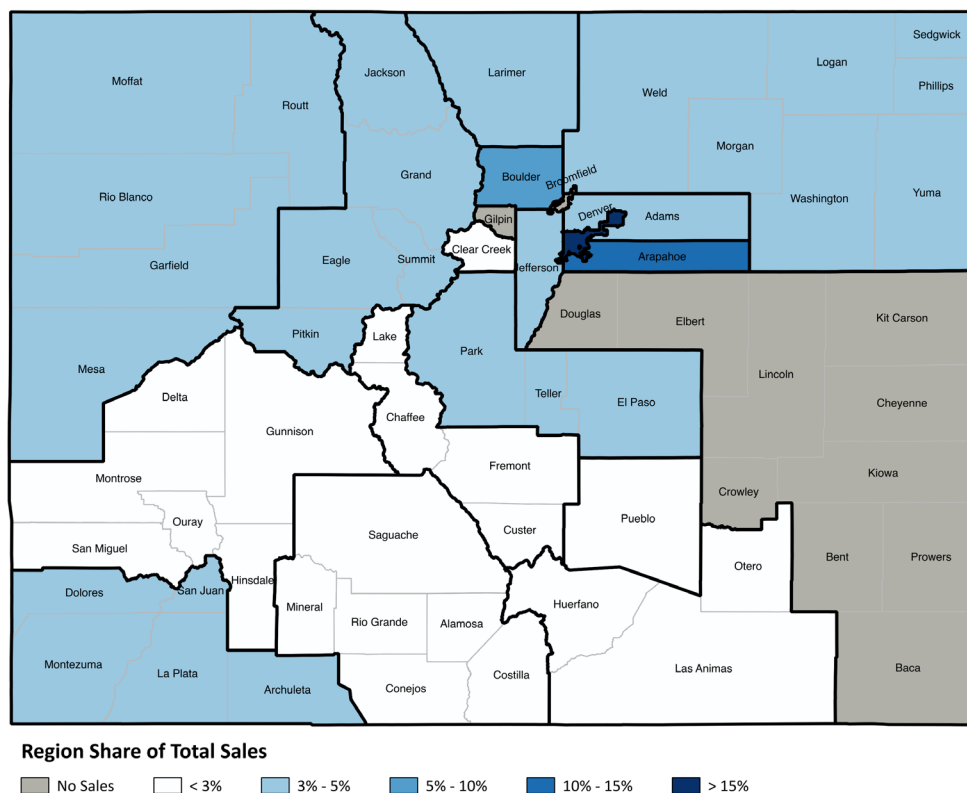
Source: Study team calculations using state sales data.

Appendix Figure 9: Concentrate Share of Total Sales in Adult Use Market, 2016



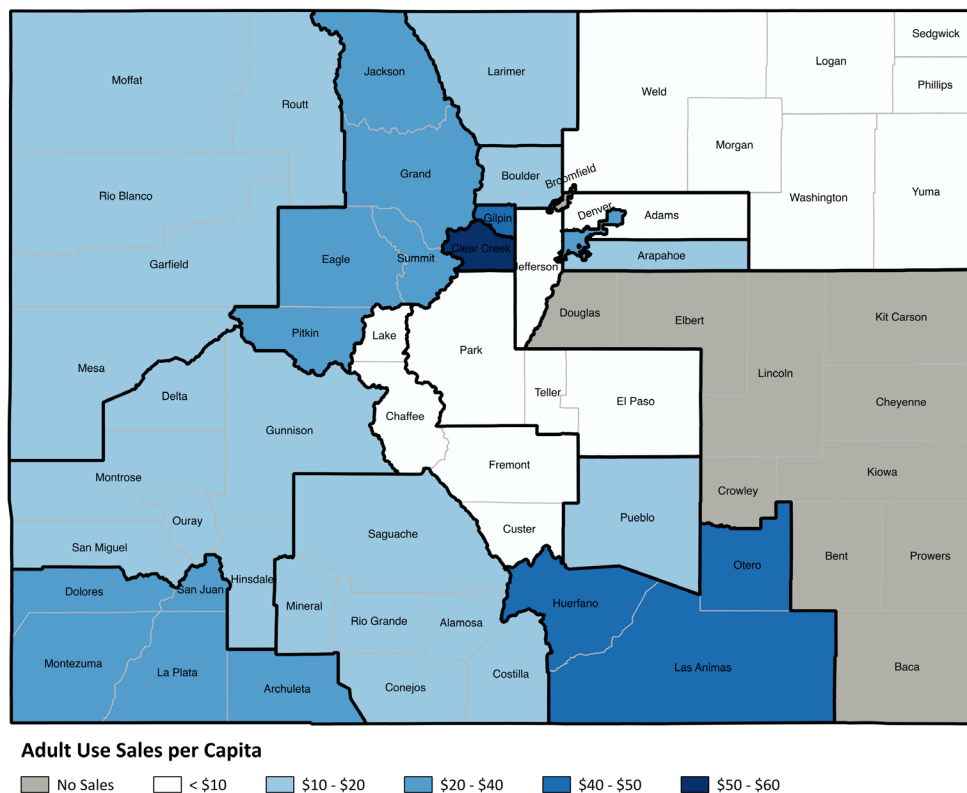
Source: Study team calculations using state sales data.

Appendix Figure 10: Share of Statewide Total Adult Use Sales, 2016



Source: Study team calculations using state sales data.

Appendix Figure 11: Monthly Per Capita Adult Use Sales, 2016



Source: U.S. Census Bureau. Study team calculations using state sales data.

Appendix Table 3: 2016 Pricing for Marijuana Products in Colorado

Market	Colorado	Denver	Boulder	Summit	Eagle
Price per Gram of Flower - 2016 Weighted Average					
Medical	\$4.21	\$3.92	\$4.82	\$5.10	\$4.85
Adult Use	\$7.50	\$5.89	\$8.55	\$8.24	\$8.02
Price per Gram of Concentrate - 2016 Weighted Average					
Medical	\$20.71	\$19.12	\$25.08	\$22.79	\$22.25
Adult Use	\$30.38	\$26.63	\$33.44	\$29.85	\$23.32

APPENDIX EMERGING TOPICS, FIGURES FOR 2016

D:

Appendix Table 4: Total Plant Allocations and Market-wide Utilization Rate -2015

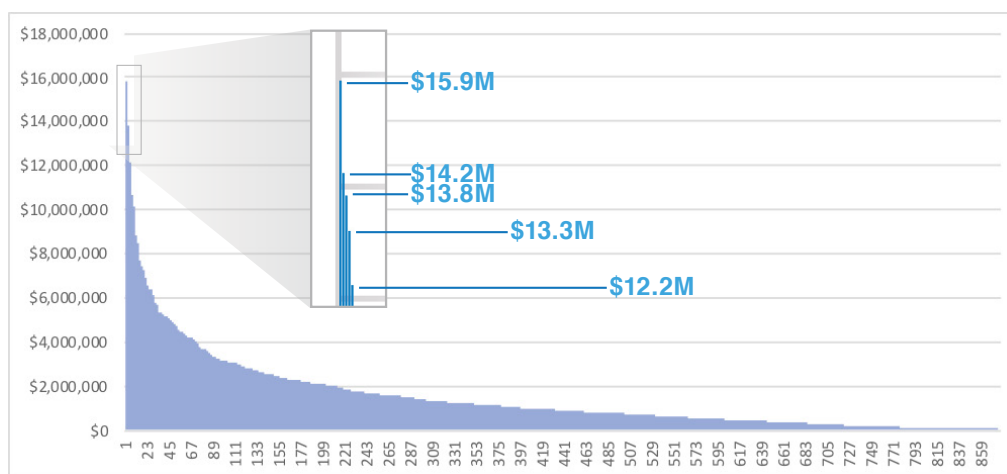
	Total	Medical	Adult use
2015 Cultivation			
2015 Average:	597,803	313,074	284,729
2015 Year End (Actual)	674,881	327,960	346,921
Allocations			
2015 Year End Allowed / Permitted:	1,937,400	629,887	1,307,400
Utilization Rate			
2015 Average:	31%	50%	22%
2015 Year End	35%	52%	27%
Potential Harvest (Metric Tons)			
Flower Yield	542	176	366
Trim Yield	108	35	73
Total Material	650	211	439

Source: Study team calculations using state harvest and license data.

Appendix Table 5: Total Plant Allocations and Market-wide Utilization Rate -2016

	Total	Medical	Adult Use
2016 Cultivation			
2016 Average:	828,866	343,025	485,841
2016 Year End (Actual)	875,431	350,206	525,225
Allocations			
2016 Year End Allowed / Permitted:	2,085,202	548,002	1,537,200
Utilization Rate			
2016 Average:	40%	63%	32%
2016 Year End	42%	64%	34%
Potential Harvest (Metric Tons)			
Flower Yield	583	153	430
Trim Yield	117	31	86
Total Material	700	184	516

Source: Study team calculations using state harvest and license data.

Appendix Figure 12: Total Sales by License in 2016

Source: Study team calculations using state harvest and license data.

REFERENCES

- American Society of Addiction Medicine. *White Paper on State-Level Proposals to Legalize Marijuana*. https://www.asam.org/docs/default-source/public-policy-statements/state-level-proposals-to-legalize-marijuana-final2773DD668C2D.pdf?sfvrsn=e6c7ad4_2.
- Colorado Constitution, Article XVIII, Section 16, Subsection (1)(b)(iv).
- Colorado Department of Local Affairs, Division of Local Government, State Demography Office. Population Estimates and Forecasts by Age and Gender. 2011-2014. https://dola.colorado.gov/demog_webapps/pagCategory.jsf.
- Colorado Department of Public Health and Environment. *Behavioral Risk Factor Surveillance Survey*. <https://www.colorado.gov/pacific/cdphe/adult-marijuana-use-trends>.
- Colorado Department of Revenue, Marijuana Enforcement Division. *Medical Marijuana Rules*. 1 CCR 212-1. N.p. February 2018. <https://www.colorado.gov/pacific/sites/default/files/ColoradoRegister.pdf1%20CCR%20212%20-1%20Medical%20Effective%2002022018.pdf>.
- Colorado Department of Revenue, Marijuana Enforcement Division. METRC Inventory Tracking Database. <https://co.metroc.com/log-in?ReturnUrl=%2f>
- Colorado Department of Revenue, Marijuana Enforcement Division. *Retail Marijuana Rules*. 1 CCR 212-2. N.p. February 2018. <https://www.colorado.gov/pacific/sites/default/files/ColoradoRegister.pdf1%20CCR%20212%20-2%20Retail%20Effective%2002022018.pdf>.
- Colorado Department of Revenue. *Average Market Rate Report 2014-2017*. <https://www.colorado.gov/pacific/sites/default/files/AverageMarketRatesforPriorPeriods.pdf>
- Colorado Department of Revenue, *Marijuana Sales Reports 2014-2017*. <https://www.colorado.gov/pacific/revenue/colorado-marijuana-sales-reports>
- Harrison, L. S., Martin, S. S., Enev, T., & Harrington, D. (2007). Comparing drug testing and self-report of drug use among youths and young adults in the general population. Department of Health and Human Services, Substance Abuse and Mental Health Services Administration, Office of Applied Studies.
- Kilmer, Beau, Jonathan P. Caulkins, Gregory Midgette, Linden Dahlkemper, Robert J. MacCoun, and Rosalie Liccardo Pacula. 2013. *Before the Grand Opening: Measuring Washington State's Marijuana Market in the Last Year Before Legalized Commercial Sales*. RAND Drug Policy Research Center. http://www.rand.org/pubs/research_reports/RR466.html.
- Longwoods International. *Colorado Travel Year 2016*. <https://www.colorado.com/sites/default/master/files/ColoradoLongwoodsReport2016.pdf>.
- Light, M. and Orens, A. Marijuana Policy Group. Market Size and Demand for Marijuana in Colorado 2014. https://www.colorado.gov/pacific/sites/default/files/Market%20Size%20and%20Demand%20Study%2C%20July%209%2C%202014%5B1%5D_3.pdf
- Orens, A. and Light, M. Marijuana Policy Group. Marijuana Equivalency in Portion and Dosage 2015. https://www.colorado.gov/pacific/sites/default/files/MED%20Equivalency_Final%2008102015_1.pdf
- Richter, K. and Levy, S., *Big Marijuana—Lessons from Big Tobacco*. New England Journal of Medicine, Vol. 371 No. 5, <https://www.nejm.org/doi/full/10.1056/NEJMp1406074>
- Scott, Dylan. *Marijuana Legalization Blurs Lines Between Medicinal and Retail Dispensaries*. July 2013. <http://www.governing.com/topics/public-justice-safety/gov-marijuana-legalization-blurs-lines.html>.
- The Smart Cube. Global Retail Theft Barometer 2014-2017. <http://globalretailtheftbarometer.com/index.html>.
- Substance Abuse and Mental Health Services Administration. (2002–2011). 2002-2016 NSDUH State Estimates of Substance Use and Mental Disorders. (Multiple data files). <http://datafiles.samhsa.gov/info/browse-studies-nid3454>.

- Substance Abuse and Mental Health Services Administration. Restricted-use Data Analysis System. <https://rdas.samhsa.gov/#/>.
- Drenkard, S. *Cigarette Taxes and Cigarette Smuggling by State, 2015*. Tax Foundation. <https://taxfoundation.org/cigarette-tax-cigarette-smuggling-2015/>
- U.S. Census Bureau. American Community Survey. Annual Estimates of the Resident Population for Selected Age Groups by Sex for the United States, States, Counties, and Puerto Rico Commonwealth and Municipios: April 1, 2010 to July 1, 2017. https://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=PEP_2017_PEPAGESEX&prodType=table.
- U.S. Census Bureau. Economic Census Tables. 2012. <https://www.census.gov/programs-surveys/economic-census/data/tables.All.html>.
- U.S. Department of Justice and Federal Trade Commission, "Horizontal Merger Guidelines," August 19, 2010. <https://www.justice.gov/atr/horizontal-merger-guidelines-08192010>.
- University of Colorado Boulder, Leeds School of Business, Business Research Division. *Colorado Business Review*. https://www.colorado.edu/business/sites/default/files/attached-files/cbr_2017_issue_2.pdf
- Zeisser, K. Thompson, T. Stockwell, C. Duff, C. Chow, K. Vallance, A. Ivsins, W. Michelow, D. Marsh, P. Lucas. 2011. A 'standard joint'? The role of quantity in predicting cannabis-related problems. *Addict. Res. Theory*, 20 (2011), pp. 82–92

October 2016

The Economic Impact of Marijuana Legalization in Colorado

Prepared by

Marijuana Policy Group

Market Intelligence | Policy Design

The authors would like to acknowledge useful comments, contributions, and suggestions by Mark Kleiman, Andrew Livingston, Dean Heizer, Christian Sederberg, Pat Oglesby, Steve Fox, Darren Karasiuk and Brian Lewandowski.

All errors and omissions are the sole responsibility of the authors.

Authors

Miles Light
Adam Orens
Jacob Rowberry
Clinton W. Saloga



Market Intelligence | Policy Design

1999 Broadway
Suite 2200
Denver, CO 80202

mjpolicygroup.com

Corresponding author:

Adam Orens
aorens@mjpolicygroup.com

TABLE OF CONTENTS

Synopsys 1

Section I. The Cannabis Industry in Colorado 2

 Industry Structure..... 2

 Integrating the Marijuana Industry into the Economy 3

Section II. Industry Growth and Economic Impact 6

 Industry Growth: Cause and Effect 6

 Employment Effects 8

 Tax Revenues 10

Section III. The Marijuana Impact Model – Technical Description 13

 Colorado-Specific Output and Employment Multipliers 13

 Input-Output Table Construction..... 15

 Calculation of Output and Employment Multipliers 15

Section IV. Economic Results in Context 18

 Comparison of MPG Results with Other Recent Studies..... 18

 Trends in Colorado's Cannabis Industry 20

SYNOPSIS

The Marijuana Policy Group (MPG) has constructed a new model that accurately integrates the legal marijuana industry into Colorado's overall economy. It is called the "**Marijuana Impact Model.**"

Using this model, the MPG finds that legal marijuana activities generated **\$2.39 billion** in state output, and created **18,005 new Full-Time-Equivalent (FTE) positions** in 2015.

Because the industry is wholly confined within Colorado, spending on marijuana creates **more output and employment per dollar spent than 90 percent** of Colorado industries.

Recent studies have attempted to capture impacts by using proxy data or invalid assumptions. Some of those studies are shown to generate grossly erroneous results. **This study utilizes official data to overcome those mistakes** and sets a clear record for future reference.

Legal marijuana demand is projected to grow by 11.3 percent per year through 2020. This growth is driven by a demand shift away from the black market and by cannabis-specific visitor demand. By 2020, the regulated market in Colorado will become saturated.

Total sales value will peak near \$1.52 billion dollars, and state demand will be 215.7 metric tons of flower equivalents by 2020. Market values are diminished somewhat by declining prices and "low-cost, high-THC" products.

In 2015, **marijuana was the second largest excise revenue source**, with \$121 million in combined sales and excise tax revenues. Marijuana tax revenues were three times larger than alcohol, and 14 percent larger than casino revenues. The MPG projects marijuana tax revenues will eclipse cigarette revenues by 2020, as cigarette sales continue to decline. Marijuana tax revenues will likely continue increasing as more consumer demand shifts into the taxed adult-use market.

As a first-mover in legal marijuana, the Front Range has witnessed significant business formation and industry

agglomeration in marijuana technology (cultivation, sales, manufacturing, and testing). This has inspired a moniker for **Colorado's Front Range as the "Silicon Valley of Cannabis."**

Secondary marijuana industry activities quantified for the first time in this report include: warehousing, cash-management, security, testing, legal services, and climate engineering for indoor cultivations.

Caveats: The impact of marijuana legalization upon tobacco and alcohol use is not included here. Similarly, issues such as public health, energy use, public education, enforcement costs, incarceration costs, or worker productivity are not considered in this assessment.



SECTION I. THE CANNABIS INDUSTRY IN COLORADO

With almost \$1 billion in spending in 2015 (\$996 million), the marijuana industry clearly plays an economic role in Colorado. Until now, it has been impossible to accurately characterize how this industry impacts the overall state economy.

In order to estimate the state-level economic effects of legalization, the Marijuana Policy Group (MPG) has constructed the world's first *marijuana economic impact model*. This new model can help voters, policymakers, and regulators understand how marijuana legalization impacts the state economy in terms of output, tax revenues, GDP, and employment.

I-1. INDUSTRY STRUCTURE

The MPG's marijuana impact model divides the industry into three segments: cultivation, manufacturing, and retailing. Each segment is represented using a unique production function with differing inputs, outputs, and linkages to the economy.

These segments are then integrated into Colorado's production and consumption structure, in order to reveal how marijuana spending impacts the economy overall.

State-level control of cannabis creates a highly-localized industry. Almost all spending on marijuana flows to workers and businesses within the state. As a result, the marijuana industry generates more local output and employment per dollar spent than almost any other Colorado sector. Only government program spending generates more employment and output per dollar spent.

Figure 1 shows the relative impact of marijuana, in the context of other, more traditional industries in the state.

Figure 1.
Economic Impact of Spending for Major Industries in Colorado



Note: Impact result will be different in other states and regions.

Applying the marijuana impact model to Colorado, it was found that each dollar spent on retail marijuana generates \$2.40 in state output. This compares favorably with general retail trade, which yields \$1.88 per dollar. The more traditional (*and sometimes subsidized*) mining sector generates \$1.79 per dollar. General manufacturing generates \$1.94 per dollar, and casinos generate just \$1.73 per dollar of spending. Other industries have lower output yields because their inputs are sourced from outside of the state, or because the profits are remitted to corporate owners that exist primarily outside of the state as well.

SECTION I. THE CANNABIS INDUSTRY IN COLORADO

Figure 2.
Proposed Industrial Classification for Marijuana Industry Sectors (Not Actual NAICS Codes — Suggested Codes Only)

Cultivation	Manufacturing	Retailing
111419 Other Food Crops Grown Under Cover	311225 Fats and Oils Refining and Blending	453310 Used Merchandise Stores
111421 Nursery and Tree Production	311230 Breakfast Cereal Manufacturing	453920 Art Dealers
111422 Floriculture Production	311340 Nonchocolate Confectionery	453991 Tobacco Stores
111810 Marijuana Cultivation	311345 Infused Marijuana Product	453992 Marijuana Stores
111910 Tobacco Farming	311351 Chocolate and Confectionery	454111 Electronic Shopping
111920 Cotton Farming	311411 Frozen Fruit and Juice Manufacturing	454210 Vending Machine Operators
111992 Peanut Farming	311412 Frozen Specialty Food Manufacturing	454390 Other Direct Selling Establishments

I-2. INTEGRATING THE MARIJUANA INDUSTRY INTO THE ECONOMY

Industrial Classification: In order to integrate marijuana activities into the overall economy, each segment of the industry is inserted into the state's economic accounts.

For example, the marijuana cultivation sector is inserted between Floriculture Production and Tobacco Farming. Retail stores and dispensaries are inserted as a type of specialty retail store, and finally, infused product manufacturers are included as part of the food manufacturing sector.

In this way, the production activities for each marijuana segment can be connected with the rest of the Colorado economy.

Business Spending Patterns: Next, the MPG constructed “business spending patterns” for each industry segment, in order to trace how marijuana spending flows through the state's economy. Since marijuana is currently a cash-

only business and is confined within the state, most of the cash accrues directly to local cultivation and manufacturing. Financial services are limited, and instead funds are spent on security and cash transportation services, such as armored vehicles. Figure 3 (following page) shows the approximate business spending patterns for each segment of the marijuana industry in 2015.

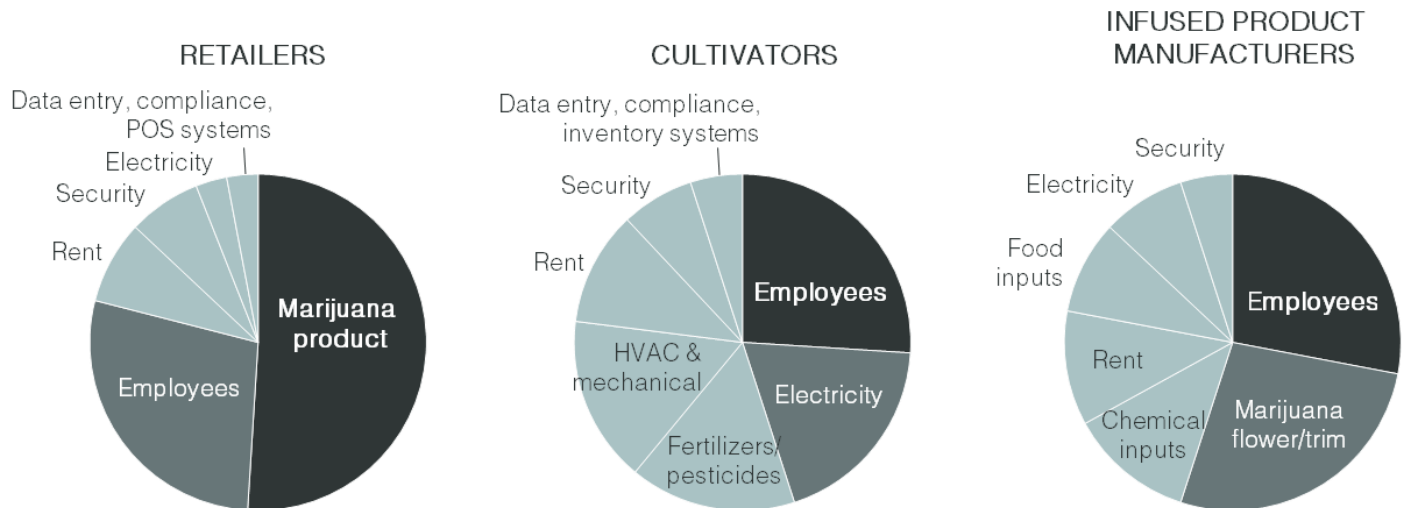
The largest spending category for retailers is the product itself (marijuana flower),¹ followed by employee payrolls, business rent, security services, compliance, and consulting services.

Cultivation in the Denver region is almost exclusively indoors, making electricity and HVAC the largest portion of spending, next to fertilizers, pesticides, and other agricultural inputs. Payrolls round out the largest components of spending for cultivators.

¹ Vertically-integrated operations do not explicitly account for the cost of marijuana flower. The MPG uses average market rate pricing to convert the implicit pricing for these firms into an explicit cost for the retail operation and an explicit revenue for the cultivators, even if the cash is not directly transferred between these departments within a single, vertically-integrated firm.

SECTION I. THE CANNABIS INDUSTRY IN COLORADO

Figure 3.
Business Spending Categories for the Marijuana Industry



Infused product manufacturers purchase marijuana trim and flower as the primary input to production, followed by other food products, then machinery rents, payrolls, warehouse rental (or imputed rent), security and cash management services, and chemicals. All three segments of the marijuana industry have increased their spending on product safety and testing services. Firms in Colorado are now required to test for potency and product safety, including pesticide residue and other harmful chemicals.

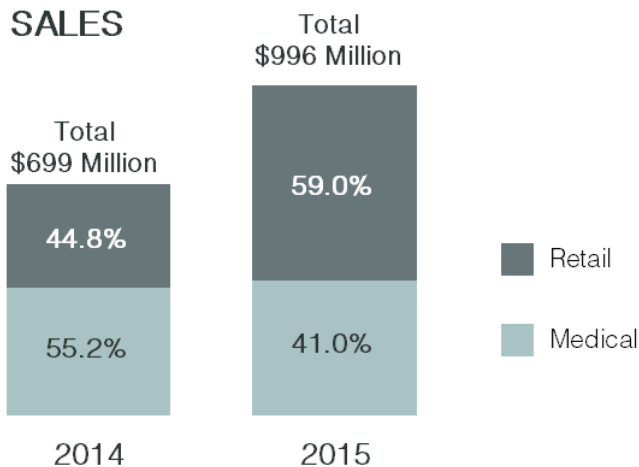
As the marijuana industry has matured over the last two years, it has become more structured, organized, and competitive. This has created demand for specialized law firms, consultancies, and for professional service providers such as the MPG. These firms provide industry-specific analysis and advice to private enterprise and government regulatory agencies.

As the need for analysis and advice grows within the private sector and government agencies, so has the legal and consulting segment of the marijuana industry. Investment banking and business valuation services are additional examples of ancillary demand that are related to the marijuana industry.

By identifying each segment, then classifying and quantifying the activities, they can be inserted into the State Economic accounts for Colorado. From there, an Input-Output model is constructed, and the impact of marijuana spending can be computed for the state. Section 4 contains a full technical description of the model.

In 2014, during Colorado's first year of fully legal regulated sales, there were 71.6 metric tons of marijuana flower sales, and 4.1 million units of non-flower sales from the legal marketplace. Total sales value was \$699 million.

SECTION I. THE CANNABIS INDUSTRY IN COLORADO



In 2015, sales grew by 42.4 percent, to \$996 million, while quantities rose to 112.0 metric tons of flower and (approximately) 10.7 million units of non-flower items. The MPG now uses their *flower-equivalent* system to convert non-flower products (e.g., concentrates, edibles) into a “flower equivalent” amount. Altogether, 132 metric tons of *flower-equivalent* marijuana products were sold in 2015.

The legal marijuana industry is larger than many familiar sectors in Colorado. The marijuana industry was larger than gold mining (\$634 million) in 2014, and was almost on par with 2014 cigarette sales (\$1.05 billion) in 2015. Figure 4 compares the economic output for selected industries in Colorado from 2014.

The cannabis industry is now larger than performing arts and sports venues (\$777.3 million), new *multi-unit* residential construction (\$761.5 million), and bakeries (\$753.5 million).

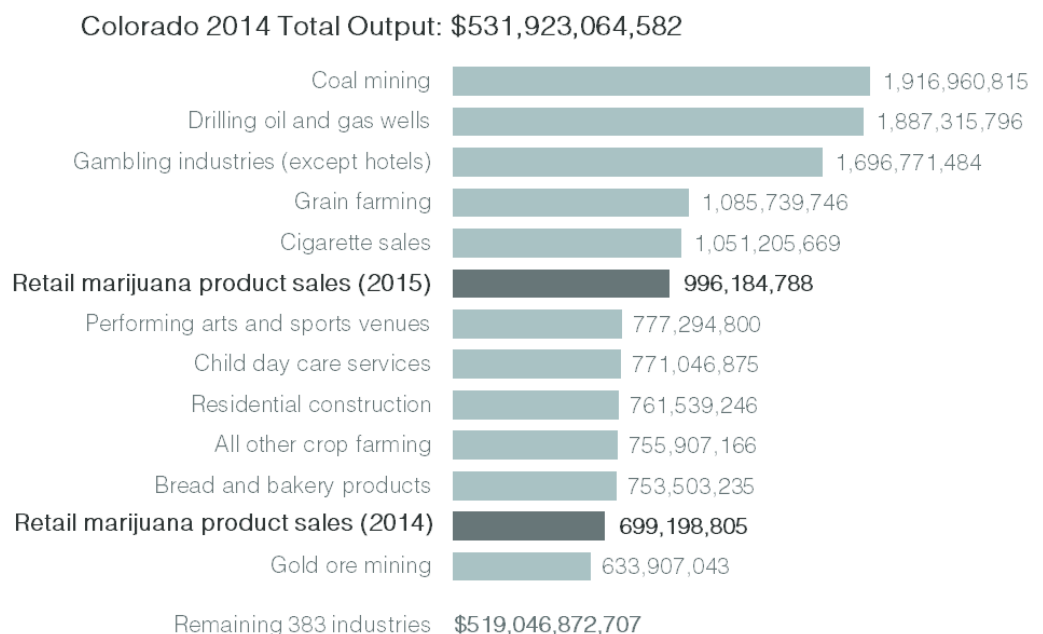
But it is slightly smaller than some other, more traditional Colorado sectors, such as coal mining (\$1.92 billion), oil and gas wells (\$1.89 billion), and grain farming (\$1.09 billion). By 2020, the marijuana industry is expected to surpass some of these traditional sectors. Overall, gross state output in 2014 was approximately \$531.9 billion, much larger than any of these individual industries.

Figure 4.
Market Size for Selected Colorado Industries in 2014

Note:

General economic data is delayed by approximately two years. Both 2014 and 2015 nominal sales are included.

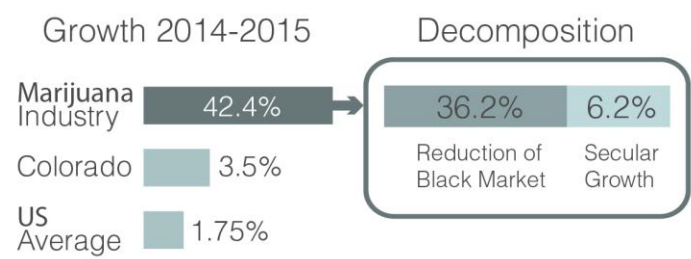
State Output in 2014 was \$531.9 Billion, while GDP was \$305.4 Billion, and in 2015, GDP was \$318.6 Billion.



SECTION II. INDUSTRY GROWTH AND ECONOMIC IMPACT

II-1. INDUSTRY GROWTH: CAUSE AND EFFECT

The cannabis industry is currently growing faster than any other Colorado sector. The chart below shows a comparison between marijuana sales, state GDP, and national GDP. While Colorado's economy grew at 3.5 percent in 2014—twice the national average—marijuana sales grew by 42.4 percent - making this industry a clear growth leader in the state.



Supply Shift: It would be easy to confuse the rapid growth in marijuana sales with an inherent growth in marijuana demand. But that is not the case. Legal marijuana sales are increasing due to a supply shift — away from gray and black market suppliers, toward licensed suppliers.

In 2014, approximately 59 percent of total demand was supplied by the regulated market. The remaining 41 percent was split between so-called “gray market” suppliers (contributing 26 percent), which describe the state’s caregivers who can grow marijuana legally for patients, but who are not considered part of the regulated market. Legal, but unregulated home-growing for personal use was estimated to account for 9 percent of supply, and the residual between total estimated demand and

the total estimated supply was 7.5 metric tons, or 6 percent of the market in 2014.

Over time, more than 90 percent of the market is expected to be supplied by regulated vendors.² The transition from the black-market to the regulated market currently accounts for most of the growth in the official statistics that are quoted by the media.

2014 Supply Modality Total		
	Metric Tons	Share
Medical Retail	55	42%
Recreational Retail	22	17%
Caregivers	33.68	26%
Home Growers	12.14	9%
Total	122.82	94%
Demand	130.3	
Black Market	[7.48] (residual - 6%)	

It is important to understand that a large majority of the market growth in Colorado is not due to secular growth in demand, but rather a transition from the unregulated market to the regulated market.³

Effects of a Growing Industry: As the industry grows, the state has benefitted from investments in cultivation and retailing infrastructure. This is similar to the effect of investments in the oil and gas industry between 2009-2014.

² Only private-use cultivation will persist.
³ Growth is also caused by out-of-state demand and diversion, but cannot be quantified at this time.

SECTION II. INDUSTRY GROWTH AND ECONOMIC IMPACT

Warehouse space that was previously under-utilized is now highly demanded by cultivation operators and manufacturing companies. Retail sales locations have created additional upward pressure for commercial real estate, construction, and related services. In 2015, some office spaces have become available as exclusive “marijuana business incubators” in the Boulder and Denver area, which has inspired the moniker for Colorado’s Front Range as “Cannabis Silicon Valley.”

Projected Growth: The MPG expects cannabis demand and sales to grow, but at a much lower rate than before. By 2020, the Colorado market will be fully saturated, and will grow moderately at 2.0-3.1 percent per year.

The near-term growth is driven by a combination of a shift away from black and gray markets, surging visitor demand, and

secular demand growth among Colorado residents. This combination led to a growth rate (by weight) of 14.1 percent over the past year (2014-15), and is projected to drive physical demand growth at 11.3 percent per year until 2020.

Figure 5 shows the rate of growth for 1) *quantity sold*, 2) *regulated market demand*, and 3) *sales value* — between 2013-2020, as projected by the MPG.

Figure 5. Cannabis Sales Value and Volume: 2013-2020

Key Sales and Demand Metrics 2013 -- 2020					
	2013*	2014	2015	...	2020
Inherent Demand[^]					
Resident Demand (21+ Only)	109.0	121.4	134.7	...	160.6
Visitor Demand	0.0	8.9	14.0	...	55.1
Total Demand (Resident + Visitor)	109.0	130.3	148.7	...	215.7
Rate of Growth (Annualized):	N/A	19.5%	14.1%	...	11.3%
Regulated Market Share					
Metric Tons of Marijuana (Buds Only)	42.0	71.6	112.0	...	184.5
Non-Flower Products (Edibles, Concentrates, etc.)(Millions of Units)	N/A	6.7	10.7	...	16.78
Growth Rate (Annualized):	N/A	70.5%	56.4%	...	16.2%
Regulated Market Values (\$Millions)					
Market Sales - At Constant Prices	**	\$699	\$996	...	\$1,640
Growth Rate (Annualized):	N/A	N/A	42.4%	...	16.2%
Change in Average Market Price	N/A	N/A	-8.9%	...	-7.4%
Market Sales - At Projected Prices	**	\$699	\$996	...	\$1,519
Rate of Growth (Annualized - At Projected Prices):	N/A	N/A	42.4%	...	13.1%

Note: * Data is estimated by MPG.

** Data Not Available.

[^] All demand values are listed in units of “Flower Equivalent” demand. See MPG website for more information.

The regulated marketplace remains smaller than the overall market, but demand for regulated products is growing fast. Sales by licensed vendors jumped 56.4 percent from 2014 to 2015 by weight, and regulated product sales are expected to continue growing by 16.2 percent per year through 2020.

Unfortunately, the *sales value* is likely to grow more slowly, caused by declining prices. Although regulated sales *volumes* increased 56.4

SECTION II. INDUSTRY GROWTH AND ECONOMIC IMPACT

percent, regulated *sales values* only increased by 42.4 percent during the same period. The disparity between sales volume and value in the regulated marketplace is caused by lower prices. The average price for flower, for example, declined by 8.9 percent between 2014 and 2015.

The MPG projects marijuana pricing to continue its decline, by an average of 7.4 percent per year until 2020. This places downward pressure upon total market value, which is a function of both price and quantity. Therefore, the MPG projects regulated sales to be \$1.519 billion dollars by 2020 as volume grows but prices decline, compared to \$1.640 billion if prices were assumed to remain constant. The cause of this difference is declining prices, due to increasing competition and economies of scale.

Visitor Demand: The disparity between sharply higher sales and the moderate growth in resident demand is perplexing at first glance. However, upon closer examination it becomes clear that surging visitor demand is driving a larger portion of Colorado's regulated market than previously believed. This notion is supported in the observations by Washington state, where sales dropped in counties along the Oregon border following legalization in Oregon.⁴

In particular, previous MPG visitor demand models assumed that the primary purpose of

visitors was tourism (skiing or hiking) or short-term business (conferences, meetings). These models are now being updated to include visitors whose primary purpose is the legal marijuana itself. This visitor demand segment is poised to grow from 14 metric tons in 2015, to 55.1 metric tons by 2020, based upon these new, sole-purpose visitors choosing Colorado as a marijuana destination. These figures could also be lower than expected if more states legalize marijuana in the coming years.

II-2. EMPLOYMENT EFFECTS

Legalization of marijuana created 18,005 full-time equivalent (FTE) jobs in 2015. Among those jobs, 12,591 were employees directly involved with the marijuana business — either in stores and dispensaries, cultivations, or infused product manufacturing operations. The remaining 5,414 full-time equivalent positions were generated by intermediate input purchases made by the cannabis industry for general business goods and services, and through general spending by marijuana industry employees and proprietors.

These ancillary jobs include security guards, commercial real-estate agents, construction and HVAC specialists, consulting, legal, and advisory services, and other business services. Additional employment is also generated when marijuana employees and proprietors

⁴ Lerch, Steve, et. al. 2016. "Washington State Economic and Revenue Forecast, Preliminary Analysis of the WA Recreational Cannabis Market."

SECTION II. INDUSTRY GROWTH AND ECONOMIC IMPACT

spend their income on local housing, food and entertainment. This is called an “induced employment effect.” Figure 6 (following page) shows an estimation of these employment types.

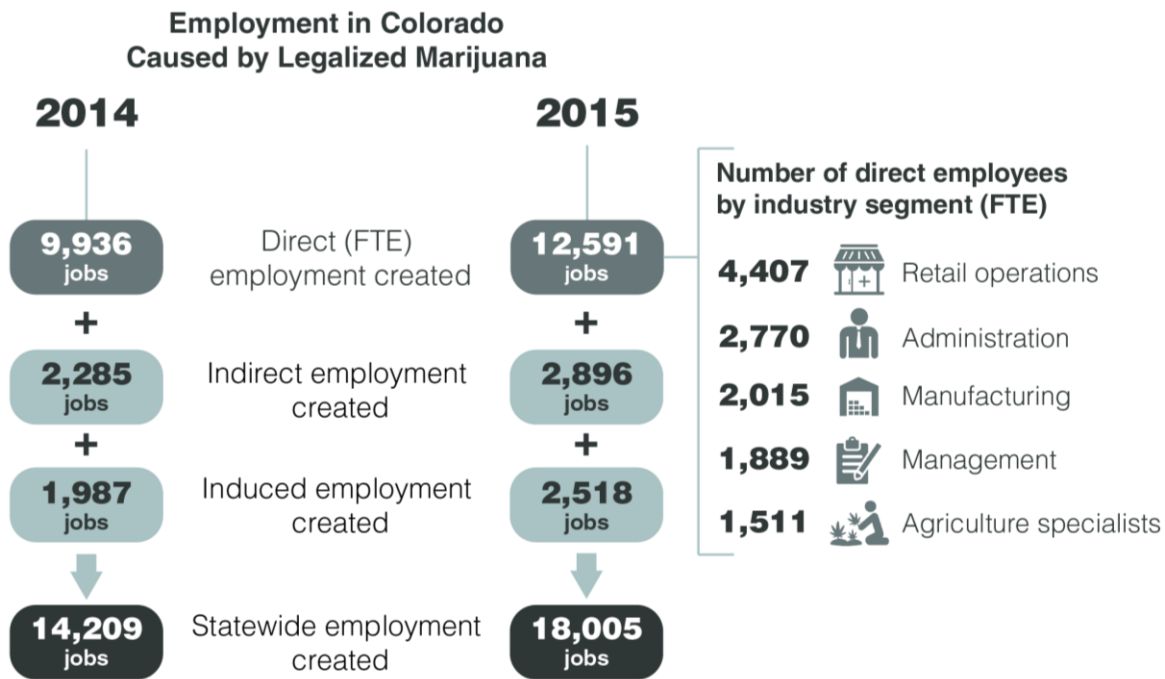
Each segment of the marijuana business has a unique employment profile. Retail stores and dispensaries hire sales clerks, called “bud-tenders,” followed by back-office staff that performs data-entry and general business administration. Cultivators employ “trimmers” — individuals who hand-trim the marijuana buds from the leaves — as well as agronomists

Since many firms in Colorado are vertically-integrated, it is difficult to pinpoint specific roles for some company workers, as they transition between different posts. For example, a retail worker may also provide data entry and compliance services during the mid-day hours, but then transition into the “budtender” role and serve patrons during the peak hours of operation.

Trimmers are generally only needed during harvest periods. In Colorado, the fact that cultivation is primarily indoors means that harvest periods can be determined by the

Figure 6.
Employment
estimates by type
in Colorado, 2015

Source:
Marijuana Policy Group.



and back-office workers for data-entry and compliance. Manufacturers and edibles companies hire “chefs” and other factory floor staff, while concentrates manufacturers primarily hire machine operators.

company, independent from the natural seasons. Thus, trimmers typically move between cultivations in order to minimize down time. Some operators choose mechanized methods for trimming.

SECTION II. INDUSTRY GROWTH AND ECONOMIC IMPACT

Approximately 2,232 FTE employees are estimated to work in the cultivation segment of the market, including indoor agriculture specialists, trimmers, management, and other staff.

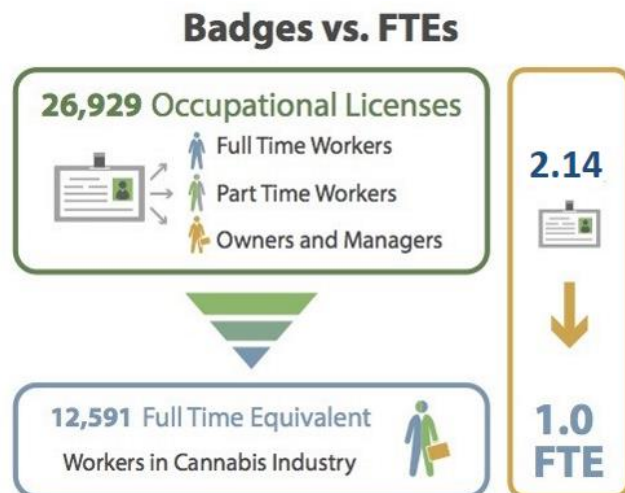
Finally, infused product manufacturers, which bakeries are counted as part, are the least labor-intensive subsector in the marijuana industry.

Each quarter, the State Marijuana Enforcement Division (MED) reports the number of “occupational licenses” that are active on the last day of that quarter. These licenses, or ‘badges,’ are required for employees to begin

consultants, managers, or investors who work on an irregular basis.

In order to clarify this issue, the MPG compared the total number of active licenses with the MPG estimate of actual, full-time employment in the industry (direct employment only). The result is that for each new MED badge, there are 0.467 new FTE positions created. Conversely, it means that one FTE in Colorado is created for every 2.14 new MED badges.

At the end of 2015, state officials reported that 26,929 occupational licenses were active. MPG estimates that there were 12,591 FTE positions in Colorado in 2015 based on the 2.14 ratio described above.



work in the marijuana industry. While more active badges clearly indicate that there are more workers in the industry, one badge does not necessarily correspond to one full-time worker.

At any given time, there are more badges than FTE positions because some workers are part-time, other people are in transition between jobs, and other badge holders are

II-3. TAX REVENUES

In 2015, marijuana taxes were the second largest revenue source among excise products in the state (e.g., tobacco, alcohol, and gaming).

Combined marijuana excise and sales tax revenues were \$63.4 million in 2014, and \$121.2 million in 2015.⁵ For 2015, they were 14 percent larger than casino/gaming revenues,⁶ about 5 percent less than lottery revenues, and almost three times larger than alcohol revenues. Cigarette revenues remain the largest excise

⁵ Licensing fees are counted separately because they are used for administration and enforcement within the Marijuana Enforcement Division. Fees in 2014 and 2015 were \$12.7 million and \$14.5 million, respectively.

⁶ Calendar year 2015 marijuana and alcohol taxes were compared with Fiscal Year 2014/15 tobacco and gaming revenues.

SECTION II. INDUSTRY GROWTH AND ECONOMIC IMPACT

source, at \$180.1 million for 2015, but this revenue source is declining due to a general downward trend in cigarette sales. The MPG projects that marijuana revenues will surpass cigarette revenues by 2020. A full listing of excise-type revenues and related dynamics is shown in Figures 7 and 8 on the following page. The next subsection explains why tax revenues grew more quickly than total sales volumes.

Tax Revenue Dynamics: Marijuana tax revenues are growing more quickly than any other tax type in the state. Tax revenues grew by 91.1 percent between 2014 and 2015, while at the same time, total sales of marijuana grew by 42.4 percent.

Figure 7.
Excise Tax Revenue Comparison: 2014-2020

Colorado Revenues from Excise and Sales Tax (by Source)			
	2014	2015	2020*
Cigarettes	\$177,100,000	\$180,100,000	\$147,682,000
(% Growth)		1.7%	-18.0%
Marijuana	\$63,414,883	\$121,202,211	\$149,579,813
(% Growth)		91.1%	23.4%
Alcoholic Beverages	\$41,423,481	\$43,027,741	\$47,330,515
(% Growth)		3.9%	10.0%

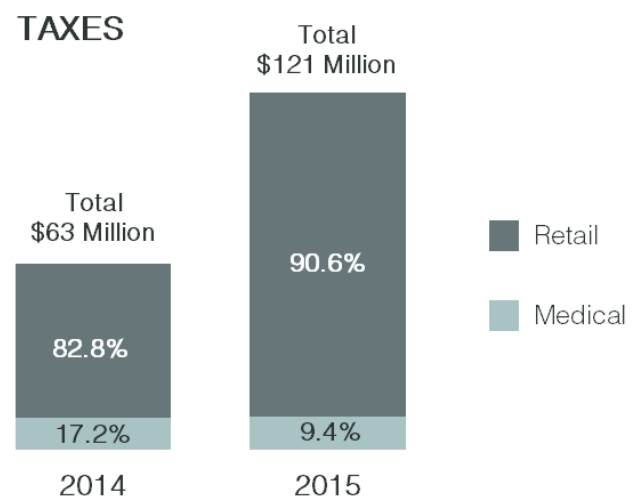
Note: 2020 Projections based on MPG Research.

Sources: Colorado Legislative Council. Tobacco Products Tax. 2016. Colorado Department of Revenue. Colorado Liquor Excise Tax Report. December 2015. Colorado Department of Revenue – Office of Research and Analysis. Monthly Marijuana Taxes, Licenses, and Fees Transfers and Distribution Reports, 2014-2015.

How is this possible? The revenue shift reflects a combination of demand growth and a demand *shift* from the untaxed black and gray markets into the taxed retail market.

Sales for medical marijuana increased just 5.4 percent in 2015 to \$408.4 million, from \$386.0 million in 2014. Meanwhile, adult-use (recreational) sales increased by 87.7 percent, from \$313.2 million in 2014 to \$587.8 million in 2015. This sharp increase in adult-use sales combines with the higher tax rate on those products to generate the sharp revenue increase of 91.1 percent. These gains are helping the Department of Revenue to offset losses from other tax streams.

Figure 8.
Marijuana Tax Collections by Market Segment, 2014 and 2015.

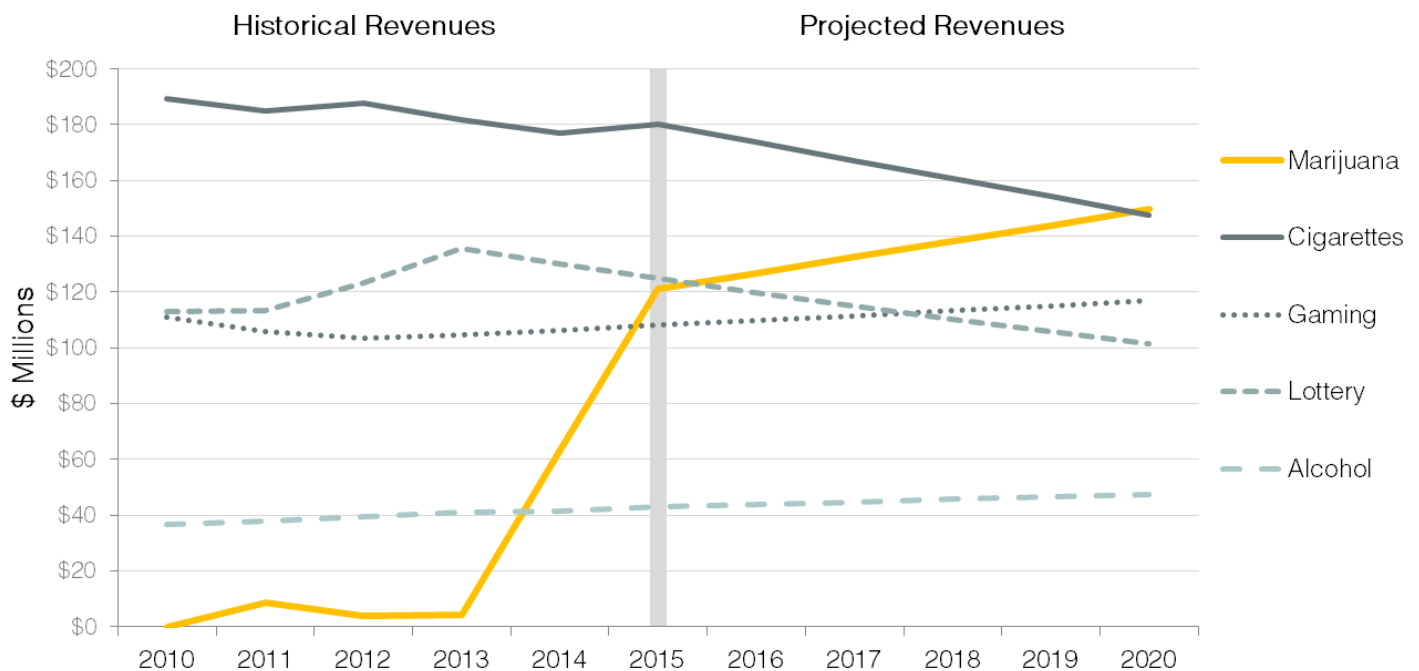


This revenue dynamic is expected to continue through 2020, as consumers continue to shift into the regulated (and taxed) market, and as consumers within the market shift toward adult-use (recreational) stores. The MPG projects revenues will continue growing to \$149.6 million by 2020, due to these dynamics. However, at the same time, sales and excise tax revenues will be offset by declining prices.

SECTION II. INDUSTRY GROWTH AND ECONOMIC IMPACT

Cigarette revenues increased slightly, from \$177.1 million to \$180.1 million between 2014 and 2015. However, cigarette sales have been declining steadily since 2005. Barring additional rate increases, the MPG estimates that cigarette tax revenues will decline to \$147.7 million by 2020, an 18 percent reduction from 2015 levels. Alcohol revenues grew from \$41.4 million in 2014 to \$43.0 million in 2015, partially due to a growing population base in the state. Recent and forecasted tax revenues for each of these goods are shown in Figure 9.

Figure 9.
Revenue Dynamics for Marijuana Compared to Traditional Excise Revenue Streams, 2010-2020



SECTION III. THE MARIJUANA IMPACT MODEL— TECHNICAL DESCRIPTION

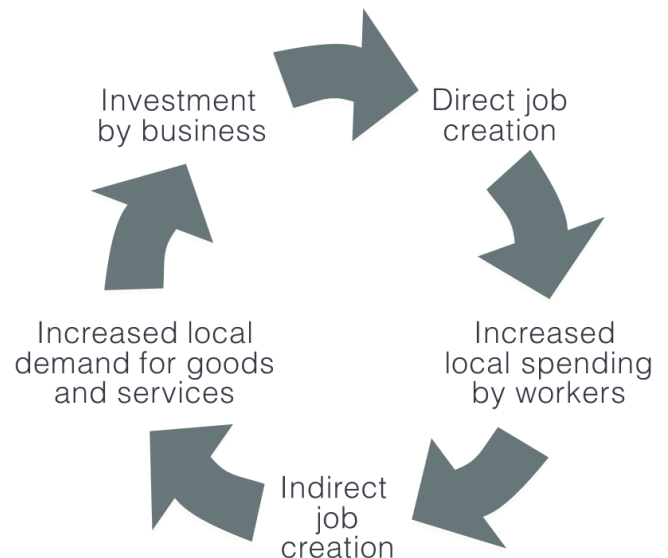
This section describes Input-Output modeling in general, and how the marijuana impact model was constructed as the world's first Input-Output Model that integrates the cannabis industry in its entirety.

Input-Output models are used to define the linkages between different economic sectors, and between buyers and producers of different goods and services. These linkages are described through the purchases of intermediate inputs and final demand spending. This inter-connected spending creates a multiplicative effect, where spending in one sector creates demand for intermediate inputs from other sectors, culminating in a multiplier effect, where the total effect upon state output increases more than the original spending amount.

III-1. COLORADO-SPECIFIC OUTPUT AND EMPLOYMENT MULTIPLIERS

The notion of a *multiplier* comes from Leontief Input-Output analysis, which traces out how consumer spending expands from the original spending (called the direct impact), through intermediate suppliers (called the indirect impact), and finally through the hands of employees from that sector, who spend their money on general goods and services (called the induced effect). When combined, these three impacts represent the “economic multiplier” for a particular industry in Colorado or another target region, illustrated in Figure 10.

Figure 10.
The Multiplier Effect



This impact is different for every industry and region. Products that are imported do not generate large output multipliers, because most of the spending is remitted to an out-of-state producer.

The marijuana industry is unique because sales of marijuana are exclusive to in-state producers. Retailers and manufacturers are required to purchase all of their marijuana inputs from in-state suppliers. For this reason, the marijuana industry in Colorado has a relatively large multiplier.⁷

⁷ More technically, the “Regional Purchase Coefficient” for this industry is close to one, because the main ingredient for retail stores and manufacturers (marijuana flower and trim) must be purchased exclusively within the state of Colorado.

SECTION III. THE MARIJUANA IMPACT MODEL— TECHNICAL DESCRIPTION

Before July 2016, Colorado also required all licensees, owners, and workers to be state residents.⁸ In that case, all profits and wages would also accrue entirely to Colorado residents. New state legislation, passed in 2016, will waive this requirement. The original in-state ownership requirement was intended to help small marijuana businesses, but it also impaired small business growth by restricting the supply of potential investors.

Figure 11 shows the direct, indirect, and induced impact multipliers for marijuana compared to other industries in the state. The aggregate output multiplier for marijuana retailing equals 2.398, which ranks high among Colorado industries. This sector produces more output and employment per dollar spent than Manufacturing but is slightly lower than Federal Government Enterprises.

Figure 11.
Direct, Indirect, and Induced Effects for the Colorado Marijuana Industry, compared to other state industries.

Description	Type of Impact			
	Direct	Indirect	Induced	Total
Local government passenger transit	1.000	1.497	0.994	3.491
Other federal government enterprises	1.000	1.031	0.389	2.421
Marijuana Retail	1.000	1.029	0.369	2.398
Marijuana Manufacturing and Baking	1.000	0.984	0.355	2.340
Religious organizations	1.000	0.837	0.443	2.281
Architectural, engineering, and related services	1.000	0.500	0.751	2.251
Dry-cleaning and laundry services	1.000	0.442	1.033	2.475
Environmental and other technical consulting services	1.000	0.428	0.822	2.250
Promoters of performing arts and sports and agents for public figures	1.000	0.788	0.455	2.242
Business and professional associations	1.000	0.314	0.922	2.236
Offices of physicians	1.000	0.377	0.841	2.218
Independent artists, writers, and performers	1.000	0.804	0.389	2.193
Marijuana cultivation	1.000	0.793	0.332	2.126
Wholesale Trade	1.000	0.543	0.443	1.987
Manufacturing	1.000	0.584	0.357	1.940
Retail trade	1.000	0.522	0.363	1.884
Mining	1.000	0.292	0.497	1.789
Gambling industries (except casino hotels)	1.000	0.401	0.332	1.733
Racing and Track Operation	1.000	0.228	0.278	1.506
Amusement parks and arcades	1.000	0.273	0.213	1.486

Source: MPG calculations and comparative IMPLAN sector multipliers.

⁸ In July 2016, this rule was removed, so Colorado will allow out-of-state ownership of minority stakes in businesses beginning in 2017. Owners remain predominantly Colorado residents.

SECTION III. THE MARIJUANA IMPACT MODEL— TECHNICAL DESCRIPTION

III-2. INPUT-OUTPUT TABLE CONSTRUCTION

In order to compute the output multipliers above, the specific linkages for Colorado must be constructed using an input-output table. The original Colorado input-output dataset has been extended by MPG researchers to include the marijuana industry. An aggregated version of the so-called “direct requirements” table is shown below, in order to highlight that both the size of the industry, the share of each segment, and the production structure are needed in order to construct a true and accurate model.

Note that retailing, cultivation, and manufacturing for marijuana must be combined with all other sectors in the economy. But at the same time, the outputs from marijuana cultivations and manufacturers are sold exclusively to marijuana retailers.

The unique production structure for each sector in an economy is derived from data that is collected by the federal, state, and local governments. The primary data source for the non-marijuana data is the U.S. Bureau of Economic Analysis (BEA). The BEA constructs highly detailed input-output tables for each sector of the economy. Economists use these input-output tables to perform regional input-output modeling across a wide variety of activities.

However, since marijuana is a federally illegal “Schedule 1” narcotic, the BEA does not collect or construct data related to the cultivation, processing, or retailing of marijuana.

Until 2014, the market for marijuana was restricted to medical patients and inventories and transactions were not consistently monitored using a standardized seed-to-sale tracking system.

Due to this lack of data, it was impossible to estimate how the medical marijuana industry impacted the state economy. At the same time, all registered businesses must have a federally-assigned Employer Identification Number (EIN) and must register to pay unemployment insurance and workers’ compensation insurance. This data can be combined with private-side data in order to construct the model.

III-3. CALCULATION OF OUTPUT AND EMPLOYMENT MULTIPLIERS

Once the marijuana-specific tables are constructed, the industry-specific multipliers can be computed using standard I-O techniques.

- The input-output table is combined with a table of *Regional Purchase Coefficients* (RPCs) that have been originally constructed by the BEA and subsequently by the IMPLAN Corporation. These RPCs indicate the share of each intermediate input that is purchased from within the state of Colorado, versus inputs that are purchased from outside of Colorado.
- For example, the RPC for most manufactured goods is approximately 12 percent. This indicates that 88 percent of manufactured goods purchased in Colorado come from outside of the state.

SECTION III. THE MARIJUANA IMPACT MODEL—TECHNICAL DESCRIPTION

Figure 12.
Aggregated Marijuana-Based Input-Output Example — Provided for Exposition Purposes Only

	Traditional Economic Sectors					Marijuana Industries			Traditional Economic Sectors					
	Financial Services	Agriculture, Forestry, Livestock	Oil, Mining, Gas & Water	Construction	Food & Beverage	Marijuana Retailing	Marijuana Cultivation	Marijuana Manufacturing	Light & Heavy Manufacturing	Communications	Transport & Distribution	Other Services	Government & Non-Profit	Private Households
Financial Services	28.2%	4.6%	1.5%	1.5%	0.7%	XX%	XX%	XX%	0.7%	1.2%	3.7%	2.7%	15.7%	9.6%
Agriculture, Forestry, Livestock	0.0%	14.3%	0.1%	0.2%	30.6%	XX%	XX%	XX%	12.8%	0.0%	0.0%	0.0%	0.0%	0.6%
Oil, Mining, Gas & Water	0.2%	3.3%	6.0%	1.4%	2.3%	XX%	XX%	XX%	1.6%	0.6%	1.0%	0.2%	0.8%	2.2%
Construction	0.6%	0.5%	2.7%	0.1%	0.5%	XX%	XX%	XX%	0.6%	1.1%	1.1%	0.2%	1.2%	0.0%
Food & Beverage	0.0%	0.1%	0.0%	0.0%	23.0%	XX%	XX%	XX%	0.0%	0.0%	0.0%	0.0%	0.3%	5.1%
Marijuana Retailing						XX%								
Marijuana Cultivation						XX%		XX%						
Marijuana Manufacturing						XX%		XX%						
Light & Heavy Manufacturing	0.8%	18.8%	7.6%	28.2%	7.4%	XX%	XX%	XX%	31.7%	4.3%	14.4%	5.8%	3.3%	12.0%
Communications	2.8%	0.1%	0.3%	1.1%	0.4%	XX%	XX%	XX%	0.9%	12.4%	0.9%	1.5%	1.6%	1.7%
Transport & Distribution	0.9%	4.4%	1.4%	7.1%	8.2%	XX%	XX%	XX%	9.6%	1.0%	9.2%	2.8%	2.4%	15.4%
Other Services	15.9%	11.9%	12.0%	13.9%	9.5%	XX%	XX%	XX%	9.7%	18.0%	11.2%	30.8%	17.0%	37.3%
Government & Non-Profit	1.3%	0.1%	0.1%	0.3%	0.1%	XX%	XX%	XX%	0.2%	0.3%	1.1%	0.5%	0.7%	3.1%
Business Taxes	1.7%	1.8%	8.4%	0.6%	0.3%	XX%	XX%	XX%	0.7%	5.8%	3.9%	1.1%	0.0%	0.0%
Payrolls	24.5%	11.2%	15.4%	27.3%	9.3%	XX%	XX%	XX%	11.9%	16.7%	33.9%	23.8%	46.6%	0.0%
Rent and Cost of Capital	20.9%	28.9%	43.9%	18.2%	7.6%	XX%	XX%	XX%	19.4%	37.2%	16.7%	29.1%	10.2%	0.0%
Misc. Expenses	2.2%	0.0%	0.5%	0.0%	0.2%	XX%	XX%	XX%	0.0%	1.4%	2.8%	1.3%	0.0%	13.1%
Total Spending:	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Source: Marijuana Policy Group — Marijuana sector coefficients have been replaced by “XX%” to protect firm privacy and potential proprietary information.

SECTION III. THE MARIJUANA IMPACT MODEL— TECHNICAL DESCRIPTION

Of course, all purchases of marijuana inputs have an RPC of 100 percent. However, intermediate inputs for marijuana cultivators and for non-marijuana products can be purchased normally. Thus, the non-marijuana purchases utilize standard RPCs for the rest of the economy.

- The output multiplier is computed by using the standard I-O formula. This formula reflects the share of spending for each intermediate input, or household purchase. Subsequent spending by intermediate suppliers and by employees is included as well. The culmination of this spending can be represented using the summation of an infinite-series. The sum of this series can be concisely written using the equation below:

$$X = [I - A]^{-1} Y$$

- Each element of the equation is a matrix or vector. X represents the total change in output, the symbol I is the Identity matrix, A is the Direct Requirements Table, and Y is a vector representing the change in spending for different sectors. For example, if $Y = \$1$ of spending on marijuana retailing, then X would equal \$2.40 dollars, using the current model. This is the sum of changes in output for all sectors in the economy, in addition to the original \$1 dollar of spending.
- The employment impact is computed by combining the output multiplier together with sector-level employment ratios. Once the total change in output is computed for

each sector, then the employment ratios are applied.

For example, if output in the Financial Services sector increases by \$100 million, and if the average employment in this sector equals 1.7 employees per million dollars in output — then the change in output would support an additional 170 workers, holding all else equal.

Each sector has a different ratio of employment per dollar of output. Some sectors are more labor intensive, such as farming, while others are more capital intensive, such as manufacturing or finance.

Marijuana retailing is relatively labor intensive, and has a relatively high employment ratio compared to the state average. However, most of these positions have relatively low average wages and few fringe benefits.

SECTION IV. ECONOMIC RESULTS IN CONTEXT

IV-1. COMPARISON OF MPG RESULTS WITH OTHER RECENT STUDIES

The economic implications of marijuana legalization have received significant attention by the press. As a result, some previous studies have attempted to quantify the impact of legalization, with mixed results. This section of the report briefly reviews these studies and compares their results to those produced by the MPG.

Because the marijuana business is cash-based and was recently wholly underground, each of these studies had to make some tenuous assumptions due to the lack of data. Not surprisingly, the studies either over-estimate the impact of legal marijuana or under-estimate the impact, sometimes by a wide margin.

Study #1, written by a University of Denver professor in 2014 (J. Strauss), uses BEA “RIMS” multipliers to compute the output and employment effects.⁹ But since “marijuana sales” does not exist in RIMS dataset, the author chose to use a *proxy-sector* to represent the marijuana industry — the “large retail” industry. However, since the RIMS multiplier for retail reflects 50 percent of purchases from outside of the state, the total output and employment effects were *under-estimated*.

Study #2, written by New Frontier, a financial services company that serves the marijuana industry, did not use an input-output model at all.¹⁰ Instead, the study combines anecdotal observations with official sales figures, and then assumes that they are fundamental relationships. For example, the New Frontier authors state that “the U.S. market in 2020 will be \$20.6 Billion USD” for adult-use and medical marijuana.

However, this declaration incorrectly assumes that the U.S. market growth is due to increasing *inherent* demand, rather than a shift between black markets and regulated markets. As a result, their projections grossly over-estimate potential sales over the medium term.

Study #3, by New Economy Consulting and Whitney Economics, based in Portland, Oregon, estimates the total employment caused by marijuana legalization in the state.¹¹ This study is focused solely upon employment, rather than output, and therefore does not rely upon an I-O model to generate results.

Instead, the study relies upon a survey of existing marijuana dispensaries that asks questions about their employee count, and whether new employees were hired before or after adult-use marijuana was legalized.

⁹ Strauss, Jack. 2016. “The Economic Impact of Marijuana Taxation and regulation in Colorado.” *Council on Responsible Cannabis Regulation*. Denver, CO. https://www.crcr.org/wp-content/uploads/2016/04/The-Economic-Impact-of-Marijuana-Tax-and-Regulation-in-Colorado_031716.pdf

¹⁰ “4th Edition of the State of Legal Marijuana Markets.” New Frontier Data & Arcview Market Research. 2016.

¹¹ Hinkel, J.H., Halle, M., Chapman, S., and Whitney, B.R. (2016). Oregon Cannabis Jobs Report – Retail Sales and Job Creation in Oregon’s Burgeoning Cannabis Sector. New Economy. <http://www.cannabisjobsresearch.com/>

SECTION IV. ECONOMIC RESULTS IN CONTEXT

The report findings are a tabulation of these survey results, combined with a linear projection of employment if sales were to grow further in the state. The last chapter of this study mentions use of the IMPLAN model, but does not supply specific details regarding the inputs or outputs of that exercise.

Study #4, by CIBC World Markets Inc. reflects the inability for the press to discern credible research apart from blind speculation in the cannabis industry.¹²

The study combines data from Colorado, British Columbia, and Statistics Canada to estimate potential sales and tax revenues when adult-use cannabis is legalized in Canada.

In doing so, the authors over-estimated potential tax revenues by a gross margin — approximately 300 percent. The miscalculation of these results becomes clear when they are held for comparison against actual data.

During the first year of legalization, tax revenues in Colorado, Washington, and Oregon were approximately \$23, \$18, and \$6 per resident.¹³ In contrast, the CIBC study suggests that tax revenues in Canada will be more than \$142 CAD (\$106 USD) per resident,

or more than five times the highest tax yield in the United States. The study findings were released and published by all major newspapers in Canada and among the marijuana-specific publications in the United States.

The broad acceptance of this report shows how the press remains unfamiliar with the legal cannabis market, and can easily be misled, especially when the reports come from intuitions that are perceived to be reputable.

Study #5, by ICF International, a large multidisciplinary consulting firm based in Washington DC, considers the economic impacts marijuana legalization in California.¹⁴

We believe the authors have over-estimated potential sales by over 100 percent. Their projected market value is \$15.9-\$20.2 billion, while MPG experts project the size to be \$7.0-\$9.8 billion. Their key difference is the ICF's assumed price. Through oversimplification, they assumed an average price of \$11.37 per gram. In reality, marijuana pricing is more complex, with volume discounts and non-flower products, such as concentrates and edibles. In Colorado, the average price paid for flower was \$5.03 and \$9.85 in 2015 for medical and adult-use consumers, respectively. This difference leads to a large over-estimation of market value in California.

¹² Shenfield, A. "Growing Their Own Revenue: The Fiscal Impacts of Cannabis Legalization." *CIBC World Markets Inc. Economic Insights*. January 28, 2016. http://research.cibcwm.com/economic_public/download/eijan16.pdf

¹³ Indicates total excise and sales tax revenues for the first "representative" 12 months after legal markets were opened, divided by the total population of the state. Oregon's estimate is extrapolated from the first 2 months of taxation in 2016.

¹⁴ Cooper, W., Johnston, E., and Segal, K. (2016). "The Economic Impacts of Marijuana Sales in the State of California." *ICF International*. <https://www.icf.com/perspectives/white-papers/2016/economic-impact-of-marijuana-sales-in-california>

SECTION IV. ECONOMIC RESULTS IN CONTEXT

Alternatively, the authors could have cross-checked their estimates with existing markets in Colorado and Washington. If Colorado's sales in 2015 sales are simply be scaled to fit California's population (38.8 million vs. 5.1 million). The result would suggest a market size of \$7.2 billion — about 55 percent less than the lower-bound estimate by ICF.

At the same time, the ICF study *under-estimates* the most likely direct and indirect employment effects. They missed because they chose a proxy industry, food and beverages, which has a lower multiplier than MPG calculates in this report. The result is that they under-estimate the employment impact, when measured per dollar of spending.

While the ICF study is more carefully constructed than other studies that were reviewed, it highlights the fact that economists can no longer utilize inappropriate proxy data or make invalid assumptions. Highly precise data now exists in the legal marijuana market, and researchers are obligated to find and utilize this data to cross-check their assumptions and to inform their baseline economic estimates.

Summary: These report examples reveal two key issues related to marijuana legalization. First, there is a need for “fact-based” and “data-driven” studies that can clearly explain how marijuana legalization impacts state budgets, output, and employment.

Second, the marijuana industry and press should be cognizant that many studies are either purposely misleading, or they are ill-

informed due to a lack of proper data. Publishing or referencing these studies without proper fact-checking leads to a general misunderstanding of the cannabis industry overall, and a mistrust for related research.

IV-2. TRENDS IN COLORADO'S CANNABIS INDUSTRY

The legalization process has evolved differently in each U.S. state. As a result, the industrial and regulatory structure varies greatly across different regions. This section describes some specific facets of Colorado's situation, and explains how these issues impact the results in this report.

VERTICAL INTEGRATION. Until October 2014, all marijuana licensees were required to be vertically integrated, where cultivation, processing, and sales were part of the same business.

As a result, many marijuana entities in Colorado remain vertically integrated in 2016. Most companies integrate their cultivation and retail operations. Some infused product manufacturers also cultivate their own marijuana inputs. In contrast to Colorado, The State of Washington initially banned vertical integration, forcing retailers and MIPs to purchase from separately-owned cultivation operators.

Vertically-integrated firms utilize employees across each industry segment, which convolutes the employment types that are outlined in this report. The MPG used information from both stand-alone entities and

SECTION IV. ECONOMIC RESULTS IN CONTEXT

vertically-integrated entities, in order to ascertain the specific job duties for different employee types in each segment.

These job types and employment ratios were then applied to the industry sector, as if they were separate entities within the vertically-integrated firms.

Another challenge presented by vertical integration relates to inter-business transfers of wholesale products. Vertically-integrated companies do not explicitly account for the market value of the wholesale marijuana that is grown and then transferred to the storefront for sale. In order to assign a market price to the wholesale production for cultivators, the MPG assumed that the arms-length transaction price is equal to the "Average Market Rate". This is the price assigned to wholesale marijuana flower and trim by the Colorado Department of Revenue (DOR).

Wholesale marijuana that is grown for medical consumption is not subject to excise taxation, so the DOR does not assign an average market rate to it. Although the markets are segmented, the MPG makes the assumption that both medical and adult-use marijuana have the same price at the wholesale level. This allows us to apply the Average Market Rate to both types of cultivated product. In July 2015, for example, the official rate cited by the Colorado Department of Revenue was \$1,868/lb. for flower, and \$370/lb. for trim.

INDUSTRY CONSOLIDATION AND MARKET SHARE. In order to characterize the "typical" or "average" rate of employment in the industry, the MPG

examined and reviewed a combination of large and small firms. Large firms typically employ several hundred employees, across different industry segments, while the small firms are sometimes sole-proprietorships. Among the 2,677 marijuana licensees that are currently active in Colorado, just seven companies account for approximately 25 percent of total sales.

As the Colorado market matures, it is becoming more consolidated. Larger, more competitive companies are growing, while smaller, less competitive companies struggle and eventually exit the market. This is a natural dynamic within any competitive market.¹⁵

Private industry owners purport that consolidation is not being caused purely by price competition, but instead by high compliance costs. For example, the owner of one of Colorado's largest retailers recently stated that many small operations are unable to properly comply with the state's complex regulations, leading them to exit the market.¹⁶

ACCOUNTING FOR THE UNDERGROUND MARIJUANA ECONOMY. Clearly, the business of illegally growing and selling marijuana existed before this report was written. Therefore, some portion

¹⁵ There is currently a policy debate about whether the natural dynamic of industry consolidation should be allowed or if it should be mitigated through government intervention, but that issue is beyond the scope of this report.

¹⁶ Denver Post, *The Cannabist*, interview with John Lord, Feb. 3, 2016. <http://www.thecannabist.co/2016/02/03/livwell-john-lord-colorado-oregon/47630/>. Visited on May 30, 2016.

SECTION IV. ECONOMIC RESULTS IN CONTEXT

of the economic impact computed here is simply a conversion from the un-reported, underground activity into the officially-reported economy. It would be reasonable to ask: “Does this activity properly count as new economic activity?”

This section suggests the answer is “yes.” The first and most important reason is that the legal activity is being officially reported, while the underground economy is not. In order to be comparable and consistent between years, the official output and production statistics should be used as much as possible. The BEA does make adjustments for some aspects of the economy that are not officially reported — such as imputed rents for owner-occupied housing. However the methodology they use is transparent and documented, and remains the same over time.

As the underground marijuana economy shrinks and changes (from illegal cultivation to illegal retailing), there is no pre-defined methodology to account for the non-reported activity. Therefore, the MPG has chosen to consider all of the official sales as if they are “new spending” on marijuana. The MPG is interested to hear from readers about how to partition underground activity during the transition into the legal market.

A second reason the MPG has omitted the underground economy is related to cultivation and trade. Under prohibition, a large portion of illegal demand in Colorado was supplied by out-of-state cultivators from Oregon, California, Mexico, or elsewhere. This activity is now performed completely inside of the state. This

represents a true increase in activity that did not exist before legalization.

Similarly, a large share of the purchase price accrued to drug trafficking — the activity of illegally transporting and distributing the product between the cultivator and customer.

Like cultivators, some portion of the drug smugglers were not Colorado residents. Only the retail drug dealer was likely to be a resident who spent their income inside of Colorado's borders. After legalization, all of the distribution and transport activity has shifted to in-state entities. Thus, the MPG believes that the full economic impact can accurately be described as “new spending.”



COLORADO
Department of Revenue



August 10, 2015

Marijuana Equivalency in Portion and Dosage

*An assessment of physical and pharmacokinetic relationships
in marijuana production and consumption in Colorado*

Prepared for the Colorado Department of Revenue

The authors are grateful for suggestions and assistance from Lewis Koski, Ron Kammerzell, Jim Burack, Dr. Franjo Grotenhermen, M.D., Dr. Kari Franson, M.D., and all the businesses that hosted the team and contributed information to this study. Any omissions or errors are the sole responsibility of the report team.

This report was commissioned under Colorado HB 14-1361. The Colorado Department of Revenue retained the University of Colorado, Leeds School of Business, Business Research Division, in partnership with the Marijuana Policy Group, and BBC Research & Consulting, to produce an unbiased and scientific report for the purpose of rulemaking by Colorado stakeholders.

Version 12 / August 10, 2015

Corresponding author:

Adam Orens

aorens@mjpgpolicygroup.com

Authors

Adam Orens

Miles Light

Jacob Rowberry

Jeremy Matsen

Brian Lewandowski

MPG

Marijuana Policy Group



Leeds School of Business
UNIVERSITY OF COLORADO BOULDER

BUSINESS RESEARCH DIVISION

BBC
RESEARCH &
CONSULTING

Marijuana Equivalency in Portion and Dosage

*An assessment of physical and pharmacokinetic relationships
in marijuana production and consumption in Colorado*

Table of Contents

EXECUTIVE SUMMARY	6
Physical Equivalency	6
Pharmacokinetic Equivalency	7
Market Price Equivalency	8
OVERVIEW AND MOTIVATION	11
Production, Price, and Dosing Equivalencies	11
Use of Metrc™ Data	12
PREVAILING MIP PRODUCTION TECHNIQUES	13
THC vs. THCa	13
Production Technique Summary	13
Hydrocarbon Extraction Process	14
Carbon Dioxide Extraction Process	15
Butter and Cooking Oils	15
Other Solvents	16
PHYSICAL EQUIVALENCY CALCULATIONS	17
Alternate Methodology	21
PHARMACOLOGICAL EQUIVALENCIES	23
Enumeration of THC Uptake Methods for Marijuana	23
THC, THCa, 11-OH-THC and THC-COOH	24
Identification of THC Uptake and Benchmarking	24
Role of the Blood-Brain-Barrier (BBB)	27
Constructing Dosing Equivalencies for Marijuana Products	28
Identification of Parameter Values	30
A Worked Example	33
Resulting Equivalency Tables	34
Oils, Tinctures, Lotions, and Less Common Uptake Methods	35

MARKET PRICE COMPARISON	36
REFERENCES	41
TERMS & ACRONYMS	44

Executive Summary

The original legislation to legalize and regulate marijuana in Colorado does not explicitly restrict marijuana concentrates and infused edibles. Over time, these marijuana products have become more popular, prompting new legislation to remedy the omission. House Bill 14-1361 now stipulates limits upon marijuana flower portions, “or their equivalent.”

This study provides scientific and data driven evidence in order to understand these equivalencies. The results provide comparisons between marijuana flower, concentrates and infused products specifically for Colorado’s marijuana market.

Equivalency can be viewed from three perspectives: production, dosing, and market price. The first perspective relates to physical production, where infused edibles or concentrates are traced back into their corresponding weight of flower or trim inputs. This enables the conversion from non-flower products into a common flower-based denominator, so that aggregate use can be measured across different marijuana product types.

The second perspective uses pharmacology to develop a dose-equivalent measure across product types. The results equate the dosing effects between inhaled and ingested marijuana products. Finally, the third perspective uses Colorado potency and market data to convert marijuana retail prices into their unit-THC equivalents. These THC-based prices are then compared across product types. A powerful and reassuring finding is that Colorado’s market prices reflect, almost identically, the dosing equivalencies found in the pharmacological review. The pricing perspective is a new methodology, made possible by analyzing recently collected data from Colorado’s retail marijuana market.

The information contained in this report is specific to Colorado in 2015. Production techniques are constantly evolving, and the marijuana included in this study was

grown in Colorado and may not share similarities with product in other regions. Overall, the study is designed to meet the requirements of Colorado House Bill 14-1361 and focuses solely on the retail adult-use marijuana market in Colorado.

PHYSICAL EQUIVALENCY

Physical equivalencies were calculated in two ways – a THC equivalency, and a physical production equivalency. Physical equivalencies were calculated for the major concentrate and infused product manufacturing techniques, including butane hash oil, CO₂ oil, ethanol, and water. Physical production equivalency is calculated by isolating the marijuana trim and shake inputs and determining a yield ratio. The THC methodology provides an equivalent amount of THC in various forms of marijuana products based on recent state testing information Table ES-1 shows equivalency factors for both methodologies by solvent type.

The physical equivalencies in Table ES-1 show that between 347 and 413 edibles of 10mg strength can be produced from an ounce of marijuana, depending on the solvent type and production method. For concentrates, between 3.10 and 5.50 grams of concentrate are equivalent to an ounce of flower marijuana.

The THC equivalency factors in Table ES-1 can be interpreted as showing units with equivalent amounts of THC based on recent state testing data. For instance, given the uniform dosage amounts of edibles in Colorado, 434 edibles of 10mg strength and one ounce of flower marijuana at average potency have an equivalent amounts of THC. For concentrates, between 6.91 and 8.50 grams of concentrate (depending on solvent) and an ounce of flower marijuana at average potency have an equivalent amount of THC.

Table ES-1. One Ounce Equivalents by Solvent Type

	1-Ounce Flower Equivalents			
	Physical Equivalency		THC Equivalency	
	Amount	Amount	Amount	Amount
	Edibles	Concentrate (g)	Edibles	Concentrate (g)
Solvent Type	(10mg)	(Avg. Potency)	(10mg)	(Avg. Potency)
Butane	391.07	5.46	434.35	6.91
CO2	346.96	4.84	434.35	8.07
Butter/Lipid	413.49	N/A	434.35	N/A
Ethanol	N/A	5.44	N/A	7.37
Water	N/A	3.10	N/A	8.50

Source: Author calculations based on metrc™ data.

The conversion factors described above are the first of their kind. They can be useful for state-level production management. The conversions allow units of infused edibles and concentrates to be denominated by flower weight, and then added to flower sales, in order to determine retail market demand and supply.

PHARMACOKINETIC EQUIVALENCY

An important compliment to the physical THC relationships identified in this study is the pharmacological perspective. If the purpose of the equivalency legislation is to limit transactions or possession to a reasonable “dose” of concentrates and marijuana products for residents and non-residents, then the medical effects described here will be useful to construct a set of equivalencies between marijuana product types.

Pharmacokinetic equivalency incorporates findings from medical and pharmacological publications to inform marijuana stakeholders about the dosing process. The authors created a new mathematical construct that can compare ingested and smoked marijuana products in a consistent manner.

The pharmacokinetic model compares inhaled and ingested products using a dose ratio. The calculations are based upon different uptake routes and speeds for the psychoactive compounds related to marijuana use (e.g., THC and 11-OH-THC). Other compounds, such as cannabinoids, are not included here because the legislation relates only to retail use. The base pharmacokinetic equivalency ratio is 1 to 5.71. This means that one milligram of THC in edible form, is equivalent to 5.71 milligrams of THC in smokable form.

Table ES-2. Pharmacokinetic Dosage Equivalency

	Average THC Potency	Effective Uptake Ratio	1 Gram Equivalent	1 Ounce Equivalent
Buds/Flower	17.1%	1.00	1 Gram	1 Ounce
Edibles	N/A	5.71	3 Servings	83 Servings
Concentrates	62.1%	1.00	0.28 Grams	7.72 Grams

Source: Author calculations based on metrc™ data.

Table ES-2 shows the pharmacokinetic equivalencies, and the corresponding serving equivalencies, using data from Colorado.

Pharmacokinetic equivalencies indicate that 83 ten-milligram infused edible products is equivalent to one ounce of marijuana flower in Colorado. About 7.72 grams of concentrate is equivalent to an ounce of flower marijuana.

MARKET PRICE EQUIVALENCY

For comparison, a third equivalency approach was developed by the study team. This is the “market price equivalency” method. As with the physical equivalencies, this methodology was previously not possible. We use metrc™ data to convert retail store market prices into a price per unit of THC across different products. These new THC-based prices reflect the inherent value of each product from a psychoactive dose viewpoint. They reveal the price that consumers are willing to pay for the psychoactive experience (the high) yielded from each type of product.

Table ES-3 below shows representative marijuana product pricing in Colorado’s retail market. The top portion shows

typical prices for the products themselves. The middle portion shows the price after conversion—in cents per milligram THC (¢/MG_{THC}). Finally, the bottom portion computes the price-ratio between products using the THC price measure.

Table ES-3 shows the price of marijuana flower, or buds, is \$14.03 when purchased by the gram, or \$264 when an ounce is purchased. When converted to THC, the same product costs 8.25 cents per milligram THC when purchased by the gram, and 6.10 ¢/MG_{THC} for an ounce, reflecting some volume-pricing. Similarly, a typical 100mg THC edible product costs \$24.99, a 40mg product is \$19.81, and a single-serve 10mg THC edible costs \$6.60. When converted, the THC price for these products equals 24.99 ¢/MG_{THC}, 35.00 ¢/MG_{THC}, and 66.00 ¢/MG_{THC} respectively, for these goods. Finally, concentrates cost \$55.00 for a typical 1 gram wax portion, and a typical 500mg vaporizing cartridge costs \$66.00. The THC prices are 8.46 ¢/MG_{THC} and 18.86 ¢/MG_{THC}, respectively.

Using the THC prices, the edibles to flower price ratio is 3.03 (edible THC per flower THC) for the 100mg edible product, 3.00 for the 80mg product, and 4.24 for the 40mg product. The 10mg single-serving ratio is 8.00, which we believe reflects a minimum price for small portions.

The ratio for wax/shatter is 1.03 for a 1 gram container, and 2.28 for a 500mg vaporizer cartridge. The higher price ratio for vaporizing equipment may reflect higher packaging costs.

In general, the price ratios shown in Table ES-3 are notable because they match—quite closely—to the pharmacokinetic equivalency ratios. This means that although the market participants may not have completed their own pharmacokinetic research, they naturally have gravitated toward this result, based simply upon trial and error.

The remainder of this report provides details regarding the data, the methodologies, and previous scientific findings used to construct our results.

Table ES-3. THC Market Price Equivalencies

THC Market Price Ratios in Colorado					
Indicative Prices by Weight (\$)					
Buds/Flower		1 Gram	1/8 Oz	1/4 Oz	1 Ounce
	Most Common	\$14.03	\$41.27	\$82.54	\$264.14
	Discounted	\$12.38	\$33.03	\$66.06	\$239.43
Edibles		100 MG	80 MG	40 MG	10 MG
	Edible Variety	\$24.99	\$19.81	\$14.00	\$6.60
Concentrates		1 Gram	500 MG	250 MG	
	Wax / Shatter	\$55.00	--	--	--
	Vape Cartridge	--	\$66.00	\$46.00	--
Equivalent Market Price (Cents per MG THC)					
Buds/Flower		1 Gram	1/8 Oz	1/4 Oz	1 Ounce
	Most Common	8.25	6.94	6.94	6.10
	Discounted	7.28	5.55	5.55	5.53
Edibles		100 MG	80 MG	40 MG	10 MG
	Edible Variety	24.99	24.76	35.00	66.00
Concentrates		1 Gram	500 MG	250 MG	
	Wax / Shatter	8.46	--	--	--
	Vape Cartridge	--	18.86	26.29	--
THC Market Price Equivalencies (Price Ratios in THC Units)					
Buds/Flower		1 Gram	1/8 Oz	1/4 Oz	1 Ounce
	Most Common	1.00	1.00	1.00	1.00
Edibles		100 MG	80 MG	40 MG	10 MG
	Edible Variety	3.03	3.00	4.24	8.00
Concentrates		1 Gram	500 MG	250 MG	
	Wax / Shatter	1.03	--	--	--
	Vape Cartridge	--	2.28	3.19	--

Note: 1. Prices taken from a sample of online retail menus for Colorado stores.

2. Ratios may not necessarily apply to other states..

Source: Colorado Storefront menus, calculations by the report study team.

Overview and Motivation

The original legislation to legalize and regulate marijuana in Colorado for adult use did not include explicit purchase restrictions on marijuana concentrates and infused edibles. As these marijuana products grew more popular in 2014, up to 35 percent¹ of statewide retail sales, legislation was enacted under House Bill 14-1361 to remedy the omission. The legislation does so by stipulating limits upon marijuana flower portions, “or their equivalent.”

This study provides unbiased, scientific information that can be used to suggest appropriate equivalencies between flower and alternative marijuana products. It is a summary of how different marijuana products are produced and consumed in accordance with House Bill 14-1361, which requires the state to conduct a study to establish equivalencies.

The information in this study can be used to convert concentrate and infused products into their flower weight equivalents from both a production and consumption viewpoint. From a production viewpoint, the findings can be used to translate marijuana product unit sales into their weight equivalent. This will improve the measurement of aggregate marijuana demand, by using a common denominator. From a consumption viewpoint, the findings here can be used to establish an equivalent “dose” amount between non-flower products and flower weight. Overall, the study is designed to meet the requirements of House Bill 14-1361 and focuses solely on the retail adult-use marijuana market. Issues related to medical marijuana are not addressed in this study.

PRODUCTION, PRICE, AND DOSING EQUIVALENCIES

This study investigates marijuana equivalencies from three perspectives: production, price, and dosing.

The first perspective is from a physical production viewpoint, where servings of infused edibles or concentrates are converted into the respective weight of marijuana flower or trim needed as inputs to production. To construct these equivalencies, average yield and potency is estimated by the consultants after a series of interviews with Marijuana Infused Product (MIP) manufacturers, and by analyzing the state’s Marijuana Enforcement Tracking Reporting Compliance (metrc™) database to isolate input and output packages at MIPs for various concentrates and infused edibles. This metric will provide a bridge between concentrate and infused edible output and plant material inputs.

The second perspective computes equivalencies from a dosing viewpoint. The dosing perspective provides stakeholders with a pharmacological model that equates the dosing effect between inhaled and ingested marijuana products. The pharmacological approach resolves the disparity between weight-based THC content in marijuana products, so that a dose-equivalent measure can be established.

Finally, the third perspective computes the market price of THC across product types in the Colorado marketplace. The pricing perspective is a new methodology. It was made possible by manipulating recently collected data from Colorado’s retail marijuana market. By using statewide inventory and testing data, the study team can convert retail marijuana store price for flower, concentrates, and infused edibles into a price with a common denominator—THC. The study team found that the pricing structure in stores reflects, almost exactly, the pharmacokinetic dosing equivalencies found in this report. This suggests that although no individual has explicitly measured the dosing effect of different products, that the marketplace reflects the dosing value for each product implicitly.

¹ Based upon statewide retail sales, May – September 2014.

SECTION I
SECTION II
SECTION III
SECTION IV
SECTION V

SECTION I	<p>The science and data related to marijuana, its use, and regulation are inherently complex. The purpose of this report is to synthesize state-level marijuana data with existing manufacturing and medical research in order to construct easy-to-understand ratios between marijuana product types. The resulting information can be used to establish a set of rules that are defensible, operable, transparent and systematic. Over time, as new information evolves, these findings may be reviewed and adjusted to reflect the most current research available.</p>
SECTION II	<p>This analysis and report is developed for use by stakeholders in Colorado's retail marijuana market. It is assumed that the reader of this report is an informed, intelligent public policy official or individual with experience and understanding of Colorado's retail and medical marijuana markets. The objective of this report is to provide a clear and understandable synthesis of relationships between marijuana product types.</p>
SECTION III	<p>USE OF METRC™ DATA</p> <p>This study would not have been possible before the state inventory tracking system was established. The system allows a viewpoint of the entire state marketplace from “seed to sale”, providing a powerful data arena from which to determine key statistics, such as potency levels, production ratios, and consumption rates, to name a few. Colorado's inventory tracking platform, metrc™, requires data to be uploaded from every cannabis business. As a result, there is some underlying variability due to user input error by MIPs, cultivations, and retail stores.</p>
SECTION IV	
SECTION V	<p>During this study and during previous studies over the past 18 months, the study team has reconciled most disparities by conducting thorough checks, and through vendor interviews to ensure that data is being interpreted correctly. Over the course of this research, the investigators applied generally accepted statistical methods to</p>

remove outliers and questionable records. The sample sizes used in the analysis represent the largest samples we could pull from the system that we believed would give reliable results.

The report is organized as follows: Section II provides a summary of prevailing MIP production techniques, followed by the calculation of production equivalencies in Section III. In Section IV, a pharmacokinetic model is developed and dosing equivalencies are defined. Section V explains the market price equivalency methods and findings, and Section VI provides a brief summary of the study findings. Following Section VI is a dictionary of marijuana terms used here, as well as a reference list for the interested reader.

Prevailing MIP Production Techniques

This section provides descriptions of marijuana infused product concentrate production techniques used in commercial MIPs in Colorado. The information contained in this section was obtained through a series of interviews conducted between April 24 and June 18, 2015.

The voluntary industry outreach process consisted of 11 in-person interviews, facility tours, and phone interviews with MIP operators and testing facilities. No identifying information of specific facilities is included in this report to protect the privacy and intellectual property of interviewees. The interviews consisted of the following business types organized by primary production process:

- Butane/hydrocarbon concentrates (4);
- Carbon dioxide concentrates (2);
- Butter-based edibles (2);
- Butane/hydrocarbon edibles (2); and
- Carbon dioxide edibles (1).

In addition to the individual interviews, the study team attended two industry group meetings at the request of the Marijuana Industry Group (MIG) and the Cannabis Business Alliance (CBA). The meetings allowed member businesses to ask questions and provide their input to the study in group format.

PRODUCTION TECHNIQUE SUMMARY

Several cannabinoid extraction techniques are used in the production of marijuana concentrates and edibles. The majority involve using a solvent process where solvents are introduced to marijuana plant material to form a concentrate. The solvents are then removed

through various refining techniques to produce a refined oil in various consistencies. Potential solvents include hydrocarbons, carbon dioxide, butter/cooking oils/lipids, ether, ethanol, isopropyl alcohol, water, and dry extraction methods. Several extraction methods involving hydrocarbons and carbon dioxide were borrowed from long-standing methods used in the fragrance and food industries.

Over the course of the interviews, it became apparent that while any of the aforementioned solvents can produce a marijuana concentrate or other infused product, commercial producers prefer hydrocarbon, carbon dioxide, and butter/lipid extraction processes. Interviewees cited solvent costs, efficiencies in production,

THC vs. THCa

Marijuana flower is often said to contain THC, but this is not technically true. The plant contains “THCa”, which is not psychoactive in its natural state. THC is created through decarboxylation.

Decarboxylation is the process of heating THCa, which naturally occurs in cannabis plants, to activate THC that can be absorbed in the body through ingestion. In the process, the THCa loses carbon and oxygen molecules, and about 12.3 percent of its weight.

This weight reduction is calculated using the molecular weight of THCa and THC.

Although the report authors refer to both THC and THCa throughout the report, the reader can interpret the terms as synonymous.

SECTION I
SECTION II
SECTION III
SECTION IV
SECTION V

and output product quality as reasons for using these preferred solvents.

Metrc™ data confirmed that these three solvents account for over 93 percent of edibles production in the state. The interview participants used variations on the three major solvent processes shown above. Each process is described in more detail below.

HYDROCARBON EXTRACTION PROCESS

Hydrocarbon extraction uses any number of hydrocarbons as the principal solvent. Butane and propane are the most common solvents used in commercial operations. When cannabis plant matter comes in contact with the hydrocarbons; cannabinoids, terpenes, and other compounds dissolve into the solvent. The hydrocarbon solvent and cannabinoid mixture is purged using vacuum ovens to remove the solvents.

The purging process leaves only cannabinoids and other desired compounds in a refined concentrate. Hydrocarbon concentrates are often called butane hash oil

(BHO), shatter, or wax. All of these products refer to slightly different refining techniques that occur after the BHO is extracted from the plant matter. BHO and other variants contain a high concentration of THCa, often between 60 percent and 95 percent, depending on the amount of refinement and quality of inputs.

If BHO is used to make infused edible products, it must be decarboxylated. Decarboxylation converts the THCa in cannabis plants into psychoactive THC. Decarboxylation requires heating the BHO to 240°F–250°F until bubbling dissipates to achieve desired results. BHO sold for smoking or vaporizing does not require decarboxylation.

Table II-1 shows information on weight yields and THCa potency for hydrocarbon extractions obtained during the industry outreach process. Weight yield is the ratio of output weight to input weight. THCa potency is obtained from metrc™ as part of the mandatory testing for potency and safety. Table II-1 presents THCa for all establishments regardless if the end product is a concentrate or edible.

Table II-1. Butane Extraction Weight Yields and THCa Potency

	Product Type	Primary Input	Input Potency (% THCa)	Weight Yield (%)	Output Potency (% THCa)
MIP 1	BHO Wax/Shatter	Trim	12-20	12-22	60-80
MIP 2	BHO Wax/Shatter	Trim	15-20	10-25	70-95
MIP 3	BHO Wax/Shatter	Trim	10-20	10-20	65-90
MIP 4	BHO (edibles)	Trim	10-17	15-20	65-80

Source: MIP interviews April - June 2015.

CARBON DIOXIDE EXTRACTION PROCESS

Carbon dioxide (CO₂) fluid extraction techniques have been used for various industrial applications in the food and cosmetic industries. CO₂ at very high (supercritical) or low (subcritical) pressures is used to extract cannabinoids from plant material. Different combinations of temperature and pressure are used in the extraction. CO₂ is a popular solvent due to its lack of toxicity and its perception as a less dangerous form of cannabis concentrate. CO₂ oils are a popular ingredient in vaporizing concentrates for use with a stationary vaporizer or a portable vaporizer pen.

CO₂ fractionations² at different pressures in the production process can yield different product consistencies and compositions. Plant waxes remain in varying amounts in the raw extraction, which is often refined further using various techniques involving an ethanol wash or refrigeration techniques called winterization.

² Fractionation is a separation process in which a certain quantity of a mixture (gas, solid, liquid, suspension or isotope) into a number of smaller quantities (fractions) in which the composition varies according to a pressure or temperature gradient.

The refining process removes plant waxes, chlorophyll, or other undesirable elements.

Similar to BHO, CO₂ oil contains THCa concentrations between 60 percent and 85 percent, depending on the amount of refinement and quality of inputs.

CO₂ extractions must be decarboxylated to make edible products. An increasing number of edible products are made with decarboxylated CO₂ oil as the active ingredient. The decarboxylation process with CO₂ oil is similar to BHO.

Table II-2 shows weight yields and THCa potency for CO₂ extractions obtained during the industry outreach process. Table II-2 presents THCa for all establishments regardless if the end product is a concentrate or edible.

BUTTER AND COOKING OILS

Perhaps the most widely known method for extracting cannabis for edible preparations involves the use of butter, coconut oil, and other cooking oils. Cannabinoids are fat soluble, and MIPs add cannabis to butter and other oils and the mixture is heated to 240°F–250°F.

Table II-2. CO₂ Extraction Weight Yields and THCa Potency

	Product Type	Primary Input	Input Potency (% THCa)	Weight Yield (%)	Output Potency (% THCa)
MIP 1	CO ₂ Oil	Trim	12-17	10-15	80-85
MIP 2	CO ₂ Oil	Trim	15-17	8-12	70-80
MIP 3	CO ₂ Oil (edibles)	Trim	10-15	8-10	60-65

Source: MIP interviews April - June 2015.

Some MIPS vary this process by decarboxylating the plant material before adding it to the butter. Then plant material is strained and the butter is brought back to room temperature.

MIPs are required to test each batch of cannabis butter or oil for potency. After a batch of butter is made and tested for potency, the MIP may add additional butter or oil if necessary to adjust the potency in accordance to its recipe. Then the cannabis butter or oil is measured in the recipe to determine the appropriate potency for each batch of baked edible products. The butter MIP operators indicated that they have formed relationships with wholesale suppliers for trim, and they generally know the potency range of their raw cannabis butter, but natural variation exists in each package of plant material used to produce butter-based edibles.

Table II-3 shows weight yields and THC potency for butter and oil extractions obtained during the industry outreach process.

OTHER SOLVENTS

Marijuana concentrates and infused products can also be manufactured using a host of other solvents, including isopropyl alcohol, ethanol, vegetable glycerin, water, and dry/solventless (kief).

While these methods are employed in Colorado for some commercial production, no MIPS in the interview group reported use of these methods on a commercial scale. These extraction methods are in use for small production batches and represent less than 7 percent of the market.³ The interviewees often referred to these products as a “cottage” or “artisanal” market.

In the following section, metrc™ data is used to provide production equivalency calculations for alcohol and water based extraction methods in addition to the methods encountered in the interviews (hydrocarbon, CO₂, and butter/oil).

3 Based upon author calculations from metrc™ data.

Table II-3. Butter and Oil Extraction Weight Yields and THCa Potency

	Product Type	Primary Input	Input Potency (% THCa)	Weight Yield (%)	Output Potency (% THC)
MIP 1	Butter edibles	Trim	10-15	3-4	1.9-2.5
MIP 2	Butter edibles	Trim	15-22	2.75-3.25	2.0-2.8

Source: MIP interviews April - June 2015.

Physical Equivalency Calculations

In this section, metrc™ data is used to identify statewide average conversions of marijuana plant inputs into marijuana product outputs. Together with the MIP production structure defined above, these two sections combine to produce conversion rates between plant-based inputs and infused or concentrated outputs.

The study team developed two types of physical equivalency calculations: a simple THC conversion and a more nuanced physical conversion. The physical conversion traces the marijuana through the concentrate and edible production process and matches inputs (marijuana plant material) with outputs (concentrates and infused products). The THC conversion presents a more basic equivalency that quantifies equal amounts of THC in marijuana concentrates, edibles, and plant material. The equivalencies are organized by the major solvents used in production.

Inventory tracking data is used to trace the path between cultivation centers, marijuana infused products (MIP) manufacturers, and final retail centers. Disparate data sources needed to be translated and combined in order to complete this task. For example, marijuana packaging data provides information about product contents and source, facility information is used to categorize package owners and transfers. Transfer manifests provide an accounting of shipments of intermediate and final products between facilities, and testing results are used to establish potency among product types.

After plants are harvested and cured, marijuana flower and trim are registered as “packages.” The packages are transferred to retail stores for sale or to MIPs for further processing. Package records contain identifying information about package contents and the facilities on either end of a package transfer.

The study team built a genealogy of packages that traces them through the production process and correlates input packages of trim and flower to output packages of marijuana concentrates and infused products at MIP facilities.

Once an input and output package is linked, the study team mines the state inventory data to obtain identifying information about the production process and package contents. Equivalency calculations are provided for extraction processes that use butter and cooking oils, butane/hydrocarbons, CO₂, water, and alcohol/ethanol as primary solvent. The calculations provide information on the yield on weight and input/output THC amounts for each production process.

For example, in butane hash oil (BHO) manufacturing, if a production batch starts with 1,000 grams of trim and yields 180 grams of BHO, then we calculate a weight yield of 18 percent. The study team then queries the testing database to obtain THCa and THC figures for trim, flower, concentrates, and edibles to obtain potency information for production inputs and outputs. The process diagram in Figure III-1 shows the data collection process in metrc™ for weight yield and potency.

SECTION I

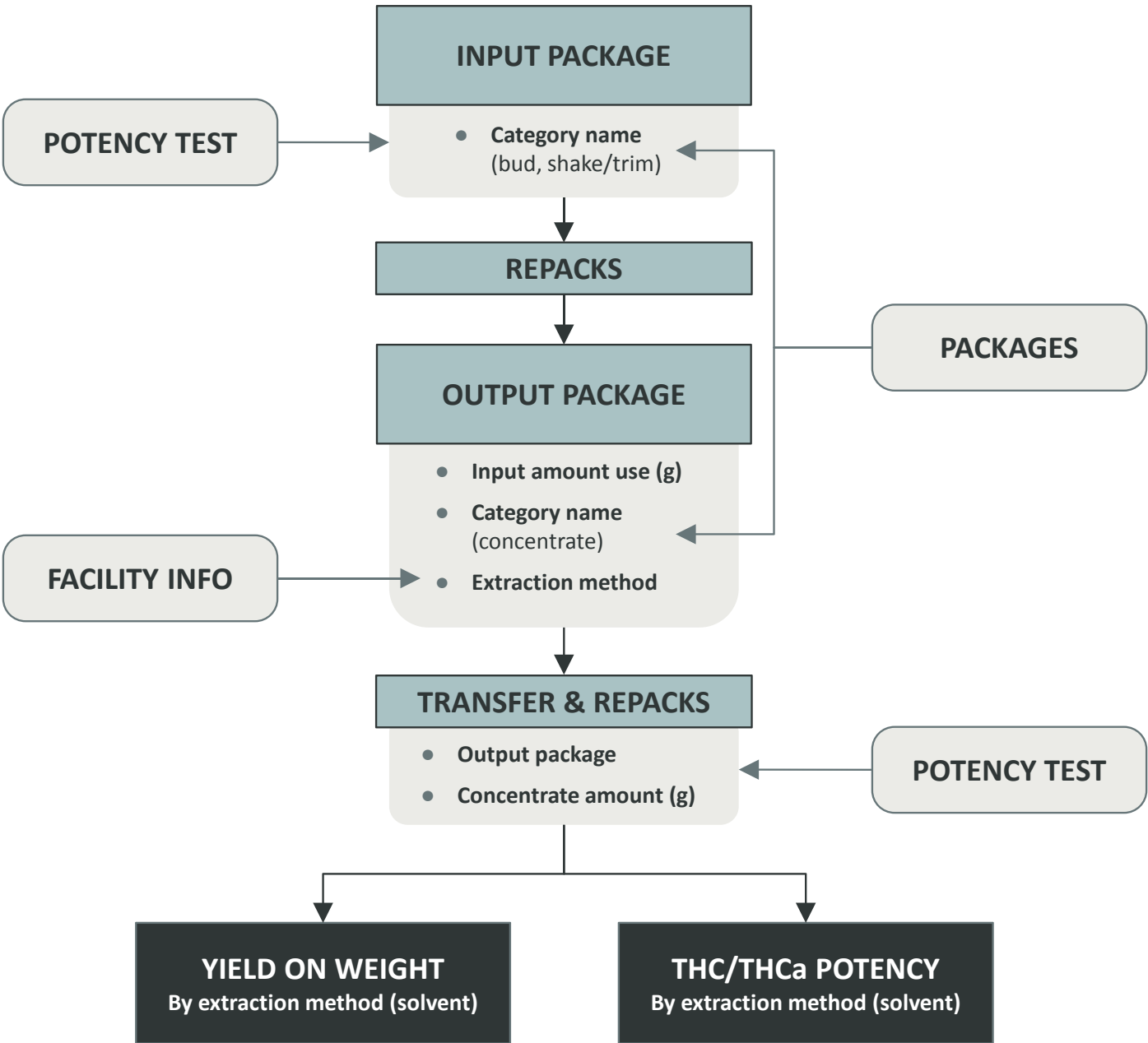
SECTION II

SECTION III

SECTION IV

SECTION V

Figure III-1. Physical Equivalency Calculation Process



The calculation process provides the weight yield and potency figures in Table III-2. Table III-2 provides the mean weight yield, 95 percent confidence interval range and sample size for each solvent type included in the analysis. Table III-2 also provides information on potency testing for each solvent type. Marijuana flower and shake/trim potency is also included.⁴

The figures in Table III-2 show between 9.7 and 17.1 percent concentrate weight yield rates on non-butter solvents with relatively narrow confidence intervals.

Using butane as an example, a 1,000-gram production batch of trim yields on average 171 grams of BHO with a mean potency of 71.7 percent THCa. These calculations have a sample size of over 11,500 for weight yield and over 5,600 for potency.

⁴ Testing results display combined THCa and THC for each solvent type. Butter and oil potency is listed as amounts of THC due to decarboxylation. All other solvent types contain almost exclusively THCa.

Table III-2. Marijuana Concentrate Yield and Potency

Solvent	Yield Calculations				Potency Calculations				Bud %	Shake/ Trim %
	Mean Weight Yield	95% Lower Bound Weight Yield	95% Upper Bound Weight Yield	(n)	Mean THC/ THCa %	95% Lower Bound % THC/ THCa	95% Upper Bound % THC/ THCa	(n)		
Butane	17.11%	16.76%	17.46%	11,514	71.67%	71.20%	72.14%	5,606	11.43%	88.57%
CO₂	15.18%	14.80%	15.55%	7,257	61.39%	60.27%	62.51%	1,950	3.51%	96.49%
Butter	504.50%	484.69%	524.32%	599	2.57%	2.04%	3.09%	216	9.72%	90.28%
Water	9.72%	9.01%	10.43%	1,270	58.30%	56.34%	60.26%	266	9.91%	90.09%
Alcohol/ Ethanol	17.06%	14.37%	19.76%	241	67.17%	64.08%	70.25%	201	16.46%	83.54%
Flower					17.47%	17.41%	17.53%	26,023		
Shake/Trim					15.53%	15.26%	15.80%	1,591		

Source: Author calculations based on metrc™ data.

The butter “yield” rate differs from other solvents because it is a different production process. The butter yield results can be interpreted as the weight of cannabis butter produced per weight of plant input. For example, 100 grams of cannabis in a production batch would yield on average 502 grams of cannabis butter at a mean THC of 2.57 percent or 25 mg of THC per gram of butter.)⁵

The yield and potency figures described above are inputs to the physical equivalency calculations. For concentrates sold or transferred directly to retail stores, the figures in Table III-2 provide the information for an equivalency. For marijuana edibles, these figures are supplemented by several intermediate calculations shown in Table III-3.

All figures from Table III-2 are converted from percentages into milligrams per gram, as shown in Table III-3. This conversion is necessary because edibles in the adult use

5 The butter yield rate was the most difficult to interpret because of the many weight units that can be used to describe the prepared cannabis butters. There is also the possibility that some manufacturers report the output units after additional non-psychoactive butter is added to the cannabis butter. The 5-to-1 yield ratio is somewhat higher than what was discussed in our interviews. The authors have elected to use the metrc™ data due to the amount of data (1,623 records) that support the figures in Table III-2.

Table III-3. Edibles Intermediate Calculations

Solvent	mg THC/g Solvent	g Solvent per 10 mg Edible	g Trim per 10 mg Edible
Butter	25.70	0.39	0.08
Butane	716.70	0.014	0.08
CO ₂	613.90	0.016	0.09

Source: Author calculations based on metrc™ data.

retail market are sold in two standard sizes (10mg and 100mg)⁶ based on the amount of THC contained in the edible product.

The calculations in Table III-3 show the average potency of each solvent used in edibles production, the amount of solvent necessary to produce an edible product with 10mg of THC, and the amount of marijuana plant material necessary to produce 10mg edible product. On average, between .08 and .09 grams (or 80–90 mg) of plant material is required to make an edible product containing 10mg of THC.

Table III-4 shows equivalency calculations based on the physical approach described in Table III-3. Equivalencies are organized by solvent type and shown for edibles and concentrates. The process estimates the amount of plant material used in each 10 mg and 100 mg edible package and provides a calculation of the amount of edible packages that can be produced from an ounce of dried marijuana flower.

For concentrates available directly for sale, the study team provides estimates of the amount of plant material used to make one gram of concentrate at average potency for each solvent type. Similar conversions for an ounce and a quarter-ounce of marijuana flower are provided.

Table III-4 provides estimates of the amount of trim used in each production process and then converts trim amounts to flower equivalents using a THC-based conversion factor derived from the testing data presented in Table III-2.⁷

6 Two dosages are outlined in state statute. One is 10mg., which represents a standard dose of THC. The second is 100 mg., which contains 10 servings and represents the maximum amount of THC allowed in an edible retail marijuana infused product.

7 Trim has on average 15.53 percent THC and flower has on average 17.47 percent THC; therefore, a conversion ratio is calculated at 1.125.

Table III-4. Physical Equivalency Calculations

Product Type	Solvent	Purchase Amount	Trim Used in Production	Flower Equivalency Ratio	Ounce Equivalent	Quarter-Oz Equivalent
Edible	Butter	10 mg	0.08 g	0.07 g	413.49 each	103.37 each
Edible	Butter	100 mg	0.77 g	0.69 g	41.35 each	10.34 each
Edible	Butane	10 mg	0.08 g	0.07 g	391.07 each	97.77 each
Edible	Butane	100 mg	0.82 g	0.72 g	39.11 each	9.78 each
Edible	CO ₂	10 mg	0.09 g	0.08 g	346.96 each	86.74 each
Edible	CO ₂	100 mg	0.92 g	0.82 g	34.70 each	8.67 each
Concentrate	Butane	1 g	5.84 g	5.20 g	5.46 g	1.36 g
Concentrate	CO ₂	1 g	6.59 g	5.86 g	4.84 g	1.21 g
Concentrate	Ethanol	1 g	5.86 g	5.21 g	5.44 g	1.36 g
Concentrate	Water	1 g	10.29 g	9.15 g	3.10 g	0.77 g

Source: Author calculations based on metrc™ data.

The physical equivalencies in Table III-4 show that about between 347 and 413 edibles of 10 mg strength can be produced from an ounce of marijuana, depending on the solvent type and production method. For concentrates, between 3.10 and 5.50 grams of concentrate are equivalent to an ounce of flower marijuana.

The conversion factors described above can be useful for state-level production management. The conversions allow units of infused edibles and concentrates to be expressed in equivalent flower weight, and then added to flower sales, in order to determine retail market demand and supply.

ALTERNATE METHODOLOGY

A second, simpler methodology is presented in Table III-5 that employs THC as the common unit for conversion between the various forms of marijuana products. This methodology calculates an equivalent amount of THC in various forms of marijuana products based on the testing information shown in Table III-2.

The equivalency factors in Table III-5 can be interpreted as showing units with equivalent amounts of THC. For instance, given the uniform dosage amounts of edibles

in Colorado, all 10mg strength edibles have an amount of THC equivalent to 60 mg (0.06 g) of flower marijuana at the average potency. A conversion rate of 1.14 is applied to convert THC in infused products back to THCa in flower due to weight loss in the decarboxylation process involved in manufacturing edibles.⁸

⁸ Decarboxylation is the process of heating THCa, which naturally occurs in cannabis plants, to activate THC that can be absorbed in the body through ingestion. In the process, the THCa loses a carbon dioxide molecule and about 12.3 percent of its weight. Conversion calculation from THC back to THCa uses 1/(1-.123) or 1.14. This weight reduction is calculated using the molecular weight of THCa and THC obtained from Steep Hill Labs <http://steephilllab.com/resources/cannabinoid-and-terpenoid-reference-guide/>.

For retail concentrates equivalency calculations, the THC/THCa conversion is not necessary because concentrates are not decarboxylated for direct retail sale. The THC in one gram of concentrate is equivalent to between 3.05g and 3.75g of marijuana flower at average potency. Ounce and quarter-ounce equivalents are also provided in Table III-5.

Table III-5. Simple THC Equivalency Calculations

Product Type	Solvent	Purchase Amount	THC Amount	THCa Amount	Flower Equivalency Ratio	Ounce Equivalent	Quarter-Oz Equivalents
Edible	Butter	10 mg	10 mg	11.40 mg	0.07 g	434.35 each	108.59 each
Edible	Butter	100 mg	100 mg	114.03 mg	0.65 g	43.43 each	10.86 each
Edible	Butane	10 mg	10 mg	11.40 mg	0.07 g	434.35 each	108.59 each
Edible	Butane	100 mg	100 mg	114.03 mg	0.65 g	43.43 each	10.86 each
Edible	CO ₂	10 mg	10 mg	11.40 mg	0.07 g	434.35 each	108.59 each
Edible	CO ₂	100 mg	100 mg	114.03 mg	0.65 g	43.43 each	10.86 each
Concentrate	Butane	1 g	0.72 g	0.72 g	4.10 g	6.91 g	1.73 g
Concentrate	CO ₂	1 g	0.61 g	0.61 g	3.51 g	8.07 g	2.02 g
Concentrate	Ethanol	1 g	0.67 g	0.67 g	3.84 g	7.37 g	1.84 g
Concentrate	Water	1 g	0.58 g	0.58 g	3.34 g	8.50 g	2.12 g

Source: Author calculations based on metrc™ data.

Pharmacological Equivalencies

An important compliment to the physical THC relationships identified in this study is the pharmacological perspective. If the purpose of the equivalency legislation is to limit transactions or possession to a reasonable “dose” of concentrates and marijuana products for residents and non-residents, then the medical effects described here will be useful to construct a set of equivalencies between marijuana products.

There are several methods to consume marijuana such as intravenous, oral mucosal, ingested, transdermal, and inhaled. The two most popular methods for consumption are ingestion and inhalation. We focus upon these two methods in this study. The remaining methods are either reviewed briefly or are provided as references for the interested reader.

The reader should understand that this section does not represent a clinical study. Instead, this section uses findings from other studies to inform marijuana stakeholders about the dosing process, and it provides a new mathematical construct that can compare ingested and smoked marijuana products in a consistent manner. Therefore, this report should be considered to be a policy-driven study that leverages medical literature to provide scientific evidence during the construction of dose equivalencies between various marijuana products.

This section focuses upon the psychoactive components of marijuana, primarily THC and related chemicals, and does not focus upon the medicinal effects of marijuana because the findings and resulting regulations will be applied only to Colorado’s retail marijuana market, under House Bill 14-1361.

ENUMERATION OF THC UPTAKE METHODS FOR MARIJUANA

The psychoactive component of marijuana, THC (and

THC derivatives) can be delivered to the recipient in a number of ways. Each method translates into a different net amount of THC entering the bloodstream and the brain.

- **Flower smoking:** Over the past 30 years, smoking has been the most common method to consume marijuana. Based upon 2014-15 data, the THC content in Colorado retail flower lies between 8-22 percent, with a mean estimate of roughly 17 percent. Therefore, one gram of marijuana flower contains 170 milligrams of THC, on average. However, a large portion of that THC is destroyed during the smoking process. In this report, we itemize the uptake rates and the potential loss of THC through smoking, during the process of inhalation, exhaling, and blood-clearance. The process is further complicated by the transfer process of THC from the blood plasma, into the brain itself.
- **THC ingestion:** Alternatively, THC can be infused into edible products such as baked goods or candies, and then eaten. By state law, each serving of edibles is limited to no more than 10 milligrams of THC content. THC, when ingested, will be absorbed at different levels, depending upon other foods in the stomach, and upon the chemical nature of the pre-existing foods. As with smoked products, a majority of the THC is not absorbed by digestion. Various studies, which will be discussed below, suggest that between 6-20 percent of the THC content in an edible product is metabolized and absorbed into the bloodstream. However, ingestion and processing by the liver has been found to create an important THC byproduct that subsequently boosts the psychoactive effect of THC. This research will be discussed later in this section.

SECTION I	SECTION II	SECTION III	SECTION IV	SECTION V
-----------	------------	-------------	------------	-----------

- Concentrate smoking or “dabbing:”** This method also uses smoking as the uptake method, but the material contains very high concentrations of THCa.

The typical THC content in concentrated forms of marijuana varies between 60-80 percent, although rates as high as 95 percent have sometimes been observed. By heating and smoking these concentrates, the uptake ratios are similar to smoking marijuana flower, but the ratios of THC to flower-based cannabinoids may be different, creating a different type of psychoactive effect.

THC, THCA, 11-OH-THC AND THC-COOH⁹

The underlying chemistry for marijuana, and its psychoactive elements is complex and beyond the policy scope of this report. A large number of clinical studies and medical findings are cited later in this section. This subsection provides a brief and concise overview of the main psychoactive component in marijuana, THC. In addition to THC, there are cannabinoids, typically labeled using a root form, CBD, and then enumerated, such as “CBD-A” or “CBD-B.” Many cannabinoids contain psychoactive elements as well, but the type of effect caused by those cannabinoids is not typically as strong as THC.

Because this study is designed for the retail market, and not the medical market, only the psychoactive THC and THC related chemicals are considered.

The reader is reminded that marijuana flower (or buds) does not contain THC itself, but instead contains THCa (Tetrahydrocannabinolic Acid), a precursor to THC. The

⁹ Please note that this sub-section is an overview of report findings. In order to be concise, only a few of the specific technical references and citations are provided here. Instead, most citations are provided, combined, and enumerated during the longer, technical exposition at the bottom of this section.

relationship between THCa and THC is explained at the beginning of this report.

THC itself is the primary psychoactive component in marijuana, but there are also related chemicals that have been found to have an amplification effect upon the base blood levels of THC. In particular, when THC is ingested, it is then oxidized and converted by the liver into the active metabolite named 11-hydroxy-THC (11-OH-THC) [see 23, 25], and 11-nor-9-Carboxy-THC (THC-COOH), a secondary, non-psychoactive metabolite.¹⁰ Recent studies have found that 11-OH-THC penetrates the brain barrier more quickly than regular THC, causing a markedly-higher psychoactive effect. We cite a number of studies below, to estimate the relative potency of 11-OH-THC versus regular THC in blood levels, in order to more accurately characterize the psychoactive effects between ingestion and inhalation of THC.

IDENTIFICATION OF THC UPTAKE AND BENCHMARKING

This section describes THC uptake, delivery methods, and related dosing. The dosing relationships between uptake methods (smoking and ingesting) can be quite different from the physical weight relationships that were identified in the first half of this report. One relationship is pharmacokinetic, while the other is purely physical.

Comparing Peak Effect vs. Aggregate Effect

It is also important to recognize the differences between “peak effects” or “aggregate effects.” The former measure identifies the most intense moment experienced by a subject during a dosage event with marijuana. This can

¹⁰ THC-COOH is a non-psychoactive metabolite formed in the liver when THC is ingested or smoked. Due to its inactive nature, it is not factored into equivalency calculations See source 9 in references section.

be characterized as the “peak intensity” of the high. The latter measure calculates the integral, or area under the curve where the curve relates to blood-levels of THC and 11-OH-THC over time.

Typically, smoking produces a higher peak effect, as THC enters the blood stream through lung tissue. But THC levels are also quickly reduced when smoked, as the body works to clean contaminants from the bloodstream. Conversely, edible products absorb much more slowly, so that the effect is delayed compared to smoking. However, the digestion and oxidization process last much longer.

For example, Figure IV-1 shows the THC and related chemicals in the blood stream over time. As shown,

THC concentrations peaked 90 minutes after ingestion, and 11-OH-THC peaked slightly later, at approximately 110 minutes. Levels of these psychoactives remained elevated for approximately 300 minutes, or five hours, and non-active THC-COOH remained elevated for 1,400 minutes (almost 24 hours).

In contrast, smoking concentrations were much higher, and shorter. Figure IV-2, taken from the “California NORML Guide Interpreting Drug Test Results,”¹¹ combines results from smoking and ingested THC to reveal the relative magnitude of blood plasma levels.

¹¹ Sourced from: <http://www.canorml.org/healthfacts/drugtestguide/drugtestdetection.html#fn03>. Last visited on June 13, 2015.

Figure IV-1. An Example of Blood Plasma Concentration Rates of THC Derivatives Over Time, After Oral Ingestion of Marijuana Products. From Nadulski et. Al. (2005).

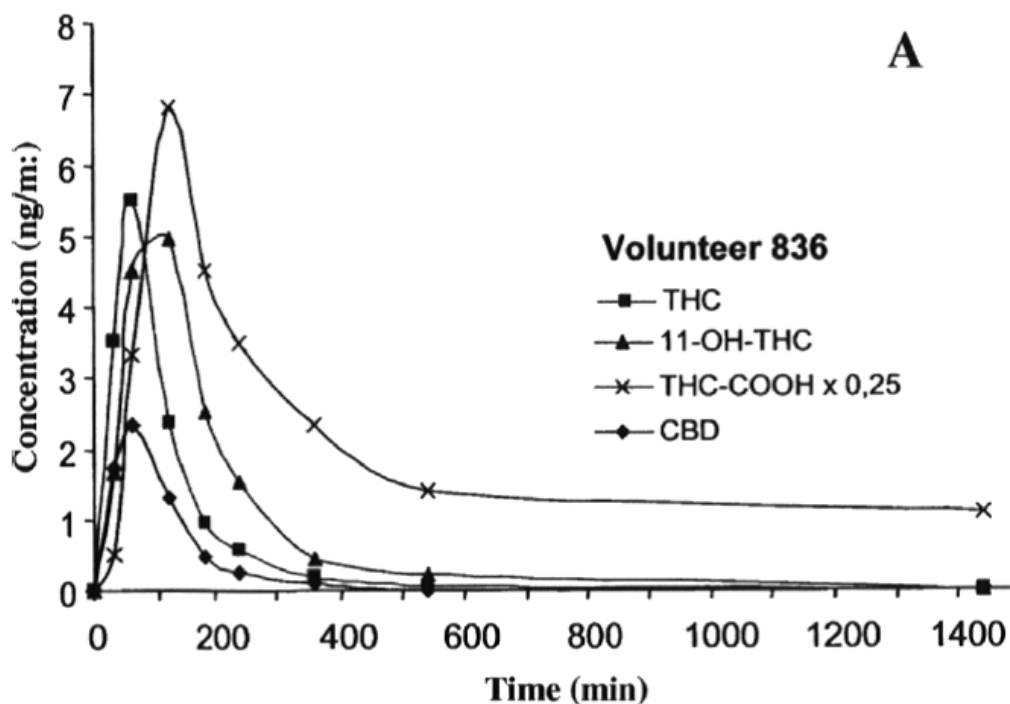


Figure IV-2. Comparison of Inhaled Versus Ingested THC Elements

References:

(A-B) Smoked dose based on data from M. Huestis, J. Henningfield and E. Cone, M. Huestis, J. Henningfield and E. Cone. [08] M. Huestis, J. Henningfield and E. Cone, "Blood Cannabinoids. I. Absorption of THC and Formation of 11-OH-THC and THCCOOH During and After Smoking Marijuana", *Journal of Analytic Toxicology*, Vol. 16: 276-282 (1992).

(C) Oral dose based on data from B. Law et al. ([03] B. Law et al, "Forensic aspects of the metabolism and excretion of cannabinoids following oral ingestion of cannabis resin," *J. Pharm. Pharmacol.* 36: 289-94 (1984).)

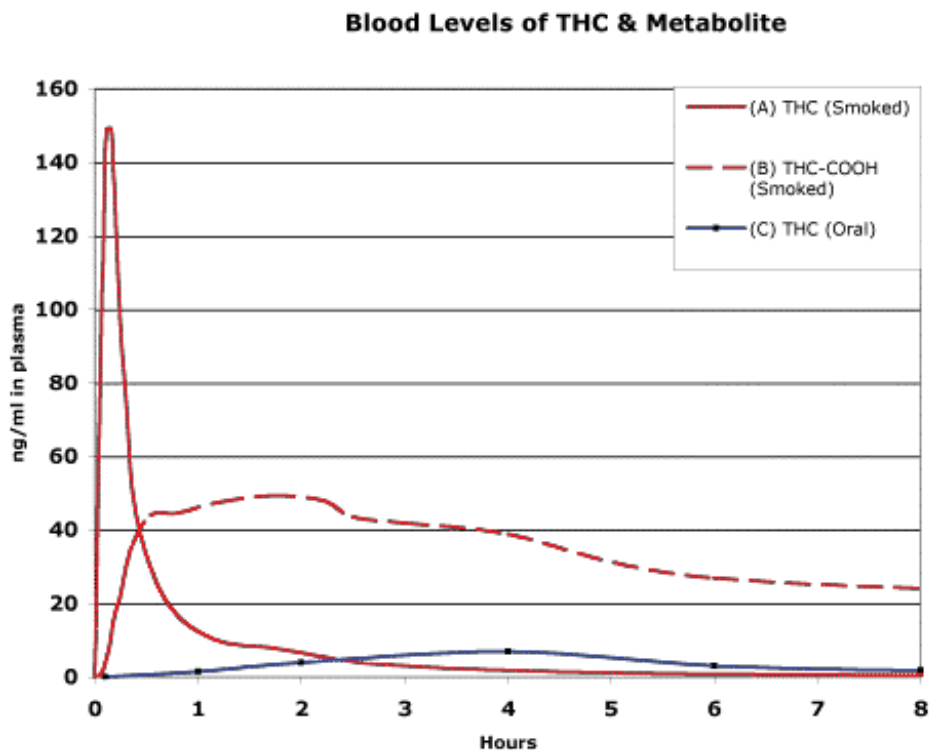


Figure IV-2 shows that THC plasma concentrations are more than 10 times higher for smoked cannabis compared to ingested cannabis. The more recent findings from Nadulski, et. al. (2005) suggest that while THC and 11-OH-THC levels peak much earlier than suggested by Law, et al. (1984), the relative magnitudes are similar. Peak levels were 5-6 ng/mL in the Nadulski study, and approximately 8 ng/mL in the Law study.

These findings suggest that either smoked marijuana experiences are significantly more intense, or—as scientists suggest—that 11-OH-THC produces an extenuated effect, compared to base THC. It also suggests that the relationship between blood-plasma THC levels do not necessarily correspond to psychoactive effects in a strictly-linear fashion.

Indeed, for the psychoactive effects to occur, the THC must penetrate the blood-brain barrier and connect directly to the brain. This means that even though blood-plasma THC levels are 10 times higher when smoking versus ingesting THC, the psychoactive effect may not be 10 times as intense, because THC is not necessarily reaching the brain at the same rate as it flows in the blood plasma.

As discussed earlier, 11-OH-THC has an extenuating effect. According to Perez-Reyes, et. al. [26], it has been found to penetrate the brain membrane approximately four times faster than THC. This suggests 11-OH-THC will contribute more rapidly to the psychoactive effects than THC. Also, by elongating the amount of time that THC is elevated in the blood plasma when THC is ingested and processed by the liver, there is more time for the THC

to penetrate the brain membrane and therefore a higher ratio of absorption of THC and other psychoactives into the brain fluid.

Together, this suggests that lower concentrations of THC in blood plasma do not necessarily imply that consumers are experiencing a lower intensity of psychoactivity. Instead, the level of THC and 11-OH-THC, combined with the time these metabolites have to penetrate the blood brain barrier, will determine the comparative psychoactive effects between inhaling and ingesting marijuana products.

The different rates of tissue absorption are shown more clearly in Figure IV-3. Here, blood plasma levels are the immediate recipients of THC, yielding high rates of THC concentration. However, rate of brain absorption from the

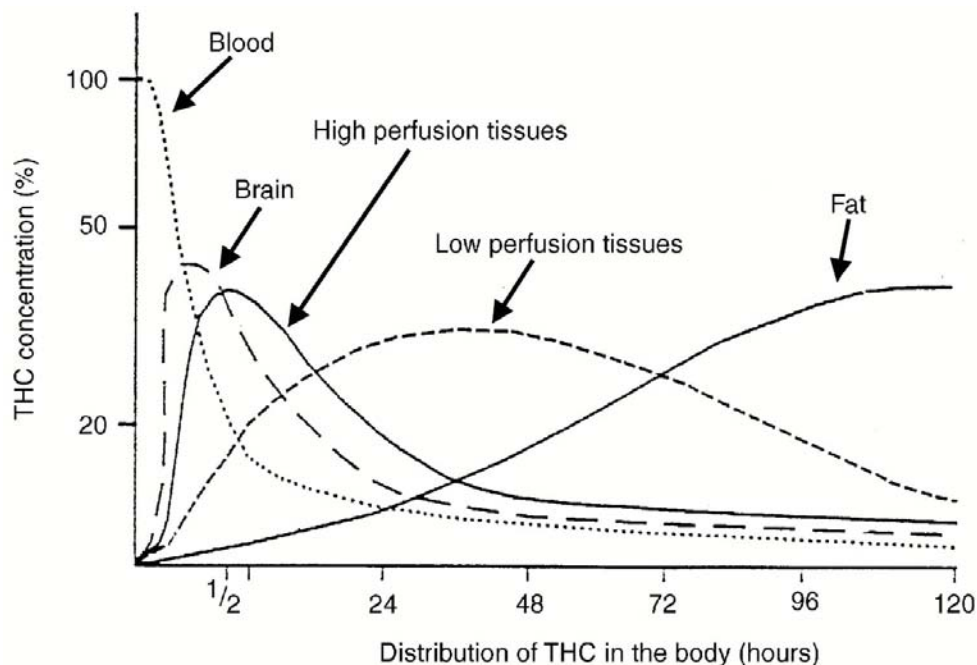
blood is slower, as discussed earlier. Next, the so-called “High perfusion” tissues begin absorbing THC, followed by “Low perfusion” tissues, and finally, fat tissues.

ROLE OF THE BLOOD-BRAIN-BARRIER (BBB)

A barrier, or sheath, separates the brain from the human body blood stream. There are several descriptions of the BBB.¹² In general, the BBB is a highly selective permeable

¹² See, for example: Blood-Brain Barrier: Drug Delivery and Brain Pathology, edited by David Kobilier, Shlomo Lustig, Shlomo Shapira, 2012. Springer Science & Business Media, Dec 6, 2012. A clear description for the lay person can also be found on Wikipedia: https://en.wikipedia.org/wiki/Blood%E2%80%93brain_barrier. Accessed on June 16, 2015.

Figure IV-3. Distribution of THC in the Body. Blood and Brain Absorption Rates Differ Significantly.



References:

Nahas, G. G. (1975) Marijuana: toxicity and tolerance. In Medical Aspects of Drug Abuse (ed. R. W. Richter), pp. 16-36. Baltimore, MD: Harper & Row.

SECTION I	<p>barrier that separates the circulating (pulmonary) blood from the brain extracellular fluid that circulates in the central nervous system. The blood–brain barrier is formed by brain endothelial cells, which are connected by tight junctions with a high electrical resistivity. The BBB allows water and some gases to pass through, as well as lipid-soluble molecules. It also allows the selective transport of molecules, such as glucose and amino acids that are crucial to neural functioning. The BBB will often prevent the entry of lipophilic, potential neurotoxins by way of the so-called active transport mechanism. A small number of regions in the brain do not have a blood–brain barrier.</p>
SECTION II	<p>The BBB is an important factor that limits the flow of THC between the body’s blood plasma and the brain, where it creates the psychoactive effects. Where THC is allowed to penetrate the BBB, the rate of penetration is slow. In contrast, scientists have found that the rate of penetration for 11-OH-THC is much faster.</p>
SECTION III	<p>The selective permeability of the BBB causes a competition. On the one hand is the BBB/THC passage rate allowed by the BBB, and on the other hand is the metabolic clearance rate for toxins in blood-plasma. The BBB slowly allows THC to pass through the membrane, causing the psychoactive effects. But at the same time, the body’s metabolism will purify the blood stream, rapidly removing the THC from blood-plasma.</p>
SECTION IV	<p>This competition causes a decrease in THC effectiveness from inhalation, compared to the slower, steadier THC supply from ingestion. As shown in Figure IV-2, the concentration of THC in the blood stream is much higher when inhaled than when ingested. But due to blood plasma clearance, the ratio quickly falls to relatively low levels (e.g., in 30 minutes).</p>
SECTION V	<p>The limitations incurred by the BBB suggest that much of the THC in the blood-plasma is therefore lost, because the BBB slows conversion of blood-plasma THC into</p>

“effective” THC within the brain itself. The share of THC that actually passes through the BBB and into the brain during the short period when blood-plasma levels are high is estimated to be approximately 35 percent. Just over one-third of the THC in the blood plasma is captured by the brain before it is cleaned out by the body’s pulmonary system.

CONSTRUCTING DOSING EQUIVALENCIES FOR MARIJUANA PRODUCTS

This is the first time that data from an official marijuana market is combined with medical research to develop scientifically-based relationships between marijuana products. The estimates reflect the best-available data and knowledge as of the report publication. Over time, we hope that further research can be used to improve upon the methods here, and to refine the estimates as knowledge of the subject matter continues to improve.

In order to synthesize the various pharmacokinetics of marijuana uptake into a simple, actionable metric, we suggest using a THC conversion factor. The conversion factor for purposes of dosing will compare the amount of weight-based THC contained in smokable products, such as marijuana flower and concentrates, with the amount of weight-based THC contained in ingested THC products such as edibles.

For example, if the THC conversion factor for dosing equals 1:5, this means that one milligram of THC in edible form (ingested) is roughly equal, from a dosing perspective, to 5 milligrams of THC in a smokable form. This section will provide a basic conversion factor model that synthesizes the scientific findings discussed earlier, in order to construct the THC conversion model.

The THC conversion factor is based upon a combination of findings. Among them are: the typical THC loss rate during the smoking process; the typical loss rate of THC for ingested products; the absorption rate of THC vs. 11-OH-THC in the brain; and the estimated comparative psychoactive intensity of THC versus 11-OH-THC.

For clarity, the uptake relationship can be parameterized and displayed mathematically. The following equations explain the relationship between each pharmacokinetic finding and the overall impact of that finding upon the equivalency factor between inhaled and ingested products.

First, the effective uptake of THC or THC derivatives from inhalation can be simplified using the following formula:

$$U^I = (cw)\alpha_{IN}\alpha_{EX}\beta$$

The total uptake U , is the product of the flower weight, w , times the THC/THCa content. This yields the THC weight available for inhaling. This amount is then scaled by the share of THC captured during the inhalation, α_{IN} , and also by the share of THC retained in the lungs after exhalation, α_{EX} . These inputs determine the level of THC that will ultimately be absorbed into the subject's blood plasma. Finally, the share of THC that passes through the BBB from the blood-plasma is denoted by β . The product of these parameters reveals the effective THC uptake from inhalation of activated THC.

The uptake ratio for the THC content alone can be obtained by simply dividing by the marijuana flower weight and THC concentration (cw). After doing this, we denote u^I to be the uptake conversion factor. It is:

$$u^I = \frac{U^I}{(cw)}$$

For edibles, a similar approach can be used. Edibles come in various shapes and sizes, but are required to contain 10 milligrams or less of THC per serving. This allows for a direct uptake comparison of THC content into effective THC uptake from ingestion.

In edibles, the metabolism of THC into 11-OH-THC is an important consideration. It is also important to acknowledge that the slow, steady release of THC and 11-OH-THC into the blood stream allows most, if not all, of the THC derivatives to pass through the BBB. Thus, the equation below implicitly assumes a blood-brain THC retention share of 100 percent for edible marijuana.

$$U^E = \theta\omega(1 + \gamma)$$

The total uptake equivalent, U^E , is a function of the THC absorption rate in the stomach, θ , and amount of THC in the product, by weight, ω . Next, the absorbed portion of THC is metabolized into two components, THC and 11-OH-THC, where THC enters the blood stream linearly, but 11-OH-THC, which can pass the BBB more rapidly, receives a conversion factor, γ .

As with inhaled THC, the share ratio of THC uptake can be constructed simply by dividing by the weight of the THC content in the product:

$$u^E = \frac{U^E}{\omega}$$

Finally, a simple equivalency ratio can be derived from the share-value uptake ratios. This equivalency ratio, R , is used to denote the relative psychoactive effect that is embodied in edible versus smokable marijuana products.

$$R = u^E / u^I$$

Symbol Table

Symbol	Description	Relevant Literature
U, u	Uptake equivalent amount of THC, in weight terms, and unit-free terms, for edibles (E), and for inhalation (I).	Calculated as a function of parameterized values from this report.
C	THC concentration rate in marijuana flower.	Based upon testing observations from Colorado retailers and dispensaries.
W	Weight of marijuana flower.	
α_{IN}, α_{EX}	Share of captured THC during marijuana smoke inhalation, and after exhalation, respectively.	Scientific laboratory studies of marijuana smoking. See See [20], [30], [31].
β	Brain fluid retention rate from blood plasma.	
θ	Absorption rate of THC when ingested in the form of an edible product.	[25], [24], [21], [19], and [13] are studies on oral consumption of marijuana, and its effects upon the human body.
ω	Weight of THC in edible form, in milligrams.	
y	Effective impact of 11-OH-THC that is metabolized by the liver.	Pharmacokinetic studies by [5], [1], [2], [21], and [26].
R	Equivalency ratio – the equivalent dose impact of 1 milligram of THC in edible form, in milligrams of THC in smokable form.	Calculated as a function of parameterized values from this report.

For the purposes of this study, R is the key ratio that can be used to compare edible products with smokable products, from a policy standpoint.

IDENTIFICATION OF PARAMETER VALUES

Each of the parameters in these equations has been studied to some degree. Some studies are directly relevant to specific parameter values, while others are only tangentially relevant, since they were each written for

different purposes than this equivalency study. Relevant studies are cited numerically and are included in the references section. For these reasons, this study utilizes a range of values that is based on existing research. This range of values is used to determine a point estimate for the equivalency ratio (R), which is the equivalent dose impact of 1 milligram of THC in edible form, in milligrams of THC in smokable form.

Studies related to α_{IN} and α_{EX}

The physical uptake of THC through smoking has been

discussed as part of various marijuana smoking experiments. Numerous studies examine the absorption of THC through smoking cannabis. The results of these studies vary, with one study putting the range of absorption from 2 percent - 56 percent. A study by Perez-Reyes found that absorption varied widely due to various factors, including marijuana potency, the amount of unchanged THC available in the smoke inhaled, amount of THC lost in side-stream smoke, method of smoking (i.e., cigarette or pipe) and the amount of THC passed through the upper respiratory tract. [12] A thorough examination of these studies leads to a more reasonable range of absorption through smoking of 10-25 percent. [5, 2, 10, 8, 7] This value range will be used in this study for calculations related to smoking equivalencies.

Below are relevant excerpts from the medical literature, related to the uptake ratios of inhalation and exhalation for THC absorption:

[12] *"The factor of absorption from smoking varies in terms of THC uptake and the actual amount of THC that is absorbed through smoking of marijuana. The factors that affect uptake ratios of smoking include, (1) the potency of the marijuana smoked; (2) the amount of unchanged THC present in the smoke inhaled (i.e., the amount of THC not destroyed by pyrolysis); (3) the amount of THC lost in side-stream smoke; (4) the method of smoking (cigarette vs. pipe smoking); and (5) the amount of THC trapped in the mucosa of the upper respiratory tract. These identified factors have made exact uptake ratios of THC difficult to determine, and therefore studies to this point have produced a range of THC absorption."*

[2] *"Past studies indicate that smoking cannabis turns approximately 50% of the THC content into smoke, with the remainder lost by heat or from smoke that is not inhaled. Up to 50% of inhaled smoke is exhaled again, and some of the remaining smoke undergoes localized metabolism in the lung. The end result is that the estimated*

bioavailability of a smoked dose of THC is between the range of 0.10 and 0.25."

[10] *"Bioavailability following the smoking route was reported as 2–56%, due in part to intra- and inter-subject variability in smoking dynamics, which contributes to uncertainty in dose delivery. The number, duration, and spacing of puffs, hold time, and inhalation volume, or smoking topography, greatly influences the degree of drug exposure."*

[8] *"The apparent absorption fraction calculated in the current study was in a similar range of previous findings on THC, showing an oral bioavailability of 6 %, and inhalation of 18 % (frequent smokers) or 23 % (heavy smokers)."*

[5] *"A systemic bioavailability of $23 \pm 16\%$ and $27 \pm 10\%$ for heavy users versus $10 \pm 7\%$ and $14 \pm 1\%$ for occasional users of the drug was reported."*

[7] *"Pulmonary bioavailability varies from 10 to 35 percent of an inhaled dose and is determined by the depth of inhalation along with the duration of puffing and breath-holding."*

Studies related to β

The role of the blood brain barrier (BBB) in THC and 11-OH-THC uptake is an important factor in determining equivalencies, as this function limits the flow of THC between the body's blood plasma and the brain, where it creates the psychoactive effects. As previously indicated, where THC is allowed to penetrate the BBB, the rate of penetration is slow. Below is a section from M. Huestis (2007)[10], that highlights the difficulty of THC passing through the BBB:

"Adams and Martin studied the THC dose required to induce pharmacological effects in humans. They determined that 2–22 mg of THC must be present in a cannabis

SECTION I	<p>cigarette to deliver 0.2–4.4 mg of THC, based on 10–25% bioavailability for smoked THC. Only 1% of this dose at peak concentration was found in the brain, indicating that only 2–44 µg of THC penetrates to the brain.” [Section 2.2: Distribution]</p>
SECTION II	<p>The competition between blood plasma concentrations and brain tissue concentrations is described by researchers as hysteresis, an indication that the cognitive effects of THC do not occur immediately when THC blood-plasma levels are elevated, but instead, they occur after the THC has been absorbed by various body tissues (primarily, the brain). The dosing effects are said to occur after the blood level and tissue THC concentrations are equal. The following passage from Cone and Huestis (1993) describes this:</p>
SECTION III	<p><i>“THC is rapidly absorbed and distributed to tissues; initial changes in blood concentrations are out of phase (hysteresis) with physiological and behavioral changes. Once blood/tissue equilibrium is established, a direct correlation of THC blood concentration and effect is observed.”</i> [Abstract]</p>
SECTION IV	<p>Several studies that were motivated by THC driving impairment purposes have measured the rate of blood plasma clearance. An example is Hartman, et. al. (2015), this team measures the blood plasma clearance for THC after dosing THC using a vaporizing pen. The early clearance of THC was shown to be rapid, with concentration rates falling from a peak of 60 µg/liter 10 minutes after dosing, down to 15 µg/liter 30 minutes after dosing (and 20 minutes after the peak), and then to approximately 8 µg liter 90 minutes after dosing. Small levels of</p>
SECTION V	

THC can be observed up to seven days after dosing.¹³

Based upon the slow BBB permeability, and the relatively rapid blood clearance rate, this study assumes that only a portion, equal to 35 percent, of THC blood plasma levels end up being absorbed by receptors in the brain when smoking. The comparative rate for ingestion will be much higher, as the liver metabolizes THC more slowly, leading to a long, sustained level of blood plasma THC and 11-OH-THC.

Studies related to θ

The process of THC absorption through ingestion is more straightforward. While there can be variation in this value, depending upon the stomach contents, rate of metabolism and a number of other factors [2,13]. Grotenhermen and Schilke et al. find that the rate lies between 6-12 percent absorption, while Borgelt, Franson, Nussbaum, and Wang suggest that the rate is between 5-20 percent, with the rates typically on the lower range of absorption. Given this information, this study assumes 10 percent as a reasonable rate of THC absorption through ingestion. [2, 6, 13] These studies conclude that the absorption rate of THC through oral administration will be typically be less than that of smoking, with metabolism of THC into 11-OH-THC in the liver as a key factor in the low absorption of THC in this process.

¹³ Most of this literature is motivated to identify specific cutoff points to be considered legally “intoxicated” by THC and similar compounds. A non-psychoactive derivative of THC is 11-nor-9-carboxy-THC (THC-COOH), which is the most common trace substance used to detect marijuana use. New research focuses upon THC and 11-OH-THC since allowable levels are now needed, rather than presence alone. Colorado, for example, has a 5 µg/liter “permissible inference” law, as a cutoff value for legal intoxication of marijuana.

A WORKED EXAMPLE

For concreteness, a worked example is provided in Table IV-4. This example compares the uptake ratios for THC derivatives for 100 milligrams of THC that is either inhaled or ingested.

The result from Table IV-4 is that the equivalency ratio, R , equals 5.71, after findings from the medical literature are used to calibrate each of the uptake ratio parameters. This means that one milligram of THC in edible form, is equivalent to 5.71 milligrams of THC that is available in smokable form.

In the example above, which is based upon observations taken from metrc™, marijuana flower, or bud, has

an average potency of 17 percent.¹⁴ This implies that just over 0.5 grams (588 milligrams) of typical marijuana flower in Colorado contains 100 milligrams of THC (or THCa). From the worked example, an equivalent 100 milligrams of THC from an edible product would yield the equivalent effect of 3,361 milligrams (or 3.36 grams) of marijuana in flower form.

Due to each of the pharmacokinetic effects that are presented in this study, 100 milligrams of THC content in a smokable form, yields 7.88 milligrams of THC into the brain itself. In contrast, 100 milligrams of THC content in edible form yields a much higher ratio of 45.0 milligrams.

¹⁴ Based upon 28,023 laboratory test samples reported between October 2014 and May 2015.

Table IV-4. Example of Marijuana Equivalency Between Inhaled and Ingested Uptake Methods

Differential Uptake Equivalency: Inhaled vs. Ingested THC 100 mg Example			
Inhaled THC from Marijuana Flower		Ingested THC from Edible	
THC in Smokable Flower	100	Edible Package: (100 MG)	100
THC Content	17%	Rate of Absorption	10%
% of Content Inhaled	50%	THC absorption (mg)	10
% of Inhaled Air Exhaled	45%	11-OH-THC Conversion	3.5
Gross THC Absorption (mg)	22.5	11-OH-THC / THC Equivalent:	35.00
Blood Cycle De-Rate Factor	35%		
Effective THC Infusion to Brain (mg)	7.88	Effective THC Infusion to Brain (mg)	45.00
Equivalencies			
Flower Weight (mg)	588	Flower Weight Equivalent (mg)	3,361
THC Equivalency Ratio	1	THC Equivalency Ratio	5.71

Source: Author's calculations, combined with published medical research findings and statistical data from metrc™.

Figure IV-5. Conversion Factors between Marijuana Flower Weight and Non-flower Product Units

Conversion Factors		
Edibles (Weight to 10mg Units)		
0.25 Oz of Flower equals:	21	10mg Edible Units
1 Oz of Flower equals:	83	10mg Edible Units
1 Gram of Flower equals:	3	10mg Edible Units
Concentrates (Weight to Weight)		
0.25 Oz of Flower equals:	1.9	Grams Concentrate
1 Oz of Flower equals:	7.7	Grams Concentrate
1 Gram of Flower equals:	0.3	Grams Concentrate
Potency (THC share of weight)	62%	Based upon metrc™ Data

Source: Author's calculations, combined with medical literature findings and metrc™ data.

As discussed earlier, this is caused by a number of factors, including the time-curve of THC and 11-OH-THC blood-plasma levels in the blood and the share of that THC that can pass through the blood brain barrier.

RESULTING EQUIVALENCY TABLES

For policy purposes, Table IV-5 is constructed to compare different quantities of flower to their equivalent edible serving sizes. Concentrates are also included, using the average potency found from laboratory testing in Colorado between October 2014 and May 2015.

The equivalency ratio, *R*, can now be combined with THC content in various products, in order to construct more user-friendly conversion factors between product types. Table IV-5 lists common weights of marijuana flower that are purchased from retail and medical outlets in Colorado. Next to these weights are the number of units, based upon serving size, that are considered “equivalent” from a dosing perspective. For example, the purchase limit for an out-of-state patron at a retail marijuana store is one quarter of one ounce. This purchase limit would correspond to 21 units or servings of THC in edible form. If the edible is packaged in 100 milligram packages, then two 100 milligram packages could be purchased, plus one 10 milligram unit. That would fulfill the patron’s daily limit purchase amount of marijuana.

For enforcement purposes, residents and non-residents alike are allowed to possess up to one ounce of marijuana flower at a given time. This one ounce amount corresponds to 83 units or servings of edible products. It can be packaged in the form of eight 100 mg packages of servings, plus three 10 mg additional individually-wrapped servings.

One gram of smokable marijuana corresponds to three 10 mg servings of edible products.

Of course, any combination of these amounts is also possible. For example, an out of state patron can purchase 1/8 ounce of marijuana flower, and can also purchase 10.5 servings (105 mg) of THC in edible form. Similarly, a resident who is 21 years or older could legally possess ½ ounce of marijuana flower, plus another 41.5 servings of THC in edible form.

For concentrates, the ratio of concentrate THC to flower THC is “one to one,” because both are inhaled. Thus, the conversion factors between smoked concentrates (e.g., “dabbing”) and smoked flower products are based solely upon the THC potency embodied in the weight of

the product itself. In Colorado, the average concentration ratio for wax or shatter type concentrates was 62 percent, based upon data collected between October 2014 and May 2015. Using this ratio, combined with the 17 percent average THC ratio in Colorado marijuana flower, the smoked THC conversion factors can be easily computed. For example, using the concentrate to flower THC ratios above, the result is $62/17 = 3.65$.

For concentrates, the daily limit corresponding to one-quarter ounce of flower, is 1.9 grams of wax or shatter concentrate. Similarly, one ounce of flower equals 7.7 grams of concentrate, and one gram equals 0.3 grams of concentrate.

**OILS, TINCTURES, LOTIONS, AND
LESS COMMON UPTAKE METHODS**

In Colorado, the share of edibles and concentrates in total demand has increased substantially. This demand growth precipitated the need for further regulatory oversight for these products. There also exists a large array of additional uptake methods for consuming marijuana. These include the sublingual approach (using tinctures), dermal (using lotions), and intravenous, among other methods.

These methods are not considered here, because a full investigation into each method is beyond the scope of this report, and because the current demand levels for these methods are relatively low. If the demand shares for these methods grows and becomes more important, then some investigation is warranted.

Market Price Comparison

SECTION I
SECTION II
SECTION III
SECTION IV
SECTION V

There is a third method to consider equivalencies between marijuana products in Colorado’s retail marijuana market. This is the “market price equivalency” method. From an economic viewpoint, this method is considered to be more direct than other methods, because it compares the price per unit of THC across different products, thereby reflecting the price that consumers are willing to pay—on a THC basis—for each product type.

Until now, it was not possible to compare market prices based upon THC content. By using mandated potency tests for flower and concentrates, an average potency rate can be applied, and then compared to edibles, which are marketed with fixed levels of THC content. Prices for marijuana products are easily found on most storefront websites.

Unlike many retail consumption products, the market for marijuana is relatively homogeneous. This is different from tobacco, where consumers identify products by brand name (Marlboro, or Camels). The homogeneity of marijuana suggests that market pricing should be based primarily upon the potency of the drug, rather than by advertising or marketing influences.

Most consumers of marijuana are purchasing the product for its psychoactive properties. To the extent that the product supplies more doses, the supplier can sell the product at a higher price. Therefore, from an economic viewpoint, there should be a positive, and relatively linear, relationship between the psychoactive ingredient provided by marijuana products and the price paid for it. This relationship can be compared across different product types, and used as supporting or detracting evidence for the dosage equivalencies computed in the previous section.

Recent marijuana prices were obtained from various Colorado vendors, and a table of representative prices has been constructed. The product menu in Figure V-6

on the following page displays typical marijuana products and prices for the Colorado recreational market.

How do we know that this product menu is “representative” of other menus along the Front Range? From an economic viewpoint, this menu is “representative” because the market for marijuana is relatively competitive. If this menu were significantly more expensive, or significantly less expensive than other menus, then the company would not sell much product, or they would be selling more product than they can produce in a given period.

Similarly, if the relative pricing between product types were skewed, then buyers would only purchase selected items that are relatively inexpensive, and they would not purchase the items that are relatively more expensive. So, in addition to being “representative” in gross price, the menu here is also representative in relative price—the relationship between prices from this menu will be similar to the offerings from most Colorado retail stores.

The prices listed in Table V-6 are displayed in terms of gross weight – either for marijuana flower or the weight of THC within a non-flower product. Until now, it was not possible to compare different products in Colorado, because there was no common denominator. However, using metrc™ data, this study finds the average potency of most popular marijuana strains to be quite narrow, between 16.5 and 17.7 percent of THCa. Therefore, we can use a midpoint value of 17 percent as the average expected potency in Colorado marijuana flower sold at the retail level.

Using this potency, the menu in Table V-6, listed in dollars per weight or unit, can be converted into a uniform menu, using the weight of THC (or THCa). The most convenient unit of measure is “cents per milligram of THC” ($\text{\$/MG}_{\text{THC}}$).

Figure V-6. Market Pricing for Marijuana Products in Colorado, Priced in Dollars by Weight or by Unit

Representative Recreational Menu Prices — June 15, 2015					
Flower	Price by Weight (\$USD)				
	1 gram	1 eighth	1 quarter	1 half-oz	1 oz
Indica					
Ghost OG	14.03	41.27	82.54	148.58	264.14
Triangle Kush X Ghost OG	14.03	41.27	82.54	148.58	264.14
Sativa					
Glass Slipper	12.38	33.03	66.06	132.12	239.43
Hybrid					
White Master Kush	14.03	41.27	82.54	148.58	264.14
KING CHEM	12.38	33.03	66.06	132.10	239.43
Edibles	THC MG	Price (each)			
Highly Edible	100 mg	24.99			
Incredibles Boulder Bar	100 mg	23.11			
80 mg Dr. J's AM capsules	80 mg	19.81			
Gaia's Garden Garden Drops	80 mg	19.81			
Incredibles Peanut Budda	50 mg	19.81			
40 mg Blue Kudu Chocolate	40 mg	14.00			
Gaia's Garden Single Serving Lollipop	10 mg	6.60			
Gaia's Garden Single Serving Karma Kandy	10 mg	6.60			
Sweetgrass Snickerdoodle Cookie	10 mg	5.00			
Concentrates	THC MG	Price (g)			
O-Pen Vape Cartridge	500 mg	66.00			
Co ₂ Oil		61.92			
Mahatma Shatter		61.92			
TC Labs Shatter (Strain Specific)		55.00			
O-Pen Vape Cartridge	250 mg	46.00			

Source: Marijuana storefront websites, accessed on June 15, 2015.

SECTION I	<p>The price ratios shown in Table V-7 on the following page are notable because they reflect—quite closely—the pharmacokinetic results found earlier. That is, the standard market pricing for edibles, when compared by THC content, has a 3:1 ratio, just as the product equivalency tables would suggest. This means that although the market participants may not have completed their own pharmacokinetic research, they naturally have gravitated toward this result, based simply upon trial and error.</p>
SECTION II	<p>Of course, there are some products at the edge of the pricing structure, where the price ratio for THC is higher than 3:1. For example, the “Single Serving Lollipop” is priced at 66 ¢/MG_{THC}, which results in an 8:1 ratio. This pricing relates mostly to the fact that pricing for very small servings (e.g., single servings) have a lower bound, due to packaging and marketing. The price of a single serving lollipop is \$6.60, mainly due to a lower price bound for marijuana products in general. Products that contain more than a single 10 mg serving of THC are all priced more closely to the 3:1 ratio than the single-serving units.</p>
SECTION III	
SECTION IV	<p>To summarize, the market price method for equivalency supports our earlier pharmacokinetic work. Market forces have led to a pricing structure that reflects a roughly 3:1 ratio between smoked THC products and edible THC products.</p>
SECTION V	

Figure V-7. Comparison of Market Pricing Between Flower and Non-flower Products, Priced in Cents per Milligram of THC Content

Representative Recreational Menu Prices — June 15, 2015					
Flower	Price: Cents per mg THC				
	1 gram	1 eighth	1 quarter	1 half-oz	1 oz
Indica Strains					
Ghost OG	8.25	6.94	6.94	6.24	6.10
Triangle Kush X Ghost OG	8.25	6.94	6.94	6.24	6.10
Sativa Strains					
Glass Slipper	7.28	5.55	5.55	5.55	5.53
Hybrid Strains					
White Master Kush	8.25	6.94	6.94	6.24	6.10
KING CHEM	7.28	5.55	5.55	5.55	5.53
Edibles	Price: Cents per mg THC		Price Ratio: (per 1 g of Ghost OG)		
Highly Edible	100 mg	24.99	3.03		
Incredibles Boulder Bar	100 mg	23.11	2.80		
80 mg Dr. J's AM capsules	80 mg	24.76	3.00		
Gaia's Garden Garden Drops	80 mg	24.76	3.00		
Incredibles Peanut Budda	50 mg	39.62	4.80		
40 mg Blue Kudu Chocolate	40 mg	35.00	4.24		
Gaia's Garden Single Serving Lollipop	10 mg	66.00	8.00		
Gaia's Garden Single Serving Karma Kandy	10 mg	66.00	8.00		
Sweetgrass Snickerdoodle Cookie	10 mg	50.00	6.06		
Concentrates	Price: Cents per mg THC		Price Ratio: (per 1 g of Ghost OG)		
O-Pen Vape Cartridge	500 mg	18.86	2.28		
Co ₂ Oil		9.53	1.15		
Mahatma Shatter		9.53	1.15		
TC Labs Shatter (Strain Specific)		8.46	1.03		
O-Pen Vape Cartridge	250 mg	26.29	3.19		

Note: Conversions based upon average potency for flower and concentrate products in Colorado, determined through required testing of flower and concentrates.

Source: Colorado storefront menus, accessed on June 15, 2015.

References

- 1.) Baggio S, et al. Routes of administration of cannabis used for nonmedical purposes and associations with patterns of drug use. *Journal of Adolescent Health*. 2014;54(2): 235-240.
- 2.) Borgelt LM, Franson K., Nussbaum AM, Wang GS. The Pharmacologic and Clinical Effects of Medical Cannabis. *Pharmacotherapy*. 2013;33(2):195–209.
- 3.) Borns, MM, Traub SJ, Wang, GS, Wiley FJ. Cannabis (marijuana): Acute intoxication. UptoDate.com. <http://www.uptodate.com/contents/cannabis-marijuana-acute-intoxication>
- 4.) Borini, Paulo, Romeu Cardoso Guimarães, and Sabrina Bicalho Borini. "Possible hepatotoxicity of chronic marijuana usage." *Sao Paulo Medical Journal* 122.3 (2004): 110-116.
- 5.) Grotenhermen F. Pharmacokinetics and pharmacodynamics of cannabinoids. *Clin Pharmacokinet* 2003;42:327-360.
- 6.) Grotenhermen F. Clinical Pharmacokinetics of Cannabinoids. *Journal of Cannabis Therapeutics*, Vol. 3(1) 2003;3(1): 3-51.
- 7.) Grotenhermen F, et al. Developing limits for driving under cannabis. *Addiction* 102.12, 2007:1910-1917.
- 8.) Heuberger J, et al. Population pharmacokinetic model of THC integrates oral, intravenous, and pulmonary dosing and characterizes short-and long-term pharmacokinetics. *Clinical pharmacokinetics*. 2015;54(2):209-219.
- 9.) Huestis MA, Henningfield JE, Conet EJ. Blood Cannabinoids I Absorption of THC and Formation of 11-OH-THC and THCCOOH During and After Smoking Marijuana. *Journal of Analytical Toxicology*.1992;16(5):276-282.
- 10.) Huestis MA. Human Cannabinoid Pharmacokinetics. *Chemistry & Biodiversity*. , 2007;(4):1770–1804. doi: 10.1002/cbdv.200790152.
- 11.) Nadulski T, et al. Simultaneous and sensitive analysis of THC, 11-OH-THC, THC-COOH, CBD, and CBN by GC-MS in plasma after oral application of small doses of THC and cannabis extract. *Journal of analytical toxicology*. 2005;29(8):782-789.
- 12.) Perez-Reyes M. Marijuana smoking: factors that influence the bioavailability of tetrahydrocannabinol. *NIDA Res. Monogr* 99. 1990;42-62.
- 13.) Schwilke EW, et al. Δ 9-tetrahydrocannabinol (THC), 11-hydroxy-THC, and 11-nor-9-carboxy-THC plasma pharmacokinetics during and after continuous high-dose oral THC. *Clinical chemistry* 2009;55(12): 2180-2189.
- 14.) Law B, Mason PA, Moffat AC, Gleadle RI, King LJ. Forensic aspects of the metabolism and excretion of cannabinoids following oral ingestion of cannabis resin. *Journal of Pharmacy and Pharmacology*. 1984;36(5): 289-294.
- 15.) Cone EJ, Huestis MA. Relating blood concentrations of tetrahydrocannabinol and metabolites to pharmacologic effects and time of marijuana usage. *Ther Drug Monit*. 1993 Dec;15(6):527-32.
- 16.) Nahas GG. Marijuana: toxicity and tolerance. *Medical Aspects of Drug Abuse*. 1975;16-36.
- 17.) Goldstein GW, Betz AL. The blood-brain barrier. *Scientific American*. 1986;255(3):74.
- 18.) Aggarwal SK, Kyashna-Tocha M, Carter GT. Dosing Medical Marijuana: Rational Guidelines on Trial in Washington State. *Medscape General Medicine*.

2007;9(3):52.

19.) Agurell S, Halldin M, Lindgren JE, et al. Pharmacokinetics and metabolism of delta 1-tetrahydrocannabinol and other cannabinoids with emphasis on man. *Pharmacol Rev* 1986;38:21–43.

20.) Brine D, Taylor H, Perez-Reyes M. Metabolism, disposition, and kinetics of delta-9-tetrahydrocannabinol in men and women. *Clinical Pharmacology & Therapeutics*. 34:352–363. doi: 10.1038/clpt.1983.179

21.) Brunet, B., & Mura, P. Cannabis and Drug-Facilitated Crimes. *Toxicological Aspects of Drug-Facilitated Crimes*, 2014;139.

22.) Busto U, Bendayan R, Sellers EM. Clinical Pharmacokinetics of Non-Opiate Abused Drugs. *Clinical Pharmacokinetics*. 1989 Jan;16(1):1-26 <http://link.springer.com/article/10.2165/00003088-198916010-00001>.

23.) Fishedick J, Van Der Kooy F, Verpoorte R. Cannabinoid receptor 1 binding activity and quantitative analysis of Cannabis sativa L. smoke and vapor. *Chemical and Pharmaceutical Bulletin*. 2010;58(2):201-207.

24.) Ginsburg BC. Toward a Comprehensive Model of D9 -Tetrahydrocannabinol Pharmacokinetics Using a Population Pharmacokinetics Approach. *Clin Pharmacokinet*. 2015;54:129–131

25.) Grotenhermen F, Leson G. Reassessing the Drug Potential of Industrial Hemp. 2002;0-48.

26.) Grotenhermen, F. Evaluation of Clinical Data. nova-Institut, Hürth, Germany.

27.) Hazekamp A, Ruhaak R, Zuurman L, van Gerven J, Verpoorte R. Evaluation of a vaporizing device (Volcano®) for the pulmonary administration

of tetrahydrocannabinol. *Journal of pharmaceutical sciences*. 2006;95(6):1308-1317.

28.) Huestis M. Pharmacokinetics and Metabolism of the Plant Cannabinoids, Δ^9 -Tetrahydrocannabinol, Cannabidiol and Cannabinol. *Handbook of Experimental Pharmacology*. 2005;168:657-690

29.) Klumpers LE, et al. Novel Δ^9 -tetrahydrocannabinol formulation Namisol® has beneficial pharmacokinetics and promising pharmacodynamic effects. *British Journal of Clinical Pharmacology*, 2012;74: 42–53. doi: 10.1111/j.1365-2125.2012.04164.x

30.) MacCoun RJ, Mello MM, . Half-Baked — The Retail Promotion of Marijuana Edibles *N Engl J Med*. 2015 Mar;372:989-991 DOI: 10.1056/NEJMp1416014.

31.) McGilveray Pharmacon Inc, and University of Ottawa, Ottawa, Ontario. Pharmacokinetics of cannabinoids. *Pain Research & Management : the Journal of the Canadian Pain Society = Journal de la Societe Canadienne Pour le Traitement de la Douleur*. 2005;(10):15A-22A. <http://europepmc.org/abstract/med/16237477>

32.) Ohlsson A, Lindgren JE, Wahlen A, Agurell S, Hollister LE, Gillespie HK. Plasma delta-9 tetrahydrocannabinol concentrations and clinical effects after oral and intravenous administration and smoking. *Clin Pharmacol Ther*. 1980;28: 409–16.

33.) Ohlsson A, Lindgren, J-E, Wahlén A, Agurell S, Hollister, LE, Gillespie HK. Single dose kinetics of deuterium labeled Δ^1 -tetrahydrocannabinol in heavy and light cannabis users. *Biol. Mass Spectrom*. 1982;9: 6–10. doi: 10.1002/bms.1200090103 <http://onlinelibrary.wiley.com/doi/10.1002/bms.1200090103/abstract>

34.) Ohlsson A., Lindgren J-E, Wahlen A, Agurell S, Hollister L E, Gillespie H K. Plasma

delta-9-tetrahydrocannabinol concentrations and clinical effects after oral and intravenous administration and smoking. *Clinical Pharmacology & Therapeutics*. 1980;28:409–416. doi: 10.1038/clpt.1980.181

35.) Zuurman L, Ippel AE, Moin E, van Gerven JM. Biomarkers for the effects of cannabis and THC in healthy volunteers. *Br J Clin Pharmacol*. 2009 Jan;67(1):5-21. doi: 10.1111/j.1365-2125.2008.03329.x.

36.) Cone EJ, Huestis MA. “Relating blood concentrations of tetrahydrocannabinol and metabolites to pharmacologic effects and time of marijuana usage.” *Therapeutic Drug Monitoring*. 1993 Dec. 15(6):527-32.

37.) Musshoff F, Madea B. Review of biologic matrices (urine, blood, hair) as indicators of recent or ongoing cannabis use. *Therapeutic Drug Monitoring*. 2006;28:155-163.

38.) Hartman H.L., et. al., “Controlled Cannabis Vaporizer Administration: Blood and Plasma Cannabinoids with and without Alcohol.” *Clin Chem*. 2015 Jun;61(6):850-69. doi: 10.1373/clinchem.2015.238287. Epub 2015 May 27.

Terms & Acronyms

Butane hash oil (“BHO, dabs, shatter, wax”) — A non-polar hydrocarbon which is used as a solvent in many other industries such as essential oil extraction, butane is especially well-suited for stripping cannabis buds or trim of their cannabinoids, terpenes, and other essential oils while leaving behind the majority of unwanted chlorophyll and plant waxes. In this extraction method, the solvent washes over the plant material and is then purged off from the resulting solution using a variety of techniques and variables such as heat, vacuum and agitation.

Cannabinoid — any of the chemical compounds that are the active principles of marijuana. Cannabinoids include THC, THCa, CBD, CBDa, CBN, and other naturally occurring compounds.

CO₂ extraction — When high pressure is applied to CO₂, it becomes a liquid that is capable of working as a solvent, stripping away cannabinoids and essential oils from plant material. This process is called supercritical extraction and is the most common method of making hash oil using CO₂ instead of a hydrocarbon solvent such as butane. CO₂ extractions can take many of the same textures as BHO, but generally they tend to be more oily and less viscous.

Concentrate — Refers to any product which refines flowers into something more clean and potent. This umbrella term includes any type of hash, solventless (kief), as well as any hash oils (BHO, CO₂ oil, shatter, wax, etc.) and indicates that these products are a concentrated form of cannabis, carrying a much higher potency.

Decarboxylate — The process of converting THCa and CBDa into THC and CBD is an essential part of the process if you wish to consume cannabis orally. Decarboxylation occurs at around 240 degrees Fahrenheit, converting THCa and CBDa into THC and CBD, respectively. Though the acid forms of these cannabinoids have some medicinal benefits, normally decarboxylation is

desired for maximum potency and effect in edibles and other infused products.

Infused product — A marijuana product which is intended to be consumed orally, including but not limited to, any type of food, drink, or pill.

Edibles — Any cannabis product which is consumed orally and digested is considered an edible.

Hydrocarbon extractions — Any extraction process that uses hydrocarbons such as butane or propane.

metrc™ — Marijuana Enforcement Tracking, Reporting and Compliance is the required seed-to-sale tracking system that tracks Retail Marijuana from either the seed or immature plant stage until the Retail Marijuana or Retail Marijuana Product is sold to a customer at a Retail Marijuana Store or is destroyed.

Marijuana Infused Product manufacturer (“MIP”) — An entity licensed to purchase Retail Marijuana; manufacture, prepare, and package Retail Marijuana Product; and sell Retail Marijuana and Retail Marijuana Product only to other Retail Marijuana Products Manufacturing Facilities and Retail Marijuana Stores.

Supercritical extractions — When a substance is heated and pressurized beyond its critical point, it turns into a supercritical fluid capable of working as a solvent to strip away oils and essential compounds. It is used in a variety of industries for botanical extractions with several different types of fluid, but in the cannabis world, it generally refers to CO₂ extractions. Supercritical extraction by nature is not particularly selective in terms of what it extracts, so many CO₂ processors need to utilize a secondary solvent such as ethanol or hexane in order to remove waxes and chlorophyll prior to delivering a finished product.

THC — Tetrahydrocannabinol (THC) is the main cannabinoid found in the cannabis plant and is responsible for the majority of the plant's psychoactive properties. THC has lots of medical benefits including analgesic properties, though perhaps its most defined quality is its tendency to increase appetite. CBD acts as an antagonist to THC, reducing its psychoactive effects.

THCa — Tetrahydrocannabinolic acid (THCa) is the most prominent compound in fresh, undried cannabis. The compound does not have psychoactive effects in its own right, unless it is decarboxylated and converted into THC.

Trim — After harvest, the cannabis plant is generally trimmed of its leaf matter, leaving behind only the buds. Trimming refers to the actual act of removing the leaves, while trim refers to the leftover leaves, which can be used for making concentrates and infused products.

Vacuum purge — After extraction, most concentrates require further refining in order to remove the solvent which is remaining in the product. In order to do this, concentrate makers have utilized vacuum ovens and devices which serve to reduce the atmospheric pressure on the concentrate, which speeds up the process of removing the solvent.

WHO IS THE MARIJUANA POLICY GROUP?

Since 2014, MPG has been the leading strategic advisory firm in the Cannabis Industry.

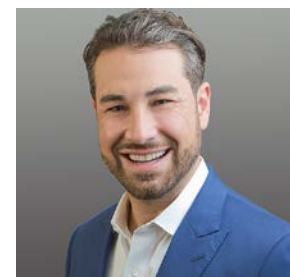
We are comprised of uniquely qualified experts with global cannabis experience and expertise.

- Unparalleled and unique expertise in the cannabis industry
- Excellent proficiency in industry-critical skills: Estimating consumer demand, Strategic Planning & Execution, and Winning competitive licenses
- Strong industry reputation with both regulators and the private sector
- A robust pipeline both domestically and internationally
- A vast network of domestic and international industry connections
- Unparalleled access to seed-to-sale data to leverage in analysis and enterprise creation



Adam Orens
Founder

- 13 years experience in specialty agricultural and resource consulting
- Lead cannabis market advisor for state of Colorado
- Advised Canadian and Mexican governments; large public cannabis companies
- Cannabis consulting experience in 24 states, Canada, Mexico, and Europe



Salmeron Barnes
Partner

- Former C-Level Strategist at Oliver Wyman
- Led due diligence projects for PE funds in a variety of industries
- Extensive international strategic consulting experience
- Led cannabis projects across North America, Europe, and Israel
- Former Army Officer

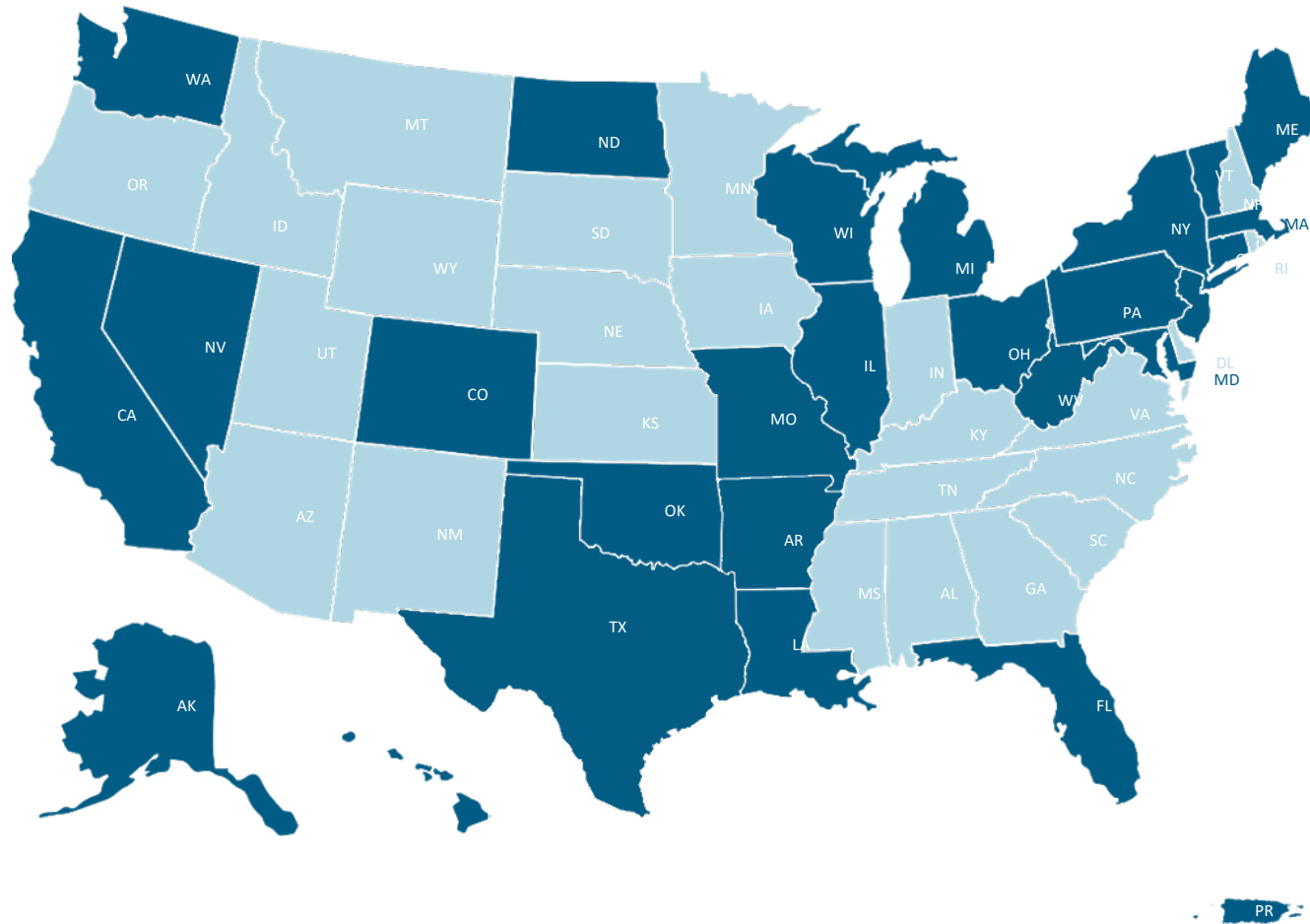


Davide Fortin
Senior Associate

- Consultant for UNODC on cannabis market sizing
- Lecturer on the integration of cannabis in the EU pharma distribution system
- Corporate advisory for first CBD hemp processors in Switzerland
- Advisor for ministers in Italy, Portugal, Poland and Denmark
- Ph.D. in economics at Sorbonne University

OUR ADVISORY WORK IN THE US

Since 2014 the MPG has helped US based regulators, private companies and entrepreneurs succeed in the domestic cannabis market

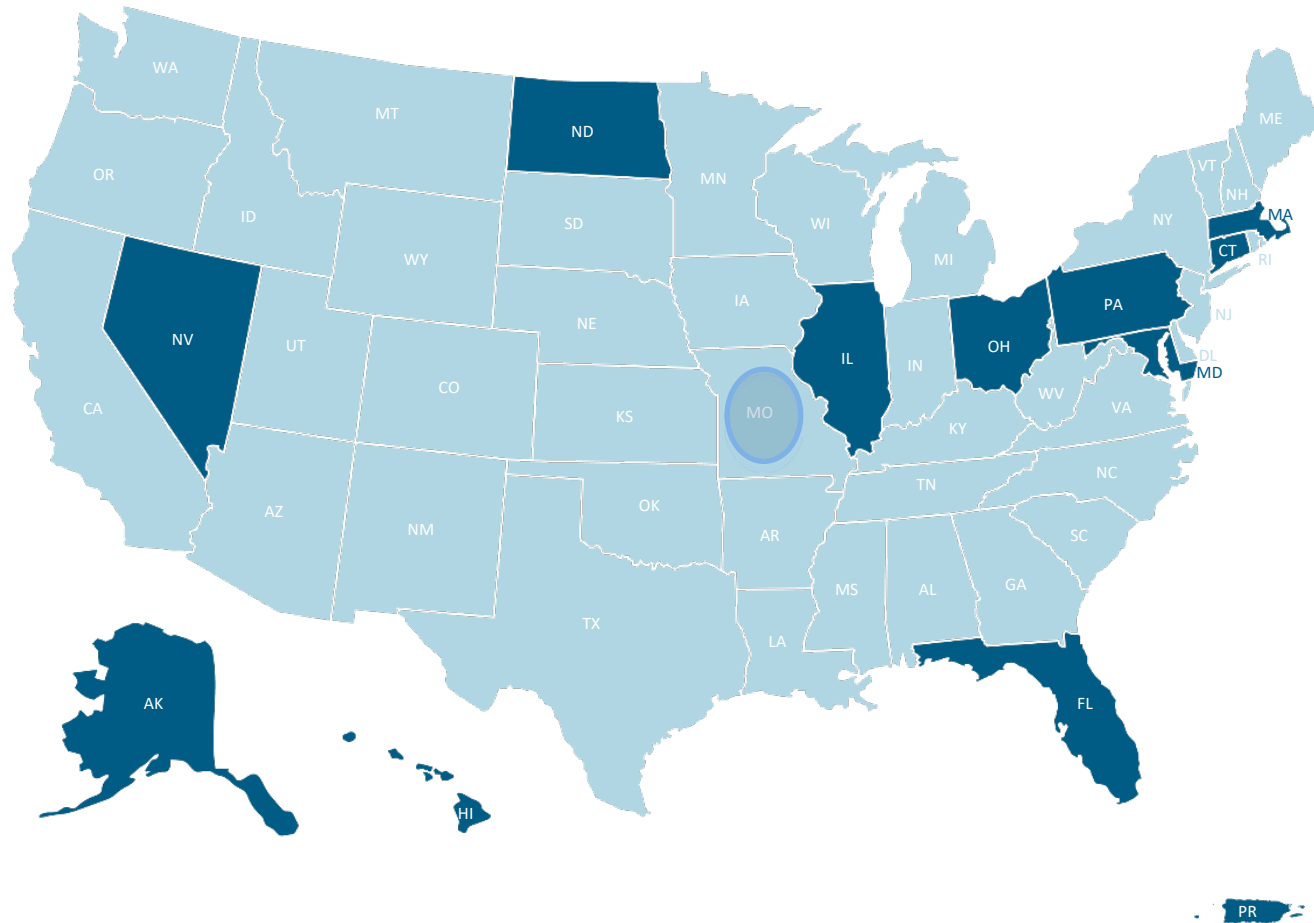


Highlights

- Completed strategic projects or operational set up in 24 states including CA, OK, WA, NV, IL and NY
 - Current lead consultant and author for Colorado Hemp Advancement Management Plan (CHAMP)
 - Completed market feasibility studies for native American tribes in 4 states
 - Lead market analyst for the State of Colorado's Marijuana Enforcement Division since 2014
 - Developed business plans and helped raise capital for multiple companies across the US
 - Advisory and analysis for lobbying groups in NY, NJ, NV, PR, CA, IL
-

SINCE 2013 MPG HAS A STRONG TRACK RECORD OF WINNING COMPETITIVE LICENSES

MPG has won 10 of 12 license competitions



Highlights

- Won competitive licenses in 10 states including IL, OH, HI, FL, MD
 - Our experience with competitive licenses has give us insight into what it takes to win
 - We continue to provide advisory support to several of our license
 - Seven applications currently under review in Missouri
-

EXAMPLE GLOBAL WORK

The MPG has deep global experience across multiple continents.
We have a European based team that actively monitors the market.

Canada

- Market Structure Assessment for Health Canada
- Market entry strategy for global cannabis focused pharmaceutical company

Mexico

- Strategic advisory for COFEPRIS, Mexico's FDA
- Import strategy

Switzerland

- Growth strategy for pharmaceutical company

Israel

- Customer acquisition strategy for Ag Tech looking to enter into the cannabis market

Italy

- Strategic advisory for hemp cultivation / processing company

Australia

- International expansion strategy for two publicly listed Australian cannabis focused company

PAST AND PRESENT CLIENTS

We have advised a variety of high profile clients across the globe.



Health
Canada



CRESCOLabs™



curaleaf™



Contact Us

adam@mjpolicygroup.com
sal@mjpolicygroup.com
www.mjpolicygroup.com

Published in final edited form as:

Public Health Rev. 2014 ; 35(2): 1–18.

Why Changes in Price Matter When Thinking About Marijuana Policy: A Review of the Literature on the Elasticity of Demand

Rosalie Liccardo Pacula, Ph.D.¹ and Russell Lundberg, Ph.D.²

¹ RAND Corporation and National Bureau of Economic Research

² RAND Corporation

Abstract

Recent debates regarding liberalization of marijuana policies often rest on assumptions regarding the extent to which such policy changes would lead to a change in marijuana consumption and by whom. This paper reviews the economics literature assessing the responsiveness of consumption to changes in price and enforcement risk and explicitly considers how this responsiveness varies by different user groups. In doing so, it demonstrates how most of the research has examined responsiveness to prevalence of use, which is a composite of different user groups, rather than level of consumption among regular or heavy users, which represent the largest share of total quantities consumed. Thus, it is not possible to generate reliable estimates of the impact of liberalizing policies on either tax revenues or harms, as these outcomes are most directly influenced by the amounts consumed by regular or heavy users, not prevalence rates.

Keywords

Marijuana; Price; Price Elasticity of Demand

INTRODUCTION

A vast literature has developed over the past twenty years examining the etiology of and factors influencing marijuana consumption. Economists have contributed to this literature by demonstrating the relative importance of changes in the full price of marijuana on marijuana use and drug use careers. The typical approach used by economists to describe how sensitive a user is to changes in the price of a good is the “price elasticity of demand.” The price elasticity of demand measures how much consumption of a good changes (in percentage terms) in response to a one percent change in the price of that good holding all other factors constant. As demand for most goods is downward sloping, the price elasticity of demand is generally negative indicating that when price goes up consumption goes down. A value less than one in absolute value (that is, between 0 and 0.99) is generally considered to be “inelastic” or less responsive to price changes because consumption changes (in percentage terms) less than price changes (in percentage terms). A value greater than one in absolute value is generally considered to be “elastic”, because the percentage change in consumption observed with a one percent change in price is greater than that for price.

Discussion of the price elasticity of demand for marijuana has grown recently in light of debates about marijuana legalization in the U.S. and abroad. However, many who draw on this literature to substantiate a particular position regarding legalization do so naively, unaware that the responsiveness of consumption to price can depend on where in the distribution of marijuana users the sample is drawn. Marijuana markets, like markets for other goods, are characterized by a number of different types of consumers, all of whom contribute in varying amounts to the total amount consumed in the market¹⁻³ and researchers have been careful to consider the type of user in constructing estimates of use.^{4,5} Yet, reviews of the literature on the price sensitivity of demand often ignore these important differences.

This paper contributes to the existing economic and policy literatures on the demand for marijuana and the probable impact of policy on consumption by clearly differentiating the findings from the literature regarding the price elasticity of demand by different types of user groups. In doing so, it becomes readily apparent that various groups might respond differentially to a policy change. In particular, this paper considers how responsive consumption has been to various components of the full price of marijuana, which captures both the monetary aspect of price as well as the non-pecuniary aspects of price, such as the legal risk of using it and/or the perceived health risks. The four user groups considered are (a) initiators and light users – new users who are experimenting with marijuana or consuming small doses on a very infrequent basis; (b) regular users – individuals who consume in relatively small or moderate doses on a more frequent basis; (c) heavy users – individuals who consume on a near daily basis or who meet Diagnostic and Statistical Manual of Mental Health (DSM-IV) criteria for dependence or abuse; and (d) quitters – individuals who are deciding to no longer use marijuana.

Our thesis is that consumption by each of these groups will be differentially impacted by price changes and thus prevalence rates by themselves are imperfect indicators of real consumption changes caused by price changes. Prevalence rates conflate changes in the behaviors of new initiates and casual users with the behaviors of regular or heavy users. Although new initiates and casual users represent a large proportion of the total number of users, they represent a very small amount of the total quantity of the drug consumed.^{1,3,5} Estimates of a price decrease of more than 80 percent^{6,7} would have very different implications for light users, who spend a very small share of their income on marijuana, than on more regular or heavy users, who spend more of their disposable income on the good.

DISCUSSION

The Responsiveness of Initiation

If the goal is to understand factors influencing marijuana initiation, then one must start by looking at use among adolescents. While not all individuals who initiate marijuana are adolescents, the average age of initiation of marijuana among those reporting in the household population is just under the age of 18.⁸ Thus data on adolescent marijuana initiation can contribute insights into initiation generally.

Research into factors associated with marijuana initiation and use by adolescents has generally focused on non-monetary aspects of price, including perceived harm and disapproval.^{9,10} However, monetary price is also important. Pacula et al. (2001) examined the relative importance of price and non-monetary harms in predicting trends in use over time.¹¹ While perceived harm and disapproval were important, and played a larger role in the period of expanded use, changes in purity-adjusted price contributed significantly to the trends in youth annual and thirty-day use rates from 1982 to 1998, and particularly in the contraction of use from 1982 to 1992. Annual participation elasticities from this study fell in the range of -0.06 to -0.47, while thirty day participation elasticities generated a wider range of -0.002 to -0.69. Their preferred specification identified a price elasticity for both annual and thirty day prevalence of -0.30, implying that a 10 percent reduction in the price of marijuana would lead to a 3 percent increase in the number of high school seniors reporting past year and past month use.

Other studies have looked at the impact of price on annual and thirty day prevalence of use among high school or elementary students and found negative and statistically significant relationships, but the effect sizes have been small and participation elasticities are not reported.^{17,18, 20} Two Australian studies look more directly at the impact of price on initiation using duration models. Van Ours and Williams (2007) and Bretteville-Jensen and Williams (2010) both examined initiation among youth and young adults in Australia and found marijuana price to be negatively associated with initiation.^{21,22} In Van Ours and Williams (2007), the initiation elasticity ranged from -0.31 to -0.70, with their preferred specification generating a past year initiation elasticity of -0.50. Bretteville-Jensen and Williams (2010) built on this work and found that initiation was driven by the sample of youth under the age of 18 and the monetary price of marijuana was not statistically significant for predicting initiation of marijuana for individuals after age 18.

As economists interpret price more broadly to also include the non-pecuniary aspects of using a good (e.g. the legal risks, the health risks, the search costs), many studies have considered the responsiveness of consumption to decriminalization status and legal risks of using marijuana. In one of the earliest studies of the effects of state decriminalization policies, Johnston et al. (1981) compared marijuana use in the 1970's across states and found no evidence that the decriminalization of small amounts of marijuana in California in 1976 increased use.¹² DiNardo and Lemieux (2001) found a similar null effect of decriminalization in thirty-day prevalence rates for high school seniors in the 1980s.¹³ However, these two studies did not include any additional measures of legal risk in their models, which is problematic as subsequent papers found that the effects of decriminalization are only apparent when additional measures of legal risk or monetary price of marijuana are included.^{14,15}

Studies that included additional measures of the legal risk of consuming marijuana or the monetary price of marijuana have generally found that marijuana decriminalization has a positive and statistically significant effect.¹⁶⁻¹⁸ Using data from the Monitoring the Future Survey, Chaloupka, Grossman and Tauras (1999) found that decriminalization was associated with higher prevalence of marijuana in the past year but not in the past month when state-level fines were also included.¹⁶ Additionally, they found that among those who

report some use, decriminalization was not associated with frequency of use, suggesting that the legal risk deters initiation but does not deter consumption once someone starts to use. Chaloupka et al. (1999) found broader effects when including an additional measure of median jail time served,ⁱ with decriminalization status coming in positive and statistically significant in both the thirty-day prevalence and conditional frequency equations.¹⁷ Finally, Pacula et al. (2003), in an examination of 10th grade students, found decriminalization to be statistically significant above and beyond actual penalties (such as changes in criminal status, reduced time in jail, lower fines, and relative enforcement).¹⁸

In addition to the effects of general decriminalization are the costs of the expected punishment. The expected punishment depends on both the severity of a punishment and the likelihood that the punishment will be carried out. In marijuana policy research, severity is often measured using fines or time in jail while the likelihood of punishment is often associated with the intensity of police enforcement. Chaloupka, Grossman, and Tauras (1999) found fines to be associated with lower annual and thirty day prevalence of marijuana and lower frequency of use among users,¹⁶ while Chaloupka et al (1999) found statistically significant effects only with regards to fines¹⁷ and Pacula et al. (2003) found them only with regards to jail time.¹⁸ Farrelly et al. (2001) examined the effect of average fines and without consideration of decriminalization in a nationally representative sample of youth between the ages of 12 to 20.¹⁹ They found that youth living in states with higher average fines had lower rates of use, but not lower levels of use among those who used marijuana already, suggesting the deterrent effect was on the decision to use not the quantity consumed.

Table 1 summarizes the findings with respect to the effects of the monetary price, decriminalization, and the legal risk (penalties and police enforcement) of marijuana on the decision to use marijuana among youth. Marijuana initiation among youth is very sensitive to changes in the price of marijuana with plausible initiation elasticities from -0.3 (in Pacula et al., 2001) to -0.5 (in Van Ours and Williams, 2007). The literature suggests that policies that reduce the price of marijuana by 10 percent therefore, will lead to a 3-5 percent increase in the number of new marijuana users among youth, all else equal. The findings with respect to legal risks also suggest that youth are sensitive to changes in statutory penalties, although there is some inconsistency from study to study as to whether it youth prevalence rates are more sensitive to jail sentences or fines. In most cases, the impact of the legal risk on prevalence is generally small, and when frequency of marijuana use is examined, legal risks are generally insignificant. The effects of decriminalization are less clear from the literature, which may be due a combination of weak analytic approaches, the non-uniqueness of this policy in terms of actual penalties faced by users, and the apparent lack of knowledge about these policies.^{18,23,24} As there has been very little variation in decriminalization policies in the U.S. between the early 1980s and mid-2000s, it is difficult to infer anything from studies relying on variation in state policies.¹⁸

ⁱAs 8th and 10th graders were included in this sample, thirty day use will largely reflect new initiation or casual experimentation with marijuana.

The Responsiveness of Regular Use

The economics literature typically defines “regular users” as individuals who report use on a monthly basis (so reporting that they used in the past 30 days or at least 12 times in the past year). Clearly, this is a very imprecise measure of regular marijuana users and could easily capture new initiates as well. However, nationally representative data provide no other, more reliable measure. As with initiation, regular use is also associated with a specific age group, as epidemiological data consistently demonstrate that regular use of marijuana peaks during young adulthood. According to the 2008 National Survey of Drug Use and Health (NSDUH), the rate at which people report using marijuana in the past month more than doubles from teens under 18 to adults ages 18-25, and then declines with age after age 30. Therefore, we focus on studies of young adults in particular when trying to understand the responsiveness of behavior among “regular users.”

The literature examining the consumption behavior of regular users is larger than that for any other user group, however the vast majority of the work focuses on prevalence, not frequency of use. Table 2 provides a summary of some key studies that have considered various components of the full price on consumption among young adults. Several more studies reviewed herein consider changes in annual prevalence rates or apply to the general adult population, but these studies are excluded from the summary table so as to focus attention on studies targeting regular users, as defined above. As age still varies considerably even among the regular user population, we indicate in an extra column of Table 2 the age of the sample considered.

The first study to examine the price elasticity of demand for marijuana examined a population of American undergraduate students. Nisbet and Vakil (1972) inquired about students’ marijuana use in the past 30 days to estimate the effect of price both on the decision to use and the amount consumed.²⁵ Their estimates of the price elasticity of marijuana participation for this group ranged from -0.7 to -1.0, while the total elasticity of demand, which captures changes in average consumption among those already using as well as the decision to use, ranged from -1.01 to -1.51. The elasticities derived from this study suggest that the total demand for marijuana is actually quite sensitive to changes in price.ⁱⁱ Two other papers focused on the behavior of college students and found statistically significant price elasticities. Williams et al. (2004) estimated a past month marijuana participation elasticity for a nationally representative sample of American college students age 18-24 of -0.24, controlling for alcohol use as well as unobserved heterogeneity.²⁶ They also included a measure of the maximum fine for possession of small amounts of marijuana and found when state fixed effects were included the legal penalty had no effect on consumption for this group. In a follow-on study in which younger students were differentiated from older students and cocaine use was also accounted for, Williams et al. (2006) found a lower annual participation elasticity for young college students less than 21 of -0.16 and a higher participation elasticity for older students of -0.26.²⁷

ⁱⁱWe focus on findings from this study reported for an actual price change rather than responses to a hypothetical price change, as these data are deemed more reliable.

Other studies examining demand responsiveness using U.S. populations of regular users have examined non-monetary aspects of price. Studies that only include a measure of decriminalization status generated mixed conclusions. For example Thies and Register (1993) found decriminalization to have no effect on the annual or thirty day prevalence of marijuana or the frequency of use among young adults,²⁸ while a series of papers by Saffer and Chaloupka found positive and statistically significant effects of marijuana decriminalization on both past year and past month use.^{29,30}ⁱⁱⁱ However, studies that included actual penalties and/or enforcement risk instead of decriminalization status found that consumption is sensitive to small differences in legal risks.^{15,31} Farrelly et al. (1999) suggested that a 10 percent increase in the proportion of marijuana users arrested for possession would be associated with a 1.6 percent to 2.0 percent reduction in the prevalence of marijuana use among young adults.³¹^{iv} Higher median fines were also associated with reduced monthly prevalence, although the effect size is small— a 10 percent increase in the median fine is only associated with a 0.08 percent reduction in prevalence. Conditional quantities consumed were not considered in this analysis.

Several studies have examined the responsiveness of annual prevalence rates and frequency of use (i.e. “conditional demand”) to changes in the full price of marijuana. The problem with using annual prevalence rates rather than past month prevalence rates to consider the responsiveness of regular users is that annual prevalence rates combine the behavior of new initiates and more persistent users, particularly for individuals past the age of initiation. Nonetheless, the general findings even for these models are supportive that consumption is sensitive to changes in the full price of marijuana. DeSimone and Farrelly (2003), for example, estimated models of annual prevalence and frequency of marijuana use among 18-39 year olds.³² They found very clear negative effects of marijuana enforcement on both prevalence and frequency of marijuana use, suggesting that greater enforcement reduces marijuana use above and beyond any effect this might have on marijuana prices. They also find a negative relationship between marijuana prices and marijuana use, although the results are sensitive to the inclusion of state geographic fixed effects which is not surprising given the limited variability they have in price over the short period of time examined. Rhodes et al. (2000) also estimated a negative price elasticity in their models employing the entire household population (ages 12 years and older) using the National Household Survey on Drug Abuse (NHSDA). Their estimate of the annual price elasticity of demand was -0.33.³³

There is also evidence from international work demonstrating the sensitivity of consumption to changes in the price of marijuana when annual measures of use are used.³³⁻³⁸ For example, Ramful and Zhao (2009) found that marijuana prices were significantly associated with the probability of using marijuana for individuals who also use cocaine and heroin, but not for the unconditional sample of marijuana users.³⁴ Similarly Williams and Mahmoudi

ⁱⁱⁱIn their second paper (Saffer and Chaloupka, 1999b) that examines differences across gender and ethnicity in past year participation, they find that the positive effect of decriminalization holds for all subgroups except Native Americans. Living in a decriminalized state increases the probability of reporting use in the past year from 2% (for Asians and African Americans) to 4% for Hispanics and individuals under the age of 21.

^{iv}It is interesting to note that the results for youth (< 18) in this analysis are different from those published by a subset of the group in 2001. The differences are likely due to changes in the exact specification of the model, but again raise the sensitivity of drawing firm conclusions from any one particular study.

(2004), using earlier waves of the Australian Household Survey, found that while annual prevalence rates were negatively associated with price, it was the group of individuals who report using both marijuana and alcohol (polydrug users) that drove that result. Studies examining the level or frequency of marijuana use among past year users generally found that these measures were unaffected by changes in price.³⁸⁻³⁹ The lack of a significant effect of price on the frequency of consumption in these Australian samples differs from findings using U.S. data.

In an effort to understand the extent to which population differences drove differences in findings regarding price elasticities, Gallet (2013) conducted a meta-analysis, building a model based on findings from 82 estimates from 13 studies of Australia and India as well as the U.S.⁴⁰ Gallet did not attempt to distinguish between different types of users, as we do here, but he still generates non-zero estimates of participation elasticities based on his meta-analysis in the range of -0.28 to -0.31. Follow up discussions with the author revealed that the conditional demand elasticity generated from the model for marijuana was estimated to be -0.15. Thus the findings from the meta-analysis reinforce the conclusion that in the U.S. changes in the monetary price of marijuana do influence both the prevalence of marijuana use and conditional quantity consumed.

Responsiveness of Heavy Use

Little work has been done explicitly examining the sensitivity of heavy or dependent use to changes in the full price of marijuana. In an early study of the impact of marijuana decriminalization on marijuana use, Model (1993) identified that states that adopted decriminalization policies experienced a 56 to 64 percent increase in marijuana-involved emergency department episodes compared to states who did not adopt these policies.⁴⁶ However, she also found a significant decline in the number of episodes involving other illicit drugs in states that adopted these policies, suggesting a possible substitution of marijuana for these harder substances. Measures of marijuana prices and enforcement risk were not included in her model, however.

Other studies have examined marijuana use among arrestees. Arrestees are a population that is heavily engaged in drug use, with over 60 percent of arrestees testing positive for marijuana use via urine samples in the United States, the UK and Australia.⁴⁷ Pacula and Kilmer (2003) found that use both in the past thirty days and in the 72 hours before the crime was committed were both negatively associated with self-reported price.⁴⁸ The lack of a potency-adjusted price limited the ability to create a specific price elasticity of demand, but the strong association did suggest that consumption is sensitive to changes in price even in a group of heavy users. Grossman (2005) linked external price data that adjusted for average potency to arrestee self-reported use data and found statistically significant price effects. His estimates of the price elasticity depended on the specification of the model, but fell in the range of -0.26 to -1.18.⁴⁹ Finally, Rhodes et al. (2000) found a very high elasticity of marijuana demand among arrestees, from -2.65 to -2.79.⁵⁰

Responsiveness of Quit Behavior

Economists have only recently begun to model the decision to quit using. The only published work including measures of the monetary price on the decision to quit is the work by van Ours and Williams (2007).²¹ In their analysis of young users (under the age of 23) in Australia, they found that the monetary price of marijuana generally had a positive, although statistically insignificant, effect on the likelihood of quitting marijuana in the past year. Considered along with other studies that found that marijuana prices were correlated with the decision to initiate drug use early,^{54,55} they suggest their findings suggest that higher marijuana prices still reduce the duration of the typical use career, but they do so by delaying initiation rather than enticing the user to quit.

RECOMMENDATIONS

It is now better understood that marijuana markets share some common characteristics with markets of other intoxicating goods. In particular, like alcohol, the casual user or marijuana represents a relatively large share of the proportion of people who report using any marijuana in the past year, but they represent a very small proportion of the total amount consumed.¹⁻⁵ This realization implies that knowledge of how prevalence rates change in response to a change in price may not be that useful for understanding how total consumption would change with a change in price because of the heterogeneity in users represented by any particular prevalence rate. To understand how total consumption (in terms of volume of the good consumed) changes, one needs to understand how behavior among regular users and heavy users changes. Participation elasticities, generated from studies examining how annual or thirty-day prevalence rates change with a change in the price of marijuana, represent the bulk of the estimates from the literature on elasticities so far. Far less time and attention has been given in the literature to precisely estimating the sensitivity of amount consumed or heavy use.

Manning et al (1995) was the first to carefully document the fact that the price elasticity of demand changes over the distribution of users.⁴³ Their analysis focused on drinkers and they found that the price elasticity of demand followed more of a U-shaped pattern. While, drinkers in the far tail of the distribution (90th percentile) were not responsive to higher prices and behaved more like abstainers and light drinkers, drinkers consuming in the 80th percentile of total consumption were significantly responsive to price, with a price elasticity of -0.74 that was much higher than that of moderate drinkers. Prior analyses that considered dichotomous indicators of heavy users found that binge drinkers and/or binge drinking days were more responsive to changes in price than light or infrequent drinkers.^{52,53}

To what extent might the same logic apply to marijuana? The literature described here suggests that a non-linear relationship is certainly plausible. What little evidence we have on heavy users suggests price elasticities substantially larger than those estimated from past month users. But the literature is thin, due in part to relatively lousy data on potency-adjusted marijuana and due in part to lousy data on how much marijuana is consumed in a single use occasion across different types of users. We do know that regular users are sensitive to changes in the monetary price of marijuana. Prevalence estimates suggest that a 10 percent decline in price could lead to a 2.4 to 2.5 percent increase in rates of use among

regular users. Full consumption effects, which would also capture changes in the amount consumed among existing users (i.e. “conditional demand”) may even be larger, as indicated by the full demand and conditional demand elasticities identified in the U.S. literature. The sensitivity of the conditional demand for marijuana to changes in prices in the U.S. is consistent with findings from the alcohol and tobacco literature, which have consistently shown that quantities consumed among users are also sensitive to changes in price.⁴¹⁻⁴⁵

However, the frailty of the literature understanding the behavior of regular and heavy marijuana users leaves us with little basis on which to answer the most pressing question of our time: how will marijuana consumption change with legalization? However, it is important to keep in mind that even if the literature were more complete, it is not clear that one could infer anything about consumption in a legalization regime based on price elasticity estimates generated from a prohibition regime. Legalization would bring more than just a potential reduction in the price of the substance; it will also bring a reduction in the legal risks of using the drug and the perceived harm, which we have demonstrated here have their own independent effects on demand. Thus, the honest answer is that we simply do not know and will not know until evaluations of the current state experiments in Colorado and Washington are carefully conducted.

SUMMARY AND CONCLUSIONS

The research reviewed here provides insights into discussions regarding legalization. In particular, it is clear from the literature that the demand for marijuana is responsive to changes in both its monetary price and the nonpecuniary aspects of price, particularly those pertaining to legal risk. However, the responsiveness of demand varies depending on the type of policy change (price change versus criminal status change) and varies considerably across the type of user (light, casual, regular or heavy). This knowledge is useful for thinking about the effects of policy changes on consumption overall, as changes in the simple annual prevalence rate will not fully reflect changes in the distribution of users or the amount consumed overall. In particular prevalence rates over represent the behavior of light and casual users and discount the behavior of regular and heavy users, who generally represent a much smaller proportion of the total users even though they represent the majority of quantity consumed.

However, the findings cannot provide any sort of precise insight regarding how much consumption might change in response to a change in price or liberalization policy. A number of limitations remain in our current understanding of the impact of price on marijuana use. First and foremost, while a fairly robust literature has emerged analyzing the impact of price on the prevalence of marijuana use (in the past year or past month), very little work carefully considers the impact of price (and its full components) on the quantity consumed conditional upon using it. This is a major limitation in efforts to ascertain the impact of marijuana legalization on overall use and its effect on harms as those harms will most likely be associated with persistent regular or heavy use, not casual use. Similarly, tax revenue from sales will be more heavily influenced by the change in total amount consumed among existing users than the proportion of the population who decide to use any marijuana. Findings from the alcohol and tobacco literature suggest that quantities consumed among

existing users are sensitive to changes in the monetary and non-pecuniary components of price^{52,56-58} and it is changes in these existing users that are likely to be the most relevant for understanding the impact on total consumption (and hence total revenue). But without an understanding of how much use would change in response to price changes, any estimate of the effect of consumption due to a change in legalization will grossly understate the effects on total consumption.

Second, while changes in the monetary price of marijuana may be important for understanding how much consumption will change, other aspects of the change in policy, including the reduction in the legal risk and perceived harm of use, will also be important predictors of how much consumption actually changes. Thus, models attempting to project the impact of a change on consumption associated with legalization must make assumptions regarding not only the change in monetary price but also the anticipated change in perceived norms and legal risk. For example, the results of Pacula et al. (2001) suggest that a 10 percent decrease in the perceived harm of marijuana would generate a 28.7 percent increase in annual prevalence of marijuana use among youth, a change substantially larger than the results of a small change in the monetary price, legal risks or law enforcement.¹¹ Ignoring these factors would again lead to an understated estimate on consumption.

Third, evidence presented here suggests that all aspects of marijuana use could change in response to this policy change, with more new initiates, more regular users, and people using for longer periods of time. Summary measures from initiation suggest that for every 10 percent decline in the monetary price of marijuana, there will be an increase of 3 to 5 percent in new marijuana users prior to the age of 18, an increase of 2.5 percent in regular users, and an increase in the duration in which marijuana is used during adulthood. Absent more vigorous prevention efforts to counter these trends, the implication will be an expanding market, both in terms of the number of users and in the total quantity consumed by the market.

Acronyms List

DSM-IV	Diagnostic and Statistical Manual of Mental Health Disorders, Fourth Edition
NHSDA	National Household Survey on Drug Abuse
NSDUH	National Survey on Drug Use and Health

References

1. Caulkins JP, Pacula RL. Marijuana Markets: inferences from reports by the household population. *Journal of Drug Issues*. 2006; 36(1):173–200.
2. Kilmer, B.; Pacula, RL. Estimating the size of the global drug market: A demand-side approach. RAND Corporation; Santa Monica, Calif.: 2009. RAND Technical Report TR-711
3. Kilmer B, Caulkins JP, Pacula RL, Reuter P. Bridging perspectives to illicit markets: estimating the size of the U.S. marijuana market. *Drug and Alcohol Dependence*. 2011; 119(1-2):153–160. [PubMed: 22148148]
4. ONDCP. The economic costs of drug abuse in the United States, 1992-2002. Executive Office of the President Office of National Drug Control Policy; Washington, DC: 2004.

5. Kilmer, B.; Everingham, S.; Caulkins, JP.; Midgette, G.; Reuter, P.; Pacula, RL.; Burns, R., et al. What America's users spend on illicit drugs: 2000-2010. Office of National Drug Control Policy; 2013. Forthcoming
6. Kilmer, B.; Caulkins, JP.; Pacula, RL.; MacCoun, RJ.; Reuter, PH. Assessing how marijuana legalization in California could influence consumption and public budgets. RAND Corporation; Santa Monica, Calif.: 2010. Altered state?. RAND report OP-315
7. Gieringer D. Practical experience with legalized cannabis. *Addiction*. 2012; 107(5):875–876. [PubMed: 22471567]
8. Substance Abuse and Mental Health Services Administration. Results from the 2008 National Survey on Drug Use and Health: National Findings. Office of Applied Studies, NSDUH Series H-36, HHS Publication No. SMA 09-4434. U.S. Department of Health and Human Services; Rockville, MD: 2009.
9. Bachman JG, Johnston LD, O'Malley PM. Explaining recent increases in students' marijuana use: impacts of perceived risks and disapproval, 1976 through 1996. *American Journal of Public Health*. 1998; 88(6):887–892. [PubMed: 9618614]
10. Bachman JG, Johnston LD, O'Malley PM. Smoking, drinking and drug use among American high school seniors: correlates and trends, 1975-1979. *American Journal of Public Health*. 1981; 71(1): 59–69. [PubMed: 6973285]
11. Pacula, RL.; Grossman, M.; Chaloupka, FJ.; O'Malley, P.; Johnston, LD.; Farrelly, MC. Marijuana and youth.. In: Gruber, editor. *Risky behavior among youth: an economic analysis*. University of Chicago Press; Chicago, IL: 2001. p. 271-326.
12. Johnston, L.; O'Malley, P.; Bachman, J. *Marijuana decriminalization: the impact on youth 1975-1980*. Institute for Social Research; Ann Arbor, Mich.: 1981.
13. DiNardo J, Lemieux T. Alcohol, marijuana and American youth: the unintended consequences of government regulation. *Journal of Health Economics*. 2001; 20:991–1010. [PubMed: 11758056]
14. Markowitz S, Tauras J. Substance use among adolescent students with consideration of budget constraints. *Review of Economics of the Household*. 2009; 7:423–446.
15. Pacula RL. Can increasing the beer tax reduce marijuana consumption? *Journal of Health Economics*. 1998; 17:557–586. [PubMed: 10185512]
16. Chaloupka, FJ.; Grossman, M.; Tauras, JA. The demand for cocaine and marijuana by youth.. In: Chaloupka, FJ.; Grossman, M.; Bickel, W.; Saffer, H., editors. *The economic analysis of substance use and abuse: an integration of econometric and behavioral economic research*. NBER Conference Report Series. University of Chicago Press; Chicago and London: 1999. p. 133-155.
17. Chaloupka, FJ.; Pacula, RL.; Farrelly, MC.; Johnston, LD.; O'Malley, PM. Do higher cigarette prices encourage youth to use marijuana?. National Bureau of Economic Research; Cambridge, MA: 1999. NBER Working Paper 6939
18. Pacula, RL.; Chiqui, J.; King, J. Decriminalization in the United States: what does it mean?. National Bureau of Economic Research; Cambridge, Mass.: 2003. NBER Working Paper 9690
19. Farrelly M, Bray J, Zarkin G, Wendling B. The joint demand for cigarettes and marijuana. Evidence from the National Household Surveys on Drug Abuse. *Journal of Health Economics*. 2001; 20:51–68. [PubMed: 11148871]
20. Jacobson M. Baby booms and drug busts: trends in youth drug use in the United States 1975-2000. *Quarterly Journal of Economics*. 2005; 119(4):1481–1512.
21. Van Ours JC, Williams J. Cannabis prices and dynamics of cannabis use. *Journal of Health Economics*. 2007; 26:578–596. [PubMed: 17097174]
22. Bretteville-Jensen, AL.; Williams, J. Decriminalization and initiation into cannabis.. Presented at 4th annual meetings of the International Society for the Study of Drug Policy; Santa Monica CA. 2010;
23. MacCoun R, Pacula RL, Chiqui JF, Harris K, Reuter P. Do citizens know whether their state has decriminalized marijuana? Assessing the perceptual component of deterrence theory. *Review of Law and Economics*. 2009; 5(11):347–371.
24. Room, R.; Fischer, B.; Hall, W.; Lenton, S.; Reuter, P. *Cannabis policy: moving beyond the stalemate. The global cannabis commission report*. The Beckley Foundation; Oxford, UK: 2008.

25. Nisbet CT, Vakil F. Some estimates of the price and expenditure elasticities of demand for marijuana among U.C.L.A. students. *Review of Economics and Statistics*. 1972; 54(4):473–475.
26. Williams J, Pacula RL, Chaloupka FJ, Wechsler H. Alcohol and marijuana use among college students: economic complements or substitutes. *Health Economics*. 2004; 13:825–843. [PubMed: 15362176]
27. Williams J, Pacula RL, Chaloupka FJ, Wechsler H. College students' use of cocaine. *Substance Use and Misuse*. 2006; 41:489–509. [PubMed: 16522560]
28. Thies C, Register C. Decriminalization of marijuana and the demand for alcohol, marijuana and cocaine. *The Social Science Journal*. 1993; 30(4):385–399.
29. Saffer H, Chaloupka FJ. The demand for illicit drugs. *Economic Inquiry*. 1999; 37(3):401–411.
30. Saffer, H.; Chaloupka, FJ. Demographic differentials in the demand for alcohol and drugs.. In: Chaloupka, FJ.; Grossman, M.; Bickel, W.; Saffer, H., editors. *The economic analysis of substance use and abuse*. University of Chicago Press; Chicago: 1999.
31. Farrelly, MC.; Bray, JW.; Zarkin, GA.; Wendline, BW.; Pacula, RL. The effects of prices and policies on the demand for marijuana: evidence from the National Household Surveys on Drug Abuse. National Bureau of Economic Research; Cambridge, MA: 1999. NBER Working Paper 6940
32. DeSimone J, Farrelly MC. Price and enforcement effects on cocaine and marijuana demand. *Economic Inquiry*. 2003; 41(1):98–115.
33. Clements, K.; Zhao, X. *Economics and marijuana*. Cambridge University Press; Cambridge, UK: 2009.
34. Ramful P, Zhao X. Participation in marijuana, cocaine and heroin consumption in Australia: a multivariate probit approach. *Applied Economics*. 2009; 41:481–496.
35. Williams J, Mahmoudi P. Economic relationship between alcohol and cannabis revisited. *The Economic Record*. 2004; 80(248):36–48.
36. Clements, K.; Daryal, M. The economics of marijuana consumption. In: Selvanathan, E.; Selvanathan, S., editors. *The demand for alcohol, tobacco, marijuana and other evils*. Ashgate; London, UK: 2003.
37. Cameron L, Williams J. Substitutes or complements? Alcohol, cannabis and tobacco. *Economic Record*. 2001; 77:19–34.
38. Williams J. The effects of price and policies on cannabis consumption. *Health Economics*. 2004; 13:123–137. [PubMed: 14737751]
39. Zhao X Harris M. Demand for marijuana, alcohol and tobacco: participation, levels of consumption and cross-equation correlations. *Economic Record*. 2004; 80:394–410.
40. Gallet CA. Can price get the monkey off our back? A meta-analysis of illicit drug demand. *Health Economics*. Forthcoming;2013
41. Chaloupka FJ, Wechsler H. Price, tobacco control policies and smoking among young adults. *Journal of Health Economics*. 1997; 16(3):359–373. [PubMed: 10169306]
42. Chaloupka, FJ.; Grossman, M. Price, tobacco control policies and youth smoking. National Bureau of Economic Research; Cambridge, Mass.: 1996. NBER Working Paper 5740
43. Manning WG, Blumberg L, Moulton L. The demand for alcohol: The differential response to price. *Journal of Health Economics*. 1995; 14(2):123–148. [PubMed: 10154654]
44. Lewit E, Coate D. The potential for using excise taxes to reduce smoking. *Journal of Health Economics*. 1982; 1:121–145. [PubMed: 10263952]
45. Harris JE, Chan SW. The continuum-of-addiction: cigarette smoking in relation to price among Americans aged 15–29. *Health Economics*. 1999; 8(1):81–86. [PubMed: 10082146]
46. Model K. The effect of marijuana decriminalization of hospital emergency room drug episodes: 1975–1978. *Journal of the American Statistical Association*. 1993; 88(423):737–747.
47. Makkai, T.; Fitzgerald, J.; Doak, P. Drug use among police detainees. *Contemporary Issues in Crime and Justice*. NSW Bureau of Crime Statistics and Research; Sydney, Australia: 1996.
48. Pacula, RL.; Kilmer, B. Marijuana and crime: is there a connection beyond prohibition?. National Bureau of Economic Research; Cambridge, Mass.: 2003. NBER Working Paper 10046

49. Grossman, M. Individual behaviors and substance use: the role of price.. In: Lindgren, B.; Grossman, M., editors. Substance use: individual behaviour, social interactions, markets and politics. Elsevier; Amsterdam, the Netherlands: 2005.
50. Rhodes, W.; Johnson, P.; Han, S.; McMullen, Q.; Hozik, L. Illicit drugs: price elasticity of demand & supply. Abt Associates; 2001.
51. Chaloupka, FJ.; Warner, KE. The economics of smoking.. In: Culyer, AJ.; Newhouse, JP., editors. Handbook of health economics. 1st ed.. Vol. 1. Elsevier; Amsterdam, the Netherlands: 2000. p. 1539-1627.Ch. 29
52. Grossman M, Chaloupka FJ, Saffer H, Laixuthai A. Effects of alcohol price policy on youth: a summary of economic research. Journal of Research on Adolescence. 1994; 4(2):347–364.
53. Kenkel DS. Drinking, driving and deterrence: the effectiveness and social costs of alternative policies. The Journal of Law and Economics. 1993; 36:877–913.
54. Van Ours J. Dynamics in the use of drugs. Health Economics. 2006; 15:1283–1294. [PubMed: 16786502]
55. Pudney S. Keeping off the grass? An econometric model of cannabis consumption in Britain. Journal of Applied Econometrics. 2004; 19:435–453.
56. Hsieh CR. Health risk and the decision to quit smoking. Applied Economics. 1998; 30:795–804.
57. Hu TW, Sung HY, Keeler TE. Reducing cigarette consumption in California: tobacco taxes vs an anti-smoking media campaign. American Journal of Public Health. 1995; 85(9):1218–1222. [PubMed: 7661228]
58. Chaloupka, FJ.; Pacula, RL. Economics and anti-health behavior: the economic analysis of substance use and abuse.. In: Bickel, W.; Vuchinich, R., editors. Reframing health behavior change with behavioral economics. Lawrence Earlbaum Associates; Hillsdale, NJ: 2000. p. 89-111.

Table 1

Findings Related to Impact of Price on Initiation of Marijuana

Economic Variable of Interest	Summary Estimates	Studies
Monetary price	Participation elasticities range from -0.002 to -0.69	Pacula et al (2001); Pacula Chriqui and King (2003); DeSimone and Farrelly (2003); Jacobson (2005); van Ours and Williams (2007); Bretteville-Jensen and Williams (2010)
Decriminalization	Mixed results inconclusive	Johnston, et al., (1981); Chaloupka, Grossman and Tauras (1999); Chaloupka et al., (1999); DiNardo and Lemieux (2001); Pacula et al (2003)
Penalties (fine, jail)	Mixed results; even significant effects are small	Chaloupka Grossman and Tauras (1999); Farrelly et al., (2001) ; Pacula et al (2003) ; Markowitz and Tauras (2009)
Police enforcement	Participation elasticities range 0 to -0.287	Farrelly et al (2001); DeSimone and Farrelly (2003), Pacula et al (2003)

Table 2

Findings from the Literature of the Effects of Price on Regular (Past Month) Use

Policy	Summary Estimates	Studies	Age of sample
Monetary price	–1.01 to –1.51 (full demand elasticity); –0.7 to –1.0 (30 day participation elasticity).	Nisbet and Vakil (1972)	College students – own sample
	–0.24 (30 day participation elasticity)	Williams et al (2004)	College students – Harvard College Alcohol Study (HCAS)
	–0.26 (30 day participation elasticity)	Williams et al (2006)	College students - HCAS
	–.40 (full demand elasticity)	Clements and Zhao (2009)	Full population
	–0.28 – 0.31 (30 day participation elasticity)	Gallet (2013)	Mixed populations
Decriminalization	No effect on prevalence or frequency of use	Thies & Register (1993) ; Pacula (1998)	NLSY79 Young adults (ages 19-30)
	Past month use participation elasticity: 0.07-0.09.	Saffer and Chaloupka (1999).	1988, 1990, 1991 NHSDA (includes illicit drug prices)
Penalties	–0.008 effect of median fine on thirty day use. No effect on frequency of use	Farrelly et al (1999) *controls for enforcement too	1991-1994, 1996 NSDUH (ages 21 to 30)
	Median fine insignificant	Williams et al (2004)	College students – HCAS
Enforcement	Crime per officer ratio positive and significant (elasticity not specified)	Pacula (1998)	NLSY79 (young adults ages 19-26)
	Past month participation elasticity for MJ arrests to users: –0.157 to –0.176	Farrelly et al (1999) *Monetary price included	1991-1994, 1996 NHSDA (ages 21 to 30)

Supplementary Material

Estimates of Marijuana Use and Related Indicators — National Survey on Drug Use and Health, Florida, 2002–2014

Suggested Citation: Alejandro Azofeifa, Margaret E. Mattson, and Rob Lyerla. Supplementary Material. State Level Data: Estimates of Marijuana Use and Related Indicators — National Survey on Drug Use and Health, Florida, 2002–2014. Center for Behavioral Health Statistics and Quality. (2016). Substance Abuse and Mental Health Services Administration, Rockville, MD.

Notes: A) Two years of data were combined to allow for reliable state-level prevalence estimates. Some state-level prevalence estimates for combined years have been suppressed (indicated by an asterisk (*) symbol in each cell) based on the following National Survey on Drug Use and Health (NSDUH) suppression criteria. Prevalence estimates are suppressed if any of the following occurred: 1) the prevalence estimate is $<0.005\%$ or $>99.995\%$; 2) the relative standard error (RSE) of the negative natural logarithm of the estimated proportion p (where p is the prevalence divided by 100) is >0.175 if the prevalence is $\leq 50\%$; 3) the RSE of the negative natural logarithm of $(1-p)$ is >0.175 if the prevalence is $>50\%$; 4) the actual sample size is <100 ; or 5) the effective sample size (defined as the actual sample size divided by the design effect) is <68 . B) The estimates provided in this supplementary material for each state and the District of Columbia are from design-based direct estimation procedures (i.e., they are based directly on the respondent sample and the accompanying analytical weights with variances derived through a Taylor-linearization approach using SUDAAN software) as used for the national level estimates (available at: Azofeifa A, Mattson ME, Schauer G, McAfee T, Grant A, Lyerla R. National Estimates of Marijuana Use and Related Indicators — National Survey on Drug Use and Health, United States, 2002–2014. MMWR Surveill Summ 2016;65(No. SS-11):1–25. DOI: <http://dx.doi.org/10.15585/mmwr.ss6511a1>). Caution is advised when comparing data from other NSDUH reports that are based on different design-based estimation procedures. C) Interpretation of state-level trend data should be done with caution as some prevalence estimates are suppressed based on the above criteria and survey cycle differences may not be statistically significant.

Table 1. Percentage of past month marijuana use* among all persons aged ≥ 12, by selected demographic characteristics — National Survey on Drug Use and Health, Florida, 2002–2014

Characteristics	2002–2003	2003–2004	2004–2005	2005–2006	2006–2007	2007–2008	2008–2009	2009–2010	2010–2011	2011–2012	2012–2013	2013–2014
	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)
Age group (yrs)												
Total	6.9 (6.1-7.8)	6.2 (5.5-6.9)	6.0 (5.4-6.7)	5.7 (5.0-6.5)	5.5 (4.8-6.2)	5.9 (5.2-6.7)	6.2 (5.5-7.1)	6.2 (5.5-7.1)	6.4 (5.8-7.2)	6.9 (5.9-7.9)	7.1 (6.2-8.1)	7.6 (6.8-8.4)
12–17	8.5 (7.3-9.8)	6.9 (5.8-8.2)	6.9 (6.0-8.0)	6.8 (5.8-7.9)	6.8 (5.7-8.1)	6.3 (5.1-7.7)	5.9 (5.0-7.0)	6.5 (5.5-7.7)	6.3 (5.3-7.4)	6.5 (5.5-7.6)	7.4 (6.3-8.8)	7.5 (6.3-8.8)
18–25	17.6 (16.0-19.4)	16.7 (15.0-18.5)	18.1 (16.2-20.3)	18.0 (16.1-20.2)	17.6 (15.5-19.9)	15.1 (13.3-17.2)	14.5 (12.9-16.2)	16.8 (15.0-18.8)	18.7 (16.8-20.8)	19.1 (17.2-21.2)	19.0 (17.0-21.2)	20.5 (18.4-22.9)
≥26	5.2 (4.3-6.2)	4.5 (3.8-5.4)	4.1 (3.4-4.9)	3.8 (3.0-4.7)	3.5 (2.8-4.4)	4.5 (3.7-5.5)	5.1 (4.2-6.1)	4.6 (3.8-5.7)	4.6 (3.9-5.5)	5.1 (4.0-6.4)	5.3 (4.3-6.5)	5.7 (4.9-6.6)
26–34	9.3 (6.9-12.4)	9.3 (6.8-12.6)	10.2 (7.7-13.5)	9.1 (6.8-12.0)	7.9 (5.9-10.5)	9.8 (7.4-13.0)	9.5 (7.2-12.4)	10.1 (7.7-13.2)	11.3 (8.9-14.3)	11.5 (8.9-14.8)	13.0 (10.3-16.2)	14.1 (11.4-17.4)
35–44	8.4 (6.4-11.0)	6.8 (5.0-9.2)	5.5 (3.8-7.7)	6.0 (4.0-8.9)	6.4 (4.5-8.9)	7.1 (5.3-9.5)	8.1 (6.0-11.0)	6.5 (4.7-8.9)	6.0 (4.5-8.1)	6.6 (4.8-9.1)	5.9 (4.1-8.3)	6.6 (4.9-8.8)
45–54	7.2 (5.0-10.2)	5.8 (3.9-8.4)	4.1 (2.6-6.4)	3.6 (2.2-6.0)	2.9 (1.6-5.1)	4.3 (2.8-6.7)	5.8 (3.9-8.5)	4.8 (3.0-7.5)	4.5 (2.9-6.7)	3.9 (2.4-6.3)	3.8 (2.3-6.1)	4.5 (2.9-6.9)
55–64	1.7 (0.6-4.5)	2.0 (0.8-4.7)	2.3 (1.0-5.1)	1.5 (0.5-3.9)	1.3 (0.4-4.2)	2.3 (1.0-5.1)	3.6 (1.9-6.5)	4.1 (2.2-7.4)	3.3 (1.7-6.5)	5.0 (2.7-9.2)	6.2 (3.7-10.2)	5.7 (3.6-8.8)
≥65	* (*-*)	* (*-*)	* (*-*)	* (*-*)	0.3 (0.0-2.0)	0.6 (0.1-2.4)	0.3 (0.0-2.2)	* (*-*)	0.4 (0.1-2.1)	1.0 (0.3-4.0)	0.9 (0.2-3.8)	0.9 (0.4-2.1)
Sex												
Male	9.0 (7.8-10.4)	8.9 (7.7-10.4)	8.2 (7.1-9.5)	7.6 (6.5-8.9)	7.5 (6.4-8.7)	7.8 (6.6-9.1)	8.4 (7.2-9.9)	8.5 (7.3-9.9)	8.7 (7.6-9.9)	9.4 (8.1-11.0)	9.8 (8.5-11.3)	10.3 (9.0-11.8)
Female	5.0 (4.0-6.1)	3.6 (2.9-4.4)	4.0 (3.4-4.7)	3.9 (3.3-4.7)	3.6 (2.9-4.4)	4.1 (3.4-5.1)	4.2 (3.4-5.1)	4.1 (3.4-4.9)	4.3 (3.6-5.2)	4.5 (3.6-5.7)	4.7 (3.8-5.7)	5.0 (4.3-5.9)
Race/ethnicity												
Non-Hispanic white	7.8 (6.7-9.1)	7.2 (6.2-8.4)	6.9 (5.9-7.9)	6.5 (5.5-7.7)	6.0 (5.1-7.1)	6.4 (5.4-7.5)	6.8 (5.8-8.1)	6.9 (5.8-8.1)	7.4 (6.4-8.6)	7.9 (6.6-9.5)	7.8 (6.6-9.3)	8.3 (7.2-9.4)
Non-Hispanic black	5.9 (4.2-8.3)	4.8 (3.6-6.3)	6.1 (4.5-8.2)	6.2 (4.5-8.4)	6.4 (4.7-8.7)	7.8 (5.6-10.7)	7.3 (5.4-9.8)	6.1 (4.6-8.0)	5.1 (3.9-6.7)	5.5 (4.1-7.2)	8.2 (6.4-10.4)	8.9 (7.1-11.0)
Non-Hispanic American Indian/Alaska Native	* (*-*)	* (*-*)	* (*-*)	* (*-*)	* (*-*)	* (*-*)	* (*-*)	* (*-*)	* (*-*)	* (*-*)	* (*-*)	* (*-*)
Non-Hispanic Hawaiian/Other Pacific Islander	* (*-*)	* (*-*)	* (*-*)	* (*-*)	* (*-*)	* (*-*)	* (*-*)	* (*-*)	* (*-*)	* (*-*)	* (*-*)	* (*-*)
Non-Hispanic Asian	1.8 (0.5-6.1)	1.7 (0.5-5.3)	0.3 (0.1-1.1)	0.0 (0.0-0.2)	1.3 (0.5-3.5)	1.8 (0.8-4.2)	0.9 (0.3-2.7)	1.1 (0.4-3.1)	2.7 (1.0-7.1)	* (*-*)	* (*-*)	2.8 (1.1-7.1)
Non-Hispanic two or more races	* (*-*)	* (*-*)	* (*-*)	* (*-*)	* (*-*)	* (*-*)	9.6 (4.8-18.3)	* (*-*)	* (*-*)	* (*-*)	* (*-*)	10.9 (6.1-18.7)
Hispanic	4.4 (3.3-5.9)	3.5 (2.5-4.9)	3.1 (2.2-4.4)	3.1 (2.2-4.2)	3.3 (2.5-4.5)	3.4 (2.5-4.4)	4.2 (3.2-5.6)	4.8 (3.7-6.2)	4.5 (3.4-5.9)	4.3 (3.3-5.6)	4.4 (3.5-5.6)	5.4 (4.2-6.8)
Current employment status¹												

Full-time	7.9 (6.7-9.3)	7.3 (6.2-8.6)	7.2 (6.1-8.4)	6.7 (5.6-7.9)	5.7 (4.7-6.8)	6.6 (5.5-7.9)	7.0 (5.8-8.4)	5.8 (4.8-7.1)	6.0 (4.9-7.2)	6.7 (5.3-8.3)	7.3 (6.1-8.8)	9.1 (7.8-10.6)
Part-time	9.8 (7.3-12.9)	8.2 (6.0-11.0)	8.0 (5.8-11.0)	7.2 (5.1-9.9)	8.2 (6.0-11.1)	8.3 (6.0-11.3)	9.2 (6.8-12.3)	10.5 (8.1-13.5)	9.8 (7.3-12.9)	9.7 (7.3-12.8)	9.5 (7.3-12.3)	9.2 (7.1-11.9)
Unemployed	11.9 (7.5-18.4)	14.9 (9.9-21.8)	10.9 (7.8-15.0)	10.6 (7.0-15.9)	13.8 (9.5-19.7)	13.5 (9.1-19.5)	13.3 (9.2-18.9)	16.0 (11.5-21.7)	17.3 (13.0-22.8)	14.9 (11.2-19.5)	14.3 (10.4-19.5)	17.6 (13.2-23.1)
Other ²	3.4 (2.4-4.8)	2.8 (2.0-3.9)	2.8 (2.1-3.8)	2.9 (2.0-4.1)	2.9 (2.0-4.3)	2.9 (2.0-4.2)	2.9 (2.1-4.1)	3.1 (2.2-4.3)	3.5 (2.6-4.8)	4.6 (3.2-6.4)	4.7 (3.4-6.4)	3.7 (2.7-5.0)
Highest level of education completed ¹												
< High school	7.7 (5.8-10.2)	6.3 (4.7-8.4)	6.9 (5.2-9.1)	6.6 (5.0-8.7)	5.8 (4.3-7.7)	6.9 (5.2-9.2)	7.5 (5.5-10.0)	7.7 (5.6-10.4)	8.5 (6.5-11.1)	8.7 (6.4-11.7)	8.7 (6.4-11.6)	9.7 (7.4-12.5)
High school graduate	7.1 (5.6-9.0)	6.8 (5.5-8.4)	7.0 (5.8-8.5)	6.6 (5.3-8.0)	6.7 (5.4-8.3)	6.8 (5.5-8.5)	6.8 (5.5-8.5)	6.9 (5.5-8.6)	6.2 (4.9-7.9)	6.9 (5.4-8.7)	8.3 (6.7-10.3)	8.9 (7.3-10.8)
Some college	7.9 (6.4-9.7)	7.1 (5.6-9.0)	7.3 (5.7-9.2)	6.9 (5.3-9.0)	5.3 (4.0-6.8)	5.6 (4.3-7.2)	6.3 (5.0-8.0)	6.4 (5.1-8.1)	8.8 (7.1-10.8)	9.1 (7.0-11.8)	7.3 (5.7-9.4)	8.4 (7.1-9.9)
College graduate	4.2 (2.9-6.0)	3.8 (2.6-5.5)	2.4 (1.6-3.5)	2.5 (1.6-3.9)	3.4 (2.3-5.1)	4.1 (2.8-6.1)	4.6 (3.2-6.6)	4.2 (2.9-6.2)	3.3 (2.3-4.8)	3.8 (2.6-5.6)	4.5 (3.2-6.4)	4.2 (3.0-5.8)
Source: Substance Abuse and Mental Health Services Administration, Center for Behavioral Health Statistics and Quality, National Survey on Drug Use and Health, 2002–2014.												
Abbreviation: CI = confidence interval.												
[*] Past month use of marijuana is defined as those who reported use of marijuana within 30 days preceding the date of interview.												
¹ Current employment and highest level of education completed are only defined for 18 or older.												
² “Other” employment category includes students, persons keeping house or caring for children full time, retired or disabled persons, or other persons not in the labor force.												

Table 2. Percentage of past year marijuana use* among all persons aged ≥12, by age group — National Survey on Drug Use and Health, Florida, 2002–2014

	2002-2003	2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014
	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)
Age group (yrs)												
Total	11.5 (10.5-12.7)	10.7 (9.8-11.8)	10.1 (9.2-11.0)	9.6 (8.7-10.7)	9.4 (8.5-10.4)	10.1 (9.1-11.1)	10.5 (9.5-11.7)	11.0 (9.8-12.3)	11.2 (10.2-12.3)	11.4 (10.2-12.8)	11.4 (10.3-12.7)	11.8 (10.8-12.8)
12–17	16.0 (14.4-17.9)	13.9 (12.4-15.4)	14.4 (13.1-15.9)	13.6 (12.2-15.2)	12.5 (11.0-14.2)	12.1 (10.7-13.7)	12.7 (11.3-14.2)	14.0 (12.5-15.8)	13.3 (11.7-15.0)	12.6 (11.3-14.0)	13.8 (12.2-15.6)	14.7 (12.9-16.6)
18–25	29.4 (27.1-31.7)	28.9 (26.6-31.3)	29.5 (26.9-32.2)	29.8 (27.1-32.6)	27.9 (25.3-30.6)	25.8 (23.6-28.1)	25.8 (23.7-28.1)	28.2 (26.0-30.5)	31.4 (29.0-33.9)	31.3 (29.0-33.7)	32.2 (29.8-34.7)	34.0 (31.3-36.7)
≥26	8.4 (7.3-9.8)	7.7 (6.6-8.9)	6.6 (5.7-7.7)	6.2 (5.2-7.3)	6.3 (5.3-7.5)	7.5 (6.5-8.7)	8.1 (6.9-9.4)	8.1 (6.8-9.5)	8.0 (6.9-9.2)	8.3 (6.9-9.8)	8.1 (6.9-9.5)	8.2 (7.2-9.4)
Source: Substance Abuse and Mental Health Services Administration, Center for Behavioral Health Statistics and Quality, National Survey on Drug Use and Health, 2002–2014. Abbreviation: CI = confidence interval. * Past year use of marijuana is defined as those who reported use of marijuana within 12 months preceding the date of interview; – these also include those who reported use of marijuana within 30 days preceding the date of interview.												

Table 3. Percentage of daily or almost daily marijuana use in the past year and past month among all persons aged ≥12, by age group — National Survey on Drug Use and Health, Florida, 2002–2014

	2002-2003	2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014
	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)
Age group (yrs)												
Daily or almost daily marijuana use in the past year ¹												
Total	1.6 (1.2-2.0)	1.4 (1.1-1.8)	1.6 (1.3-2.1)	1.3 (1.0-1.7)	1.2 (0.9-1.5)	1.4 (1.1-1.9)	1.7 (1.4-2.2)	1.8 (1.4-2.2)	2.0 (1.6-2.5)	2.2 (1.8-2.8)	2.1 (1.7-2.6)	2.3 (1.9-2.8)
12–17	1.6 (1.1-2.2)	1.1 (0.8-1.8)	0.9 (0.6-1.5)	0.8 (0.5-1.2)	0.8 (0.5-1.2)	0.7 (0.4-1.3)	1.0 (0.6-1.5)	1.2 (0.9-1.7)	1.1 (0.8-1.6)	1.0 (0.6-1.4)	1.2 (0.8-1.8)	1.3 (0.9-2.0)
18–25	4.8 (3.8-5.9)	4.4 (3.6-5.5)	5.3 (4.4-6.6)	5.9 (4.8-7.1)	4.7 (3.8-5.8)	4.5 (3.6-5.5)	5.0 (4.1-6.1)	4.9 (4.0-6.1)	5.3 (4.4-6.5)	6.4 (5.3-7.8)	6.6 (5.5-7.9)	7.0 (5.7-8.5)
≥26	1.1 (0.7-1.7)	1.0 (0.7-1.5)	1.2 (0.8-1.7)	0.7 (0.4-1.2)	0.7 (0.4-1.1)	1.1 (0.7-1.6)	1.4 (1.0-1.9)	1.3 (0.9-1.9)	1.5 (1.1-2.2)	1.7 (1.2-2.4)	1.5 (1.1-2.1)	1.7 (1.2-2.3)
Daily or almost daily marijuana use in the past month ²												
Total	2.4 (1.9-2.9)	2.1 (1.7-2.6)	2.1 (1.7-2.6)	2.0 (1.6-2.5)	1.9 (1.6-2.4)	1.9 (1.6-2.4)	2.2 (1.8-2.8)	2.3 (1.8-2.8)	2.6 (2.1-3.1)	2.8 (2.4-3.4)	2.7 (2.3-3.2)	3.0 (2.6-3.6)
12–17	2.8 (2.1-3.7)	2.1 (1.6-2.9)	1.5 (1.1-2.2)	1.5 (1.1-2.0)	1.7 (1.2-2.3)	1.6 (1.1-2.2)	1.7 (1.2-2.3)	1.6 (1.2-2.3)	1.6 (1.1-2.2)	1.5 (1.0-2.1)	1.7 (1.2-2.5)	1.7 (1.2-2.4)
18–25	7.3 (6.1-8.6)	6.8 (5.7-8.0)	7.7 (6.5-9.1)	8.4 (7.1-9.9)	7.3 (6.1-8.7)	5.7 (4.6-7.0)	6.1 (5.0-7.4)	7.0 (5.8-8.5)	7.9 (6.6-9.3)	8.5 (7.3-10.0)	8.7 (7.4-10.2)	8.8 (7.4-10.4)
≥26	1.6 (1.1-2.3)	1.5 (1.1-2.0)	1.4 (0.9-1.9)	1.1 (0.7-1.8)	1.2 (0.8-1.7)	1.4 (1.0-2.0)	1.7 (1.2-2.5)	1.6 (1.1-2.3)	1.9 (1.4-2.5)	2.1 (1.6-2.8)	1.9 (1.4-2.5)	2.3 (1.8-2.9)
Source: Substance Abuse and Mental Health Services Administration, Center for Behavioral Health Statistics and Quality, National Survey on Drug Use and Health, 2002–2014.												
Abbreviation: CI = confidence interval.												
¹ Past year daily or almost daily use is defined as having used marijuana on 300 or more days in the past year.												
² Past month daily or almost daily use is defined as having used marijuana on 20 or more days in the past month.												

Table 4. Percentage of daily or almost daily marijuana use in the past year and past month among marijuana users* aged ≥12, by age group — National Survey on Drug Use and Health, Florida, 2002–2014

	2002-2003	2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014
	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)
Age group (yrs)												
Daily or almost daily marijuana use in the past year ¹												
Total	13.5 (10.8-16.8)	13.1 (10.5-16.3)	16.3 (13.2-20.0)	13.8 (11.0-17.2)	12.2 (9.5-15.7)	14.4 (11.4-18.0)	16.6 (13.3-20.4)	16.1 (12.9-19.7)	17.5 (14.3-21.3)	19.5 (15.9-23.8)	18.4 (15.1-22.2)	19.3 (16.1-23.1)
12–17	9.8 (7.1-13.5)	8.3 (5.5-12.4)	6.5 (4.2-9.9)	5.7 (3.6-8.8)	6.2 (4.1-9.4)	6.1 (3.7-10.1)	7.9 (5.2-11.8)	8.9 (6.4-12.1)	8.6 (6.1-12.0)	7.6 (5.1-11.1)	8.8 (6.1-12.4)	9.0 (6.2-12.9)
18–25	16.2 (13.1-19.8)	15.3 (12.5-18.7)	18.1 (15.1-21.7)	19.7 (16.5-23.3)	16.9 (13.9-20.5)	17.4 (14.2-21.1)	19.3 (16.1-22.9)	17.5 (14.5-21.0)	17.0 (14.0-20.6)	20.5 (17.2-24.4)	20.4 (17.3-24.0)	20.5 (17.0-24.6)
≥26	13.0 (8.8-18.7)	13.0 (9.1-18.2)	17.7 (12.5-24.4)	11.7 (7.4-18.1)	10.6 (6.5-16.8)	14.4 (9.9-20.3)	16.8 (12.1-22.9)	16.6 (11.8-22.9)	19.4 (14.2-26.1)	20.9 (15.4-27.8)	18.9 (13.9-25.2)	20.5 (15.4-26.8)
Daily or almost daily marijuana use in the past month ²												
Total	34.2 (29.0-39.9)	34.7 (29.0-40.8)	35.2 (29.7-41.1)	35.6 (30.0-41.6)	35.2 (30.1-40.7)	33.0 (27.3-39.1)	36.0 (29.7-42.8)	36.1 (29.9-42.7)	40.1 (34.2-46.3)	41.3 (35.5-47.2)	37.9 (32.2-44.0)	40.1 (34.7-45.6)
12–17	33.2 (26.2-41.2)	30.7 (23.7-38.6)	21.8 (15.6-29.5)	22.0 (16.2-29.1)	24.5 (18.2-32.2)	24.8 (18.3-32.7)	28.4 (21.0-37.1)	25.0 (18.4-33.1)	25.4 (18.8-33.3)	22.6 (15.9-31.2)	23.4 (17.1-31.2)	23.2 (17.1-30.7)
18–25	41.2 (35.5-47.2)	40.6 (35.1-46.3)	42.5 (37.4-47.8)	46.7 (40.7-52.9)	41.3 (34.9-48.0)	37.7 (31.5-44.3)	41.9 (35.5-48.5)	41.6 (34.9-48.6)	42.0 (35.4-49.0)	44.8 (39.6-50.1)	45.7 (40.2-51.4)	42.7 (37.3-48.4)
≥26	31.0 (23.0-40.4)	32.2 (24.0-41.8)	33.2 (24.3-43.4)	30.5 (21.0-42.0)	33.1 (24.3-43.3)	31.9 (23.3-42.0)	34.5 (25.5-44.7)	34.8 (26.1-44.7)	41.1 (32.0-50.8)	41.8 (33.2-50.9)	35.8 (27.8-44.7)	40.9 (32.7-49.6)
Source: Substance Abuse and Mental Health Services Administration, Center for Behavioral Health Statistics and Quality, National Survey on Drug Use and Health, 2002–2014.												
Abbreviation: CI = confidence interval.												
*Analysis limited to marijuana users (i.e., estimate of daily or almost daily use in the past year is among past year marijuana users; estimates of daily or almost daily use in the past month is among past month marijuana users).												
¹ Past year daily or almost daily use is defined as having used marijuana on 300 or more days in the past year.												
² Past month daily or almost daily use is defined as having used marijuana on 20 or more days in the past month.												

Table 5. Percentage of past year marijuana initiation among persons aged ≥12 years at risk for initiation, estimated number at risk for initiation, and mean age at first use of marijuana among past year marijuana initiates, by age group — National Survey on Drug Use and Health, Florida, 2002–2014

	2002-2003	2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014
	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)
Age group (yrs)												
Past Year marijuana initiation among persons at risk for initiation¹												
Total	1.2 (1.0-1.5)	1.1 (0.9-1.3)	1.2 (1.0-1.5)	1.3 (1.1-1.6)	1.3 (1.1-1.6)	1.3 (1.1-1.5)	1.2 (1.0-1.4)	1.4 (1.1-1.8)	1.4 (1.1-1.9)	1.4 (1.2-1.7)	1.5 (1.3-1.8)	1.5 (1.2-1.8)
12–17	5.9 (4.7-7.3)	5.1 (4.1-6.2)	5.7 (4.8-6.8)	5.8 (4.7-7.2)	6.3 (5.2-7.7)	5.8 (4.8-6.9)	5.7 (4.7-6.8)	6.3 (5.2-7.5)	5.5 (4.5-6.6)	5.7 (4.7-6.9)	5.9 (4.8-7.2)	5.6 (4.5-7.0)
18–25	4.1 (3.0-5.6)	3.5 (2.6-4.9)	4.5 (3.2-6.4)	5.3 (3.7-7.4)	4.3 (3.0-6.0)	4.4 (3.2-5.9)	4.3 (3.2-5.6)	4.9 (3.6-6.5)	6.3 (4.4-9.0)	6.4 (4.9-8.2)	6.4 (5.1-8.0)	5.7 (4.2-7.5)
≥26	0.1 (0.0-0.4)	0.1 (0.0-0.4)	0.1 (0.0-0.5)	0.1 (0.0-0.5)	0.1 (0.0-0.5)	0.1 (0.0-0.6)	0.0 (0.0-0.3)	0.2 (0.1-0.9)	0.2 (0.0-1.0)	0.0 (0.0-0.3)	0.1 (0.0-0.4)	0.2 (0.1-0.6)
Estimated no. (in 1,000s) of past year marijuana initiation among those at risk for initiation¹												
Total	105 (86-128)	95 (77-117)	113 (93-137)	124 (102-151)	126 (104-154)	122 (101-147)	113 (95-136)	140 (109-179)	144 (110-188)	138 (115-165)	148 (125-175)	143 (118-174)
12–17	66 (53-82)	60 (49-73)	69 (58-83)	72 (58-88)	78 (64-95)	70 (59-84)	68 (56-81)	74 (62-88)	65 (53-79)	70 (57-84)	71 (59-87)	68 (54-85)
18–25	33 (24-45)	29 (21-41)	39 (27-55)	48 (34-67)	39 (28-55)	42 (31-57)	43 (32-56)	49 (37-66)	65 (45-92)	66 (51-84)	66 (53-83)	57 (43-76)
≥26	6 (1-26)	6 (1-26)	5 (1-36)	5 (1-36)	9 (2-41)	9 (2-41)	3 (0-23)	17 (4-70)	14 (3-74)	3 (0-20)	10 (3-32)	18 (7-46)
Mean age at first use among past year marijuana initiates												
Total	17.2 (16.2-18.2)	16.9 (15.8-18.1)	16.8 (15.8-17.9)	17.1 (16.1-18.1)	19.0 (14.7-23.3)	19.3 (14.9-23.7)	17.2 (16.2-18.2)	22.2 (13.5-30.9)	22.0 (13.4-30.6)	17.5 (16.8-18.2)	17.9 (16.9-18.9)	19.8 (15.7-23.8)
12–17	15.0 (14.7-15.3)	14.7 (14.4-15.0)	14.7 (14.5-15.0)	15.0 (14.8-15.2)	15.1 (14.9-15.3)	15.2 (14.9-15.4)	15.1 (14.7-15.4)	14.9 (14.6-15.2)	14.8 (14.6-15.1)	14.8 (14.5-15.1)	14.8 (14.5-15.1)	14.7 (14.5-15.0)
18–25	19.6 (18.9-20.3)	19.3 (18.6-19.9)	19.2 (18.6-19.7)	19.1 (18.6-19.6)	19.4 (18.9-19.8)	19.3 (18.9-19.8)	19.3 (18.8-19.8)	19.3 (18.6-20.0)	19.3 (18.5-20.1)	19.9 (19.2-20.5)	19.6 (19.0-20.2)	19.1 (18.6-19.7)
≥26	* (*-*)	* (*-*)	* (*-*)	* (*-*)	* (*-*)	* (*-*)	* (*-*)	* (*-*)	* (*-*)	* (*-*)	* (*-*)	* (*-*)
Source: Substance Abuse and Mental Health Services Administration, Center for Behavioral Health Statistics and Quality, National Survey on Drug Use and Health, 2002–2014.												
Abbreviation: CI = confidence interval.												
¹ Past year marijuana initiation (initiates) among persons at risk for initiation is defined as those having first used marijuana within the 12-month period before the date of the interview.												

Table 6. Percentage of perceived great risk and no risk from smoking marijuana* once a month and once or twice a week among all persons aged ≥12, by age group — National Survey on Drug Use and Health, Florida, 2002–2014

	2002-2003	2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014
	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)
Age group (yrs)												
Perceived great risk from smoking marijuana once a month												
Total	42.7 (40.5-45.0)	42.8 (40.7-44.9)	42.6 (40.6-44.6)	42.4 (40.4-44.5)	41.9 (39.8-44.0)	42.6 (40.4-44.8)	42.5 (40.4-44.6)	41.2 (39.0-43.5)	38.8 (36.7-41.0)	35.0 (33.0-37.0)	32.7 (30.6-34.8)	31.3 (29.4-33.3)
12–17	34.6 (32.5-36.8)	36.9 (34.7-39.1)	35.7 (33.7-37.8)	34.7 (32.8-36.7)	34.2 (32.2-36.2)	35.1 (32.9-37.3)	33.7 (31.6-35.8)	31.6 (29.6-33.6)	30.3 (28.3-32.4)	27.4 (25.5-29.4)	26.0 (24.0-28.1)	25.8 (23.6-28.0)
18–25	27.4 (25.1-29.8)	26.9 (24.8-29.1)	27.6 (25.4-29.9)	28.8 (26.5-31.2)	27.0 (24.7-29.5)	25.7 (23.6-27.9)	24.9 (22.8-27.2)	21.6 (19.3-24.1)	19.8 (17.8-21.9)	20.6 (18.6-22.6)	18.2 (16.5-20.1)	15.9 (14.0-17.9)
≥26	45.9 (43.2-48.6)	45.9 (43.3-48.5)	45.7 (43.2-48.2)	45.4 (42.9-48.0)	45.1 (42.5-47.6)	45.9 (43.2-48.6)	46.1 (43.5-48.7)	45.3 (42.7-47.9)	42.6 (40.0-45.3)	38.0 (35.5-40.5)	35.6 (33.1-38.2)	34.3 (31.9-36.7)
Perceived no risk from smoking marijuana once a month												
Total	9.2 (8.1-10.4)	9.4 (8.4-10.6)	10.0 (8.9-11.1)	10.3 (9.3-11.4)	9.9 (8.9-11.1)	10.3 (9.2-11.6)	12.1 (10.9-13.4)	12.9 (11.7-14.1)	13.5 (12.4-14.7)	15.3 (14.0-16.8)	17.0 (15.6-18.6)	19.1 (17.6-20.6)
12–17	8.5 (7.3-9.8)	7.8 (6.6-9.2)	7.5 (6.4-8.8)	8.2 (7.0-9.5)	8.7 (7.3-10.4)	8.2 (6.9-9.7)	10.1 (8.9-11.6)	12.4 (10.9-14.0)	12.2 (10.9-13.8)	13.6 (12.1-15.1)	16.4 (14.7-18.3)	17.6 (15.7-19.7)
18–25	17.6 (16.0-19.2)	15.6 (14.0-17.5)	16.7 (14.9-18.6)	18.7 (16.9-20.7)	19.3 (17.6-21.1)	19.2 (17.6-21.0)	21.3 (19.6-23.1)	24.9 (22.9-26.9)	26.9 (24.9-29.0)	29.9 (27.7-32.1)	33.9 (31.8-36.1)	37.2 (34.8-39.6)
≥26	8.1 (6.7-9.6)	8.7 (7.4-10.1)	9.2 (8.0-10.7)	9.3 (8.1-10.6)	8.6 (7.4-10.0)	9.3 (7.9-10.9)	10.9 (9.5-12.5)	11.1 (9.7-12.6)	11.6 (10.3-13.1)	13.3 (11.7-15.0)	14.5 (12.8-16.4)	16.5 (14.8-18.3)
Perceived great risk from smoking marijuana once or twice a week												
Total	54.0 (51.8-56.2)	54.8 (52.7-57.0)	54.4 (52.5-56.4)	53.5 (51.5-55.6)	52.2 (49.9-54.5)	51.1 (49.0-53.2)	50.7 (48.7-52.7)	49.9 (47.8-52.1)	48.1 (46.1-50.2)	44.3 (42.3-46.2)	41.4 (39.2-43.6)	38.7 (36.6-40.7)
12–17	52.1 (49.8-54.4)	55.0 (52.8-57.1)	55.5 (53.2-57.7)	53.6 (51.2-55.9)	52.9 (50.7-55.1)	53.0 (50.8-55.3)	50.0 (47.6-52.4)	47.8 (45.7-50.0)	46.6 (44.4-48.9)	43.6 (41.5-45.8)	39.9 (37.7-42.1)	38.3 (35.6-41.0)
18–25	38.6 (36.4-40.7)	38.7 (36.5-41.0)	38.1 (35.7-40.5)	36.5 (34.2-38.8)	34.7 (32.4-37.2)	35.7 (33.5-37.9)	34.6 (32.3-36.9)	30.4 (27.6-33.3)	28.2 (26.1-30.4)	27.3 (25.2-29.6)	23.9 (21.8-26.2)	20.7 (18.6-23.0)
≥26	56.5 (53.8-59.2)	57.2 (54.6-59.8)	56.8 (54.4-59.2)	56.1 (53.6-58.6)	54.8 (51.9-57.6)	53.2 (50.5-55.8)	53.2 (50.7-55.6)	53.1 (50.6-55.6)	51.3 (48.8-53.9)	46.9 (44.5-49.4)	44.2 (41.6-46.8)	41.4 (38.9-43.9)
Perceived no risk from smoking marijuana once or twice a week												
Total	5.6 (4.8-6.6)	5.2 (4.5-6.0)	5.4 (4.7-6.2)	5.7 (5.0-6.5)	6.5 (5.6-7.4)	7.4 (6.5-8.5)	8.0 (7.1-9.1)	9.0 (8.1-9.9)	10.1 (9.2-11.2)	11.5 (10.4-12.7)	12.8 (11.5-14.1)	15.0 (13.7-16.4)
12–17	4.7 (3.9-5.7)	4.0 (3.2-5.1)	4.2 (3.4-5.3)	4.7 (3.8-5.8)	5.2 (4.2-6.5)	5.3 (4.4-6.5)	6.4 (5.4-7.5)	7.9 (6.8-9.0)	8.1 (7.1-9.3)	9.9 (8.7-11.2)	12.8 (11.3-14.4)	13.9 (12.3-15.8)
18–25	11.8 (10.5-13.2)	10.5 (9.1-12.1)	10.5 (9.1-12.0)	11.3 (9.8-12.9)	12.0 (10.5-13.7)	12.7 (11.2-14.4)	14.4 (12.9-16.1)	18.3 (16.6-20.2)	21.2 (19.3-23.2)	23.9 (21.8-26.0)	27.6 (25.5-29.8)	31.2 (29.0-33.5)
≥26	4.8 (3.8-6.1)	4.6 (3.8-5.5)	4.8 (4.0-5.8)	5.0 (4.2-6.0)	5.8 (4.8-7.0)	6.9 (5.7-8.2)	7.3 (6.1-8.6)	7.7 (6.6-8.8)	8.7 (7.5-10.0)	9.8 (8.5-11.3)	10.5 (9.1-12.1)	12.7 (11.2-14.3)
Source: Substance Abuse and Mental Health Services Administration, Center for Behavioral Health Statistics and Quality, National Survey on Drug Use and Health, 2002–2014.												
Abbreviation: CI = confidence interval.												
*Perceived great risk and no risk from smoking marijuana is defined as those who reported that smoking marijuana once a month and once or twice a week might cause harm [great risk] and might not cause harm [no risk].												

Table 7. Percentage of perceived parental disapproval of trying marijuana once or twice and using marijuana once a month or more among persons aged 12 to 17 — National Survey on Drug Use and Health, Florida, 2002–2014

	2002-2003	2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014
	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)
Perceived parental disapproval of trying marijuana once or twice¹												
12–17 years	95.4 (94.3-96.3)	95.5 (94.4-96.4)	95.3 (94.2-96.2)	95.1 (93.8-96.1)	96.1 (95.0-97.0)	96.7 (95.7-97.4)	96.1 (95.1-96.9)	95.8 (94.8-96.7)	95.7 (94.8-96.5)	96.1 (95.3-96.8)	95.5 (94.5-96.3)	93.7 (92.4-94.8)
Perceived parental disapproval of using marijuana once a month or more²												
12–17 years	95.7 (94.6-96.5)	96.2 (95.2-97.1)	96.3 (95.4-97.1)	95.9 (94.8-96.8)	96.7 (95.8-97.4)	97.2 (96.2-97.9)	96.4 (95.3-97.2)	96.1 (95.1-96.9)	96.3 (95.4-97.0)	96.6 (95.8-97.2)	96.3 (95.4-97.0)	94.4 (93.2-95.5)
Source: Substance Abuse and Mental Health Services Administration, Center for Behavioral Health Statistics and Quality, National Survey on Drug Use and Health, 2002–2014. Abbreviation: CI = confidence interval. ¹ Perceived parental disapproval of trying marijuana once or twice is defined as those aged 12–17 years [youth] who reported perceived parental disapproval as strongly disapprove or somewhat disapprove of trying marijuana once or twice. ² Perceived parental disapproval of using marijuana once a month or more is defined as those aged 12–17 years [youth] who reported perceived parental disapproval as strongly disapprove or somewhat disapprove of using marijuana once a month or more.												

Table 8. Percentage of perceived parental disapproval of trying marijuana once or twice and using marijuana once a month or more among past month marijuana users aged 12 to 17 — National Survey on Drug Use and Health, Florida, 2002–2014

	2002-2003	2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014
	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)
Perceived parental disapproval of trying marijuana once or twice¹												
12–17 years	83.6 (77.9-88.1)	85.3 (78.4-90.3)	87.3 (81.0-91.8)	86.4 (80.4-90.8)	87.9 (81.7-92.2)	88.3 (82.4-92.3)	83.4 (75.6-89.1)	81.5 (74.9-86.6)	80.3 (73.6-85.7)	86.6 (79.6-91.4)	82.8 (75.6-88.1)	69.3 (60.5-76.9)
Perceived parental disapproval of using marijuana once a month or more²												
12–17 years	83.8 (78.1-88.2)	83.1 (76.0-88.5)	86.3 (79.9-90.9)	86.5 (79.2-91.5)	88.2 (81.4-92.8)	90.2 (83.8-94.3)	84.2 (75.7-90.2)	82.3 (74.8-87.9)	82.4 (76.1-87.3)	87.8 (81.6-92.2)	83.5 (76.4-88.8)	70.3 (61.5-77.8)
Source: Substance Abuse and Mental Health Services Administration, Center for Behavioral Health Statistics and Quality, National Survey on Drug Use and Health, 2002–2014. Abbreviation: CI = confidence interval. ¹ Perceived parental disapproval of trying marijuana once or twice is defined as those aged 12–17 years [youth] who reported perceived parental disapproval as strongly disapprove or somewhat disapprove of trying marijuana once or twice; indicator was restricted to respondents aged 12–17 years who reported past month marijuana use. ² Perceived parental disapproval of using marijuana once a month or more is defined as those aged 12–17 years [youth] who reported perceived parental disapproval as strongly disapprove or somewhat disapprove of using marijuana once a month or more; indicator was restricted to respondents aged 12–17 years who reported past month marijuana use.												

Table 9. Percentage of perceived attitudes towards peers trying marijuana once or twice and using marijuana once a month or more among persons aged 12 to 17— National Survey on Drug Use and Health, Florida, 2002–2014

	2002-2003	2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014
	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)
Perceived attitudes towards peers trying marijuana once or twice ¹												
12–17 years	79.1 (77.3-80.8)	81.3 (79.5-83.0)	81.0 (79.2-82.7)	80.4 (78.7-82.1)	81.4 (79.5-83.2)	82.5 (80.7-84.1)	81.8 (79.9-83.5)	79.8 (77.9-81.5)	79.1 (77.2-80.9)	80.0 (78.0-81.8)	79.4 (77.3-81.3)	77.5 (75.2-79.7)
Perceived attitudes towards peers using marijuana once a month or more ²												
12–17 years	79.3 (77.6-81.0)	81.9 (80.0-83.6)	81.7 (79.9-83.3)	81.7 (80.0-83.2)	82.8 (81.0-84.5)	83.5 (81.8-85.0)	82.8 (80.9-84.5)	80.8 (79.0-82.5)	80.1 (78.4-81.7)	80.2 (78.4-82.0)	79.2 (77.0-81.2)	77.5 (75.2-79.7)
Source: Substance Abuse and Mental Health Services Administration, Center for Behavioral Health Statistics and Quality, National Survey on Drug Use and Health, 2002–2014. Abbreviation: CI = confidence interval. ¹ Disapproving attitudes toward peers trying marijuana once or twice is defined as those aged 12–17 years [youth] who reported that they strongly disapprove or somewhat disapprove of peers trying marijuana once or twice. ² Disapproving attitudes toward peers using marijuana once or a month or more is defined as those aged 12–17 years [youth] who reported that they strongly disapprove or somewhat disapprove of peers using marijuana once a month or more.												

Table 10. Percentage of perceived attitudes towards peers trying marijuana once or twice and using marijuana once a month or more among past month marijuana users aged 12 to 17— National Survey on Drug Use and Health, Florida, 2002–2014

	2002-2003	2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014
	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)
Perceived attitudes towards peers trying marijuana once or twice ¹												
12–17 years	28.4 (22.4-35.2)	26.2 (19.4-34.3)	31.5 (24.4-39.5)	32.1 (24.4-40.9)	30.6 (22.0-40.9)	31.6 (22.7-42.2)	31.0 (21.7-42.0)	29.0 (20.8-38.9)	18.7 (12.9-26.2)	21.2 (15.1-29.0)	25.0 (18.1-33.6)	22.7 (16.2-30.8)
Perceived attitudes towards peers using marijuana once a month or more ²												
12–17 years	29.3 (23.0-36.6)	26.5 (19.9-34.2)	27.4 (20.9-34.9)	33.0 (25.3-41.7)	33.7 (24.5-44.4)	32.8 (24.1-43.0)	27.8 (19.4-38.0)	21.7 (15.3-29.9)	15.6 (10.5-22.5)	19.2 (13.6-26.5)	23.7 (17.2-31.7)	19.8 (14.1-27.0)
Source: Substance Abuse and Mental Health Services Administration, Center for Behavioral Health Statistics and Quality, National Survey on Drug Use and Health, 2002–2014. Abbreviation: CI = confidence interval. ¹ Disapproving attitudes toward peers trying marijuana once or twice is defined as those aged 12–17 years [youth] who reported that they strongly disapprove or somewhat disapprove of peers trying marijuana once or twice; indicator was restricted to respondents aged 12–17 years who reported past month marijuana use. ² Disapproving attitudes toward peers using marijuana once or a month or more is defined as those aged 12–17 years [youth] who reported that they strongly disapprove or somewhat disapprove of peers using marijuana once a month or more; indicator was restricted to respondents aged 12–17 years who reported past month marijuana use.												

Table 11. Percentage of perceived availability* among all persons aged ≥12 and mode of acquisition[†] of marijuana among past year marijuana users aged ≥12 by age group — National Survey on Drug Use and Health, Florida, 2002–2014

	2002-2003	2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014
	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)
Age group (yrs)												
Perceived availability*												
Total	54.3 (51.9-56.6)	52.8 (50.6-55.0)	52.9 (50.8-54.9)	52.5 (50.4-54.5)	52.1 (49.9-54.3)	52.0 (49.8-54.2)	50.3 (48.2-52.4)	50.4 (48.4-52.5)	50.3 (48.3-52.4)	50.9 (48.8-52.9)	52.0 (49.9-54.1)	53.1 (51.0-55.2)
12–17	54.8 (52.6-56.9)	53.8 (51.6-56.0)	53.0 (50.8-55.3)	51.5 (49.1-53.8)	52.5 (49.9-54.9)	51.4 (48.9-53.8)	50.5 (48.1-52.8)	52.8 (50.5-55.2)	49.4 (47.4-51.5)	48.2 (45.9-50.5)	50.8 (48.3-53.3)	49.0 (46.4-51.7)
18–25	75.5 (72.9-77.9)	74.6 (72.2-76.8)	74.0 (71.8-76.1)	73.9 (71.7-76.1)	72.2 (69.7-74.6)	71.2 (68.6-73.6)	71.6 (69.2-73.9)	72.3 (70.1-74.5)	73.2 (70.8-75.5)	72.6 (70.1-74.9)	71.8 (69.5-74.1)	71.5 (68.8-74.0)
≥26	51.1 (48.2-53.9)	49.4 (46.7-52.0)	49.6 (47.0-52.1)	49.3 (46.7-51.8)	49.0 (46.3-51.6)	49.2 (46.6-51.9)	47.0 (44.6-49.5)	46.8 (44.3-49.3)	46.8 (44.4-49.3)	47.7 (45.2-50.2)	49.0 (46.4-51.6)	50.7 (48.2-53.2)
Mode of acquisition of marijuana[†]												
Bought it												
Total	43.9 (39.8-48.2)	43.8 (39.6-48.1)	43.7 (39.3-48.1)	42.5 (38.0-47.1)	43.5 (39.1-47.9)	45.6 (40.4-50.9)	48.3 (43.2-53.4)	46.2 (41.2-51.3)	46.9 (42.1-51.8)	53.6 (48.8-58.4)	54.3 (49.7-58.9)	51.6 (47.5-55.7)
12–17	34.0 (28.8-39.7)	30.8 (25.6-36.6)	27.7 (22.8-33.3)	27.6 (22.8-32.9)	30.6 (25.0-36.8)	29.3 (22.8-36.8)	30.0 (24.4-36.3)	34.9 (29.2-41.1)	36.9 (30.9-43.4)	35.0 (29.3-41.1)	37.3 (31.2-43.9)	44.7 (38.1-51.5)
18–25	44.2 (39.0-49.6)	42.7 (38.1-47.5)	44.5 (40.2-48.8)	43.6 (39.1-48.2)	43.7 (39.4-48.0)	44.2 (40.4-48.1)	42.6 (37.8-47.5)	45.4 (40.3-50.6)	45.9 (40.8-51.2)	47.6 (43.1-52.1)	49.5 (45.2-53.9)	48.8 (44.6-53.0)
≥26	46.0 (39.3-52.9)	47.2 (40.8-53.7)	47.2 (39.6-55.0)	45.5 (37.8-53.4)	46.3 (38.9-53.7)	49.1 (40.5-57.8)	53.9 (45.9-61.7)	48.7 (40.7-56.8)	49.3 (41.3-57.3)	60.0 (52.2-67.2)	60.2 (52.6-67.2)	54.6 (48.0-61.0)
Traded something for it												
Total	1.5 (0.8-2.6)	1.2 (0.7-2.0)	1.4 (0.6-3.1)	1.3 (0.5-3.3)	0.4 (0.2-1.0)	1.0 (0.4-2.2)	1.9 (1.1-3.5)	1.8 (1.0-3.3)	0.8 (0.3-1.8)	1.2 (0.6-2.3)	1.3 (0.7-2.5)	1.1 (0.5-2.4)
12–17	2.9 (1.5-5.4)	2.0 (0.9-4.1)	1.9 (0.9-4.0)	1.1 (0.4-3.1)	0.1 (0.0-0.7)	0.4 (0.1-1.9)	0.9 (0.3-2.5)	1.1 (0.4-2.9)	0.9 (0.3-2.5)	1.0 (0.2-4.3)	* (*~*)	1.1 (0.3-4.5)
18–25	1.4 (0.7-2.7)	1.6 (0.8-2.9)	1.5 (0.7-3.1)	0.9 (0.3-2.5)	0.6 (0.2-1.8)	0.9 (0.4-2.3)	0.7 (0.2-1.8)	1.2 (0.6-2.5)	1.1 (0.5-2.3)	1.4 (0.6-3.2)	1.6 (0.8-3.2)	0.7 (0.2-1.9)
≥26	1.2 (0.4-3.8)	0.8 (0.2-3.3)	* (*~*)	1.6 (0.4-6.4)	* (*~*)	1.1 (0.3-3.4)	2.7 (1.4-5.3)	2.2 (1.0-5.0)	0.6 (0.1-3.4)	1.1 (0.4-3.1)	1.2 (0.5-3.2)	1.4 (0.5-4.0)
Got It for free or shared with someone else												
Total	54.2 (50.0-58.4)	54.8 (50.5-58.9)	54.1 (49.6-58.6)	54.9 (50.1-59.7)	54.9 (50.5-59.3)	52.8 (47.6-58.0)	49.7 (44.5-54.8)	50.7 (45.6-55.8)	50.3 (45.6-55.0)	43.5 (38.9-48.1)	43.3 (39.0-47.7)	46.8 (42.7-51.0)
12–17	61.7 (56.1-66.9)	65.8 (59.9-71.3)	69.1 (63.5-74.3)	69.6 (64.3-74.4)	68.0 (61.8-73.7)	69.8 (62.3-76.4)	68.7 (62.5-74.4)	63.7 (57.4-69.5)	62.2 (55.5-68.3)	63.6 (57.2-69.5)	61.6 (54.9-67.8)	53.8 (46.9-60.5)
18–25	53.8 (48.4-59.1)	55.5 (50.7-60.2)	53.7 (49.4-57.8)	55.0 (50.4-59.5)	55.4 (51.1-59.6)	54.4 (50.6-58.2)	56.4 (51.4-61.2)	52.8 (47.7-57.9)	52.6 (47.2-57.9)	50.6 (46.0-55.2)	48.5 (44.1-53.0)	50.2 (46.0-54.4)
≥26	52.8 (46.0-59.4)	52.0 (45.5-58.5)	50.6 (42.9-58.4)	51.1 (43.0-59.1)	51.7 (44.2-59.1)	49.0 (40.5-57.6)	43.4 (35.7-51.4)	47.3 (39.3-55.5)	46.9 (39.2-54.7)	36.3 (29.3-43.9)	37.0 (30.3-44.3)	43.5 (37.1-50.2)
Grew it yourself												

Total	0.4 (0.2-0.8)	0.2 (0.1-0.6)	0.8 (0.2-2.9)	1.3 (0.5-3.5)	1.2 (0.5-3.0)	0.7 (0.2-1.9)	0.1 (0.1-0.4)	1.2 (0.4-3.9)	2.0 (0.9-4.4)	1.7 (0.8-3.5)	1.1 (0.4-2.6)	0.4 (0.2-1.3)
12–17	1.5 (0.5-4.0)	1.4 (0.5-4.2)	1.2 (0.5-2.9)	1.6 (0.7-3.6)	1.3 (0.5-3.5)	* (*)	* (*)	0.3 (0.0-2.2)	0.1 (0.0-0.4)	0.5 (0.1-2.8)	0.5 (0.1-2.4)	0.4 (0.1-1.9)
18–25	0.6 (0.2-2.0)	0.2 (0.0-1.4)	0.4 (0.1-1.4)	0.5 (0.2-1.6)	0.4 (0.1-1.6)	0.5 (0.1-1.5)	0.4 (0.1-1.3)	0.6 (0.2-1.5)	0.4 (0.1-1.2)	0.4 (0.1-1.5)	0.4 (0.1-1.4)	0.3 (0.1-1.4)
≥26	* (*)	* (*)	* (*)	* (*)	1.7 (0.5-5.2)	0.8 (0.2-3.3)	* (*)	1.7 (0.4-6.8)	3.3 (1.3-7.7)	2.7 (1.1-6.1)	1.6 (0.5-4.7)	0.5 (0.1-2.2)
Source: Substance Abuse and Mental Health Services Administration, Center for Behavioral Health Statistics and Quality, National Survey on Drug Use and Health, 2002–2014. Abbreviation: CI = confidence interval. * Perceived availability is defined as those who reported that it would be fairly easy or very easy for them to obtain marijuana if they wanted some. † Mode of acquisition is defined as those who reported how they got the marijuana they used for the last time [i.e., bought it, traded something for it, got it for free or shared with someone else, or grew it yourself]; this question is only asked of those respondents indicating use of marijuana in the past 12 months.												

Table 12. Percentage of past year marijuana dependence and abuse* among all persons aged ≥12 by age group — National Survey on Drug Use and Health, Florida, 2002–2014

	2002-2003	2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014
	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)
Age group (yrs)												
Total	2.0 (1.6-2.4)	1.8 (1.5-2.1)	1.9 (1.6-2.2)	1.8 (1.5-2.1)	1.6 (1.3-1.9)	1.6 (1.3-2.0)	1.7 (1.3-2.1)	1.8 (1.5-2.2)	1.6 (1.3-2.0)	1.5 (1.2-1.9)	1.5 (1.2-1.8)	1.3 (1.1-1.6)
12–17	5.0 (3.9-6.3)	3.8 (3.0-4.8)	3.8 (3.1-4.7)	3.6 (2.9-4.5)	2.9 (2.3-3.6)	2.9 (2.2-3.8)	3.3 (2.6-4.2)	3.2 (2.5-4.0)	3.1 (2.5-3.9)	3.3 (2.6-4.2)	3.5 (2.7-4.4)	4.0 (3.1-5.1)
18–25	6.2 (5.1-7.6)	5.8 (4.8-6.9)	6.5 (5.5-7.8)	6.5 (5.4-7.8)	6.3 (5.3-7.5)	5.2 (4.3-6.3)	4.7 (3.8-5.7)	5.2 (4.4-6.2)	6.3 (5.2-7.6)	5.9 (4.9-7.2)	4.7 (3.8-5.8)	4.4 (3.6-5.5)
≥26	1.0 (0.6-1.5)	0.9 (0.7-1.4)	1.0 (0.7-1.4)	0.9 (0.6-1.3)	0.8 (0.5-1.2)	0.9 (0.6-1.4)	1.0 (0.7-1.6)	1.1 (0.8-1.6)	0.7 (0.5-1.1)	0.7 (0.4-1.1)	0.8 (0.5-1.3)	0.6 (0.4-0.9)

Source: Substance Abuse and Mental Health Services Administration, Center for Behavioral Health Statistics and Quality, National Survey on Drug Use and Health, 2002–2014.

Abbreviation: CI = confidence interval.

* Substance use disorder (also known as dependence or abuse) is defined as meeting criteria in the *Diagnostic and Statistical Manual of Mental Disorders (DSM–IV)* (American Psychiatric Association [APA], 1994) for either dependence or abuse for illicit drugs or alcohol.

Table 13. Percentage of past year marijuana dependence and abuse* among past year marijuana users† aged ≥12, by age group — National Survey on Drug Use and Health, Florida, 2002–2014

	2002-2003	2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014
	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)
Age group (yrs)												
Total	16.9 (14.1-20.2)	16.6 (14.0-19.6)	18.7 (15.7-22.0)	18.5 (15.6-21.9)	17.0 (14.1-20.3)	16.1 (13.0-19.8)	15.9 (13.0-19.2)	16.3 (13.5-19.5)	14.4 (11.9-17.2)	13.4 (10.9-16.3)	12.9 (10.2-16.0)	11.1 (9.2-13.4)
12–17	31.2 (25.5-37.6)	27.5 (22.4-33.3)	26.2 (21.4-31.6)	26.8 (22.1-32.0)	22.8 (18.1-28.3)	24.2 (18.9-30.3)	26.3 (21.1-32.2)	22.5 (18.4-27.3)	23.5 (19.1-28.5)	26.0 (20.6-32.3)	25.1 (20.1-30.9)	27.1 (21.5-33.6)
18–25	21.2 (17.8-25.1)	19.9 (16.7-23.6)	22.1 (19.0-25.6)	21.7 (18.5-25.3)	22.6 (19.3-26.2)	20.2 (17.1-23.8)	18.1 (15.0-21.7)	18.6 (15.8-21.8)	20.0 (17.0-23.5)	19.0 (15.9-22.5)	14.6 (11.7-17.9)	13.1 (10.7-16.0)
≥26	11.5 (7.7-16.9)	12.3 (8.7-17.2)	14.4 (10.0-20.3)	14.1 (9.5-20.4)	12.1 (7.7-18.4)	12.6 (8.2-18.8)	13.0 (8.9-18.6)	13.9 (9.8-19.3)	9.3 (6.2-13.9)	8.1 (4.9-13.1)	9.6 (5.9-15.2)	6.9 (4.4-10.8)

Source: Substance Abuse and Mental Health Services Administration, Center for Behavioral Health Statistics and Quality, National Survey on Drug Use and Health, 2002–2014.

Abbreviation: CI = confidence interval.

* Substance use disorder (also known as dependence or abuse) is defined as meeting criteria in the *Diagnostic and Statistical Manual of Mental Disorders (DSM–IV)* (American Psychiatric Association [APA], 1994) for either dependence or abuse for illicit drugs or alcohol.

† Analysis limited to past year marijuana users (defined as those who reported use of marijuana within 12 months preceding the date of interview, including those who reported use of marijuana within 30 days preceding the date of interview)

Table 14. Percentage of perception of maximum legal penalty in your state for first offense possession of an ounce or less of marijuana for your own use* among all persons aged ≥12, by age group — National Survey on Drug Use and Health, Florida, 2002–2014

	2002-2003	2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014
	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)
Age group (yrs)												
Fine												
Total	22.5 (20.3-24.8)	20.7 (18.9-22.5)	20.2 (18.4-22.2)	20.9 (19.0-22.8)	20.9 (19.0-22.9)	20.9 (18.8-23.2)	21.6 (19.5-23.9)	22.5 (20.4-24.9)	23.7 (21.6-26.0)	24.3 (22.3-26.4)	26.4 (24.3-28.7)	27.2 (25.0-29.5)
12–17	9.9 (8.6-11.4)	9.5 (8.2-11.0)	9.8 (8.5-11.3)	10.2 (8.9-11.6)	11.1 (9.5-13.0)	11.8 (10.1-13.8)	13.1 (11.5-14.9)	13.4 (11.9-15.2)	15.3 (13.7-17.1)	16.0 (14.3-17.8)	15.3 (13.4-17.4)	15.4 (13.2-17.9)
18–25	13.6 (12.0-15.3)	15.2 (13.5-17.2)	15.1 (13.3-17.1)	15.2 (13.6-17.0)	16.6 (14.8-18.6)	17.9 (15.6-20.4)	17.8 (16.0-19.7)	19.2 (17.5-21.0)	20.9 (19.2-22.8)	22.1 (20.0-24.3)	21.3 (19.2-23.6)	19.1 (17.0-21.5)
≥26	26.2 (23.3-29.3)	23.5 (21.2-26.0)	22.8 (20.5-25.3)	23.6 (21.2-26.2)	23.4 (20.9-26.1)	23.0 (20.3-26.0)	23.6 (20.9-26.5)	24.5 (21.7-27.5)	25.4 (22.7-28.4)	25.9 (23.3-28.7)	29.2 (26.4-32.2)	30.7 (27.9-33.6)
Probation												
Total	20.3 (18.6-22.0)	20.5 (18.8-22.4)	19.5 (17.8-21.3)	18.4 (16.8-20.1)	18.4 (16.8-20.1)	20.2 (18.4-22.1)	20.4 (18.7-22.2)	19.7 (18.1-21.4)	22.3 (20.3-24.3)	23.6 (21.6-25.7)	21.2 (19.3-23.2)	21.3 (19.5-23.1)
12–17	21.4 (19.4-23.6)	21.8 (19.9-23.8)	22.5 (20.4-24.7)	22.1 (20.0-24.2)	22.4 (20.4-24.6)	22.1 (20.1-24.3)	20.3 (18.6-22.2)	20.5 (18.5-22.6)	23.1 (21.0-25.2)	24.8 (22.8-27.0)	25.3 (23.2-27.6)	26.4 (24.1-28.9)
18–25	26.7 (24.1-29.5)	25.1 (22.9-27.6)	24.6 (22.6-26.7)	26.1 (23.8-28.5)	25.7 (23.3-28.2)	26.0 (23.5-28.6)	27.7 (25.1-30.3)	26.5 (24.0-29.2)	27.1 (24.9-29.5)	28.6 (26.2-31.2)	28.2 (26.0-30.6)	27.9 (25.4-30.6)
≥26 years	18.8 (16.7-21.2)	19.4 (17.1-21.9)	18.0 (15.9-20.4)	16.3 (14.3-18.6)	16.2 (14.2-18.5)	18.7 (16.4-21.2)	18.9 (16.8-21.2)	18.2 (16.1-20.5)	21.2 (18.7-23.9)	22.4 (19.8-25.2)	19.0 (16.7-21.6)	19.1 (16.9-21.5)
Community Service												
Total	10.1 (8.7-11.7)	10.4 (9.0-11.8)	10.7 (9.5-12.2)	10.2 (8.9-11.6)	9.7 (8.4-11.1)	10.3 (8.8-11.9)	9.3 (7.9-10.9)	8.8 (7.5-10.3)	8.6 (7.4-10.1)	8.2 (7.1-9.4)	8.0 (6.9-9.2)	7.9 (6.9-9.0)
12–17	17.4 (15.5-19.5)	15.7 (13.8-17.7)	14.8 (13.2-16.5)	14.0 (12.3-15.7)	12.7 (11.2-14.4)	11.3 (9.8-13.1)	11.0 (9.5-12.8)	10.1 (8.6-11.8)	8.9 (7.6-10.4)	9.1 (7.8-10.7)	9.2 (7.9-10.8)	10.5 (9.0-12.3)
18–25	11.2 (9.6-13.1)	11.6 (9.9-13.6)	10.7 (9.3-12.3)	10.6 (9.2-12.2)	10.1 (8.6-11.9)	9.0 (7.7-10.6)	8.5 (7.2-10.0)	7.4 (6.2-8.9)	6.5 (5.2-8.0)	7.5 (6.3-8.8)	8.8 (7.5-10.1)	8.4 (7.0-10.1)
≥26	8.7 (7.0-10.8)	9.3 (7.6-11.2)	10.1 (8.5-12.1)	9.5 (7.9-11.4)	9.1 (7.4-11.0)	10.4 (8.5-12.7)	9.2 (7.4-11.4)	8.9 (7.3-10.9)	9.0 (7.4-11.0)	8.2 (6.8-9.9)	7.6 (6.2-9.3)	7.4 (6.1-8.9)
Possible Prison Sentence												
Total	39.4 (37.3-41.5)	40.3 (37.9-42.7)	41.3 (39.1-43.6)	40.0 (37.8-42.3)	37.8 (35.5-40.2)	36.4 (34.1-38.7)	37.1 (34.8-39.4)	37.2 (34.9-39.6)	34.5 (32.2-36.8)	33.1 (30.9-35.3)	32.5 (30.4-34.7)	32.2 (30.2-34.3)

12–17	38.5 (35.9-41.1)	39.0 (36.6-41.5)	38.8 (36.5-41.1)	37.6 (35.6-39.6)	34.6 (32.5-36.8)	36.4 (34.0-38.8)	37.7 (35.6-39.9)	37.0 (34.7-39.5)	34.3 (32.0-36.7)	33.5 (31.2-35.9)	33.6 (31.1-36.2)	31.7 (29.1-34.5)
18–25	40.7 (38.1-43.3)	40.3 (38.0-42.7)	40.3 (37.8-42.9)	37.5 (34.8-40.4)	36.5 (33.9-39.2)	36.0 (33.6-38.5)	34.3 (32.0-36.6)	35.1 (32.4-37.9)	34.9 (32.4-37.6)	30.8 (28.6-33.0)	30.8 (28.6-33.1)	34.4 (31.8-37.1)
≥26	39.3 (36.5-42.1)	40.5 (37.4-43.6)	41.9 (39.0-44.8)	40.9 (38.0-43.9)	38.6 (35.5-41.8)	36.5 (33.5-39.5)	37.6 (34.6-40.7)	37.7 (34.6-40.9)	34.4 (31.5-37.5)	33.5 (30.6-36.4)	32.8 (29.9-35.7)	31.8 (29.1-34.6)
Mandatory Prison Sentence												
Total	7.8 (6.7-9.0)	8.2 (7.1-9.4)	8.2 (7.2-9.4)	8.4 (7.2-9.6)	8.6 (7.4-10.0)	7.9 (6.7-9.2)	7.9 (6.7-9.3)	8.1 (6.9-9.6)	7.1 (6.1-8.2)	6.8 (5.8-7.9)	7.4 (6.4-8.6)	6.6 (5.6-7.7)
12–17	12.8 (11.2-14.6)	14.1 (12.3-16.0)	14.2 (12.6-15.9)	13.9 (12.3-15.7)	14.7 (12.7-17.0)	14.4 (12.3-16.8)	13.7 (12.0-15.7)	14.5 (12.8-16.4)	13.9 (12.3-15.7)	11.5 (10.0-13.2)	11.6 (10.1-13.3)	11.3 (9.7-13.1)
18–25	7.8 (6.6-9.2)	7.7 (6.5-9.0)	9.3 (8.0-10.8)	8.9 (7.6-10.4)	7.5 (6.3-8.9)	7.5 (6.2-9.1)	8.1 (6.8-9.7)	8.5 (7.3-9.9)	7.6 (6.2-9.2)	7.5 (6.4-8.9)	7.3 (6.1-8.7)	6.5 (5.3-7.9)
≥26	6.9 (5.6-8.6)	7.3 (6.0-8.9)	7.1 (5.8-8.7)	7.4 (6.0-9.1)	7.9 (6.4-9.7)	6.9 (5.5-8.7)	7.0 (5.5-8.9)	7.2 (5.5-9.2)	6.0 (4.8-7.5)	5.9 (4.7-7.4)	6.8 (5.5-8.5)	5.9 (4.7-7.4)
No penalty												
Total	DNA	DNA	DNA	2.1 (1.6-3.0)	4.6 (3.6-5.9)	4.3 (3.3-5.7)	3.7 (3.0-4.7)	3.6 (2.8-4.5)	3.8 (3.1-4.8)	4.1 (3.3-5.2)	4.5 (3.6-5.6)	4.9 (3.9-6.0)
12–17	DNA	DNA	DNA	2.3 (1.7-3.1)	4.4 (3.4-5.5)	4.0 (3.1-5.1)	4.1 (3.2-5.2)	4.4 (3.4-5.6)	4.5 (3.6-5.6)	5.1 (4.1-6.3)	5.0 (4.0-6.2)	4.6 (3.7-5.9)
18–25	DNA	DNA	DNA	1.7 (1.1-2.6)	3.5 (2.7-4.7)	3.6 (2.7-4.9)	3.6 (2.7-4.8)	3.2 (2.4-4.2)	3.0 (2.2-4.1)	3.5 (2.7-4.6)	3.6 (2.8-4.5)	3.6 (2.7-4.8)
≥26	DNA	DNA	DNA	2.2 (1.5-3.3)	4.9 (3.5-6.7)	4.6 (3.2-6.4)	3.7 (2.7-5.0)	3.5 (2.6-4.8)	3.9 (3.0-5.2)	4.1 (3.0-5.6)	4.6 (3.4-6.2)	5.2 (3.9-6.8)
Source: Substance Abuse and Mental Health Services Administration, Center for Behavioral Health Statistics and Quality, National Survey on Drug Use and Health, 2002–2014. Abbreviations: CI = confidence interval; DNA = data not available. *Perception of legal penalty for marijuana possession is defined as those who reported their perception of the maximum legal penalty in their state of residence for first offense possession of an ounce or less of marijuana for their own use.												

TRULIEVE CANNABIS CORP.
MANAGEMENT DISCUSSION AND ANALYSIS
FOR THE QUARTER ENDED JUNE 30, 2019

This management discussion and analysis of the financial condition and results of operations (“MD&A”) of Trulieve Cannabis Corp. and its subsidiaries (“Trulieve” or, the “Corporation”) is for the three and six months ended June 30, 2019. It is supplemental to, and should be read in conjunction with, the Corporation’s unaudited condensed consolidated interim financial statements and the accompanying notes for the three and six months ended June 30, 2019. The Corporation’s unaudited condensed consolidated interim financial statements are prepared in accordance with International Financial Reporting Standards (“IFRS”). All dollar amounts presented in this MD&A are presented in United States dollars (“\$” or “US\$”), unless otherwise indicated.

This MD&A has been prepared by reference to the MD&A disclosure requirements established under National Instrument 51-102 – Continuous Disclosure Obligations of the Canadian Securities Administrators.

Further information about the Corporation, its operations and other continuous disclosure documents, including the Corporation’s Annual Information Form, is available through filings with the securities regulatory authorities in Canada under the Corporation’s profile at www.sedar.com.

This MD&A was prepared as of August 14, 2019.

CAUTIONARY NOTE REGARDING FORWARD-LOOKING STATEMENTS

This MD&A contains certain “forward-looking statements” and certain “forward-looking information” as defined under applicable United States securities laws and Canadian securities laws. All statements, other than statements of historical fact, made by the Corporation that address activities, events or developments that the Corporation expects or anticipates will or may occur in the future are forward-looking statements, including, but not limited to, statements preceded by, followed by or that include words such as “may”, “will”, “would”, “could”, “should”, “believes”, “estimates”, “projects”, “potential”, “expects”, “plans”, “intends”, “anticipates”, “targeted”, “continues”, “forecasts”, “designed”, “goal”, or the negative of those words or other similar or comparable words. Forward-looking statements may relate to future financial conditions, results of operations, plans, objectives, performance or business developments. These statements speak only as at the date they are made and are based on information currently available and on the then current expectations of the party making the statement and assumptions concerning future events, which are subject to a number of known and unknown risks, uncertainties and other factors that may cause actual results, performance or achievements to be materially different from that which was expressed or implied by such forward-looking statements, including, but not limited to, risks and uncertainties related to: the performance of the Corporation’s business and operations; the receipt and/or maintenance by the Corporation of required licenses and permits in a timely manner or at all; the intention to grow the business and operations of the Corporation; the expected growth in the number of the people using medical and/or adult use cannabis products; expectations of market size and growth in the United States; the competitive conditions and increasing competition of the cannabis industry; applicable laws, regulations and any amendments thereof; the competitive and business strategies of the Corporation; the Corporation’s operations in the United States, the characterization and consequences of those operations under federal United States law, and the framework for the enforcement of medical and adult use cannabis and cannabis-related offenses in the United States; the completion of additional cultivation and production facilities; the general economic, financial market, regulatory and political conditions in which the Corporation operates; the United States regulatory landscape and enforcement related to cannabis, including political risks; anti-money laundering laws and regulation; other governmental and environmental regulation; public opinion and perception of the cannabis industry; the enforceability of contracts; reliance on the expertise and judgment of senior management of the Corporation; proprietary intellectual property and potential infringement by third parties; the concentrated voting control of the Corporation by certain shareholders of the Corporation and the unpredictability caused by the capital structure; the management of growth; risks inherent in an agricultural business; risks relating to energy costs; risks associated to cannabis products

manufactured for human consumption including potential product recalls; reliance on key inputs, suppliers and skilled labor; cybersecurity risks; ability and constraints on marketing products; fraudulent activity by employees, contractors and consultants; tax and insurance related risks; risk of litigation; conflicts of interest; risks relating to certain remedies being limited and the difficulty of enforcement of judgments and effect service outside of Canada; risks related to future acquisitions or dispositions; sales by existing shareholders; limited research and data relating to cannabis; the medical benefits, viability, safety, efficacy and social acceptance of cannabis; the availability of financing opportunities, the ability to make payments on existing indebtedness; risks associated with economic conditions, dependence on management; and other risks described in this MD&A and described from time to time in documents filed by the Corporation with Canadian securities regulatory authorities.

The forward-looking statements contained herein are based on certain key expectations and assumptions, including, but not limited to, with respect to expectations and assumptions concerning: (i) receipt and/or maintenance of required licenses and third party consents; and (ii) the success of the operations of the Corporation, are based on estimates prepared by the Corporation using data from publicly available governmental sources, as well as from market research and industry analysis, and on assumptions based on data and knowledge of this industry which the Corporation believes to be reasonable. However, although generally indicative of relative market positions, market shares and performance characteristics, such data is inherently imprecise. While the Corporation is not aware of any misstatement regarding any industry or government data presented herein, the current marijuana industry involves risks and uncertainties and are subject to change based on various factors. Although the Corporation believes that the expectations and assumptions on which such forward-looking statements are based are reasonable, undue reliance should not be placed on the forward-looking statements, because no assurance can be given that they will prove to be correct. Since forward-looking statements address future events and conditions, by their very nature they involve inherent risks and uncertainties. Actual results could differ materially from those currently anticipated due to a number of factors and risks. These include, but are not limited to: the risks described above and other factors beyond the Corporation's control, as more particularly described under the heading "Risk Factors" in this MD&A. Consequently, all forward-looking statements made in this MD&A are qualified by such cautionary statements and there can be no assurance that the anticipated results or developments will actually be realized or, even if realized, that they will have the expected consequences to or effects on the Corporation. The cautionary statements contained or referred to in this MD&A should be considered in connection with any subsequent written or oral forward-looking statements that the Corporation and/or persons acting on its behalf may issue. The Corporation does not undertake any obligation to update or revise any forward-looking statements, whether as a result of new information, future events or otherwise, other than as required by law.

OVERVIEW OF THE CORPORATION

Business of Trulieve

Trulieve is a multi-state cannabis operator which currently operates under licenses in four states. Headquartered in Quincy, Florida, the Corporation is focused on being the brand leader for quality medical and recreational cannabis products and service in all markets it serves. As of July 31, 2019, Trulieve employs over 2,000 people and is committed to providing patients a consistent and welcoming retail experience across Trulieve branded stores.

Trulieve has five material subsidiaries, being Trulieve, Inc. (Trulieve US), Leef Industries, Inc. (Leaf Industries), Life Essence, Inc. (Life Essence), Trulieve Holdings, Inc. (Trulieve Holdings), and The Healing Corner, Inc. (Healing Corner). Trulieve US, Life Essence, Trulieve Holdings and Healing Corner are wholly-owned (directly or indirectly) by Trulieve. Trulieve currently holds 99% of the issued and outstanding membership interests in Leef Industries and is proposing to acquire the balance of the issued and outstanding membership interests upon receipt of final regulatory approval from the State of California.

Florida

Trulieve US is a vertically integrated “seed to sale” cannabis Corporation and is the first and largest fully licensed medical marijuana Corporation in the State of Florida. Trulieve US cultivates and produces all of its products in-house and distributes those products to Trulieve branded stores (dispensaries) throughout the State of Florida, as well as directly to patients via home delivery. Trulieve’s experience in the vertically integrated market of Florida has given the Corporation the ability to scale and penetrate in all necessary business segments (cultivation, production, sales and distribution) which has provided the Corporation with the unique ability to secure and maintain the position of market leader in Florida and to inject that expertise effectively into other regulated market opportunities.

As of July 31, 2019, the Trulieve US operated over 1,612,408 square feet of cultivation facilities across five sites with an estimated 72,000 square feet of indoor cultivation to be added in Q3 2019. In accordance with Florida law, Trulieve US grows in enclosed structures operating both indoor and greenhouse style grows. At July 31, 2019, Trulieve US had the ability to grow 54,609 kg of cannabis annually. Following the completion of the additional 72,000 square feet of indoor cultivation to be added in Q3 2019, Trulieve US will have the ability to grow an additional 8,580 kg of cannabis annually.

Trulieve US operates a Good Manufacturing Practices (“GMP”) certified processing facility, encompassing an estimated 55,000 square feet. Due to its patient-first mantra, Trulieve has developed a suite of Trulieve branded products with over 230 stock keeping units (“SKUs”) including smokable flower, flower pods for vaporizing, concentrates, topicals, capsules, tinctures, and vape cartridges. This wide variety of products gives patients the ability to select the product that provides them with the most desired effect and delivery mechanism.

As of July 31, 2019, Trulieve US has completed more than 1,300,000 unique orders both in-store and via home delivery. Trulieve distributes its products to these customers in Trulieve branded retail stores or home delivery. Trulieve US currently operates 30 stores, encompassing over 74,000 square feet of retail space, throughout the State of Florida and serves over 5,100 in-store patients daily. Trulieve US initiated Florida’s first next-day, state-wide delivery program and, as of July 31, 2019, operates a 74-vehicle delivery-service fleet. E-commerce is anticipated to contribute at least 20% of Trulieve US’s revenue in 2019. Patients are further served by a Clearwater-based call center, which receives an average of 2,700 calls per day. As of July 31, 2019, Trulieve US has a Florida consumer base of over 192,000, who average approximately two visits per month.

Massachusetts

Life Essence is currently in the permitting and development phase for multiple adult-use and medical cannabis retail locations, as well as a cultivation and product manufacturing facility in Massachusetts. Life Essence has been awarded Provisional Certificates of Registration from the Massachusetts Department of Health to operate medical marijuana dispensaries in the Cities of Cambridge, Holyoke, and Northampton, Massachusetts, as well as a 140,000 square-foot medical marijuana cultivation and processing facility. Life Essence has also been awarded letters of support from these cities. Subject to receipt of Final Certificates of Registration and local permitting, these initiatives will allow Life Essence to build out its infrastructure and engage in medical cannabis cultivation, processing and retailing in Massachusetts. Additionally, Life Essence has executed statutorily required Host Community Agreements with the City of Holyoke that, subject to receipt of other state and local approvals, authorizes Life Essence to cultivate and process adult use cannabis, and with the City of Northampton that, subject to receipt of other state and local approvals, authorizes Life Essence to operate a retail marijuana establishment.

California

Leef Industries operates a licensed medical and adult-use cannabis dispensary located in Palm Springs, California. Trulieve believes Leef Industries has demonstrated encouraging growth in the market, offering in-store and online shopping, along with product home delivery. Trulieve acquired an 80% interest in Leef Industries in Q4 2018. During Q2 2019, Trulieve acquired an additional 19% interest in Leef industries.

Trulieve anticipates acquiring the remaining 1% interest in Leef industries during Q3 2019, subject to regulatory approval from applicable state and local authorities in California.

Connecticut

Healing Corner is a licensed medical cannabis dispensary located in Bristol, Connecticut. Healing Corner was founded in 2014 and provides a range of medical marijuana products from its dispensary in Bristol, Connecticut. Patients may also reserve their medical marijuana order through Healing Corner's Canna-Fill online system. Healing Corner scored highest of all applicants on the first Request for Application for licensing and serves approximately 16% of Connecticut's medical marijuana patient population.

DESCRIPTION OF THE UNITED STATES LEGAL CANNABIS INDUSTRY

In accordance with the Canadian Securities Administrators Staff Notice 51-352 (Revised) dated February 8, 2018 – Issuers with U.S. Marijuana-Related Activities (“**Staff Notice 51-352**”), below is a discussion of the federal and state-level United States regulatory regimes in those jurisdictions where the Corporation is currently directly involved, through its subsidiaries, in the cannabis industry. In accordance with Staff Notice 51-352, the Corporation will evaluate, monitor and reassess this disclosure, and any related risks, on an ongoing basis and the same will be supplemented and amended to investors in public filings, including in the event of government policy changes or the introduction of new or amended guidance, laws or regulations regarding marijuana regulation.

Regulation of Cannabis in the United States Federally

The United States federal government regulates drugs through the Controlled Substances Act (the “**CSA**”), which places controlled substances, including cannabis, in one of five different schedules. Cannabis is classified as a Schedule I drug. As a Schedule I drug, the federal Drug Enforcement Agency (“**DEA**”) considers marijuana to have a high potential for abuse; no currently accepted medical use in treatment in the United States; and a lack of accepted safety for use of the drug under medical supervision.¹ The scheduling of marijuana as a Schedule I drug is inconsistent with what the Corporation believes to be many valuable medical uses for marijuana accepted by physicians, researchers, patients, and others. As evidence of this, the federal Food and Drug Administration (“**FDA**”) on June 25, 2018 approved Epidiolex (cannabidiol) (“**CBD**”) oral solution with an active ingredient derived from the cannabis plant for the treatment of seizures associated with two rare and severe forms of epilepsy, Lennox-Gastaut syndrome and Dravet syndrome, in patients two years of age and older. This is the first FDA-approved drug that contains a purified drug substance derived from the cannabis plant. In this case, the substance is CBD, a chemical component of marijuana that does not contain the intoxication properties of tetrahydrocannabinol (“**THC**”), the primary psychoactive component of marijuana. The Corporation believes the CSA categorization as a Schedule I drug is not reflective of the medicinal properties of marijuana or the public perception thereof, and numerous studies show cannabis is not able to be abused in the same way as other Schedule I drugs, has medicinal properties, and can be safely administered.²

¹ 21 U.S.C. 812(b)(1).

² See Lachenmeier, DW & Rehm, J. (2015). Comparative risk assessment of alcohol, tobacco, cannabis and other illicit drugs using the margin of exposure approach. *Scientific Reports*, 5, 8126. doi: 10.1038/srep08126; Thomas, G & Davis, C. (2009). Cannabis, Tobacco and Alcohol Use in Canada: Comparing risks of harm and costs to society. *Visions Journal*, 5. Retrieved from http://www.heretohelp.bc.ca/sites/default/files/visions_cannabis.pdf; Jacobus et al. (2009). White matter integrity in adolescents with histories of marijuana use and binge drinking. *Neurotoxicology and Teratology*, 31, 349-355. <https://doi.org/10.1016/j.ntt.2009.07.006>; Could smoking pot cut risk of head, neck cancer? (2009 August 25). Retrieved from <https://www.reuters.com/article/us-smoking-pot/could-smoking-pot-cut-risk-of-head-neck-cancer-idUSTRE57O5DC20090825>; Watson, SJ, Benson JA Jr. & Joy, JE. (2000). Marijuana and medicine: assessing the science base: a summary of the 1999 Institute of Medicine report. *Arch Gen Psychiatry Review*, 57, 547-552. Retrieved from <https://www.ncbi.nlm.nih.gov/pubmed/10839332>; Hoaken, Peter N.S. & Stewart, Sherry H. (2003). Drugs of abuse and the elicitation of human aggressive behavior. *Addictive Behaviours*, 28, 1533-1554. Retrieved from <http://www.ukcia.org/research/AggressiveBehavior.pdf>; and Fals-Steward, W. Golden, J. & Schumacher, JA. (2003). Intimate partner violence and substance use: a longitudinal day-to-day examination. *Addictive Behaviors*, 28, 1555-1574. Retrieved from <https://www.ncbi.nlm.nih.gov/pubmed/14656545>.

The federal position is also not necessarily consistent with democratic approval of marijuana at the state government level in the United States. Unlike in Canada, which has federal legislation uniformly governing the cultivation, distribution, sale and possession of marijuana under the *Cannabis Act* (Canada), marijuana is largely regulated at the state level in the United States. State laws regulating cannabis are in conflict with the CSA, which makes cannabis use and possession federally illegal. Although certain states and territories of the United States authorize medical or adult-use cannabis production and distribution by licensed or registered entities, under United States federal law, the possession, use, cultivation, and transfer of cannabis and any related drug paraphernalia is illegal, and any such acts are criminal acts. Although the Corporation's activities are compliant with applicable Florida, California and Connecticut state and local laws, strict compliance with state and local laws with respect to cannabis may neither absolve the Corporation of liability under United States federal law nor provide a defense to federal criminal charges that may be brought against the Corporation. The Supremacy Clause of the United States Constitution establishes that the United States Constitution and federal laws made pursuant to it are paramount and, in case of conflict between federal and State law, the federal law shall apply.

Nonetheless, more than 30 states and the District of Columbia in the United States have legalized some form cannabis for medical use, while 11 states and the District of Columbia have legalized the adult use of cannabis for recreational purposes. As more and more states legalized medical and/or adult-use marijuana, the federal government attempted to provide clarity on the incongruity between federal prohibition under the CSA and these state-legal regulatory frameworks. Until 2018, the federal government provided guidance to federal law enforcement agencies and banking institutions through a series of United States Department of Justice ("DOJ") memoranda. The most recent such memorandum was drafted by former Deputy Attorney General James Cole on August 29, 2013 (the "**Cole Memorandum**").³

The Cole Memorandum offered guidance to federal enforcement agencies as to how to prioritize civil enforcement, criminal investigations and prosecutions regarding marijuana in all states. The memo put forth eight prosecution priorities:

1. Preventing the distribution of marijuana to minors;
2. Preventing revenue from the sale of marijuana from going to criminal enterprises, gangs and cartels;
3. Preventing the diversion of marijuana from states where it is legal under state law in some form to other states;
4. Preventing the state-authorized marijuana activity from being used as a cover or pretext for the trafficking of other illegal drugs or other illegal activity;
5. Preventing the violence and the use of firearms in the cultivation and distribution of marijuana;
6. Preventing drugged driving and the exacerbation of other adverse public health consequences associated with marijuana use;
7. Preventing the growing of marijuana on public lands and the attendant public safety and environmental dangers posed by marijuana production on public lands; and
8. Preventing marijuana possession or use on federal property.

The Cole Memorandum was seen by many state-legal marijuana companies as a safe harbor – albeit an imperfect one – for their licensed operations that were conducted in full compliance with all applicable state and local regulations.

³ See James M. Cole, *Memorandum for All United States Attorneys* (Aug. 29, 2013), available at <https://www.justice.gov/iso/opa/resources/3052013829132756857467.pdf>.

On January 4, 2018, former United States Attorney General Sessions rescinded the Cole Memorandum by issuing a new memorandum to all United States Attorneys (the “**Sessions Memo**”). Rather than establish national enforcement priorities particular to marijuana-related crimes in jurisdictions where certain marijuana activity was legal under state law, the Sessions Memo instructs that “[i]n deciding which marijuana activities to prosecute... with the [DOJ’s] finite resources, prosecutors should follow the well-established principles that govern all federal prosecutions.” Namely, these include the seriousness of the offense, history of criminal activity, deterrent effect of prosecution, the interests of victims, and other principles.

In the absence of a uniform federal policy, as had been established by the Cole Memorandum, numerous United States Attorneys with state-legal marijuana programs within their jurisdictions have announced enforcement priorities for their respective offices. For instance, Andrew Lelling, United States Attorney for the District of Massachusetts, stated that while his office would not immunize any businesses from federal prosecution, he anticipated focusing the office’s marijuana enforcement efforts on: (1) overproduction; (2) targeted sales to minors; and (3) organized crime and interstate transportation of drug proceeds. Other United States attorneys provided less assurance, promising to enforce federal law, including the CSA in appropriate circumstances.

Former United States Attorney General Sessions resigned on November 7, 2018. He was replaced by William Barr on February 14, 2019. It is unclear what specific impact this development will have on U.S. federal government enforcement policy. However, in a written response to questions from U.S. Senator Cory Booker made as a nominee, Attorney General Barr stated “I do not intend to go after parties who have complied with state law in reliance on the Cole Memorandum.”⁴ Nonetheless, there is no guarantee that state laws legalizing and regulating the sale and use of cannabis will not be repealed or overturned, or that local governmental authorities will not limit the applicability of state laws within their respective jurisdictions. Unless and until the United States Congress amends the CSA with respect to cannabis (and as to the timing or scope of any such potential amendments there can be no assurance), there is a risk that federal authorities may enforce current U.S. federal law.

The Corporation believes it is too soon to determine if any prosecutorial effects will be undertaken by the rescission of the Cole Memorandum, or if Attorney General Barr will reinstitute the Cole Memorandum or a similar guidance document for United States attorneys. The sheer size of the cannabis industry, in addition to participation by State and local governments and investors, suggests that a large-scale enforcement operation would possibly create unwanted political backlash for the Department of Justice and the Trump administration.

As an industry best practice, despite the recent rescission of the Cole Memorandum, the Corporation abides by the following standard operating policies and procedures to ensure compliance with the guidance provided by the Cole Memorandum:

1. ensure that its operations are compliant with all licensing requirements as established by the applicable state, county, municipality, town, township, borough, and other political/administrative divisions;
2. ensure that its cannabis related activities adhere to the scope of the licensing obtained (for example: in the states where cannabis is permitted only for adult-use, the products are only sold to individuals who meet the requisite age requirements);
3. implement policies and procedures to ensure that cannabis products are not distributed to minors;
4. implement policies and procedures in place to ensure that funds are not distributed to criminal enterprises, gangs or cartels;

⁴ *Questions for the Record William P. Barr Nominee to be United States Attorney General*, available at <https://www.judiciary.senate.gov/imo/media/doc/Barr%20Responses%20to%20Booker%20QFRs1.pdf>.

5. implement an inventory tracking system and necessary procedures to ensure that such compliance system is effective in tracking inventory and preventing diversion of cannabis or cannabis products into those states where cannabis is not permitted by state law, or cross any state lines in general;
6. ensure that its state-authorized cannabis business activity is not used as a cover or pretense for trafficking of other illegal drugs, is engaged in any other illegal activity or any activities that are contrary to any applicable anti-money laundering statutes; and
7. ensure that its products comply with applicable regulations and contain necessary disclaimers about the contents of the products to prevent adverse public health consequences from cannabis use and prevent impaired driving.

In addition, the Corporation frequently conducts background checks to ensure that the principals and management of its operating subsidiaries are of good character, and have not been involved with other illegal drugs, engaged in illegal activity or activities involving violence, or use of firearms in cultivation, manufacturing or distribution of cannabis. The Corporation will also conduct ongoing reviews of the activities of its cannabis businesses, the premises on which they operate and the policies and procedures that are related to possession of cannabis or cannabis products outside of the licensed premises, including the cases where such possession is permitted by regulation. See “*Risk Factors*.”

Although the Cole Memorandum has been rescinded, one legislative safeguard for the medical marijuana industry remains in place: Congress has passed a so-called “rider” provision in the FY 2015, 2016, 2017 and 2018 Consolidated Appropriations Acts to prevent the federal government from using congressionally appropriated funds to enforce federal marijuana laws against regulated medical marijuana actors operating in compliance with state and local law. The rider is known as the “Rohrabacher-Farr” Amendment after its original lead sponsors (it is also sometimes referred to as the “Rohrabacher-Blumenauer” or “Joyce-Leahy” Amendment, but it is referred to in this MD&A as “**Rohrabacher-Farr**”). Most recently, the Rohrabacher-Farr Amendment (now known colloquially as the “Joyce-Leahy Amendment” after its most recent sponsors) was included in the Consolidated Appropriations Act of 2019, which was signed by President Trump on February 14, 2019 and funds the departments of the federal government through the fiscal year ending September 30, 2019. In signing the Act, President Trump issued a signing statement noting that the Act “provides that the Department of Justice may not use any funds to prevent implementation of medical marijuana laws by various States and territories,” and further stating “I will treat this provision consistent with the President’s constitutional responsibility to faithfully execute the laws of the United States.” While the signing statement can fairly be read to mean that the executive branch intends to enforce the CSA and other federal laws prohibiting the sale and possession of medical marijuana, the president did issue a similar signing statement in 2017 and no major federal enforcement actions followed.

There is a growing consensus among marijuana businesses and numerous congressmen and congresswomen that guidance is not law and temporary legislative riders, such as the Rohrabacher-Farr Amendment, are an inappropriate way to protect lawful medical marijuana businesses. Numerous bills have been introduced in Congress in recent years to decriminalize aspects of state-legal marijuana trades. For fiscal year 2019, the strategy amongst the bipartisan Congressional Marijuana Working Group in Congress, is to introduce numerous marijuana-related appropriations amendments in the Appropriations Committee in both the House and Senate, similar to the strategy employed in fiscal year 2018. The amendments will include protections for marijuana-related businesses in states with medical and adult-use marijuana laws, as well as protections for financial institutions that provide banking services to state-legal marijuana businesses. The Corporation also has observed that each year more congressmen and congresswomen sign on and co-sponsor marijuana legalization bills. These include the CARERS Act, REFER Act and others. While there are different perspectives on the most effective route to end federal marijuana prohibition, Congressman Blumenauer and Senator Wyden have introduced the three-bill package, Path to Marijuana Reform, which would amend Internal Revenue Code Section 280E that provides tax burdens for marijuana businesses, eliminate civil asset forfeiture and federal criminal penalties for marijuana businesses complying with state law, reduce barriers to banking, de-schedule marijuana from

the federal list of controlled substances, and tax and regulate marijuana.⁵ Senator Booker has also introduced the Marijuana Justice Act, which would de-schedule marijuana. Congressman Ed Perlmutter introduced the SAFE Banking Act of 2019, which has 206 cosponsors and would prevent federal banking regulators from taking adverse actions against financial institutions solely due to an institution's provision of financial services to state-legal marijuana businesses.⁶ Senators Jeff Merkley and Cory Gardner introduced the Senate companion to the Act in April 2019.⁷ Senators Elizabeth Warren and Cory Gardner reintroduced the STATES Act in April 2019.⁸ The bill, which was first introduced by Senators Warren and Gardner and Representatives Joyce and Blumenauer in 2018, would amend the Controlled Substances Act so that it no longer applies to persons acting in compliance with State or tribal laws relating to the manufacture, production, possession, distribution, dispensation, administration, or delivery of marijuana.⁹ In May 2019, Senator Chuck Schumer and Representative Hakeem Jeffries introduced the Marijuana Freedom and Opportunity Act, which would remove marijuana from the Controlled Substances Act.¹⁰ Finally, , and in 2018 Congresswoman Barbara Lee introduced the House companion. Colorado Republican Senator Cory Gardner has reportedly secured a probable assurance from President Trump that Trump would sign a bill to allow states to legalize and regulate marijuana without federal intervention.¹¹

In light of all of this, it was anticipated that the federal government will eventually repeal the federal prohibition on cannabis and thereby leave the states to decide for themselves whether to permit regulated cannabis cultivation, production and sale, just as states are free today to decide policies governing the distribution of alcohol or tobacco. Given current political trends, however, the Corporation considers these developments unlikely in the near-term. For the time being, marijuana remains a Schedule I controlled substance at the federal level, and neither the Cole Memorandum nor its rescission nor the continued passage of the Rohrabacher-Farr Amendment has altered that fact. The federal government of the United States has always reserved the right to enforce federal law in regard to the sale and disbursement of medical or adult-use marijuana, even if state law sanctions such sale and disbursement. If the United States federal government begins to enforce United States federal laws relating to cannabis in states where the sale and use of cannabis is currently legal, or if existing applicable state laws are repealed or curtailed, the Corporation's business, results of operations, financial condition and prospects would be materially adversely affected.

Additionally, under United States federal law, it may potentially be a violation of federal money laundering statutes for financial institutions to take any proceeds from the sale of any Schedule I controlled substance. Due to the CSA categorization of marijuana as a Schedule I drug, federal law makes it illegal for financial institutions that depend on the Federal Reserve's money transfer system to take any proceeds from marijuana sales as deposits. Banks and other financial institutions could be prosecuted and possibly convicted of money laundering for providing services to cannabis businesses under the United States

⁵ Wyden, Blumenauer. (2017 March 30). Wyden, Blumenauer announce bipartisan path to marijuana reform. Retrieved from <https://blumenauer.house.gov/media-center/press-releases/wyden-blumenauer-announce-bipartisan-path-marijuana-reform>.

⁶ H.R. 1595 – SAFE Banking Act of 2019, 116th Congress (2019-2020), <https://www.congress.gov/bills/116/congress/house-bill/1595/text?q=%7B%22search%22%3A%5B%22SAFE+Banking+Act%22%5D%7D>

⁷ Merkley, Jeff (2019 April 11). Merkley, Gardner Lead Senate Introduction of Bipartisan Legislation to Provide Access to Banking Services for Legal Cannabis Businesses. Retrieved from <https://www.merkley.senate.gov/news/press-releases/merkley-gardner-lead-senate-introduction-of-bipartisan-legislation-to-provide-access-to-banking-services-for-legal-cannabis-businesses-2019>.

⁸ Warren, Elizabeth (2019 April 4). Senators Warren and Gardner Reintroduce Bipartisan, Bicameral Legislation to Protect States' Marijuana Policies. Retrieved from <https://www.warren.senate.gov/newsroom/press-releases/senators-warren-and-gardner-reintroduce-bipartisan-bicameral-legislation-to-protect-states-marijuana-policies>.

⁹ *Id.*

¹⁰ S. 1552 – Marijuana Freedom and Opportunity Act, 116th Congress (2019-2020), <https://www.congress.gov/bills/116/congress/senate-bill/1552/text>; H.R. 2843 – Marijuana Freedom and Opportunity Act, 116th Congress (2019-2020), <https://www.congress.gov/bills/116/congress/house-bill/2843/text>.

¹¹ Mark. K. Matthews, *Donald Trump would "probably" support legalizing Colorado's marijuana industry – through bid by Cory Gardner and Elizabeth Warren*, THE DENVER POST (June 8, 2018), available at <https://www.denverpost.com/2018/06/08/colorado-marijuana-industry-sanctioning-donald-trump/>.

Currency and Foreign Transactions Reporting Act of 1970 (the “**Bank Secrecy Act**”). Therefore, under the Bank Secrecy Act, banks or other financial institutions that provide a cannabis business with a checking account, debit or credit card, small business loan, or any other service could be charged with money laundering or conspiracy.

While there has been no change in U.S. federal banking laws to accommodate businesses in the large and increasing number of U.S. states that have legalized medical and/or adult-use marijuana, the Department of the Treasury Financial Crimes Enforcement Network (“**FinCEN**”), in 2014, issued guidance to prosecutors of money laundering and other financial crimes (the “**FinCEN Guidance**”). The FinCEN Guidance advised prosecutors not to focus their enforcement efforts on banks and other financial institutions that serve marijuana-related businesses so long as that business is legal in their state and none of the federal enforcement priorities referenced in the Cole Memorandum are being violated (such as keeping marijuana away from children and out of the hands of organized crime). The FinCEN Guidance also clarifies how financial institutions can provide services to marijuana-related businesses consistent with their Bank Secrecy Act obligations, including thorough customer due diligence, but makes it clear that they are doing so at their own risk. The customer due diligence steps include:

1. Verifying with the appropriate state authorities whether the business is duly licensed and registered;
2. Reviewing the license application (and related documentation) submitted by the business for obtaining a state license to operate its marijuana-related business;
3. Requesting from state licensing and enforcement authorities available information about the business and related parties;
4. Developing an understanding of the normal and expected activity for the business, including the types of products to be sold and the type of customers to be served (e.g., medical versus adult-use customers);
5. Ongoing monitoring of publicly available sources for adverse information about the business and related parties;
6. Ongoing monitoring for suspicious activity, including for any of the red flags described in this guidance; and
7. Refreshing information obtained as part of customer due diligence on a periodic basis and commensurate with the risk.

With respect to information regarding state licensure obtained in connection with such customer due diligence, a financial institution may reasonably rely on the accuracy of information provided by state licensing authorities, where states make such information available.

Because most banks and other financial institutions are unwilling to provide any banking or financial services to marijuana businesses, these businesses can be forced into becoming “cash-only” businesses. While the FinCEN Guidance decreased some risk for banks and financial institutions considering serving the industry, in practice it has not increased banks’ willingness to provide services to marijuana businesses. This is because, as described above, the current law does not guarantee banks immunity from prosecution, and it also requires banks and other financial institutions to undertake time-consuming and costly due diligence on each marijuana business they accept as a customer.

The few state-chartered banks and/or credit unions that have agreed to work with marijuana businesses are limiting those accounts to small percentages of their total deposits to avoid creating a liquidity risk. Since, theoretically, the federal government could change the banking laws as it relates to marijuana businesses at any time and without notice, these credit unions must keep sufficient cash on hand to be able

to return the full value of all deposits from marijuana businesses in a single day, while also keeping sufficient liquid capital on hand to serve their other customers. Those state-chartered banks and credit unions that do have customers in the marijuana industry charge marijuana businesses high fees to pass on the added cost of ensuring compliance with the FinCEN Guidance.

Unlike the Cole Memorandum, however, the FinCEN Guidance from 2014 has not been rescinded. The Secretary of the U.S. Department of the Treasury, Stephen Mnuchin, has publicly stated that the Department was not informed of any plans to rescind the Cole Memorandum. Secretary Mnuchin stated that he does not have a desire to rescind the FinCEN Guidance.¹²

As an industry best practice and consistent with its standard operating procedures, the Corporation adheres to all customer due diligence steps in the FinCEN Guidance.

In the United States, a bill has been tabled in Congress to grant banks and other financial institutions immunity from federal criminal prosecution for servicing marijuana-related businesses if the underlying marijuana business follows state law. This bill has not been passed and there can be no assurance with that it will be passed in its current form or at all. In both Canada and the United States, transactions involving banks and other financial institutions are both difficult and unpredictable under the current legal and regulatory landscape. Legislative changes could help to reduce or eliminate these challenges for companies in the cannabis space and would improve the efficiency of both significant and minor financial transactions.

An additional challenge to marijuana-related businesses is that the provisions of the Internal Revenue Code Section 280E are being applied by the IRS to businesses operating in the medical and adult-use marijuana industry. Section 280E prohibits marijuana businesses from deducting their ordinary and necessary business expenses, forcing them to pay higher effective federal tax rates than similar companies in other industries. The effective tax rate on a marijuana business depends on how large its ratio of non-deductible expenses is to its total revenues. Therefore, businesses in the legal cannabis industry may be less profitable than they would otherwise be.

CBD is a product that often is derived from hemp, which contains only trace amounts of THC, the psychoactive substance found in marijuana. On December 20, 2018, President Trump signed the Agriculture Improvement Act of 2018 (popularly known as the “**2018 Farm Bill**”) into law.¹³ Until the 2018 Farm Bill became law hemp and products derived from it, such as CBD, fell within the definition of “marijuana” under the CSA and the DEA classified hemp as a Schedule I controlled substance because hemp is part of the cannabis plant.¹⁴

The 2018 Farm Bill defines hemp as the plant *Cannabis sativa* L. and any part of the plant with a delta-9 THC concentration of not more than 0.3 percent by dry weight and removes hemp from the CSA. The 2018 Farm Bill also allows states to create regulatory programs allowing for the licensed cultivation of hemp and production of hemp-derived products. Hemp and products derived from it, such as CBD, may then be sold into commerce and transported across state lines provided that the hemp from which any product is derived was cultivated under a license issued by an authorized state program approved by the U.S. Department of Agriculture and otherwise meets the definition of hemp removed from the CSA. The introduction of hemp and products derived from it, such as CBD, in foods, beverages, and dietary supplements has not – except in limited circumstances – been approved by the FDA. FDA expects to engage in rulemaking on this subject.

¹² Angell, Tom. (2018 February 6). Trump Treasury Secretary Wants Marijuana Money In Banks, *available at* <https://www.forbes.com/sites/tomangell/2018/02/06/trump-treasury-secretary-wants-marijuana-money-in-banks/#2848046a3a53>; see also Mnuchin: Treasury is reviewing cannabis policies. (2018 February 7), *available at* <http://www.scotsmanguide.com/News/2018/02/Mnuchin--Treasury-is-reviewing-cannabis-policies/>.

¹³ H.R.2 - 115th Congress (2017-2018): Agriculture Improvement Act of 2018, Congress.gov (2018), <https://www.congress.gov/bills/115th-congress/house-bill/2/text>.

¹⁴ See, e.g., 21 C.F.R. § 1308.35.

Regulation of the Medical Cannabis Market in Florida

In 2014, the Florida Legislature passed the Compassionate Use Act (the “**CUA**”) which was a low-THC (CBD) law, allowing cannabis containing less than 0.8%THC to be sold to patients diagnosed with severe seizures or muscle spasms and cancer. The CUA created a competitive licensing structure and originally allowed for one vertically integrated license to be awarded per five regions of the State. The CUA set forth the criteria for applicants as well as the minimum qualifying criteria which included the requirement to hold a nursery certificate evidencing the capacity to cultivate a minimum of 400,000 plants, to be operated by a nurseryman and to be a registered nursery for at least 30 continuous years. The CUA also created a state registry to track dispensations. In 2016, the Florida Legislature passed the Right to Try Act (the “**RTA**”), which expanded the State’s medical cannabis program to allow for full potency THC products to be sold as “medical cannabis” to patients with a terminal condition that had been diagnosed by two physicians.

In November of 2016, the Florida Medical Marijuana Legalization ballot initiative (the “**Initiative**”) to expand the medical cannabis program under the RTA was approved by 71.3% of voters, thereby amending the Florida constitution. The Initiative is now Article X, Section 29 of the Florida Constitution. The Initiative added 10 medical conditions to the list of conditions for which the use of medical cannabis is permitted in Florida. The Initiative also provided for the implementation of state-issued medical cannabis identification cards. In 2017, the Florida Legislature passed legislation implementing the constitutional amendment and codifying the changes set forth in the constitution. The 2017 law provides for the issuance of ten licenses to specific entities and another four licenses to be issued for every 100,000 active qualified patients added to the registry. The 2017 law also initially limited license holders to a maximum of 25 dispensary locations with the ability to purchase additional dispensary locations from one another and for an additional five locations to be allowed by the State for every 100,000 active qualified patients added to the registry. The 2017 legislation’s cap on dispensing facilities expires on April 1, 2020.

Trulieve License

Under Florida law, a licensee is required to cultivate, process and dispense medical cannabis. Licenses are issued by the Florida Department of Health, Office of Medical Marijuana Use (the “**Department**”) and may be renewed biennially. Trulieve, Inc. received its most recent license renewal on June 13, 2018 and is classified as a Medical Marijuana Treatment Center (“**MMTC**”) under Florida law.

In Florida, there is no state-imposed limitation on the permitted size of cultivation or processing facilities, nor is there a limit on the number of plants that may be grown.

Under its license, the Corporation is permitted to sell cannabis to those patients who are entered into the State’s electronic medical marijuana use registry by a qualified physician and possess a state-issued medical marijuana identification card and a valid certification from the qualified physician. The physician determines patient eligibility as well as the routes of administration (e.g. topical, oral, inhalation) and number of milligrams per day a patient is able to obtain under the program. The physician may order a certification for up to three 70-day supply limits of marijuana, following which the certification expires and a new certification must be issued by a physician. The number of milligrams dispensed, the category of cannabis (either low-THC or medical cannabis) and whether a delivery device such as a vaporizer has been authorized is all recorded in the registry for each patient transaction. In addition, smokable flower was approved by the legislature and signed into law in Florida in March 2019. Patients must obtain a specific recommendation from their physician to purchase smokable flower. The maximum amount a patient may obtain is 2.5 ounces (measured by weight) of smokable flower per 35-day supply.

The Corporation is authorized to sell a variety of products and currently offers over 230 SKUs in various product categories for sale. Edible products were authorized by the Florida Legislature in 2017 pending rulemaking by the Department. The Department has held workshops regarding edibles but has not yet drafted the contemplated regulations. Hydrocarbon extracted products are also contemplated in the 2017 law and are awaiting rulemaking by the Department.

Dispensaries may be located in any location zoned as appropriate for a pharmacy throughout the State of Florida as long as the local government has not issued a prohibition against MMTC dispensaries in their respective municipality. Provided there is not a local prohibition, the Corporation may locate a dispensary in a site zoned for a pharmacy so long as the location is greater than 500 feet from a public or private elementary, middle, or secondary school. Pursuant to section 381.986, Florida Statutes (2017), the State provides for a limitation of 25 dispensary locations per MMTC with an additional five locations per MMTC authorized once the registry reaches 100,000 active patients.¹⁵ Prior to the 2017 amendment of the law, the number of locations an MMTC could open was not limited. The Corporation filed a claim in the Court for the Second Judicial Circuit in Leon County (the “**Court**”) asking the Court to disregard the dispensary locations the Corporation had open and/or applied for prior to the limitation becoming effective. On February 4, 2019, Trulieve announced that it had won its lawsuit in the trial court. The Court ruled that Trulieve may open an additional 14 dispensary locations based on previous vesting and, in the alternative, the statutory caps placed on the number of dispensaries allowed across the state were not only unconstitutionally added after Amendment 2 had been approved by voters, but were adversely impacting patient access. The Corporation has settled its challenge with the Florida Department of Health. Trulieve’s 14 dispensaries that were established before the statewide cap was enacted are now excluded from the statutory cap. The Corporation currently has 31 approved dispensaries operating in the State of Florida. In addition, the Corporation’s license allows the Corporation to deliver products directly to patients.

Florida Reporting Requirements

The Department is to establish, maintain, and control a computer software tracking system that traces cannabis from seed to sale and allows real-time, 24-hour access by the Department to such data. The tracking system must allow for integration of other seed-to-sale systems and, at a minimum, include notification of certain events, including when marijuana seeds are planted, when marijuana plants are harvested and destroyed and when cannabis is transported, sold, stolen, diverted, or lost. Each medical marijuana treatment center shall use the seed-to-sale tracking system established by the department or integrate its own seed-to-sale tracking system with the seed-to-sale tracking system established by the department. Additionally, the Department also maintains a patient and physician registry and the licensee must comply with all requirements and regulations relative to the provision of required data or proof of key events to said system in order to retain its license. Florida requires all MMTCs to abide by representations made in their original application to the State of Florida. Any changes or expansions must be requested via an amendment or variance process.

Florida Licensing Requirements

Licenses issued by the Department may be renewed biennially so long as the licensee continues to meet the requirements of the Florida Statute 381.986 and pays a renewal fee. License holders can only own one license within the State of Florida. MMTC’s can operate up to a maximum of 25 dispensaries throughout the State with an additional five locations granted with every 100,000 additional patients added to the registry provided, however, as noted above, Trulieve’s 14 dispensaries that were established before the statewide cap was enacted are now excluded from the statutory cap. Applicants must demonstrate (and licensed MMTC’s must maintain) that: (i) they have been registered to do business in the State of Florida for the previous five years, (ii) they possess a valid certificate of registration issued by the Florida Department of Agriculture & Consumer Services, (iii) they have the technical and technological ability to cultivate and produce cannabis, including, but not limited to, low-THC cannabis, (iv) they have the ability to secure the premises, resources, and personnel necessary to operate as an MMTC, (v) they have the ability to maintain accountability of all raw materials, finished products, and any by-products to prevent diversion or unlawful access to or possession of these substances, (vi) they have an infrastructure reasonably located to dispense cannabis to registered qualified patients statewide or regionally as determined by the Department, (vii) they have the financial ability to maintain operations for the duration of the two-year approval cycle, including the provision of certified financial statements to the Department, (viii) all owners, officers, board members and managers have passed a Level II background screening, inclusive of fingerprinting, and ensure that a medical director is employed to supervise the activities of the MMTC, and

¹⁵ As of the date of this MD&A, MMTCs are permitted up to 35 dispensary locations.

(ix) they have a diversity plan and veterans plan accompanied by a contractual process for establishing business relationships with veterans and minority contractors and/or employees. Upon approval of the application by the Department, the applicant must post a performance bond of up to US \$5 million, which may be reduced to US \$2 million once the licensee has served 1,000 patients (which Trulieve has accomplished).

Regulation of the Medical Cannabis Market in Massachusetts

The Commonwealth of Massachusetts has authorized the cultivation, possession and distribution of marijuana for medical purposes by certain licensed Massachusetts marijuana businesses. The Medical Use of Marijuana Program (the “**MUMP**”) registers qualifying patients, personal caregivers, Registered Marijuana Dispensaries (“**RMDs**”), and RMD agents. The MUMP was established by Chapter 369 of the Acts of 2012, “An Act for the Humanitarian Medical Use of Marijuana”, following the passage of the Massachusetts Medical Marijuana Initiative, Ballot Question 3, in the 2012 general election. Additional statutory requirements governing the MUMP were enacted by the Legislature in 2017 and codified at G.L. c. 94I, et. seq. (the “**Massachusetts Medical Act**”). RMD Certificates of Registration are vertically integrated licenses in that each RMD Certificate of Registration entitles a license holder to one cultivation facility, one processing facility and one dispensary locations. There is a limit of three RMD licenses per person/entity.

The Commonwealth of Massachusetts Cannabis Control Commission (the “**CCC**”) regulations, 935 CMR 501.000 et seq. (the “**Massachusetts Medical Regulations**”), provide a regulatory framework that requires RMDs to cultivate, process, transport and dispense medical cannabis in a vertically integrated marketplace. Patients with debilitating medical conditions qualify to participate in the program, including conditions such as cancer, glaucoma, positive status for human immunodeficiency virus (HIV), acquired immune deficiency virus (AIDS), hepatitis C, amyotrophic lateral sclerosis (ALS), Crohn's disease, Parkinson's disease, and multiple sclerosis (MS) when such diseases are debilitating, and other debilitating conditions as determined in writing by a qualifying patient's healthcare provider. The CCC assumed control of the MUMP from the Department of Public Health on December 23, 2018.

Massachusetts Licensing Requirements (Medical)

The Massachusetts Medical Regulations delineate the licensing requirements for RMDs in Massachusetts. Licensed entities must demonstrate the following: (i) they are licensed and in good standing with the Secretary of the Commonwealth of Massachusetts; (ii) no executive, member or any entity owned or controlled by such executive or member directly or indirectly controls more than three RMD licenses; (iii) vaporizers must be made available for sale; (iv) an RMD may not cultivate and dispense medical cannabis from more than two locations statewide; (v) dispensary agents must be registered with the Massachusetts Cannabis Control Commission; (vi) an RMD must have a program to provide reduced cost or free marijuana to patients with documented verifiable financial hardships; (vii) one executive of an RMD must register with the Massachusetts Department of Criminal Justice Information Services on behalf of the entity as an organization user of the Criminal Offender Record Information (iCORI) system; (viii) the RMD applicant has at least \$500,000 in its control as evidenced by bank statements, lines of credit or equivalent; and (ix) payment of the required application fee.

In an RMD application, an applicant must also demonstrate or include: (i) the name, address date of birth and resumes of each executive of the applicant and of the members of the entity; (ii) proof of liability insurance coverage in compliance with statutes; (iii) detailed summary of the business plan for the RMD; (iv) an operational plan for the cultivation of marijuana including a detailed summary of policies and procedures; and (v) a detailed summary of the operating policies and procedures for the operations of the RMD including security, prevention of diversion, storage of marijuana, transportation of marijuana, inventory procedures, procedures for quality control and testing of product for potential contaminants, procedures for maintaining confidentiality as required by law, personnel policies, dispensing procedures, record keeping procedures, plans for patient education and any plans for patient or personal caregiver home delivery. An RMD applicant must also demonstrate that it has (i) a successful track record of running a business; (ii) a history of providing healthcare services or services providing marijuana for medical purposes in or outside

of Massachusetts; (iii) proof of compliance with the laws of the Commonwealth of Massachusetts; (iv) complied with the laws and orders of the Commonwealth of Massachusetts; and (v) a satisfactory criminal and civil background.

Upon the determination by the CCC that an RMD applicant has responded to the application requirements in a satisfactory fashion, the RMD applicant is required to pay the applicable registration fee and shall be issued a provisional certificate of registration ("PCR"). Trulieve's wholly owned subsidiary, Life Essence, Inc. ("**Life Essence**"), holds the following PCRs.

Massachusetts Licenses (Medical)

Holding Entity	Permit/License	City	Expiration/Renewal Date (if applicable) (MM/DD/YY)	Description
Life Essence	Provisional RMD Certificate of Registration	Holyoke, MA	12/6/19	Dispensary Cultivation/Product Manufacturing
Life Essence	RMD Provisional Certificate of Registration	Northampton, MA Holyoke, MA	12/6/19	Dispensary Cultivation/Product Manufacturing
Life Essence	RMD Provisional Certificate of Registration	Cambridge, MA Holyoke, MA	12/6/19	Dispensary Cultivation/Product Manufacturing

Thereafter, the CCC shall review architectural plans for the building of the RMD's cultivation facility and/or dispensing facilities, and shall either approve, modify or deny the same. Once approved, the RMD provisional license holder shall construct its facilities in conformance with the requirements of the Massachusetts Regulations. Once the CCC completes its inspections and issues approval for an RMD of its facilities, the CCC shall issue a final certificate of registration ("FCR") to the RMD applicant. FCRs are valid for one year, and shall be renewed by filing the required renewal application no later than sixty days prior to the expiration of the certificate of registration.

PCRs and FCRs in Massachusetts are renewed annually. Before expiry, licensees are required to submit a renewal application. While renewals are granted annually, there is no ultimate expiry after which no renewals are permitted. Additionally, in respect of the renewal process, provided that the requisite renewal fees are paid, the renewal application is submitted in a timely manner, and there are no material violations noted against the applicable license, Life Essence, Inc. would expect to receive the applicable renewed license in the ordinary course of business.

Massachusetts Dispensary Requirements (Medical)

A RMD shall follow its written and approved operation procedures in the operation of its dispensary locations. Operating procedures shall include (i) security measures in compliance with the Massachusetts Regulations; (ii) employee security policies including personal safety and crime prevention techniques; (iii) hours of operation and after-hours contact information; (iv) a price list for marijuana; (v) storage protocols in compliance with state law; (vi) a description of the various strains of marijuana that will be cultivated and dispensed, and the forms that will be dispensed; (vii) procedures to ensure accurate recordkeeping including inventory protocols; (viii) plans for quality control; (ix) a staffing plan and staffing records; (x) diversion identification and reporting protocols; and (xi) policies and procedures for the handling of cash on RMD premises including storage, collection frequency and transport to financial institutions. The siting of dispensary locations is expressly subject to local/municipal approvals pursuant to state law, and municipalities control the permitting application process that a RMD must comply with. More specifically, a RMD is to comply with all local requirements regarding siting, provided however that if no local requirements exist, a RMD shall not be sited within a radius of five hundred feet of a school, daycare center, or any facility in which children commonly congregate. The 500-foot distance under this section is measured in a straight line from the nearest point of the facility in question to the nearest point of the proposed RMD. The Massachusetts Regulations require that RMDs limit their inventory of seeds, plants, and useable marijuana

to reflect the projected needs of registered qualifying patients. A RMD may only dispense to a registered qualifying patient who has a current valid certification.

Massachusetts Security and Storage Requirements (Medical)

A RMD is to implement sufficient security measures to deter and prevent unauthorized entrance into areas containing marijuana and theft of marijuana at the RMD. These measures must include: (i) allowing only registered qualifying patients, caregivers, dispensary agents, authorized persons, or approved outside contractors access to the RMD facility; (ii) preventing individuals from remaining on the premises of a RMD if they are not engaging in activities that are permitted; (iii) disposing of marijuana or byproducts in compliance with law; (iv) establishing limited access areas accessible only to authorized personnel; (v) storing finished marijuana in a secure locked safe or vault; (vi) keeping equipment, safes, vaults or secured areas securely locked; (vii) ensuring that the outside perimeter of the RMD is sufficiently lit to facilitate surveillance; and (viii) ensuring that landscaping or foliage outside of the RMD does not allow a person to conceal themselves. A RMD shall also utilize a security/alarm system that: (i) monitors entry and exit points and windows and doors, (ii) includes a panic/duress alarm, (iii) includes system failure notifications, (iv) includes 24-hour video surveillance of safes, vaults, sales areas, areas where marijuana is cultivated, processed or dispensed, and (v) includes date and time stamping of all records and the ability to produce a clear, color still photo. The video surveillance system shall have the capacity to remain operational during a power outage. The RMD must also maintain a backup alarm system with the capabilities of the primary system, and both systems are to be maintained in good working order and are to be inspected and tested on regular intervals.

Massachusetts Transportation Requirements (Medical)

Marijuana or marijuana-infused products ("MIPs") may only be transported by dispensary agents on behalf of a RMD: (i) between separately-owned RMDs in compliance with 935 CMR 501.110(5); (ii) between RMD sites owned by the same non-profit entity; (iii) between a RMD and a testing laboratory; (iv) from the RMD to the destruction or disposal site; or (v) from a RMD to the primary residences of registered qualifying patients. A RMD shall staff transport vehicles with a minimum of two dispensary agents. At least one dispensary agent shall remain with the vehicle when the vehicle contains marijuana or MIPs. Prior to leaving the origination location, a RMD must weigh, inventory, and account for, on video, the marijuana to be transported.

Marijuana must be packaged in sealed, labeled, and tamper-proof packaging prior to and during transportation. In the case of an emergency stop, a log must be maintained describing the reason for the stop, the duration, the location, and any activities of personnel exiting the vehicle. A RMD shall ensure that delivery times and routes are randomized. Each dispensary agent shall carry his or her CCC-issued MUMP ID Card when transporting marijuana or MIPs and shall produce it to CCC representatives or law enforcement officials upon request. Where videotaping is required when weighing, inventorying, and accounting of marijuana before transportation or after receipt, the video must show each product being weighed, the weight, and the manifest. A RMD must document and report any unusual discrepancy in weight or inventory to the CCC and local law enforcement within 24 hours. A RMD shall report to the CCC and local law enforcement any vehicle accidents, diversions, losses, or other reportable incidents that occur during transport, within 24 hours. A RMD shall retain transportation manifests for no less than one year and make them available to the CCC upon request. Any cash received from a qualifying patient or personal caregiver must be transported to a RMD immediately upon completion of the scheduled deliveries. Vehicles used in transportation must be owned, leased or rented by the RMD, be properly registered, and contain a GPS system that is monitored by the RMD during transport of marijuana and said vehicle must be inspected and approved by the CCC prior to use.

During transit, a RMD is to ensure that: (i) marijuana or MIPs are transported in a secure, locked storage compartment that is part of the vehicle transporting the marijuana or MIPs; (ii) the storage compartment cannot be easily removed (for example, bolts, fittings, straps or other types of fasteners may not be easily accessible and not capable of being manipulated with commonly available tools); (iii) marijuana or MIPs are not visible from outside the vehicle; and (iv) product is transported in a vehicle that bears no markings

indicating that the vehicle is being used to transport marijuana or MIPs and does not indicate the name of the RMD. Each dispensary agent transporting marijuana or MIPs shall have access to a secure form of communication with personnel at the origination location when the vehicle contains marijuana or MIPs.

CCC Inspections (Medical)

The CCC or its agents may inspect a RMD and affiliated vehicles at any time without prior notice. A RMD shall immediately upon request make available to the CCC information that may be relevant to a CCC inspection, and the CCC may direct a RMD to test marijuana for contaminants. Any violations found will be noted in a deficiency statement that will be provided to the RMD, and the RMD shall thereafter submit a Plan of Correction to the CCC outlining with particularity each deficiency and the timetable and steps to remediate the same. The CCC shall have the authority to suspend or revoke a certificate of registration in accordance with 105 CMR 725.405 of the Regulation of adult-use cannabis in Massachusetts.

Regulation of the Adult Use Cannabis Market in Massachusetts

Adult-use (recreational) marijuana has been legal in Massachusetts since December 15, 2016, following a ballot initiative in November of that year. The CCC licenses adult use cultivation, processing and dispensary facilities (collectively, **"Marijuana Establishments"**) pursuant to 935 CMR 500.000 et seq. The first adult-use marijuana facilities in Massachusetts began operating in November 2018.

Massachusetts Licensing Requirements (Adult-Use)

Many of the same application requirements exist for a Marijuana Establishment license as a RMD application, and each owner, officer or member must undergo background checks and fingerprinting with the CCC. Applicants must submit the location and identification of each site, and must establish a property interest in the same, and the applicant and the local municipality must have entered into a host agreement authorizing the location of the adult-use Marijuana Establishment within the municipality, and said agreement must be included in the application. Applicants must include disclosure of any regulatory actions against it by the Commonwealth of Massachusetts, as well as the civil and criminal history of the applicant and its owners, officers, principals or members. The application must include the RMD applicant's plans for separating medical and adult-use operations, proposed timeline for achieving operations, liability insurance, business plan, and a detailed summary describing and/or updating or modifying the RMD's existing medical marijuana operating policies and procedures for adult-use including security, prevention of diversion, storage, transportation, inventory procedures, quality control, dispensing procedures, personnel policies, record keeping, maintenance of financial records and employee training protocols.

No person or entity may own more than 10% or "control" more than three licenses in each Marijuana Establishment class (i.e., marijuana retailer, marijuana cultivator, marijuana product manufacturer). Additionally, there is a 100,000 square foot cultivation canopy for adult-use licenses; however, there is no canopy restriction for RMD license holders relative to their cultivation facility.

Massachusetts Dispensary Requirements (Adult-Use)

Marijuana retailers are subject to certain operational requirements in addition to those imposed on marijuana establishments generally. Dispensaries must immediately inspect patrons' identification to ensure that everyone who enters is at least twenty-one years of age. Dispensaries may not dispense more than one ounce of marijuana or five grams of marijuana concentrate per transaction. Point-of-sale systems must be approved by the CCC, and retailers must record sales data. Records must be retained and available for auditing by the CCC and Department of Revenue.

Dispensaries must also make patient education materials available to patrons. Such materials must include:

- A warning that marijuana has not been analyzed or approved by the FDA, that there is limited information on side effects, that there may be health risks associated with using marijuana, and that it should be kept away from children;

- A warning that when under the influence of marijuana, driving is prohibited by M.G.L. c. 90, § 24, and machinery should not be operated;
- Information to assist in the selection of marijuana, describing the potential differing effects of various strains of marijuana, as well as various forms and routes of administration;
- Materials offered to consumers to enable them to track the strains used and their associated effects;
- Information describing proper dosage and titration for different routes of administration, with an emphasis on using the smallest amount possible to achieve the desired effect;
- A discussion of tolerance, dependence, and withdrawal;
- Facts regarding substance abuse signs and symptoms, as well as referral information for substance abuse treatment programs;
- A statement that consumers may not sell marijuana to any other individual;
- Information regarding penalties for possession or distribution of marijuana in violation of Massachusetts law; and
- Any other information required by the CCC.

Massachusetts Security and Storage Requirements (Adult-Use)

Each marijuana establishment must implement sufficient safety measures to deter and prevent unauthorized entrance into areas containing marijuana and theft of marijuana at the establishment. Security measures taken by the establishments to protect the premises, employees, consumers and general public shall include, but not be limited to, the following:

- Positively identifying individuals seeking access to the premises of the Marijuana Establishment or to whom or marijuana products are being transported pursuant to 935 CMR 500.105(14) to limit access solely to individuals 21 years of age or older;
- Adopting procedures to prevent loitering and ensure that only individuals engaging in activity expressly or by necessary implication permitted by these regulations and its enabling statute are allowed to remain on the premises;
- Disposing of marijuana in accordance with 935 CMR 500.105(12) in excess of the quantity required for normal, efficient operation as established within 935 CMR 500.105;
- Securing all entrances to the Marijuana Establishment to prevent unauthorized access;
- Establishing limited access areas pursuant to 935 CMR 500.110(4), which shall be accessible only to specifically authorized personnel limited to include only the minimum number of employees essential for efficient operation;
- Storing all finished marijuana products in a secure, locked safe or vault in such a manner as to prevent diversion, theft and loss;
- Keeping all safes, vaults, and any other equipment or areas used for the production, cultivation, harvesting, processing or storage of marijuana products securely locked and protected from entry, except for the actual time required to remove or replace marijuana;
- Keeping all locks and security equipment in good working order;
- Prohibiting keys, if any, from being left in the locks or stored or placed in a location accessible to persons other than specifically authorized personnel;
- Prohibiting accessibility of security measures, such as combination numbers, passwords or electronic or biometric security systems, to persons other than specifically authorized personnel;
- Ensuring that the outside perimeter of the marijuana establishment is sufficiently lit to facilitate surveillance, where applicable;
- Ensuring that all marijuana products are kept out of plain sight and are not visible from a public place without the use of binoculars, optical aids or aircraft;
- Developing emergency policies and procedures for securing all product following any instance of diversion, theft or loss of marijuana, and conduct an assessment to determine whether additional safeguards are necessary;
- Developing sufficient additional safeguards as required by the CCC for marijuana establishments that present special security concerns;

- Sharing the marijuana establishment's security plan and procedures with law enforcement authorities and fire services and periodically updating law enforcement authorities and fire services if the plans or procedures are modified in a material way; and
- Marijuana must be stored in special limited access areas, and alarm systems must meet certain technical requirements, including the ability to record footage to be retained for at least 90 days.

Massachusetts Transportation Requirements (Adult-Use)

Marijuana products may only be transported between licensed marijuana establishments by registered marijuana establishment agents. A licensed marijuana transporter may contract with a licensed marijuana establishment to transport that licensee's marijuana products to other licensed establishments. The originating and receiving licensed establishments shall ensure that all transported marijuana products are linked to the seed-to-sale tracking program. For the purposes of tracking, seeds and clones will be properly tracked and labeled in a form and manner determined by the CCC. Any marijuana product that is undeliverable or is refused by the destination marijuana establishment shall be transported back to the originating establishment. All vehicles transporting marijuana products shall be staffed with a minimum of two marijuana establishment agents. At least one agent shall remain with the vehicle at all times that the vehicle contains marijuana or marijuana products. Prior to the products leaving a marijuana establishment for the purpose of transporting marijuana products, the originating marijuana establishment must weigh, inventory, and account for, on video, all marijuana products to be transported. Within eight hours after arrival at the destination marijuana establishment, the destination establishment must re-weigh, re-inventory, and account for, on video, all marijuana products transported. When videotaping the weighing, inventorying, and accounting of marijuana products before transportation or after receipt, the video must show each product being weighed, the weight, and the manifest. Marijuana products must be packaged in sealed, labeled, and tamper or child-resistant packaging prior to and during transportation. In the case of an emergency stop during the transportation of marijuana products, a log must be maintained describing the reason for the stop, the duration, the location, and any activities of personnel exiting the vehicle. A marijuana establishment or a marijuana transporter transporting marijuana products is required to ensure that all transportation times and routes are randomized. An establishment or transporter transporting marijuana products shall ensure that all transport routes remain within Massachusetts. All vehicles and transportation equipment used in the transportation of cannabis products or edibles requiring temperature control for safety must be designed, maintained, and equipped as necessary to provide adequate temperature control to prevent the cannabis products or edibles from becoming unsafe during transportation, consistent with applicable requirements pursuant to 21 CFR 1.908(c).

Vehicles used for transport must be owned or leased by the marijuana establishment or transporter, and they must be properly registered, inspected, and insured in Massachusetts. Marijuana may not be visible from outside the vehicle, and it must be transported in a secure, locked storage compartment. Each vehicle must have a global positioning system, and any agent transporting marijuana must have access to a secure form of communication with the originating location.

CCC Inspections

The CCC or its agents may inspect a marijuana establishment and affiliated vehicles at any time without prior notice in order to determine compliance with all applicable laws and regulations. All areas of a marijuana establishment, all marijuana establishment agents and activities, and all records are subject to such inspection. Marijuana establishments must immediately upon request make available to the Commission all information that may be relevant to a CCC inspection, or an investigation of any incident or complaint. A marijuana establishment must make all reasonable efforts to facilitate the CCC's inspection, or investigation of any incident or complaint, including the taking of samples, photographs, video or other recordings by the CCC or its agents, and to facilitate the CCC's interviews of marijuana establishment agents. During an inspection, the CCC may direct a Marijuana Establishment to test marijuana for contaminants as specified by the CCC, including but not limited to mold, mildew, heavy metals, plant-growth regulators, and the presence of pesticides not approved for use on marijuana by the Massachusetts Department of Agricultural Resources.

Moreover, the CCC is authorized to conduct a secret shopper program to ensure compliance with all applicable laws and regulations.

Regulation of the Marijuana Market in California

In 1996, California was the first state to legalize medical marijuana through Proposition 215, the Compassionate Use Act of 1996 ("**CUA**"). This provided an affirmative defense for defendants charged with the use, possession and cultivation of medical marijuana by patients with a physician recommendation for treatment of cancer, anorexia, AIDS, chronic pain, spasticity, glaucoma, arthritis, migraine, or any other illness for which marijuana provides relief. In 2003, Senate Bill 420 was signed into law, decriminalizing the use, possession, and collective cultivation of medical marijuana, and establishing an optional identification card system for medical marijuana patients.

In September 2015, the California legislature passed three bills collectively known as the "Medical Marijuana Regulation and Safety Act" ("**MCRSA**"). The MCRSA established a licensing and regulatory framework for medical marijuana businesses in California. The system created testing laboratories, and distributors. Edible infused product manufacturers would require either volatile solvent or non-volatile solvent manufacturing licenses depending on their specific extraction methodology. Multiple agencies would oversee different aspects of the program and businesses would require a state license and local approval to operate. However, in November 2016, voters in California overwhelmingly passed Proposition 64, the "Adult Use of Marijuana Act" ("**AUMA**") creating an adult-use marijuana program for adult-use 21 years of age or older. In June 2017, the California State Legislature passed Senate Bill No. 94, known as Medicinal and Adult-Use Marijuana Regulation and Safety Act ("**MAUCRSA**"), which amalgamated MCRSA and AUMA to provide a set of regulations to govern the medical and adult-use licensing regime for marijuana businesses in the State of California. MAUCRSA went into effect on January 1, 2018. The three primary licensing agencies that regulate marijuana at the state level are the Bureau of Cannabis Control ("**BCC**"), California Department of Food and Agriculture ("**CDFA**"), and the California Department of Public Health ("**CDPH**")¹⁶.

One of the central features of MAUCRSA is known as "local control." In order to legally operate a medical or adult-use marijuana business in California, an operator must have both a local and state license. This requires license-holders to operate in cities or counties with marijuana licensing programs. Cities and counties in California are allowed to determine the number of licenses they will issue to marijuana operators, or, alternatively, can choose to ban marijuana licenses.

California License Categories/ Types

Once an operator obtains local approval, the operator must obtain state licenses before conducting any commercial marijuana activity. There are multiple license categories that cover all commercial activity. Categories include: (1) cultivation/nurseries, (2) testing laboratories, (3) distributors/transporters, (4) retailers, (5) microbusinesses, (6) event organizers, and (7) manufacturers. Categories of licenses are further broken down into subtypes. For example, there are multiple types of cultivation licenses available depending upon the size of the cultivation operation and whether the operation is indoors/outdoors, or uses mixed lighting. Different manufacturing licenses are available depending upon whether volatile or non-volatile solvents are used. Retail licenses are available depending upon whether the retailer operates from a store-front or a non-store front.

California Agencies Regulating the Commercial Cannabis Industry

The CDFA oversees nurseries and cultivators; the CDPH oversees manufacturers, and the BCC oversees distributors, retailers, delivery services, and testing laboratories. Operators must apply to one or more of these agencies for their licenses, and each agency has released regulations specific to the operation of the

¹⁶ Other state agencies regulate aspects of marijuana businesses in California, including the California Department of Tax and Fee Administration, California State Water Board, California Department of Fish and Wildlife, California Department of Pesticide Regulation.

types of businesses they oversee. The BCC has a number of regulations that apply to all licensees, but the CDFA and CDPH regulations only apply to the licensees in their charge.

The Marijuana Supply Chain in California

In California, depending on a local government's own marijuana ordinances, plants may be cultivated outdoors, using mixed-light methods, or fully indoors. Cultivators must initially acquire seeds, clones, teens, or other immature plants from nurseries.

The cultivation, processing, and movement of marijuana within the state is tracked by the METRC system, into which all licensees are required to input their track and trace data (either manually or using another software that automatically uploads to METRC). Immature plants are assigned a Unique Identifier number (UID), and this number follows the flowers and biomass resulting from that plant through the supply chain, all the way to the consumer. Each licensee in the supply chain is required to meticulously log any processing, packaging, and sales associated with that UID.

When marijuana plants mature and complete their life cycle, they are harvested cured, and trimmed, in preparation of being sold to distributors or manufacturers. Cultivators have two main products: flowers, or "buds," and the biomass, or "trim," which is typically removed from the mature flowers. Trim is commonly sold to Manufacturers for further processing into cannabis extracts. Buds may also be sold to Manufacturers, or to Distributors for sale to Retailers. The Cultivator may package and label its marijuana flowers, or may sell flower in bulk and the Distributor may package and label the flower.

Manufactured marijuana goods may be sold from a manufacturer to a Distributor, but have to be provided to Distributors in their final packaging. Distributors may not package manufactured marijuana goods. Certain tax rates apply to the marijuana flower and biomass, which are assessed per ounce of product sold. The tax is paid by the Cultivator to the Distributor, or alternatively the Manufacturer, who has the responsibility of tendering the fees to the State of California.

Marijuana in California may only be transported by licensed distributors. Some cultivators and manufacturers have their own distribution licenses, and others contract with third-party distributors. Distributors may or may not take possession of the marijuana and marijuana products. How this is evolving in California currently is that, similar to the alcohol distribution model, retailers are choosing from a portfolio of products carried by the Distributors they work with. Brands are doing some direct marketing to Retailers, but many Brands target their marketing to Distributors.

Distributors are the point in the supply chain where final quality assurance testing is performed on products before they go to a retailer. Retailers may not accept product without an accompanying certificate of analysis (COA). Distributors must hold product to be tested on their premises in "quarantine" and arrange for an employee of a licensed testing laboratory to come to their premises and obtain samples from any and all goods proposed to be shipped to a retailer. Marijuana and marijuana products are issued either a "pass" or "fail" by the testing laboratory. Under some circumstances, the BCC's regulations allow for failing product to be "remediated" or to be re-labeled to more accurately reflect the COA.

Retail Compliance in California

California requires that certain warnings, images, and content information be printed on all marijuana packaging. BCC regulations also include certain requirements about tamper-evident and child-resistant packaging. Distributors and retailers are responsible for confirming that products are properly labeled and packaged before they are sold to a customer.

Consumers aged 21 and up may purchase marijuana in California from a dispensary with an "adult-use" license. Some localities still only allow medicinal dispensaries. Consumers aged 18 and up with a valid physician's recommendation may purchase marijuana from a medicinal-only dispensary or an adult-use dispensary. Consumers without valid physician's recommendations may not purchase marijuana from a

medicinal-only dispensary. All marijuana businesses are prohibited from hiring employees under the age of 21.

Security Requirements

Each local government in California has its own security requirements for cannabis businesses, which usually include comprehensive video surveillance, intrusion detection and alarms, and limited access areas in the dispensary. The State also has similar security requirements, including that there be limited-access areas where only employees and other authorized individuals may enter. All Licensee employees must wear employee badges. The limited access areas must be locked with “commercial-grade, nonresidential door locks on all points of entry and exit to the licensed premises.”

Each licensed premises must have a digital video surveillance system that can “effectively and clearly” record images of the area under surveillance. Cameras must be in a location that allows the camera to clearly record activity occurring within 20 feet of all points of entry and exit on the licensed premises. The regulations list specific areas which must be under surveillance, including places where cannabis goods are weighed, packed, stored, loaded, and unloaded, security rooms, and entrances and exits to the premises. Retailers must record point of sale areas on the video surveillance system.

Licensed retailers must hire security personnel to provide on-site security services for the licensed retail premises during hours of operation. All security personnel must be licensed by the Bureau of Security and Investigative Services.

California also has extensive record-keeping and track and trace requirements for all licensees.

Inspections

All licensees are subject to annual and random inspections of their premises. Cultivators may be inspected by the California Department of Fish and Wildlife, the California Regional Water Quality Control Boards, and the California Department of Food and Agriculture. Manufacturers are subject to inspection by the California Department of Public Health, and Retailers, Distributors, Testing Laboratories, and Delivery services are subject to inspection by the Bureau of Cannabis Control. Inspections can result in notices to correct, or notices of violation, fines, or other disciplinary action by the inspecting agency.

Marijuana taxes in California

Several taxes are imposed at the point of sale and are required to be collected by the retailer. The State imposes an excise tax of 15%, and a sales and use tax is assessed on top of that. Cities and Counties apply their sales tax along with the State’s sales and use tax, and many cities and counties have also authorized the imposition of special cannabis business taxes which can range from 2% to 10% of gross receipts of the business.

In connection with the acquisition of all of the issued and outstanding membership interests of Leef Industries, a licensed dispensary in the City of Palm Springs, the Corporation has retained legal counsel and/or other advisors in connection with California’s marijuana regulatory program. The Corporation has currently owns 99% of Leef Industries. The remaining 1% is to be acquired upon receipt of final regulatory approval from the State of California. The Corporation has and will only engage in transactions with other licensed California marijuana businesses, and has a compliance officer to oversee dispensary operations in the State. The Corporation is developing standard operating procedures for this and future California holdings to ensure consistency and compliance across its California holdings. The Corporation and, to the best of the knowledge of the Corporation, Leef Industries, are in compliance with California’s marijuana regulatory program.

Regulation of the Medical Cannabis Market in Connecticut

The State of Connecticut has authorized cultivation, possession, and distribution of marijuana for medical purposes by certain licensed Connecticut marijuana businesses. The Medical Marijuana Program (the “**MMP**”) registers qualifying patients, primary caregivers, Dispensary Facilities (“**DFs**”), and Dispensary Facility Employees (“**DFEs**”). The MMP was established by Connecticut General Statutes §§ 21a-408–21a-429. DFs and production facilities are separately licensed.

The MMP is administered by the Department of Consumer Protection (the “**Department**”). The Department has issued regulations at RCSA 21a-408-1 et seq. regarding the program. Patients with debilitating medical conditions qualify to participate in the program, including patients with such conditions as cancer, glaucoma, positive status for human immunodeficiency virus (HIV) or acquired immune deficiency syndrome (AIDS), Parkinson’s disease, or multiple sclerosis (MS). A physician or advanced practice registered nurse must issue a written certification for an MMP patient, and the qualifying patient or caregiver must choose one designated DF where the patient’s marijuana will be obtained.

Connecticut Licensing Requirements

The Connecticut Regulations delineate the licensing requirements for DFs in Connecticut. Marijuana may not be produced or dispensed without the appropriate license. The Department determines how many facility licenses to issue based on based on the size and location of the dispensary facilities in operation, the number of qualifying patients registered with the department, and the convenience and economic benefits to qualifying patients.

When the Department determines that additional licenses for DFs should be granted, it publishes a notice of open applications for DF licenses. This notice must include the maximum number of licenses to be granted and the deadline for receipt of applications, as well as the criteria that will be considered when awarding the licenses. Such criteria must include character and fitness of any person who may have control or influence over the operation of the proposed DF; the location for the proposed DF; the applicant's ability to maintain adequate control against the diversion, theft, and loss of marijuana; the applicant's ability to maintain the knowledge, understanding, judgment, procedures, security controls and ethics to ensure optimal safety and accuracy in the dispensing and sale of marijuana; and the extent to which the applicant or any of the applicant's dispensary facility backers have a financial interest in another licensee, registrant, or applicant.

Applicants for DF license must submit the application and any additional documentation prescribed by the Commissioner. Among other things, the application must include the proposed DF location, financial statements, criminal background check applications for the applicant and applicant's backers, a plan to prevent theft and diversion, and a blueprint of the proposed DF. The Department may verify any information in the application by contacting the applicant, conducting on-site visits, contacting third parties, conducting background checks, or requiring meetings with the applicant or the submission of additional documents. An application for a dispensary facility license also requires the payment of a \$5,000 fee. If approved, the licensee must pay an additional \$5,000 before receiving its license. The decision of the Department’s Commissioner (the “**Commissioner**”) not to award a dispensary facility license to an applicant is final.

Connecticut Licenses

Holding Entity	Permit/License	City	Expiration/Renewal Date (if applicable) (MM/DD/YY)	Description
The Healing Corner, Inc.	Medical Marijuana Dispensary Facility License	Bristol	04/15/20	Dispensary

Connecticut Dispensary Facility Requirements

A DF may not dispense marijuana from, obtain marijuana from, or transfer marijuana to, a location outside of the state of Connecticut. DFs are limited to the following modes of obtaining, delivering, transferring, transporting, and selling marijuana:

- A DF may acquire marijuana from a producer;
- A DF may dispense and sell marijuana to a qualifying patient or primary caregiver registered to their facility and who is registered with the Department;
- A DF may dispense or sell to a research program subject pursuant to the protocols of a research program approved by the Commissioner;
- A DF may transfer, distribute, deliver, transport, or sell to a research program employee pursuant to the protocols of a research program approved by the Commissioner;
- A DF may transfer, distribute, deliver or transport to a hospice or other inpatient care facility licensed by the Department of Public Health that has a protocol for handling and distributing marijuana that has been approved by the Department; and
- A DF may transfer, distribute, deliver or transport marijuana to an approved laboratory.

Only a pharmacist licensed as a Dispensary may dispense marijuana, and only a Dispensary or dispensary technician may sell marijuana to qualifying patients, primary caregivers, or research program subjects who are registered with the Department. A dispensary technician may assist, under the direct supervision of a Dispensary, in the dispensing of marijuana. A DF may not engage in marijuana compounding, except that a Dispensary may dilute a medical marijuana product with a USP grade substance with no active ingredient for the purposes of dose titration, tapering, for the addition of a flavoring agent, or to create a maintenance dose that is not available from any producer at the time of purchase. No person associated with a DF may enter into any agreement with a certifying health care provider or health care facility concerning the provision of services or equipment that may adversely affect any person's freedom to choose the DF at which the qualifying patient or primary caregiver will purchase marijuana, except in the case of an approved research program.

All DFEs must, at all times while at the DF, have their current dispensary license, dispensary technician registration or DFE registration available for inspection by the Commissioner. The DF shall establish, implement and adhere to a written alcohol-free, drug-free and smoke-free work place policy, which must be available to the Department upon request. Marijuana may not be applied, ingested, or consumed inside a dispensary facility.

Each DF must make publicly available the price of all its marijuana products to prospective qualifying patients and primary caregivers. All marijuana must be sold in child-resistant, sealed containers except upon a written request from the qualifying patient or primary caregiver. No marijuana may be sold without the producer label. All products sold to the qualifying patient or primary caregiver must be placed in an opaque package that shall not indicate the contents of the package, the originating facility or in any other way cause another person to believe that the package may contain marijuana. Each DF must also provide information to qualifying patients and primary caregivers regarding the possession and use of marijuana. The DF manager must submit all informational material to the Commissioner for approval prior to such information being provided to qualifying patients and primary caregivers.

Connecticut Security and Storage Requirements

All facilities must have an adequate security system to prevent and detect loss of marijuana. These systems must use commercial grade equipment, including perimeter alarms, motion detectors, video cameras with 24-hour recordings (which must be retained for at least 30 days), silent alarms, panic alarms, a failure notification system, and the ability to remain operational during a power outage. Each facility must also have a back-up alarm system approved by the commissioner. The outside perimeter of every facility must be well-lit. All equipment must be kept in good working order and tested at least twice per year.

A DF must:

- Not maintain marijuana in excess of the quantity required for normal, efficient operation;
- Store all marijuana in an approved safe or approved vault and in such a manner as to prevent diversion, theft or loss;
- Maintain all marijuana in a secure area or location accessible only to specifically authorized employees, which shall include only the minimum number of employees essential for efficient operation;
- Keep all approved safes and approved vaults securely locked and protected from entry, except for the actual time required to remove or replace marijuana;
- Keep all locks and security equipment in good working order;
- Keep the dispensary department securely locked and protected from entry by unauthorized employees; and
- Post a sign at all entry ways into any area of the DF containing marijuana stating, "Do Not Enter - Limited Access Area - Access Limited to Authorized Employees Only." All deliveries must be carried out under the direct supervision of a pharmacist licensed as a dispensary, who must be present to accept the delivery. Upon delivery, the marijuana must immediately be placed in an approved safe or approved vault within the Dispensary Department (the "DD") (that is, the area within a DF where marijuana is stored, dispensed and sold).

No person may enter the area where marijuana is dispensed and sold unless such person is licensed or registered by the Department; such person's responsibilities necessitate access to the dispensary department and then for only as long as necessary to perform the person's job duties; or such person has a patient or caregiver registration certificate, in which case such person must not be permitted behind the service counter or in other areas where marijuana is stored.

During times when the pharmacist licensed as a Dispensary leaves the DD for a few moments, he or she must take measures to ensure that adequate security of the is provided and that entry by unauthorized persons is prevented or immediately detected. The presence of a dispensary technician in the DD during these times is considered adequate security. If no such dispensary technician is available for this purpose, the Dispensary must physically or electronically secure the DD through the use of mechanisms such as a locked barrier or an alarm system that will prevent or immediately detect access to such DD. During times when the DD is closed, it must be securely locked and equipped with an alarm system. Such alarm must be activated and operated separately from any other alarm system at the DF and must be able to immediately detect entrance to the DD at times when it is closed. Keys and access codes to the alarm system must be controlled in such a manner so as to prevent access to the dispensary department by anyone other than authorized DFEs. Only a Dispensary may have the authority to deactivate the alarm system. A DF must store marijuana in an approved safe or approved vault within the dispensary department and may not sell marijuana products when the DD is closed.

Connecticut Transportation Requirements

Prior to transporting any marijuana or marijuana product, a DF must complete a shipping manifest using a form prescribed by the Commissioner and securely transmit a copy of the manifest to the laboratory, research program location, hospice, or other inpatient care facility that will receive the products and to the Department at least twenty-four hours prior to transport. These manifests must be maintained and made available to the Department. Marijuana may only be transported in a locked, secure storage compartment that is part of the vehicle transporting the marijuana. This compartment may not be visible from outside the vehicle. Routes must be randomized.

All transport vehicles must be staffed with a minimum of two employees. At least one delivery team member is required remain with the vehicle at all times that the vehicle contains marijuana. A delivery team member must have access to a secure form of communication with employees at the originating facility at all times that the vehicle contains marijuana. A delivery team member must physically possess a department-issued identification card at all times when transporting or delivering marijuana and must produce it to the Commissioner or law enforcement official upon request.

No marijuana may be sold, dispensed or distributed via a delivery service or any other manner outside of a DF, except that a primary caregiver may deliver marijuana to the caregiver's qualified patient and a DFE may deliver to a hospice or other inpatient care facility licensed by the Department of Public Health that has a protocol for handling and distributing marijuana that has been approved by the Department.

Inspections by the Commissioner

All documents required to be kept by a facility must be maintained in an auditable format for no less than three years. These records must be provided to the Commissioner or an authorized delegate immediately upon request. Additionally, the Commissioner and authorized delegates may enter any place, including a vehicle, where marijuana is held, produced, or otherwise handled, and inspect in a reasonable manner such place and all pertinent items and documents within it.

Compliance with Applicable State Law in the United States

The Corporation is classified as having a “direct” involvement in the United States cannabis industry and is in compliance with applicable United States state law and related licensing requirements and the regulatory framework enacted by the State of Florida, the Commonwealth of Massachusetts, the State of California and the State of Connecticut. The Corporation is not subject to any citations or notices of violation with applicable licensing requirements and the regulatory frameworks which may have an impact on its licenses, business activities or operations. The Corporation uses reasonable commercial efforts to ensure that its business is in compliance with applicable licensing requirements and the regulatory frameworks enacted by Florida, Massachusetts, California and Connecticut, through the advice of its Director of Compliance, who monitors and reviews its business practices and changes to United States Federal enforcement priorities. The Corporation’s General Counsel works with external legal advisors in Florida, Massachusetts, California and Connecticut to ensure that the Corporation is in on-going compliance with applicable state laws.

In the United States, cannabis is largely regulated at the State level. As of November 7, 2018, More than 30 states and the District of Columbia have passed laws broadly legalizing marijuana for medicinal use by eligible patients.¹⁷ In the District of Columbia and 11 of these states – Alaska, California, Colorado, Illinois, Maine, Massachusetts, Michigan, Nevada, Oregon, Vermont and Washington – marijuana is legal for adult-use regardless of medical condition. Additional States have pending legislation regarding the same. The large increase in recent statewide referenda and legislation that liberalizes marijuana laws is consistent with public opinion. Public polling routinely shows large majorities of Americans in favor of the legalization of marijuana. For instance, a Gallup Organization survey in October of 2018 found that 66% of respondents in the United States support the legalization of marijuana compared to the 32% who do not.¹⁸

Although each State in which Trulieve operates (and anticipates operating) authorizes, as applicable, medical and/or adult-use cannabis production and distribution by licensed or registered entities, and numerous other States have legalized cannabis in some form, under U.S. federal law, the possession, use, cultivation, and transfer of cannabis and any related drug paraphernalia is illegal, and any such acts are criminal acts under federal law under any and all circumstances under the CSA. The concepts of “medical cannabis”, “retail cannabis” and “adult-use cannabis” do not exist under U.S. federal law. Marijuana is a Schedule I drug under the CSA. Under U.S. federal law, a Schedule I drug or substance has a high potential for abuse, no accepted medical use in the United States, and a lack of safety for the use of the drug under medical supervision. Although Trulieve believes that its business activities are compliant with applicable state and local laws of the United States, strict compliance with state and local laws with respect to cannabis may neither absolve the Corporation of liability under United States federal law nor provide a defense to any federal proceeding which may be brought against the Corporation. Any such proceedings brought against the Corporation may result in a material adverse effect on the Corporation. Trulieve derives 100%

¹⁷ *Governing Magazine*, State Marijuana Laws in 2018 Map, available at <http://www.governing.com/gov-data/safety-justice/state-marijuana-laws-map-medical-recreational.html> (visited Nov. 7, 2018).

¹⁸ Justin McCarthy, *Two in Three Americans Now Support Legalizing Marijuana*, GALLUP (Oct. 22, 2018), available at <https://news.gallup.com/poll/243908/two-three-americans-support-legalizing-marijuana.aspx>.

of its revenues from the cannabis industry in certain States, which industry is illegal under United States federal law. Even where the Corporation's cannabis-related activities are compliant with applicable State and local law, such activities remain illegal under United States federal law. The enforcement of relevant federal laws is a significant risk.

United States Customs and Border Protection ("**CBP**") enforces the laws of the United States. Crossing the border while in violation of the CSA and other related United States federal laws may result in denied admission, seizures, fines, and apprehension. CBP officers administer the United States Immigration and Nationality Act to determine the admissibility of travelers who are non-U.S. citizens into the United States. An investment in the Corporation, if it became known to CBP, could have an impact on a non-U.S. citizen's admissibility into the United States and could lead to a lifetime ban on admission. See "*Risk Factors - U.S. border officials could deny entry of non-US citizens into the U.S. to employees of or investors in companies with cannabis operations in the United States and Canada.*"

Medical cannabis has been protected against enforcement by enacted legislation from the United States Congress in the form of the Rohrabacher-Farr Amendment, which prevents federal prosecutors from using federal funds to impede the implementation of medical cannabis laws enacted at the state level, subject to the United States Congress restoring such funding. This amendment has historically been passed as an amendment to omnibus appropriations bills, which by their nature expire at the end of a fiscal year or other defined term. Subsequent to the issuance of Sessions Memo, the United States Congress passed its omnibus appropriations bill, SJ 1662, which for the fourth consecutive year contained the Rohrabacher-Farr Amendment language (referred to in 2018 as the Leahy Amendment) and continued the protections for the medical cannabis marketplace and its lawful participants from interference by the Department of Justice. The Rohrabacher-Farr Amendment again was included in the Consolidated Appropriations Act of 2019, which was signed by President Trump on February 14, 2019 and funds the departments of the federal government through the fiscal year ending September 30, 2019.¹⁹ Notably, such Amendments have always applied only to medical cannabis programs, and have no effect on pursuit of recreational cannabis activities.

Regulatory Risks

The activities of the Corporation are subject to regulation by governmental authorities. The Corporation's business objectives are contingent upon, in part, compliance with regulatory requirements enacted by these governmental authorities and obtaining all regulatory approvals, where necessary, for the sale of its products in each jurisdiction in which it operates. Any delays in obtaining, or failure to obtain regulatory approvals would significantly delay the development of markets and products and could have a material adverse effect on the business, results of operations and financial condition of the Corporation. Furthermore, although the operations of the Corporation are currently carried out in accordance with all applicable rules and regulations, no assurance can be given that new rules and regulations will not be enacted or that existing rules and regulations will not be applied in a manner which could limit or curtail the Corporation's ability to import, distribute or, in the future, produce marijuana. Amendments to current laws and regulations governing the importation, distribution, transportation and/or production of marijuana, or more stringent implementation thereof could have a substantial adverse impact on the Corporation.

As a result of the conflicting views between State legislatures and the federal government regarding cannabis, investments in cannabis businesses in the United States are subject to inconsistent legislation and regulation. The response to this inconsistency was addressed in the Cole Memorandum addressed to all United States district attorneys acknowledging that notwithstanding the designation of cannabis as a controlled substance at the federal level in the United States, several states have enacted laws relating to cannabis for medical purposes. The Cole Memorandum outlined certain priorities for the United States Department of Justice relating to the prosecution of cannabis offenses. In particular, the Cole Memorandum noted that in jurisdictions that have enacted laws legalizing cannabis in some form and that have also implemented strong and effective regulatory and enforcement systems to control the cultivation, distribution, sale and possession of cannabis, conduct in compliance with those laws and regulations is

¹⁹ 2019 Appropriations Act, Public Law No. 116-6, Div. C § 537.

less likely to be a priority at the federal level. Notably, however, the United States Department of Justice has never provided specific guidelines for what regulatory and enforcement systems it deems sufficient under the Cole Memorandum standard. In light of limited investigative and prosecutorial resources, the Cole Memorandum concluded that the United States Department of Justice should be focused on addressing only the most significant threats related to cannabis. States where medical cannabis had been legalized were not characterized as a high priority.

In March 2017, then Attorney General Sessions again noted limited federal resources and acknowledged that much of the Cole Memorandum had merit; however, he had previously stated that he did not believe it had been implemented effectively and, on January 4, 2018, former Attorney General Sessions issued the Sessions Memo, which rescinded the Cole Memorandum. The Sessions Memo rescinded previous nationwide guidance specific to the prosecutorial authority of United States Attorneys relative to cannabis enforcement on the basis that they are unnecessary, given the well-established principles governing federal prosecution that are already in place. Those principles are included in chapter 9.27.000 of the United States Attorneys Manual and require federal prosecutors deciding which cases to prosecute to weigh all relevant considerations, including federal law enforcement priorities set by the Attorney General, the seriousness of the crime, the deterrent effect of criminal prosecution, and the cumulative impact of particular crimes on the community. As a result of the Sessions Memo, federal prosecutors are now free to utilize their prosecutorial discretion to decide whether to prosecute cannabis activities despite the existence of State-level laws that may be inconsistent with federal prohibitions. No direction was given to federal prosecutors in the Sessions Memo as to the priority they should ascribe to such cannabis activities, and it is uncertain how active U.S. federal prosecutors will be in relation to such activities, particularly under Attorney General Barr.

Attorney General Sessions was replaced by William Barr on February 14, 2019. In a written response to questions from U.S. Senator Cory Booker made as a nominee, Attorney General Barr stated “I do not intend to go after parties who have complied with state law in reliance on the Cole Memorandum.”²⁰ Attorney General Barr served in the same position under former President George H.W. Bush and promoted an anti-drug stance during his tenure. However, during his Senate confirmation hearing, Mr. Barr testified (similar to his written responses) that although he disagrees with efforts by states to legalize marijuana, he “won’t go after” marijuana companies in states that have authorized regulated adult use. He stated further that he would not upset settled expectations that have arisen as a result of the Cole Memorandum, notwithstanding his predecessor’s rescission of the Cole Memorandum.

Notwithstanding this testimony, there is no guarantee that Attorney General Barr plans to or will forbid federal prosecution of state-licensed marijuana companies. It is important to note that in the United States, individual United States attorneys operate within state- or district-level jurisdictions and enjoy a substantial degree of autonomy in determining which criminal actions to pursue. While dozens of United States attorneys from across the country have affirmed that their view of federal enforcement priorities has not changed, there can be no assurances that such views are universally held or will continue in the near future. In California, at least one United States Attorney has made comments indicating a desire to enforce the CSA, stating that the Sessions Memorandum and the rescission of the Cole Memorandum “returns trust and local control to federal prosecutors” to enforce the CSA. These and other so called “enforcement hawks” in California or elsewhere may choose to enforce the CSA in accordance with federal policies prior to the issuance of the Cole Memorandum. As such, there can be no assurance that the United States federal government will not seek to prosecute cases involving cannabis businesses that are otherwise compliant with State law. Contrastingly, Andrew Lelling, the United States Attorney for the District of Massachusetts, issued a statement explaining that while marijuana is illegal under federal law, his “office’s resources [...] are primarily focused on the opioid epidemic.” In this statement, United States Attorney Lelling also clarified that his marijuana enforcement efforts will be focused on overproduction, targeted sales to minors, and organized crime and interstate transportation of drug proceeds. In sum, there is no certainty as to how the Department of Justice, Federal Bureau of Investigation and other government agencies will handle cannabis matters in the future. There can be no assurances that the Trump

²⁰ *Questions for the Record William P. Barr Nominee to be United States Attorney General*, available at <https://www.judiciary.senate.gov/imo/media/doc/Barr%20Responses%20to%20Booker%20QFRs1.pdf>.

administration would not change the current enforcement policy and decide to strongly enforce the federal laws. The Corporation regularly monitors the activities of the current administration in this regard.

Money Laundering Laws and Access to Banking

The Corporation is subject to a variety of laws and regulations in the United States that involve money laundering, financial recordkeeping and proceeds of crime, including the Currency and Foreign Transactions Reporting Act of 1970 (commonly known as the Bank Secrecy Act), as amended by Title III of the Uniting and Strengthening America by Providing Appropriate Tools Required to Intercept and Obstruct Terrorism Act of 2001 (USA PATRIOT Act), and any related or similar rules, regulations or guidelines, issued, administered or enforced by governmental authorities in the United States.

In February 2014, FinCen issued the FinCen Memo providing instructions to banks seeking to provide services to cannabis-related businesses. The FinCEN Memo states that in some circumstances, it is permissible for banks to provide services to cannabis-related businesses without risking prosecution for violation of federal money laundering laws. It refers to supplementary guidance that Deputy Attorney General Cole issued to federal prosecutors relating to the prosecution of money laundering offenses predicated on cannabis-related violations of the CSA. It is unclear at this time whether the current administration will follow the guidelines of the FinCEN Memo.

In the event that any of the Corporation's operations, or any proceeds thereof, any dividends or distributions therefrom, or any profits or revenues accruing from such operations in the United States were found to be in violation of money laundering legislation or otherwise, such transactions could be viewed as proceeds of crime under one or more of the statutes noted above or any other applicable legislation. This could restrict or otherwise jeopardize the ability of the Corporation to declare or pay dividends or effect other distributions.

United States Border Entry

Because cannabis remains illegal under United States federal law, those investing in Canadian companies with operations in the United States cannabis industry could face detention, denial of entry, or lifetime bans from the United States for their business associations with United States cannabis businesses. Entry happens at the sole discretion of CBP officers on duty, and these officers have wide latitude to ask questions to determine the admissibility of a non-US citizen or foreign national. The government of Canada has started warning travelers on its website that previous use of cannabis, or any substance prohibited by United States federal laws, could mean denial of entry to the United States. Business or financial involvement in the cannabis industry in the United States could also be reason enough for United States border guards to deny entry. On September 21, 2018, CBP released a statement outlining its current position with respect to enforcement of the laws of the United States. It stated that Canada's legalization of cannabis will not change CBP enforcement of United States laws regarding controlled substances and because cannabis continues to be a controlled substance under United States law, working in or facilitating the proliferation of the legal marijuana industry in U.S. states where it is deemed legal may affect admissibility to the United States. As a result, CBP has affirmed that, employees, directors, officers, managers and investors of companies involved in business activities related to cannabis in the United States (such as Trulieve), who are not United States citizens face the risk of being barred from entry into the United States for life.

Ability to Access Public and Private Capital

Given the current laws regarding cannabis at the federal level in the United States, traditional bank financing is typically not available to United States cannabis companies. Specifically, the federal illegality of marijuana in the United States means that financial transactions involving proceeds generated by cannabis-related conduct can form the basis for prosecution under money laundering statutes, the unlicensed money transmitter statute and the Bank Secrecy Act (the "BSA"). As a result, businesses involved in the cannabis industry often have difficulty finding a bank willing to accept their business. Banks who do accept deposits from cannabis-related businesses in the United States must do so in compliance with the Cole Financial Crime Memo and the FinCEN Memo, each dated February 14th, 2014. The Cole Financial Crime Memo states that prosecutors should apply the enforcement priorities of the Cole Memorandum in determining

whether to charge individuals or institutions with crimes related to financial transactions involving the proceeds of marijuana-related conduct. The FinCen Memo provides guidelines to banks on how to accept deposits from cannabis-related businesses while remaining compliant with the BSA. The Financial Crime Enforcement Network has not rescinded the FinCEN Memo following the United States Department of Justice's January 4, 2018 announcement rescinding the Cole Memorandum.

Trulieve has banking relationships with Florida and Connecticut state-chartered banks for deposits and payroll, however Trulieve does not have access to traditional bank financing. Trulieve has been successful at raising capital privately. The Corporation expects to generate adequate cash to fund its continuing operations. The Corporation's business plan includes aggressive growth, both in the form of additional acquisitions and through facility expansion and improvements. Accordingly, the Corporation expects to raise additional capital. There can be no assurance that additional financing will be available to the Corporation when needed or on terms which are acceptable.

SUMMARY OF OPERATING BUSINESS

Trulieve is a successful cannabis company working in highly-regulated markets requiring expertise in cultivation, processing, retail, and distribution activities. Trulieve has developed proficiencies in each of these functions and is committed to utilizing predictive analytics which inform Trulieve of sales trends, patient demographics, new product launch criteria and capacity requirements. This is the foundation upon which Trulieve has built sustainable, profitable growth.

In states that require cannabis companies to be vertically integrated, ownership of the entire supply chain mitigates potential third-party risks and allows Trulieve to completely control the quality of the product and the brand experience. This results in high patient retention and repeat customers. Trulieve successfully operates at scale the core business functions of cultivation, production and distribution. The Trulieve brand philosophy of "Patients First" permeates the Trulieve culture beginning with cultivation to production, distribution to Trulieve stores and continued customer services through the Corporation's in-house call center.

Data Utilization to create Predictive Analytics

Trulieve collects and analyzes data throughout the entire seed to sale process of the enterprise. All strategic and tactical business decisions are driven by historical data coupled with predictive analytics to ensure the best possible solution is formulated and executed. Data collection systems are based on a state-of-the art SAP platform, which is cloud based and backed up to ensure the utmost security and integrity of data repositories.

In the Corporation's cultivation activities, Trulieve uses data analytics to predict future yields and planning of future crop rotations to meet patient demands. The predictive analysis ensures Trulieve operates in an efficient manner to maximize the harvest output to cost ratio.

Trulieve also uses data analytics throughout the entire manufacturing process to monitor progress real-time, ensure quality is maintained at the highest level and analyzed to maximize lean flow efficiency. Consistency is paramount to Trulieve and tracking of the recorded data guarantees uniformity for all products shipped.

Once the Corporation's products are in Trulieve stores, each sales transaction is recorded. The reports derived from the recorded information allows Trulieve to track and analyze, by retail location, sales trends, grams dispensed, and products sold by subcategory. Trulieve uses this data for regression and predictive analysis, for cultivation crop planning, final derivative product production planning and patient marketing. The data is also key in planning future cultivation, processing and retail expansion.

High-Yield Cultivation Facilities and Techniques

Trulieve transforms raw cannabis flower into the Trulieve portfolio of products sold in Trulieve stores. With a focus on scalable operations, Trulieve has detailed Standard Operating Procedures as well as robust training protocols across its cultivation facilities to grow a consistent, quality product.

The Corporation currently operates over 1,612,408 square feet of cultivation facilities across five sites in Florida. In accordance with Florida law, Trulieve grows in enclosed structures operating both indoor and greenhouse style grows. Trulieve currently has the ability to grow 54,609 kg of cannabis annually. Trulieve is working to rapidly and substantially increase its greenhouse capacity. In Florida, Trulieve anticipates adding an estimated 72,000 square feet of indoor cultivation in Q3 2019. The Corporation recently announced the acquisition of property in Florida whereupon it plans to develop 750,000 square feet of indoor cultivation. In Massachusetts, Trulieve anticipates completion of a 140,000 square-foot medical marijuana cultivation and processing in Q1 2020.

The ability to quickly execute and operate high-yield, scaled cultivation operations is critical in Florida as well as other vertical markets. Trulieve grows a variety of 56 cannabis flower strains and is poised for expansion to meet demand for smokable cannabis flower in Florida.

Scaled, Quality Production

As a vertically-integrated company in Florida, Trulieve US produces 100% of all products sold in Florida stores. As of July 2019, Trulieve extracts an average of 70,000 grams of active THC or CBD per week (depending on the product requirements) and manufactures on average 150,000 products for sale each week. Trulieve has successfully obtained Good Manufacturing Practices (“**GMP**”) certification for its Florida production facilities and has detailed Standard Operating Procedures and Quality Control measures in place to ensure quality products are delivered to Trulieve’s patients.

Trulieve primarily utilizes super critical ethanol extraction systems and techniques for the majority of its products in Florida. Trulieve also utilizes carbon dioxide extraction for both terpene extraction as well as a line of CO2 vaporizer products. The Corporation has a 55,000 square foot building that houses the Corporation’s production and shipping activities, which also has a state-of-the-art kitchen for edible cannabis products and a hydrocarbon extraction facility in anticipation of the legal sale of edible and hydrocarbon cannabis products under Florida law.

As of July 2019, Trulieve manufactures, assembles, packages and ships products in a variety of market segments with over 230 SKUs.

Marketing and Community Outreach

Trulieve’s marketing strategies center around education and outreach to three main customer categories: physicians, patients and potential patients.

Trulieve provides industry leading education, outreach and support to all registered Florida medical cannabis Physicians. The Corporation’s educational materials are designed to help physicians understand the science behind cannabis, the high standards to which Trulieve plants are cultivated and that the Corporation’s products are created to provide relief to their patients. Trulieve’s dedicated physician education team delivers in-person outreach as well as immediate phone support through a dedicated physician education team member within the Trulieve call center.

Patients learn about Trulieve through the success of the Corporation’s physician education program as well as many patient-centric community activities. Trulieve participates in dozens of patient outreach and community events on a monthly basis. An engaged patient audience is captured through the Corporation’s digital content marketing. Trulieve engages with its consumer base via multiple social media platforms. As of July 31, 2019, Trulieve had 74,538 followers on Facebook, 23,200 followers on Instagram, and 6,931

followers on Twitter. 75% of Trulieve's customers had opted-in to receive emails from the Corporation, and 20% of Trulieve's customers had opted-in to receive texts from the Corporation.

Trulieve also attends many events focused on educating non-patients who may benefit such as veterans, seniors, condition specific organizations and general health and wellness events. Search engine optimization of the Corporation's website also captures potential patients researching the benefits of medical marijuana.

Patient Focused Experiences

It is Trulieve's goal to create raving fans who are loyal to the Trulieve brand and in return to provide these patients a superior level of customer service and product selection. Trulieve accomplishes this goal through several key strategies:

Training

Patient experience is an area of high-focus for the Corporation. Trulieve employs a number of training protocols and systems in an effort to ensure the patient experience is a positive one across all Trulieve branded locations and with each interaction with a Trulieve employee.

Branded Store Experiences

The patient experience continues through Trulieve dispensaries with a consistent atmosphere in every store. Brand and development guidelines have been implemented in an effort to ensure each store utilizes the same design, color scheme and layout to provide a comfortable, welcoming environment across each location. On the highest single sales day in 2018 approximately 4,425 patients were served in 22 open locations. On July 10, 2019 Trulieve set a new record in serving approximately 7,000 patients across 29 open locations. As of July 31, 2019, Trulieve has completed more than 1,300,000 unique orders both in-store and via home delivery.

Brand Strategy

The foundational tier of the Trulieve brand strategy is continuing to make top quality Trulieve branded products. The Trulieve house brand is already established in Florida as synonymous with quality and consistency. In addition, the Corporation is partnering with strategic brands that will be featured in Trulieve locations. To date, Trulieve has announced partnerships with Bhang, Binske, Loves Oven, SLANG and Blue River. Each of these companies are customer-favorites with a unique value proposition and market penetration strategy.

The third tier of the Trulieve brand strategy consists of local partnerships. Trulieve's first local partnership was Sunshine Cannabis, a Florida based company whose focus has been on bringing back unique Florida-based cannabis strains such as "Sunshine Kush" and "Gainesville Green". As a testament to their grass roots marketing efforts, each of the two vape pen SKUs featuring these cannabis strains sold out within 48 hours of launch.

Multiple Channels of Distribution

To meet patient needs, Trulieve provides patients with several different purchase options. Patients can order products for delivery on-line or by calling the Trulieve call-center. The Corporation's fully-staffed call center fields on average 2,760 calls per day answering patient questions and facilitating patient orders. Trulieve offers next day delivery service in most areas of Florida. Patients can also place orders for in-store pick-up either online or via the call center. Finally, patients are able to walk-in to any Trulieve dispensary location and place an order in person.

Loyalty Program and Communication Platforms

The Truliever program was created as a patient-based loyalty program whereby patients can earn points for dollars spent with a discount at pre-determined point values. Trulievers also are notified first with special discounts or limited release product offerings and also have access to Truliever-only promotions and events. Trulieve communicates with patients and physicians through a variety of methods including email, text, social media and online chat.

Research and Development

Trulieve has a dedicated research and development team focused on technology innovations and product development. The R&D team evaluates new technologies and performs rigorous testing prior to recommending introduction into production.

ACQUISITIONS

On December 13, 2018, the Corporation acquired all of the issued and outstanding shares of Life Essence. Life Essence is a seed-to-sale cannabis company with multiple locations under development in the Commonwealth of Massachusetts. Life Essence was recently awarded letters of support from the cities of Northampton, Cambridge and Holyoke, Massachusetts, and is applying for licenses to build and operate three medical Registered Marijuana Dispensaries, three recreational marijuana licenses, and a 140,000 square foot cultivation and processing facility.

Life Essence has held pre-application permitting meetings and submitted all required municipal permit applications in Q2 2019 for the 140,000 square foot cultivation and processing facility. Life Essence has not yet begun permitting or construction of its three medical registered marijuana dispensaries in Massachusetts. The Corporation cannot predict the timing or grant of regulatory approvals.

On November 30, 2018, the Corporation acquired 80% of the issued and outstanding membership interests of Leef Industries. The Corporation acquired an additional 19% of the membership interests of Leef Industries on June 27, 2019. The remaining 1% is to be acquired upon receipt of final regulatory approval from the State of California, which is expected to occur in the third quarter of 2019. Leef Industries is a licensed medical and adult-use cannabis dispensary located in Palm Springs, California.

On May 21, 2019, the Corporation acquired 100% of the equity of Healing Corner, a medical marijuana dispensary licensed in the State of Connecticut. Healing Corner is a licensed medical cannabis dispensary located in Bristol, Connecticut.

NON-IFRS FINANCIAL AND PERFORMANCE MEASURES

In addition to providing financial measurements based on IFRS, the Corporation provides additional financial metrics that are not prepared in accordance with IFRS. Management uses non-IFRS financial measures, in addition to IFRS financial measures, to understand and compare operating results across accounting periods, for financial and operational decision making, for planning and forecasting purposes and to evaluate the Corporation's financial performance. These non-IFRS financial measures are adjusted EBITDA and working capital.

Management believes that these non-IFRS financial measures reflect the Corporation's ongoing business in a manner that allows for meaningful comparisons and analysis of trends in the business, as they facilitate comparing financial results across accounting periods and to those of peer companies.

As there are no standardized methods of calculating these non-IFRS measures, the Corporation's methods may differ from those used by others, and accordingly, the use of these measures may not be directly comparable to similarly titled measures used by others. Accordingly, these non-IFRS measures are

intended to provide additional information and should not be considered in isolation or as a substitute for measures of performance prepared in accordance with IFRS.

ADJUSTED EBITDA

Adjusted EBITDA is a financial measure that is not defined under IFRS. Trulieve uses this non-IFRS financial measure, and believe it enhances an investor's understanding of the Corporation's financial and operating performance from period to period, because it excludes certain material non-cash items and certain other adjustments management believes are not reflective of the Corporation's ongoing operations and performance. The adjusted EBITDA excludes from net income as reported interest, tax, depreciation, non-cash expenses, RTO expense, other income, grow cost expensed for biological assets and unsold inventory, and the non-cash fair value effects of accounting for biological assets and inventories. Trulieve reports adjusted EBITDA to help the investors assess the operating performance of the Corporation's business.

Other companies in the Corporation's industry may calculate these measures differently than Trulieve does, limiting their usefulness as comparative measures.

WORKING CAPITAL

The calculation of working capital provides additional information and is not defined under IFRS. The Corporation defines working capital as current assets less current liabilities. This measure should not be considered in isolation or as a substitute for any standardized measure under IFRS. This information is intended to provide investors with information about the Corporation's liquidity.

Other companies in the Corporation's industry may calculate this measure differently than the Corporation does, limiting its usefulness as a comparative measure.

RECONCILIATIONS OF NON-IFRS FINANCIAL AND PERFORMANCE MEASURES

The table below reconciles net income to adjusted EBITDA for the periods indicated.

	Three Months Ended June 30,		Six Months Ended June 30,	
	2019	2018	2019	2018
Net Income (IFRS)	\$ 57,528,785	\$ 7,882,721	\$ 72,231,059	\$ 14,746,427
Add (Deduct) Impact of:				
Net Effect of Change in Fair Value	\$ (66,230,340)	\$ (3,020,633)	\$ (76,453,658)	\$ (8,232,633)
Grow Cost Expensed for Biological Assets & Unsold Inventory <i>Note 4 FS</i>	\$ 7,118,120	\$ 284,986	\$ 7,149,286	\$ 4,808,054
Interest Expense, Net	\$ 1,910,064	\$ 792,174	\$ 3,136,025	\$ 1,119,338
Depreciation and Amortization	\$ 1,839,890	\$ 184,228	\$ 3,300,727	\$ 347,163
Depreciation included in Cost of Goods Sold <i>Note 5 FS</i>	\$ 1,729,288	\$ 392,809	\$ 2,663,342	\$ 622,809
Provision For Income Taxes	\$ 27,714,464	\$ 5,402,197	\$ 38,551,464	\$ 9,164,197
Other Income, Net	\$ 5,801	\$ (10,322)	\$ (5,237)	\$ (16,457)
Total Adjustments	\$ (25,912,713)	\$ 4,025,439	\$ (21,658,051)	\$ 7,812,471
Adjusted EBITDA (Non-IFRS)	\$ 31,616,072	\$ 11,908,160	\$ 50,573,008	\$ 22,558,898

SELECTED FINANCIAL INFORMATION

The following is selected financial data derived from the unaudited condensed consolidated interim financial statements of the Corporation for the three and six months ended June 30, 2019 and 2018.

The selected consolidated financial information set out below may not be indicative of the Corporation's future performance:

	Three Months Ended June 30,		Six Months Ended June 30,	
	2019	2018	2019	2018
Revenues, Net of Discounts	\$ 57,920,112	\$ 23,298,771	\$ 102,396,077	\$ 38,545,570
Cost of Goods Sold	\$ 20,361,947	\$ 6,037,135	\$ 34,949,446	\$ 10,714,575
Gross Profit before Biological Asset Adjustment	\$ 37,558,165	\$ 17,261,636	\$ 67,446,631	\$ 27,830,995
Net Effect of Change in Fair Value of Biological Assets	\$ (66,230,340)	\$ (3,020,633)	\$ (76,453,658)	\$ (8,232,633)
Gross Profit	\$ 103,788,505	\$ 20,282,269	\$ 143,900,289	\$ 36,063,628
Total Expenses	\$ 16,629,391	\$ 6,215,499	\$ 29,986,978	\$ 11,050,123
Operating Income	\$ 87,159,114	\$ 14,066,770	\$ 113,913,311	\$ 25,013,505
Total Other Expenses	\$ 1,915,865	\$ 781,852	\$ 3,130,788	\$ 1,102,881
Provision For Income Taxes	\$ 27,714,464	\$ 5,402,197	\$ 38,551,464	\$ 9,164,197
Net Income	\$ 57,528,785	\$ 7,882,721	\$ 72,231,059	\$ 14,746,427

	Six Months Ended June 30,	
	2019	2018
Cash	\$ 54,031,919	\$ 8,866,618
Total Current Assets	\$ 192,499,755	\$ 33,679,262
Total Assets	\$ 372,622,575	\$ 72,629,237
Total Current Liabilities	\$ 63,213,761	\$ 14,177,818
Total Long-Term Liabilities	\$ 133,817,395	\$ 32,355,295
Total Shareholders' Equity	\$ 175,591,419	\$ 26,096,124

Three and Six Months Ended June 30, 2019

Revenue

Revenue for the three months ended June 30, 2019 was \$57.9 million, up \$34.6 million or 149%, from \$23.3 million for the three months ended June 30, 2018 due to increased retail sales. The state registry which approves and maintains the status of the medical cannabis license holders reached approximately 238,000 active patients during the second quarter of 2019. Trulieve's statewide retail and home delivery presence along with its broad product mix of over 230 sku's were the main reasons for the continued market growth.

Revenue for the six months ended June 30, 2019 was \$102.4 million, up \$63.9 million or 166%, from \$38.5 million for the six months ended June 30, 2018 due to increased retail sales. Trulieve opened 14 additional dispensary locations in Florida between July 1, 2018 and June 30, 2019.

Cost of Goods Sold & Biological Assets

Cost of goods sold are derived from cost related to the internal cultivation and production of cannabis.

Cost of goods sold, excluding any adjustments to the fair value of biological assets, for the three months ended June 30, 2019 was \$20.4 million, up \$14.4 million or 237%, from \$6.0 million for the three months ended June 30, 2018. This growth was driven by continued market growth and higher sales volume in 2019. Cost of goods sold as a percentage of revenue was 35% for the three months ended June 30, 2019, as compared to 26% for the three months ended June 30, 2018.

Cost of goods sold, excluding any adjustments to the fair value of biological assets, for the six months ended June 30, 2019 was \$34.9 million, up \$24.2 million or 226%, from \$10.7 million for the three months ended June 30, 2018. This growth was driven by continued market growth and higher sales volume in 2019. Cost of goods sold as a percentage of revenue was 34% for the six months ended June 30, 2019, as compared to 28% for the six months ended June 30, 2018.

Inventory of plants under production is considered a biological asset. Under IFRS, biological assets are to be recorded at fair value at the time of harvest, less costs to sell, which are transferred to inventory and the transfer becomes the deemed cost on a go-forward basis.

When the product is sold, the fair value is relieved from inventory and the transfer is booked to cost of sales. In addition, in jurisdictions where products are acquired from other producers and sold by the Corporation the cost of sales also includes costs related to such products.

Gross Profit

Gross profit after net gains on biological asset transformation for the three months ended June 30, 2019 was \$103.8 million, up \$83.5 million or 412%, from \$20.3 million for the three months ended June 30, 2018. This increase was driven by an increased gain on biological assets and increased retail sales. Additionally, because the Corporation was growing more plants as of June 30, 2019 than it was as of June 30, 2018, there are more plants undergoing transformation and therefore more gain.

Gross profit after net gains on biological asset transformation for the six months ended June 30, 2019 was \$143.9 million, up \$107.8 million or 299%, from \$36.1 million for the six months ended June 30, 2018. This increase was driven by an increased gain on biological assets and increased retail sales. Additionally, because the Corporation was growing more plants as of June 30, 2019 than it was as of June 30, 2018, there are more plants undergoing transformation and therefore more gain.

Total Expenses

Total expenses for the three months ended June 30, 2019 was \$16.6 million, up \$10.4 million or 168%, from \$6.2 million for the three months ended June 30, 2018, which is mainly due to scaling of the business. Total expenses as a percentage of revenue was 29% for the three months ended June 30, 2019, as compared to 27% for the three months ended June 30, 2018.

The increase in total expenses was attributable to an increase of retail, sales and marketing expenses which for the three months ended June 30, 2019 was \$11.4 million, up \$6.5 million or 133%, from \$4.9 million for the three months ended June 30, 2018. Retail, sales and marketing expenses as a percentage of revenue was 20% for the three months ended June 30, 2019, as compared to 21% for the three months ended June 30, 2018. The overall increase in retail, sales and marketing expenses was due to the opening of additional dispensary locations and the associated costs including payroll, insurance, and rent.

The increase in total expenses was also attributable to an increase of general and administrative expenses which for the three months ended June 30, 2019 was \$3.4 million, up \$2.3 million or 200%, from \$1.1 million for the three months ended June 30, 2018. General and administrative expenses as a percentage of revenue was 6% for the three months ended June 30, 2019, as compared to 5% for the three months ended June 30, 2018. The overall increase in general and administrative expenses was due to increased infrastructure expenses to support business growth and issuance cost associated with our recent debt offering.

Total expenses for the six months ended June 30, 2019 was \$30.0 million, up \$18.9 million or 171%, from \$11.1 million for the six months ended June 30, 2018, which is mainly due to scaling of the business. Total expenses as a percentage of revenue was 29% for both the six months ended June 30, 2019 and June 30, 2018.

The increase in total expenses was attributable to an increase of retail, sales and marketing expenses which for the six months ended June 30, 2019 was \$21.2 million, up \$12.3 million or 139%, from \$8.9 million for the six months ended June 30, 2018. Retail, sales and marketing expenses as a percentage of revenue was 21% for the six months ended June 30, 2019, as compared to 23% for the six months ended June 30, 2018. The overall increase in retail, sales and marketing expenses was due to the opening of additional dispensary locations and the associated costs including payroll, insurance, and rent.

The increase in total expenses was also attributable to an increase of general and administrative expenses which for the six months ended June 30, 2019 was \$5.5 million, up \$3.7 million or 200%, from \$1.8 million for the six months ended June 30, 2018. General and administrative expenses as a percentage of revenue was 6% for the six months ended June 30, 2019 and 5% for the six months ended June 30, 2018. The overall increase in general and administrative expenses was due to increased infrastructure expenses to support business growth and issuance cost associated with our recent debt offering.

Total Other Expenses

Total other expenses for the three months ended June 30, 2019 was \$1.9 million, up \$1.1 million or 145%, from \$0.8 million for the three months ended June 30, 2018. Total other expenses as a percentage of revenue was 3% for both the three months ended June 30, 2019 and June 30, 2018. The overall increase in other expenses was mainly attributable to the \$0.8 million of interest expense on lease liabilities.

Total other expenses for the six months ended June 30, 2019 was \$3.1 million, up \$2.0 million or 184%, from \$1.1 million for the six months ended June 30, 2018. Total other expenses as a percentage of revenue was 3% for both the six months ended June 30, 2019 and June 30, 2018. The overall increase in other expenses was mainly attributable to the \$1.4 million of interest expense on lease liabilities.

Provision for Income Taxes

Income tax expense is recognized based on the expected tax payable on the taxable income for the year, using tax rates enacted or substantively enacted at year-end. For the three months ended June 30, 2019, provisions for Federal and State income tax totaled \$27.7 million, up \$22.3 million, from \$5.4 million for the three months ended June 30, 2018. The tax rate for both the three months ended June 30, 2019 and June 30, 2018 was 27%, when the tax expense is taken as a percentage of gross profit (i.e., effective tax rate).

For the six months ended June 30, 2019, provisions for Federal and State income tax totaled \$38.6 million, up \$29.4 million, from \$9.2 million for the six months ended June 30, 2018. The tax rate for the six months ended June 30, 2019 was 27% as compared to 25% for the six months ended June 30, 2018, when the tax expense is taken as a percentage of gross profit (i.e., effective tax rate).

Net Income

Net income for the three months ended June 30, 2019 was \$57.5 million, up \$49.6 million or 630%, from \$7.9 million for the three months ended June 30, 2018. The increase in net income was driven by the factors described above, namely business expansion.

Net income for the six months ended June 30, 2018 was \$72.2 million, up \$57.5 million or 390%, from \$14.7 million for the three months ended June 30, 2019. The increase in net income was driven by the factors described above, namely business expansion.

Drivers of Results of Operations

Revenue

The Corporation derives its revenue from cannabis products which it manufactures, sells and distributes to its customers by home delivery and in its retail stores.

Gross Profit

Gross profit is revenue less cost of goods sold. Cost of goods sold includes the costs directly attributable to product sales and includes amounts paid to produce finished goods, such as flower, and concentrates, as well as packaging and other supplies, fees for services and processing, allocated overhead which includes allocations of rent, administrative salaries, utilities, and related costs. Cannabis costs are affected

by various state regulations that limits the sourcing and procurement of cannabis product, which may create fluctuations in gross profit over comparative periods as the regulatory environment changes. Gross margin measures Trulieve's gross profit as a percentage of revenue.

During the three and six months ended June 30, 2019, the Corporation continued to be focused on executing sustainable profitable growth of the Corporation's base business while investigating expansion. Trulieve continued to expand within Florida with an additional seven locations opening during the first six months of 2019.

Total Expenses

Total expenses other than the cost of goods sold consist of selling costs to support the Corporation's customer relationships and to deliver products to Trulieve's retail stores. It also includes a significant investment in marketing and brand activities and the corporate infrastructure required to support ongoing business.

Selling costs generally correlate to revenue. As a percentage of sales, Trulieve expects sales to increase at a higher rate, in the Corporation's currently operational market, compared to selling costs.

General and administrative expenses represent costs incurred at the Corporation's corporate offices, primarily related to personnel costs, including salaries, incentive compensation, benefits, and other professional service costs, including legal and accounting. Trulieve expects to continue to invest considerably in this area to support the Corporation's expansion plans and to support the increasing complexity of the cannabis business. Furthermore, Trulieve expects to continue to incur acquisition and transaction costs related to the Corporation's expansion plans, and the Corporation anticipates a significant increase in compensation expenses related to recruiting and hiring talent, accounting, legal and professional fees associated with being a publicly traded company.

Provision for Income Taxes

The Corporation is subject to federal income taxes and state income taxes in the jurisdictions in which Trulieve operates and, consequently, income tax expense is a function of the allocation of taxable income by jurisdiction and the various activities that impact the timing of taxable events. As the Corporation operates in the legal cannabis jurisdictions, the Corporation is subject to the limits of IRC Section 280E under which the Corporation is only allowed to deduct expenses directly related to cost of producing the products or cost of products. This results in permanent differences between ordinary and necessary business expenses deemed non-allowable under IRC Section 280E and a higher effective tax rate than most industries.

Summary of Quarterly Results

The table below presents selected financial information for each of the eight most recently completed quarters.

Three Months Ended	Revenues	Net Income/(Loss)
June 30, 2019	\$ 57,920,112	\$ 57,528,785
March 31, 2019	\$ 44,475,965	\$ 14,702,274
December 31, 2018	\$ 35,945,457	\$ 10,719,673
September 30, 2018	\$ 28,325,604	\$ 17,501,692
June 30, 2018	\$ 23,298,771	\$ 7,882,721
March 31, 2018	\$ 15,246,799	\$ 6,863,706
December 31, 2017	\$ 13,240,804	\$ 338,261
September 30, 2017	\$ 3,374,718	\$ 462,234

Revenue has increased quarter over quarter driven by Trulieve's increased customer base and open dispensaries. The Corporation had 31 operating dispensaries as of June 30, 2019 compared to 15 operating dispensaries as of June 30, 2018.

There were no other significant factors, economically or industry wide relating to customer buying patterns, competition, production output, or Trulieve's selling practices including pricing that contributed to Trulieve's noted variances.

For the three months ended June 30, 2019, the net income of \$57.5 million consists of revenue of \$57.9 million and adjustments to the fair value of biological assets of \$66.2 million. This was offset by cost of goods sold of \$20.4 million, operating expenses of \$16.6 million, other expenses of \$1.9 million, and income tax expense of \$27.7 million.

For the three months ended March 31, 2019, the net income of \$14.7 million consists of revenue of \$44.5 million and adjustments to the fair value of biological assets of \$10.2 million. This was offset by cost of goods sold of \$14.6 million, operating expenses of \$13.4 million, other expenses of \$1.2 million, and income tax expense of \$10.8 million.

For the three months ended December 31, 2018, the net income of \$10.7 million consists primarily of revenue of \$35.9 million and adjustments to the fair value of biological assets of \$12.9 million. This was offset by cost of goods sold of \$15.1 million, operating expenses of \$10.9 million, other expenses of \$0.7 million, and income tax expense of \$11.4 million. The primary reason for the lower net income from the previous quarter was due to lower net effect of change in fair value of biological (i.e. gain) of \$2.8 million, higher retail expenses of \$3.1 million because of five new store openings in the fourth quarter of 2018 and the preparation of four new store openings in the first quarter of 2019, higher income tax expense of \$3.3 million offset by \$0.7 million of lower G&A expenses.

For the three months ended September 30, 2018, the net income of \$17.5 million consists primarily of revenue of \$28.3 million and adjustments to the fair value of biological assets of \$15.8 million. This was offset by cost of goods sold of \$8.3 million, operating expenses of \$8.3 million, other expenses of \$1.8 million, and income tax expense of \$8.2 million.

For the three months ended June 30, 2018, the net income of \$7.9 million consists primarily of revenue of \$23.3 million and adjustments to the fair value of biological assets of \$3.0 million. This was offset by cost of goods sold of \$6.0 million, operating expenses of \$6.2 million, other expenses of \$0.8 million, and income tax expense of \$5.4 million.

For the three months ended March 31, 2018, the net income of \$6.9 million consists primarily of revenue of \$15.2 million and adjustments to the fair value of biological assets of \$5.2 million. This was offset by cost of goods sold of \$4.7 million, operating expenses of \$4.8 million, other expenses of \$0.3 million, and income tax expense of \$3.8 million.

For the three months ended December 31, 2017, the net income of \$0.3 million consists primarily of revenue of \$13.2 million and adjustments to the fair value of biological assets of \$1.1 million. This was offset by cost of goods sold of \$7.1 million, operating expenses of \$4.2 million, other expenses of \$0.3 million, and income tax expense of \$2.4 million.

For the three months ended September 30, 2017, the net income of \$0.5 million consists primarily of revenue of \$3.4 million and adjustments to the fair value of biological assets of \$2.3 million. This was offset by cost of goods sold of \$2.1 million, operating expenses of \$2.3 million, other expenses of \$0.2 million, and income tax expense of \$0.6 million.

Liquidity, Financing Activities During the Period, and Capital Resources

In February 2019, the Corporation entered into a 24-month unsecured loan with an 8% annual interest rate with a former director and shareholder for \$257,337.

On June 18, 2019, the Corporation completed a prospectus offering of 70,000 units of the Corporation (the "Units"), comprised of an aggregate principal amount of US\$70,000,000 of 9.75% senior secured notes of the Corporation maturing in 2024 (the "Notes") and an aggregate amount of 1,470,000 subordinate voting share warrants of the Corporation (each individual warrant being a "Warrant") at a price of U.S.\$980 per Unit for a gross proceeds of U.S.\$68,600,000. Each Unit was comprised of one Note issued in denominations of \$1,000 and 21 Warrants.

The offering was conducted on a "best-efforts" basis pursuant to the terms of an agency agreement dated June 11, 2019, between the Corporation and Canaccord Genuity Corp., as exclusive. The Units were offered in each of the provinces of Canada, other than the Province of Quebec, by way of a prospectus supplement dated June 13, 2019 to the short form base shelf prospectus of the Corporation dated May 14, 2019.

Each Warrant entitles the holder thereof to acquire one subordinate voting share of the Corporation at a exercise price of C\$17.25 until June 18, 2022. The obligations of the Corporation under the Notes are fully and unconditionally guaranteed, jointly and severally, by Trulieve US, pursuant to a guarantee delivered at the time of closing. The Notes and Warrants trade on the Canadian Securities Exchange under the symbols TRUL.DB.U and TRUL.WT, respectively. The Notes accrue interest at the rate of 9.75% per annum, payable on a semi-annual basis, maturing on June 18, 2024. The net proceeds of the offering are to be used for capital expenditures, acquisitions, to repay indebtedness and for general corporate purposes.

As at June 30, 2019, the Corporation had total current liabilities of \$63.2 million and cash of \$54.0 million compared to June 30, 2018 which had current liabilities of \$14.2 million and cash equivalents of \$8.9 million to meet its current obligations. As at June 30, 2019, the Corporation had working capital of \$129.3 million an increase of \$109.8 million compared to working capital of \$19.5 million at June 30, 2018.

The Corporation is an early-stage growth company. It is generating cash from sales and is deploying its capital reserves to acquire and develop assets capable of producing additional revenues and earnings over both the immediate and near term. Capital reserves are being utilized for acquisitions in the medical and adult use cannabis markets, for capital expenditures and improvements in existing facilities, product development and marketing, as well as customer, supplier and investor and industry relations.

Cash Flows

The table below highlights the Corporation's cash flows for the periods indicated.

	Six Months Ended June 30,	
	2019	2018
Net Cash Provided By Operating Activities	\$ 19,619,601	\$ 8,182,692
Net Cash Used In Investing Activities	\$(53,211,329)	\$(15,907,717)
Net Cash Provided By Financing Activities	\$ 63,193,539	\$ 15,184,584
Net Increase In Cash and Cash Equivalents	\$ 29,601,811	\$ 7,459,559
Cash and Cash Equivalents, Beginning of Period	\$ 24,430,108	\$ 1,407,059
Cash and Cash Equivalents, End of Period	\$ 54,031,919	\$ 8,866,618

Cash Flow from Operating Activities

Net cash generated from operating activities was \$19.6 million for the six months ended June 30, 2019, an increase of \$11.4 million compared to \$8.2 million net cash generated during the six months ended June 30, 2018. The increase in net cash generated from operating activities was related to the increase in net income of \$57.5 million, increase in income tax payable and deferred tax liabilities of \$19.1 million and

various other items netting to \$3.9 million. The increases were offset by an increase in inventories and biological assets of \$69.1 million.

Cash Flow from Investing Activities

Net cash used in investing activities was \$53.2 million for the six months ended June 30, 2019, an increase of \$37.3 million compared to the \$15.9 million net cash used in investing activities for the six months ended June 30, 2018. The increase was used for the addition of dispensary locations and expansions of Trulieve's cultivation and processing facilities as well as our recent acquisition for The Healing Corner.

Cash Flow from Financing Activities

Net cash provided by financing activities was \$63.2 million for the six months ended June 30, 2019, an increase of \$48.0 million compared to the \$15.2 million net cash provided by financing activities for the six months ended June 30, 2018. The increase was primarily related to the net proceeds received from our recent debt issuance.

Off-Balance Sheet Arrangements

As of the date of this filing, the Corporation does not have any off-balance-sheet arrangements that have, or are reasonably likely to have, a current or future effect on the results of operations or financial condition of the Corporation, including, and without limitation, such considerations as liquidity and capital resources.

Transactions with Related Parties

The Corporation had raised funds by issuing a note to various related parties including directors, officers, and shareholders and the balance at June 30, 2019 and December 31, 2018 was \$13.7 million and \$14.2 million, respectively.

The Corporation uses a general contractor that is the spouse of an officer and director of the Corporation and for the six months ended June 30, 2019 and 2018, property and equipment purchases totaled \$18.0 million and \$1.5 million. As of June 30, 2019, \$3.8 million was included in accounts payable.

Proposed Transactions

N/A

Changes in or Adoption of Accounting Practices

The Corporation has adopted IFRS 16 —Leases ("IFRS 16") with the date of initial application of January 1, 2019 using the modified retrospective approach. Comparative information has not been restated and continues to be reported under IAS 17 —Leases ("IAS 17") (accounting standard in effect for those periods).

IFRS 16 sets out the principles for the recognition, measurement, presentation and disclosure of leases for both parties to a contract, i.e. the customer ('lessee') and the supplier ('lessor'). The standard introduces a single, on-balance sheet recognition and measurement model for lessees, eliminating the distinction between operating and finance leases. Lessees recognize a right-of-use asset representing its control of and right to use the underlying asset and a lease liability representing its obligation to make future lease payments.

Right-of-use assets

At commencement date, the Corporation has measured the right-of-use asset at cost which comprises of:

- the amount of the initial measurement of the lease liability;
- any lease payments made at or before the commencement date, less any lease incentives received;
- any initial direct costs incurred by the lessee; and
- an estimate of costs to be incurred by the lessee in dismantling and removing the underlying asset, restoring the site on which it is located or restoring the underlying asset to the condition required by the terms and conditions of the lease, unless those costs are to produce inventories. The lessee incurs the obligation for those costs either at the commencement date or as a consequence of having used the underlying asset during a particular period.

There are no dismantling, removal and restoration costs included in the cost of the right-of-use asset as management has not incurred an obligation for those costs.

Lease liabilities

At the commencement date, The Corporation measured the lease liability at the present value of the lease payments that are not paid at that date. The lease payments are discounted using the interest rate implicit in the lease, if that rate can be readily determined. If that rate cannot be readily determined, the lessee uses the lessee's incremental borrowing rate.

The lease payments included in the measurement of the lease liability comprise the following payments for the right to use the underlying asset during the lease term that are not paid at the commencement date:

- fixed payments (including in-substance fixed payments), less any lease incentives receivable;
- variable lease payments that depend on an index or a rate, initially measured using the index or rate as at the commencement date;
- amounts expected to be payable by the lessee under residual value guarantees;
- the exercise price of a purchase option if the lessee is reasonably certain to exercise that option; and
- payments of penalties for terminating the lease, if the lease term reflects the lessee exercising an option to terminate the lease.

Subsequent Measurements

After the commencement date, the Corporation recognized depreciation and impairment of the right-of-use asset in profit or loss. The Corporation also recognized in profit or loss the interest on the lease liability. There were no variable lease payments which were not included in the measurement of the lease liability.

Exemptions and practical expedients

IFRS 16 permits the use of exemptions and practical expedients. The Corporation applied the following recognition exemptions and practical expedients:

- grandfather lease definition for existing contracts at the date of initial application;
- exclude low-value and short-term leases from IFRS 16 lease accounting;
- use portfolio application for leases with similar characteristics, such as vehicle and equipment leases;
- apply a single discount rate to a portfolio of leases with reasonably similar characteristics at the date of initial application;
- exclude initial direct costs from the measurement of the right-of-use assets at the date of initial application;
- use hindsight in determining lease term at the date of initial application

The financial impact of applying the standard upon initial application on January 1, 2019, resulted in a \$24.4 million increase of in right-of-use assets (included in property, plant and equipment Note 5), an increase of \$25.7 million in lease liability, and a \$0.9 million adjustment to retained earnings. The weighted average incremental borrowing rate applied to the lease liabilities was 4.76%.

CRITICAL ACCOUNTING ESTIMATES

The Corporation makes judgements, estimates and assumptions about the future that affect the reported amounts of assets and liabilities, and revenues and expenses. Actual results may differ from these estimates. The estimates and underlying assumptions are reviewed on an ongoing basis. Revisions to accounting estimates are recognized in the period in which the estimate is revised if the revision affects only that period or in the period of the revision and future periods if the review affects both current and future periods.

The preparation of the Corporation's consolidated financial statements in conformity with IFRS requires management to make judgments, estimates, and assumptions about the carrying amounts of assets and liabilities that are not readily apparent from other sources. The estimates and associated assumptions are based on historical experience and other factors that are considered to be relevant. Actual results may differ from these estimates.

The estimates and underlying assumptions are reviewed on an ongoing basis. Revisions to accounting estimates are recognized in the period in which the estimate is revised if the revision affects only that period, or in the period of the revision and future periods if the revision affects both current and future periods.

Significant judgments, estimates, and assumptions that have the most significant effect on the amounts recognized in the consolidated financial statements are described below.

Estimated Useful Lives and Depreciation of Property and Equipment and Intangible Assets

Depreciation and amortization of property and equipment and intangible assets are dependent upon estimates of useful lives, which are determined through the exercise of judgment. The assessment of any impairment of these assets is dependent upon estimates of recoverable amounts that take into account factors such as economic and market conditions and the useful lives of assets.

Biological assets and inventory

In calculating the value of the biological assets and inventory, management is required to make a number of estimates, including estimating the stage of growth of the cannabis up to the point of harvest, harvesting costs, selling costs, sales price, wastage and expected yields for the cannabis plant. In calculating final inventory values, management is required to make an estimate of spoiled or expired inventory and compare the inventory cost to estimated net realizable value.

Summary of Outstanding Share Data

At August 14, 2019, the Corporation had the following securities issued and outstanding:

Securities	Number of Shares
Issued and Outstanding	
Subordinate Voting Shares	32,408,159
Super Voting Shares	710,133
Multiple Voting Shares	67,107
Warrants	1,684,178

Each Multiple Voting Share, including those issued upon conversion of the Super Voting Shares, is convertible into 100 Subordinate Voting Shares at the option of the holder or upon certain triggering events.

Financial Instruments and Financial Risk Management

The Corporation's financial instruments consist of cash, accounts payable and accrued liabilities; short-term note payable; and long-term debt. The carrying values of these financial instruments approximate their fair values. Financial instruments recorded at fair value are classified using a fair value hierarchy that reflects the significance of the inputs to fair value measurements. The three levels of hierarchy are:

Level 1:	Unadjusted quoted prices in active markets for identical assets or liabilities;
Level 2:	Inputs other than quoted prices that are observable for the asset or liability, either directly or indirectly; and
Level 3:	Inputs for the asset or liability that are not based on observable market data.

Financial Risk Management

The Corporation is exposed in varying degrees to a variety of financial instrument related risks. The board of directors of the Corporation mitigates these risks by assessing, monitoring and approving the Corporation's risk management processes:

Credit Risk

Credit risk is the risk of a potential loss to the Corporation if a customer or third party to a financial instrument fails to meet its contractual obligations. The Corporation is moderately exposed to credit risk from its cash. The risk exposure is limited to the carrying amount at the statements of financial position date. The risk for cash is mitigated by holding these instruments with highly rated U.S. state financial institutions.

Liquidity Risk

Liquidity risk is the risk that the Corporation will not be able to meet its financial obligations associated with financial liabilities. The Corporation manages liquidity risk through the management of its capital structure. The Corporation's approach to managing liquidity is to ensure that it will have sufficient liquidity to settle obligations and liabilities when due.

Market Risk

Currency Risk

The operating results and financial position of the Corporation are reported in U.S. dollars. Some of the Corporation's financial transactions are denominated in currencies other than the U.S. dollar. The results of the Corporation's operations are subject to currency transaction and translation risks.

The Corporation has no hedging agreements in place with respect to foreign exchange rates. The Corporation has not entered into any agreements or purchased any instruments to hedge possible currency risks at this time.

Interest Rate Risk

Interest rate risk is the risk that the fair value or the future cash flows of a financial instrument will fluctuate as a result of changes in market interest rates. Cash and cash equivalents bear interest at market rates. The Corporation's financial debts have fixed rates of interest and therefore expose the Corporation to a limited interest rate fair value risk.

Concentration Risk

The Corporation's operations are substantially located in Florida. Should economic conditions deteriorate within that region, its results of operations and financial position would be negatively impacted.

Price Risk

Price risk is the risk of variability in fair value due to movements in equity or market prices.

Banking Risk

Notwithstanding that a majority of states have legalized medical marijuana, there has been no change in U.S. federal banking laws related to the deposit and holding of funds derived from activities related to the marijuana industry. Given that U.S. federal law provides that the production and possession of cannabis is illegal, there is a strong argument that banks cannot accept for deposit funds from businesses involved with the marijuana industry. Consequently, businesses involved in the marijuana industry often have difficulty accessing the U.S. banking system and traditional financing sources. The inability to open bank accounts with certain institutions may make it difficult to operate the businesses of the Corporation, its subsidiaries and investee companies, and leaves their cash holdings vulnerable. The Corporation has banking relationships in all jurisdictions in which it operates.

RISK FACTORS

Cannabis is Illegal under Federal United States Law

In the United States, cannabis is largely regulated at the State level. More than 30 states and the District of Columbia have passed laws broadly legalizing marijuana for medicinal use by eligible patients.²¹ In the District of Columbia and 11 of these states – Alaska, California, Colorado, Illinois, Maine, Massachusetts, Michigan, Nevada, Oregon, Vermont and Washington – marijuana is legal for adult-use regardless of medical condition. Additional States have pending legislation regarding the same. The large increase in recent statewide referenda and legislation that liberalizes marijuana laws is consistent with public opinion. Public polling routinely shows large majorities of Americans in favor of the legalization of marijuana. For instance, a Gallup Organization survey in October of 2018 found that 66% of respondents in the United States support the legalization of marijuana compared to the 32% who do not.²²

Although each State in which Trulieve operates (and anticipates operating) authorizes, as applicable, medical and/or adult-use cannabis production and distribution by licensed or registered entities, and numerous other States have legalized cannabis in some form, under U.S. federal law, the possession, use, cultivation, and transfer of cannabis and any related drug paraphernalia is illegal, and any such acts are criminal acts under federal law under any and all circumstances under the CSA. The concepts of "medical cannabis", "retail cannabis" and "adult-use cannabis" do not exist under U.S. federal law. Marijuana is a Schedule I drug under the CSA. Under U.S. federal law, a Schedule I drug or substance has a high potential for abuse, no accepted medical use in the United States, and a lack of safety for the use of the drug under medical supervision. Although Trulieve believes that its business activities are compliant

²¹ *Governing Magazine*, State Marijuana Laws in 2018 Map, available at <http://www.governing.com/gov-data/safety-justice/state-marijuana-laws-map-medical-recreational.html> (visited Nov. 7, 2018).

²² Justin McCarthy, *Two in Three Americans Now Support Legalizing Marijuana*, GALLUP (Oct. 22, 2018), available at <https://news.gallup.com/poll/243908/two-three-americans-support-legalizing-marijuana.aspx>.

with applicable state and local laws of the United States, strict compliance with state and local laws with respect to cannabis may neither absolve the Corporation of liability under United States federal law nor provide a defense to any federal proceeding which may be brought against the Corporation. Any such proceedings brought against the Corporation may result in a material adverse effect on the Corporation. Trulieve derives 100% of its revenues from the cannabis industry in certain States, which industry is illegal under United States federal law. Even where the Corporation's cannabis-related activities are compliant with applicable State and local law, such activities remain illegal under United States federal law. The enforcement of relevant federal laws is a significant risk.

United States **CBP** enforces the laws of the United States. Crossing the border while in violation of the CSA and other related United States federal laws may result in denied admission, seizures, fines, and apprehension. CBP officers administer the United States Immigration and Nationality Act to determine the admissibility of travelers, who are non-U.S. citizens, into the United States. An investment in the Corporation, if it became known to CBP, could have an impact on a shareholder's admissibility into the United States and could lead to a lifetime ban on admission. See *"Risk Factors - U.S. border officials could deny entry of non-US citizens into the U.S. to employees of or investors in companies with cannabis operations in the United States and Canada."*

Medical cannabis has been protected against enforcement by enacted legislation from the United States Congress in the form of the Rohrabacher-Farr Amendment, which prevents federal prosecutors from using federal funds to impede the implementation of medical cannabis laws enacted at the state level, subject to the United States Congress restoring such funding. This amendment has historically been passed as an amendment to omnibus appropriations bills, which by their nature expire at the end of a fiscal year or other defined term. Subsequent to the issuance of the Sessions Memo, the United States Congress passed its omnibus appropriations bill, SJ 1662, which for the fourth consecutive year contained the Rohrabacher-Farr Amendment language (referred to in 2018 as the Leahy Amendment) and continued the protections for the medical cannabis marketplace and its lawful participants from interference by the Department of Justice. The Rohrabacher-Farr Amendment again was included in the Consolidated Appropriations Act of 2019, which was signed by President Trump on February 14, 2019 and funds the departments of the federal government through the fiscal year ending September 30, 2019.²³ Notably, such Amendments have always applied only to medical cannabis programs, and have no effect on pursuit of recreational cannabis activities.

United States Regulatory Uncertainty

The activities of the Corporation are subject to regulation by governmental authorities. The Corporation's business objectives are contingent upon, in part, compliance with regulatory requirements enacted by these governmental authorities and obtaining all regulatory approvals, where necessary, for the sale of its products in each jurisdiction in which it operates. Any delays in obtaining, or failure to obtain regulatory approvals would significantly delay the development of markets and products and could have a material adverse effect on the business, results of operations and financial condition of the Corporation. Furthermore, although the operations of the Corporation are currently carried out in accordance with all applicable rules and regulations, no assurance can be given that new rules and regulations will not be enacted or that existing rules and regulations will not be applied in a manner which could limit or curtail the Corporation's ability to import, distribute or, in the future, produce marijuana. Amendments to current laws and regulations governing the importation, distribution, transportation and/or production of marijuana, or more stringent implementation thereof could have a substantial adverse impact on the Corporation.

As a result of the conflicting views between State legislatures and the federal government regarding cannabis, investments in cannabis businesses in the United States are subject to inconsistent legislation and regulation. The response to this inconsistency was addressed in the Cole Memorandum addressed to all United States district attorneys acknowledging that notwithstanding the designation of cannabis as a controlled substance at the federal level in the United States, several states have enacted laws relating to cannabis for medical purposes. The Cole Memorandum outlined certain priorities for the United States

²³ 2019 Appropriations Act, Public Law No. 116-6, Div. C § 537.

Department of Justice relating to the prosecution of cannabis offenses. In particular, the Cole Memorandum noted that in jurisdictions that have enacted laws legalizing cannabis in some form and that have also implemented strong and effective regulatory and enforcement systems to control the cultivation, distribution, sale and possession of cannabis, conduct in compliance with those laws and regulations is less likely to be a priority at the federal level. Notably, however, the United States Department of Justice has never provided specific guidelines for what regulatory and enforcement systems it deems sufficient under the Cole Memorandum standard. In light of limited investigative and prosecutorial resources, the Cole Memorandum concluded that the United States Department of Justice should be focused on addressing only the most significant threats related to cannabis. States where medical cannabis had been legalized were not characterized as a high priority.

In March 2017, then Attorney General Sessions again noted limited federal resources and acknowledged that much of the Cole Memorandum had merit; however, he had previously stated that he did not believe it had been implemented effectively and, on January 4, 2018, former Attorney General Sessions issued the Sessions Memo, which rescinded the Cole Memorandum. The Sessions Memo rescinded previous nationwide guidance specific to the prosecutorial authority of United States Attorneys relative to cannabis enforcement on the basis that they are unnecessary, given the well-established principles governing federal prosecution that are already in place. Those principles are included in chapter 9.27.000 of the United States Attorneys Manual and require federal prosecutors deciding which cases to prosecute to weigh all relevant considerations, including federal law enforcement priorities set by the Attorney General, the seriousness of the crime, the deterrent effect of criminal prosecution, and the cumulative impact of particular crimes on the community. As a result of the Sessions Memo, federal prosecutors are now free to utilize their prosecutorial discretion to decide whether to prosecute cannabis activities despite the existence of State-level laws that may be inconsistent with federal prohibitions. No direction was given to federal prosecutors in the Sessions Memorandum as to the priority they should ascribe to such cannabis activities, and it is uncertain how active U.S. federal prosecutors will be in relation to such activities, particularly under Attorney General Barr.

Attorney General Sessions was replaced by William Barr on February 14, 2019. In a written response to questions from U.S. Senator Cory Booker made as a nominee, Attorney General Barr stated “I do not intend to go after parties who have complied with state law in reliance on the Cole Memorandum.”²⁴ Attorney General Barr served in the same position under former President George H.W. Bush and promoted an anti-drug stance during his tenure. However, during his Senate confirmation hearing, Mr. Barr testified (similar to his written responses) that although he disagrees with efforts by states to legalize marijuana, he “won’t go after” marijuana companies in states that have authorized regulated adult use. He stated further that he would not upset settled expectations that have arisen as a result of the Cole Memorandum, notwithstanding his predecessor’s rescission of the Cole Memorandum.

Notwithstanding this testimony, there is no guarantee that Attorney General Barr plans to or will forbid federal prosecution of state-licensed marijuana companies. It is important to note that in the United States, individual United States attorneys operate within state- or district-level jurisdictions and enjoy a substantial degree of autonomy in determining which criminal actions to pursue. While dozens of United States attorneys from across the country have affirmed that their view of federal enforcement priorities has not changed, there can be no assurances that such views are universally held or will continue in the near future. In California, at least one United States Attorney has made comments indicating a desire to enforce the CSA, stating that the Sessions Memorandum and the rescission of the Cole Memorandum “returns trust and local control to federal prosecutors” to enforce the CSA. These and other so called “enforcement hawks” in California or elsewhere may choose to enforce the CSA in accordance with federal policies prior to the issuance of the Cole Memorandum. As such, there can be no assurance that the United States federal government will not seek to prosecute cases involving cannabis businesses that are otherwise compliant with State law. Contrastingly, Andrew Lelling, the United States Attorney for the District of Massachusetts, issued a statement explaining that while marijuana is illegal under federal law, his “office’s resources [...] are primarily focused on the opioid epidemic.” In this statement, United States Attorney

²⁴ *Questions for the Record William P. Barr Nominee to be United States Attorney General*, available at <https://www.judiciary.senate.gov/imo/media/doc/Barr%20Responses%20to%20Booker%20QFRs1.pdf>.

Lelling also clarified that his marijuana enforcement efforts will be focused on overproduction, targeted sales to minors, and organized crime and interstate transportation of drug proceeds. In sum, there is no certainty as to how the Department of Justice, Federal Bureau of Investigation and other government agencies will handle cannabis matters in the future. There can be no assurances that the Trump administration would not change the current enforcement policy and decide to strongly enforce the federal laws. The Corporation regularly monitors the activities of the current administration in this regard.

Money Laundering Laws and Access to Banking

The Corporation is subject to a variety of laws and regulations in the United States that involve money laundering, financial recordkeeping and proceeds of crime, including the Currency and Foreign Transactions Reporting Act of 1970 (commonly known as the Bank Secrecy Act), as amended by Title III of the Uniting and Strengthening America by Providing Appropriate Tools Required to Intercept and Obstruct Terrorism Act of 2001 (USA PATRIOT Act), and any related or similar rules, regulations or guidelines, issued, administered or enforced by governmental authorities in the United States.

In February 2014, FinCen issued the FinCen Memo providing instructions to banks seeking to provide services to cannabis-related businesses. The FinCEN Memo states that in some circumstances, it is permissible for banks to provide services to cannabis-related businesses without risking prosecution for violation of federal money laundering laws. It refers to supplementary guidance that Deputy Attorney General Cole issued to federal prosecutors relating to the prosecution of money laundering offenses predicated on cannabis-related violations of the CSA. It is unclear at this time whether the current administration will follow the guidelines of the FinCEN Memo.

In the event that any of the Corporation's operations, or any proceeds thereof, any dividends or distributions therefrom, or any profits or revenues accruing from such operations in the United States were found to be in violation of money laundering legislation or otherwise, such transactions could be viewed as proceeds of crime under one or more of the statutes noted above or any other applicable legislation. This could restrict or otherwise jeopardize the ability of the Corporation to declare or pay dividends or effect other distributions.

Competition

The Corporation may face increasing and intense competition from other companies, some of which can be expected to have longer operating histories and more financial resources and manufacturing and marketing experience than the Corporation. Increased competition by larger and better financed competitors could materially and adversely affect the business, financial condition and results of operations of the Corporation.

If the number of users of medical marijuana in the United States increases, the demand for products will increase and the Corporation expects that competition will become more intense, as current and future competitors begin to offer an increasing number of diversified products. To remain competitive, the Corporation will require a continued level of investment in research and development, marketing, sales and client support. The Corporation may not have sufficient resources to maintain research and development, marketing, sales and client support efforts on a competitive basis which could materially and adversely affect the business, financial condition and results of operations of the Corporation.

The Corporation's industry is experiencing rapid growth and consolidation that may cause the Corporation to lose key relationships and intensify competition. The cannabis industry is undergoing rapid growth and substantial change, which has resulted in an increase in competitors, consolidation and formation of strategic relationships. Acquisitions or other consolidating transactions could harm the Corporation in a number of ways, including losing customers, revenue and market share, or forcing the Corporation to expend greater resources to meet new or additional competitive threats, all of which could harm the Corporation's operating results. As competitors enter the market and become increasingly sophisticated, competition in the Corporation's industry may intensify and place downward pressure on retail prices for its products and services, which could negatively impact its profitability.

Re-Classification of Cannabis or Changes in United States Controlled Substance Laws and Regulations

If cannabis is re-categorized as a Schedule II or lower controlled substance, the ability to conduct research on the medical benefits of cannabis would most likely be more accessible; however, if cannabis is re-categorized as a Schedule II or other controlled substance, the resulting re-classification would result in the need for approval by the FDA if medical claims are made for the Corporation's products, such as medical cannabis. As a result, the manufacture, importation, exportation, domestic distribution, storage, sale and use of such products may be subject to a significant degree of regulation by the **DEA**. In that case, Trulieve may be required to be registered (licensed) to perform these activities and have the security, control, recordkeeping, reporting and inventory mechanisms required by the DEA to prevent drug loss and diversion. Obtaining the necessary registrations may result in delay of the manufacturing or distribution of the Corporation's products. The DEA conducts periodic inspections of certain registered establishments that handle controlled substances. Failure to maintain compliance could have a material adverse effect on the Corporation's business, financial condition and results of operations. The DEA may seek civil penalties, refuse to renew necessary registrations, or initiate proceedings to restrict, suspend or revoke those registrations. In certain circumstances, violations could lead to criminal proceedings.

Potential FDA Regulation

Should the United States federal government legalize cannabis, it is possible that the FDA, would seek to regulate it under the Food, Drug and Cosmetics Act of 1938. Additionally, the FDA may issue rules and regulations including good manufacturing practices related to the growth, cultivation, harvesting and processing of medical cannabis. Clinical trials may be needed to verify efficacy and safety. It is also possible that the FDA would require that facilities where medical-use cannabis is grown register with the agency and comply with certain federally prescribed regulations. In the event that some or all of these regulations are imposed, the impact on the cannabis industry is uncertain, including what costs, requirements, and possible prohibitions may be imposed. If the Corporation is unable to comply with the regulations or registration as prescribed by the FDA it may have an adverse effect on the Corporation's business, operating results, and financial condition.

United States Border Entry

Because cannabis remains illegal under United States federal law, those investing in Canadian companies with operations in the United States cannabis industry could face detention, denial of entry, or lifetime bans from the United States for their business associations with United States cannabis businesses. Entry happens at the sole discretion of CBP officers on duty, and these officers have wide latitude to ask questions to determine the admissibility of a non-US citizen or foreign national. The government of Canada has started warning travelers on its website that previous use of cannabis, or any substance prohibited by United States federal laws, could mean denial of entry to the United States. Business or financial involvement in the cannabis industry in the United States could also be reason enough for United States border guards to deny entry. On September 21, 2018, CBP released a statement outlining its current position with respect to enforcement of the laws of the United States. It stated that Canada's legalization of cannabis will not change CBP enforcement of United States laws regarding controlled substances and because cannabis continues to be a controlled substance under United States law, working in or facilitating the proliferation of the legal marijuana industry in U.S. states where it is deemed legal may affect admissibility to the United States. As a result, CBP has affirmed that, employees, directors, officers, managers and investors of companies involved in business activities related to cannabis in the United States (such as Trulieve), who are not United States citizens face the risk of being barred from entry into the United States for life.

Heightened Scrutiny of Cannabis Companies in Canada

The Corporation's existing operations in the United States, and any future operations, may become the subject of heightened scrutiny by regulators, stock exchanges and other authorities in the United States and Canada.

Given the heightened risk profile associated with cannabis in the United States, CDS Clearing and Depository Services Inc. ("**CDS**") may implement procedures or protocols that would prohibit or significantly impair the ability of CDS to settle trades for companies that have cannabis businesses or assets in the United States.

On February 8, 2018, following discussions with the Canadian Securities Administrators and recognized Canadian securities exchanges, the TMX Group announced the signing of a Memorandum of Understanding ("**TMX MOU**") with Aequitas NEO Exchange Inc., the CSE, the Toronto Stock Exchange, and the TSX Venture Exchange. The TMX MOU outlines the parties' understanding of Canada's regulatory framework applicable to the rules, procedures, and regulatory oversight of the exchanges and CDS as it relates to issuers with cannabis-related activities in the United States. The TMX MOU confirms, with respect to the clearing of listed securities, that CDS relies on the exchanges to review the conduct of listed issuers. As a result, there is no CDS ban on the clearing of securities of issuers with cannabis-related activities in the United States. However, there can be no assurances given that this approach to regulation will continue in the future. If such a ban were to be implemented, it would have a material adverse effect on the ability of holders of the Subordinate Voting Shares to settle trades. In particular, the Subordinate Voting Shares would become highly illiquid as until an alternative was implemented, investors would have no ability to effect a trade of the Subordinate Voting Shares through the facilities of a stock exchange.

Costs and Obligations Related to Investment in Infrastructure, Growth, Regulatory Compliance and Operations

The Corporation expects to incur significant ongoing costs and obligations related to its investment in infrastructure and growth and for regulatory compliance, which could have a material adverse impact on the Corporation results of operations, financial condition and cash flows. In addition, future changes in regulations, more vigorous enforcement thereof or other unanticipated events could require extensive changes to the Corporation's operations, increased compliance costs or give rise to material liabilities, which could have a material adverse effect on the business, results of operations and financial condition of the Corporation. The Corporation's efforts to grow its business may be more costly than expected, and the Corporation may not be able to increase its revenue enough to offset its higher operating expenses. The Corporation may incur significant losses in the future for a number of reasons, including unforeseen expenses, difficulties, complications and delays, and other unknown events. If the Corporation is unable to achieve and sustain profitability, the market price of the securities of the Corporation may significantly decrease.

Availability of Favorable Locations

In Massachusetts and other states, the local municipality has authority to choose where any cannabis establishment will be located. These authorized areas are frequently removed from other retail operations. Because the cannabis industry remains illegal under United States federal law, the disadvantaged tax status of businesses deriving their income from cannabis, and the reluctance of the banking industry to support cannabis businesses, it may be difficult for Trulieve to locate and obtain the rights to operate at various preferred locations. Property owners may violate their mortgages by leasing to the Corporation, and those property owners that are willing to allow use of their facilities may require payment of above fair market value rents to reflect the scarcity of such locations and the risks and costs of providing such facilities.

Unfavorable Tax Treatment of Cannabis Businesses

Under Section 280E (“**Section 280E**”) of the United States Internal Revenue Code of 1986, as amended (the “**U.S. Tax Code**”), “no deduction or credit shall be allowed for any amount paid or incurred during the taxable year in carrying on any trade or business if such trade or business (or the activities which comprise such trade or business) consists of trafficking in controlled substances (within the meaning of Schedule I and II of the Controlled Substances Act) which is prohibited by Federal law or the law of any State in which such trade or business is conducted.” This provision has been applied by the United States Internal Revenue Service to cannabis operations, prohibiting them from deducting expenses directly associated with the sale of cannabis. Section 280E, therefore, has a significant impact on the retail side of cannabis, but a lesser impact on cultivation and manufacturing operations. A result of Section 280E is that an otherwise profitable business may, in fact, operate at a loss, after taking into account its United States income tax expenses.

United States Tax Classification of the Corporation

The Corporation, which is and will continue to be a Canadian company as of the date of this AIF, generally would be classified as a non-United States company under general rules of United States federal income taxation. Section 7874 of the U.S. Tax Code, however, contains rules that can cause a non-United States company to be taxed as a United States company for United States federal income tax purposes. Under section 7874 of the U.S. Tax Code, a company created or organized outside the United States. (i.e., a non-United States company) will nevertheless be treated as a United States company for United States federal income tax purposes (such treatment is referred to as an “**Inversion**”) if each of the following three conditions are met:

(i) the non-United States company acquires, directly or indirectly, or is treated as acquiring under applicable United States Treasury Regulations, substantially all of the assets held, directly or indirectly, by a United States company, (ii) after the acquisition, the former stockholders of the acquired United States Corporation hold at least 80% (by vote or value) of the shares of the non-United States company by reason of holding shares of the United States acquired company, and (iii) after the acquisition, the non-United States company’s expanded affiliated group does not have substantial business activities in the non- United States company’s country of organization or incorporation when compared to the expanded affiliated group’s total business activities (clauses (i) – (iii), collectively, the “**Inversion Conditions**”).

For this purpose, “expanded affiliated group” means a group of corporations where (i) the non-United States corporation owns stock representing more than 50% of the vote and value of at least one member of the expanded affiliated group, and (ii) stock representing more than 50% of the vote and value of each member is owned by other members of the group. The definition of an “expanded affiliated group” includes partnerships where one or more members of the expanded affiliated group own more than 50% (by vote and value) of the interests of the partnership.

The Corporation intends to be treated as a United States company for United States federal income tax purposes under section 7874 of the U.S. Tax Code and is expected to be subject to United States federal income tax on its worldwide income. However, for Canadian tax purposes, the Corporation is expected, regardless of any application of section 7874 of the U.S. Tax Code, to be treated as a Canadian resident company (as defined in the Income Tax Act (Canada) (the “**ITA**”) for Canadian income tax purposes. As a result, the Corporation will be subject to taxation both in Canada and the United States, which could have a material adverse effect on its financial condition and results of operations.

Lack of Access to United States Bankruptcy Protections

Because cannabis is a Schedule I substance under the CSA, many courts have denied cannabis businesses federal bankruptcy protections, making it difficult for lenders to be made whole on their investments in the cannabis industry in the event of a bankruptcy. If the Corporation were to experience a bankruptcy, there is no guarantee that United States federal bankruptcy protections would be available to the Corporation, which would have a material adverse effect.

The Corporation is a Holding Corporation

The Corporation is a holding company and essentially all of its assets are the capital stock of its subsidiaries. The Corporation currently conducts substantially all of its business through Trulieve US, which currently generates substantially all of the Corporation's revenues. Consequently, the Corporation's cash flows and ability to complete current or desirable future enhancement opportunities are dependent on the earnings of Trulieve US and the other subsidiaries of the Corporation and the distribution of those earnings to the Corporation. The ability of Trulieve US and the other subsidiaries of the Corporation to pay dividends and other distributions will depend on such subsidiaries' operating results and will be subject to applicable laws and regulations which require that solvency and capital standards be maintained by a subsidiary company and contractual restrictions contained in the instruments governing any current or future indebtedness of the Corporation's subsidiaries. In the event of a bankruptcy, liquidation or reorganization of Trulieve US or another of the Corporation's subsidiaries, holders of indebtedness and trade creditors of such subsidiary may be entitled to payment of their claims from the assets of such subsidiary before the Corporation.

Inability to Enforce Contracts

It is a fundamental principle of law that a contract will not be enforced if it involves a violation of law or public policy. Because cannabis remains illegal at a federal level in the United States, judges in multiple states have on a number of occasions refused to enforce contracts for the repayment of money when the loan was used in connection with activities that violate United States federal law, even if there is no violation of state law. There remains doubt and uncertainty that the Corporation will be able to legally enforce contracts it enters into if necessary. The Corporation cannot be assured that it would have a remedy for breach of any given contract, which would have a material adverse effect on the Corporation.

Limitations on Ownership of Licenses

In certain states, the cannabis laws and regulations limit not only the number of cannabis licenses issued, but also the number of cannabis licenses that one person may own. For example, in Massachusetts, no person may have an ownership interest, or control over, more than three medical licenses or three adult-use licenses in any category – for example, cultivation, product manufacturing, transport or retail. Such limitations on the acquisition of ownership of additional licenses within certain states may limit the Corporation's ability to grow organically or to increase its market share in such states.

The Cannabis Industry is Difficult to Forecast

The Corporation must rely largely on its own market research to forecast sales, as detailed forecasts are not generally obtainable from other sources at this early stage of the cannabis industry. A failure in the demand for its products to materialize as a result of competition, technological change or other factors could have a material adverse effect on the business, results of operations, financial condition or prospects of the Corporation. Reliable data on the medical and adult-use cannabis industry is not available. As a result of recent and ongoing regulatory and policy changes in the medical and adult-use cannabis industry, the market data available is limited and unreliable. United States federal and state laws prevent widespread participation and hinder market research. Therefore, market research and projections by the Corporation of estimated total retail sales, demographics, demand, and similar consumer research, are based on assumptions from limited and unreliable market data, and generally represent the personal opinions of the Corporation's management team as of the date of this AIF.

Voting Control

As a result of the Super Voting Shares that they hold, certain shareholders of the Corporation exercise a significant majority of the voting power in respect of the Corporation's outstanding shares. The Subordinate Voting Shares are entitled to one vote per share, Multiple Voting Shares are entitled to 100 votes per share, and the Super Voting Shares are entitled to up to 200 votes per share. As a result, the

holders of the Super Voting Shares have the ability to control the outcome of all matters submitted to the Corporation's shareholders for approval, including the election and removal of directors and any arrangement or sale of all or substantially all of the assets of the Corporation.

This concentrated control could delay, defer, or prevent a change of control of the Corporation, arrangement or amalgamation involving the Corporation or sale of all or substantially all of the assets of the Corporation that its other shareholders support. Conversely, this concentrated control could allow the holders of the Super Voting Shares to consummate such a transaction that the Corporation other shareholders do not support.

Future Acquisitions or Dispositions Bear Inherent Risks

Material acquisitions, dispositions and other strategic transactions involve a number of risks, including: (i) potential disruption of the Corporation's ongoing business; (ii) distraction of management; (iii) the Corporation may become more financially leveraged; (iv) the anticipated benefits and cost savings of those transactions may not be realized fully or at all or may take longer to realize than expected; (v) increased scope and complexity of the Corporation's operations; and (vi) loss or reduction of control over certain of the Corporation's assets. Additionally, the Corporation may issue additional Subordinate Voting Shares in connection with such transactions, which would dilute a shareholder's holdings in the Corporation. The presence of one or more material liabilities of an acquired company that are unknown to the Corporation at the time of acquisition could have a material adverse effect on the business, results of operations, prospects and financial condition of the Corporation. A strategic transaction may result in a significant change in the nature of the Corporation's business, operations and strategy. In addition, the Corporation may encounter unforeseen obstacles or costs in implementing a strategic transaction or integrating any acquired business into the Corporation's operations.

Requirement to Maintain Licenses

The Corporation's ability to grow, store and sell medical marijuana and cannabis oil is dependent on maintaining its licenses and permits. Failure to comply with the requirements of such licenses and permits, or any failure to maintain any such licenses and permits held would have a material adverse impact on the business, financial condition and operating results of the Corporation.

To date, the activities and resources of Trulieve US have been focused primarily within the state of Florida. The Corporation expects to continue the focus on this state as it continues to review further expansion opportunities into other jurisdictions in the United States, including Massachusetts, California and Connecticut. Adverse changes or developments within Florida could have a material and adverse effect on the Corporation's business, financial condition and results of operations.

Agricultural Risks

The Corporation's business involves the growing of medical marijuana, an agricultural product. Such business will be subject to the risks inherent in the agricultural business, such as insects, plant diseases and similar agricultural risks.

Existing Indebtedness

Following the offering of the Units, the Corporation incurred additional indebtedness. See "Liquidity, Financing Activities During the Period, and Capital Resources". This indebtedness could adversely affect the Corporation's business, financial condition or results of operations and prevent Trulieve from fulfilling its obligations under its existing indebtedness and the Notes offered hereby.

The ability of Trulieve to make certain payments or advances will be subject to applicable laws and contractual restrictions in the instruments governing any indebtedness of Trulieve. The degree to which Trulieve is leveraged could have important consequences, including: (i) the Corporation's ability to obtain additional financing for working capital, capital expenditures, or acquisitions may be limited; and (ii) all or

part of the Corporation's cash flow from operations may be dedicated to the payment of the principal of and interest on the Corporation's indebtedness, thereby reducing funds available for operations. These factors may adversely affect the Corporation's cash flow.

Ability to Make Payment

The ability of the Corporation to make scheduled payments on or to refinance its debt obligations, including the Notes, depends on the Corporation's financial condition and operating performance, which are subject to a number of factors beyond the Corporation's control. Trulieve may be unable to maintain a level of cash flow from operating activities sufficient to permit the Corporation to pay the principal, premium, if any, and interest on its indebtedness, including the Notes.

If the Corporation's cash flow and capital resources are insufficient to fund its debt service obligations, Trulieve could face liquidity problems and could be forced to reduce or delay investments and capital expenditures or to dispose of material assets or operations, seek additional debt or equity capital or restructure or refinance its indebtedness, including the Notes. The Corporation may not be able to effect any such alternative measures on commercially reasonable terms or at all and, even if successful, those alternative actions may not allow Trulieve to meet its scheduled debt service obligations.

The Corporation's inability to generate sufficient cash flow to satisfy its debt obligations, or to refinance its indebtedness on commercially reasonable terms or at all, would materially and adversely affect the Corporation's business, results of operations, financial condition and its ability to satisfy its obligations under the Notes.

Additional Financing

The Corporation may require equity and/or debt financing to support on-going operations, to undertake capital expenditures or to undertake acquisitions or other business combination transactions. There can be no assurance that additional financing will be available to the Corporation when needed or on terms which are acceptable. The Corporation's inability to raise financing to fund on-going operations, capital expenditures or acquisitions could limit its growth and may have a material and adverse effect on the Corporation's business, financial condition and results of operations or prospects. If additional funds are raised through further issuances of equity or convertible debt securities, existing shareholders could suffer significant dilution, and any new equity securities issued could have rights, preferences and privileges superior to those of holders of Subordinate Voting Shares.

Intellectual Property Risks

As long as cannabis remains illegal under United States federal law as a Schedule I controlled substance pursuant to the CSA, the benefit of certain federal laws and protections which may be available to most businesses, such as federal trademark and patent protection regarding the intellectual property of a business, may not be available to the Corporation. As a result, the Corporation's intellectual property may never be adequately or sufficiently protected against the use or misappropriation by third-parties. In addition, since the regulatory framework of the cannabis industry is in a constant state of flux, the Corporation can provide no assurance that it will ever obtain any protection of its intellectual property, whether on a federal, state or local level.

Risk of Civil Asset Forfeiture

Because the cannabis industry remains illegal under United states federal law, any property owned by participants in the cannabis industry which are either used in the course of conducting such business, or are the proceeds of such business, could be subject to seizure by law enforcement and subsequent civil asset forfeiture. Even if the owner of the property were never charged with a crime, the property in question could still be seized and subject to an administrative proceeding by which, with minimal due process, it could be subject to forfeiture.

Dependence on Personnel

The Corporation will depend on key managerial personnel for its continued success and the Corporation's anticipated growth may require additional expertise and the addition of new qualified personnel. The loss of the services of existing personnel, as well as the failure to recruit additional key managerial personnel in a timely manner, could harm the Corporation's business development programs, and the Corporation's ability to manage day-to-day operations, attract collaboration partners, attract and retain other employees, generate revenues, and could have a material adverse effect on the Corporation's business, financial condition and results of operations.

Greater Risk of Audits

Based on anecdotal information, the Corporation believes there is a greater likelihood that the Internal Revenue Service will audit cannabis-related businesses, including the Corporation. Any such audit could result in the Corporation paying additional tax, interest and penalties, as well as incremental accounting and legal expenses.

Dividends

It is unlikely that the Corporation will pay any dividends on the Subordinate Voting Shares in the foreseeable future. However, dividends received by shareholders who are residents of Canada for purpose of the ITA will be subject to United States withholding tax. Any such dividends may not qualify for a reduced rate of withholding tax under the Canada-United States tax treaty. In addition, a foreign tax credit or a deduction in respect of foreign taxes may not be available.

Dividends received by United States shareholders will not be subject to United States withholding tax but will be subject to Canadian withholding tax. Dividends paid by the Corporation will be characterized as United States source income for purposes of the foreign tax credit rules under the United States Tax Code. Accordingly, United States shareholders generally will not be able to claim a credit for any Canadian tax withheld unless, depending on the circumstances, they have an excess foreign tax credit limitation due to other foreign source income that is subject to a low or zero rate of foreign tax.

Dividends received by shareholders that are neither Canadian nor United States shareholders will be subject to United States withholding tax and will also be subject to Canadian withholding tax. These dividends may not qualify for a reduced rate of United States withholding tax under any income tax treaty otherwise applicable to a shareholder of the Corporation, subject to examination of the relevant treaty.

Because the Subordinate Voting Shares will be treated as shares of a United States domestic corporation, the United States gift, estate and generation-skipping transfer tax rules generally apply to a non- United States shareholder of Subordinate Voting Shares.

Liability Claims

As a distributor of products designed to be ingested by humans, the Corporation faces an inherent risk of exposure to product liability claims, regulatory action and litigation if its products are alleged to have caused significant loss or injury. The Corporation may be subject to various product liability claims, including, among others, that the Corporation's products caused injury or illness, include inadequate instructions for use or include inadequate warnings concerning possible side effects or interactions with other substances. A product liability claim or regulatory action against the Corporation could result in increased costs, could adversely affect the Corporation's reputation with its clients and consumers generally, and could have a material adverse effect on the results of operations and financial condition of the Corporation.

Manufacturers and distributors of products are sometimes subject to the recall or return of their products for a variety of reasons, including product defects, such as contamination, unintended harmful side effects or interactions with other substances, packaging safety and inadequate or inaccurate labelling disclosure. If any of the Corporation's products are recalled due to an alleged product defect or for any other reason, the Corporation could be required to incur the unexpected expense of the recall and any legal proceedings that might arise in connection with the recall. The Corporation may lose a significant amount of sales and may not be able to replace those sales at an acceptable margin or at all. In addition, a product recall may require significant management attention. Additionally, if one of the Corporation's brands were subject to recall, the image of that brand and the Corporation could be harmed. A recall for any of the foregoing reasons could lead to decreased demand for the Corporation's products and could have a material adverse effect on the Corporation's results of operations and financial condition.

Consumer Perception

The Corporation believes the medical marijuana industry is highly dependent upon consumer perception regarding the safety, efficacy and quality of medical marijuana distributed to such consumers. Consumer perception of the Corporation's products may be significantly influenced by scientific research or findings, regulatory investigations, litigation, media attention and other publicity regarding the consumption of medical marijuana products. There can be no assurance that future scientific research, findings, regulatory proceedings, litigation, media attention or other research findings or publicity will be favourable to the medical marijuana market or any particular product, or consistent with earlier publicity. Future research reports, findings, regulatory proceedings, litigation, media attention or other publicity that are perceived as less favourable than, or that question, earlier research reports, findings or publicity could have a material adverse effect on the demand for the Corporation's products and the business, results of operations, financial condition and cash flows.

Security Risks

Given the nature of the Corporation's product and its lack of legal availability outside of channels approved by the Government of the United States, as well as the concentration of inventory in its facilities, despite meeting or exceeding all legislative security requirements, there remains a risk of shrinkage as well as theft. A security breach at one of the Corporation's facilities could expose the Corporation to additional liability and to potentially costly litigation, increase expenses relating to the resolution and future prevention of these breaches and may deter potential patients from choosing the Corporation's products.

In addition, the Corporation collects and stores personal information about its patients and is responsible for protecting that information from privacy breaches. A privacy breach may occur through procedural or process failure, information technology malfunction, or deliberate unauthorized intrusions. Theft of data for competitive purposes, particularly patient lists and preferences, is an ongoing risk whether perpetrated via employee collusion or negligence or through deliberate cyber-attack. Any such theft or privacy breach would have a material adverse effect on the Corporation's business, financial condition and results of operations.

The Corporation's operations will depend, in part, on how well it protects its networks, equipment, information technology ("IT") systems and software against damage from a number of threats, including, natural disasters, intentional damage and destruction, fire, power loss, hacking, computer viruses, vandalism and theft. The Corporation's operations will also depend on the timely maintenance, upgrade and replacement of networks, equipment, IT systems and software, as well as pre-emptive expenses to mitigate the risks of failures. Any of these and other events could result in information system failures, delays and/or increase in capital expenses. The failure of information systems or a component of information systems could, depending on the nature of any such failure, adversely impact the Corporation's reputation and results of operations.

Unpredictability Caused by Anticipated Capital Structure and Voting Control

Although other Canadian-based companies have dual class or multiple voting share structures, given the capital structure contemplated in respect of the Corporation and the concentration of voting control held by the holders of the Super Voting Shares, this structure and control could result in a lower trading price for, or greater fluctuations in, the trading price of the Corporation's Subordinate Voting Shares or adverse publicity to the Corporation or other adverse consequences.

Sales of Substantial Amounts of Subordinate Voting Shares

Sales of substantial amounts of Subordinate Voting Shares, or the availability of such securities for sale, could adversely affect the prevailing market prices for the Subordinate Voting Shares. A decline in the market prices of the Subordinate Voting Shares could impair the Corporation's ability to raise additional capital through the sale of securities should it desire to do so.

Volatile market price for the Subordinate Voting Shares

The market price for the Subordinate Voting Shares may be volatile and subject to wide fluctuations in response to numerous factors, many of which will be beyond the Corporation's control, including, but not limited to, the following:

- actual or anticipated fluctuations in the Corporation's quarterly results of operations;
- recommendations by securities research analysts;
- changes in the economic performance or market valuations of companies in the cannabis industry;
- addition or departure of the Corporation's executive officers and other key personnel;
- release or expiration of transfer restrictions on the issued and outstanding shares of the Corporation;
- regulatory changes affecting the cannabis industry generally and the business and operations of the Corporation;
- announcements of developments and other material events by the Corporation or its competitors;
- fluctuations to the costs of vital production materials and services;
- changes in global financial markets and global economies and general market conditions, such as interest rates and pharmaceutical product price volatility;
- significant acquisitions or business combinations, strategic partnerships, joint ventures or capital commitments by or involving the Corporation or its competitors;
- operating and share price performance of other companies that investors deem comparable to the Corporation or from a lack of market comparable companies; and
- news reports relating to trends, concerns, technological or competitive developments, regulatory changes and other related issues in the Corporation's industry or target markets.

Financial markets have experienced significant price and volume fluctuations that have particularly affected the market prices of equity securities of companies and that have often been unrelated to the operating performance, underlying asset values or prospects of such companies. Accordingly, the market price of the Subordinate Voting Shares may decline even if the Corporation's operating results, underlying asset values or prospects have not changed. Additionally, these factors, as well as other related factors, may cause decreases in asset values that are deemed to be other than temporary, which may result in impairment losses. There can be no assurance that continuing fluctuations in price and volume will not occur. If such increased levels of volatility and market turmoil continue, the Corporation's operations could be adversely impacted, and the trading price of the Subordinate Voting Shares may be materially adversely affected.

Liquidity

The Corporation cannot predict at what prices the Subordinate Voting Shares of the Corporation will trade and there can be no assurance that an active trading market will develop or be sustained. There is a significant liquidity risk associated with an investment in the Corporation.

Litigation

The Corporation may become party to litigation from time to time in the ordinary course of business which could adversely affect its business. Should any litigation in which the Corporation becomes involved be determined against the Corporation, such a decision could adversely affect the Corporation's ability to continue operating and the market price for the Subordinate Voting Shares. Even if the Corporation is involved in litigation and wins, litigation can redirect significant company resources.

Management of Growth

The Corporation may be subject to growth-related risks, including capacity constraints and pressure on its internal systems and controls. The ability of the Corporation to manage growth effectively will require it to continue to implement and improve its operational and financial systems and to expand, train and manage its employee base. The inability of the Corporation to deal with this growth may have a material adverse effect on the Corporation's business, financial condition, results of operations or prospects.

Increased Costs as a Result of Being a Public Corporation

As a public issuer, the Corporation is subject to the reporting requirements and rules and regulations under the applicable Canadian securities laws and rules of any stock exchange on which the Corporation's securities may be listed from time to time. Additional or new regulatory requirements may be adopted in the future. The requirements of existing and potential future rules and regulations will increase the Corporation's legal, accounting and financial compliance costs, make some activities more difficult, time-consuming or costly and may also place undue strain on its personnel, systems and resources, which could adversely affect its business, financial condition, and results of operations.

Conflicts of Interest

Certain of the directors and officers of the Corporation are, or may become directors and officers of other companies, and conflicts of interest may arise between their duties as directors and officers of the Corporation and as directors and officers of such other companies.

Insurance Coverage

The Corporation believes will have insurance coverage with respect to workers' compensation, general liability, directors' and officers' insurance, fire and other similar policies customarily obtained for businesses to the extent commercially appropriate; however, because the Corporation is engaged in and operates within the cannabis industry, there are exclusions and additional difficulties and complexities associated with such insurance coverage that could cause the Corporation to suffer uninsured losses, which could adversely affect the Corporation's business, results of operations, and profitability. There is no assurance that the Corporation will be able to obtain insurance coverage at a reasonable cost or fully utilize such insurance coverage, if necessary.

Reliance on Key Utility Services

The Corporation's business is dependent on a number of key inputs and their related costs including raw materials and supplies related to its growing operations, as well as electricity, water and other local utilities. Any significant interruption or negative change in the availability or economics of the supply chain for key inputs could materially impact the business, financial condition and operating results of the Corporation. Any inability to secure required supplies and services or to do so on appropriate terms could

have a materially adverse impact on the business, financial condition and operating results of the Corporation.

Difficulty in Enforcing Judgments and Effecting Service of Process on Directors and Officers

The directors and officers of the Corporation reside outside of Canada. Some or all of the assets of such persons may be located outside of Canada. Therefore, it may not be possible for the shareholders of the Corporation to collect or to enforce judgments obtained in Canadian courts predicated upon the civil liability provisions of applicable Canadian securities laws against such persons. Moreover, it may not be possible for the shareholders of the Corporation shareholders to effect service of process within Canada upon such persons.

Community Redevelopment Agency Investigation

In 2015, the United States Grand Jury for the North District of Florida began an investigation in to alleged corruption by local officials in Tallahassee, Florida. In June 2017, the grand jury issued subpoenas to the City of Tallahassee and the Community Redevelopment Agency (the “**Agency**”) for records of communications, bids for proposals, applications, and more from approximately two dozen business entities and individuals, including Ms. Rivers, the Chief Executive Officer of the Corporation, her husband, J.T. Burnette, and Inkbridge LLC, a business associated with Ms. Rivers. The grand jury also directly subpoenaed Ms. Rivers for information related to her involvement with the Agency, a specific commissioner of the Agency, and political contributions Ms. Rivers made through an associated business. Ms. Rivers timely complied with the subpoena. Ms. Rivers has not been charged with any crime. No information was requested of Ms. Rivers in her capacity as an officer, director or employee of the Corporation. Ms. Rivers promptly disclosed the subpoena to the Board and agreed to notify the Board of further developments. Upon disclosure, the Board met independently to consider the matter, the allegations raised thereunder and Ms. Rivers’ response to same. In addition, a member of the Board retained counsel to investigate the matter. Based on such review, counsel to the Board member concluded Ms. Rivers was not a targetⁱ of the investigation. The Board considered the impact of any potential liability in allowing Ms. Rivers to continue as Chief Executive Officer of the Corporation in the face of the investigation and determined that no independent, formal investigation or further action was warranted at the time based on its understanding of the facts as represented by Ms. Rivers. The Corporation remains confident the investigation does not relate to the Corporation or Ms. Rivers’ conduct as a director, officer or employee thereof and believes that Ms. Rivers has complied with all requests made of her to date pursuant to the investigation. The investigation however remains ongoing. While there can be no assurances given with respect to the outcome of the investigation, no government official has contacted Ms. Rivers or the Corporation as part of the investigation since Ms. Rivers produced documents in response to the subpoena in June, 2017. Ms. Rivers’ counsel contacted the federal prosecutor supervising the investigation in July, 2018, who stated Ms. Rivers was currently not a target of the investigation. The Corporation does not know what impact, if any, this investigation will have on the Corporation’s future efforts to maintain and obtain licenses in Florida or elsewhere. Any negative impact on the Corporation’s Florida license could have a material adverse effect on the Corporation’s business, revenues, operating results and financial condition. It is the Corporation’s goal to create patients loyal to the Corporation’s brand and in return to provide these patients a superior level of customer service and product selection. Any allegation of wrong doing on the part of Ms. Rivers as a result of the Agency investigation could harm the Corporation’s reputation with its customers and could have a material adverse effect on the Corporation’s business, revenues, operating results and financial condition as well as the Corporation’s reputation, even if the Agency investigation was concluded successfully in favour of Ms. Rivers. In addition, in the event the Agency investigation results in any allegation of wrongdoing or otherwise further targets Ms. Rivers, Ms. Rivers may be unable to continue serving as Chief Executive Officer and director of the Corporation. Qualified individuals within the cannabis industry are in high demand and the Corporation may incur significant costs to attract and retain qualified management personnel. The loss of the services of Ms. Rivers, or an inability to attract other suitably qualified persons when needed, could have a material adverse effect on the Corporation’s ability to execute on its business plan and strategy, and the Corporation may be unable to find an adequate replacement on a timely basis. Upon the occurrence of certain events that would be considered to negatively impact Ms.

Rivers' involvement with the Corporation, including her becoming a target of the investigation, Ms. Rivers has agreed to convert any Super Voting Shares controlled by her into Multiple Voting Shares.

General Economic Risks

The Corporation's operations could be affected by the economic context should the unemployment level, interest rates or inflation reach levels that influence consumer trends and spending and, consequently, impact the Corporation's sales and profitability.

ⁱ A "target" is a person as to whom the prosecutor or the grand jury has substantial evidence linking him or her to the commission of a crime and who, in the judgment of the prosecutor, is a putative defendant. <https://www.justice.gov/usam/usam-9-11000-grand-jury#9-11.151>



Published in final edited form as:

Alcohol Clin Exp Res. 2016 January ; 40(1): 33–46. doi:10.1111/acer.12942.

Impacts of Changing Marijuana Policies on Alcohol Use in the United States

Katarina Guttmannova, Ph.D.¹, Christine M. Lee, Ph.D.², Jason R. Kilmer, Ph.D.², Charles B. Fleming, M.A.¹, Isaac C. Rhew, Ph.D.^{1,2}, Rick Kosterman, Ph.D., and Mary E. Larimer, Ph.D.²

¹Katarina Guttmannova, Charles B. Fleming, Isaac C. Rhew, Rick Kosterman, Social Development Research Group, School of Social Work, University of Washington, 9725 3rd Ave NE, Suite 401, Seattle, WA 98115

²Christine M. Lee, Jason R. Kilmer, Isaac C. Rhew, and Mary E. Larimer, Department of Psychiatry and Behavioral Sciences, University of Washington, 1100 NE 45th St., Suite 300, Seattle, WA 98105

Abstract

Background—Marijuana policies are rapidly evolving. In the United States, recreational use of marijuana is now legal in four states and medical marijuana is legal in 23 states. Research evaluating such policies has focused primarily on how policies affect issues of price, access to, use, and consequences of marijuana. Due to potential spillover effects, researchers also need to examine how marijuana policies may impact use and consequences of alcohol.

Methods—The current paper is a critical review of articles evaluating alcohol outcomes associated with marijuana decriminalization, medical marijuana legalization, and non-medical or recreational marijuana legalization. We identified articles and reports through (1) online searches of EBSCO host database including Academic search premier, Econlit, Legal collection, Medline, Psych articles, and PsycINFO, as well as PubMed and Google Scholar databases; (2) review of additional articles cited in papers identified through electronic searches; and (3) targeted searches of state and local government records regarding marijuana law implementation. We reviewed studies with respect to their data sources and sample characteristics, methodology, and the margin of alcohol and marijuana use, timing of policy change, and the aspects of laws examined.

Results—The extant literature provides some evidence for both substitution (i.e., more liberal marijuana policies related to less alcohol use as marijuana becomes a substitute) and complementary (i.e., more liberal marijuana policies related to increases in both marijuana and alcohol use) relationships in the context of liberalization of marijuana policies in the United States.

Conclusions—Impact of more liberal marijuana policies on alcohol use is complex, and likely depends on specific aspects of policy implementation, including how long the policy has been in place. Further, evaluation of marijuana policy effects on alcohol use may be sensitive to the age

group studied and the margin of alcohol use examined. Design of policy evaluation research requires careful consideration of these issues.

Keywords

marijuana; cannabis; policy; legalization; alcohol

“Marijuana policy is nothing if not complicated (Chokshi, 2014).” This opening sentence in a Washington Post article prior to the November 2014 elections in the United States (US) summarized the changing climate surrounding marijuana. Starting with Oregon in 1973, eleven US states reduced criminal penalties for possession of small amounts of marijuana during the 1970s. However, these policies varied widely across states (for review see Pacula et al., 2003) with the common denominator being no specific minimum jail or prison sentence for first-time possession of small amount of marijuana. The issue of heterogeneity across the so-called “decriminalization” policies has only increased over time but, as of 2015, 19 US states are considered to have some form of marijuana decriminalization policy.

United States Drug Enforcement Agency scheduling recognizes marijuana as a “Schedule I” drug, meaning there is no accepted medical use in the US. Nonetheless, in 1996 California adopted “medical marijuana” laws allowing use of marijuana to treat a variety of medical conditions, despite federal laws that prohibit marijuana use and possession (Annas, 2014). In 1998, Alaska, Oregon, and Washington followed, as did Maine in 1999 and a number of other states since 2000. Currently, 23 of the nation's 50 states, as well as the District of Columbia and US territories of Guam and Puerto Rico, allow use of marijuana for medical purposes.

Moreover, in 2012, Washington and Colorado legalized marijuana use and possession for non-medical or recreational purposes (hereafter referred to as recreational marijuana laws) for those over 21 years of age, and established regulations governing production, distribution, and sale of marijuana in retail stores (Pardo, 2014). Alaska, Oregon, and the District of Columbia passed their own laws related to recreational use in 2014.

These state-level marijuana policies raise public health and economic concerns because they can have implications not just for marijuana use and consequences, but also for use and consequences of alcohol and other substances (Pacula and Seigney, 2014). Changes in alcohol use, in particular, are of great concern because the majority of the adults in the US use alcohol and alcohol consumption, especially excessive alcohol use, is extremely costly: between 2006 and 2010, it was responsible for an average of almost 88,000 deaths per year (Stahre et al., 2014), and in 2006 alone it amounted to a median state-cost of 2.9 billion dollars (Sacks et al., 2013). Understanding the impact of marijuana-related legislation on alcohol use is crucial to estimating costs and benefits to society, as well as guiding the design of prevention and intervention efforts (e.g., Caulkins et al., 2012; Kilmer et al., 2010).

Many proponents of marijuana legalization view marijuana as less harmful than alcohol. Proponents also emphasize that even if marijuana legalization increases marijuana use, costs of treating marijuana dependence and related problems are smaller than the potential savings

in criminal justice system spending stemming from legalizing marijuana (e.g., Gieringer, 2009). Additionally, if marijuana and alcohol are *substitutes* and increases in marijuana use result in *decreased* alcohol use, this could lead to a great reduction in individual and societal alcohol-related costs due to improved workplace productivity and reductions in healthcare costs and traffic accidents (Centers for Disease Control & Prevention, 2014).

Yet, the cost of changes in marijuana legislation could increase dramatically if marijuana and alcohol are *complements* and changes in marijuana policy lead to *increases* in *both* marijuana and alcohol (e.g., Pacula and Sevigny, 2014). Further, the costs of a complementary increase in marijuana and alcohol use may be more than additive since those who report using alcohol and marijuana tend to use them at the same time (Subbaraman and Kerr, 2015). Simultaneous use has been shown to be more risky and dangerous than use of alcohol or marijuana alone. For example, those who use marijuana and alcohol together have the highest rates of unsafe driving (e.g., Downey et al., 2013a; Ronen et al., 2010; Subbaraman and Kerr, 2015; Terry-McElrath et al., 2014). Clearly, understanding the impact of marijuana-related policies on alcohol use is of paramount public health and safety importance.

In the first section of this review, we provide a summary of the existing knowledge about the relationship between marijuana and alcohol in general, and in the context of well-established alcohol-related policies in particular. We then apply these perspectives to a comprehensive review of publications focused on the impact of marijuana-related policies on alcohol use including the effects of decriminalization, medical marijuana legalization (MML), and findings and future directions from the initial evaluation of recreational marijuana legalization (RML) policies. We conclude with areas for future research that can inform our understanding of how population levels of alcohol use and consequences may be influenced by more liberal marijuana policies.

Why might marijuana and alcohol be substitutes in the context of marijuana policy changes?

The propensity to substitute intoxicants depends on the similarity of anticipated effects of the intoxicants (Moore, 2010). For decades, alcohol and marijuana have been the two most commonly used intoxicants in the United States (e.g., Substance Abuse and Mental Health Services Administration, 2014). Neuroscience research indicates that marijuana and low-dose alcohol use share neuro-pharmacologic effects of reward and sedation (e.g., Heishman et al., 1997), which could lead to alcohol and marijuana being substitutes, particularly for occasional, low-consumption users (Wen et al., 2015). An individual chooses an intoxicant not only on the basis of the desired effects of the drug but also based on the expected costs (i.e., price, health, legal and social consequences). If marijuana and alcohol share their intoxicating effects, one might expect a heightened interchangeability among these substances in the context of marijuana policy changes that lead to lowered cost (be it legal, social or financial) of marijuana use. Decriminalizing or legalizing marijuana could lead to greater availability and lower costs for marijuana use due both to lower monetary price and lower likelihood of legal consequences. This is likely to lead to increases in marijuana use, and a number of studies document this effect (for review see Chu, 2014). If costs of

marijuana use decrease and costs of alcohol use do not, some individuals may decide to substitute marijuana for alcohol, achieving similar intoxication effects at a lower price. Thus, decriminalizing or legalizing marijuana could lead to increases in marijuana use, but decreases in alcohol use. This substitution hypothesis is consistent with findings from some econometric studies that policies designed to limit alcohol use, such as those that increase the minimum legal drinking age or raise alcohol tax rates, have the unintended consequence of increasing the prevalence of marijuana use (e.g., Crost and Guerrero, 2012; DiNardo and Lemieux, 2001).

Why might marijuana and alcohol be complements in the context of marijuana policy changes?

Opponents of decriminalization or legalization of marijuana suggest that liberalization of laws would be associated with increases in marijuana use, as well as increased alcohol use. Partial support for this view comes again from pharmacologic studies that show that the plasma THC (tetrahydrocannabinol) levels increase if alcohol is consumed simultaneously (e.g., Downey et al., 2013b; Lukas and Orozco, 2001), resulting in reports of more pleasurable subjective mood effects of marijuana (Lukas and Orozco, 2001). Thus, the quest for a “better high” might lead individuals to combine the use of both substances. This might be particularly the case for regular users and at higher end of the alcohol consumption continuum (Wen et al., 2015). In addition, marijuana use might impair judgment or decision-making capacity, leading to greater alcohol use than intended; create situations where individuals have more opportunities to combine marijuana and alcohol use to enhance the effects of both substances; or lead individuals to develop more permissive attitudes toward substance use in general (e.g., Kilmer, 2014). Complementarity is also supported by etiology research that has found a positive relationship between marijuana and alcohol use (e.g., Fergusson and Horwood, 2000; Kandel et al., 1992; Lynskey et al., 2003; Morral et al., 2002). Finally, some econometrics studies (e.g., Chaloupka et al., 1999; Saffer and Chaloupka, 1999; Williams et al., 2004) on the effects of alcohol-related policies on marijuana use also point to the plausibility of complementary effects. For example, using data from the National Household Survey of Drug Abuse (NHSDA, now known as the National Survey on Drug Use and Health, NSDUH), higher alcohol prices were related to both lower alcohol and marijuana participation (Saffer and Chaloupka, 1999). Other research using NHSDA data has found that an increase in the price of alcohol or tobacco was associated with lower probability of marijuana use among youth but not adults (Farrelly et al., 1999).

Materials and Methods

The current review was conducted utilizing online search databases, including EBSCO host that includes Academic Search Premier, Econlit, Legal Collection, Medline, PsycINFO, Psych Articles, as well as PubMed and Google Scholar. The primary search terms algorithm included medical/non-medical/recreat*/decrim* and polic*/law/legislation/legal and marijuana/marijuana/pot/weed/THC and alcohol/ethanol/etoh/drink*. Additional searches in all search engines were conducted using the terms spillover/complement*/substit*. These

searches yielded 751 articles. Only articles examining policy changes in the U.S. were included in the review of marijuana law changes on alcohol use. We also excluded articles not written in English, published in a peer-reviewed journal, or relevant to the topic. Figure 1 summarizes the search algorithm and results. Upon reading literature from identified searches, additional articles and government reports were identified and evaluated for relevance to understanding impact or association of marijuana legalization or policies on alcohol use. This search yielded 2 additional articles describing studies relevant to the topic area. In summary, articles were included in the review if they addressed the topic through including at least one outcome measure of alcohol use related to at least one aspect of change in, association with, or difference between marijuana policies. Articles that focused only on the impact of marijuana policies or laws on marijuana use were not included. Table 1 summarizes the studies along 6 key dimensions: the sample, the age groups examined, the type of marijuana policy, and the dimensions of the policy evaluated as well as the operationalization of marijuana and alcohol use. The following section discusses the findings with respect to the potential impacts of different types of marijuana legislation (decriminalization, MML, and RML) on alcohol.

Impact of Marijuana Policies on Alcohol Use

Decriminalization of marijuana possession—Decriminalization of marijuana continues to be an umbrella term for a wide range of statutes across US states varying across dimensions such as classification of the possession offense, the applicability of the reduced penalties to subsequent offenses, and specification of maximum fine or minimum jail time (Pacula et al., 2003). However, the general term refers to reduced criminal penalties for marijuana possession.

As shown in Table 1, our search identified eight studies describing effects of marijuana decriminalization on alcohol use. Model (1993) examined drug-related emergency room visits from 1975-1979 using the Drug Abuse Warning Network (DAWN) data. She found cities within states with changes in marijuana policy toward or including decriminalization showed increases in emergency room visits related to marijuana but a decrease in the number of visits mentioning other drugs including alcohol. Model was not, however, able to examine episodes involving alcohol only because that data was not recorded by DAWN. Studies using Monitoring the Future (MTF) data have yielded mixed results. On one hand, using the 1982-1989 from MTF, Chaloupka and Laixuthai (1997) reported that high school seniors living in states with decriminalization of marijuana policies used alcohol less frequently and were less likely to engage in heavy drinking than adolescents in states with stricter marijuana policies, although once the monetary price of marijuana was included, this relationship was somewhat attenuated. On the other hand, DiNardo and Lemieux (2001) used state-aggregated MTF data from 1980 through 1989 and found no statistically significant relationship between decriminalization and marijuana or alcohol use. Saffer and Chaloupka (1999) pooled three years (1988, 1990, and 1991) of NHDSU data and examined changes in the number of days of past month alcohol use and two dichotomous indicators of marijuana use – any use in the past month as well as in the past year – in the context of marijuana decriminalization. The results indicated that decriminalization was associated

with increases in prevalence of both past month and past year marijuana use but was not associated with alcohol use. However, in a sample of twelfth graders from the 1982 National Longitudinal Survey of Youth (NLSY) study, Yamada, Kendix, & Yamada (1996) found decriminalization was not significantly associated with marijuana use but was associated with less alcohol use, including lower likelihood of becoming a frequent drinker.

Using data on a sample of males from 1984 and 1988 NLSY surveys, Thies & Register (1993) report mixed findings for the impact of marijuana decriminalization on alcohol use. While decriminalization was not associated with marijuana use at either time point, it was associated with higher prevalence of any alcohol use in the 1984 data and lower prevalence of problem alcohol use in the 1988 data. While controlling for legal sanctions for possession of small amounts of marijuana in addition to other measures of state control of drug use, this study did not control for the variation in price of alcohol and marijuana. Pacula (1998) extended the analyses using the NLSY 1984 data to include both the monetary and legal cost of using alcohol and marijuana. In these analyses, the state decriminalization was positively associated with prevalence of alcohol, although there was no relationship between decriminalization status and the prevalence or the conditional quantity of marijuana use.

Finally, Williams and colleagues (2004) pooled data from 1993, 1997 and 1999 waves of the College Alcohol Study (CAS), a nationally representative study of full-time students attending 4-year colleges, to examine the interplay between substance use policies and college students' alcohol and marijuana use. While the results of the study generally indicate a complementary relationship between alcohol and marijuana, the relationship between alcohol- and marijuana-related policies was not symmetrical. Marijuana-related legal sanctions were not related to past month prevalence of alcohol use but alcohol-related policies such as college ban on alcohol were negatively related to both alcohol and marijuana use.

Medical marijuana legislation

Medical marijuana legislation (MML) in the US permits the sale and use of marijuana for medical purposes under widely varying degrees of regulation across and within states (e.g., Pacula et al., 2014). As shown in Table 1, our search identified 6 studies describing effects of medical marijuana legislation on alcohol use.

Evidence of substitution effects to alcohol—Anderson and colleagues (2013) examined the relationship between MML, traffic fatalities and alcohol consumption in 15 states, using multiple sources of data including Fatal Accident Report System (FARS), Behavioral Risk Factor Surveillance System (BRFSS), and alcohol industry data on sales, while also linking data obtained from advertisements in a *High Times*, a magazine for marijuana users, on changes in prices of marijuana. They found that MML was associated with (1) a significant drop in the price of potent marijuana; (2) a decrease in per-capita sales of beer; (3) reduced total alcohol consumption, particularly among young adults; and (4) a decrease in alcohol-related traffic fatalities. Solomonsen-Sautel and colleagues (2014) also examined FARS data. Using data from 1994-2011 for Colorado and 34 states without medical marijuana, they looked at changes occurring after mid-2009 when Colorado, due to

both federal and state law changes, experienced a large increase in medical marijuana commerce. Differences between the pre-commercial time period in Colorado (1994 to mid-2009) and post-commercialization period (late-2009 to 2011) indicated that commercialization of medical marijuana in Colorado was related to increases in the proportion of drivers in a fatal motor vehicle crash who tested positive for marijuana. There were no significant changes, however, in the proportion of drivers who tested positive for alcohol relative to states without medical marijuana. The differences in findings between Anderson & Rees (2014) and Solomonsen-Sautel et al. (2014) with respect to traffic fatalities involving alcohol likely stem from Anderson's study including multiple MML states, whereas Solomonsen-Sautel's study focused on Colorado's MML only. In addition, Anderson & Rees modeled the effect of initial passage of the medical marijuana legislation (which, for example, occurred in 2000 in Colorado) whereas Solomonsen-Sautel and colleagues focused on the proliferation of medical marijuana dispensaries.

Our review uncovered two additional studies that explicitly examined evidence of substitution focusing on marijuana-using adult samples of marijuana users within the MML context, though these studies do not examine the impact of MML policies, per se. Reiman (2009) surveyed 350 adult customers of a medical marijuana dispensary in Berkeley, CA. She found that 40% of patients reported using marijuana as a substitute for alcohol. The reasons for substitution included less severe side effects, better symptom management, and less withdrawal potential than alcohol, illicit or prescription drugs. Richmond and colleagues (2015) used data collected between 2012-2013 at Denver Health Medical Center to examine differences in marijuana and other substance use between patients in Colorado with and without state medical marijuana cards who have reported marijuana use in the past 90 day. Patients with state-issued marijuana cards had higher frequency of marijuana use and lower use of other substances, including alcohol, providing tentative evidence of substitution relationship between marijuana and alcohol.

Evidence of Complementary Effects—Pacula and colleagues (2013) found evidence that effects of MML on alcohol use depend on particular aspects of MML. Using data from Youth Risk Behavior Survey (YRBS), NLSY97 and Treatment Episodes Data System (TEDS), they examined the impact of different dimensions of MML across states on marijuana and alcohol use. Consistent with Anderson and colleagues (2013), they found that a dichotomous indicator of any MML vs. none was negatively associated with self-reported alcohol use. However, when accounting for differences in the dimensions of MMLs across states, the study showed that individuals living in states with MMLs allowing for dispensaries had a higher likelihood of past month marijuana use as well as alcohol use in the full sample (i.e., including all age groups) of NLSY. Similarly, they found evidence of the complementary relationship between alcohol and marijuana in the full sample analyses of the TEDS data where states with MML dispensaries had higher rates of both marijuana and alcohol treatment admissions, pointing to potential complementarity at the high-end of marijuana and alcohol misuse. However, the complementary relationship between alcohol and marijuana was not evidenced in the sub-sample analyses of those under the age of 21. They also found that a provision for medical marijuana dispensaries was important for alcohol-related fatalities. This study replicated Anderson et al.'s (2013) findings that states

with any type of MML policies had fewer alcohol-related fatalities according to FARS, but those states allowing for medical marijuana dispensaries specifically had higher alcohol-related fatalities. Pacula and colleagues found that a patient registry requirement was associated with both lower likelihood of past month marijuana as well as alcohol use in the full sample of NLSY. However, the patient registry provision was positively associated with the number of alcohol treatment admissions in the TEDS data, which suggests the effects of MML policy may differ along the alcohol use-to-disorder continuum.

In a comprehensive evaluation of the effects MML on substance use based on NSDUH data, Wen and colleagues (2015) compared participants from ten states that legalized medical marijuana between 2004 and 2012 with eight states that legalized medical marijuana prior to 2004 as well as the rest of the US states that did not have any MML by the end of 2012. The data were analyzed separately for youth and adults, and different levels of drinking and marijuana use were considered. To assess the frequency, intensity and problem use, five marijuana use outcomes and four alcohol-related outcomes were examined. The study also examined two measures of concurrent use of alcohol and marijuana. Moreover, the study also examined the variation in the timing of the effects of MML, using different time-leads and lags around the dates of MML legislation in their analysis models, and the dimensions of MML heterogeneity specified by Pacula and colleagues (2013). The results, largely consistent across the different specifications, revealed that while MML was not associated with any level of underage drinking among youth (12-20 year-olds) nor the overall past month quantity of alcohol drinks among adults (21+), MML was positively associated with increases in frequency of binge drinking and the probability of simultaneous use of alcohol and marijuana among those of legal drinking age. Finally, the study examined the issue of timing of the policy effect, estimating contemporary as well as six-months, one- and two-year time leads and lags. The results suggest that there are both contemporary effects of MML adoption that influence the changes in the probability of past month marijuana use as well as delayed policy effects on marijuana abuse/dependence among those over the age of 21. Overall, this study suggests there may be complementary effects between marijuana and alcohol among adults but not youth, and these effects may only be evident at higher levels of alcohol use, as well as in the form of increases in simultaneous use of marijuana and alcohol in the context of MML.

Recreational marijuana legalization

Implementation of the new recreational marijuana laws and development of legal recreational marijuana markets in Washington State and Colorado are still unfolding. Legislation passed in both states in 2012, but sale of recreational marijuana in state-regulated stores did not begin until January of 2014 in Colorado and July of 2014 in Washington. As of 2015, RML markets were growing in both states but had not yet matched MML markets in terms of amount of marijuana sold (Washington State Department of Revenue, 2015).

In Washington, understanding the associations between recreational marijuana legalization and alcohol use is complicated by recent change in laws regulating the sale of alcohol. In fall 2011, Washington voted to privatize the sale of hard liquor (Initiative 1183), which

previously had only been available for onsite consumption in bars or restaurants or through state-run liquor stores. Likely due to this law change, there was a 13% increase in retail sales in fiscal year 2013 compared to the prior year; thus, it may be hard to isolate the effects of marijuana legalization on alcohol use in Washington from the effects of the change in alcohol policy (Washington State Office of Financial Management, 2015).

Data from Colorado and Washington on alcohol sales (Colorado Department of Revenue, 2014; Washington State Department of Revenue, 2015) and alcohol-related crime (Denver Department of Safety Public Information Standards, 2014; Drug Policy Alliance, 2014) and traffic accidents (Colorado Department of Transportation, 2015; Washington Traffic Safety Commission, 2014) indicate no dramatic, immediate changes post-RML.

Similarly, adolescent survey data from the two states show changes in alcohol use consistent with longer term trends (Colorado Department of Public Health and Environment, 2013; Washington State Health Youth Survey, 2015). A recent study of a community sample of 238 students in Washington found two cohorts experiencing the law change in Washington at different ages differed in the relative likelihood of using marijuana versus alcohol (Mason et al., 2015), with the cohort that had experienced the law change prior to their 9th grade data collection being relatively more likely to use marijuana compared to their likelihood of using alcohol. Although based on a convenience sample and looking at the effects of legislation soon after passage rather than after full implementation, this study provides a blueprint for modeling the relative likelihood of marijuana and alcohol use as a test of substitution effects.

General conclusions

It is clear that more work is needed to fully understand how the marijuana policy changes affect alcohol use. Across the reviewed studies, we have found support for marijuana and alcohol as both substitutes and complements. There is evidence for substitution effects resulting from liberalization of marijuana laws for some aspects of alcohol consumption. From data sources capturing state variation in marijuana laws, the evidence for substitution includes the MML-associated declines in traffic fatalities and measures of total alcohol consumption among young adults (Anderson et al., 2013; Pacula et al., 2013) and in alcohol use, particularly among youth (Chaloupka and Laixutha, 1997). There is also some weaker evidence of substitution in the studies of community samples based on medical marijuana user self-report of substitution (Reiman, 2009), comparison of alcohol use among medical marijuana card holders compared to non-card-holding marijuana users (Richmond et al., 2015), and comparison of different age cohorts in Washington (Mason et al., 2015). With respect to complementary effects in which liberalization of marijuana laws results in increased use of both marijuana and alcohol use, the strongest support comes from studies of MML by Pacula et al. (2013) and Wen et al. (2015). These studies, using nation-wide data and examining variation across states, suggest that MML, particularly in less restrictive and regulated forms, is associated with increases in some margins of alcohol use among certain age groups. In particular, the Wen et al. study points to increases in heavy drinking and alcohol use combined with marijuana use among adults that can occur in the context of MML.

To gain a more complete picture of the effects of marijuana policy changes on other substance use, it is important to examine changes in overall prevalence, initiation, and regular use as well as to distinguish between casual or occasional users, heavy or regular users, and, if possible, those with abuse or dependence problems. The importance of such distinctions has been aptly demonstrated in the work of Wen and colleagues (2015) who reported the effects of MML on frequency of binge drinking but not on past month quantity of drinking. Also, Pacula and colleagues (2013) found that the effects of MML policy differed along the severity of alcohol use continuum, with MMLs that have patient registry requirement being related to lower prevalence of past month alcohol use but higher number of alcohol treatment admissions indexing a “problem” or “disordered” use. Furthermore, the studies by Wen et al. (2015) and Pacula et al. (2013) highlight that it is important to account for multiple key dimensions of MML including laws about patient registry, dispensaries, and home cultivation and decriminalization and price of marijuana, and therefore also the use of marijuana as well as alcohol. Regarding decriminalization, a similar point can be made about the need to better capture the heterogeneity in decriminalization policies. Studies should focus on different dimensions of marijuana decriminalization policies including variation in statutory penalties such as minimum jail time and maximum fines, among others (Pacula et al., 2003). No study to date has comprehensively evaluated the effects of these dimensions on both marijuana and alcohol use. Furthermore, as the review of studies on the effects of decriminalization on alcohol use demonstrated, these effects are sensitive to the inclusion of the monetary price of marijuana (e.g., Chaloupka & Laixuthai, 1997; Pacula, 1998). Therefore, studies assessing the potential substitution effects between marijuana and alcohol in the context of marijuana policy changes need to capture the changes in the legal and financial price of marijuana use.

Moreover, although all studies included in this critical review included some indicator of decriminalization or MML, researchers should be familiar with actual implementation of policies and account for delays between the date of the policy change and the implementation. For example, Maine and New Jersey medical marijuana dispensaries did not open until two years after they were legalized (Anderson and Rees, 2014). To assess whether the presence of medical marijuana dispensaries affects marijuana and other substance use, the researchers should account for both, the “de-jure” as well as the “de-facto” dimension of the policy change (Anderson and Rees, 2014; Salomonsen-Sautel et al., 2014). A number of studies have examined potential effects on substance use behavior shortly after the passage of legislation even though putative effects may take time to take hold due to delays with implementation of the law and fluctuations in pricing until stabilization. It is plausible that the difference in findings between the Anderson et al. (2013) and Salomonsen-Sautel et al. (2014) with respect to alcohol-related traffic accidents stems from differences in how the timing of effects of MML were evaluated.

Recommendations for future research

In the absence of randomized trials, no single design is ideal to examine potential effects of legislation on other substance use. Thus, findings from multiple designs can complement one another to provide a more complete picture of how policies may influence substance use over time.

One important study approach compares substance use outcomes between states that have enacted pro-marijuana legislation and those that have not. For conducting these between-state comparisons, the difference-in-difference (DD) approach may be a useful method, which accounts for unmeasured time-fixed state-level characteristics. Using national data that have sufficiently representative samples for multiple states, researchers can utilize DD methods to compare differences in the change in prevalence of marijuana and alcohol use from pre- to post-legislation among states that pass legislation to states that do not pass such legislation over the corresponding period. However, it is important for researchers to understand the nuances of the different policies and how these policies were implemented in order to account for the important dimensions of the policy change and their timing.

Yet, there are also important opportunities to utilize data collected from within a single state. Using state-representative repeated cross-sectional samples, investigators could use interrupted time-series approaches to assess whether passage of a marijuana-related policy is associated with deflections off prior trajectories of substance use outcomes over time. A notable limitation is that it is not possible to account for important concurrent or temporally proximal events that could also influence use (e.g., the privatization of liquor sales initiative 1183 in WA that went into effect in 2012), and thus it may be difficult to disentangle the true impact of policy changes.

In addition, similar to work conducted by Mason and colleagues (2015), within-state multiple prospective cohorts from a single research study that traverse the period of policy change at different ages could offer information as to potential spillover effects of legislation. Additionally, within-state studies may allow for studies of specific aspects of the law that vary over smaller-area geographies (e.g., counties) and how they are related to substance use outcomes.

There are other important research questions to explore in addition to whether policies affect use, including impact on risk factors such as individuals' perceived social norms and risks and harms of other substances and how policies may influence co-occurring and concurrent substance use. There may be also differential impacts of policies according to variables such as age, race/ethnicity, income, education, and gender. Using the MTF data from 1976-2013, Lanza and colleagues (2015) found that recently the rates of marijuana use have increased, particularly for male and African American students. In addition, they found that the strength of positive relationship between marijuana use and heavy episodic drinking has increased since 2008 for African American adolescents. While not tested in this study, some of these trends may be sensitive to changes in marijuana related policy. Additional research may guide public health practitioners in selecting relevant tested and effective programs that target marijuana-related risk factors or populations that experience higher levels of problems related to marijuana and alcohol use.

It is important that collection of data at the local, state and national level keeps up with the policy evaluation needs. This means that consistent information is collected over time to allow for time trend analyses. At the same time, however, data should be collected to capture the emerging trends in substance use such as “dabbing” (inhalation of a concentrated THC manufactured through butane extraction, Stogner and Miller, 2015) or the

simultaneous use of marijuana, alcohol and other substances. Finally, the existing datasets should be augmented with variables that allow for disentangling of alcohol and other substance use. For example, the revised DAWN database could include data on alcohol-only episodes for the full sample of patients, not just for underage drinkers, in order to allow for evaluation of effects of marijuana policy changes on alcohol use.

The studies reviewed here highlight that marijuana policies are complex and evolving, and characteristics of these policies have the potential to impact the use of marijuana as well as alcohol. As the current review documented, it is likely that the relationship between marijuana and alcohol varies for different segments of population, and the type and course of marijuana and alcohol use. In the context of legalization, understanding whether alcohol and marijuana are complements or substitutes influences the policy tools to be employed in order to improve public health. This is particularly important if marijuana and alcohol are complements and tools such as increased taxation and decreased availability of marijuana through state monopolization could be used to curb increases in use. Yet, such controlling policy tools should be approached cautiously given the possibility of empowering the illicit, unregulated market that may expose consumers to potentially greater harm. What is clear is that our current understanding of the impact of marijuana-related policy changes on alcohol use is limited, and further study that carefully considers the heterogeneity in marijuana policy and its implementation, as well as the full range of marijuana and alcohol outcomes and the characteristics of the users is needed. Who is up for the challenge?

Acknowledgments

Manuscript preparation was supported by the National Institute on Alcohol Abuse and Alcoholism of the National Institutes of Health under award #R01AA018276 to Dr. Larimer, as well as by the National Institute on Drug Abuse of the National Institutes of Health under award #R21DA037341 to Dr. Guttmanova and #R01DA033956 to Dr. Kosterman. The content is solely the responsibility of the authors and does not necessarily represent the official views of the National Institutes of Health.

References

- Anderson DM, Hansen B, Rees DI. Medical marijuana laws, traffic fatalities, and alcohol consumption. *Journal of Law and Economics*. 2013; 56:333–369.
- Anderson DM, Rees DI. The role of dispensaries: the devil is in the details. *Journal of Policy Analysis and Management*. 2014; 33:235–240. [PubMed: 24358532]
- Annas GJ. Medical marijuana, physicians, and state law. *The New England Journal of Medicine*. 2014; 371:983–983. [PubMed: 25099473]
- Caulkins, JP.; Hawken, A.; Kilmer, B.; Kleiman, MAR. *Marijuana legalization: What everyone needs to know*. New York: Oxford University Press; 2012.
- Centers for Disease Control & Prevention. Excessive drinking costs U S \$223.5 billion. 2014. Retrieved May 29, 2015, from the World Wide Web: <http://www.cdc.gov/Features/AlcoholConsumption/>
- Chaloupka FJ, Laixutha A. Do youths substitute alcohol and marijuana? Some econometric evidence. 1997; 23:3.
- Chaloupka, FJ.; Pacula, RL.; Farrelly, MC.; Johnston, LD.; O'Malley, PM. Do higher cigarette prices encourage youth to use marijuana? (NBER Working Paper No 6939). National Bureau of Economic Research; 1999. Retrieved May 29, 2015, from the World Wide Web: <http://www.nber.org/papers/w6939>
- Chokshi, N. Where marijuana is legalized, decriminalized, or on the November ballot. *Washington Post*; 2014 Oct 13. Retrieved May 29, 2015, from the World Wide Web: <http://>

www.washingtonpost.com/blogs/govbeat/wp/2014/10/13/where-marijuana-is-legalized-decriminalized-or-on-the-november-ballot

- Chu YW. The effects of medical marijuana laws on illegal marijuana use. *Journal of Health Economics*. 2014; 38:43–61. [PubMed: 25205609]
- Colorado Department of Public Health and Environment. Marijuana: Overview of 2013 data from the Healthy Kids Colorado Survey. 2011. Retrieved May 29, 2015, from the World Wide Web: http://www.chd.dphe.state.co.us/topics.aspx?q=Adolescent_Health_Data
- Colorado Department of Revenue. Annual Report: July 1, 2013–June 30, 2014. 2014. Retrieved May 29, 2015, from the World Wide Web: <https://www.colorado.gov/pacific/sites/default/files/2014%20Annual%20Report1.pdf>
- Colorado Department of Transportation. National Traffic Highway Association, Fatality Analysis Reporting System Colorado historical fatal crash trends since 2002. 2015. Retrieved May 29, 2015, from the World Wide Web: https://www.codot.gov/library/traffic/traffic-manuals-guidelines/safety-crash-data/fatal-crash-data-city-county/Colorado_Historical_Fatalities_Graphs.pdf/view
- Crost B, Guerrero S. The effect of alcohol availability on marijuana use: evidence from the minimum legal drinking age. *Journal of Health Economics*. 2012; 31:112–121. [PubMed: 22381404]
- Denver Department of Safety Public Information Standards. [Retrieved Accessed May 29, 2015] Part 1: Crime in the city and county of Denver based on UCR standards. 2014. from the World Wide Web: http://www.denvergov.org/Portals/720/documents/statistics/2014/UCR_Citywide_Reported%20Offenses_2014.pdf
- DiNardo J, Lemieux T. Alcohol, marijuana, and American youth: the unintended consequences of government regulation. *Journal of Health Economics*. 2001; 20:991–1010. [PubMed: 11758056]
- Downey LA, King R, Papafotiou K, Swann P, Ogden E, Boorman M, Stough C. The effects of cannabis and alcohol on simulated driving: Influences of dose and experience. *Accident Analysis and Prevention*. 2013a; 50:879–886. [PubMed: 22871272]
- Downey LA, King R, Papafotiou K, Swann P, Ogden E, Boorman M, Stough C. The effects of cannabis and alcohol on simulated driving: Influences of dose and experience. *Accident Analysis & Prevention*. 2013b; 50:879–886. [PubMed: 22871272]
- Drug Policy Alliance. Marijuana legalization in Colorado after one year of retail sales and two years of decriminalization. 2014. Retrieved May 29, 2015, from the World Wide Web: https://www.drugpolicy.org/sites/default/files/Colorado_Marijuana_Legalization_One_Year_Status_Report.pdf
- Farrelly, MC.; Bray, JW.; Zarkin, GA.; Wendling, BW.; Pacula, RL. The effects of prices and policies on the demand for marijuana: Evidence from the National Household Surveys on Drug Abuse (NBER Working Paper 6940). National Bureau of Economic Research; 1999. Retrieved the World Wide Web: <http://www.nber.org/papers/w6940>
- Fergusson DM, Horwood LJ. Does cannabis use encourage other forms of illicit drug use? *Addiction*. 2000; 95:505–520. [PubMed: 10829327]
- Freisthler B, Gruenewald PJ. Examining the relationship between the physical availability of medical marijuana and marijuana use across fifty California cities. *Drug and Alcohol Dependence*. 2014; 143:244–250. [PubMed: 25156224]
- Gieringer, D. Marijuana legalization could yield California taxpayers over \$1.2 billion per year [CA NORML Web site]. 2009. Retrieved May 29, 2015, from the World Wide Web: http://www.canorml.org/background/CA_legalization2.html
- Gruenewald PJ. The spatial ecology of alcohol problems: Niche theory and assortative drinking. *Addiction*. 2007; 102:870–878. [PubMed: 17523980]
- Heishman SJ, Arasteh K, Stitzer ML. Comparative effects of alcohol and marijuana on mood, memory, and performance. *Pharmacology, Biochemistry and Behavior*. 1997; 58:93–101.
- Kandel DB, Yamaguchi K, Chen K. Stages of progression in drug involvement from adolescence to adulthood: Further evidence for the gateway theory. *Journal of Studies on Alcohol*. 1992; 53:447–457. [PubMed: 1405637]
- Kilmer B. Policy designs for cannabis legalization: Starting with the eight Ps. *The American Journal of Drug and Alcohol Abuse*. 2014; 40:259–261. [PubMed: 24853283]

- Kilmer, B.; Caulkins, JP.; Midgette, G.; Dahlkemper, L.; MacCoun, RJ.; Pacula, RL. Before the grand opening: Measuring Washington state's marijuana market in the last year before legalized commercial sales. RAND; 2013. Retrieved May 29, 2015, from the World Wide Web: http://www.rand.org/pubs/research_reports/RR466.html
- Kilmer, B.; Caulkins, JP.; Pacula, RL.; MacCoun, R.; Reuter, PH. Altered state? Assessing how marijuana legalization in California could influence marijuana consumption and public budgets No OP-315-RC. Santa Monica, CA: RAND; 2010.
- Lanza ST, Vasilenko SA, Dziak JJ, Butera NM. Trends among U.S. high school seniors in recent marijuana use and associations with other substances: 1976-2013. *Journal of Adolescent Health*. 2015; 57:198–204. [PubMed: 26206440]
- Light, MK.; Orens, A.; Lewandowski, B.; Pickton, T. Market size and demand for marijuana in Colorado. 2014. Retrieved May 29, 2015, from the World Wide Web: <https://www.colorado.gov/pacific/sites/default/files/Market%20Size%20and%20Demand%20Study,%20July%209,%202014%5B1%5D.pdf>
- Lukas SE, Orozco S. Ethanol increases plasma Delta(9)-tetrahydrocannabinol (THC) levels and subjective effects after marijuana smoking in human volunteers. *Drug and Alcohol Dependence*. 2001; 64:143–149. [PubMed: 11543984]
- Lynskey MT, Heath AC, Bucholz KK, Slutske WS, Madden PAF, Nelson EC, Statham DJ, Martin NG. Escalation of drug use in early-onset cannabis users vs co-twin controls. *JAMA*. 2003; 289:427–433. [PubMed: 12533121]
- MacCoun, RJ.; Reuter, P. Drug war heresies: Learning from other vices, times, and places. Cambridge, UK: Cambridge University Press; 2001.
- Mair C, Freisthler B, Ponicki WR, Gaidus A. The impacts of marijuana dispensary density and neighborhood ecology on marijuana abuse and dependence. *Drug and Alcohol Dependence*. 2015
- Mason WA, Hanson K, Fleming CB, Ringle JL, Haggerty KP. Washington State recreational marijuana legalization: Parent and adolescent perceptions, knowledge, and discussions in a sample of low-income families. *Substance Use and Misuse*. 2015; 50:541–545. [PubMed: 25671633]
- Model KE. The effect of marijuana decriminalization on hospital emergency room drug episodes: 1975–1978. *Journal of the American Statistical Association*. 1993; 88:737–747.
- Moore SC. Substitution and complementarity in the face of alcohol-specific policy interventions. *Alcohol and Alcoholism*. 2010; 45:403–408. [PubMed: 20729529]
- Morral AR, McCaffrey DF, Paddock SM. Reassessing the marijuana gateway effect. *Addiction*. 2002; 97:1493–1504. [PubMed: 12472629]
- Pacula RL. Does increasing the beer tax reduce marijuana consumption? *Journal of Health Economics*. 1998; 17:557–585. [PubMed: 10185512]
- Pacula, RL.; Chriqui, JF.; King, J. Marijuana decriminalization: What does it mean in the United States? (NBER Working Paper No 9690). National Bureau of Economic Research; 2003. Retrieved May 29, 2015, from the World Wide Web: <http://www.nber.org/papers/w9690>
- Pacula RL, Hunt P, Boustead A. Words can be deceiving: A review of variation among legally effective medical marijuana laws in the United States. *Journal of Drug Policy Analysis*. 2014; 7:1–19. [PubMed: 25657828]
- Pacula, RL.; MacCoun, RJ.; Reuter, P.; Chriqui, J.; Kilmer, B.; Harris, K.; Paoli, L.; Schaefer, C. What does it mean to decriminalize marijuana? A cross-national empirical examination. In: Lindgren, B.; Grossman, M., editors. *Substance use: Individual behaviour, social interactions, markets and politics*. North-Holland: Elsevier; 2005. p. 347-370.
- Pacula, RL.; Powell, D.; Heaton, P.; Sevigny, EL. Assessing the effects of medical marijuana laws on marijuana use: the devil is in the details (NBER Working Paper No 19302). National Bureau of Economic Research; 2013. Retrieved May 29, 2015, from the World Wide Web: <http://www.nber.org/papers/w19302>
- Pacula RL, Sevigny EL. Marijuana liberalization policies: Why we can't learn much from policy still in motion. *Journal of Policy Analysis and Management*. 2014; 33:212–221. [PubMed: 24358530]
- Pardo B. Cannabis policy reforms in the Americas: A comparative analysis of Colorado, Washington, and Uruguay. *International Journal of Drug Policy*. 2014; 25:727–735. [PubMed: 24970383]

- Reiman A. Cannabis as a substitute for alcohol and other drugs. *Harm Reduction Journal*. 2009; 6:35. [PubMed: 19958538]
- Richmond MK, Pampel FC, Rivera LS, Broderick KB, Reimann B, Fischer L. Frequency and risk of marijuana use among substance-using health care patients in Colorado with and without access to state legalized medical marijuana. *Journal of Psychoactive Drugs*. 2015; 47:1–9. [PubMed: 25715066]
- Ronen A, Chassidim HS, Gershon P, Parmet Y, Rabinovich A, Bar-Hamburger R, Cassuto Y, Shinar D. The effect of alcohol, THC and their combination on perceived effects, willingness to drive and performance of driving and non-driving tasks. *Accident Analysis and Prevention*. 2010; 42:1855–1865. [PubMed: 20728636]
- Sacks JJ, Roeber J, Bouchery EE, Gonzales K, Chaloupka FJ, Brewer RD. State costs of excessive alcohol consumption, 2006. *American Journal of Preventive Medicine*. 2013; 45:474–485. [PubMed: 24050424]
- Saffer, H.; Chaloupka, F. Demographic differentials in the demand for alcohol and illicit drugs. In: Chaloupka, J.; Grossman, M.; Bickel, WK.; Saffer, H., editors. *The Economic Analysis of Substance Use and Abuse*. University of Chicago Press; Chicago: 1999.
- Saffer, H.; Chaloupka, F. Demographic differentials in the demand for alcohol and illicit drugs. In: Chaloupka, J.; Grossman, M.; Bickel, WK.; Saffer, H., editors. *The Economic Analysis of Substance Use and Abuse*. University of Chicago Press; Chicago: 1999.
- Salomonsen-Sautel S, Min SJ, Sakai JT, Thurstone C, Hopfer C. Trends in fatal motor vehicle crashes before and after marijuana commercialization in Colorado. *Drug and Alcohol Dependence*. 2014; 140:137–144. [PubMed: 24831752]
- Stahre M, Roeber J, Kanny D, Brewer RD, Zhang X. Contribution of excessive alcohol consumption to deaths and years of potential life lost in the United States. *Preventing Chronic Disease*. 2014; 11:E109. [PubMed: 24967831]
- Stogner JM, Miller BL. Assessing the dangers of “dabbing”: Mere marijuana or harmful new trend? *Pediatrics*. 2015; 136:1–3. [PubMed: 26077476]
- Subbaraman MS, Kerr WC. Simultaneous versus concurrent use of alcohol and cannabis in the National Alcohol Survey. *Alcoholism: Clinical and Experimental Research*. 2015; 39:872–879.
- Substance Abuse and Mental Health Services Administration. Results from the 2013 National Survey on Drug Use and Health: Summary of National Findings, NSDUH Series H-48, HHS Publication No (SMA) 14-4863. Rockville, MD: Substance Abuse and Mental Health Services Administration; 2014.
- Terry-McElrath YM, O'Malley PM, Johnston LD. Alcohol and marijuana use patterns associated with unsafe driving among U.S. high school seniors: High use frequency, concurrent use, and simultaneous use. *Journal of Studies on Alcohol and Drugs*. 2014; 75:378–389. [PubMed: 24766749]
- Theall KP, Lancaster BP, Lynch S, Haines RT, Scribner S, Scribner R, Kishore V. The neighborhood alcohol environment and at-risk drinking among African-Americans. *Alcoholism: Clinical and Experimental Research*. 2011; 35:996–1003.
- Thies CF, Register CA. Decriminalization of marijuana and the demand for alcohol, marijuana and cocaine. *The Social Science Journal*. 1993; 30:385–399.
- Truong KD, Sturm R. Alcohol outlets and problem drinking among adults in California. *Journal of Studies on Alcohol and Drugs*. 2007; 68:923–933. [PubMed: 17960311]
- Washington State Department of Revenue. Spirits Tax. 2015. Retrieved May 29, 2015, from the World Wide Web: http://dor.wa.gov/Content/AboutUs/StatisticsAndReports/stats_SpiritsTaxes.aspx
- Washington State Health Youth Survey. Healthy youth survey fact sheets. 2015 Apr 14. Retrieved May 29, 2015, from the World Wide Web: <https://www.askhys.net/FactSheets>
- Washington State Office of Financial Management. Forecasting and Research Division. Washington state: Privatization of liquor: The impact of initiative 1183. 2015 Retrieved May 29, 2015, from the World Wide Web: Forecasting and Research Division. Washington state: Privatization of liquor: The impact of initiative 1183.
- Washington Traffic Safety Commission. Quarterly Crash Data. 2014. Retrieved May 29, 2015, from the World Wide Web: <http://wtsc.wa.gov/research-data/crash-data/>

- Wen H, Hockenberry JM, Cummings JR. The effect of medical marijuana laws on adolescent and adult use of marijuana, alcohol, and other substances. *Journal of Health Economics*. 2015; 42:64–80. [PubMed: 25863001]
- Williams J, Liccario Pacula R, Chaloupka FJ, Wechsler H. Alcohol and marijuana use among college students: economic complements or substitutes? *Health Economics*. 2004; 13:825–843. [PubMed: 15362176]
- Yamada T, Kendix M, Yamada T. The impact of alcohol consumption and marijuana use on high school graduation. *Health Economics*. 1996; 5:77–92. [PubMed: 8653193]

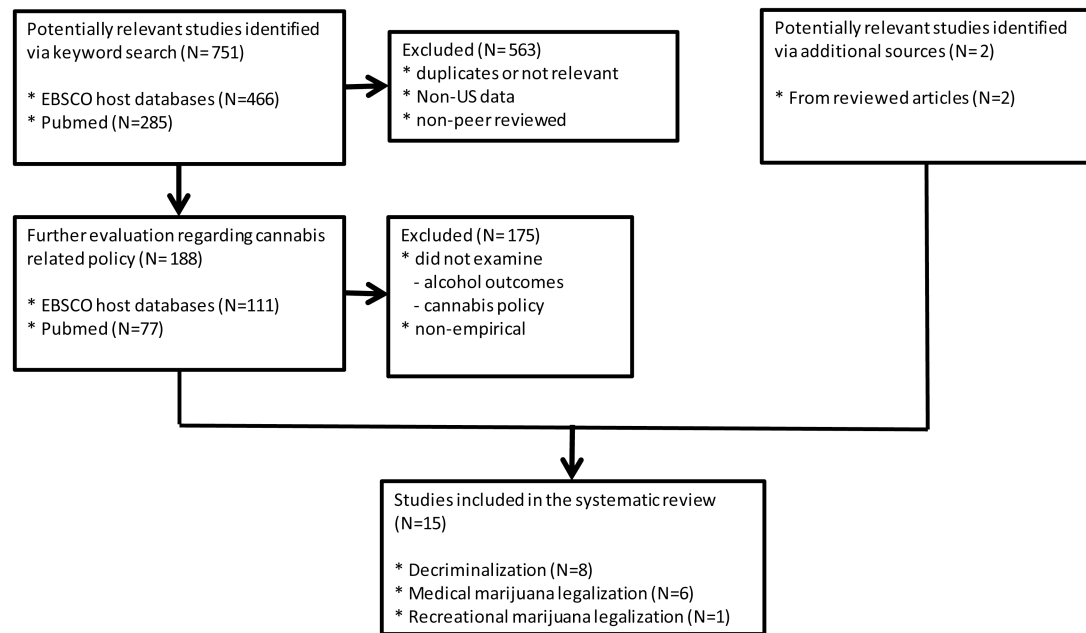


Figure 1. Flow diagram showing the search algorithm and the number of studies included and excluded from the systematic review

Table 1

Summary of the Reviewed Studies

First Author (year)	Sample	Age group considered	Cannabis policy evaluated	Specific dimensions of the policy evaluated	Measures of Cannabis Use	Measures of Alcohol Use	Key findings
Chaloupka & Laixuthai (1997)	MTF 1982 and 1989 data	High-school Grade 12	Decrim	marijuana decriminalization, and price of marijuana	not examined	frequency of alcohol in PY, drinking in past 30 days, heavy drinking past 2 weeks	decriminalization associated with less frequent alcohol use and lower likelihood of heavy drinking; findings somewhat attenuated once controlling for monetary price of cannabis
Chaloupka & Laixuthai (1997) continued	FARS 1975-1988 data	age 18-20, 15-24	Decrim	decriminalized in the state of residence y/n	not examined	total fatality rate; night driver fatality rate; alcohol involved driver fatality rate	decriminalization associated with decreases in alcohol-related driver fatality rates among youth
Dinardo & Lemieux (2001)	MTF 1980-1989 data	High school; controls for >=18 years of age	Decrim	decriminalization	any PM cannabis use	any PM alcohol use	no statistically significant relationship between decriminalization and cannabis or alcohol use
Model (1993)	DAWN 1975-1977 data	All ages but controlling for % of 18-34	Decrim	decriminalized in the state of residence y/n, and the time elapsed since the enactment of the new law (up to 3 years ago)	Number of mentions in ER drug-related visits	# of mentions of ER drug-related visits not mentioning cannabis (not alcohol specific); alcohol is recorded in ER visit if used in conjunction with another illicit drug or with a prescription drug used for nonmedical purposes; alcohol-related episodes separately are not examined because data unavailable	decriminalization was associated with an increase in the number of ER cannabis episodes and decrease in the number of episodes mentioning other substances
Pacula (1998)	NLSY 1984 data		Decrim	marijuana decriminalization,	any PM cannabis use;	any PM alcohol use;	decriminalization associated with higher

First Author (year)	Sample	Age group considered	Cannabis policy evaluated	Specific dimensions of the policy evaluated	Measures of Cannabis Use	Measures of Alcohol Use	Key findings
Saffer & Chaloupka (1999)	NHSDA 1988, 1990, and 1991 data	age 12-20, age 21-30	Decrim	marijuana decriminalization, and price of marijuana	any PM cannabis use, any PY cannabis use	number of days in the past alcohol use	prevalence of alcohol use but not related to cannabis use
Thies & Register (1993)	NLSY 1984 and 1988 data (but males only)	age 14-21	Decrim	marijuana decriminalization, enforcement index measuring state law enforcement of common crimes	any PM cannabis use and number of joints during the last month for cannabis users	any PM alcohol use, any binge drinking defined as 6 or more drinks of alcohol at one time and the amount each in the PM	decriminalization associated with higher prevalence of PM and PY cannabis use but not related to alcohol use
Williams et al. (2004)	CAS 1993, 1997 and 1999 data	college students; separate analyses testing age interaction ≥ 21 years of age	Decrim	marijuana decriminalization; and state-level maximum fine for possession of 1 oz of cannabis; also price of cannabis	PM and PY cannabis use	PM and PY alcohol use	no statistically significant relationship between cannabis-related policies and alcohol use but alcohol-related sanctions related to lower cannabis use; also negative relationship between monetary price of cannabis and both cannabis and alcohol use
Yamada et al. (1996)	NLSY 1982 data	High school Grade 12	Decrim	decriminalized in the state of residence y/n	Whether used marijuana in each of the ten months during the academic year	Used alcohol two or more days in the past week; number of drinks consumed in the prior week	Decriminalization was associated with lower probability of frequent drinking but no relationship with cannabis use
Anderson et al. (2013)	FARS 1990-2010 data	15-19; 20-29; 30-39; 40-49; 50-59; 60+ years of age	MML	passage of MML	not examined	Traffic fatalities overall; TF not involving alcohol; TF involving alcohol BAC ≥ 0 ; and BAC $\geq .10$	MML is related to a significant decrease in TF from accidents involving BAC $\geq .10$. Evidence of effects by age - MML related 16.7% decrease in TF of 20-29 yos. And some evidence of greater impact of MML on fatalities among males (trend).

First Author (year)	Sample	Age group considered	Cannabis policy evaluated	Specific dimensions of the policy evaluated	Measures of Cannabis Use	Measures of Alcohol Use	Key findings
Anderson et al. (2013) - continued	BRFSS 1993-2010 data	all; and 18-19; 20-29; 30-39; 40-49; 50-59; 60+ years of age	MML	passage of MML	not examined	PM use: any, 15+; 30+; 60+; Binge drank; 2+ Binges; Number of drinks	MML related to reduction in the probability of some forms on PM alcohol consumption in all age groups except the oldest (60+ yrs); any and daily drinking among 18-19 yrs; 60+ drinks and number of drinks among 20-29yos; 15+ drinks among 30-39 yrs; binge drinking among 40-49 yrs; 15+ and 30+ drinks among 50-59 yrs binge drinking
Anderson et al. (2013) - continued	Cannabis price data from High Times 1990-2011 data	N/A	MML	passage of MML	price of low- and high-quality cannabis in a given state and year	N/A	MML related to 9.8% decrease in the price of high quality cannabis but the effect of MML on the price of cannabis was delayed - in the 4th full year after MML, there was a 24% decrease in the price of high-quality cannabis
Anderson et al. (2013) - continued	Alcohol sales from the Beer Institute in Brewers Almanac 1990-2010 data	N/A	MML	passage of MML	N/A	per capita sales of beer, wine and spirits in a given state and year	MML passage associated with lower beer sales; also, lower beer sales associated with lower traffic fatalities overall and those involving BAC>0 and >.10
Pacula et al. (2013) (NBER working paper)	FARS 1990-2009 data	<21 and total sample	MML	Laws concerning (1) registry, (2) home cultivation, (3) dispensaries, and (4) whether allow MM for non-specific pain. Exclude non-specific pain rules from analysis due to collinearity with other dimensions	not examined	FARS: rate of alcohol rated traffic accident fatalities	negative association between general MML indicator and alcohol related fatalities; positive association between dispensaries and fatalities
Pacula et al. (2013) (NBER working paper) continued	TEDS 1992-2008 data	<21 and total sample	MML	Laws concerning (1) registry, (2) dispensaries, (3) home cultivation, and (4) whether allow MM for non-specific pain. Exclude non-	Marijuana Treatments per 1,000	Alcohol Treatments per 1,000;	in both <21 and full samples, MML associated with fewer marijuana admissions but dispensaries and home cultivation associated with more marijuana

First Author (year)	Sample	Age group considered	Cannabis policy evaluated	Specific dimensions of the policy evaluated	Measures of Cannabis Use	Measures of Alcohol Use	Key findings
Pacula et al. (2013) (NBER working paper) continued	NLSY97 1997-2008 data	<21 and total sample (although NLSY sample 12-17 in 1997, so lack coverage of ages in a given year)	MML	Laws concerning (1) registry, (2) dispensaries, (3) home cultivation, and (4) whether allow MM for non-specific pain. Exclude non-specific pain rules from analysis due to collinearity with other dimensions	% use any marijuana past 30 days, % used marijuana 16+ days in past 30, % used 21+ in past 30	% use any alcohol past 30 days, % used alcohol 16+ days in past 30, % used 21+ in past 30	specific pain rules from analysis due to collinearity with other dimensions; no specific pain rules from analysis due to collinearity with other dimensions; MML and dispensaries admissions for <21 or full sample; positive associations between alcohol admission and dispensaries in <21 sample and between alcohol admissions and dispensaries, registries and home cultivation in full sample
							in the <21 sample, no association between MML and any or heavy marijuana use but positive association between home cultivation and heavy marijuana use; in the full sample, negative association between MML and PM marijuana use and between registries and PM marijuana use and positive association between dispensaries and PM marijuana use; no association between MML and alcohol use; positive associations between alcohol use and home cultivation in <21 and full samples and between alcohol use and dispensaries in full sample; negative association between alcohol use and registries in <21 and full samples
Pacula et al. (2013) (NBER working paper) continued	YRBS 1993-2009 data	High school Grades 9-12	MML	Laws concerning (1) registry, (2) dispensaries, (3) home cultivation, and (4) whether allow MM for non-specific pain. Exclude non-specific pain rules from analysis due to	% used marijuana in past 30 days	% used alcohol in past 30 days	no association between MML and PM marijuana use; negative association between home cultivation and PM marijuana use; no overall association between MML and alcohol use; negative associations between alcohol use and both

First Author (year)	Sample	Age group considered	Cannabis policy evaluated	Specific dimensions of the policy evaluated	Measures of Cannabis Use	Measures of Alcohol Use	Key findings
Salomonsen-Sautel et al. (2013)	FARS 1994-2011 data	all, controlling for proportion of drivers 21-24 years of age	MML	Commercialization of MM that took place after Ogden memo and changes in Colorado rules that involved lifting limit on number of patients a caregiver could aid.	Proportion of drivers involved in fatal crash testing positive for marijuana	Proportion of drivers involved in fatal crashes with BAC 0.08%	dispensaries and home cultivation No evidence of the effects of medical cannabis commercialization on proportion of drivers testing positive for alcohol. Evidence of increase in proportion testing positive for marijuana after medical cannabis commercialization.
Wen et al. (2015)	NSDUH 2004-2012 data	Examined 12-20 and 21+ separately (although also looked at other possible cut points (18, 25, 30)).	MML	Examined MML as a dichotomous variable, but also ran models examining effects of laws on (1) non-specific pain, (2) patient registries, (3) retail dispensaries, and (4) home cultivation	1) any use in prior month, 2) 20+ days of use in prior month, 3) days of use in past abuse/dependence during PY according to DSM-IV criteria, 4) used in prior year, and 5) dependence in prior year according to DSM-IV criteria	1) number of drinks in PM, 2) frequency of binge drinking days in PM, 3) days in PM, 3) abuse/dependence during PY according to DSM-IV criteria, 4) used both marijuana and binge drank in prior month, and 5) used marijuana while drinking alcohol (i.e., on the same occasion) during prior month	For ages 12-20: no evidence of any effect on any measure of alcohol use; for ages 21+: no effect on number of drinks in PM or alcohol abuse/dependence, but more frequent binge drinking and higher likelihood of both marijuana use and binge drinking in PM and of simultaneous use of cannabis and alcohol. For MML: no consistent effect of patient registry or allowance for retail dispensaries, consistent and significant effect of the "non-specific pain" provision on increasing marijuana use and binge drinking and simultaneous use of marijuana and alcohol.
Reiman (2009)	Users of a medical cannabis dispensary in Berkeley, CA (N=350)	Ages 18 through 81 (mean = 39.4) years of age	N/A	N/A but within the context of MML	PM cannabis use, any and frequency	PM alcohol use, any and number of days, and treatment history	Over half of the participants were current drinkers. 40% reported substituting cannabis for alcohol.
Richmond et al. (2015)	SBIRT screened patients who reported cannabis use from health care	Ages 18 through 94 (mean age = 36.8) years of age	N/A	Whether a medical marijuana card holder	number of days using cannabis in the	ASSIST screen for severity of alcohol risk	Cardholders had higher frequency of cannabis use and lower odds of moderate/high risk of

First Author (year)	Sample	Age group considered	Cannabis policy evaluated	Specific dimensions of the policy evaluated	Measures of Cannabis Use	Measures of Alcohol Use	Key findings
	facilities in Denver, CO in study period (N=2030) facilities in Denver, CO in study period (N=2030)				PM and risky use		alcohol use than non-cardholders (i.e., those without access to state legalized medical cannabis)
Mason et al. (2015)	two cohorts from community sample of 238 students in Washington State 2011, 2012	9th grade students, longitudinal	RML	passage of RML	any PM cannabis use	any PM alcohol use	cohort experiencing RML change prior to 9th grade data collection relatively more likely to use marijuana compared to likelihood of using alcohol than younger cohort that had not experienced the law change

Notes: MML= Medical Marijuana Legislation; RML= Recreational Marijuana Legislation; Decrim=Decriminalization of marijuana; PM=past month; PY=past year; TF=traffic fatalities; BAC=blood alcohol concentration; CAS=College Alcohol Study; DAWN=Drug Abuse Warning Network; FARS=Fatal Accident Report System; MTF=Monitoring the Future; NHSDA=National Household Survey of Drug Abuse; NLSY=National Longitudinal Study of Youth; TEDS= Treatment Episodes Data System; YRBS=Youth Risk Behavior Survey.

Dragone, Davide; Prarolo, Giovanni; Vanin, Paolo; Zanella, Giulio

Working Paper

Crime and the Legalization of Recreational Marijuana

IZA Discussion Papers, No. 10522

Provided in Cooperation with:

IZA – Institute of Labor Economics

Suggested Citation: Dragone, Davide; Prarolo, Giovanni; Vanin, Paolo; Zanella, Giulio (2017) : Crime and the Legalization of Recreational Marijuana, IZA Discussion Papers, No. 10522, Institute of Labor Economics (IZA), Bonn

This Version is available at:

<http://hdl.handle.net/10419/161145>

Standard-Nutzungsbedingungen:

Die Dokumente auf EconStor dürfen zu eigenen wissenschaftlichen Zwecken und zum Privatgebrauch gespeichert und kopiert werden.

Sie dürfen die Dokumente nicht für öffentliche oder kommerzielle Zwecke vervielfältigen, öffentlich ausstellen, öffentlich zugänglich machen, vertreiben oder anderweitig nutzen.

Sofern die Verfasser die Dokumente unter Open-Content-Lizenzen (insbesondere CC-Lizenzen) zur Verfügung gestellt haben sollten, gelten abweichend von diesen Nutzungsbedingungen die in der dort genannten Lizenz gewährten Nutzungsrechte.

Terms of use:

Documents in EconStor may be saved and copied for your personal and scholarly purposes.

You are not to copy documents for public or commercial purposes, to exhibit the documents publicly, to make them publicly available on the internet, or to distribute or otherwise use the documents in public.

If the documents have been made available under an Open Content Licence (especially Creative Commons Licences), you may exercise further usage rights as specified in the indicated licence.

DISCUSSION PAPER SERIES

IZA DP No. 10522

**Crime and the Legalization of
Recreational Marijuana**

Davide Dragone
Giovanni Prarolo
Paolo Vanin
Giulio Zanella

JANUARY 2017

DISCUSSION PAPER SERIES

IZA DP No. 10522

Crime and the Legalization of Recreational Marijuana

Davide Dragone
University of Bologna

Giovanni Prarolo
University of Bologna

Paolo Vanin
University of Bologna

Giulio Zanella
University of Bologna and IZA

JANUARY 2017

Any opinions expressed in this paper are those of the author(s) and not those of IZA. Research published in this series may include views on policy, but IZA takes no institutional policy positions. The IZA research network is committed to the IZA Guiding Principles of Research Integrity.

The IZA Institute of Labor Economics is an independent economic research institute that conducts research in labor economics and offers evidence-based policy advice on labor market issues. Supported by the Deutsche Post Foundation, IZA runs the world's largest network of economists, whose research aims to provide answers to the global labor market challenges of our time. Our key objective is to build bridges between academic research, policymakers and society.

IZA Discussion Papers often represent preliminary work and are circulated to encourage discussion. Citation of such a paper should account for its provisional character. A revised version may be available directly from the author.

ABSTRACT

Crime and the Legalization of Recreational Marijuana

We provide first-pass evidence that the legalization of the cannabis market across US states may be inducing a crime drop. Exploiting the recent staggered legalization enacted by the adjacent states of Washington (end of 2012) and Oregon (end of 2014) we find, combining county-level difference-in-differences and spatial regression discontinuity designs, that the legalization of recreational marijuana caused a significant reduction of rapes and thefts on the Washington side of the border in 2013-2014 relative to the Oregon side and relative to the pre-legalization years 2010-2012. We also find evidence that the legalization increased consumption of marijuana and reduced consumption of other drugs and both ordinary and binge alcohol.

JEL Classification: K23, K42

Keywords: cannabis, recreational marijuana, crime

Corresponding author:

Giulio Zanella
Department of Economics
University of Bologna
Piazza Scaravilli, 2
40126 Bologna
Italy
E-mail: giulio.zanella@unibo.it

1 Introduction

Gary Becker was a strong advocate of the legalization of drugs (Becker and Murphy, 2013), particularly — in the wake of the first wave of legalization of recreational cannabis in the US — of marijuana (Becker, 2014). Becker and Murphy (2013) claimed that the largest costs of a prohibitionist approach to buying and selling drugs in the US “are the costs of the crime associated with drug trafficking”, predicting that legalizing this market would “reduce the role of criminals in producing and selling drugs [and] improve many inner-city neighborhoods”: “Just as gangsters were largely driven out of the alcohol market after the end of prohibition, violent drug gangs would be driven out of a decriminalized drug market”. That is, letting the drug market emerge from illegality would make illegal activities in this market not pay, thus greatly reducing fertile ground for crime, a central theme in Becker’s economic approach to crime (Becker, 1968).

The present paper provides evidence in favor of these conjectures exploiting the full legalization of the cannabis market recently enacted by some states in the US. Although possessing, using, selling and cultivating marijuana is illegal under US federal law,¹ between 2012 and 2016 eight states have legalized recreational marijuana: Colorado and Washington in 2012, Alaska and Oregon in 2014, California, Nevada, Maine and Massachusetts in 2016.² The comparison between Washington (WA) and Oregon (OR) offers an experimental opportunity to study the effect of such legalization on crime because these are neighboring (hence similar, in many respects) states that legalized cannabis for recreational use at about the same time, but with a 2-year time lag that induces a quasi-experiment, and sufficiently early to allow the observation of crime rates for at least two years from official sources. Combining difference-in-differences (DID) and spatial regression discontinuity (SRD) designs at the county level to identify the causal impact of the legalization of cannabis for recreational use on crime rates we find that the legalization reduced rapes by about 4 per 100,000 inhabitants

¹ Except for restricted uses, cannabis has been illegal under US federal law since the Marihuana Tax Act of 1937. The Controlled Substance Act of 1970 (Title II of the Comprehensive Drug Abuse Prevention and Control Act, Public Law 91-513) classified marijuana and tetrahydrocannabinols among the drugs listed in Schedule I, which have high potential for abuse and no accepted medical value.

² Many more states have passed medical marijuana laws. These, however, do not legalize the supply side of the market. Making marijuana legal for recreational purposes is the strongest form of legalization of the cannabis market.

(a 30% drop), and thefts by about 100 per 100,000 inhabitants (a 20% drop).

These results support Becker and Murphy’s conjectures, and are also in line with two possible reasons that have been suggested for why illicit drugs may increase crime (Goldstein, 1985): stealing to buy expensive drugs, and drug wars within the system of drug distribution. However, they stand in sharp contrast with the presumption that drugs cause crime, a major argument in support of a prohibitionist approach to substance use. For instance, according to the California Police Chiefs Association (2009), “public officials and criminal justice organizations who oppose medical marijuana laws often cite the prospect of increased crime”. Case studies of crime reports found drugs to be, in fact, a contributing factor (Goldstein, 1985), and it has been observed that a higher percentage of persons arrested test positive for illicit drugs compared with the general population (US Department of Justice). Yet, research on the recent wave of legalization of cannabis for medical use (“medical marijuana laws”, MML henceforth) in the US yields mixed results on the association between illicit drug use and crime. Some researchers find no significant relationship between MML and crime (Keppler and Freisthler, 2012; Braakman and Jones, 2014; Morris *et al.*, 2014; Freisthler *et al.*, 2016; Shepard and Blackley, 2016), while others show that MML may reduce some kind of non-drug crimes (Ingino, 2015) because of reduced activity by drug-trafficking organizations (Gavrilova *et al.*, 2014). Using data from the UK, Adda *et al.* (2014) argue that the decriminalizing marijuana allows the police to reallocate effort away from drug-related crimes and towards other types of offenses. However, the estimation of a causal effect going from legalizing cannabis to crime rates remains an elusive question because of the lack of an experimental design (Miron, 2004). The present paper makes progress in this respect by engineering a quasi-experiment that is able to provide first-pass causal evidence on the relationship between recreational cannabis and crime rates.

At this level of analysis we cannot pin down the mechanisms operating behind the effects we identify. Moving retail cannabis deals from degraded streets to safe, legal shops most likely played a role. Anecdotal evidence is provided by this message posted on Twitter by the Portland Police on June 10, 2016: “If you are looking to buy marijuana, go to a legit business and avoid street dealers who might rob you”. Substitution away from drugs which have remained illegal and from alcohol which makes consumers more aggressive than if

consuming cannabis is another possibility for which we provide evidence via a complementary analysis that uses substance consumption as an outcome. We find that the legalization of recreational marijuana in Washington induced an increase in the consumption of cannabis of about 2.5 percentage points (off a base level of about 10%), a decrease in the consumption of other drugs of about 0.5 points (off a base level of about 4%), and a decrease in the consumption of both ordinary alcohol and binge alcohol of about 2 points (off base levels of about 50% and 20%, respectively). Finally, the police reallocation channel suggested by Adda *et al.* (2014) is certainly a plausible mechanism. We expand on mechanisms in the concluding Section of the paper. In the next one, we summarize the legal details that generate our quasi-experiment. The data and the results are presented in Section 3.

2 Legal framework

At the general election ballot of November 2012, voters in the state of WA approved with about 56% of votes Initiative 502, which allows producing, processing, and selling cannabis, subject to licensing and regulation by the Liquor Control Board, allows limited possession by persons aged 21 and over (but not home cultivation), and taxes sales. Legal possession began on December 9, 2012. Regulations for producers, processors and sellers were approved in 2013 and retail sales of recreational cannabis began July, 8 2014 (Darnell, 2015). Shortly after, the state of OR passed a similar reform. At the November 2014 general election ballot, voters in OR approved with about 56% of votes Measure 91, a cannabis law reform that is similar to the one passed in WA in terms of taxing sales and subjecting them to regulation and licensing by the Liquor Control Commission, but is more permissive in terms of possession and cultivation.³ A previous legalization attempt in OR (Measure 80 of 2012), quite permissive in terms of regulation and oversight, was marginally rejected with around 53% of votes in November 2012, thus enhancing the comparability with WA. Legalization of possession, use and home cultivation started in OR in July 2015, recreational sales through medical dispensaries in October 2015, and retail store licenses began in October 2016.

³Home cultivation of up to four plants per household is allowed. Adults over the age of 21 are allowed to carry 1 ounce and keep 8 ounces at home, whereas WA establishes a possession limit of 1 ounce.

Therefore, the timing of the reforms was such that cannabis was legal on one side of the border two years before the other side. Specifically, in 2013 and 2014 cannabis was legal in WA but not in OR, a temporary 2-year window followed by a virtually identical legal status across the border between two similar states where voters had a similar attitude towards legalizing cannabis. This allows us to combine a difference-in-differences (DID) design (where WA acts as the treatment group, OR as the control group, 2010-2012 is the pre-legalization period and 2013-2014 is the post-legalization period) and a spatial regression discontinuity (SRD) design (where the WA-OR border marks a discontinuity in the legal status of cannabis in 2013-2014) to identify the causal impact of legal cannabis on violent and property crime.

Even after the legalization, there are counties in WA where cannabis business is prohibited or where, according to the WA Liquor Control Board, Marijuana Sales Activity by License Number, no recreational cannabis retailers are present. These are Columbia, Franklin, Garfield, Wahkiakum, and Walla Walla County, all of them bordering Oregon except Franklin County. We show later that our results are robust to excluding these counties from the analysis.

A potential confounding factor in our analysis is that other relevant legal or institutional changes affecting crime rates in WA may have taken place in 2013-2014. A search for such changes reveals no relevant events that may have affected crime rates at the same time as the legalization of cannabis possession and use. During this period, a reorganization of the 911 emergency call system took place in WA, and there were reforms related to health services, regulation of wine and beer, and drug courts. There were also changes in the statute of limitations for child molestation, incest (victim under age eighteen), and rape (victim under age eighteen), as well as new norms concerning commercial sale of sex and commercial sexual abuse, sexually violent predators, and sexual violence at school. However, all of these changes were too marginal to exert a plausible first-order effect on crime.

3 Data and results

We employ data on criminal activity at the county level from the US Uniform Crime Reporting (UCR) statistics. The data base contains the number of offenses reported by the

sheriff’s office or county police department. For the reasons detailed below, these are not necessarily the county totals, but they are the only publicly available information from the UCR at the county level of disaggregation. We collected these crime data for years 2010 to 2014. For each county and each year, we have the total number of reported offenses for murder, rape, assault, robbery, burglary, and theft. The final dataset is an unbalanced panel (since not all counties report crime data every year) consisting of 335 observations for 75 counties, 36 in OR and 39 in WA. County-level population from the 2010 Census is used to obtain crime rates per 100,000 inhabitants. The distance of each county’s centroid from the WA-OR border is computed using a GIS software. [Table 1](#) reports crime rates in WA and OR counties between 2010 and 2014: all counties at the top of the table, counties at the WA-OR border (where our comparison takes place) at the bottom. Because these rates result from the aggregation of county-level reports in the UCR, they do not necessarily coincide with state-level counts. The reason of the discrepancy is twofold, as explained by the FBI’s Criminal Justice Information Services Division at the UCR website. First, “only data for city law enforcement agencies 10,000 and over in population and county law enforcement agencies 25,000 and over in population are on this site”. That is, crimes occurring in smaller cities are not counted for the published county-level totals. Second, “Because not all law enforcement agencies provide data for complete reporting periods, it is necessary to estimate for the missing data” when building statistics beyond the county level of aggregation. That is, the FBI imputes crime counts to non-reporting agencies when building estimates at the state and nation levels.

In addition, we employ data from the National Survey on Drug Use and Health (NSDUH) to include in our analysis information on substance consumption. Such information may shed some light on competing channels in the explanation of our results. Specifically, we pulled from the NSDUH the rates of use over the previous month for marijuana, other Federal illicit drugs, and alcohol. These statistics are publicly available only as averages over the 2010-2012 and 2012-2014 periods. Fortunately, these roughly correspond to the “pre” and “post” periods in our DID-SRD analysis.⁴ [Table 2](#) reports these consumption rates for the

⁴ For smaller counties the NSDUH data come as aggregates for larger units consisting of groups of neighboring counties. In these cases, each county in the group is imputed the group-level average rate of consumption.

Table 1: Crime rates at the county level

Year	Murder	Rape	Assault	Robbery	Burglary	Theft
All WA counties ($N = 39$)						
2010	0.76	10.96	46.66	12.17	265.79	458.97
2011	0.85	9.65	40.84	10.30	265.08	440.87
2012	1.03	9.16	42.70	9.99	287.77	432.55
2013	0.80	9.07	41.23	9.21	258.73	419.59
2014	0.73	9.70	41.21	10.47	246.90	399.60
All OR counties ($N = 36$)						
2010	0.80	7.22	34.31	6.82	132.96	393.71
2011	0.66	7.26	32.02	6.26	142.14	387.37
2012	0.84	7.51	29.31	6.75	150.93	412.93
2013	0.88	5.69	22.48	5.40	146.14	433.22
2014	0.66	7.22	30.21	4.72	115.17	335.12
Border WA counties ($N = 11$)						
2010	0.35	15.37	33.69	8.51	224.00	529.80
2011	0.48	13.56	33.55	9.69	212.19	491.00
2012	0.75	12.80	42.00	7.58	223.30	445.11
2013	0.59	10.28	40.78	6.15	210.41	407.93
2014	0.71	10.52	39.48	6.97	184.76	357.10
Border OR counties ($N = 10$)						
2010	0.34	1.58	13.40	3.04	41.88	163.57
2011	0.44	2.51	11.22	1.31	49.15	158.78
2012	0.31	2.59	10.76	1.14	56.88	176.11
2013	0.10	1.77	11.67	1.67	41.04	144.27
2014	0.11	0.91	14.89	2.39	40.91	128.08

Notes: Average crimes per 100,000 inhabitants in WA and OR counties, estimated from the county-level counts reported in the Uniform Crime Reporting Statistics. The averages are weighted by county population.

Table 2: Substance Consumption rates at the county level

Year	Marijuana	Other drugs	Alcohol	Binge alcohol
All WA counties ($N = 39$)				
2010-2012	0.102	0.044	0.560	0.222
2012-2014	0.127	0.039	0.542	0.206
All OR counties with consumption data ($N = 34$)				
2010-2012	0.112	0.042	0.596	0.214
2012-2014	0.122	0.040	0.579	0.213
Border WA counties ($N = 11$)				
2010-2012	0.093	0.042	0.535	0.223
2012-2014	0.101	0.034	0.486	0.199
Border OR counties ($N = 10$)				
2010-2012	0.145	0.050	0.630	0.238
2012-2014	0.130	0.043	0.600	0.233

Notes: Average rates of substance use in WA and OR counties, estimated from the rates reported in the National Survey on Drug Use and Health. The averages are weighted by county population.

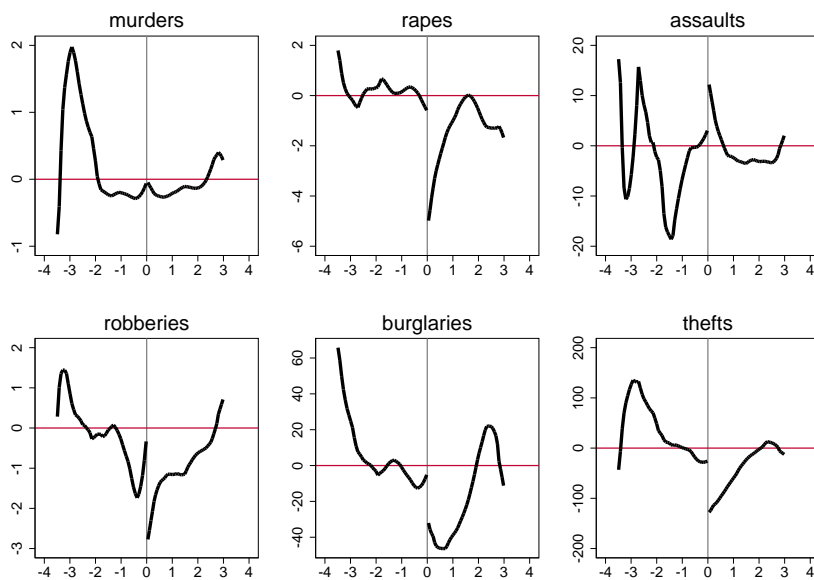
same WA and OR counties used in [Table 1](#).

Four features of our data are crucial for identification. First, WA and OR share similar geographic, economic and institutional characteristics, including (quite crucially) a similar attitude towards legal cannabis (see Section 2). Second, WA legalized the cannabis market at the end of 2012, and OR (despite an attempt to legalize in that same year, marginally failed) in 2014, which results in a 2-year period in which recreational cannabis is legal on one side of the border and illegal on the other side. Third, the longitudinal dimension of the data allows us to condition on county fixed effects and time effects, thus netting out unobserved local characteristics that do not change over time, as well as those factors that vary over time but are common to all counties. Fourth, the geographical features of the data allow us to identify the effect of the policy at the WA-OR border, where treated and control counties offer a better comparison: arguably, the similarity between two different states is maximized when comparing bordering counties. Moreover, by conditioning on distance from the border

and by allowing for different effects of the spatial gap before and after the legalization, the SRD design controls for the effect of distance from the border on crime rates, including possible spillovers due to cross-border activity in response to the different legal status of cannabis.

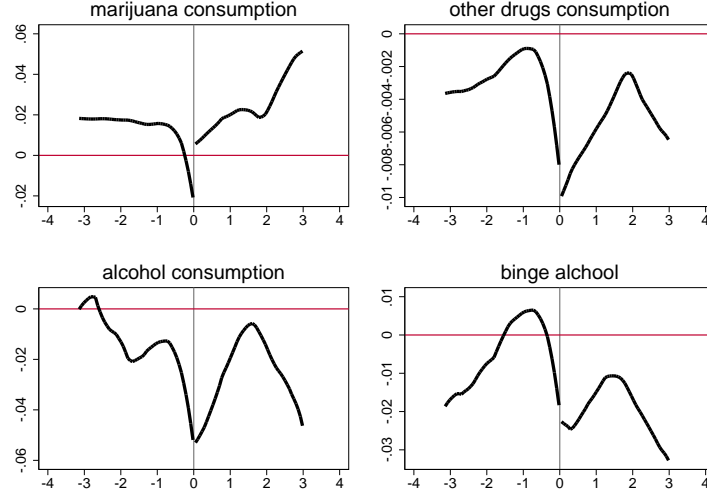
Preliminary graphical evidence about the causal effect of interest is offered in [Figure 1](#). The figure plots nonparametric estimates of the difference between county-level crime rates before (2010-2012) and after (2013-2014) the WA legalization, as a function of the distance (measured in hundreds of kilometers) of the county centroid from the WA-OR border. In each panel of [Figure 1](#), the difference between the variations in crime rates at the border (i.e., the jump at zero distance) is therefore a nonparametric estimate of the effect of legalizing cannabis. Except for murders (for which the variation is essentially zero on both sides of the border) and assaults, the drop in crime on the WA side of the border is much larger than the corresponding drop on the OR side. [Figure 2](#) illustrates the analogous evidence for consumption.

Figure 1: Variation in crime between before and after the WA legalization



Notes: Variation in county-level crimes per 100k inhabitants (vertical axis) as a function of the distance of the county centroid from the OR-WA border measured in hundreds Km (horizontal axis). A positive distance means that the county is located in WA, and a negative distance means that the county is located in OR. The jump at zero distance is a non-parametric DID-SRD estimate of the effect of the legalization policy on crime. The lines are smoothed county-level differences in crime rates obtained from local linear regressions, weighted by county population, employing a triangular kernel and a bandwidth of 100 Km.

Figure 2: Variation in consumption between before and after the WA legalization



Notes: Variation in county-level rates of use of substances (vertical axis) as a function of the distance of the county centroid from the OR-WA border measured in hundreds Km (horizontal axis). A positive distance means that the county is located in WA, a negative distance means that it is located in OR. The jump at zero distance is a non-parametric DID-SRD estimate of the effect of the legalization policy on consumption. The lines are smoothed county-level differences in crime rates obtained from local linear regressions, weighted by county population, employing a triangular kernel and a bandwidth of 100 Km.

To provide a more formal statistical analysis, we employ a parametric model that allows us to condition on unobserved county and time effects. Let c_{it} be the crime rate in county i and year t , and define the following binary variables: first, $w_i = 1$ if county i is located in WA (treatment), and $w_i = 0$ if county i is located in OR (control); second, $p_t = 1$ if year $t > 2012$ (post), and $p_t = 0$ if year $t \leq 2012$ (pre). The DID-SRD design, sometimes referred to as the Difference-in-Spatial-Discontinuity design (Dickert-Conlin and Elder, 2010; Gagliarducci and Nannicini, 2013) can be represented by the following model:

$$c_{it} = k + \alpha p_t + \beta w_i p_t + f(d_i) p_t + g(d_i) w_i p_t + \theta_i + \xi_{it}, \quad (1)$$

where k is a constant, $f(\cdot)$ and $g(\cdot)$ are polynomials of the same order (but possibly different coefficients) in distance d_i from the WA-OR border, θ_i are county fixed effects, and ξ_{it} are residual determinants of crime. Coefficient β is the difference in the SRD estimates between the pre and post periods, i.e., by how much liberalizing recreational cannabis in WA changed the difference in crime rates right across the WA-OR border. We estimated Eq. (1) by OLS, employing quadratic polynomials in distance as is appropriate in a parametric framework (Gelman and Imbens, 2014). The resulting estimates of β are reported in Table 3.

Table 3: Effect of recreational cannabis on crime

	Murder	Rape	Assault	Robbery	Burglary	Theft
Estimated β	0.23 (0.45)	-4.21** (1.26)	-1.30 (8.79)	-1.26 (1.92)	-36.32 (22.20)	-105.62* (40.21)
Observations	335	335	335	335	335	335

Notes: The table reports estimates of β from OLS on Equation 1, a coefficient that represents the difference in the spatial regression discontinuity estimates between the pre and post periods, i.e., by how much liberalizing recreational cannabis in WA changed the difference in crime rates right across the WA-OR border. Ordinary standard error are reported in parentheses (robust standard errors clustered at the county level are smaller than the ordinary ones displayed here). Each county is weighted in the regression based on the size of its population in the 2010 Census. Significance level: * 5%; ** 1% or better.

There is evidence in this table that the legalization of recreational cannabis enacted in WA caused a decrease in crime rates. The point estimates for rape, assault, robbery, burglary and theft are all negative. This conclusion is reinforced by the statistical significance of the drop in rapes (p-value = 0.001) and thefts (p-value = 0.01). For rapes, the reduction is 4.2 offenses per 100,000 inhabitants, which is about 30% of the 2010-2012 rate. For thefts, the reduction is 105.6 offenses per 100,000 inhabitants, which is about 20% of the 2010-2012 rate.⁵ Note that the parametric estimates of β in Table 3 are in the same ballpark of the jump at zero-distance in Figure 1 (except for burglaries). This indicates that our parametric choices are not driving the results.

As a robustness check, we re-estimate the DID-SRD model after excluding 5 WA counties where cannabis business is prohibited and where, according to the Liquor Control Board, Marijuana Sales Activity by License Number, no non-medical cannabis retailers are present. These are Columbia, Franklin, Garfield, Wahkiakum, and Walla Walla County, all of them bordering Oregon except Franklin County. Results are reported in Table 4. These confirm negative point estimates for all of the categories considered, and significant drops in rapes and thefts.

The analogous estimates using consumption as an outcome are reported in Table 5. Our DID-SRD estimates reveal that the legalization increased consumption of cannabis by about 2.5 percentage points (off a base level of about 10%), decreased in the consumption of other

⁵Although the point estimate for murders is positive, it is imprecise and not statistically significant.

drugs by about 0.5 points (off a base level of about 4%), and decreased consumption of both ordinary alcohol (in a marginally significant way) and binge alcohol of about 2 points (off base levels of about 50% and 20%, respectively). These effects on consumption suggest that one of the mechanisms underlying the reduction in crime may be a substitution away from other drugs which have remained illegal substances, such as alcohol, which makes consumers more aggressive than if consuming cannabis. We expand on this point in the next section.

Table 4: Effect of recreational cannabis on crime: robustness check

	Murder	Rape	Assault	Robbery	Burglary	Theft
Estimated β	0.20 (0.49)	-3.77** (1.49)	-0.36 (9.14)	-1.19 (2.04)	-41.84 (25.40)	-117.51** (39.67)
Observations	310	310	310	310	310	310

Notes: The table reports estimates of β from OLS on Equation 1, a coefficient that represents the difference in the spatial regression discontinuity estimates between the pre and post periods, i.e., by how much liberalizing recreational cannabis in WA changed the difference in crime rates right across the WA-OR border. WA counties are excluded where cannabis business is prohibited and where, according to the Liquor Control Board, Marijuana Sales Activity by License Number, no non-medical cannabis retailers are present. These are Columbia, Franklin, Garfield, Wahkiakum, and Walla Walla County, all of them bordering Oregon except Franklin County. Ordinary standard error are reported in parentheses (robust standard errors clustered at the county level are smaller than the ordinary ones displayed here). Each county is weighted in the regression based on the size of its population in the 2010 Census. Significance level: + 10%; * 5%; ** 1% or better.

Table 5: Effect of recreational cannabis on consumption

	Marijuana	Other drugs	Alcohol	Binge alcohol
Estimated β	0.025** (0.009) [0.016]	-0.005** (0.001) [0.002]	-0.023+ (0.014) [0.016]	-0.020** (0.007) [0.010]
Observations	135	135	135	135

Notes: The table reports estimates of β from OLS on Equation 1 when measures of consumption are used as an outcome, a coefficient that represents the difference in the spatial regression discontinuity estimates between the pre and post periods, i.e., by how much liberalizing recreational cannabis in WA changed the difference in consumption right across the WA-OR border. Ordinary standard error are reported in parentheses, and robust standard errors clustered at the county level are reported in brackets. Each county is weighted in the regression based on the size of its population in the 2010 Census. Significance level: * 5%; ** 1% or better.

4 Concluding remarks

Our analysis of the causal effects on crime of the legalization of cannabis for recreational use reaches conclusions in line with what Becker and Murphy (2013) expected when advocating the full decriminalization of the drugs market, namely a crime drop. What are the possible channels through which legalizing the production and sales of cannabis affects criminal behavior? The effects may work through a change in market price and market structure, as well as through institutional changes.

First, the policy leads to the emergence of a legal market, which offers more safety and more reliable product quality. It thus reduces the risk of being victimized while buying, the risk of being sanctioned, search costs (especially for first-time buyers), as well as the psychological unease possibly related to purchasing an illegal product. From the consumer's point of view, this amounts to a reduction in quality-adjusted relative prices. Moreover, retail prices should be expected, on average, to drop when the market is legalized due to a corresponding lower risk on the supply side. Provided that cannabis is a normal good, a price reduction should lead to an increase in its consumption, which is what we find analyzing consumption data. Such increase may take place both at the extensive and intensive margin: the number of consumers may increase and existing ones may consume more. Since cannabis use determines a variety of psychoactive effects, which include a state of relaxation and euphoria (Hall et al., 2001; Green et al, 2003), an increase in consumption may reduce the likelihood of engaging in violent activities. This would hold, in particular, if cannabis is a substitute for violence-inducing substances such as alcohol, cocaine and amphetamines.

Interestingly, the evidence is mixed in this respect. Some studies find that marijuana and alcohol are substitutes (Anderson, Hansen, and Rees 2014; Crost and Guerrero 2012; Kelly and Rasul, 2014; DiNardo and Lemieux, 2001), while others find that they are complements (Williams *et al.*, 2004; Wen *et al.*, 2014). As observed in Sabia *et al.* (2016), who study the effects of MML on body weight and health, the substitutability/complementarity between alcohol and marijuana seems to be heterogeneous, depending on age.

Our results are in line with Gavrilova *et al.* (2016), who find that in US states bordering Mexico the introduction of MML leads to a decrease in violent crimes such as homicides,

aggravated assaults and robberies, and that this reduction in crime rates is mainly due to a drop in drug-law and juvenile-gang related homicides. The introduction of MML is found to reduce the violent crime rate in Mexican-border states by 15-25 percent. This is a large effect, but it is fully compatible with our estimates on the impact of recreational marijuana.

Besides directly affecting cannabis price and consumption, legalizing cannabis also changes market structure. Entry of new legal sellers, who provide better quality than illegal competitors, may drive the latter out of the market. Some illegal dealers might survive if legal consumption is severely taxed, and they will surely survive during the time it takes to open legal dispensaries. Yet, one may expect their profitability to fall – certainly their expected future profits do. One reason is the increase in competitive pressure. Another one is that product quality is not only likely to be higher in the legal part of the market, but it is presumably also easier to identify, so that legalization might in principle introduce price divergence: prices might increase in the legal relative to the illegal part of the market. The likely result is an increase in average product quality and market exit by illegal suppliers. This change in market structure is likely to reduce the presence of drug-trafficking criminal organizations, together with drug-related conflicts and associated crimes. Yet, we do not really know what previous dealers do after legalization, so this argument remains necessarily incomplete. Moreover, one might be concerned that even legal dispensaries attract criminals, e.g., to steal cash or marijuana. Yet, this concern is mitigated by the fact that dispensaries may take measures to reduce crime and increase guardianship, such as doormen or video cameras (Kepple and Freisthler, 2012). What seems more obvious is that the legalization may not just affect the behavior of potential offenders, but also of potential victims. The availability of cannabis through legal channels arguably makes consumers substantially less willing to take risks in the illegal market. This might also contribute to explain the drop in assaults, robberies and thefts that we document.

On top of altering behavior through changes in the cannabis market, legalization may also generate a reallocation of police efforts. A lower rate of drug-related crimes opens the possibility for the police to divert resources toward preventing non-cannabis related crimes, as shown by Adda *et al.* (2014) for the decriminalization of possession of small quantities of cannabis in London, UK. Interestingly, such reallocation may be driven by expectations,

and therefore need not wait for the actual opening of new dispensaries.

Summing up, the WA-OR quasi-experiment provides first-pass evidence that legalizing cannabis may well cause a drop in crime. What we estimate is the short-run response. As new data become available over time, for these states as well as for the other ones that legalized in 2016, it will be possible to appropriately distinguish between short and long-run effects.

References

Adda, Jérôme, McConnell, Brendon, and Rasul, Imran (2014). Crime and the depenalization of cannabis possession: Evidence from a policing experiment. *Journal of Political Economy* 122(5), 1130–1202.

Becker, Gary, and Kevin Murphy (2013). Have We Lost the War on Drugs? *The Wall Street Journal*, January 4, 2013.

Becker, Gary (1968). Crime and Punishment: An Economic Approach. *Journal of Political Economy*, 76(2), 169-217.

Becker, Gary (2014). Why Marijuana Should be Decriminalized. *The Becker-Posner Blog*, February 23, 2014.

Braakman, Nils, and Jones, Simon (2014). Cannabis depenalisation, drug consumption and crime: Evidence from the 2004 cannabis declassification in the UK. *Social Science & Medicine* 115, 29–37.

Darnell, Adam J (2015). I-502 evaluation plan and preliminary report on implementation (Document Number 1509-3201). Olympia: Washington State Institute for Public Policy. Retrieved from

http://www.wsipp.wa.gov/ReportFile/1616/Wsipp_I-502-Evaluation-Plan-and-Preliminary-Report-on-Implementation_Report.pdf (accessed 27 August 2016).

Dickert-Conlin, S., and T. Elder (2010). Suburban Legend: School Cutoff Dates and the Timing of Births. *Economics of Education Review*, 29, 826-841.

DiNardo, John, and Lemieux, Thomas (2001). Alcohol, marijuana, and American youth: the unintended consequences of government regulation. *Journal of Health Economics* 20(6), 991–1010.

Freisthler, Bridget, Ponicki, William R., Gaidus, Andrew, and Gruenewald, Paul J. (2016). A micro-temporal geospatial analysis of medical marijuana dispensaries and crime in Long Beach, California. *Addiction* 111(6), 1027-1035.

Gagliarducci, S., and T. Nannicini (2013). Do Better Paid Politicians Perform Better?

Disentangling Incentives from Selection. *Journal of the European Economic Association*, 11, 369-398.

Gavrilova, Evelina, Kamada, Takuma, and Zoutman, Floris T (2014). Is legal pot crippling Mexican drug trafficking organizations? The effect of medical marijuana laws on US crime. Discussion Paper. Institutt for Foretaksøkinimi, Department of Business and Management Science.

Gelman, A, and G. Imbens (2014). Why High-order Polynomials Should not be Used in Regression Discontinuity Designs. NBER Working Papers 20405, National Bureau of Economic Research.

Goldstein, Paul J (1985). The drugs/violence nexus: A tripartite conceptual framework. *Journal of Drug Issues* 15(4), 493-506.

Green, Bob, Kavanagh, David, and Young, Ross (2003). Being stoned: a review of self-reported cannabis effects. *Drug and Alcohol Review* 22(4), 453-460.

Hall, Wayne, Degenhardt, Louisa, and Lynskey, Michael (2001). The health and psychological effects of cannabis use. National Drug and Alcohol Research Centre, Monograph Series 44.

Ingino, Francesco (2016). The heterogeneous effect of medical marijuana laws, Mimeo.

Keppler, Nancy J, and Freisthler, Bridget (2012). Exploring the ecological association between crime and medical marijuana dispensaries. *Journal of Studies on Alcohol and Drugs* 73(4), 523-530.

Miron, Jeffrey A (2004). Drug war crimes: The consequences of prohibition. Oakland, CA: The Independent Institute.

Morris, Robert G, TenEyck, Michael, Barnes, James C, and Kovandzic, Tomislav V (2014). The effect of medical marijuana laws on crime: evidence from state panel data 1990-2006. *PloS One* 9(3), e92816.

Shepard, Edward M, and Blackley, Paul R (2016). Medical marijuana and crime: Further evidence from the western states. *Journal of Drug Issues* 46(2), 122-134.

Sabia, Joseph J., Swigert, Jeffrey, and Young, Timothy (2017). The effect of medical marijuana laws on body weight. *Health Economics* 26(1), 6-34.

Williams, Jenny, Pacula, Rosalie Liccardo, Chaloupka, Frank J. and Wechsler, Henry (2004). Alcohol and marijuana use among college students: economic complements or substitutes?. *Health Economics* 13(9), 825-843.



2019

**Recreational Marijuana
Supply and Demand
Legislative Report**

Oregon Liquor Control Commission

January 31, 2019



Oregon

Kate Brown, Governor

Liquor Control Commission

9079 SE McLoughlin Blvd.

Portland, Oregon 97222-7355

503-872-5000

800-452-6522

www.oregon.gov/olcc

January 31, 2019

2019 Recreational Marijuana Supply and Demand Legislative Report

A Letter from OLCC Director Steve Marks

Oregon's Public Policy Approach to Support Legal Marijuana Production and the State's Abundant Supply: The Course for Seeking the Right Balance

Members of the Oregon State Senate and House of Representatives:

The Oregon Liquor Control Commission is grateful for the opportunity to produce for the Oregon Legislature a comprehensive examination of the amount of marijuana accounted for and contained within Oregon's regulated recreational marijuana market.

Let me first acknowledge that we have a considerable supply of marijuana in our state's recreational marijuana system. That licensed Oregon cannabis growers have become successful in producing this volume of marijuana is due in no short order to the intentional choices made by Oregon voters and policy makers. Now we find ourselves at a crossroads where our state's history with marijuana and the future of cannabis commercialization meet.

Oregon's unique geography and climate are qualities that have enabled generations of Oregon farmers to produce copious amounts of cannabis. The illegal export of Oregon cannabis has been taking place for decades. For Oregon, producing a lot of marijuana is not new news; producing a lot of marijuana that is tracked in the legal system is.

Recognition that cannabis is woven into the state's cultural fabric initially emerged as institutional tolerance when Oregon became the first state in the country to decriminalize marijuana possession in 1973. Greater acceptance of cannabis occurred in 1998 when Oregon, following California's lead two years earlier, established a medical marijuana program. A broader embrace of cannabis took place when Oregon voters approved Measure 91 in November 2014, and became the 3rd state to legalize recreational marijuana.

With the debate around legalization largely settled, Oregon's elected officials began making annual adjustments during legislative sessions beginning in 2015. Each legislative modification to Oregon's regulated cannabis system has attempted to improve the industry's economic stability by removing barriers to entering the market while at the same time enhancing regulatory compliance to address public safety concerns while withstanding federal scrutiny.

Oregon is not creating a new industry, it is converting an illegal cannabis production economy, and a loosely-regulated medical program, into a well-regulated legal market

Oregon oversupply is a sign that policy choices made to attract illegal and grey market producers into the new commercial system have been successful; this was a start-up challenge Colorado and Washington didn't have to face. Oregon medical marijuana growers had long been suspected of diverting into the illegal market so it was important to attract these well-established producers into the OLCC's new regulated recreational marijuana program.

To entice medical as well as *formerly* illegal growers into Oregon's legal market the state lowered the barriers to entry with low license fees and taxes and chose not to limit the number of licenses. This approach fulfilled the immediate objective to absorb medical marijuana providers into the OLCC market, but it has led to industry churn as businesses face mounting cost pressures and attempt to position themselves for the long term.

The ongoing objective is to account for and contain legally produced cannabis within Oregon, create consumer confidence in the legal market, and establish compliance performance boundaries for marijuana licensees.

By requiring the tracking of marijuana flower and marijuana products, CTS has provided the most reliable accounting for legally produced cannabis in Oregon. For the first time, the state's production of marijuana is accounted for and there are consequences – criminal and administrative – for licensees that divert product from the regulated system.

Oregon's legal market has created a new growth industry with quality product, a diversity of choices, and transparent information for consumers

Oregon's successful transition to a regulated adult-use market has provided customers an unprecedented degree of consumer safety confidence. Oregon's testing program and packaging and labeling requirements are considered best-in-class and are being replicated by other states that have legalized adult use cannabis. This confidence has contributed to consistent growth in retail activity as evidenced by the \$198 million in state and local sales tax revenue generated since legalization.

On the demand side the establishment of a legitimate market has resulted in consumers shifting their purchase activity away from the illegal market to licensed retailers. The conversion of most OMMP dispensaries to OLCC retailers, coupled with the OLCC's deliberate effort to allow medical grade products for sale at retail, has established a statewide retail network, in which medical marijuana patients are also able to obtain tax-free products.

Industry innovation has continued since the OLCC's establishment of and oversight over the marijuana supply chain in January 2017; today consumers are able to find a selection of products reflecting a marketplace with 2,100 licensees. As more consumer choices have been introduced and prices have decreased, sales have seen a corresponding increase.

A context for change

Oregon's current supply in the legal market is a reflection of successful policies to move production into the legal system. The adoption of the legal system by recreational consumers and medical patients for the purchase of branded and tested cannabis products is a strong indication that the legal system is winning the battle against the illegal market.

At the same time, Oregon regulators and law enforcement, with support of the licensed industry, are developing and utilizing new resources and tools to confront illegal market activity. Now that the legal system has successfully taken hold, policy makers can make adjustments combined with market forces to work towards a sustainable economic balance between supply and demand.

The economic condition of the market that the OLCC will be regulating in the next two years remains uncertain. Just as it took time to establish legal alcohol markets after the repeal of alcohol prohibition, the development of the legal marijuana industry will require patience. In less than three years Oregon has made substantial progress toward creating a controlled, economically viable and well-regulated cannabis industry. While regulations to control and manage this new industry will continue to change, no matter the future course, the ability to support existing and aspiring licensees and take enforcement against those that don't follow the rules will be a crucial function for the state and the private sector businesses that have entered this industry.

A primary objective of establishing Oregon's regulated market was to contain cannabis legally produced in Oregon from diversion into the illegal market. Oregon's legal cannabis market and its framework for accountability and containment indicates the system is performing as it was designed.

At this point we have another opportunity to make intentional choices. With market mechanisms and thoughtful public policy, the state of Oregon and the OLCC can continue to control what we've created – to reinforce and strengthen the regulatory system we've built in just three short years. One corrective policy tool proposed by the Governor would allow the OLCC to place a moratorium on licenses. As the 2019 legislative session progresses other ideas may emerge.

We expect any guidance that the Governor and Legislature may develop during the 2019 legislative session will strengthen the continued implementation of a regulated marijuana system that balances public safety concerns with the vision of Oregon voters.

The *2019 Recreational Marijuana Supply and Demand Legislative Report* is more than just about numbers. Its substance and specific methodology reflect a state-of-the-art approach for evaluating use and demand and normalizing values and equivalencies of differing cannabis products as produced and sold in the Oregon marketplace. While not infallible, this study provides a sound base for the discussion and debate of policy development. The OLCC appreciates the work and time its talented staff and outside peer reviewers have spent to bring forward this public data on legal marijuana production in Oregon.

Sincerely,



Steve Marks
Executive Director
Oregon Liquor Control Commission

Contents

Executive Summary	1
Introduction.....	3
Background.....	3
Market Trends	4
Licensure	4
Production	5
Sales	7
Inventory.....	10
Model for Estimating Supply and Demand	15
Units of THC and Wet Weight Equivalent	15
Supply and Demand Findings.....	17
Policy Considerations	19
Maintain Status Quo.....	20
Canopy Size and Ratios.....	21
License Fee Increase.....	23
License Cap or Moratorium	23
Conclusion	25
Technical Appendix.....	26
General Approach	26
Methods of Demand Estimations	26
Mechanics of Demand Estimations	30
Results of Demand Estimations.....	34

Executive Summary

There has been and continues to be significant speculation about the amount of marijuana produced and consumed within Oregon's regulated recreational market. The same holds true for legal and illegal cannabis consumption in other states, including those with medical marijuana and adult-use programs. This report seeks to clarify and quantify Oregon's legal marijuana market by using baseline data and applying conventional economic analysis.

The Oregon Liquor Control Commission (OLCC) is required by law to report to the legislature the amount of marijuana produced by Recreational Producers and bought by consumers in Oregon from Recreational Retailers. This report does not include information on the Oregon Medical Marijuana Program (OMMP), personal home grow, or the illegal market.

The Oregon recreational marijuana industry has created a booming consumer market of low prices and increasing demand. The number of applications for licenses to produce recreational marijuana has also continued to exceed expectations. Decreasing consumer prices are a direct result of supply that exceeds demand and have increased market pressure on licensed operators throughout the supply chain. This report provides a snapshot of the Oregon recreational marijuana program, including the supply of marijuana, product flow, inventory on hand, consumer demand, and possible policy options.

Oregonians passed Measure 91 in November of 2014, legalizing adult-use recreational marijuana in Oregon. OLCC is the agency in charge of licensing Recreational Producers, Processors, Wholesalers, and Retailers. Measure 91 established, and subsequent legislation maintained, the philosophy of a free market within the regulated recreational system in order to prioritize early transition away from the illegal market by both producers and consumers. The barriers to entry are lower here than in other states: Oregon does not have a residency requirement for investment or ownership, licensing fees are low, and there are no limits to the amount of licenses one individual or a business can acquire.

Key Findings

- Supply exceeds demand within Oregon's recreational marijuana market.
- Between July 2017 and June 2018, demand represented 50% of supply; the other 50% remained accounted for in recreational licensees' inventory and contained within the recreational system.
- OLCC Recreational Producers harvested more than 2,000 metric tons of wet, untrimmed marijuana in 2018; if all currently pending Producer applications were approved, estimated production would increase to nearly 4,000 metric tons of wet weight.
- As of January 1, 2019, the recreational market has 6.5 years' worth of theoretical supply in licensees' inventory accounted for and contained within Oregon's Cannabis Tracking System.
- An estimated 55% of total statewide marijuana consumption among Oregonians aged 21 or older is procured from OLCC Recreational Retailers. Based on existing levels of production, all consumption of marijuana among Oregon adults could be supplied by the OLCC market.

This report finds that supply in the recreational market is twice the level of current demand. The unpurchased supply remains tracked and contained within the legal, regulated market. This disequilibrium between supply and demand has contributed to growing levels of licensees' inventory. As of January 1, 2019, the recreational market has an estimated 6.5 years' worth of theoretical supply on hand. Even under assumptions of growth in demand caused by more Oregonians consuming more marijuana supply will almost certainly continue to exceed demand at current levels of production.

This report evaluates production and sales within the time period of July 2017 through June 2018, using data from the state's Cannabis Tracking System. Due to the diversity of product mixes sold by Recreational Retailers, this report standardizes all sales to a single unit (milligrams of THC sold) and calculates a "wet weight equivalent" of the amount of marijuana estimated to have been needed to supply that level of demand in the given time period. This "wet weight equivalent" method and the report's findings were validated by external reviewers from the private sector and other state agencies.

Based on the outcome of the data analysis, this report discusses the positive and negative implications of potential policy choices including maintaining the free market status quo and letting the market self-correct towards equilibrium, limiting the maximum producer canopy, increasing license fees, and placing a cap or moratorium on the number of recreational licenses. Due to the nature of the market in which supply already exceeds demand, any policies enacted with the purpose of creating equilibrium in the near-term will inherently have an effect on incumbents within the market.

To obtain a paper copy of this report contact the Oregon Liquor Control Commission's Recreational Marijuana program at marijuana@oregon.gov.

Published online at <https://marijuana.oregon.gov> under the "Government Resources" header.

Introduction

Per ORS 475B.548, by February 1 of each odd-numbered year the Oregon Liquor Control Commission (OLCC), which licenses and regulates production and sales of recreational marijuana in Oregon, must submit a report to the Legislative Assembly on the following:

the approximate amount of marijuana produced by marijuana producers that hold a license issued under ORS 475B.070 and the approximate amount of marijuana items sold by marijuana retailers that hold a license issued under ORS 475B.105, and whether the supply of marijuana in this state is commensurate with the demand for marijuana items in this state.

The first “[supply and demand report](#)” was submitted by the OLCC in 2017, less than 12 months after the first Recreational Producer licenses were issued (April 29, 2016) and less than 6 months after the first Recreational Retailer licenses were issued (October 1, 2016). The 2017 report concluded that the Oregon recreational market was “on the road to maturity” but that it was “too early to know the degree to which there is excessive or insufficient supply to match demand.” Now with data on nearly three years’ worth of recreational marijuana production and nearly two-and-a-half years’ of recreational sales, this 2019 Supply and Demand Report can better analyze the degree of equilibrium of supply and demand within the Oregon recreational marijuana market.

The Oregon recreational marijuana industry has created a booming consumer market in which low prices have contributed to a continued increase in demand. However, the number of applications for licenses to produce recreational marijuana has continued to exceed expectations after eclipsing initial estimates. This has led to a market in which decreasing consumer prices are a direct result of supply that exceeds demand, low wholesale prices, and increased market pressure on licensed operators. This report provides a snapshot of the Oregon recreational marijuana program, including the supply of marijuana, product flow, inventory on hand, consumer demand, and possible policy options.

Background

In Oregon there are four markets for marijuana:

- 1) **Recreational.** Created by Measure 91 in November 2014, the recreational marijuana market is licensed and regulated by the OLCC. Any adult 21 years of age or older or any Oregon Medical Marijuana patient 18 years of age or older may purchase marijuana from a Recreational Retailer. Recreational Producers cultivate and harvest plants within their licensed premises for sale by Recreational Retailers as “usable marijuana” (dried and cured flower and leaves) or for further processing by Recreational Processors into secondary items such as extracts and concentrates (e.g., butane hash oil (BHO) and “vape cartridges”) and tertiary items such as edibles, tinctures, and topically applied products (topicals). Recreational Wholesalers are licensed to store and distribute items within the recreational market. Laboratory licensees perform required testing on marijuana items, including but not limited to tests for residual pesticides and product potency. Items harvested or processed within the recreational market must remain within the OLCC-licensed system and Recreational Retailers may only procure products from other recreational marijuana licensees.

- 2) **Medical.** Created by Measure 67 in 1998, medical marijuana is regulated by the Oregon Health Authority (OHA). The original medical marijuana law included only direct relationships between medical marijuana patients registered with OHA and medical marijuana caregivers for the cultivation and possession of marijuana for medical use. Subsequent medical marijuana laws expanded the program to include medical growers, processors, and dispensaries, all overseen by OHA. However, nearly all of the medical processors and dispensaries that were registered with OHA at the time Measure 91 passed have subsequently become licensed under the OLCC's recreational marijuana program and transitioned to the recreational market. Those processors and dispensaries that have remained with the Oregon Medical Marijuana Program (OMMP) are primarily located in opt-out jurisdictions, which prohibit recreational licensure. The vast majority of activity within the medical system today consists of patients growing for themselves or receiving medical marijuana from their legally designated grower.
- 3) **Home Grow.** Passed as part of Measure 91, every adult 21 years of age or older in Oregon is legally permitted to grow marijuana (up to four plants per household). This "home-grown" marijuana may be for personal use or provided as a gift to other individuals in the state for no consideration. Although home extraction (e.g., butane hash oil) is illegal, making at-home concentrates (e.g., ice water hash) or products such as edibles with home-grown (or gifted) marijuana is permitted under Oregon law.
- 4) **Illegal.** Fully illegal production and sales, neither regulated nor licensed by any entity in Oregon, has a long-standing history in Oregon. Although the establishment of both medical and recreational laws legitimized production and sales within the regulated systems, fully illegal production and sales persist. Moreover, while home grow itself is legal, it can cross into illegality if production exceeds possession limits, if harvested material is sold (rather than gifted), or if marijuana is taken out of the state. Due to the inherent "underground" nature of the illegal market, it is impossible to make definitive estimates of its size.

This report is limited to estimates of supply and demand only within the recreational market. This report makes no attempt to estimate the production, sales, or equilibrium of supply and demand within the State of Oregon as a whole.

Market Trends Since Licensure Began

Licensure

As of January 25, 2019, OLCC has 1,114 Recreational Producers currently licensed and 607 Recreational Retailers. Those numbers alone are double the initial estimates of *total* licensure by 2019.¹ Moreover, there are another 1,117 Producer applications and 336 Retailer applications pending review or approval by the OLCC. Enthusiasm for licensure in the recreational market has not subsided. In fact, when OLCC announced that it would put a pause on processing new

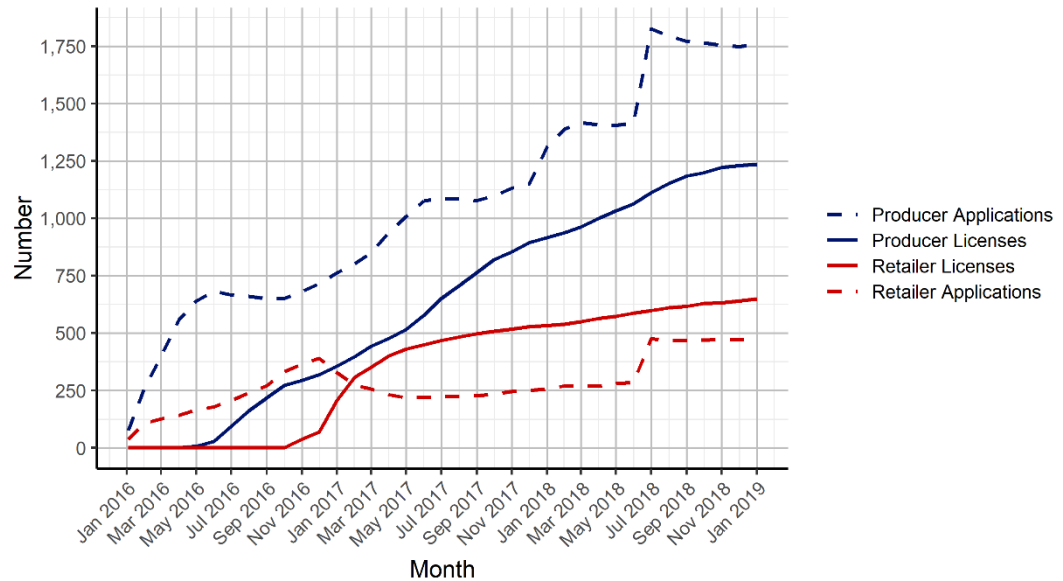
¹ Initial estimates in 2015, based on population-adjusted licensing volume in Washington and Colorado, were 826 total licenses issued by the 2017-2019 biennium. Estimates by license type were 328 Producer licenses, 188 Wholesale and Laboratory licenses, and 310 Retailer licenses.

<https://olis.leg.state.or.us/liz/201511/Downloads/CommitteeMeetingDocument/81394#page=19>

applications received after June 15, 2018, OLCC received an additional 664 Producer and Retailer applications in the first two weeks of June 2018.

As shown in Figure 1, the cumulative number of applications received has continued to increase at a rate commensurate with approved licenses for Retailers (red) and exceeding the rate of approvals for Producers (blue). The rate of submission of applications shows no signs of abating. On the contrary, the most noticeable recent trend is the spike in June 2018 coinciding with applicants' attempts to submit "under the wire" of OLCC's announced pause.

Figure 1: Cumulative Total of Licenses and Pending Applications by Month²



Production

The amount of marijuana produced within the Oregon recreational market has increased as more licensed Recreational Producers have entered the market. The aggregate amount harvested within the recreational market consists of two factors: first, the amount harvested *per licensed producer* and, second, the *number of licensed producers*. Each factor can independently affect the supply of harvested marijuana within the recreational market. For example, if 100 producers each harvested 10 pounds last year but each harvested 20 pounds this year, the supply will have doubled. Similarly, if this year 200 total producers are licensed and each again harvests an average of 10 pounds, supply will have also doubled.

The 2017 harvest saw both factors (per producer harvest and number of licensed producers) rise, which greatly increased recreational supply relative to 2016. In contrast, the 2018 harvest had more

² Application and license counts are cumulative and include applications that have been withdrawn or denied and licenses that are revoked, surrendered, or expired. Applications are calculated as the cumulative total number of submitted applications minus the cumulative total number of licenses issued.

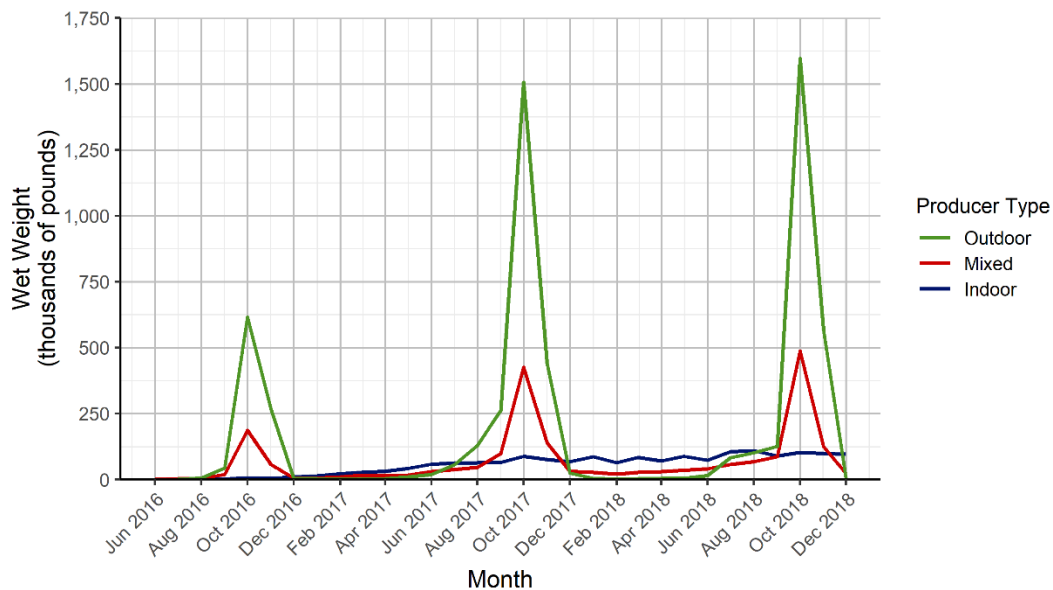
producers harvesting less per license, which still yielded a greater aggregate amount harvested compared to 2017.

As with all the following analysis of market data, the source of the data on harvest by month comes from Oregon’s Cannabis Tracking System (CTS).³ OLCC rules require that licensees reconcile physical inventory with their reported CTS inventory each day. This entails reporting all activity that occurred during the business day. Licensees must report plant stocks (new plantings and plant deaths), harvests, waste, transfers, lab testing, and sales. This compliance tool creates a wealth of data that can also be used to study the general dynamics of the industry.

Figure 2 illustrates the increase in harvested supply year-over-year. The graph also demonstrates the heavy concentration Oregon has historically had in outdoor production in which the month of October represents an outdoor grower’s entire annual harvest. This contrasts with indoor growers in which supply is generated through repeated, smaller harvests over the course of the year.⁴

Figure 2 also shows that the 2018 harvest rose considerably compared to 2017. As seen in Table 1, total harvested wet weight increased by 17% between 2017 and 2018. Far from an abnormally high “bumper crop,” the 2017 yields may be a new baseline due to the ever-increasing numbers of licensed producers. Even if the per producer output declines relative to 2017, the total number of producers may more than compensate in future years. Indeed, if every currently pending Recreational Producer application were licensed at its proposed canopy size, the estimated annual harvest based on 2018 output per square foot would be 8.7 million pounds—an increase of nearly 88% compared to 2018.

Figure 2: Wet Weight Harvested by Month and by Producer Type



³ Oregon’s CTS system is also known as “Metr.”

⁴ OLCC issues licenses for three types of producers based on the manner of cultivating flowering plants. Indoor producers use artificial lighting, Outdoor producers do not, and Mixed producers have a portion of the flowering canopy that uses artificial lighting and a portion that does not. Any producer may use artificial lighting for cultivation of immature (non-flowering) plants.

Table 1: Wet Weight Harvest (pounds) by Producer Type and Year

Year	Indoor	Mixed	Outdoor	Total
2017	613,000	872,000	2,453,000	3,938,000
2018	1,075,000	1,027,000	2,511,000	4,613,000
Prospective	2,122,000	1,638,000	4,894,000	8,653,000

Sales

Increased supply has resulted in consumer prices falling from more than \$10 per gram of usable marijuana in October 2016 to less than \$5 per gram in December 2018, as seen in Figure 3. Despite those falling prices the overall dollars sold year-over-year have continued to increase, rising nearly 16% between December 2017 and December 2018 (see Figure 4). This rise in sales, and therefore in marijuana tax revenue, is due to increases in the total quantity of marijuana items sold. For example, Figure 5 shows that both extracts/concentrates and cannabinoid products (e.g., edibles, tinctures, etc.) had their best month of sales in December 2018.

There is a marked seasonality to marijuana sales. This makes it difficult to know at what point (or whether) quantities sold will plateau even with declining prices and when (or whether) this will lead to a decrease in total dollars sold in the recreational market. For example, total sales peaked in August 2017 before declining in the winter months and then again increasing in Spring 2018. The most recent sales peak was in August 2018 and has since declined, but it is unknown whether (and to what degree) sales will increase in Spring 2019. In other words, we do not yet have sufficient data to disentangle predictable, endogenous seasonal effects from exogenous market shocks (both positive and negative).

At this point, however, the available evidence of decreasing prices and increasing sales indicates that the recreational market continues to chip away at the illegal in-state market, resulting in increasing marijuana tax revenues for the state, schools, and local governments.⁵

⁵ Figure 4 and Figure 5 also show a spike in sales in January 2017, coinciding with the end of Early Start sales. This marked the point at which OHA medical dispensaries could no longer sell to recreational consumers and began shifting to OLCC licensure. This sudden increase in January 2017 in all likelihood represents the same customers coming to the same stores as they did in December 2016, but those sales instead took place within the recreational rather than the medical market.

Figure 3: Median Retail Price per Gram of Usable Marijuana by Month

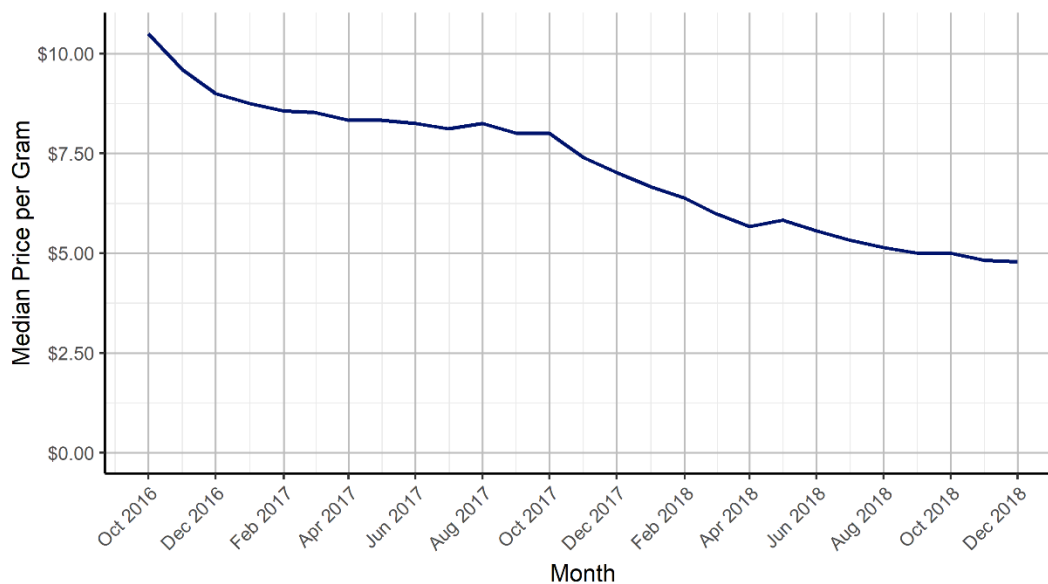


Figure 4: Total Dollars Sold by Month by OLCC Recreational Retailers

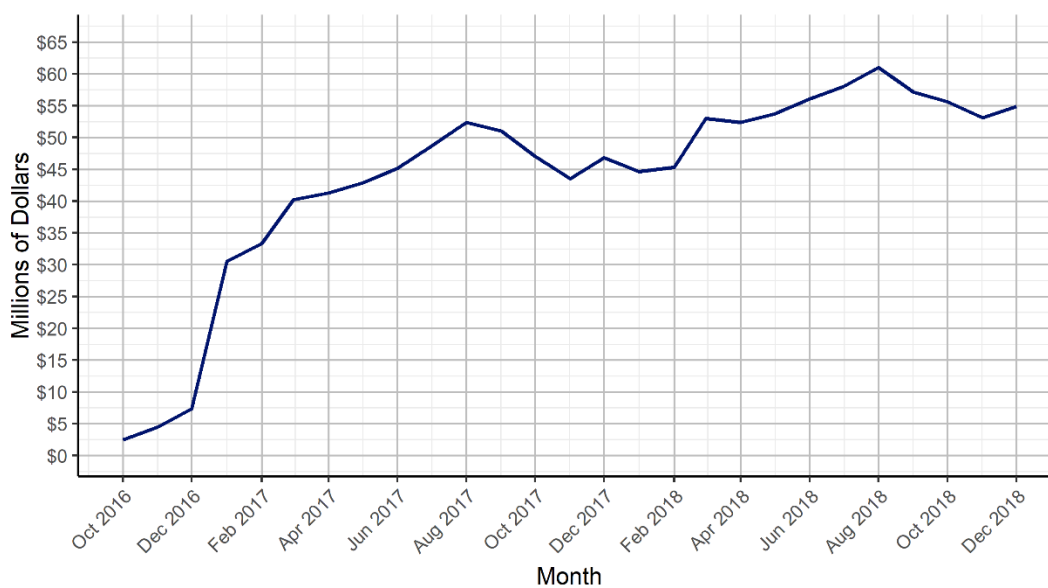
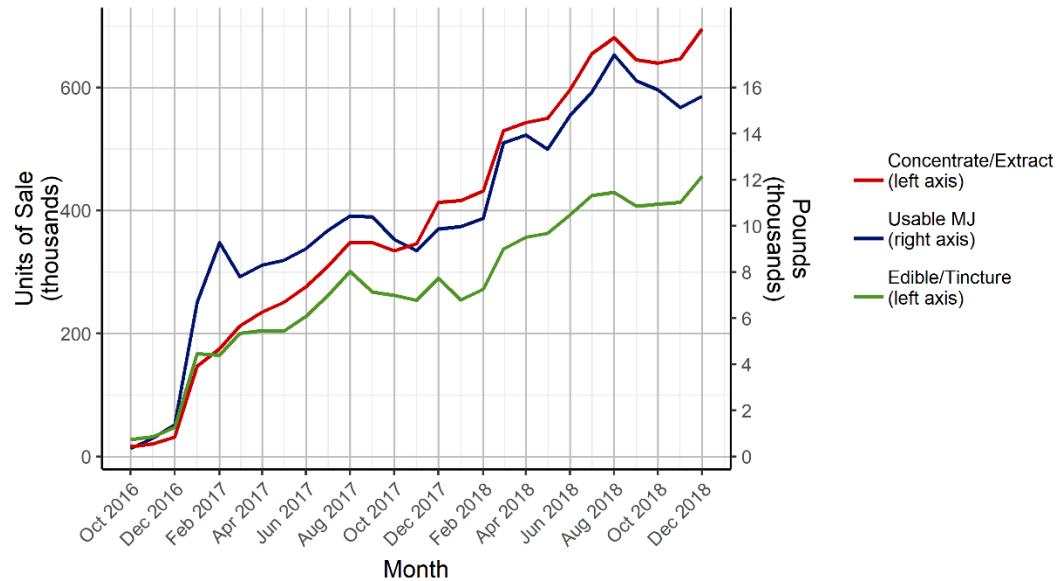
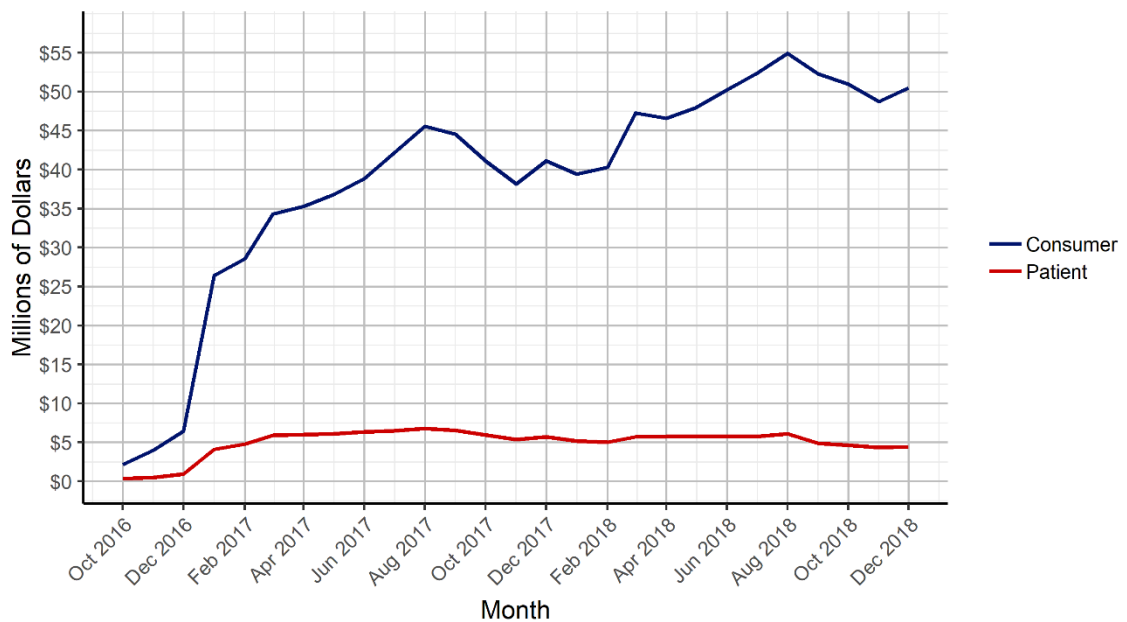


Figure 5: Quantity Sold by Month



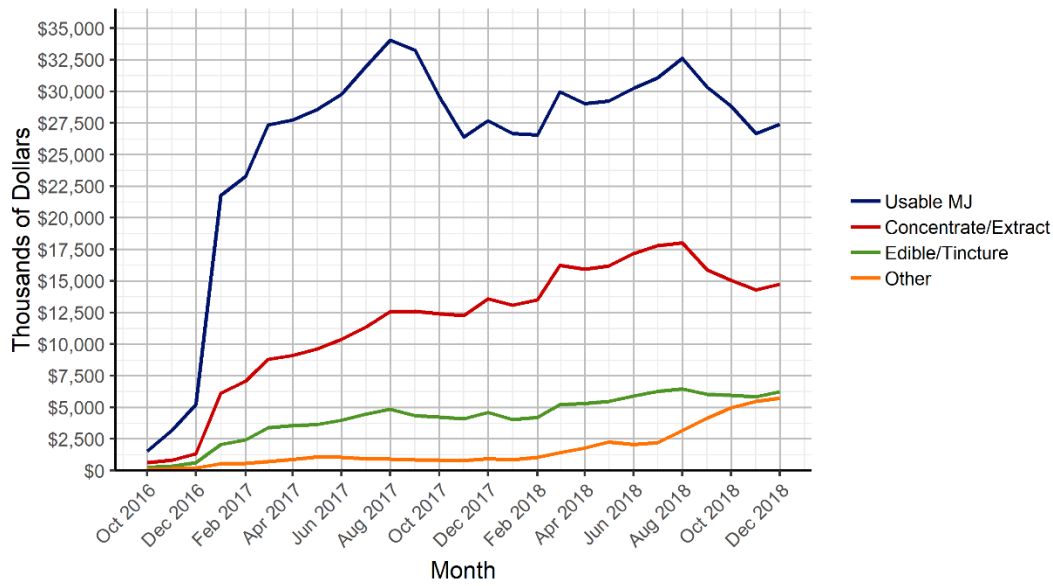
Medical dispensaries have almost entirely transitioned to OLCC licensure, which has made Recreational Retailers a significant source from which medical patients purchase and receive marijuana items. Monthly patient sales have held remarkably stable at approximately \$5 million per month since January 2017 when “early start” sales ended and dispensaries began transitioning in bulk to the recreational market (Figure 6). While patient sales at Recreational Retailers as a percentage of total sales have declined, this is due to total sales increasing at a faster rate than sales to patients.

Figure 6: Dollars Sold by Month and by Customer Type



One major trend in Oregon, as well as other states with legalized recreational markets, is the increasing customer shift away from usable marijuana (flower, leaves, and non-infused pre-rolls) towards other product types, particularly extracts and concentrates. While usable marijuana sales peaked in August 2017 (approximately \$34 million in sales), extract and concentrate sales increased another 40% between August 2017 and August 2018 (\$12.5 million to \$17.5 million).

Figure 7: Dollars Sold by Month and by Product Type

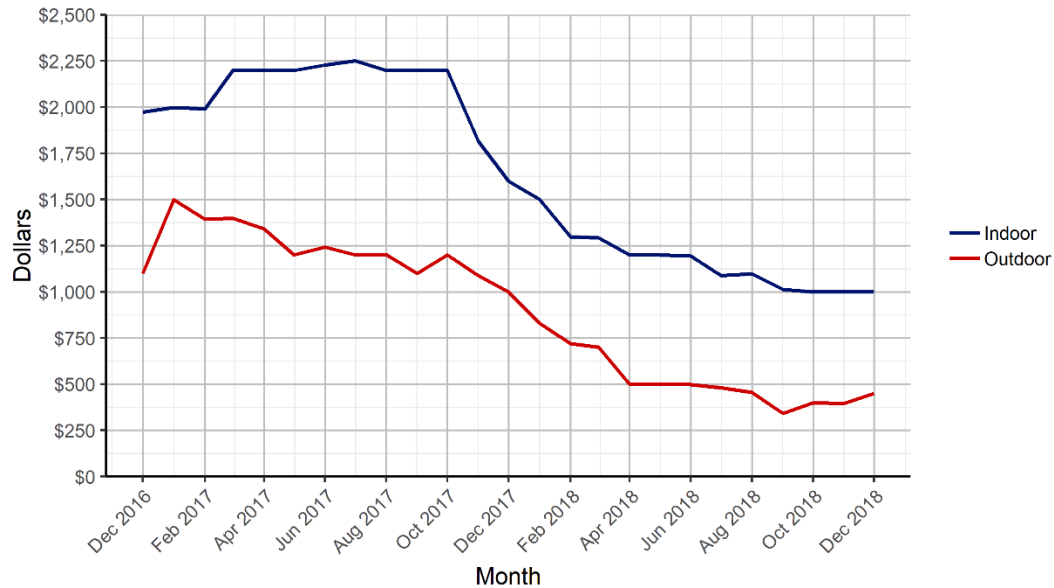


Aside from being an interesting market dynamic on its own, this trend introduces further complexity into estimating supply and demand. Demand-side product mixes play a central role in how much supply is needed to satisfy a certain level of demand. For example, satisfying 1 gram of demand for usable marijuana requires far less upstream supply than 1 gram of extract or concentrate. Moreover, even within these broad categories, there is a heterogeneous mix of what “extract,” “concentrate,” and “edible” means and the supply required to manufacture them. This complexity, and the implication for this report’s supply and demand estimates, are discussed in further detail later in this report.

Inventory

Decreasing consumer prices are a direct consequence of greater supply and lower wholesale prices within the recreational market. Basic principles of supply and demand dictate that if supply exceeds demand within a market, all else equal, prices will decline for that product. Wholesale prices, or the price paid between licensees, demonstrates this trend (Figure 8). As the amount harvested has increased, the wholesale price has decreased. Indoor- vs. Outdoor-produced usable marijuana has a clear distinction in terms of price level, but for both the overall wholesale price trend is the same.⁶

⁶ Indoor marijuana is produced in smaller quantities for higher “top shelf” prices. Lower-priced outdoor marijuana is more typically used for input material for extract/concentrate processing.

Figure 8: Median Wholesale Price by Month and by Producer Type

Beyond declining wholesale prices, actual levels of inventory on hand by license type month-to-month are a more direct indication of increasing supply (Figure 9 to Figure 11). Although some degree of supply storage and wind down of inventory over the course of the year would be expected due to the large proportion of annual harvest that takes place in a single month, the actual level of inventory remains well-above what is needed to satisfy demand through the supply chain. For example, inventory levels of usable marijuana at Recreational Producer locations in October 2018 continued to exceed what was on hand in October 2017. This is the case despite a large ramp up of extract, concentrate, edible, and tinctures manufacturing.

Processors appear to be taking advantage of low prices on input material to “stock up” for projected future sales; extracts and concentrates are more shelf-stable than either usable marijuana or edibles and tinctures. This ramp up in processor manufacturing in 2018 will likely result in a net decrease of processor demand for input material harvested during the 2018 outdoor season. In other words, although usable marijuana levels have declined precipitously throughout the course of 2018 after a post-harvest spike, the level remains higher year-over-year and the sell down rate is likely to be lower in 2019, resulting in a continuously increasing stock of supply.

Figure 9: Inventory by Month and by License Type, Usable Marijuana⁷

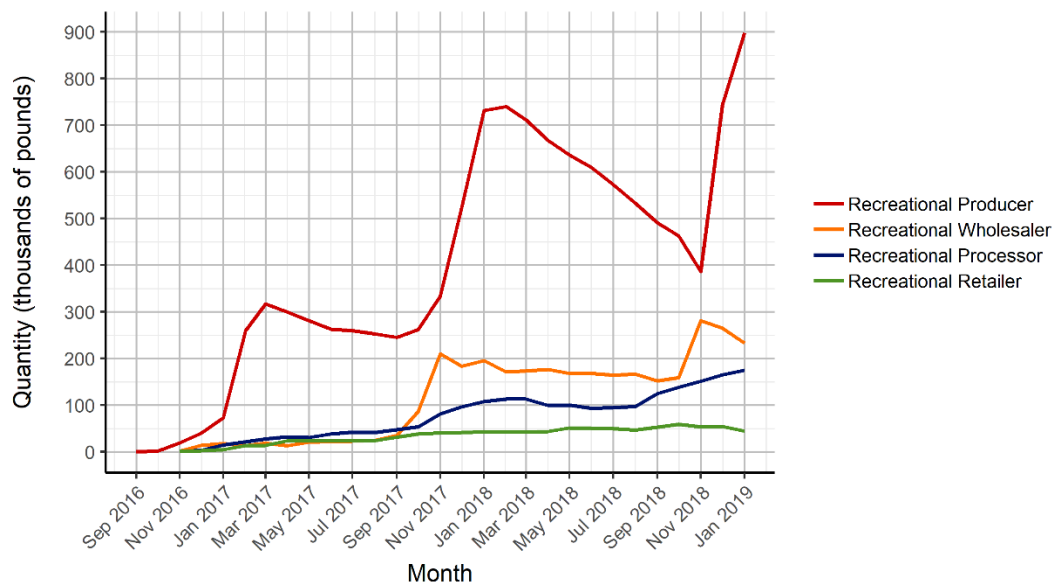
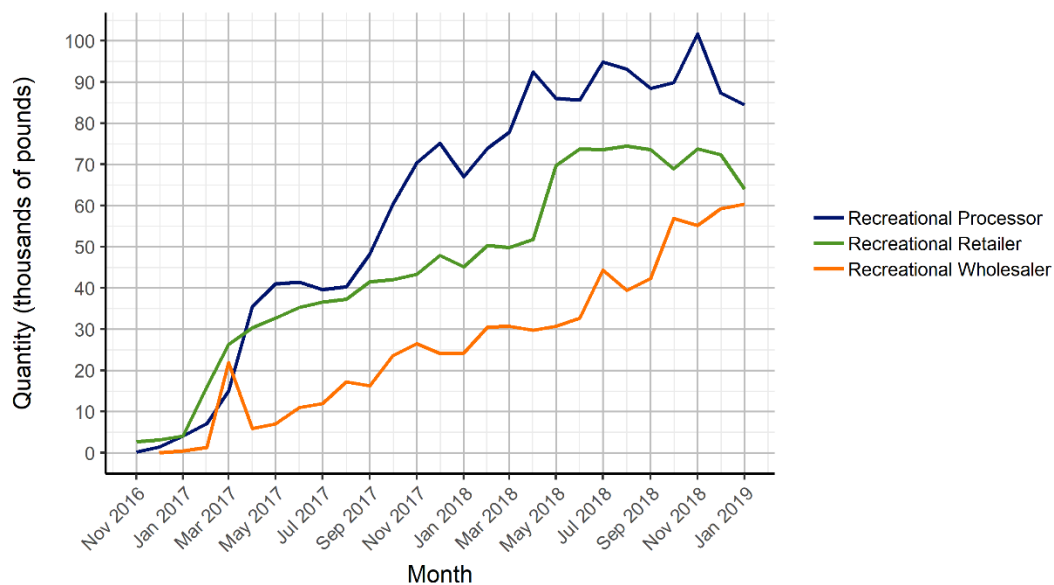
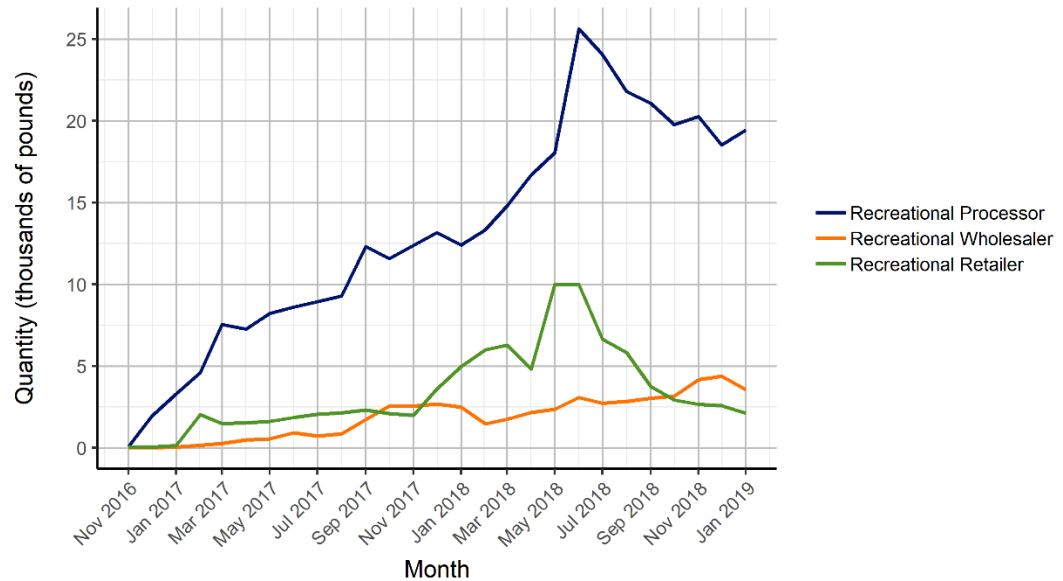


Figure 10: Inventory by Month and by License Type, Edibles/Tinctures



⁷ Although outdoor harvests occur almost exclusively in October, the time it takes to dry, trim, and cure creates a lag between harvest and when the product is reflected as “usable marijuana” in producer inventory levels.

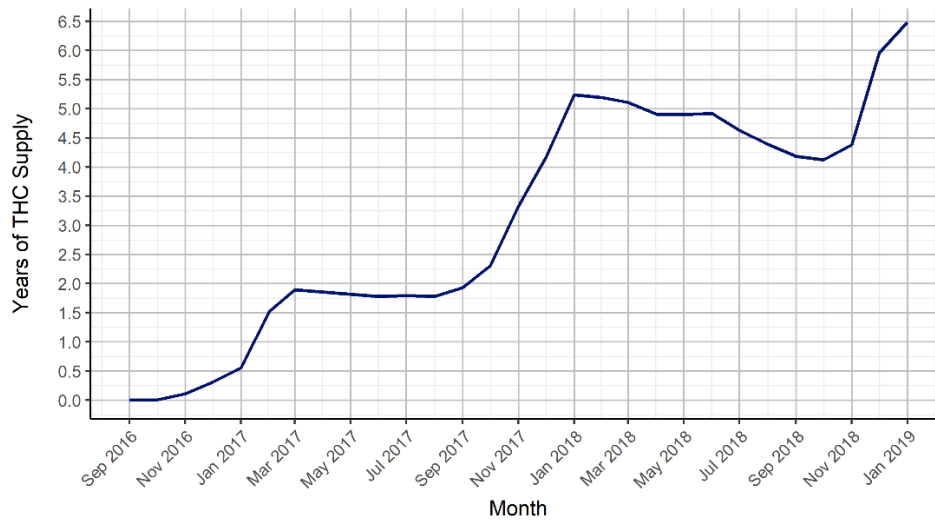
Figure 11: Inventory by Month and by License Type, Extracts/Concentrates



Raw inventory weight provides a useful insight into levels of supply. Scaling to a demand-equivalent estimate even more fully illustrates the trend of increasing supply. Using the estimation method described later in this report, the inventory levels by month are converted to an amount of THC and compared to the July 2017 to June 2018 levels of demand.⁸ This results in a standardized trend of supply in terms of the number of years it would take to sell through the entirety of the inventory in the OLCC market with no further production. Based on this estimate, as of January 1, 2019, the theoretical level of supply in the OLCC system is 6.5 years.

Almost certainly some amount of the existing inventory in the recreational system will never be sold. It may become too stale to be sold or is of insufficient quality to compete in the current market environment. In fact, anecdotally some of it may already be waste that has not yet been disposed of. Although the current inventory levels would not literally sustain current demand for 6.5 years, the estimate does provide an illustration of the effects of year-over-year production that exceeds consumer demand.

⁸ The method of “wet weight equivalent” estimation used in this report converts THC sold to an estimate of wet weight harvested. The method used in Figure 12 to estimate supply of THC is the inverse—it takes weight based on the product’s place within the supply chain and converts to THC, using the same parameters described in the Technical Appendix.

Figure 12: Inventory of Supply of THC by Month

While inventory levels continue to grow, the stock is growing within the licensed recreational system. The law of supply and demand dictates that increased supply above equilibrium results in lower prices, all else equal. Inventory levels, wholesale prices, and consumer prices all tell a consistent story—supply is higher than demand within the legal, recreational supply chain resulting in lower prices.

Licensees are obligated to reconcile inventory daily in the state’s Cannabis Tracking System, which is only one component of OLCC’s “three-legged stool” of compliance. The other two “legs” (security requirements, such as required cameras and video retention, and physical site inspections) add an additional layer of surety to the integrity of the closed-loop recreational system. Although cases of illegal diversion out of the OLCC recreational system have occurred (with both administrative and legal sanctions occurring as a result), by and large the vast majority of product that licensees have declared as being in their inventory has been identified as on-site during physical site inspections.

Growing supply and declining prices create market pressures that may over time increase the likelihood of licensees turning to illegal diversion and arbitrage opportunities out-of-state in order to keep businesses afloat. However, under the current market dynamics, a license in good standing in Oregon is viewed as an asset that can attract capital investment (in-state, out-of-state, and international) for future expansion under a (potential) future federal regulatory structure that permits interstate trade. This incentivizes operating within the legal structures of Oregon’s market even if it comes with greater price pressures and short-term losses. In this way, businesses in Oregon’s recreational marijuana market are in some ways analogous to technology start-ups. Specifically, investors and business owners are willing to take the risk of losses today for potential large gains tomorrow. However, this calculus depends on “tomorrow” not being excessively far in the future and the license remaining in good standing.

In other words, supply exceeding demand in and of itself is not an indicator of illegal activity that warrants drastic policy action, but may instead be an indication of speculative bets and pending market corrections. While policy decisions may be needed to push supply down closer to demand, this does not necessarily mean that wholesale change to licensure or the market itself is required.

Model for Estimating Supply and Demand

Estimates of inventory on hand within the market can identify stock of supply in a given month, but it cannot directly answer the question of whether the flow of supply through the market is in equilibrium with demand.

First, inventory levels are influenced not only by production within the market but, at least in the case of the recreational marijuana market, are also affected by continued transitions from the medical marijuana system. Medical marijuana growers continue to surrender their medical registrations and become recreationally licensed, which continues to create a steady flow into the recreational system. This complicates an analysis of supply and demand because it creates one-time increases in net recreational inventory that may not reflect long-term production trends.⁹

Second, supply alone is only one half of the equation; demand estimates are also needed to evaluate not only whether supply and demand are in equilibrium during a discrete time period, but also the ways in which changing demand dynamics may either push demand closer to or further from supply.

To more reliably estimate both sides of the equation over a fixed period of time and hold various factors constant, this report evaluates production and sales within the time period of July 2017 and June 2018, using data from the state's Cannabis Tracking System. Due to the diversity of product mixes sold by Recreational Retailers, this report standardizes all sales to a single unit (milligrams of THC sold) and calculates a "wet weight equivalent" of the amount of marijuana estimated to have been needed to supply that level of demand in the given time period.

Units of THC and Wet Weight Equivalent

By and large, the demand for recreational marijuana can be traced to a demand for THC (tetrahydrocannabinol), which is the intoxicating component of marijuana. Marijuana within the OLCC recreational market is overwhelmingly grown to maximize concentration of THC and is the primary driver of consumer demand for recreational marijuana products. Anecdotally there is increasing demand for CBD (cannabidiol), the non-intoxicating component of marijuana that is also attracting considerable interest in cannabis research for its potential medical benefits. This trend may impact future supply and demand trends. However, with more legal outlets of supply for CBD as compared to THC, the recreational marijuana market will likely continue to predominantly serve the THC portion of the cannabis market.¹⁰

Due to the wide-ranging and ever-shifting mix of product types, the most straightforward method of estimating demand is to convert purchases to a standardized unit of THC. This is possible in large part due to the testing requirements for recreational marijuana products. All final products transferred to a Recreational Retailer for sale to a consumer must be tested for potency (both THC and CBD). Due to the chain of custody linking items in the Cannabis Tracking System and the required daily inventory reconciliation (which includes all lab testing information as well as all sales data), every item sold can be linked to its specific THC potency value in milligrams. For example, if

⁹ For example, a medical grower may "stock up" inventory over a period of time in anticipation of gaining access to a more robust processor and retailer market.

¹⁰ With federal de-scheduling of high-CBD hemp in the 2018 federal Farm Bill and avenues for its entry into the OLCC market, it is likely that any rise in demand for CBD will be met through the hemp market and that the recreational marijuana market will continue to be a center of production of high-THC marijuana.

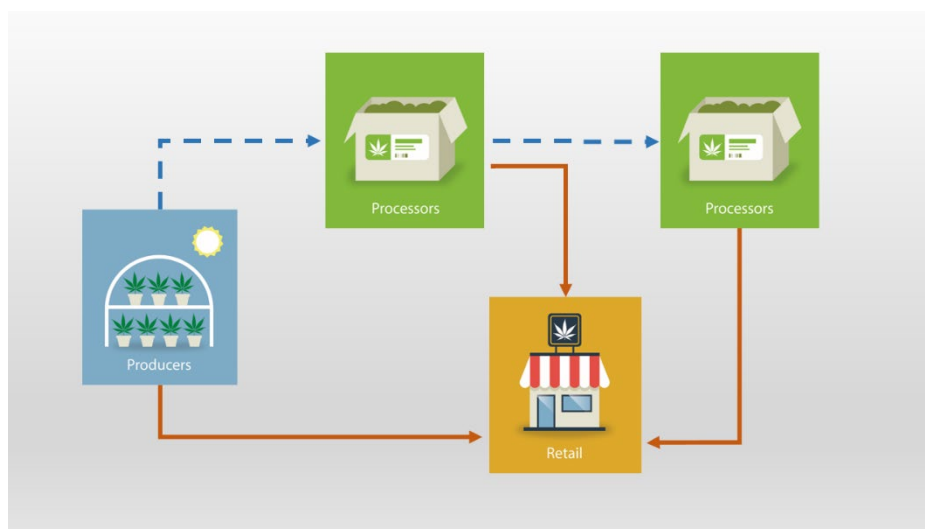
a 1 gram vape cartridge with 650 mg of THC (65% potency) is sold, that would be equivalent to 3.25 grams of usable marijuana at a potency rate of 20%. By calculating how much usable marijuana was used to manufacture a gram of extract, this report is able to evaluate the increase or decrease in demand, and the commensurate change in supply needed, that would result from consumers substituting away from usable marijuana and towards extracts or other product types.

Similarly, based on the myriad paths harvested material could take through the supply chain, this report converts the aggregate THC amount sold to a *wet weight equivalent* of the marijuana that went into the final product. Marijuana is cultivated and harvested like many agricultural crops. However, unlike many other agricultural commodities the actual marketable portion of the crop is extremely small relative to the initial weight of the harvested portion. In the case of marijuana, the dried and cured flower and leaves are the saleable product, which can represent as little as 10% (or less) of the initial harvested weight due to evaporation of water weight and waste of stems and stalks.

The potential paths marijuana may take between harvest and final sale are significantly more diverse than many other agricultural products. At a high level, the general product flow is as follows:

- Marijuana plants are harvested wet; drying and curing may account for as much as 90% loss of weight.
- Usable marijuana sold to consumers directly as flower (buds) and leaves (shake/trim) are tested for pesticides, water activity, moisture content, and potency and transferred to Recreational Retailers for sale.
- Marijuana to be used for further processing into secondary items is sent to Recreational Processors. Depending on the method and desired product, marijuana sent to processors may range from wet, untrimmed marijuana that is processed within 24 hours of harvest to material that has been fully dried and cured.
- Extracts and Concentrates processed from raw marijuana “feedstock” for direct sale to consumers are tested for pesticides, solvents (if applicable), and potency and transferred to Recreational Retailers for sale.
- Extracts and Concentrates for further processing into tertiary items (e.g., edibles, topicals, etc.) are tested for pesticides and solvents (if applicable) prior to being processed in-house or sent to another Recreational Processor for conversion into a final product. This final product is then tested for potency and transferred to a Recreational Retailer for sale.

Figure 13: Product Flow through the Supply Chain



By reconstructing each step of the supply chain from the item as sold back to its originating input material, this methodology is able to convert the THC value of the final product to the initial wet weight of its source material.¹¹ The difference between the *actual wet weight harvested* between July 2017 and June 2018 and the estimated *wet weight equivalent of THC sold* over the same period is the degree of equilibrium between supply and demand within the OLCC recreational marijuana market.

Supply and Demand Findings

It is OLCC's estimate that demand in the recreational marijuana market was 50% of supply produced by OLCC-licensed producers between July 2017 and June 2018 (see technical appendix for full analysis and a more comprehensive description of the methodology used). In that time period 15.5 million grams of THC were purchased from OLCC Recreational Retailers, which is a wet weight equivalent of 2.1 million pounds of marijuana. Over the same time period approximately 4.2 million pounds of wet weight marijuana was actually harvested. This is the estimate under our “fixed demand” method in which consumption is taken as constant based on purchases between July 2017 and June 2018.

Although these estimates are derived from point estimates of factors such as product mix of demand, wet-to-dry ratios of marijuana, and input/output ratios of marijuana “feedstock” to secondary products, no reasonable set of assumptions result in demand matching supply under current conditions. For example, even if extracts and concentrates became 100% of the recreational

¹¹ The reason for converting back to wet weight, rather than converting wet weight to THC-equivalent, is that both actual wet weight harvested and actual THC sold are fixed and known. If this report were to instead convert wet weight harvested forward to anticipated THC demand it would be introducing additional (and unnecessary) assumptions into the estimate. Specifically, if in 12 months' time the market share of extracts and concentrates were to increase by 40% it would drastically change the wet weight equivalent required to satisfy that demand. Supply takes time to work its way through the market for sale to a consumer in its final form. Projecting forward the supply harvested in a given month would require projecting forward under assumptions of anticipated product mixes. However, by casting backwards from known share for a given product mix to wet weight equivalent supply, this market share is held constant and gives a reliable estimate for the actual supply for the actual demand over the study period.

market share of THC purchased (from its current market share of 23%), demand would increase to only 71% of supply.

The only reasonable mechanism for demand within the OLCC recreational market to approach or meet supply is for the demand to rise through one of three (non-mutually exclusive) channels: an increase in marijuana consumers within the state, a greater level of consumption by marijuana users, or a rise in market share of the recreational market relative to other in-state marijuana markets (i.e., medical, home grow, and illegal). We estimate this potential growth through a “projected demand” method in which we analyze by how much potential consumption within the OLCC market would need to increase in order to match market supply.

Due to the historically “underground” nature of marijuana production and consumption, data on use rates and use levels is based on surveys that may be heavily skewed by respondents choosing not to answer truthfully. However, particularly as norms around production and use have changed in Oregon, there is a lower risk that current survey data on use patterns among Oregon adults is significantly biased.

Federal data related to number of consumers and levels of consumption suggests that approximately 20% of Oregon adults 21 years or older have consumed marijuana at least once in the last year and, of those who have consumed, the average level of annual consumption is 224.6 grams of flower-equivalent marijuana. At a median usable marijuana potency level of 19.5%, this is an annual mean THC consumption of approximately 44 grams. Like many markets, including for alcohol, total consumption is overwhelmingly driven by the heaviest users through the “80/20 rule.” Generally, 20% of users represent 80% of total consumption. Based on a comparison of these estimated levels of consumption to actual sales of THC within the OLCC market, we estimate that the OLCC market was the source of approximately 55% of total THC consumed in Oregon (see Technical Appendix for details of estimates and calculations).

If any one of these three numbers were to increase, all else equal, the total demand within the OLCC market would increase and become closer to recreational supply. All three increasing at the same time would have an even larger effect. For example, if the number of marijuana consumers and the level of consumption were both to increase by 10% (to 22.9% and 48 grams of THC, respectively) and the OLCC market share were to increase by 25% (from 55.1% to approximately 69%), the total demand for THC in the OLCC market would increase by 50%.¹²

Even taking into account greater consumption within the OLCC market, supply would continue to far exceed demand. Under our estimate of “projected demand”—if total statewide consumption were to remain constant but OLCC sold two-thirds of statewide THC—recreational marijuana consumption would still only be 61% of recreational marijuana supply. In fact, it would require an

¹² It is also possible that market share gains have a geometric rather than linear relationship. In this case, a tipping point may exist at which point a marginal consumer transitioning to the OLCC market represents a proportionately larger share of total consumption. Although we can estimate OLCC market share of the aggregate amount of THC purchased, we have no mechanism to estimate whether heavy users (those 20% of users representing 80% of consumption) are more or less likely to be OLCC consumers as opposed to medical, home grow, or illegal market participants. If these users are more likely to consume outside of the OLCC market, an increasing market share at some point would begin to lead to more of those heavy users purchasing within the OLCC market and increasing OLCC market demand at a greater rate.

increase of total statewide THC consumption by 25% *and* increasing the OLCC market share of that consumption from 55% to 75% to result in recreational demand that meets 98% of the recreational supply.

Table 2: Estimates of Supply and Demand

	Fixed Demand	Projected Demand
Median Demand Relative to Known Supply	49.7%	61.1%
Median Wet Weight Equivalent Demand	2,134,000	2,626,000

The data makes clear that the recreational marijuana market’s supply far exceeds demand within the market. In fact, based on current production and statewide consumption levels this report’s estimates demonstrate that the OLCC market could meet annual demand for total *statewide* THC consumption, even those currently procuring through non-recreational market sources.

Although this report has taken supply as fixed based on a single 12-month period, supply is projected to increase precipitously based on the pipeline of pending applications. The current level of annual production within the OLCC system is sufficient to meet statewide demand and demand is unlikely to increase commensurate with this potential rise in supply. Absent a significant decline in the amount of marijuana produced—through either a market contraction or policy changes to the licensed recreational system—the recreational market is on a path towards even greater disequilibrium.

Policy Considerations

Oregon’s current market dynamic of supply exceeding demand strongly contrasts with Colorado, where there are more robust supply-side constraints enforced as part of licensure. Although Colorado does not have a hard cap on numbers of licenses, regulators strictly enforce producer canopy allotments by forcing individual producers down in allotted canopy if they cannot demonstrate sufficient market for the amount of marijuana they produce. Colorado’s recent report on supply and demand notes that its policies have resulted in supply being much closer to equilibrium with demand than estimates for Oregon (301.7 metric tons consumed in Colorado versus 340.7 produced, approximately 88% of supply in Colorado compared to 50% in Oregon). Notably, however, Colorado’s near-equilibrium between supply and demand has not prevented its market from experiencing an average wholesale market price decline of 38% for bud (marijuana flower) between January 2018 and January 2019.¹³ This indicates that market equilibrium may not in and of itself stabilize market prices or decrease market pressures on existing licensees.

The Oregon recreational marijuana system was intentionally established, in both the original ballot measure and the legislative implementation, as a freer market than the states that had adopted legalization prior to Oregon (Washington and Colorado). The 2016 legislation that lifted Oregon residency requirements for those with financial or ownership interests in OLCC licensees further cemented this structure. In large part, this approach to implementation of the recreational marijuana market was made to resolve a specific set of public policy issues that neither Washington nor

¹³ Colorado Department of Revenue. “Current & Prior Average Market Rates (AMR) for Retail Marijuana Excise Tax.” https://www.colorado.gov/pacific/sites/default/files/AMR_PriorRates_Jan2019.pdf.

Colorado had faced, namely a longstanding tradition of marijuana cultivation even prior to the implementation of Oregon’s medical marijuana law in 1998.

When the recreational marijuana system was established it was done with the philosophy that market competition would resolve issues of excessive supply. Producers (and other licensees) whose costs were not covered by market prices would exit the market, as happens in markets for crops such as hops or corn. This would naturally diminish supply and the market for recreational marijuana, like other markets, would self-correct.

What is unknown at this time is whether the Oregon recreational market is sufficiently similar to other markets to naturally self-correct towards equilibrium. If the marijuana market is viewed as equivalent to a market such as hops, overproduction may not in and of itself be a public policy concern. Declining prices may cause losses for private individuals or businesses but these types of losses in other markets are generally not viewed as requiring state intervention to correct levels of supply. If, however, the nature of the marijuana market—for example, the ban on interstate commerce—creates unique concerns, policy changes at the state level would be more warranted.

The range of policy options in relation to supply exceeding demand exist along a spectrum, ranging from no changes in the market structure (i.e., letting supply self-correct towards equilibrium) to changes at the margins (e.g., reducing licensed grow canopies and/or raising license fees) to sweeping change in the form of a license cap or moratorium. Both the perceived nature of the problem and the costs and benefits of policy choices inform where along the spectrum decision-making should occur.

If changes to the market structure are desired to push supply down closer to current market demand, nearly all actions would require legislation or an expansion of OLCC authority. Based on the original Measure 91 ballot initiative and subsequent legislation, the OLCC has authority over two narrow avenues for supply limits related to licensed canopy areas (decreasing maximum tier sizes and modifying the ratio between outdoor and indoor canopies). However, this authority is much more limited in scope than in Colorado. For example, whereas Colorado can limit individual licensees’ production by restricting their individual canopy, the OLCC can only modify the aggregate canopy size allowance for producer tiers as a whole.

Below is a discussion of potential policy decisions and considerations.

Maintain Status Quo

A market in which supply and demand are not in equilibrium does not typically prompt a policy response from state or federal authorities. Although it may cause private losses to individuals or businesses, “creative destruction” is generally viewed as an inherent risk of entrepreneurial activity and investment. For example, data from the US Bureau of Labor Statistics shows that 20% of all private businesses fail within two years of establishment and nearly 40% fail within the first four years.¹⁴

¹⁴ Bureau of Labor Statistics. “Survival rates of establishments, by year started and number of years since starting, 1994–2015, in percent.” https://www.bls.gov/bdm/entrepreneurship/bdm_chart3.htm. Data specific to Oregon available at https://www.bls.gov/bdm/or_age_total_table7.txt.

The Oregon marijuana market was established with such creative destruction in mind. Low barriers to entry were created in an effort to incentivize transition to the recreational market, with the expectation that Oregon's long-standing tradition of robust marijuana production would persist. By bringing this production into the legal, recreational market it was for the first time directly measurable and observable.

The recreational market is living up to expectations of booming production and declining consumer prices that cut into the illegal market while also experiencing rising tax revenues. Meanwhile, the Legislature's lifting of Oregon residency requirements in 2016 for owners and investors in OLCC marijuana licensees has provided access to capital for businesses and helped ensure liquidity. This has created a business dynamic similar to tech start-ups—many businesses are able and willing to weather losses today for the prospect of large profits tomorrow. Oregon businesses build a brand and establish legally licensed outposts in other states and the state benefits from an emerging growth industry. This business strategy can only succeed if the company retains a license in good standing in Oregon, thereby also creating an incentive for compliance.

However, the degree to which Oregon's marijuana market will continue to function like other markets is an unknown question. Other products have access to interstate and international trade and therefore more legal avenues to sell off supply. Restrictive federal tax and bank policies also increase marijuana business' costs relative to peer agricultural industries. Finally, marijuana faces significantly higher federal scrutiny and there is a greater interest in ensuring that businesses do not turn to illegal activity to stay afloat.

Canopy Size and Ratios

Under ORS 475B.085 the OLCC is tasked with setting canopy limits for Recreational Producers; originally these canopies were specific to flowering plants but have subsequently been extended to immature (non-flowering) plants as well. The OLCC controls two elements of canopies: the overall size and the ratio between indoor and outdoor producers. ORS 475B.085 states:

475B.085 Marijuana plant grow canopies; rules. (1) Subject to subsection (3) of this section, the Oregon Liquor Control Commission shall adopt rules restricting the size of marijuana plant grow canopies at premises for which a license has been issued under ORS 475B.070. In adopting rules under this subsection, the commission shall:

- (a) Limit the size of marijuana plant grow canopies, for premises where marijuana is grown outdoors and for premises where marijuana is grown indoors, in a manner calculated to result in premises that produce the same amount of harvested marijuana leaves and harvested marijuana flowers regardless of whether the marijuana is grown outdoors or indoors. [...]
- (c) Take into consideration the market demand for marijuana items in this state, the number of marijuana producers applying for a license under ORS 475B.070, the number of marijuana producers that hold a license issued under ORS 475B.070 and whether the availability of marijuana items in this state is commensurate with the market demand.

Current OLCC rules for producer tiers have been unchanged since first being adopted in 2016. The rule development process went through a rigorous feedback and advisory process. It included 15 meetings of Rules Advisory Committees in 2015 related in whole or in part to rules for producers and a public comment period in 2016 prior to final adoption by the Commission. Based on feedback from the public and other stakeholders, the OLCC established a four-to-one outdoor to indoor flowering canopy ratio, a maximum flowering canopy size of 40,000 square feet for an outdoor producer, and a maximum flowering canopy size of 10,000 square feet for an indoor producer. (Mixed producers may have portions of their flowering canopies as indoor and some as outdoor with an outdoor-equivalent maximum of 40,000 square feet.) The producer tiers and license fees are as follows:

Tier	Outdoor Maximum Flowering Canopy	Indoor Maximum Flowering Canopy	License Fee
Tier II	40,000 sq. ft.	10,000 sq. ft.	\$5,750
Tier I	20,000 sq. ft.	5,000 sq. ft.	\$3,750
Micro Tier II	5,000 sq. ft.	1,250 sq. ft.	\$2,000
Micro Tier I	2,500 sq. ft.	625 sq. ft.	\$1,000

Based on statute, OLCC by rule could decrease the canopy size for all producer types (e.g., halve all maximum canopies), reduce the outdoor-to-indoor ratio (e.g., halve the maximum outdoor canopy levels and leave indoor canopies at their current levels), or both (e.g., halve the indoor maximum canopy and make the outdoor maximum a quarter of its current maximum).

Although OLCC could unilaterally enact these limits by rule, it would have a drastic effect on existing licensed producers who have invested in security systems and built structures based on both the anticipated size of their licensed canopy and estimates of harvested output per square foot. Moreover, canopy changes on their own, in the absence of moratoriums, cap, or changes to license fees, may not be sufficient to dissuade existing licensees to simply apply for additional producer licenses. Under the status quo an outdoor producer may grow up to 40,000 square feet under a single license. If canopy limits were imposed they may simply shift towards growing 20,000 square feet under two separate licenses, with no net change to the licensed grow area in the state. This would in effect increase the work required to license the same amount of licensed grow space and potentially pull OLCC resources away from other activities required to license and monitor existing licensees (e.g., inspectors doing more required pre-licensing site visits rather than site inspections of licensees, license investigators processing new applications rather than business or premises change requests, etc.).

In combination with other policy actions, however, reductions in canopy sizes or the outdoor to indoor ratio could resolve a supply/demand collective action problem in the recreational marijuana market while allowing existing licensees to retain their place in the Oregon market as a foothold for future expansion. Within the recreational market, like in the case of other agricultural markets, it is in the self-interest of an individual producer to produce as much crop as possible but for competitors to under-produce. This would put the producer in a position of selling more harvest at a higher price (more personal supply, lower market supply, and therefore higher prices). Instead, though, the bulk of producers simultaneously pursue their individual self-interest, leading them to each maximize

supply, which drives market supply up and market prices down. By “resizing” producer canopies to levels the market is better able to sustain, producers may harvest less but potentially see rising prices (or at least see prices that decline more slowly).

License Fee Increase

The rate of license applications in the current market environment is an indication that at their current levels license fees play a small role in the decision-making process of whether to enter the recreational marijuana market. In fact, even when the OLCC announced a pause on processing applications received after June 15, 2018 due to the high number of existing licenses and applications, there was a significant spike in applications submitted in the first two weeks of June. Applicants seem willing to “roll the dice” that they will survive market pressures. Such a mentality speculative entrepreneurship has few downsides for the state as a whole in other licensed markets (e.g., restaurants applying for liquor licenses). However, in a market in which legal supply must stay in-state and illegal out-of-state export can fetch considerably higher prices, a large demand for licenses risks creating even greater pressure on licensees and an incentive for illegal activity.

If license fees are to be increased, the OLCC may not do so unilaterally. While the fee levels are established in OLCC’s administrative rules, the agency requires approval to raise the fees and spend the revenues. OLCC’s marijuana program is exclusively fee-funded. Fee revenues may only be set at a level to cover program costs and maintain a small operating reserve. If OLCC were granted budgetary authority to collect and spend more fee revenue, the agency would only be able to fund specific positions or agency costs. Without additional authority, OLCC could not charge fees that resulted in excess funds. If the Legislature granted OLCC additional revenue and expenditure authority above direct program costs, excess fees collected could be sent to the existing Oregon Marijuana Account, similar to marijuana taxes. Those funds could then be distributed to schools, cities, and counties.

Although license fee changes could be a tool to diminish demand for licenses and therefore the supply of marijuana within the recreational market while also generating additional revenue for the state, one major risk is that the elasticity of demand for licenses is unknown. In other words, it is unknown the degree to which applicants’ decision-making process would be affected by higher license fees and by how much demand for licenses would decrease for a given dollar increase in the fee.

Additionally, there is a business impact to consider in determining whether and how high to increase license fees. Businesses have made decisions based on projected costs, including license fees, and an increase in these costs could exacerbate business pressures being felt in the current market environment. While higher license fees and fewer producers would in the long-term be more likely to stabilize supply and prices, it would be cold comfort to a licensee who faces more immediate cost pressures.

License Cap or Moratorium

Due to the federal regulatory landscape and prohibition against interstate trade of marijuana, each new state that legalizes recreational marijuana must become self-sufficient in supplying its own demand. At the outset of market implementation, the greatest concern has historically related to

initial *shortages* of supply.¹⁵ Over the longer-term, however, the inverse effect of interstate trade prohibition is that states can *only* supply their own demand. Specifically, consumer demand has tended to rise but at a slower rate than supply because of increasing productivity and more licenses being issued. This results in leaving states with excess supply that cannot be exported to other markets.

Two potential mechanisms to limit supply is a cap on the number of permitted licenses (either of all types or of a specific type) or a moratorium for a period of time on any new licenses being issued. A cap on the amount of licenses is considerably simpler to institute prior to a market being launched. If a cap were to be set below the number of current licenses either existing licenses would have to be revoked or the cap would in effect operate more like a moratorium in which no new licenses are issued until the number has decreased to a level below the cap. In practice, however, the principle is the same—supply is limited by controlling the number of operators permitted to produce marijuana.

Although a cap or moratorium could effectively limit growth in supply within the recreational marijuana market, there are several factors that would influence the policies’ potential effectiveness.

- 1) Specific to a cap on licenses, at what level would the cap be set and by whom (e.g., by statute or administrative rule)?
- 2) Specific to a moratorium, would the moratorium be for a specific period of time or based on market conditions? If the latter, which market conditions and on what frequency (e.g., reevaluated annually? biannually?)
- 3) For both a cap and moratorium, would existing licenses be “grandfathered” in? Would existing applications be grandfathered?
- 4) Would business structure changes and buy-outs be considered the same license for purposes of a cap or moratorium, or would business structure changes and/or buy-outs be considered a new license and therefore affected by the cap/moratorium?
- 5) Would a cap and/or moratorium be applicable to all license types or only specific license types (e.g., only on producers)?

Based on the manner in which a cap or moratorium is implemented, there is significant risk that the policy could at best be ineffective in addressing excess supply and at worst exacerbate existing business and market conditions. A cap or moratorium with grandfathering provisions for both existing licenses and applications would set maximum supply above what the market currently produces and do nothing to stabilize wholesale prices or market pressures. On the other hand, if a cap or moratorium were set at a lower level but did not permit business structure changes or buy-outs it could significantly limit businesses’ access to capital and eliminate an avenue many use to weather an environment of decreasing profits. Conversely, a cap or moratorium that did permit business structure changes could have the effect that new entrance into the market could come *only* through buy-outs and acquisitions, which may lead to market consolidation of licenses in the hands of fewer, larger businesses. Finally, a cap or moratorium on all license types (rather than producers only) would risk throttling demand rather than supply and exacerbating the degree of disequilibrium between supply and demand.

¹⁵ Most recently Canada has experienced “growing pains” of supply shortages; <https://www.nytimes.com/2018/11/07/world/canada/canada-marijuana-shortage.html>.

Even if a cap or moratorium were implemented in a way that maximized its probability of success, preventing new entry into the legitimate, regulated recreational market risks pushing people into the illegal market. In other words, although a cap or moratorium may limit supply within the recreational market it may not have any net effect on the supply of marijuana in Oregon as a whole.

There is also a practical complication in evaluating the correct level for a cap or moratorium. Predictions of future market conditions are notoriously difficult, particularly when market dynamics and the regulatory landscape is ever-shifting. A cap or moratorium that must be updated based on market conditions will inevitably require guesses about the future state of the marijuana market. Any level of central planning in a market is prone to mistakes and inaccurate guesses. It will be even more difficult to hit the mark in the new and unpredictable recreational marijuana market.

Conclusion

Between July 1, 2017 and June 30, 2018, demand for marijuana from OLCC recreational retailers was an estimated 50% of the marijuana harvested by OLCC recreational producers. This estimate does not include other avenues for production or consumption within Oregon (e.g., medical, home grow, or illegal markets). In addition to the one-year supply and demand estimates, inventory stocks continue to build year-over-year for all product types. As of January 1, 2019, the recreational market could satisfy a theoretical 6.5 years' worth of demand without any further production. Despite this market environment of increasing supply and declining wholesale prices, demand for licenses has been steady.

Potential policy considerations include maintaining the status quo licensed structure and allowing the market to self-correct towards equilibrium, increasing license fees, limiting the maximum producer canopy, and placing a cap or moratorium on the number of recreational licenses. Due to the nature of the market in which supply already exceeds demand, any policies enacted with the purpose of creating equilibrium in the near-term will inherently have an effect on incumbents within the market.

Technical Appendix

General Approach

Recreational marijuana licensees have an obligation to report all activities and balance inventories each day in the state-mandated Cannabis Tracking System (CTS). The reporting requirements include documenting all harvests, waste, transfers, lab testing, and sales. This creates a wealth of market information for all licensed activity.

However, counterbalancing the amount of market data available are two other factors: the lack of historical data on the regulated marijuana market and the myriad consumer items into which marijuana can be processed. While data exists for each successive step of the supply chain, the market itself is still in a constant state of flux and does not lend itself to steady state estimates of supply and demand.

This study attempts to capitalize on the advantage of the wealth of data about the market while accounting for the difficulty of steady state estimates by using the Monte Carlo estimation method to vary parameters within reasonable ranges and produce 10,000 simulations of the Oregon recreational marijuana market. In each simulation the same general approach as described in the above report is used. Demand is estimated as the aggregate amount of THC sold by recreational retailers across all product types during the study period. This THC amount is then converted back to its original marijuana wet weight using the formulas described below to estimate a “wet weight equivalent” of demand.

In each Monte Carlo simulation, the specific parameters within the formula are allowed to vary (e.g., wet-to-dry weight ratio, market share of usable marijuana vs. concentrate/extract vs. cannabinoid products, etc.). This affects the individual estimate of wet weight equivalent of demand. Finally, each Monte Carlo estimate of wet weight equivalent of demand is compared to the actual wet weight harvested by OLCC producers during the study period, 4,294,000 pounds, and demand relative to supply is estimated. This produces 10,000 individual wet weight equivalents and estimates of demand relative to supply, allowing for a study of the conditions under which demand equals or exceeds supply.

The formula below relies on median values within the CTS data. The rationale for using medians is that licensee-entered data, like most administrative or user-entered data, is subject to outliers caused by typos and other errors. Using medians rather than means prevents the data from being weighted disproportionately towards outliers and skewing either the supply or demand estimates. However, this is also the benefit of the Monte Carlo method. In addition to the most confident estimate of demand relative to supply using medians of the various parameter values, by simulating 10,000 times we are able to derive a range of plausible estimates of the degree of supply and demand equilibrium in the Oregon recreational market.¹⁶ If none (or extremely few) of these plausible estimates of demand match supply, we can be highly confident that the market is not in equilibrium.

Methods of Demand Estimations

We estimate demand using two methods:

¹⁶ All parameters in the Monte Carlo model are simulated using triangular distributions. The mode and upper/lower bounds for each parameter are described in Table 4 and Table 5 for the fixed and projected demand models.

1. “Fixed Demand,” which estimates demand over the 12 month study period (July 2017 to June 2018), and
2. “Projected Demand,” which estimates demand under conditions of variable consumption and OLCC market share.

The general methodology and specific formulas were validated by an external review group that included representatives of the Oregon Office of Economic Analysis, Oregon Medical Marijuana Program, Oregon State Police, ECONorthwest, RAND Drug Policy Research Center, and New Frontier Data. A full draft of this report was reviewed by the same external group and comments were incorporated into this final report.

The “fixed demand” model takes as given the amount of THC consumed within the recreational market and calculates a wet weight equivalent. The “projected demand” model, on the other hand, evaluates the degree to which demand may change if more Oregon adults were to consume marijuana, those who consume were to consume greater amounts, or more existing consumers were to procure THC from the recreational market as opposed to other sources. This “projected demand” model, holding supply as fixed, allows us to analyze the degree to which the market may self-correct towards equilibrium.

Two “layers” of simulations were conducted as part of the “projected demand” model. The first layer estimated the distribution of population use (number of days of marijuana consumption), which was in turn used to estimate the mean amount consumed per user per year. The second layer re-ran this population-use simulation 10,000 times to generate a distribution of mean consumption per user per year.

More specifically, in the first layer simulation, Oregon consumption of marijuana was estimated by running 2,989 simulations to allocate a simulated user set of 1,000 individuals to a specific number of days within a consumption “bucket” (ranging from “never used” to “used 241 to 365 days”). The consumption rate estimates rely on responses to the National Survey on Drug Use and Health (NSDUH) for Oregon survey participants 21 years and older.¹⁷ In combination with this use-frequency data from NSDUH (Figure 14) we conducted a meta-analysis of the amount of marijuana consumed per use day based on frequency of use from 12 studies (Figure 15). Findings from this meta-analysis were then used to define coefficients that generated a smoothed consumption equation. The simulated use days for each population set were then multiplied by the coefficients to derive estimates of mean annual marijuana consumption. The smoothed line equation used to estimate mean grams of consumption per user per day is plotted in Figure 16 below.

¹⁷ For example, if a population set of 1,000 were assigned to the “bucket” of consuming between 181 and 240 days per year, the simulation would then assign a specific number of consumption days to that population set (e.g., 181 versus 182 days, etc.). The number of runs in the “first layer” simulation (2,989) was selected to align with the NSDUH estimate of Oregon’s 21+ adult population over the survey period.

Figure 14: Frequency of Marijuana Consumption by Number of Use Days

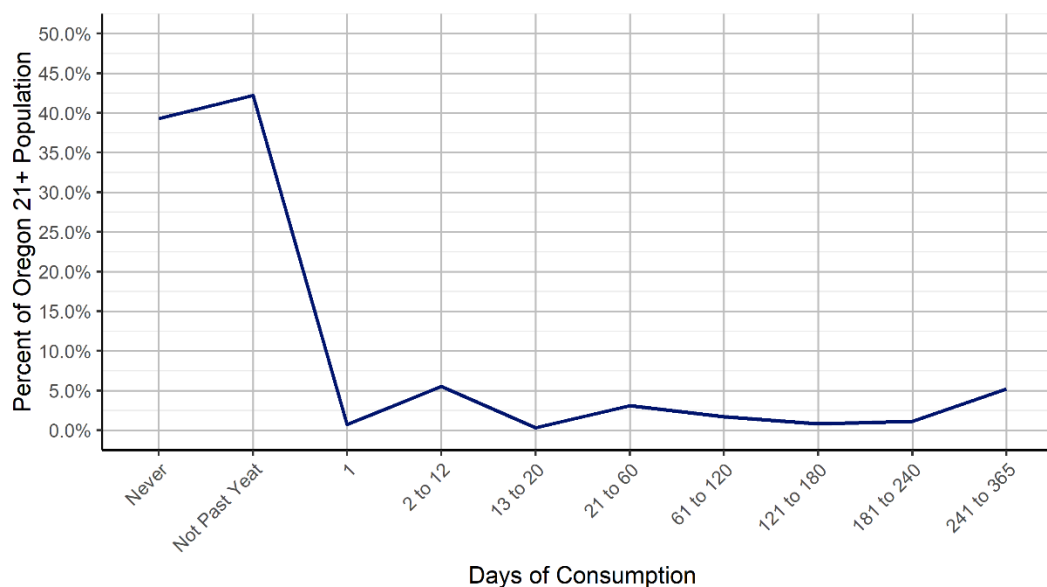
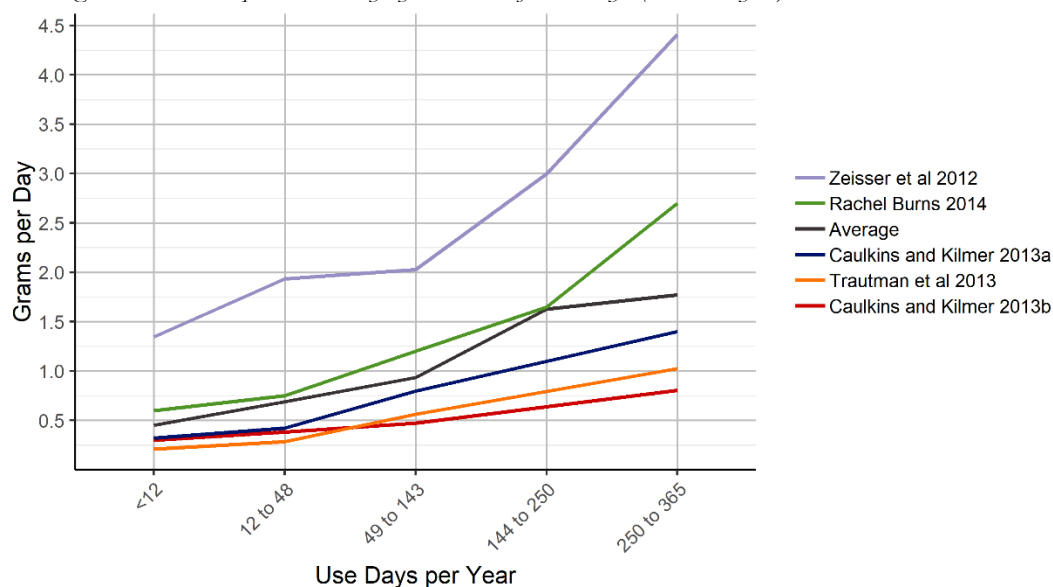


Figure 15: Consumption Per Day by Number of Use Days (meta-analysis)¹⁸

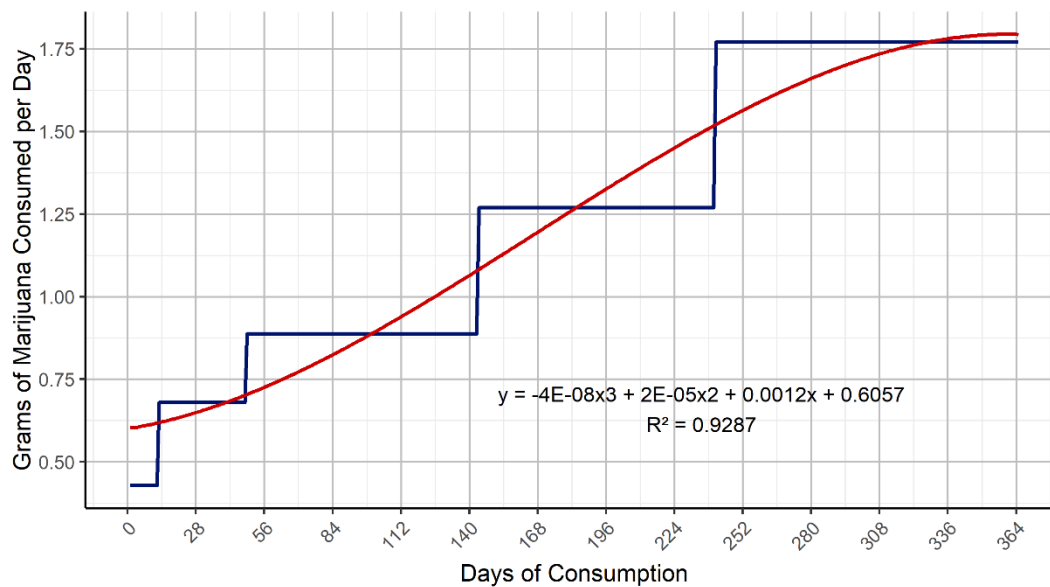


¹⁸ Burns, R. M., J. Caulkins, S. S. Everingham and B. Kilmer (2013). "Statistics on Cannabis Use Skew Perceptions of Cannabis Use." *Frontiers in Psychiatry* 4: 9.

Caulkins, J. P. and B. Kilmer (2013). Estimating the size of the E.U. cannabis market. *Further insight into the aspects of the illicit EU drugs market*. F. Trautman, K. B. and T. P. Luxembourg, European Union Monitoring Center for Drugs and Drug Addiction: 503.

Freeman, T. P., C. J. A. Morgan, C. Hindocha, G. Schafer, R. K. Das and H. V. Curran (2014). "Just say 'know': how do cannabinoid concentrations influence users' estimates of cannabis potency and the amount they roll in joints?" *Addiction* 109(10): 1686-1694.

Figure 16: Consumption Per Day by Number of Use Days (smoothed estimation)



The second layer of the simulation for the “projected demand” model was to re-run this “user set” simulation 10,000 times, varying the probability of assignment to each “bucket” of frequency of use. For each of the 10,000 simulations, the use frequency probabilities were randomly selected within a triangular distribution based on the proportion and standard error from the NSDUH survey. For example, NSDUH’s survey results show that 41.9% of Oregonians age 21+ have never used marijuana, with a standard error of +/- 1.64%. The probability for each 2,989 population set of 1,000 Oregonians age 21+ being assigned to the “never used” category was randomly chosen within a triangular distribution of a mode of 41.9% and lower/upper bounds set to the 95% confidence interval (38.7% and 45.1%, respectively).

The two layers of simulations jointly result in 10,000 estimates of consumption probability (those who consumed at least one day during the year), frequency, and amount consumed per user per year. The mean and median consumption rate of the 10,000 “user set” simulations exactly matched NSDUH’s survey results.

Kilmer, B., J. Caulkins, G. Midgette, L. Dahlkempr, R. J. MacCoun and R. L. Pacula (2013). Before the Grand Opening. Santa Monica, CA, RAND Corporation.

Leggett, T. (2006). A Review of the World Cannabis Situation. *The Bulletin on Narcotics*. S. Chawla. Vienna, Austria, United Nations Office on Drugs and Crime. **LVIII**: 168.

van der Pol, P., N. Liebrechts, R. de Graaf, D. J. Korf, W. van den Brink and M. van Laar (2013). "Validation of self-reported cannabis dose and potency: an ecological study." *Addiction* **108**(10): 1801-1808.

van Laar, M., T. Frijns, F. Trautman and L. Lombi (2013). Cannabis market: user types, availability and consumption estimates. *Further Insights into Aspects of the European Illicit Drugs Market*. F. Trautman, K. B. and T. P. Luxembourg, European Union Monitoring Center for Drugs and Drug Addiction: 73-182.

Zeisser, C., K. Thompson, T. Stockwell, C. Duff, C. Chow, K. Vallance, A. Ivsins, W. Michelow, D. Marsh and P. Lucas (2012). "A 'standard joint'? The role of quantity in predicting cannabis-related problems." *Addiction Research & Theory* **20**(1): 82-92.

Table 3: Estimations of Oregon Adult Marijuana Consumption

	Proportion of Oregon Adults age 21+ Consuming At Least Once Per Year	Grams of Marijuana Consumed Statewide per Consumer per Year
Median	20.8%	224.6
Mean	20.8%	224.7
Lower Bound	16.0%	167.4
Upper Bound	26.1%	296.1

The final step of the “projected demand” model uses the consumption rate and consumption level from each of the 10,000 simulations and combines those parameters with the usable marijuana potency percentage (previously simulated in the 10,000 iterations of the “fixed demand” model) to convert annual statewide consumption to grams of THC. The model further varies the percentage of this statewide THC consumption that is purchased within the recreational market as opposed to other sources. The model results in an estimate of THC purchased from OLCC-licensed Recreational Retailers and is compared to supply-side estimates from the “fixed demand” model.

Mechanics of Demand Estimations

Using the general methods described above, the specific formulas that drive the demand estimates throughout this report are as follows:

ω = Wet Weight Equivalent

λ = Wet-to-Dry Weight Ratio

1. The equilibrium between supply and demand in the recreational marijuana market is estimated by dividing the calculated total wet weight equivalent of demand by the actual wet weight harvested over the same time period.

$$\text{Equilibrium of Supply and Demand} = \frac{\omega \text{ of Demand}}{\text{Actual Wet Weight Harvested}}$$

2. Market wet weight equivalent of demand is calculated as the summation of the individual wet weight equivalents of each product category.

$$\begin{aligned}\omega_{\text{demand}} = & \omega_{\text{usable marijuana sold to consumers}} \\ & + \omega_{\text{extracts and concentrates sold to consumers}} \\ & + \omega_{\text{cannabinoid products sold to consumers}}\end{aligned}$$

- Each component of the total wet weight equivalent calculation is based on finding the amount of THC sold in the form of each product type, dividing that value by the median THC potency of the product type in order to derive the aggregated full item net weight, multiplying that value by its input/output weight ratio for each step of processing (where relevant) to determine the aggregated weight of input marijuana material, and finally multiplying the usable marijuana net weight by the dry-to-wet weight ratio of marijuana. Usable marijuana and “feedstock” marijuana (the raw input material for processing) are assumed to have different wet-to-dry ratios to take into account fresh processing and other factors that make marijuana input material wetter on average than usable marijuana that is sold directly to consumers.

$$\begin{aligned}\text{Total } \omega_{\text{usable marijuana sold to consumers}} = \\ \lambda \times \frac{(\text{Total mg THC sold to consumers}) \times (\text{THC market share of usable marijuana})}{\text{Median \% THC of usable marijuana sold}}\end{aligned}$$

$$\begin{aligned}\text{Total } \omega_{\text{extracts and concentrates sold to consumers}} = \\ \lambda \times \left[\frac{\left[\frac{(\text{Total mg THC sold to consumers}) \times (\text{THC market share of concentrates and extracts})}{\text{Median \% THC of extracts and concentrates sold at retail}} \right]}{\text{Median ratio feedstock marijuana input to extracts and concentrates output}} \right]\end{aligned}$$

$$\begin{aligned}\text{Total } \omega_{\text{cannabinoid products sold to consumers}} = \\ \lambda \times \left[\frac{\left[\frac{(\text{Total mg THC sold to consumers}) \times (\text{THC market share of cannabinoid products})}{\text{Median \% THC of cannabinoid products sold at retail}} \right]}{\text{Median ratio extract and concentrate input to cannabinoid output}} \right] \\ \left[\frac{\text{Median ratio feedstock marijuana input to extracts and concentrates output}}{\text{Median ratio feedstock marijuana input to extracts and concentrates output}} \right]\end{aligned}$$

- In the “projected demand” model the “Total mg THC Sold to Consumers” in the above formulas is a calculated value based on the number of Oregon adults consuming marijuana, the level at which they consume marijuana, and the percentage of statewide consumption that is procured from within the recreational market.

Total mg THC sold to consumers in retail market
 = Oregon population
 × Percentage of Oregon adults consuming marijuana in the past 12 months
 × Average amount of THC consumed annually
 × OLCC market share

The parameter values as used in the above formulas and the upper/lower bounds in the Monte Carlo estimations are as follows:

Table 4: "Fixed Demand" Model Parameters

	Point estimate	Lower Bound	Upper Bound	Notes
Total wet weight harvested by OLCC producers (July 2017 to June 2018)	4,294,000 (pounds)			
Total THC purchased in OLCC market (July 2017 to June 2018)	15,518,237,200 (mg); 34,211.86 (pounds)			
Usable marijuana market share (as % of total mg THC sold at retail)	74.8%	59.9%	78.6%	Upper bound represents +5% of the median and lower bound represents -20% of the median. This is intended to simulate the greater likelihood of customer substitution away from usable marijuana and towards other product types.
Extract/Concentrate market share (as % of total mg THC sold at retail)	23.1%	95%	100%	Lower/upper bounds represent percentage of <i>remaining</i> market share after usable marijuana calculated (to avoid >100% market share).
Cannabinoid Products THC market share (as % of total mg THC sold at retail)	2.0%	**	**	In Monte Carlo, lower/upper bounds estimated by subtracting simulated usable marijuana share and extract/concentrate share from 100%.
Potency of usable marijuana sold at retail (%)	19.5%	10.3%	28.7%	Lower/upper bounds calculated within 95% confidence range of

2019 Recreational Marijuana Supply and Demand Report

				median with standard deviation of 4.69%.
Potency of extract/concentrate (as %)	65.8%	43.3%	88.3%	Lower/upper bounds calculated within 95% confidence range of median with standard deviation of 11.46%.
"Other" items (derived from extract/concentrate) potency (as %)	0.18%	0.0036%	1.18%	Lower bound calculated using 1 mg of THC divided by median unit weight of cannabinoid items (28 grams); upper bound calculated within 95% confidence range of median with standard deviation of 0.51%.
Wet-to-dry ratio of usable marijuana	10	4.69	15.31	Lower/upper bounds calculated within 95% confidence range of median with standard deviation of 2.71.
Feedstock-to-wet weight usable marijuana ratio	8	64.0%	100.0%	Lower/upper bounds represent percentage of wet/dry ratio for usable marijuana.
Usable marijuana to Extract/Concentrate weight conversion ratio	0.137	0.109	0.164	Lower/upper bounds represent +/- 20% of median.
"Other" items (derived from extract/concentrate) input/output ratio	578.03	462.43	693.64	Lower/upper bounds represent +/- 20% of median.

Table 5: "Projected Demand" Model Parameters

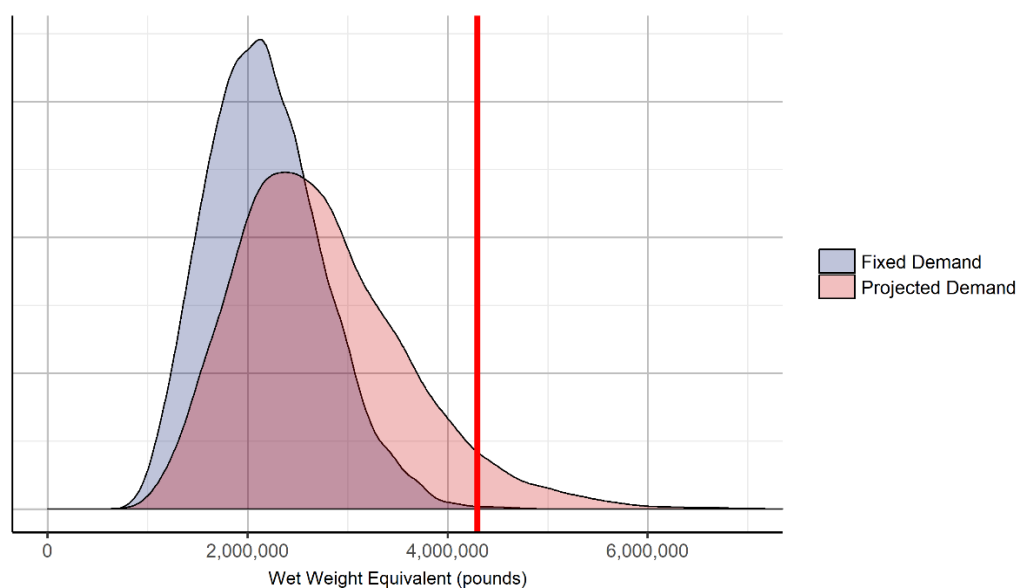
	Point estimate	Lower Bound	Upper Bound	Notes
# of 21+ adults	3,130,000			
Adult consumption rate (%)	20.8%	16.0%	26.1%	Lower/upper bounds represent minimum and maximum of Monte Carlo consumption model.
Grams of THC consumed annually per consumer	43.43	20.02	74.81	Lower/upper bounds represent minimum and maximum of Monte Carlo consumption model.
OLCC share of Oregon marijuana market	55.1%	55.1%	100.0%	Point estimate based on actual THC sold in OLCC market as a proportion of median estimate of statewide THC consumption from Monte Carlo consumption model.

Results of Demand Estimations

Ten thousand Monte Carlo simulations of demand produce a median estimate of approximately 50% demand relative to supply in the "fixed demand" model and 61% in the "projected demand" model. Under current conditions of demand in the "fixed demand" model there are only 14 Monte Carlo simulation out of 10,000 in which demand matches or exceeds supply. This is a strong indication that regardless of assumptions or parameters there are no reasonable conditions under which the Oregon recreational market is currently in equilibrium. Even taking into account potential growth of consumption rates, levels of consumption, and greater OLCC market share, only 5.3% of Monte Carlo simulations (530 out of 10,000) produce equilibrium.

Table 6: Wet Weight Equivalent of Demand Estimates by Model

	Fixed Demand	Projected Demand
Median demand relative to known supply	49.7%	61.1%
Maximum demand relative to known supply	112.6%	179.5%
Minimum demand relative to known supply	19.6%	20.3%
Percent of simulations where demand equals or exceeds supply	0.01%	5.30%
Median Wet Weight Equivalent Demand	2,134,000	2,626,000
Maximum Estimated Demand	4,729,000	7,541,000
Minimum Estimated Demand	823,600	851,400

Figure 17: Distribution of Wet Weight Equivalent of Demand Results by Model

We are grateful to the following people for their assistance in reviewing the methodology of this report and providing feedback and suggestions prior to final publication.

Ramon Cabauatan-Vasquez, Oregon Health Authority (Oregon Medical Marijuana Program);

Beau Kilmer, RAND Drug Policy Research Center;

Josh Lehner, Oregon Office of Economic Analysis;

Jeffrey Taylor, Oregon State Police;

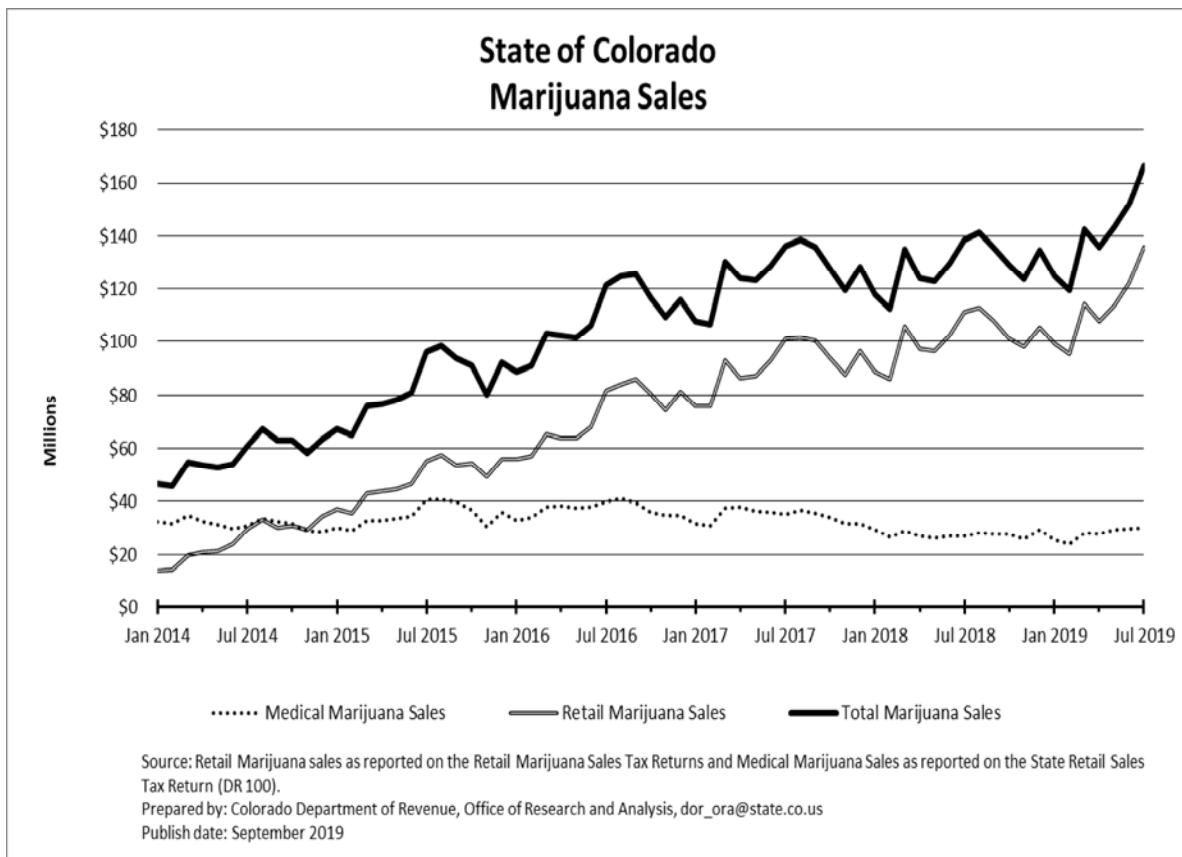
Robert Whelan, ECONorthwest; and

Beau Whitney, New Frontier Data.

Marijuana Sales Reports

The Marijuana Sales Reports reflect sales made during a filing period (typically a month). Here is an example sales reporting timeline: sales made in January are filed with CDOR in February and reported on this page in March. Reports on this page are labeled with the filing month (January, in this example).

For more information, please see the [Marijuana Taxes | File](#) page.



The **table below** shows sales from medical and retail marijuana stores by calendar year starting in January 2014. Although sales of medical marijuana began prior to 2014, CDOR could not systematically track sales until January 2014.

Marijuana Sales

--	--	--

Calendar Year	Marijuana Sales by Calendar Year	Total Marijuana Sales Since Jan 2014
2014	\$683,523,739	\$683,523,739
2015	\$995,591,255	\$1,679,114,994
2016	\$1,307,203,473	\$2,986,318,467
2017	\$1,507,702,219	\$4,494,020,686
2018	\$1,545,691,080	\$6,039,711,766
2019 (Jan - Jul)	\$984,007,992	\$7,023,719,758

Updated September 2019

Calendar year is defined as January 1 - December 31

Detailed monthly summary to date: [Excel](#), [PDF](#)

The Marijuana Sales Reports on this page are not the same as the [Marijuana Tax Data Reports](#). The Marijuana Tax Data reports show tax revenue collected monthly as posted in the State's accounting system, while the Marijuana Sales Reports show unaudited monthly sales as self-reported by businesses on State sales returns.

DID YOU KNOW? Colorado's [Marijuana Enforcement Division](#) released the 2017 Colorado Marijuana Market Size and Demand Study, which provides an updated view and assessment of Colorado's marijuana market and improves upon the original 2014 market study methods. See the report and fact sheet here: <https://www.colorado.gov/pacific/enforcement/marijuana-related-reports-studies>

View and download monthly reports below:

2019

- January [Excel](#), [PDF](#)
- February [Excel](#), [PDF](#)
- March [Excel](#), [PDF](#)
- April [Excel](#), [PDF](#)
- May [Excel](#), [PDF](#)
- June [Excel](#), [PDF](#)
- July [Excel](#), [PDF](#)

2018

<u>2017</u>
<u>2016</u>
<u>2015</u>
<u>2014</u>

For inquiries regarding these reports, please [contact the Office of Research and Analysis](#).

The Average Cost of Marijuana by State



Written by: [Editorial Staff](#)

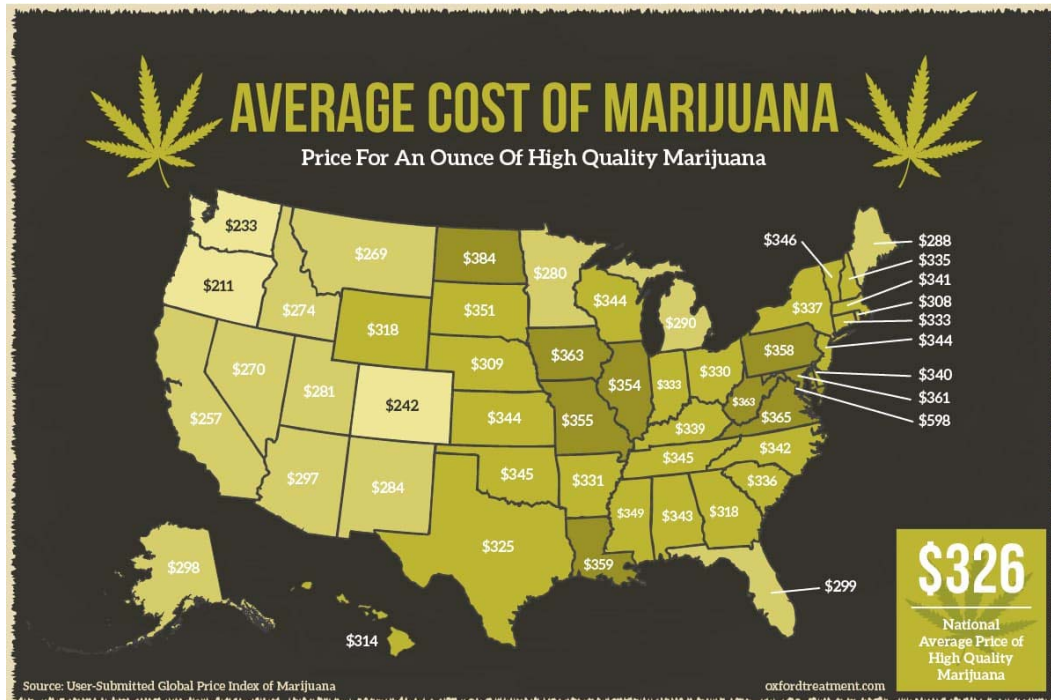
Last updated on September 20, 2019

Marijuana is a relatively commonly used substance in the United States. According to [federal government estimates](#), 22.2 million Americans have used it in the past month and many start using it in their adolescent years. Furthermore, [many states have legalized the use](#) of the substance at some level over the past few years. Some, such as New Mexico and New York, have it legalized only for medical use, while others, such as California and Vermont, have enacted laws permitting recreational use by state citizens.

Because the use of this substance is so widespread, we decided to take a closer look at how the cost of marijuana varies across U.S. states. We used a widely-cited [national price directory](#) to compile the average price of high- and medium-quality marijuana for each state. We looked at the price for two amounts: one ounce and one “joint” (as defined by a [U.S. HHS study](#)). Our results show a notable difference among states based on their legalization status — read on for all of the findings.

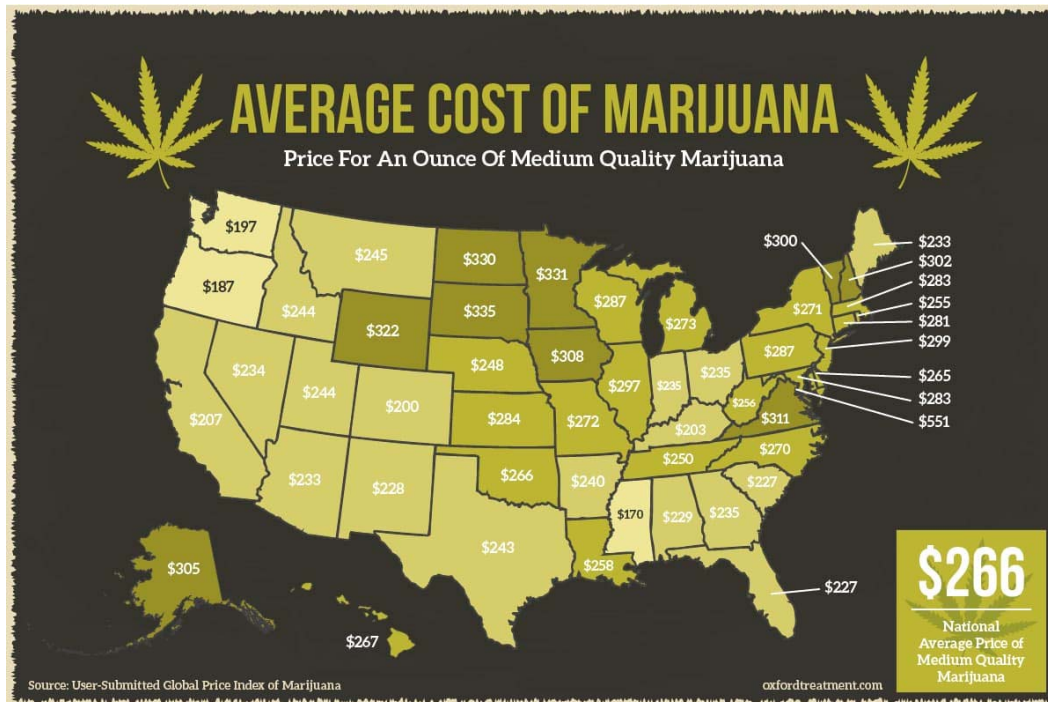
Have you lost control of your marijuana use? Answer a few brief questions to find out if you need help. [Complete our free and confidential addiction questionnaire today.](#)

Average Cost: One Ounce of High Quality Marijuana



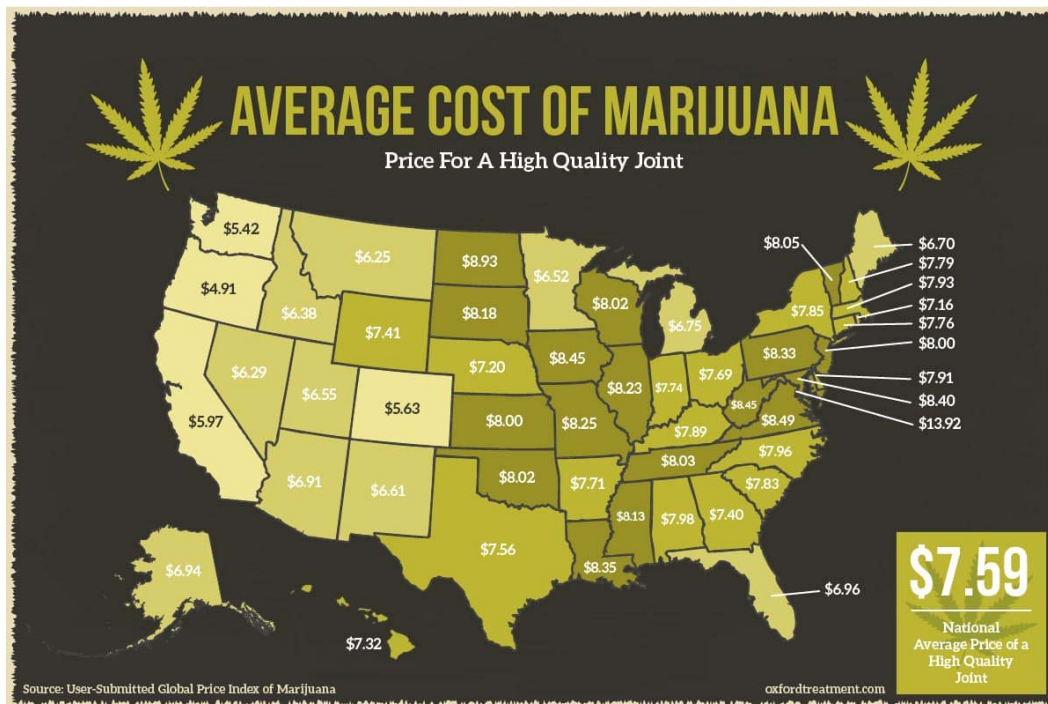
First we looked at the average price of high quality marijuana (one ounce). Interestingly, the District of Columbia is the most expensive by a significant margin. The three with the highest average price are District of Columbia (\$597.88), North Dakota (\$383.60), and Virginia (\$364.89). These are places where marijuana use is somewhat restricted: In D.C. it is illegal to purchase, in North Dakota it's only legal for medical use, and in Virginia it's not legal at any level. The three least expensive states for marijuana, however, are all in the West region and all allow for legal recreational use: Oregon (\$210.75), Washington (\$232.90), and Colorado (\$241.74). The national average is \$326.06.

Average Cost: One Ounce of Medium Quality Marijuana



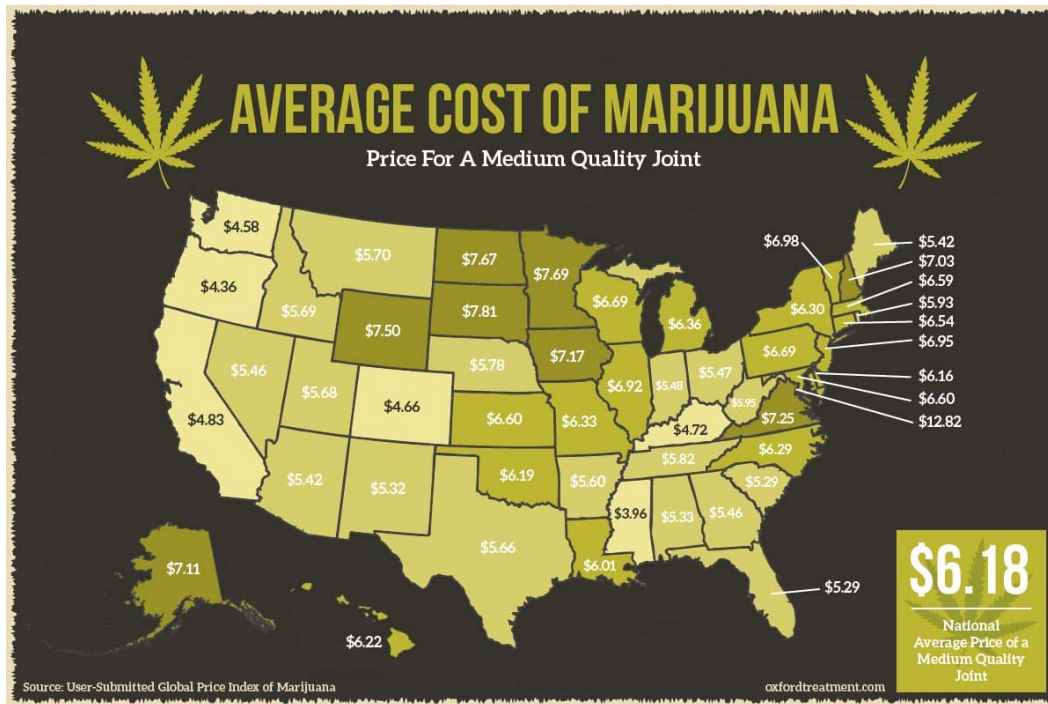
Next, we looked at the average cost for medium quality marijuana (one ounce). The District is still the most expensive place, but the next two states are not the same as the order for high quality marijuana: District of Columbia (\$550.66), South Dakota (\$335.26), and Minnesota (\$330.52). The places with the cheapest prices are Mississippi (\$170.22), Oregon (\$187.09), and Washington (\$196.82). The national average is \$265.58.

Average Cost: One “Joint” of High Quality Marijuana



We also wanted to look at these costs in a different amount: one “joint.” A recent U.S. HHS study estimates one to be 0.66 grams, so we based this calculation off of that figure. The three most expensive states for high quality marijuana are District of Columbia (\$13.92), North Dakota (\$8.93), and Virginia (\$8.49), while the three cheapest are Oregon (\$4.91), Washington (\$5.42), and Colorado (\$5.63). The national average is \$7.59.

Average Cost: One “Joint” of Medium Quality Marijuana



Finally, we looked at the prices for medium quality in the amount of one “joint.” Again, Washington, D.C. ranks as the most expensive (\$12.82), followed by South Dakota (\$7.81) and Minnesota (\$7.69). The three least expensive are Mississippi (\$3.96), Oregon (\$4.36), and Washington (\$4.58), and the national average is \$6.18.

Breakdown Overview of The Average Cost of Marijuana



	OUNCE OF HIGH QUALITY MARIJUANA	OUNCE OF MEDIUM QUALITY MARIJUANA	HIGH QUALITY JOINT (0.66 GRAMS)	MEDIUM QUALITY JOINT (0.66 GRAMS)
Alabama	\$343	\$229	\$7.98	\$5.33
Alaska	\$298	\$305	\$6.94	\$7.11
Arizona	\$297	\$233	\$6.91	\$5.42
Arkansas	\$331	\$240	\$7.71	\$5.60
California	\$257	\$207	\$5.97	\$4.83
Colorado	\$242	\$200	\$5.63	\$4.66
Connecticut	\$333	\$281	\$7.76	\$6.54
Delaware	\$340	\$265	\$7.91	\$6.16
District of Columbia	\$598	\$551	\$13.92	\$12.82
Florida	\$299	\$227	\$6.96	\$5.29
Georgia	\$318	\$235	\$7.40	\$5.46
Hawaii	\$314	\$267	\$7.32	\$6.22
Idaho	\$274	\$244	\$6.38	\$5.69
Illinois	\$354	\$297	\$8.23	\$6.92
Indiana	\$333	\$235	\$7.74	\$5.48
Iowa	\$363	\$308	\$8.45	\$7.17
Kansas	\$344	\$284	\$8.00	\$6.60
Kentucky	\$339	\$203	\$7.89	\$4.72
Louisiana	\$359	\$258	\$8.35	\$6.01
Maine	\$288	\$233	\$6.70	\$5.42
Maryland	\$361	\$283	\$8.40	\$6.60
Massachusetts	\$341	\$283	\$7.93	\$6.59
Michigan	\$290	\$273	\$6.75	\$6.36
Minnesota	\$280	\$331	\$6.52	\$7.69
Mississippi	\$349	\$170	\$8.13	\$3.96
Missouri	\$355	\$272	\$8.25	\$6.33
Montana	\$269	\$245	\$6.25	\$5.70
Nebraska	\$309	\$248	\$7.20	\$5.78
Nevada	\$270	\$234	\$6.29	\$5.46
New Hampshire	\$335	\$302	\$7.79	\$7.03
New Jersey	\$344	\$299	\$8.00	\$6.95
New Mexico	\$284	\$228	\$6.61	\$5.32
New York	\$337	\$271	\$7.85	\$6.30
North Carolina	\$342	\$270	\$7.96	\$6.29
North Dakota	\$384	\$330	\$8.93	\$7.67
Ohio	\$330	\$235	\$7.69	\$5.47
Oklahoma	\$345	\$266	\$8.02	\$6.19
Oregon	\$211	\$187	\$4.91	\$4.36
Pennsylvania	\$358	\$287	\$8.33	\$6.69
Rhode Island	\$308	\$255	\$7.16	\$5.93
South Carolina	\$336	\$227	\$7.83	\$5.29
South Dakota	\$351	\$335	\$8.18	\$7.81
Tennessee	\$345	\$250	\$8.03	\$5.82
Texas	\$325	\$243	\$7.56	\$5.66
Utah	\$281	\$244	\$6.55	\$5.68
Vermont	\$346	\$300	\$8.05	\$6.98
Virginia	\$365	\$311	\$8.49	\$7.25
Washington	\$233	\$197	\$5.42	\$4.58
West Virginia	\$363	\$256	\$8.45	\$5.95
Wisconsin	\$344	\$287	\$8.02	\$6.69
Wyoming	\$318	\$322	\$7.41	\$7.50

Source: User-Submitted Global Price Index of Marijuana

oxfordtreatment.com

Beyond being an addictive substance that causes inebriation, legal for use or not, the use of cannabis has been linked with negative mental health outcomes. According to the [Centers for Disease Control and Prevention](#), cannabis use has been connected with “the

development of schizophrenia and other psychoses,” higher likelihood to have thoughts of suicide, higher risk of social anxiety disorder, and other negative effects.

The treatment of these co-occurring conditions — marijuana abuse and mental health disorders — is [a special focus of our treatment center](#) in Etta, Mississippi. If you’re concerned someone you know is dealing with any type of substance use disorder, [learn more about how we can help](#).

SOURCES

- PriceOfWeed.com
- <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3025094/>

CAN I USE THIS INFORMATION?

The information and graphics in this blog post can be used and displayed by all commercial and non-commercial websites without charge. However, use is only permitted with proper attribution to [OxfordTreatment.com](#). When using this information or any of these graphics, please include a backlink to this page.

Tab 6

Media Sources

Smokable Medical Marijuana Is Now Legal In Jacksonville And Other Parts Of Florida

By [Dara Kam - News Service of Florida](#) • Mar 21, 2019
[Share](#)[Tweet](#)[Email](#)



Trulieve has a dispensary in Jacksonville on Beach Blvd. Nikeya Heath

A North Florida man who's struggled with fibromyalgia for years became the state's first patient to legally buy whole-flower cannabis for smoking Thursday, just days after Gov. Ron DeSantis signed into a law a measure repealing a ban on smokable medical marijuana.

Trulieve, the state's largest medical marijuana operator, was the first of Florida's 14 operators to sell whole-flower products, for use in joints, pipes or bongs. Later Thursday, a second firm, Curaleaf, also was approved by the state to start selling smokable marijuana.

Trulieve and Curaleaf both have locations in Jacksonville.

Trulieve Chief Executive Officer Kim Rivers joined 59-year-old patient Doug Dixon and a handful of reporters who watched as Dixon purchased "Tru Flower," a treatment he hailed as a safer and healthier alternative to prescription drugs he once used to combat pain he suffers from fibromyalgia.

"I smoked back in my 20s, and when I was in my 30s I quit. That's when I got put on pain pills and muscle relaxers, when I didn't smoke then. When this came out, it was a good opportunity," said Dixon, who made the purchase at a Tallahassee dispensary.

Dixon, a Crawfordville construction worker who was already purchasing other cannabis products at Trulieve, said he plans to smoke the whole flower in joints, a medicine he had been confident would "one day" be legalized.

<https://news.wjct.org/post/smokable-medical-marijuana-now-legal-jacksonville-and-other-parts-florida>

"I didn't know if I would ever see it in my time. But it is good to see it. It is good to have the alternative. These pharmaceuticals are killing people. I have lost so many family members," he told reporters.

Rivers, whose Quincy-based company sells more than 60 percent of the medical marijuana purchased by the state's nearly 200,000 qualified patients, said the sale of whole-flower cannabis --- which is cheaper than processed products, such as tinctures --- will make medical marijuana affordable for many Floridians who are now financially shut out of the treatment.

"For patients, it is a celebratory day in that folks who have been maybe forced to purchase product illegally, now have a legal and safe option," she said.

Trulieve's whole flower costs about \$10 per gram, or about \$280 per ounce. Under the new law, patients can purchase up to 2.5 ounces of marijuana for smoking every 35 days and have a total of four ounces in their possession at any time, if their doctors deem it the proper treatment.

Trulieve will sell whole flower at each of its 26 dispensaries throughout the state, the company said. In other states where medical marijuana has been legalized, smokable products comprise between 40 and 60 percent of sales, according to Rivers.

Although Trulieve was the first to receive approval from the state Department of Health to sell whole flower, other medical marijuana operators are racing to get authorization in an industry that has rapidly expanded since marijuana began being retailed in January 2018.

"We do expect that there will be an increase in the Florida market. I don't know that we'll see as much of a shift of current patients, as we will patients who have not been medical patients up to this point, entering the market because they now see a product that they are attracted to and that works for them," Rivers said.

Florida voters in 2016 approved a constitutional amendment that broadly legalized medical marijuana. But in passing a law to carry out the constitutional amendment, the Legislature in 2017 banned smoking medical marijuana.

Orlando trial lawyer John Morgan, who largely bankrolled the 2016 constitutional amendment, led a legal challenge to the smoking ban. A Leon County circuit judge ruled that the smoking ban violated the amendment, spurring an appeal by former Gov. Rick Scott's administration.

But shortly after taking office in January, Gov. Ron DeSantis gave lawmakers an ultimatum, threatening to drop the state's appeal in the smoking case if they did not repeal the ban.

Lawmakers complied, passing a measure two days prior to a March 15 deadline set by DeSantis. The governor signed the bill into law on Monday.

Under the law, smokable marijuana must be sold in “plain, opaque, and white” packaging “without depictions of the product or images other than the medical marijuana treatment center’s department-approved logo and the marijuana universal symbol.”


Doctors also have to provide documentation proving that smoking is the appropriate route of administration and swearing that “the benefits of smoking marijuana for medical use outweigh the risks for the qualified patient.”

Dixon, whose doctor authorized him to smoke cannabis, said other forms of medical marijuana don’t work as well for him.

“For me, a pipe is just a little bit too rough on my throat. It’s the same with the vape. I think that because I am a smoker, I think I vape too hard. I smoke cigarettes, and so ingesting it that way is just easier for me,” he said.

Tab 7

Economic Analysis



Financial Impact Estimating Conference: Required Economic Analysis

Office of Economic and Demographic Research

September 20, 2019

CS/CS/HB 5: Ballot Measures

The passage of CS/CS/HB5 which—among other things—made a number of changes to the FIEC’s traditional process. Most importantly, the bill made the following adjustments:

- Specifies a 75-day timeframe instead of 45 days from start to finish.
- Expands the maximum length of the financial impact statement from 75 words to 150 words.
- Requires an additional analysis of the estimated economic impact on the state and local economy. This requirement broadens the analysis from the more limited review of public sector impacts previously considered.
- Requires an additional analysis of the overall impact to the state budget.

“... the Financial Impact Estimating Conference shall complete an analysis and financial impact statement to be placed on the ballot of the estimated increase or decrease in any revenues or costs to state or local governments, estimated economic impact on the state and local economy, and the overall impact to the state budget resulting from the proposed initiative.”

Economic Analysis

- A comprehensive policy analysis technique that evaluates the direct, indirect and induced economic impacts of a policy change, where:
 - Direct economic effects – are the changes in expenditures made by the industry(ies) directly impacted by a change in policy. Most analyses by the various estimating conferences focus on direct effects, which are generally static, immediate and “first round” effects.
 - Indirect economic effects – are the changes in expenditures made by industries that supply goods/services to the directly impacted industry(ies).
 - Induced economic effects – are most commonly measured as the changes in expenditures by households whose income is changed by the direct and indirect activity; however, other examples exist.
- In this case, the goal is to predict and quantify the probable path of economic responses over time to the change brought about by the petition initiative.
 - Projections are relative to a forecast of the expected path of the economy absent the change caused by the petition; this is referred to as the economic baseline.
 - In some cases, there will be no discernible or probable effects.

Tool: Statewide Model

- The Statewide Model is a state-of-the-art, customized, dynamic computable general equilibrium model (CGE) originally developed for Florida by Monash University (Melbourne, Australia) in 2011. This model:
 - Contains a vast amount of data to replicate the Florida's economy, tax structure, and state budget.
 - Uses hundreds of mathematical equations to account for the relationships (linkages and interactions) between the various economic agents, as well as likely responses by businesses and households to changes in the economy. Started with 388 equations with 1,699,000 total elements within those equations.
 - Has a time dimension that adheres to the state fiscal year (July 1 to June 30) to be useful in the state government budgeting process.
 - Allows different programs to be evaluated on the same footing.
 - Can be modified to reflect research results and targeted developments specific to the analysis being performed.

Analysis

- When the Statewide Model is deployed to evaluate economic effects, the model is shocked using static analysis to develop the initial or direct effects attributable to the petition-induced change that is under review. In this analysis, the direct effects (shocks) will likely consider:
 - The demand for and supply of recreational marijuana and the impact on directly related fields.
 - Potential increase in sales tax revenues.
 - Cost of regulation and method of payment.
 - Impact on the Criminal Justice System.

Standard Variables

Based on prior FIECs, the core economic variables that are available for reporting are:

1. Population...focuses on the change in population projections caused by altered economic circumstances.
2. Jobs...focuses on the change in employment projections caused by altered economic circumstances.
3. Personal Income...nearly two-thirds of this metric typically comes from compensation of employees.
4. Personal Income Per Capita...measures the average income received per person in a given year. It is calculated by dividing personal income by population.
5. Gross Domestic Product...the total value of goods and services produced within the state during one year; based on final output.
6. State Government Revenues and Expenditures...largely conditioned by Florida's tax policy.

Proposed Style of Model Results

- Relative to the economic baseline, the change in each of the eight Standard Variables will be reported numerically with the appropriate direction indicated (+ or -). Positive changes improve the economy relative to the baseline, while negative changes reflect a weakening of the baseline condition.
- In addition, each variable's change will be reported as a percentage of the variable's total value in order to provide context.

Key Protocols

- The Statewide Model almost always treats Florida as a single region...this means that typically the analysis will be generalized statewide. A specific local economy will only be considered in rare circumstances where the localized impact must be considered due to a unique feature of the proposed amendment under review (for example, the Slots amendment).
- Balanced budget requirement by fiscal year...however, this does not mean that the budget is strictly held to official forecasts (for example, the inclusion of federal dollars grows the available revenues for expenditure).
- The underlying model is calibrated for current budget policy and the official economic and revenue forecasts which comprise the baseline. All analyses performed in a given year will be compared to the same baseline.

Tab 8

Materials from the Sponsor

00400

FedEx
Express

 Package
US Airbill

 FedEx
Tracking
Number

8143 9954 6394

fedex.com 1800.GoFedEx 1800.463.3339

1 From Please print and press hard.

Date 9-10-2019

Sender's FedEx
Account Number

SENDER'S FED 1067-9458-9 ONLY

Sender's
Name

Economic & Demographic Research

Phone (850) 717-0296

Company

FLORIDA LEGISLATURE DLS

Address

400 S MONROE ST/CAPITOL STE705

Dept./Floor/Suite/Room

City

TALLAHASSEE

State

FL

ZIP

32399-0001

2 Your Internal Billing Reference

First 24 characters will appear on invoice.

OPTIONAL

3 To

Recipient's
Name

Michael Minardi, Chairperson

Phone ()

Company

Sensible Florida, Inc.

Address

5301 North Habana Avenue #3

We cannot deliver to P.O. boxes or P.O. ZIP codes.

Dept./Floor/Suite/Room

Address

Use this line for the HOLD location address or for continuation of your shipping address.

City

Tampa, FL

State

FL

ZIP

33614

0132789466


 Leave the packing to the pros at FedEx Office.
Go to fedex.com/office
Form
ID No.

0215

Sender's Copy

4 Express Package Service

* To most locations.

 Packages up to 150 lbs.
For packages over 150 lbs., use the
FedEx Express Freight US Airbill.

Next Business Day

☐ FedEx First Overnight
Earliest next business morning delivery to select
locations. Friday shipments will be delivered on
Monday unless Saturday Delivery is selected.

☒ FedEx Priority Overnight
Next business morning.* Friday shipments will be
delivered on Monday unless Saturday Delivery
is selected.

☐ FedEx Standard Overnight
Next business afternoon.*
Saturday Delivery NOT available.

2 or 3 Business Days

☐ FedEx 2Day A.M.
Second business morning.*
Saturday Delivery NOT available.

☐ FedEx 2Day
Second business afternoon.* Thursday shipments
will be delivered on Monday unless Saturday
Delivery is selected.

☐ FedEx Express Saver
Third business day.*
Saturday Delivery NOT available.

5 Packaging

* Declared value limit \$500.

☒ FedEx Envelope*

☐ FedEx Pak*

☐ FedEx
Box

☐ FedEx
Tube

☐ Other

6 Special Handling and Delivery Signature Options

Fees may apply. See the FedEx Service Guide.

☐ Saturday Delivery

NOT available for FedEx Standard Overnight, FedEx 2Day A.M., or FedEx Express Saver.

☒ No Signature Required
Package may be left without
obtaining a signature for delivery.

☐ Direct Signature
Someone at recipient's address
may sign for delivery.

☐ Indirect Signature
If no one is available at recipient's
address, someone at a neighboring
address may sign for delivery. For
residential deliveries only.

Does this shipment contain dangerous goods?

One box must be checked.

☒ No

☐ Yes
As per attached
Shipper's Declaration.

☐ Yes
Shipper's Declaration
not required.

☐ Dry Ice

Dry Ice, 9 UN 1045

☐ Cargo Aircraft Only

Restrictions apply for dangerous goods — see the current FedEx Service Guide.

7 Payment Bill to:

Enter FedEx Acct. No. or Credit Card No. below.

☒ Sender
Acct. No. in Section
1 will be billed.

☐ Recipient

☐ Third Party

☐ Credit Card

☐ Cash/Check

 FedEx Acct. No.
Credit Card No.
Exp.
Date

Total Packages

Total Weight

Total Declared Value*

lbs. \$.00

 *Our liability is limited to US\$100 unless you declare a higher value. See back for details. By using this airbill you
agree to the service conditions on the back of this airbill and in the current FedEx Service Guide, including terms
that limit our liability.

Rev. Date 5/15 • Part #163134 • ©1994-2015 FedEx • PRINTED IN U.S.A. SRM

611

 mailed
Copy to
Michael Minardi, CH
Sensible Florida, Inc.
PO Box 550193
Ft. Lauderdale, FL
33355

PULL AND RETAIN THIS COPY BEFORE AFFIXING TO THE PACKAGE. NO POUCH NEEDED.



THE FLORIDA LEGISLATURE

OFFICE OF ECONOMIC AND DEMOGRAPHIC RESEARCH



BILL GALVANO
President of the Senate

JOSE R. OLIVA
*Speaker of the House of
Representatives*

Michael Minardi, Chairperson
Sensible Florida, Inc.
Post Office Box 550193
Fort Lauderdale, FL 33355

Dear Mr. Minardi,

I am writing to inform you that the petition initiative entitled "*Regulate Marijuana in a Manner Similar to Alcohol to Establish Age, Licensing, and Other Restrictions 16-02*" has triggered the required Financial Impact Estimating Conference (FIEC) review, and the principals have now been appointed. I have attached the notice containing information regarding the upcoming meetings.

As you may know, the Legislature passed CS/CS/HB 5 regarding Ballot Measures on May 3, 2019, and it was subsequently signed by the Governor. This will be the fifth FIEC called after the passage of the new law. Among other things, it changes the FIEC process. One of the new provisions indicates that:

Immediately upon receipt of a proposed revision or amendment from the Secretary of State, the Coordinator of the Office of Economic and Demographic Research shall contact the person identified as the sponsor to request an official list of all persons authorized to speak on behalf of the named sponsor and, if there is one, the sponsoring organization at meetings held by the Financial Impact Estimating Conference.

In part, this letter is a formal request for you to make your designation in writing.

I also need to make you aware of an opportunity to participate in the process. To provide context, below you will find general information regarding the FIEC's work:

In 2004, a constitutional amendment passed that requires initiative petitions be filed with the Secretary of State by February 1st of each general election year in order to be eligible for ballot consideration. This has been interpreted to mean that all signatures have been certified by the local supervisors of election and that the other requirements for geographic distribution have been met. For 2020, the required number of valid signatures is 766,200.

Section 15.21, Florida Statutes, further requires the Secretary of State to "immediately submit an initiative petition to the Attorney General and to the Financial Impact Estimating Conference" once the certified forms "equal...10 percent of the number of electors statewide and in at least one-fourth of the congressional districts required by s. 3, Art XI of the State Constitution." For 2020, this means that there are at least 76,632 valid and qualifying signatures. Upon receipt, the Financial Impact Estimating Conference (FIEC) has 75 days to complete an analysis and financial impact statement to be placed on the ballot (s. 100.371, Florida Statutes). In practice, the 75-day

September 10, 2019

Page 2


window has begun when the Legislative Office of Economic and Demographic Research (EDR) received the official transmittal letter.

Each FIEC is responsible for the development of two products: (1) a ballot impact statement of no more than 150 words to be included after the ballot summary; and, (2) a detailed financial information statement, including a summary of not more than 500 words. In the past, each of the documents was limited to an analysis of the estimated increase or decrease in revenues or costs to state or local governments. This was modified by the new law to include an additional analysis of the estimated economic impact on the state and local economy and an additional analysis of the overall impact to the state budget. Governing the entire process, the Supreme Court has required that the statements must reflect only the "probable financial impact" of the amendment.

Typically, we set aside time at the first meeting (referred to as the Public Workshop) to hear directly from the sponsors of the proposed amendment. In this regard, you are welcome to bring one or more people to provide a presentation of material or handouts that you think would be relevant to the FIEC. We would be happy to provide any equipment related to the presentation. Just let us know if you plan to participate and what your needs are. You are also welcome to submit written materials to us at any time.

You can contact me by phone at (850)487-8272 or by email at baker.amy@leg.state.fl.us.

Sincerely,



Amy J. Baker, Coordinator

Attachment

· NOTICE OF WORKSHOPS AND CONFERENCE
FINANCIAL IMPACT ESTIMATING CONFERENCE

The Financial Impact Estimating Conference (FIEC) will be holding workshops and a conference on the petition initiative entitled “***Regulate Marijuana in a Manner Similar to Alcohol to Establish Age, Licensing, and Other Restrictions***”. Unless otherwise indicated on the schedule below, all meetings will held in Room 117, Knott Building, 415 W. St. Augustine Street, Tallahassee, Florida. Once begun, they will continue until completion of the agenda.

The FIEC is required by s. 100.371, Florida Statutes, to review, analyze, and estimate the financial impact of amendments to or revisions of the State Constitution proposed by initiative. In this regard, the FIEC is now in the process of preparing a financial impact statement to be placed on the ballot that shows the estimated increase or decrease in any revenues or costs to state and local governments resulting from the proposed initiative. Because the Legislature passed CS/CS/HB 5 during the 2019 Session and it is has now been signed into law (see [CHAPTER 2019-64](#)), the FIEC will also be considering the estimated economic impact on the economy and the overall impact to the state budget.

The purpose of the Public Workshop is to provide an opportunity for sponsors, interested parties, proponents and opponents of the initiative to make formal presentations to the FIEC regarding the probable financial and economic impact of the initiative. In addition to the workshop, information may be submitted at any time to the FIEC by contacting the Legislative Office of Economic and Demographic Research (contact information below).

Regulate Marijuana in a Manner Similar to Alcohol to Establish Age, Licensing, and Other Restrictions

- Public Workshop – Friday, September 20th at 10:00 a.m.
- Principals’ Workshop – Friday, October 4th at 8:30 a.m.
- Principals’ Workshop – Friday, October 11th at 8:30 a.m.
- Principals’ Workshop – Friday, October 18th at 8:30 a.m.
- Formal Conference – Friday, October 25th at 8:30 a.m.

For additional information regarding the meetings, please contact the Florida Legislature's Office of Economic and Demographic Research at (850) 487-1402.

Address for submitting information to the FIEC:

The Florida Legislature
Office of Economic and Demographic Research
111 West Madison, Suite 574
Tallahassee, FL 32399-6588
Email: edrcoordinator@leg.state.fl.us
FAX: (850) 922-6436

For additional information regarding the Financial Impact Estimating Conference process and the Initiative Petition process, please visit the Florida Legislature's Office of Economic and Demographic Research's website at: <http://edr.state.fl.us/Content/constitutional-amendments/index.cfm> and the Florida Department of State, Division of Elections' website at: <https://dos.elections.myflorida.com/initiatives/>

Tab 9

Materials from Proponents

(None Provided)

Tab 10

Materials from Opponents

(None Provided)

Tab 11

**Materials from Interested
Parties**

(None Provided)

Tab 12

Requested Agency Material



Alcohol Regulation in Florida

Sterling Whisenhunt, Director

Division of Alcoholic Beverages and Tobacco

Introduction

- Division Overview
- Product Flow
- Licensing Fees
- Excise Tax Collection
- Compliance Activities
- Revenue Distribution

Division Overview

The Division of Alcoholic Beverages and Tobacco licenses the manufacture, distribution, sale and service of alcoholic beverage and tobacco products in Florida.

Licensing

- Processing license applications and renewals.
- Verifying an applicant's qualifications for licensure under the Beverage Law and chapters 210 and 569, Florida Statutes.

49 FTE Positions

Auditing

- Collecting and auditing of the excise tax due to the state.
- Conducting compliance audits to ensure compliance with special licensing requirements.

84 FTE Positions

Enforcement

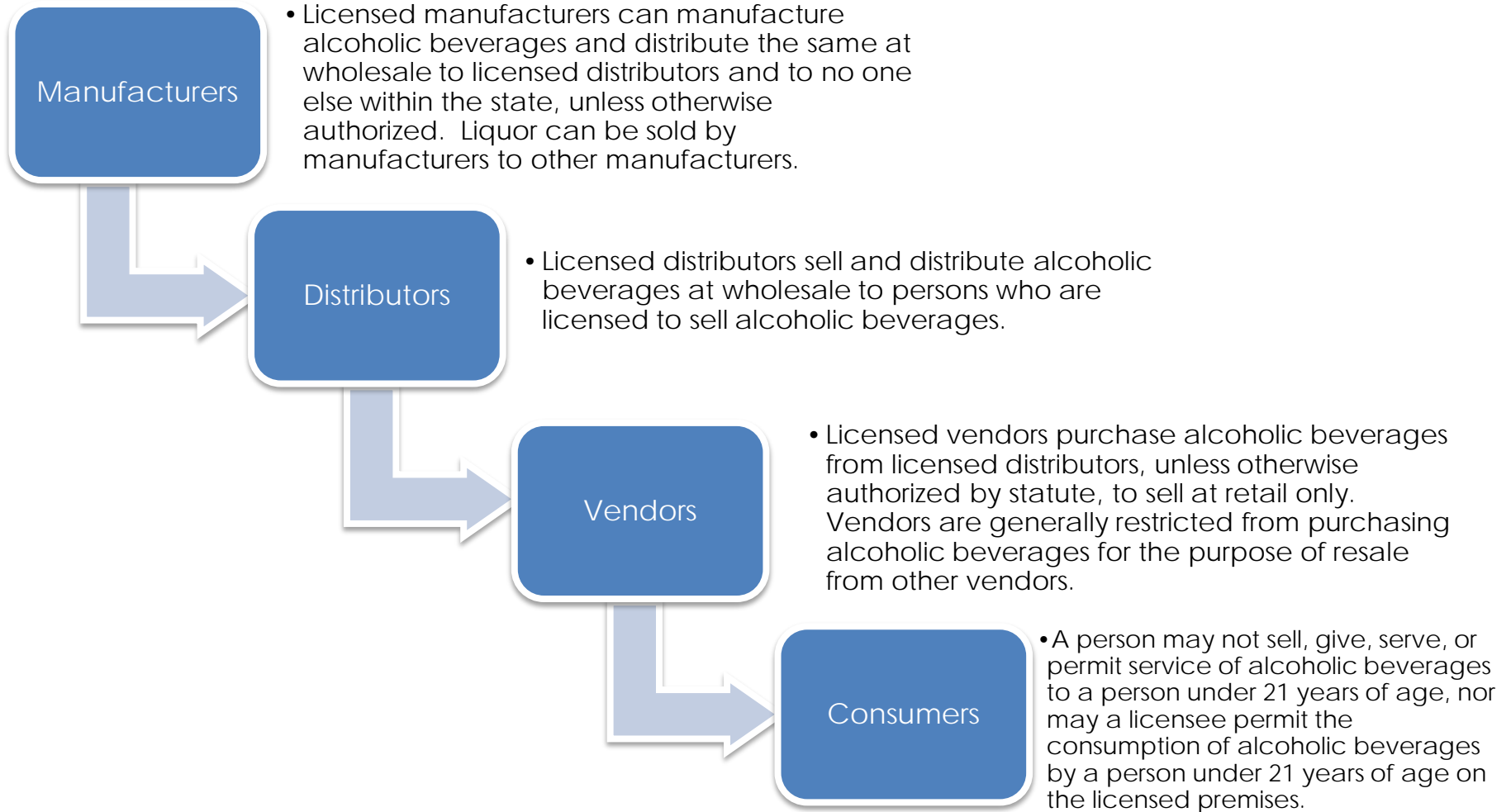
- Conducting routine compliance inspections.
- Conducting minimum age of purchase surveys.
- Conducting criminal and administrative investigations.

188 FTE Positions

Product Flow



Product Flow



Licensing Fees

In FY18-19, the Division administered approximately 50,000 alcoholic beverage licenses, with a staff of 49 dedicated Bureau of Licensing employees across 11 district offices.

In FY18-19, the Division collected approximately \$46,000,000 in fees for the issuance or renewal of alcoholic beverage licenses or permits.

Licenses are categorized by tier, then further categorized, in most instances, depending on their particular business model.

Licensing fees are generally based on the scope of the activities permitted and the population of the county where the license is located.

Tier	Annual Fee Range	Number of Licensees
Manufacturer	\$500-\$4000	453
Distributor	\$1000-\$4000	904
Vendor	\$25-\$2500	48,926

Licensing Fees

License Population by County – Alcohol

Licenses are renewed annually.

The number of licenses authorized to sell liquor (as well as beer and wine) available to be issued in a county is limited to one license per 7,500 residents generally, with special exceptions created by the Legislature.

Examples of special exception licenses include Special Food Service, Caterer's, Performing Arts Center, Culinary Education Program, and Golf Course.

County	Manufactures	Distributors	Consumption on Premises Vendors	Package Sale Vendors
Alachua	9	6	366	271
Baker	0	0	17	40
Bay	0	5	419	239
Bradford	0	0	18	39
Brevard	15	8	825	599
Broward	20	123	2,534	1,713
Calhoun	0	0	8	21
Charlotte	4	2	248	151
Citrus	4	0	189	148
Clay	3	0	161	164
Collier	6	12	789	334
Columbia	2	1	54	100
Dade	25	353	3,742	2,648
DeSoto	0	0	31	35
Dixie	1	0	17	25
Duval	33	23	1,237	1,052
Escambia	9	7	430	379
Flagler	3	2	158	84
Franklin	2	0	50	27
Gadsden	0	1	31	72
Gilchrist	0	0	12	23
Glades	0	0	15	14
Gulf	0	0	38	23
Hamilton	0	0	6	29
Hardee	0	0	20	36
Hendry	0	0	58	61
Hernando	8	4	177	161
Highlands	3	1	115	110
Hillsborough	33	47	1,556	1,232
Holmes	1	0	6	37
Indian River	4	2	257	158
Jackson	0	0	27	84
Jefferson	1	1	20	27
Lafayette	0	0	2	7

County	Manufactures	Distributors	Consumption on Premises Vendors	Package Sale Vendors
Lake	7	5	402	328
Lee	15	18	1,181	675
Leon	6	5	409	251
Levy	1	1	58	70
Liberty	0	0	0	15
Madison	0	0	8	35
Manatee	11	14	518	319
Marion	8	5	335	386
Martin	1	4	320	173
Monroe	8	4	564	190
Nassau	3	2	148	74
Okaloosa	8	4	365	212
Okeechobee	0	0	58	60
Orange	27	60	2,085	1,154
Osceola	1	5	429	303
Palm Beach	25	67	1,973	1,198
Pasco	8	6	460	432
Pinellas	55	37	1,779	993
Polk	18	12	524	655
Putnam	5	2	81	98
Santa Rosa	3	1	108	142
Sarasota	12	12	848	358
Seminole	10	14	535	367
St. Johns	7	5	444	191
St. Lucie	7	7	293	280
Sumter	3	2	123	102
Suwannee	0	0	31	56
Taylor	0	0	28	41
Union	0	0	6	13
Volusia	11	8	855	578
Wakulla	0	0	32	37
Walton	6	4	242	83
Washington	1	1	10	29
County Totals	453	903	28,885	20,041
Out-of-State	0	1	0	0
Combined Totals	453	904	28,885	20,041

Excise Tax Collection

In FY18-19, the Division collected over \$300,000,000 in excise tax on alcoholic beverages, with a staff of 84 dedicated Bureau of Auditing employees across 6 district offices.

Licensed entities responsible for excise tax payments are audited bi-annually.

- Over 3,100 beverage tax audits and over 1,500 total compliance audits were conducted in FY18-19.
- Audits resulted in the collection of approximately \$368,000 in excise tax assessments.

The Division maintains an electronic report filing system.

- Approximately 90% of tax remitting licensees are currently reporting electronically

Beverage Audits			
Manufacturer Liquor (DD) 565.03(2)(a)1			115
Audits verify production, bottling, and sales of liquor products made in Florida for compliance with state statutes to ensure proper taxes are paid.			
Manufacturer Domestic Wine (AMW) 564.02(2)(b)			108
Audits verify production, bottling, and sales of domestic wine products made in Florida for compliance with state statutes. Domestic Wine is wine made with products grown or produced in Florida, including grapes, berries, and honey.			
Manufacturer Wine Imported (AMW) 564.02(2)(b)			108
Audits verify production, bottling, and sales of imported wine products made in Florida for compliance with state statutes to ensure the proper taxes are paid. Import Wine encompasses wine made with products grown or produced outside of Florida.			
Manufacturer Beer (CMB) 563.02(2)			453
Audits verify production, bottling, and sales of malt beverages made in Florida for compliance with state statutes to ensure the proper taxes are paid.			
Brew Pub (CMBP) 561.221(3), 563.02(2)			110
Audits verify production and sales of malt beverages made in Florida for compliance with state statutes and to ensure proper taxes are paid. Brew Pubs are limited to sales of the malt beverages for on-premise consumption only.			
Distributor / Importer (JDBW, KLD, IMPR) 563.03(3), 564.02(3)(a)			2,272
Audits of all alcoholic beverage distributors verify movement of products from outside of as well as within Florida for compliance with state statutes. Purchases and sales of these products are verified for accuracy and completeness with audits conducted bi-annually to ensure excise taxes are calculated and paid on all taxable products.			
Beer Wholesaler	626	Beverage Importer	221
Wine Wholesaler – Domestic	147	Wine Wholesaler – Imported	892
Liquor Wholesaler	386	Total	2,272

Excise Tax Collection

Tax is collected at intervals of one month, on or before the 10th of each month, and the tax payment is accompanied by the statutorily required report of alcoholic beverages manufactured, sold, imported or exported.

Tax rates are dependent on the type of alcoholic beverage being sold.

Tax is generally assessed on the distributor tier at the time the alcoholic beverages are sold to vendors for the purpose of retail sale, unless otherwise specified by statute to be assessed on a manufacturer.

Beer		Wine		Liquor	
Pints or Less	\$0.06 each	Less than 17.259% ABV*	\$2.25 per Gallon	Less than 17.259% ABV*	\$2.25 per Gallon
Quarts	\$0.12 each	17.259% or more	\$3.00 per Gallon	17.259% to 55.780% ABV*	\$6.50 per Gallon
Gallons	\$0.48 each	Natural Sparkling	\$3.50 per Gallon	More than 55.78% ABV*	\$9.53 per Gallon
		Cider	\$0.89 per Gallon		

*ABV: Alcohol by Volume

Compliance Activities

In FY 18-19, the Division performed over 52,000 alcoholic beverage and tobacco inspections, with a staff of 188 dedicated Bureau of Enforcement employees across 12 district offices.

- 107 FTE positions are sworn, and 81 FTE positions are non-sworn.

The Division has internal goals developed to ensure that tax-paying licensees will be inspected with a frequency of at least once per year going forward.

	License Type	License Population	Licenses Inspected	Population Inspected	Total Inspections	In Compliance	Compliance Ratio
Manufacturers	AMW	100	29	29%	31	25	80.65%
	CMB	280	90	32%	108	84	77.78%
	DD	64	16	25%	19	17	89.47%
	ERB	8	4	50%	5	4	80%
Distributors	BSA	38	3	8%	3	2	66.67%
	CGR	615	15	2%	15	12	80%
	CWD	241	59	24%	69	57	82.61%
	IMPR	226	36	16%	38	23	60.53%
	JDBW	270	101	37%	123	100	81.30%
	KLD	181	57	31%	71	58	81.69%
	MEXP	188	20	11%	22	11	50%
	TWD	319	57	18%	64	49	76.56%
Common Vendors and Quota Licenses	1COP	406	252	62%	339	206	60.77%
	2COP	13,700	7,036	51%	9,734	5,597	57.50%
	1APS	977	627	64%	1,328	813	61.22%
	2APS	16,911	10,996	65%	23,607	14,797	62.68%
	3APS	21	15	71%	36	30	83.33%
	3BPS	21	18	86%	40	36	90%
	3CPS	59	43	73%	113	82	72.57%
	3DPS	36	26	72%	72	54	75%
	3PS	2,016	1,238	61%	2,898	2,170	74.88%
	4COP	3,299	5,885	178%	9,321	6,193	66.44%
	5COP	73	173	237%	279	203	72.76%
	6COP	48	128	267%	194	148	76.29%
	7COP	48	68	142%	139	78	56.12%
	8COP	57	77	135%	145	83	57.24%
	RTPD	27,589	1,769	6%	1,921	1,239	64.50%
Special License and Permit Vendors	11AL	11	4	36%	4	2	50%
	11CS	1	1	100%	5	3	60%
	12RT	27	11	41%	24	20	83.33%
	13CT	621	252	41%	278	181	65.11%
	14BC	49	13	27%	18	10	55.56%
	11C	1,162	491	42%	783	449	57.34%
	11CG	431	212	49%	395	263	66.58%
	11PA	103	40	39%	51	37	72.55%
	RTS	6	2	33%	2	2	100%

Compliance Activities

Minimum-Age Compliance Surveys By County – Alcohol

In FY18-19, the Division performed over 3,300 alcoholic beverage compliance surveys to determine whether licensees were complying with minimum age of purchase restrictions in Florida law.

Nearly 89% of the alcohol-related compliance surveys resulted in vendor compliance.

County	License Population	Licenses Surveyed	Population Surveyed	Total Surveys	Surveys Resulting in Compliance	Compliance Ratio
Alachua	652	67	10.28%	85	75	88.24%
Baker	57	9	15.79%	10	10	100%
Bay	663	61	9.20%	74	59	79.73%
Bradford	57	1	1.75%	1	1	100%
Brevard	1,447	27	1.87%	29	26	89.66%
Broward	4,390	213	4.85%	292	251	85.96%
Calhoun	29	4	13.79%	4	2	50%
Charlotte	405	71	17.53%	82	71	86.59%
Citrus	341	28	8.21%	31	27	87.10%
Clay	328	24	7.32%	26	24	92.31%
Collier	1,141	46	4.03%	53	48	90.57%
Columbia	157	14	8.92%	14	14	100%
Dade	6,768	301	4.45%	376	322	85.64%
DeSoto	66	14	21.21%	14	14	100%
Dixie	43	3	6.98%	5	3	60%
Duval	2,345	174	7.42%	218	193	88.53%
Escambia	825	49	5.94%	49	47	95.92%
Flagler	247	2	0.81%	2	2	100%
Franklin	79	3	3.80%	4	3	75%
Gadsden	104	9	8.65%	9	9	100%
Gilchrist	35	0	0%	0	0	0%
Glades	29	2	6.90%	4	2	50%
Gulf	61	8	13.11%	8	7	87.50%
Hamilton	35	16	45.71%	19	17	89.47%
Hardee	56	0	0%	0	0	0%
Hendry	119	7	5.88%	10	7	70%
Hernando	350	3	0.86%	3	0	0%
Highlands	229	25	10.92%	25	25	100%
Hillsborough	2,868	227	7.91%	282	263	93.26%
Holmes	44	0	0%	0	0	0%
Indian River	421	9	2.14%	9	9	100%
Jackson	111	21	18.92%	26	24	92.31%
Jefferson	49	2	4.08%	2	2	100%
Lafayette	9	0	0%	0	0	0.00%
County	License Population	Licenses Surveyed	Population Surveyed	Total Surveys	Surveys Resulting in Compliance	Compliance Ratio
Lake	742	13	1.75%	13	13	100%
Lee	1,889	162	8.58%	195	177	90.77%
Leon	671	122	18.18%	169	138	81.66%
Levy	130	22	16.92%	29	24	82.76%
Liberty	15	0	0%	0	0	0%
Madison	43	2	4.65%	2	2	100%
Manatee	862	11	1.28%	12	11	91.67%
Marion	734	83	11.31%	96	88	91.67%
Martin	498	34	6.83%	44	35	79.55%
Monroe	766	31	4.05%	32	31	96.88%
Nassau	227	17	7.49%	17	16	94.12%
Okaloosa	589	40	6.79%	43	38	88.37%
Okeechobee	118	2	1.69%	3	0	0%
Orange	3,326	100	3.01%	108	97	89.81%
Osceola	738	16	2.17%	17	17	100%
Palm Beach	3,263	63	1.93%	68	49	72.06%
Pasco	906	31	3.42%	35	28	80%
Pinellas	2,864	236	8.24%	300	280	93.33%
Polk	1,209	89	7.36%	97	92	94.85%
Putnam	186	6	3.23%	7	6	85.71%
Santa Rosa	254	3	1.18%	3	2	66.67%
Sarasota	1,230	60	4.88%	77	63	81.82%
Seminole	926	28	3.02%	31	29	93.55%
St. Johns	647	8	1.24%	8	8	100%
St. Lucie	587	19	3.24%	20	17	85%
Sumter	230	26	11.30%	31	27	87.10%
Suwannee	87	9	10.34%	10	10	100%
Taylor	69	17	24.64%	23	18	78.26%
Union	19	0	0%	0	0	0%
Volusia	1,452	52	3.58%	52	51	98.08%
Wakulla	69	16	23.19%	20	18	90%
Walton	335	14	4.18%	14	14	100%
Washington	41	1	2.44%	1	1	100%
Totals	50,282	2,773	5.51%	3,343	2,957	88.45%

Revenue Distribution

Alcoholic Beverage License Fees:

8 % Service Charge to General Revenue, after payment the balance is distributed as follows:

- 38% of each license fee to the city where the license is physically located;
- 24 % of each license fee to the county where the license is located; and
- The remaining balance to the ABT Trust Fund.

Catering (13CT) License Fees:

- First \$300,000 in fees collected is deposited in the DCF Operations and Maintenance Trust Fund to be used only for alcohol and drug abuse education, treatment, and prevention programs;
- All fees in excess of the initial \$300,000 collected is deposited in the Hotel and Restaurant Trust Fund.

New Quota License Fee:

- \$10,750 fee deposited in DCF Operations and Maintenance Trust Fund to be used only for alcohol and drug abuse education, treatment, and prevention programs.

Alcoholic Beverage Excise taxes:

- 2% of the excise taxes on alcoholic beverages and the tax on alcoholic beverages, cigarettes, and other tobacco products for passenger vessels is deposited in the ABT Trust Fund to meet the division's appropriation for the state fiscal year;
- 50% of excise tax on domestic wine is transferred to the Department of Agriculture's Viticulture program;
- The remainder of the excise taxes collected on alcoholic beverages and for passenger vessels are deposited into the General Revenue Fund.

The unencumbered balance in the ABT Trust Fund at the close of each fiscal year may not exceed \$2 million. These funds shall be held in reserve for use in the event that trust fund revenues are unable to meet the division's appropriation for the next fiscal year. Any unencumbered funds in excess of reserve funds shall be transferred unallocated to the General Revenue Fund by August 31 of the next fiscal year.

Visit Our Website at:

<http://www.myfloridalicense.com/DBPR/alcoholic-beverages-and-tobacco/>



FLORIDA DEPARTMENT OF HEALTH

Office of Medical Marijuana Use

Low-THC Cannabis & Medical Marijuana

MedicalMarijuanaUse@FLHealth.gov

Florida
HEALTH

OMMU Office of **MEDICAL**
MARIJUANA Use

Florida's Official Source for Responsible Use

- **2014:** Medical marijuana was first legalized in Florida under the Compassionate Medical Cannabis Act of 2014. The act authorized a low tetrahydrocannabinol (low-THC) and high cannabidiol (CBD) form of marijuana for medical use by patients suffering from cancer or seizures.
- **2016:** The 2016 Right to Try Act allowed patients with terminal illnesses access to “full potency” medical marijuana.
- **January 3, 2017:** Amendment 2, which created Article X, section 29 of the Florida Constitution, went into effect. Amendment 2 expanded access to both low-THC and full-potency medical marijuana for a larger list of medical conditions.
- **June 23, 2017:** Senate Bill 8-A, which implemented Article X, section 29 of the Florida Constitution by creating a unified regulatory structure, went into effect.
- **2018:** House Bill 6049 Medical Marijuana Growers, which removed the Black Farmer and Agriculturalists Association Florida Chapter from the MMTC licensure requirements, went into effect March 30, 2018.
- **2019:** Senate Bill 182, which authorized qualified physicians to recommend whole flower for qualifying patients.

Unauthorized Use

- Marijuana that was not purchased or acquired from a MMTC.
- Use in a manner inconsistent with the qualified physician's certification (*no written prescriptions*).
- Transfer of marijuana to a person other than and authorized qualified patient or the qualified patient's caregiver on their behalf.
- Cultivation by anyone other than an approved MMTC (no home grow).

Authorized Use

- Full potency medical marijuana, *and* low-THC cannabis under 381.986. F.S., for all qualifying conditions.
- Medical use is the acquisition, possession, use, delivery, transfer, or administration of marijuana authorized by a qualified ordering physician.
- Medical marijuana is only provided through an approved MMTC.

Qualifying Conditions

- Cancer
- Epilepsy
- Glaucoma
- HIV
- AIDS
- Post-traumatic stress disorder (PTSD)
- Amyotrophic lateral sclerosis (ALS)
- Crohn's disease
- Parkinson's disease
- Multiple sclerosis (MS)
- Medical conditions of the same kind or class as or comparable to those above
- A terminal condition diagnosed by a physician other than the qualified physician issuing the physician certification
- Chronic nonmalignant pain caused by a qualifying medical condition or that originates from a qualifying medical condition and persists beyond the usual course of that qualifying medical condition

Medical use means the acquisition, possession, use, delivery, transfer, or administration of marijuana authorized by a physician certification. The term does not include:

- On any form of public transportation, except for low-THC cannabis not in a form for smoking
- In any public place, except for low-THC cannabis not in a form for smoking
- In a qualified patient's place of employment, except when permitted by his or her employer
- In a state correctional institution, as defined in s. 944.02, or a correctional institution, as defined in s. 944.241
- On the grounds of a preschool, primary school, or secondary school, except as provided in s. 1006.062
- In a school bus, a vehicle, an aircraft, or a motorboat, except for low-THC cannabis not in a form for smoking
- The smoking of marijuana in an enclosed indoor workplace as defined in s. 386.203(5)

Qualified Ordering Physicians

Qualifying physicians must:

- Have a clear/active license under Chapter 458, or 459, Florida Statutes
- Complete the required course and examination provided by the Florida Medical Association, and Florida Osteopathic Medical Association

Find a qualified physician using the online search tool:

- <https://knowthefactsmmj.com/>
- There are currently 2,496 qualified physicians statewide



Medical Marijuana Qualified Physician Search

Complete one or more search fields.

(Use fewer fields to produce more results: [See Search Help](#))

Specialty/Certification

-- Any --

Last Name

First Name

City

County

Zip Code

Status

Accepting New Patients

Search


Reset

Qualified Physician Requirements

- Conduct a physical examination while physically present in the same room as the patient, conduct an assessment of the patient's medical history, and diagnose the patient with a qualifying medical condition
- Determine that the medical use of marijuana would likely outweigh the potential health risks for the patient. If a patient is younger than 18 years of age, a second physician must agree with this determination
- Determine if the patient is pregnant. A physician may not issue a physician certification, except for low-THC cannabis, to a patient who is pregnant
- Review the patient's controlled drug prescription history in the Prescription Drug Monitoring Program database
- Review the Medical Marijuana Use Registry and confirmed that the patient does not have an active physician certification from another qualified physician
- Register as the issuer of the physician certification for the qualified patient in the Medical Marijuana Use Registry and enter the contents of the physician certification into the registry, including: the patient's qualifying condition, dosage, the amount and forms of marijuana authorized for the patient, and any types of marijuana delivery devices needed by the patient for the medical use of marijuana
- Conduct an evaluation at least once every 30 weeks

Creating a Patient

Patient Information



Id Card #:
[Click here](#) to download a copy of the Medical Marijuana Consent Form that is required by the Florida Board of Medicine for each of your patients.

Last Name:	Patient
First Name:	Typical
Middle Initial:	
Primary Phone:	
Email Address:	Sample@samplemail.
Date Of Birth:	1/1/1970
Patient Number:	
Does this patient have a Social Security Number:	Yes <input checked="" type="radio"/> No <input type="radio"/>
SSN	XXX-XX-XXXX
Patient Weight:	123
WeightType:	lbs ▼
Gender:	Male ▼

Qualifying Questions

Physician Certification

Have you conducted a physical examination while physically present in the same room as the patient and a full assessment of the medical history of the patient?

Yes ☐ No ☐

Have you determined that the medical use of marijuana would likely outweigh the potential health risks for a patient?

Yes ☐ No ☐

Is this patient pregnant?

Yes ☐ No ☐

Have you reviewed the patient's controlled drug prescription history in the prescription drug monitoring program database established pursuant to s.893.055?

Yes ☐ No ☐

Have you obtained the voluntary and informed written consent of the patient for medical use of marijuana for the patient, and it is maintained in the patient's medical record, and has the patient, or the patient's parent or legal guardian if the patient is a minor, signed the informed consent acknowledging that the qualified physician has sufficiently explained its content?

Yes ☐ No ☐

You are expected to use this standardized board consent form: [Click Here](#)

Type, Route, and Daily Dose

Initial Order	
Low-THC Cannabis	Medical Marijuana
<div><input type="checkbox"/> Oral</div> <div><input type="checkbox"/> Topical</div> <div><input type="checkbox"/> Sublingual</div> <div><input checked="" type="checkbox"/> Inhalation 20 Mg per Day</div> <div><input type="checkbox"/> Suppository</div>	<div><input type="checkbox"/> Oral</div> <div><input checked="" type="checkbox"/> Topical 25 Mg per Day</div> <div><input type="checkbox"/> Sublingual</div> <div><input checked="" type="checkbox"/> Inhalation 10 Mg per Day</div> <div><input type="checkbox"/> Suppository</div>
Marijuana in a Form for Smoking	
<div><input checked="" type="checkbox"/> Click here to add smoking as a route of administration</div> <div>1.25 Total ounces per 35-day order</div>	

Notes and Duration

Notes for your Non-Smoking Routes:

Physician Note here

Notes for your Smoking Routes

Physician Note Here

What day shall your certification and first order start?

9/1/2019

How many days shall your certification run for?

210

Based on your selection above, this certification will end on:

3/29/2020



Can this person purchase a delivery device?

[Go Back To Certification Details](#)

[Calculate Orders](#)

Medical Marijuana (THC) Order Templates

Medical Marijuana Order #1 Open	Medical Marijuana Order #2 Scheduled	Medical Marijuana Order #3 Scheduled
<p>Start Date: 09/01/2019</p> <p>Duration Days: 70 ▾</p> <p>End Date: 11/10/2019</p> <p>Purchase: <input checked="" type="checkbox"/></p> <p>Delivery Device:</p>	<p>Start Date: 11/10/2019</p> <p>Duration Days: 70 ▾</p> <p>End Date: 1/19/2020</p> <p>Purchase: <input checked="" type="checkbox"/></p> <p>Delivery Device:</p>	<p>Start Date: 01/19/2020</p> <p>Duration Days: 70 ▾</p> <p>End Date: 3/29/2020</p> <p>Purchase: <input checked="" type="checkbox"/></p> <p>Delivery Device:</p>
<p>Routes</p>	<p>Routes</p>	<p>Routes</p>
<p>Add Route</p> <p>Route: Topical ▾</p> <p>Daily Dose mg: 25</p> <p>Total: 1750</p>	<p>Add Route</p> <p>Route: Topical ▾</p> <p>Daily Dose mg: 25</p> <p>Total: 1750</p>	<p>Add Route</p> <p>Route: Topical ▾</p> <p>Daily Dose mg: 25</p> <p>Total: 1750</p>
<p>Remove Route</p> <p>Route: Inhalation ▾</p> <p>Daily Dose mg: 10</p> <p>Total: 700</p>	<p>Remove Route</p> <p>Route: Inhalation ▾</p> <p>Daily Dose mg: 10</p> <p>Total: 700</p>	<p>Remove Route</p> <p>Route: Inhalation ▾</p> <p>Daily Dose mg: 10</p> <p>Total: 700</p>
<p>Remove Route</p>	<p>Remove Route</p>	<p>Remove Route</p>
<p>Notes: Physician Note here</p>	<p>Notes: Physician Note here</p>	<p>Notes: Physician Note here</p>
<p>Cancel Order</p>	<p>Cancel Order</p>	<p>Cancel Order</p>

Whole Flower Order Templates

Marijuana in a Route for Smoking Order #1 Open	Marijuana in a Route for Smoking Order #2 Scheduled	Marijuana in a Route for Smoking Order #3 Scheduled	Marijuana in a Route for Smoking Order #4 Scheduled	Marijuana in a Route for Smoking Order #5 Scheduled	Marijuana in a Route for Smoking Order #6 Scheduled
Start Date 09/01/2019	Start Date 10/06/2019	Start Date 11/10/2019	Start Date 12/15/2019	Start Date 01/19/2020	Start Date 02/23/2020
Duration 35 Days	Duration 35 Days	Duration 35 Days	Duration 35 Days	Duration 35 Days	Duration 35 Days
End Date 10/6/2019	End Date 11/10/2019	End Date 12/15/2019	End Date 1/19/2020	End Date 2/23/2020	End Date 3/29/2020
Purchase <input checked="" type="checkbox"/>	Purchase <input checked="" type="checkbox"/>	Purchase <input checked="" type="checkbox"/>	Purchase <input checked="" type="checkbox"/>	Purchase <input checked="" type="checkbox"/>	Purchase <input checked="" type="checkbox"/>
Delivery Device	Delivery Device	Delivery Device	Delivery Device	Delivery Device	Delivery Device
Ounces 1.250	Ounces 1.250	Ounces 1.250	Ounces 1.250	Ounces 1.250	Ounces 1.250
Notes Physician Note Here //	Notes Physician Note Here //	Notes Physician Note Here //	Notes Physician Note Here //	Notes Physician Note Here //	Notes Physician Note Here //
Cancel Order	Cancel Order	Cancel Order	Cancel Order	Cancel Order	Cancel Order

New Patient Notification

Florida Medical Marijuana Registry - mmuregistry.flhealth.gov

Mission:

To protect promote & improve the health of all people in Florida through integrated state, county & community efforts.



Ron DeSantis
Governor

Scott A. Rivkees, MD
State Surgeon General

Vision: To be the Healthiest State in the Nation.

Welcome new user, your login id is below. Your password will be sent in a separate email.

Login:

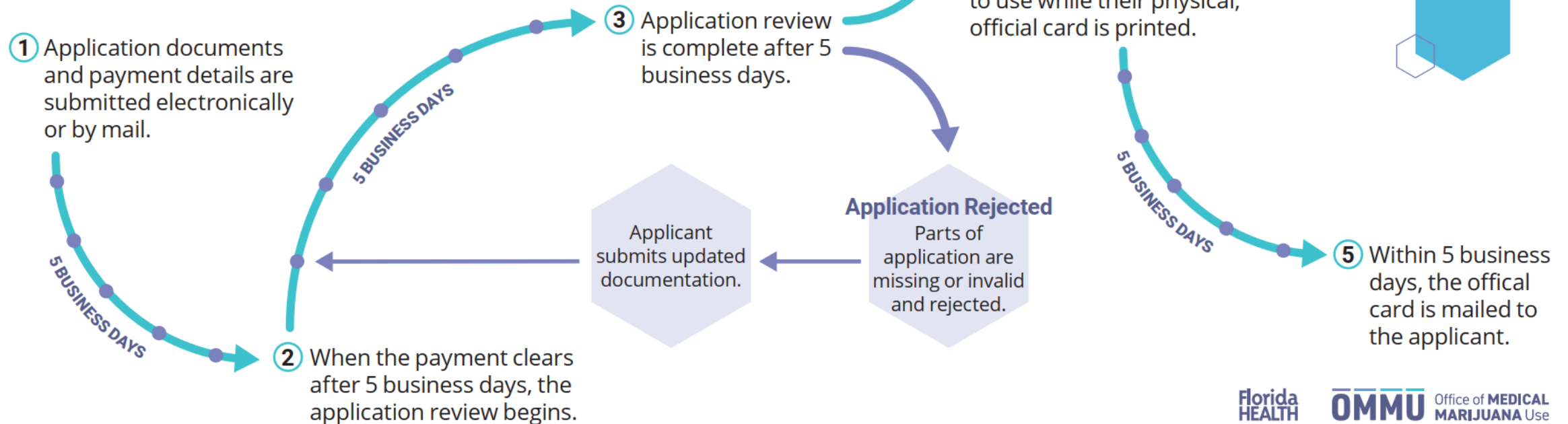
Please log in to the site here: <https://mmur-uat.fiveptg.com/>.

Florida Department of Health
FLBoardOfMedicine.gov
FloridasOsteopathicMedicine.gov
FloridaHealth.gov



Accredited Health Department
Public Health Accreditation Board

Florida Medical Marijuana ID Card Application Approval Process



Identification Cards

- Each patient and caregiver in the Medical Marijuana Use Registry must be issued a Medical Marijuana User Registry Identification Card prior to filling an order at an approved MMTC.
- Patients and caregivers can submit an application:
 - Online through the Medical Marijuana Use Registry: <https://mmuregistry.flhealth.gov/>
 - By mail:
Office of Medical Marijuana Use
PO Box 31313
Tampa, FL 33631-3313



Patient Application – Picture Submitted

Card Application For: TYPICAL, PATIENT



Supply a Photo

Remove Existing Photo

Id Card #:

A full-face photo must be submitted in order to complete your application. If your Florida Driver License photo or Florida Identification Card photo appears in your application in the Registry resulting from accurate DOB/SSN entered by your physician, the most efficient process is to utilize that photo for your Medical Marijuana Card Application.

If you desire to utilize a separate photo, please mail or upload a full-face, passport-type, color photograph taken within the last 90 days. Passport-type photos must be color, clear, with a full front view of your face, with a plain white background. The photograph must be taken in normal street attire, without a hat, head covering, or glasses. A selfie snapshot, vending machine prints, glamour shots, magazine or full-length photos are unacceptable.

Photo Requirements



A photo was uploaded on 9/19/2019. It must be approved by The Office of Medical Marijuana Use.

Last Name: TYPICAL

First Name: PATIENT

Middle Initial:

Primary Phone:

Email Address: Sample@samplemail.com

Date Of Birth: 01/01/1970

Patient Number: P1MF7957

Patient Weight: 123 lbs

Gender: Female

Address1: 123 ANY STREET

Address2:

City: ANYTOWN

County: Suwannee

Zip code: 12345

Review Application

Update My Information

Patient Application

– No Proof of Residency Submitted

Proof of Residence

Proof of Residency - All applicants must submit a copy of a valid Florida Driver's License or Florida Identification card. Adult seasonal residents must provide either proof of residency under section 381.986(5)(b)1. or provide a copy of two documents as specified in section 381.986(5)(b)2., Florida Statutes. Minor patients must provide proof of residency as specified in section 381.986(5)(b)3., Florida Statutes. The minor's parent or legal guardian must submit proof that they meet the residency requirement of section 381.986(5)(b)1., Florida Statutes.

You may upload up to 5 files into your application. You currently have 0 documents.

Choose File



You must supply Proof of Residence to apply

The patient cannot obtain cannabis products until this is completed

Patient Application – Unsigned

Signature

To sign below, supply **PATIENT** in the First Name text box, and **TYPICAL** in the Last Name text box.

Type in your first name:

Type in your last name:

Submit My Card Application

The undersigned persons certify that the applicant has requested a physical Medical Marijuana Use Registry Identification Card as authorized under section 381.986, Florida Statutes, and Chapter 64-4, F.A.C. The information contained in this application and in any attached exhibits that serves as a basis for card issuance, is accurate an complete, and that no one other than me or my caregiver is submitting this request on my behalf. I understand that knowingly making a false statement in writing with the intent to mislead a public servant in the performance of his or her official duty shall be guilty of a misdemeanor of the second degree punishable as provided in sections 775.082 or 775.083, Florida Statutes.



You must sign to apply
You cannot obtain cannabis
products until this is completed
and reviewed by the Office of
Medical Marijuana Use

Patient Application - No Payment Made

Payment Record

Cards cannot be issued or renewed until the Office of Medical Marijuana Use receives a \$75 processing fee.

Pay By Mail:

You may mail in your payment in to the following address:

Florida Department of Health
ATTN: Office of Medical Marijuana Use
PO Box 31313
Tampa, FL 33631-3313

Pay Online:

If you have already sent in your payment in the form of a check or money order, please do not click on the payment link as this will generate duplicate payments against your account.

[Click here to Pay Online](#)

A \$2.75 convenience fee will be added to each online payment.



A Payment has not been
processed

Patient Application – Payment made

Payment Record

Cards cannot be issued or renewed until the Office of Medical Marijuana Use receives a \$75 processing fee.

The payment was received on 9/19/2019.

Enter the date when you received the Processing Fee: (mm/dd/yyyy)

9/19/2019



The OMMU has received the
Processing Fee on
9/19/2019

Patient Approval Email

Mission:

To protect promote & improve the health of all people in Florida through integrated state, county & community efforts.



Vision: To be the Healthiest State in the Nation.

Ron DeSantis
Governor

Scott A. Rivkees, MD
State Surgeon General

Thursday, September 19, 2019

Dear

You have been approved for a Medical Marijuana Use Registry Patient/Caregiver Identification Card and your card is currently being printed and processed by the Florida Department of Health. This email serves as a temporary verification which may be printed and used, with a photo ID, to obtain low-THC cannabis, medical marijuana or a marijuana delivery device until you receive your Registry identification card.

Your Card Id is:

Your Card is valid from 9/19/2019 to 9/19/2020

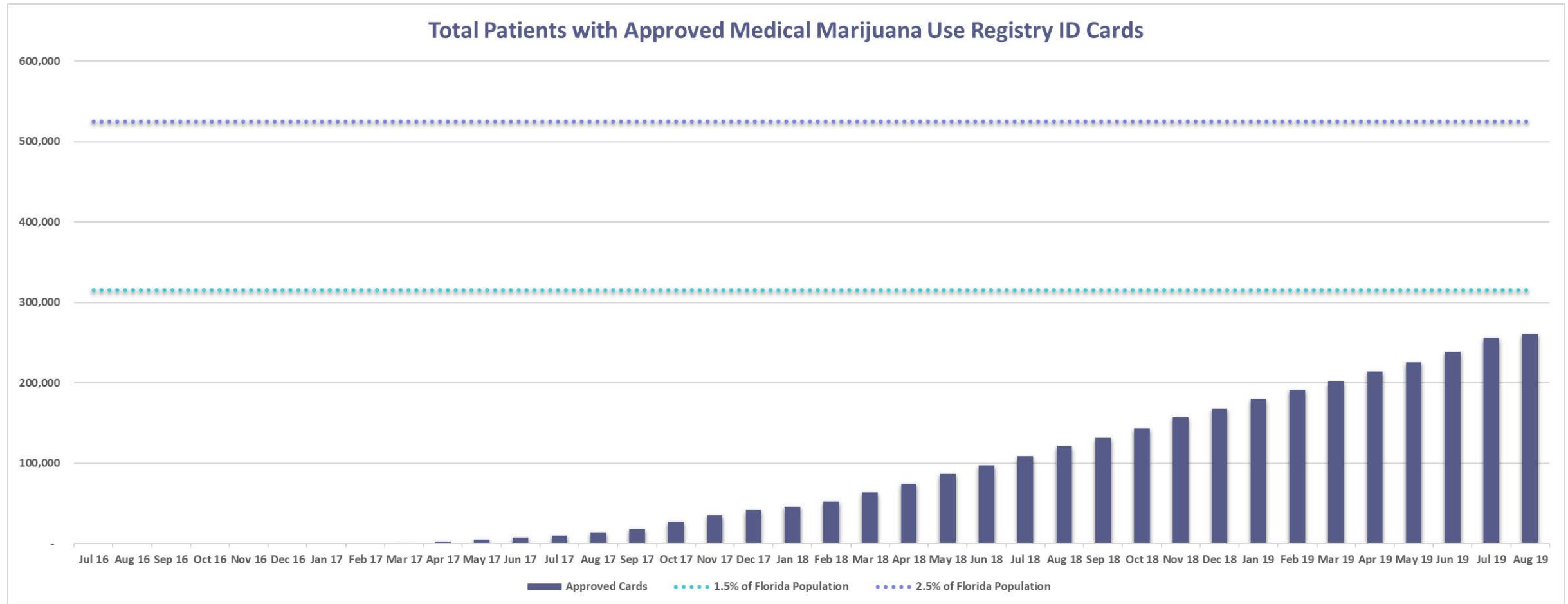
If you have any further questions about your Medical Marijuana Use Registry identification card, please contact the Office of Medical Marijuana Use at (850) 245-4657.

Please log in to the site here: <https://mmuregistry.flhealth.gov/>.

Sincerely,
Office of Medical Marijuana Use

Medical Marijuana Patients

- As of August 31, 2019 the Medical Marijuana Use Registry has **260,725** active qualified patients (valid identification card)



- MMTCs are vertically integrated, which means that each must to cultivate, process, and dispense medical marijuana and low-THC cannabis
- MMTCs must receive authorization from the Department to begin cultivating, processing, and dispensing medical marijuana and low-THC cannabis
- Each MMTC may currently open up to 35 retail dispensing facilities
- MMTCs with dispensing authorization may deliver statewide

MMTC Authorization Phases

- Each MMTC is authorized to operate:
 - Cultivation facilities,
 - Processing facilities,
 - Fulfillment and Storage Facilities, and
 - Dispensing facilities.
- Prior to commencing operation at any facility, request an inspection and receive written approval from the Office of Medical Marijuana Use

MMTCs: Dispensing Authorization

Florida
HEALTH

OMMU
Office of MEDICAL
MARIJUANA Use



MMTC	Authorization Status
Acreage Holdings	Cultivation Authorization Requested
Spring Oaks Greenhouse	Cultivation Authorization Requested
Redland Nursery	Cultivation Authorization Requested
Dewar Nurseries	Cultivation Authorization Requested
Tree King - Tree Farm	Cultivation Authorization Requested
Perkins Nursery	Cultivation Authorization Requested
Bill's Nursery	Cultivation Authorization Requested
Deleon's Bromeliads	Cultivation Authorization Requested
Hart's Plant Nursery	Cultivation Authorization Requested

Regional Allocation of Current Dispensing Locations

MMTC Regions

Northwest Region	Bay, Calhoun, Escambia, Franklin, Gadsden, Gulf, Holmes, Jackson, Jefferson, Leon, Liberty, Madison, Okaloosa, Santa Rosa, Taylor, Wakulla, Walton, and Washington
Northeast Region	Alachua, Baker, Bradford, Clay, Columbia, Dixie, Duval, Flagler, Gilchrist, Hamilton, Lafayette, Levy, Marion, Nassau, Putnam, St. Johns, Suwannee, and Union.
Central Region	Brevard, Citrus, Hardee, Hernando, Indian River, Lake, Orange, Osceola, Pasco, Pinellas, Polk, Seminole, St. Lucie, Sumter, and Volusia
Southwest Region	Charlotte, Collier, DeSoto, Glades, Hendry, Highlands, Hillsborough, Lee, Manatee, Okeechobee, and Sarasota
Southeast Region	Broward, Miami-Dade, Martin, Monroe, and Palm Beach Counties.

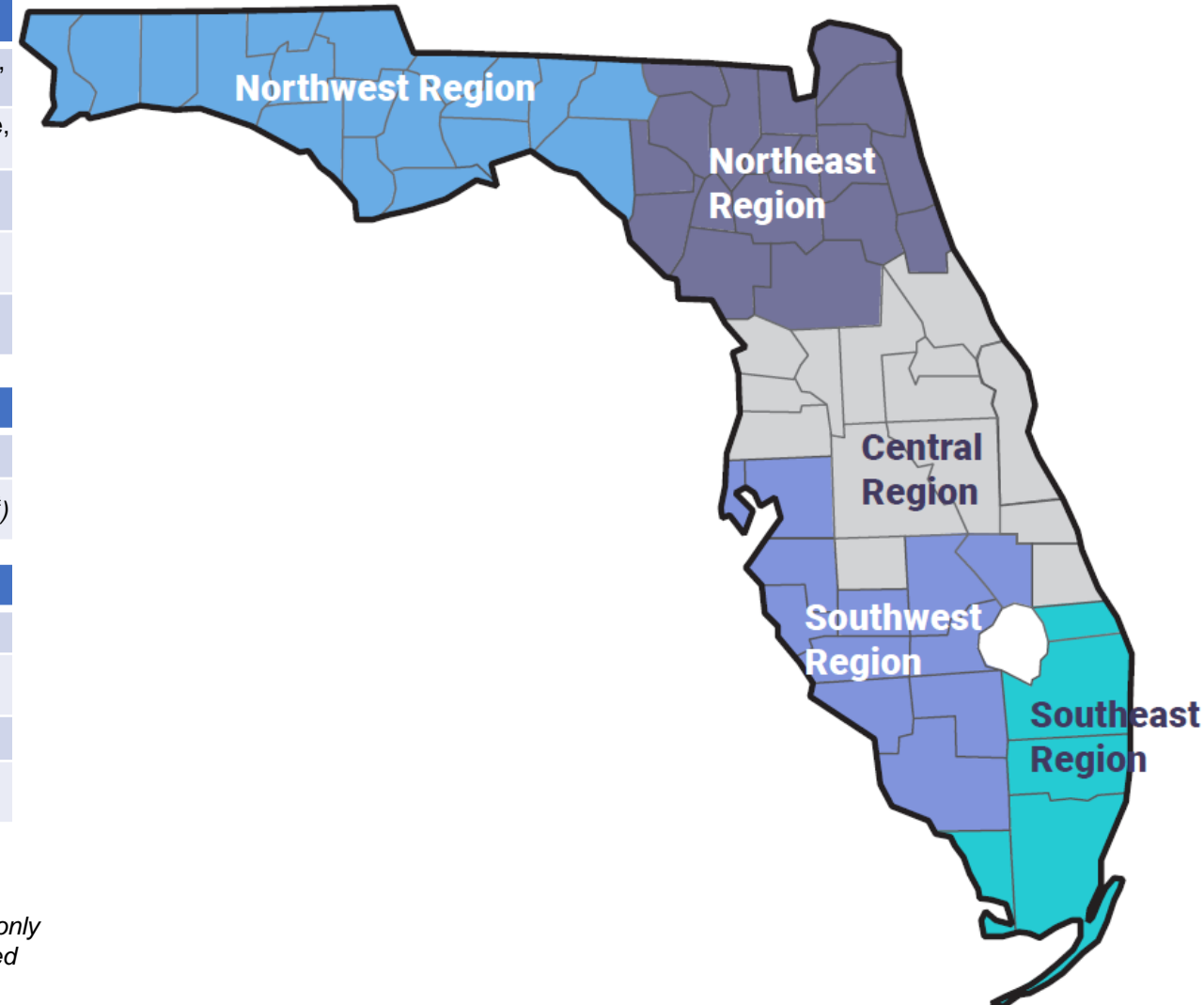
Dispensing Locations Allowable per MMTC

Region	Central	Southeast	Southwest	Northeast	Northwest	Additional	Total
Allowable per MMTC	11	11	6	4	3	14*;6#	35 (49*;43#)

Total Approved Dispensing Locations and Total Allowable Dispensing Locations

Region	Central	Southeast	Southwest	Northeast	Northwest	Additional	Total
Allowable Total	143	143	78	52	39	14*;6#	475
Current Total	57	36	35	25	12	-	165
Available Total	97	118	49	31	30	-	310

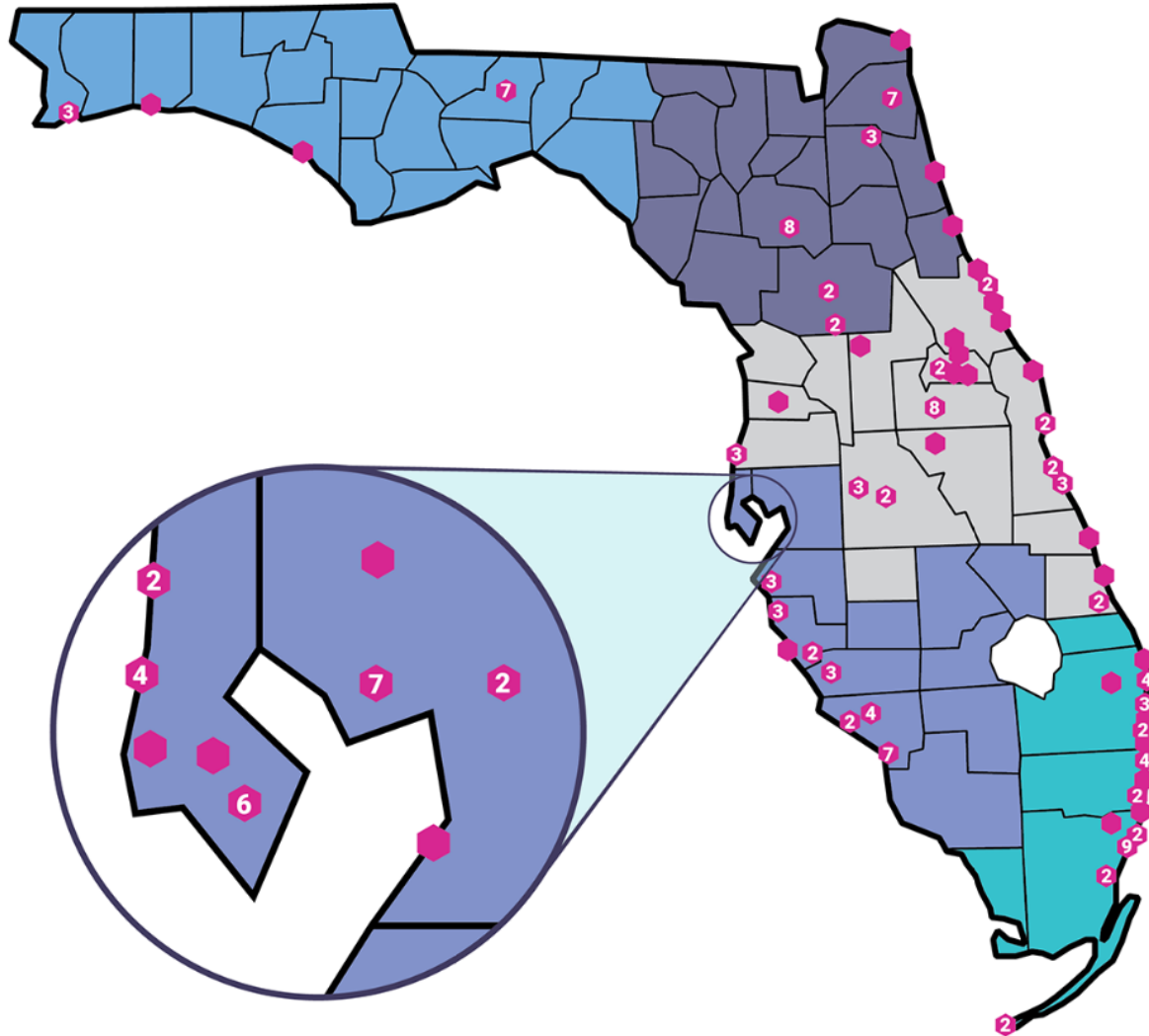
- Allowable Total = (13 MMTCs with Dispensing Authorization) x (Allowable Locations in region)
- Available Total = (Allowable Total) – (Current Total)
- 13 of 22 approved MMTCs have Dispensing Authorization; 12 MMTC have storefronts, 1 is delivery only
- * = The Department settled with Trulieve, allowing an additional 14 dispensing locations in unspecified regions.
- # = The Department settled with Surterra, allowing an additional 6 dispensing locations in unspecified regions; additionally Surterra purchased 2 dispensary allocations (1NE, 1C) from 3 Boys Farm.



Dispensary Statewide Distribution

- **Statewide Maximum** – Each MMTC was originally authorized to open 25 dispensaries statewide.
 - This increased to 30 when the patient population reached 100,000 qualified, active patients.
 - This increased to 35 when the patient population reached 200,000 qualified, active patients.
 - This will continue to increase by 5 dispensaries statewide each additional 100,000 qualified, active patients thereafter.
- **Regional Maximum** - The statewide maximum is distributed in 5 regions (Northwest, Northeast, Central, Southwest and Southeast) based on regional population.
- MMTCs may purchase dispensary slots from other MMTCs.
- Limits on dispensaries sunset on April 1, 2020.

MMTC Dispensing Locations

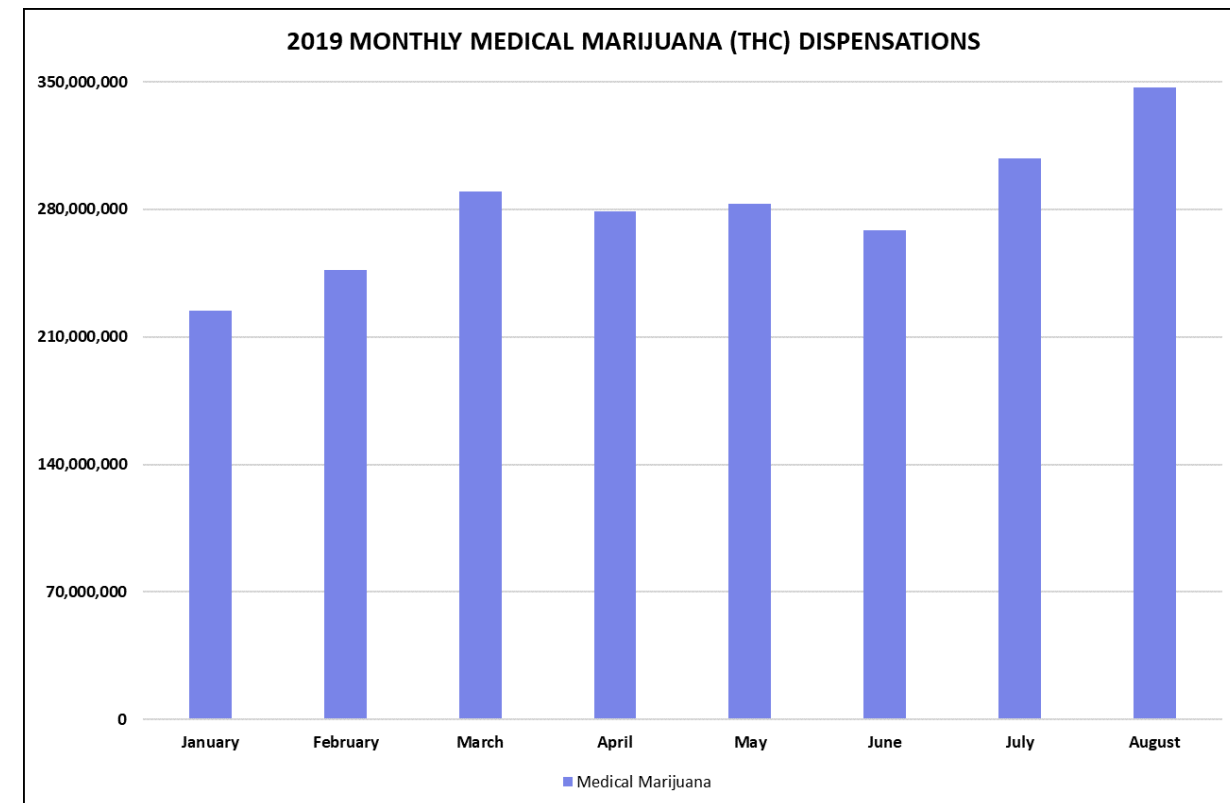
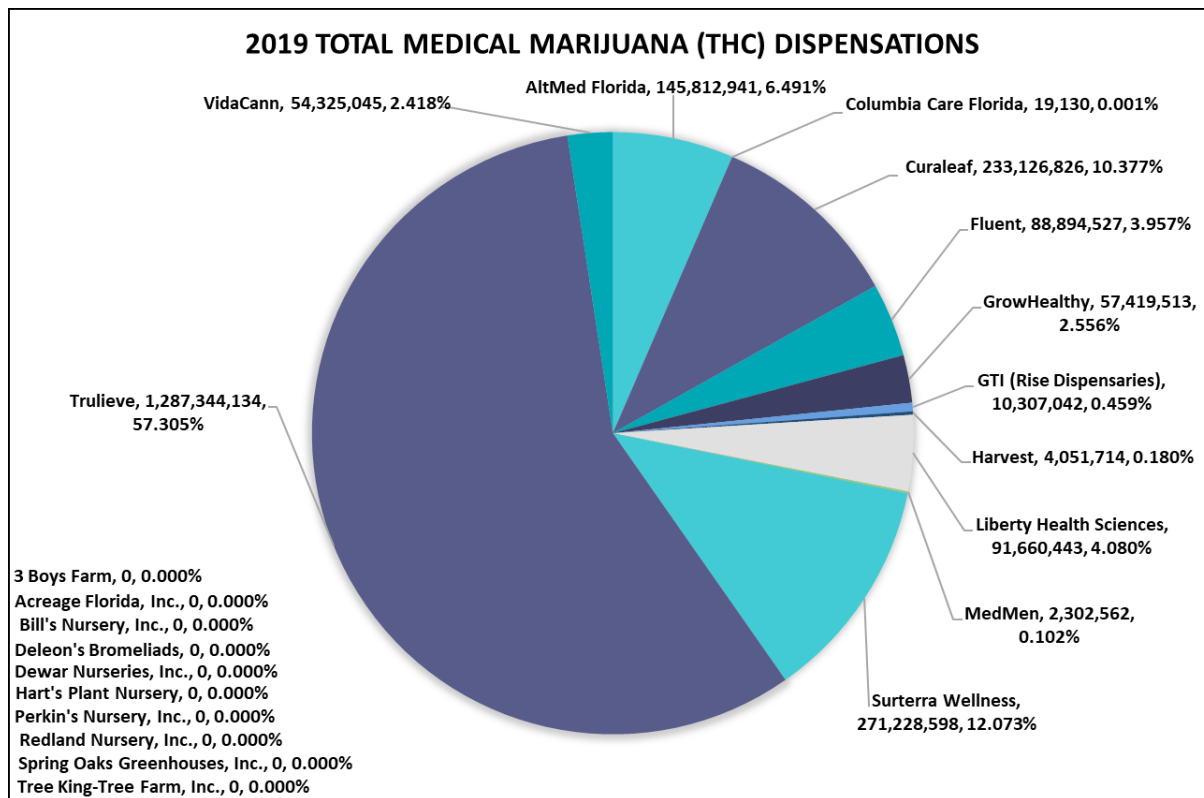


MMTC	No.
Trulieve	33
Surterra Wellness	32
Curaleaf	26
Liberty Health Science	16
Fluent	15
VidaCann	13
GrowHealthy	9
Altmed - MüV	7
Harvest	6
GTI (Rise Dispensaries)	5
Columbia Care Florida	2
MedMen	1
3 Boys Farm	0
Acreage Florida	0
Total	165

Medical Marijuana Dispensed

January 1, 2019 - August 31, 2019, **2,246,492,475** mg of medical marijuana (THC) has been dispensed.

- Total milligrams of medical marijuana (THC) dispensed in 2018: **1,587,160,594** mg
- Total milligrams of medical marijuana (THC) dispensed in 2017: **190,650,136** mg

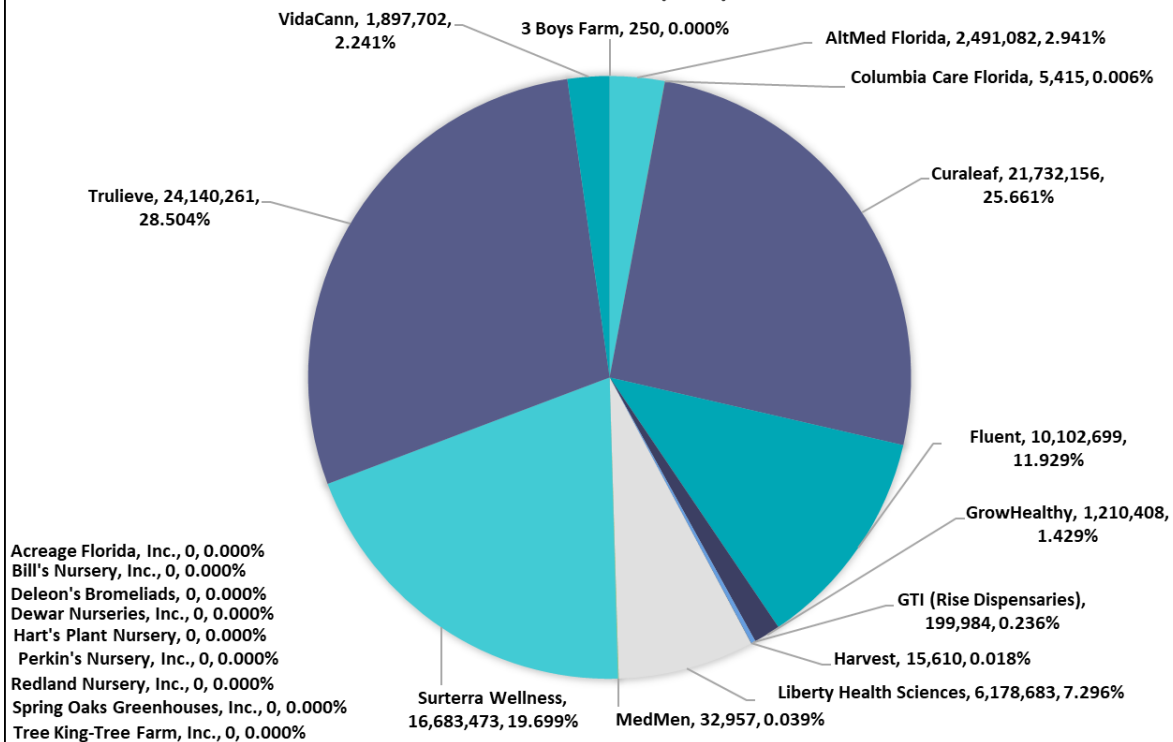


Low-THC Cannabis Dispensed

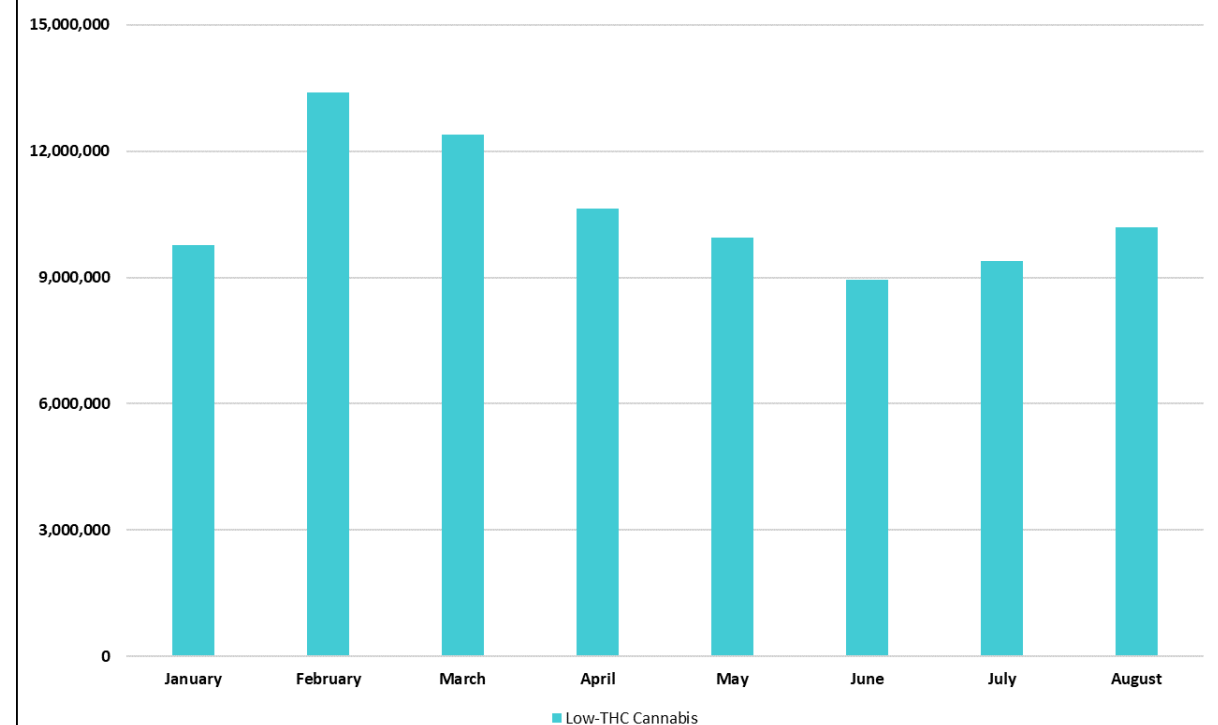
January 1, 2019 - August 31, 2019, **84,690,680** mg of low-THC cannabis (CBD) has been dispensed.

- Total milligrams of low-THC cannabis (CBD) dispensed in 2018: **78,941,227** mg
- Total milligrams of low-THC cannabis (CBD) dispensed in 2017: **22,064,839** mg

2019 TOTAL LOW-THC (CBD) DISPENSATIONS

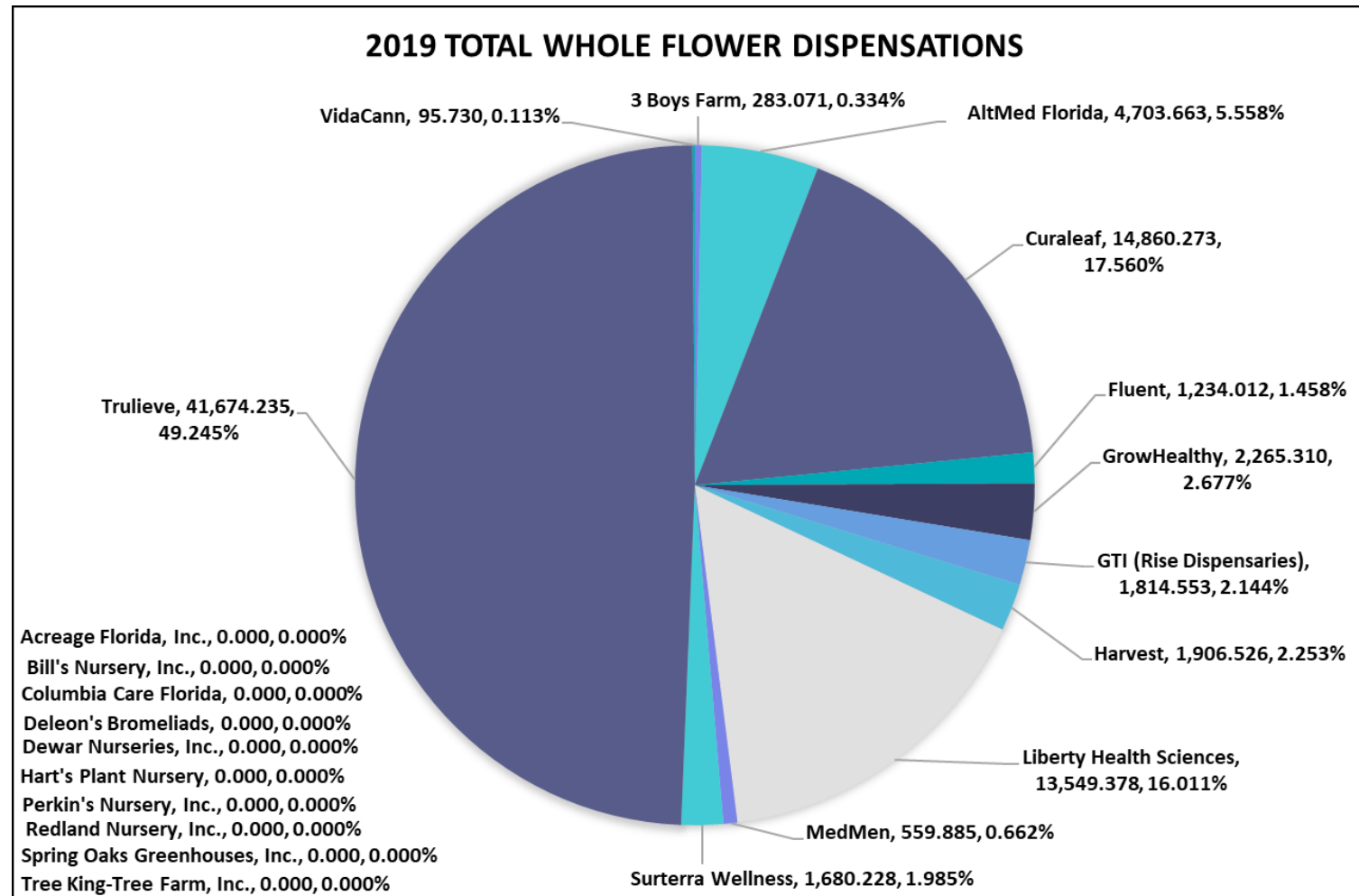


2019 MONTHLY LOW-THC (CBD) DISPENSATIONS



Whole Flower Dispensed

From July 1, 2019 - August 31, 2019, **84,626.864** ounces of whole flower marijuana has been dispensed



Resources

- Know the Facts MMJ: <http://knowthefactsmmj.com/>
 - Florida's Official Source for Responsible Use
- Article X, Section 29, Florida Constitution
- Section 381.986, Florida Statutes
- Section 381.987, Florida Statutes
- Section 381.988, Florida Statutes
- Chapter 64-4 Florida Administrative Code

FLORIDA DIVISION OF ALCOHOLIC BEVERAGES AND TOBACCO
LICENSES AND PERMITS FOR ALCOHOLIC BEVERAGES

VENDORS – ALCOHOLIC BEVERAGES						
TYPE AND FEE		CLASS	STATUTE	REGULATIONS OF LICENSE ACTIVITY		APPLICATION
PACKAGE SALES – OFF PREMISES LICENSES FOR BEER AND WINE ONLY						
1APS \$28 / \$56 / \$84 / \$112 / \$140 (fee based on county population)	APS	563.02	Products Permitted	Beer.	FORM 6001	
			Type of Sale	Package sales for off-premises consumption.		
			Other Terms	Compliance with Florida Beverage Law.		
1APS - DRY \$28 / \$56 / \$84 / \$112 / \$140	D – DRY	568.01	Products Permitted	Beer. No more than 6.243% of alcohol by volume or 5% by weight.	FORM 6001	
			Type of Sale	Package sales for off-premises consumption.		
			Other Terms	Only applicable to Lafayette, Liberty, and Washington County.		
2APS \$84 / \$112 / \$140 / \$168 / \$196 (fee based on county population)	APS	564.02	Products Permitted	Beer; Wine.	FORM 6001	
			Type of Sale	Package sales for off-premises consumption.		
			Other Terms	Compliance with Florida Beverage Law.		
2APS - DRY \$84 / \$112 / \$140 / \$168 / \$196 (fee based on county population)	D – DRY	568.01	Products Permitted	Beer; Wine. No more than 6.243% of alcohol by volume or 5% by weight.	FORM 6001	
			Type of Sale	Package sales for off-premises consumption.		
			Other Terms	Only applicable to Florida’s dry counties Lafayette, Liberty and Washington. Compliance with Florida Beverage Law.		
CONSUMPTION ON PREMISES LICENSES FOR BEER AND WINE ONLY						
1COP \$56 / \$112 / \$168 / \$224 / \$280 (fee based on county population)	COP	563.02	Products Permitted	Beer.	FORM 6001	
			Type of Sale	By the drink or in sealed containers for consumption on or off the premises where sold.		
			Other Terms	Compliance with Florida Beverage Law.		
1COP - DRY \$56 / \$112 / \$168 / \$224 / \$280 (fee based on county population)	D – DRY	568.01	Products Permitted	Beer. No more than 6.243% of alcohol by volume or 5% by weight.	FORM 6001	
			Type of Sale	By the drink or in sealed containers for consumption on or off the premises where sold.		
			Other Terms	Only applicable to Lafayette, Liberty, and Washington County.		
2COP \$168 / \$224 / \$280 / \$336 / \$392 (fee based on county population)	COP	564.02	Products Permitted	Beer; Wine.	FORM 6001	
			Type of Sale	By the drink or in sealed containers for consumption on or off the premises where sold.		
			Other Terms	Compliance with Florida Beverage Law.		

FLORIDA DIVISION OF ALCOHOLIC BEVERAGES AND TOBACCO
LICENSES AND PERMITS FOR ALCOHOLIC BEVERAGES

VENDORS – ALCOHOLIC BEVERAGES					
TYPE AND FEE		CLASS	STATUTE	REGULATIONS OF LICENSE ACTIVITY	APPLICATION
CONSUMPTION ON PREMISES LICENSES FOR BEER AND WINE ONLY					
2COP - DRY \$168 / \$224 / \$280 / \$336 / \$392 (fee based on county population)	D – DRY	568.01	Products Permitted	Beer; Wine. No more than 6.243% of alcohol by volume or 5% by weight.	FORM 6001
			Type of Sale	By the drink or in sealed containers for consumption on or off the premises where sold.	
			Other Terms	Only applicable to Lafayette, Liberty, and Washington County.	
QUOTA BEVERAGE LICENSES					
Quota 3DPS / 3CPS / 3BPS / 3APS / 3PS \$468 / \$643.50 / \$975 / \$1170 / \$1365 (fee based on county population)	QUOTA	561.19 561.20(6) 565.02(1)(a)	Products Permitted	Beer; Wine; Liquor.	FORM 6001
			Type of Sale	Package sales for off-premises consumption.	
			Other Terms	Must maintain the licensed premises in an active manner in which the licensed premises are open for business to the public for the bona fide retail sale of authorized alcoholic beverages during regular and reasonable business hours for the minimum hours per day and days per year as specified in s. 561.29(h) or (i), F.S., as applicable to the license. Must notify the Division of any period of inactive status or seek a waiver of these active operation requirements if eligible. Refer to additional product restrictions and premises limitations in s. 565.04, F.S.	
Quota 8COP / 7COP / 6COP / 5COP / 4COP \$624 / \$858 / \$1300 / \$1560 / \$1820 (fee based on county population)	QUOTA	561.19 561.20(6) 565.02(1)(b-f)	Products Permitted	Beer; Wine; Liquor.	FORM 6001
			Type of Sale	By the drink or in sealed containers for consumption on or off the premises where sold.	
			Other Terms	Must maintain the licensed premises in an active manner in which the licensed premises are open for business to the public for the bona fide retail sale of authorized alcoholic beverages during regular and reasonable business hours for the minimum hours per day and days per year as specified in s. 561.29(h) or (i), as applicable to the license. Must notify the Division of any period of inactive status or seek a waiver of these active operation requirements if eligible. Refer to additional product restrictions in s. 565.045, F.S.	

FLORIDA DIVISION OF ALCOHOLIC BEVERAGES AND TOBACCO
LICENSES AND PERMITS FOR ALCOHOLIC BEVERAGES

VENDORS – ALCOHOLIC BEVERAGES						
TYPE AND FEE		CLASS	STATUTE	REGULATIONS OF LICENSE ACTIVITY		APPLICATION
SPECIALTY LICENSES – FOOD SERVICE ESTABLISHMENTS, CATERERS, AND CULINARY EDUCATION PROGRAMS						
Special Food Service Establishment 8COP / 7COP / 6COP / 5COP / 4COP \$624 / \$858 / \$1300 / \$1560 / \$1820 (fee based on county population)	SFS	561.20(2)(a)4	Products Permitted	Beer; Wine; Liquor.	FORM 6001	
			Type of Sale	By the drink for consumption on premises only.		
			Other Terms	Must have 2,500 square feet of service area, be equipped to serve meals to 150 persons at one time, and derive at least 51 percent of gross food and beverage revenue from the sale of food and nonalcoholic beverages. May not operate as a package store and may not sell intoxicating beverages after the hours of serving or consumption of food have elapsed. License may not be moved to a new location.		
Caterer \$1820	13CT	561.20(2)(a)5	Products Permitted	Beer; Wine; Liquor.	FORM 6011	
			Type of Sale	By the drink for consumption on the premises only of any catered event at which the licensee is providing prepared food.		
			Other Terms	Must be licensed by the Div. of Hotels & Restaurants under ch. 509, F.S., and derive at least 51% of gross revenue from sales of food and non-alcoholic beverages. Must purchase alcoholic beverages through a licensed vendor. May not store alcoholic beverages to be sold or served at a catered event. Alcoholic beverages not used at the event must remain with the customer or be returned to the vendor for credit.		
Culinary Education Program \$1820	CEP	561.20(2)(a)6	Products Permitted	Beer; Wine; Liquor.	FORM 6001	
			Type of Sale	By the drink for consumption on premises only.		
			Other Terms	Must be a qualifying culinary education program as defined in s. 381.0072(2), F.S., which is licensed as a public food service establishment by the Div. of Hotels & Restaurants. If the program provides catering services, the license also allows the sale and consumption of alcoholic beverages on the premises of a catered event at which the licensee is also providing prepared food.		
SPECIALTY LICENSES – MOTELS/HOTELS						
Special Motel/Hotel 8COP / 7COP / 6COP / 5COP / 4COP \$624 / \$858 / \$1300 / \$1560 / \$1820 (fee based on county population)	S	561.20(2)(a)1	Products Permitted	Beer; Wine; Liquor.	FORM 6001	
			Type of Sale	By the drink or in sealed containers for consumption on or off the premises where sold.		
			Other Terms	Must have 80 guest rooms or more in a county of less than 50,000 residents or 100 guest rooms or more in a county of greater than 50,000 residents. License may not be moved to a new location.		

FLORIDA DIVISION OF ALCOHOLIC BEVERAGES AND TOBACCO
LICENSES AND PERMITS FOR ALCOHOLIC BEVERAGES

VENDORS – ALCOHOLIC BEVERAGES						
TYPE AND FEE		CLASS	STATUTE	REGULATIONS OF LICENSE ACTIVITY		APPLICATION
SPECIALTY LICENSES – MOTELS/HOTELS						
Special Motel/Hotel: Historic Motel/Hotel 8COP / 7COP / 6COP / 5COP / 4COP \$624 / \$858 / \$1300 / \$1560 / \$1820 (fee based on county population)	SH	561.20(2)(a)1	Products Permitted	Beer; Wine; Liquor.	FORM 6001	
			Type of Sale	By the drink or in sealed containers for consumption on or off the premises where sold.		
			Other Terms	Must be a bona fide hotel or motel located in a historic structure as defined in s. 561.01(21), F.S., with fewer than 100 guest rooms. Must be licensed as a public lodging establishment and derive at least 51% of gross revenue from the rental of guest rooms. License may not be moved to a new location.		
Special Motel/Hotel: Historic Motel/Hotel in Qualifying Municipalities 4COP \$1820	SHQM	561.20(2)(a)1	Products Permitted	Beer; Wine; Liquor	FORM 6001	
			Type of Sale	By the drink for consumption on premises only.		
			Other Terms	Must be a bona fide hotel or motel located in a historic structure of at least 10 and no more than 25 guest rooms in municipalities having a population between 25,000 and 35,000 residents according to the 1998 UF Bureau of Economic and Business Research Estimates of Population. Must derive at least 60% of gross revenue from the rental of rooms and sales of food and non-alcoholic beverages. License may not be moved to a new location. Qualifying municipalities include: Cooper City; Hallandale; Homestead; Jupiter; Lake Worth; Lauderdale Lakes; North Lauderdale; Oakland Park; Ormond Beach; Palm Beach Gardens; Plant City; Riviera Beach; Wellington; Winter Haven; Winter Springs.		
OTHER SPECIALTY LICENSES – BOWLING, AIRPORT VENDORS, CIVIC CENTERS, AND OTHER SPECIAL LICENSES						
Special Horse Breeders 8COP / 7COP / 6COP / 5COP / 4COP \$624 / \$858 / \$1300 / \$1560 / \$1820 (fee based on county population)	HBX	561.20(10)	Products Permitted	Beer; Wine; Liquor.	FORM 6001	
			Type of Sale	By the drink for consumption on premises only.		
			Other Terms	Issued to any marketing association of horse breeders organized under the laws of the state. Applicable only in and for facilities used by the association for public auction of its products.		

FLORIDA DIVISION OF ALCOHOLIC BEVERAGES AND TOBACCO
LICENSES AND PERMITS FOR ALCOHOLIC BEVERAGES

VENDORS – ALCOHOLIC BEVERAGES						
TYPE AND FEE		CLASS	STATUTE	REGULATIONS OF LICENSE ACTIVITY		APPLICATION
OTHER SPECIALTY LICENSES – BOWLING, AIRPORT VENDORS, CIVIC CENTERS, AND OTHER SPECIAL LICENSES						
Special Bowling Alley 8COP / 7COP / 6COP / 5COP / 4COP \$624 / \$858 / \$1300 / \$1560 / \$1820 (fee based on county population)	SBX	561.20(2)(c)	Products Permitted	Beer; Wine; Liquor.	FORM 6001	
			Type of Sale	By the drink for consumption on premises only.		
			Other Terms	Issued only to the owner or lessee of a bowling establishment having 12 or more lanes and all necessary equipment to operate. License cannot be moved to a new location.		
Special Airport 8COP / 7COP / 6COP / 5COP / 4COP \$624 / \$858 / \$1300 / \$1560 / \$1820 (fee based on county population)	SAL	561.20(2)(f) 561.01(12) 561.01(13)	Products Permitted	Beer; Wine; Liquor.	FORM 6001	
			Type of Sale	By the drink for consumption on premises only.		
			Other Terms	“Special airport license” means a vendor license to sell certain alcoholic beverages only on those airport premises which have been designated in the United States National Airport System Plan, 49 U.S.C. s. 1711, as air carrier airports, commuter airports, and reliever airports. Issued to restaurants that are a part of, or serve, qualifying publicly owned or leased airports. Limited to no more than four point of sale locations at airport.		
Special Civic Center 8COP / 7COP / 6COP / 5COP / 4COP \$250	SCX	561.20(2)(h)	Products Permitted	Beer; Wine; Liquor.	FORM 6001	
			Type of Sale	By the drink for consumption on premises only.		
			Other Terms	Issued to any civic center authority or sports arena authority which is authorized by state law or local government ordinance or owned by a political subdivision of the state.		
Special County Commissioner 8COP / 7COP / 6COP / 5COP / 4COP \$624 / \$858 / \$1300 / \$1560 / \$1820 (fee based on county population)	SCC	561.20(2)(d)	Products Permitted	Beer; Wine; Liquor.	FORM 6001	
			Type of Sale	By the drink for consumption on premises only.		
			Other Terms	Issued to county commissioners for facilities which are owned and operated by the county. License may be transferred from one qualified county facility to another upon written notification to the division.		
SPECIAL LICENSES ISSUED PURSUANT TO SPECIAL ACTS						
Special Act 8COP / 7COP / 6COP / 5COP / 4COP \$624 / \$858 / \$1300 / \$1560 / \$1820 (fee based on county population)	SA	Special Act	Products Permitted	Beer; Wine; Liquor.	FORM 6001	
			Type of Sale	By the drink for consumption on premises only.		
			Other Terms	See applicable Special Acts for specific requirements.		

FLORIDA DIVISION OF ALCOHOLIC BEVERAGES AND TOBACCO
LICENSES AND PERMITS FOR ALCOHOLIC BEVERAGES

VENDORS – ALCOHOLIC BEVERAGES						
TYPE AND FEE		CLASS	STATUTE	REGULATIONS OF LICENSE ACTIVITY		APPLICATION
SPECIAL LICENSES ISSUED PURSUANT TO SPECIAL ACTS						
Special Act – Limited Location 8COP / 7COP / 6COP / 5COP / 4COP \$624 / \$858 / \$1300 / \$1560 / \$1820 (fee based on county population)	SAX	Special Act	Products Permitted	Beer; Wine; Liquor	FORM 6001	
			Type of Sale	By the drink for consumption on premises only.		
			Other Terms	License may not change location from original address. See applicable Special Acts for specific requirements.		
RAILROADS, STEAMSHIPS, BUSES, AIRLINES, AIRLINE PASSENGER LOUNGES, PASSENGER VESSELS, AND BOATS						
Railroad Transit Station \$2,500	RTS	565.02(2)	Products Permitted	Beer; Wine; Liquor.	FORM 6001	
			Type of Sale	By the drink for consumption on premises only. Beverages sold may be consumed in all areas within the station and on a passenger train.		
			Other Terms	License may not be moved to a location beyond the railroad transit station.		
Railroads \$2,500 for Master License \$10 for each dining, club, parlor, buffet or observations car	IX	565.02(2)	Products Permitted	Beer; Wine; Liquor.	FORM 6020	
			Type of Sale	By the drink for consumption on premises of designated rail cars only.		
			Other Terms	Certified copies of the licenses issued to the operators must be posted in designated cars. Licensee may not purchase or sell any liquor on a passenger train except in miniature bottles of not more than 2 ounces.		
Steamships/Buses/Airplanes \$1,100 for Master License \$25 for each steamship, bus or airplane	X	565.02(3)	Products Permitted	Beer; Wine; Liquor.	FORM 6020	
			Type of Sale	By the drink for consumption on premises only. Sales permitted only to passengers.		
			Other Terms	Must be engaged in interstate or foreign commerce or plying between fixed terminals and upon fixed schedules. Licensees may purchase liquor for resale only in miniature bottles of not more than 2 ounces or in individual containers of not less than one-fifth of 1 gallon. Renewal of such a license must specify the total number of steamships, buses, or airplanes in the fleet that operated in this state during the preceding license year.		

FLORIDA DIVISION OF ALCOHOLIC BEVERAGES AND TOBACCO
LICENSES AND PERMITS FOR ALCOHOLIC BEVERAGES

VENDORS – ALCOHOLIC BEVERAGES					
TYPE AND FEE		CLASS	STATUTE	REGULATIONS OF LICENSE ACTIVITY	APPLICATION
RAILROADS, STEAMSHIPS, BUSES, AIRLINES, AIRLINE PASSENGER LOUNGES, PASSENGER VESSELS, AND BOATS					
Airline Passenger Lounges \$1,100 per lounge	XL	565.02(3)(a)2	Products Permitted	Beer; Wine; Liquor.	FORM 6001
			Type of Sale	By the drink for consumption on premises only. Sales permitted only to ticketed passengers and their guests.	
			Other Terms	Issued to licensed airlines operating no more than one (1) passenger waiting lounge at each of its terminals at airports for ticketed passengers whose flights are scheduled to depart within 24 hours of service. Licensees may purchase liquor for resale only in miniature bottles of not more than 2 ounces or in individual containers of not less than one-fifth of 1 gallon.	
Passenger Vessels (Cruise Ships) \$1,100 per vessel	PVP	565.02(9)	Products Permitted	Beer; Wine; Liquor.	FORM 6021
			Type of Sale	Sales permitted for consumption on board only. Sales permitted for no more than 24 hours before departure while the vessel is moored at a dock or wharf in a port of Florida and at any time while located in Florida territorial waters in transit to or from international waters.	
			Other Terms	For sale on passenger vessels engaged exclusively in foreign commerce with cabin berth capacity for at least 75 passengers. One permit is required for each vessel and shall name the vessel for which it is issued. Permittees are not required to obtain beverages, cigarettes, or other tobacco products from licensees under the Beverage Law or chapter 210. Permittees must comply with capacity accounting and quarterly reporting to the division pursuant to s. 565.02(9), F.S.	
Special Boats – Excursion/Charter 8COP / 7COP / 6COP / 5COP / 4COP \$624 / \$858 / \$1300 / \$1560 / \$1820 (fee based on county population in the home port of the boat)	SPX	565.02(3)(a)	Products Permitted	Beer; Wine; Liquor.	FORM 6001
			Type of Sale	By the drink for consumption on premises only.	
			Other Terms	Issued to an operator of a pleasure, excursion, sightseeing, or charter boat with a Coast Guard-approved capacity of at least 125 passengers and hosts regular round-trip runs of not more than 100 miles in each direction. Must not exceed regular round-trip runs of more than 100 miles in each direction. Licensee may sell and serve alcoholic beverages to passengers during a scheduled or chartered cruise and for a period of no longer than one hour prior to departure from the docking facility or marina. Not eligible for any boat which plies upon or is anchored upon the waters of any lake within this state. Note: An operator of a pleasure, excursion, sightseeing, or charter boat that does not qualify to obtain the SPX license may obtain a vendor license for consumption on the premises only.	

FLORIDA DIVISION OF ALCOHOLIC BEVERAGES AND TOBACCO
LICENSES AND PERMITS FOR ALCOHOLIC BEVERAGES

VENDORS – ALCOHOLIC BEVERAGES					
TYPE AND FEE		CLASS	STATUTE	REGULATIONS OF LICENSE ACTIVITY	APPLICATION
EVENT CENTER, PERFORMING ARTS FACILITIES AND PUBLIC FAIRS/EXPOSITIONS					
Event Center \$1820	EVNT	Ch. 2017-223	Products Permitted	Beer; Wine; Liquor.	FORM 6001
			Type of Sale	By the drink or in sealed containers for consumption on or off the premises where sold.	
			Other Terms	Issued to event centers that does not market itself primarily as a food service establishment, in Charlotte County, which have a seating capacity of no more than 800 seats an overall floor space of no more than 10,000 square feet, and derive no less than 51 percent of annual gross income from the sale of event center tickets and food and nonalcoholic beverages that are prepared, served and consumed on the premises.	
Performing Arts Center \$400	11PA-C	561.01(17) 561.20(2)(j)	Products Permitted	Beer; Wine; Liquor.	FORM 6001
			Type of Sale	By the drink for consumption on premises only.	
			Other Terms	Issued to a facility consisting of not less than 200 seats which is owned and operated by a not-for-profit corporation qualified under the provisions of s. 501(c)(3) of the Internal Revenue Code. The facility must be used and occupied to promote development of any or all of the performing, visual, or fine arts. Sales and service of alcoholic beverages may occur only in conjunction with an artistic, educational, cultural, promotional, civic, or charitable event, except as part of food and beverage service for banquets or receptions.	
Symphony Orchestra \$400	11PA-O	565.02(8)	Products Permitted	Beer; Wine; Liquor.	FORM 6001
			Type of Sale	By the drink for consumption on premises only. Sales permitted only within the enclosure in which the symphony normally and regularly performs and only during the hours in which the premises are in use for a cultural event under the auspices of the licensee.	
			Other Terms	Issued to a state-chartered legal entity not for profit organized for the purpose of supporting or managing the affairs of a symphony orchestra.	

FLORIDA DIVISION OF ALCOHOLIC BEVERAGES AND TOBACCO
LICENSES AND PERMITS FOR ALCOHOLIC BEVERAGES

VENDORS – ALCOHOLIC BEVERAGES					
TYPE AND FEE	CLASS	STATUTE	REGULATIONS OF LICENSE ACTIVITY		APPLICATION
Live Performance Theater \$400	11PA-LT	565.02(10)	Products Permitted	Beer; Wine; Liquor.	FORM 6001
			Type of Sale	By the drink for consumption on premises only. Sales permitted only to patrons during any regularly scheduled live theater performance.	
			Other Terms	Issued to a state-chartered legal entity not for profit organized for the purpose of operating a theater with live performances and not fewer than 100 seats. Licensee may not enter into any exclusive contract for use of the license.	
Special Public Fair/Expositions \$250	FEX	561.20(2)(g)	Products Permitted	Beer; Wine; Liquor.	FORM 6001
			Type of Sale	By the drink for consumption on premises only.	
			Other Terms	Issued to any public fair or exposition which is organized in accordance with ch. 616, F.S. License may be used only in connection with special events held on the premises of the fairground. License may not be used during any youth agricultural activity or regularly scheduled public fair or exposition.	
CLUB LICENSES – LODGES, FRATERNAL GROUPS, TENNIS/GOLF/BEACH CLUBS, AND OTHER CLUBS					
Subordinate Clubs or Lodges of National Fraternal or Benevolent Associations \$400	11C	561.20(7)(a)1 565.02(4)	Products Permitted	Beer; Wine; Liquor.	FORM 6001
			Type of Sale	By the drink for consumption on premises only. Sales to members and nonresident guests only.	
			Other Terms	Issued to a bona fide club which has been at the time of application in continuous active existence and operation for a period of not less than 2 years in the county where it exists. However, any veterans’ or fraternal organization of national scope need not have been in continuous active existence or operation for any required period of time prior to an application for license.	
Non-profit Corporations or Clubs devoted to community, municipal, or county development \$400	11C	561.20(7)(a)3 565.02(4)	Products Permitted	Beer; Wine; Liquor.	FORM 6001
			Type of Sale	By the drink for consumption on premises only. Sales to members and nonresident guests only.	
			Other Terms	Issued to a bona fide club which has been at the time of application for license in continuous active existence and operation for a period of not less than 2 years in the county where it exists.	

FLORIDA DIVISION OF ALCOHOLIC BEVERAGES AND TOBACCO
LICENSES AND PERMITS FOR ALCOHOLIC BEVERAGES

VENDORS – ALCOHOLIC BEVERAGES					
TYPE AND FEE	CLASS	STATUTE	REGULATIONS OF LICENSE ACTIVITY		APPLICATION
Clubs promoting showmen and amusement enterprises \$400	11C	561.20(7)(a)4 565.02(4)	Products Permitted	Beer; Wine; Liquor.	FORM 6001
			Type of Sale	By the drink for consumption on premises only. Sales to members and nonresident guests only.	
			Other Terms	Issued to a bona fide club which has been at the time of application for license in continuous active existence and operation for a period of not less than 2 years in the county where it exists.	
Clubs promoting cultural relations of people of the same nationality \$400	11C	561.20(7)(a)6 565.02(4)	Products Permitted	Beer; Wine; Liquor.	FORM 6001
			Type of Sale	By the drink for consumption on premises only. Sales to members and nonresident guests only.	
			Other Terms	Issued to a bona fide club which has been at the time of application for license in continuous active existence and operation for a period of not less than 2 years in the county where it exists.	
Tennis or Racquetball Club \$400	11C	561.20(7)(a)2 561.20(7)(c) 565.02(4)	Products Permitted	Beer; Wine; Liquor.	FORM 6001
			Type of Sale	By the drink for consumption on premises only. Sales to members and nonresident guests only.	
			Other Terms	Issued to a bona fide tennis club or four-walled indoor racquetball club in continuous active existence and operation for a period of not less than 2 years in the county where it exists. See s. 561.20(7)(c), F.S., for minimum courts and premises qualifications for this club license.	
CLUB LICENSES – LODGES, FRATERNAL GROUPS, TENNIS/GOLF/BEACH CLUBS, AND OTHER CLUBS					
Cabana or Beach Club \$400	11C	561.20(7)(a)2 561.20(7)(d) 565.02(4)	Products Permitted	Beer; Wine; Liquor.	FORM 6001
			Type of Sale	By the drink for consumption on premises only. Sales permitted to members and nonresident guests only.	
			Other Terms	Issued to a bona fide beach or cabana club in continuous active existence and operation for a period of not less than 2 years in the county where it exists. A qualifying club must consist of beach facilities, swimming pool, locker rooms with facilities for at least 100 persons, and a restaurant with seats at tables for at least 100 persons, comprising in all an area of at least 5,000 square feet located on a contiguous tract of land of in excess of 1 acre.	

FLORIDA DIVISION OF ALCOHOLIC BEVERAGES AND TOBACCO
LICENSES AND PERMITS FOR ALCOHOLIC BEVERAGES

VENDORS – ALCOHOLIC BEVERAGES					
TYPE AND FEE	CLASS	STATUTE	REGULATIONS OF LICENSE ACTIVITY		APPLICATION
Golf Club \$400	11CG	561.20(7)(a)2 561.20(7)(b) 565.02(4)	Products Permitted	Beer; Wine; Liquor	FORM 6001
			Type of Sale	By the drink for consumption on premises only. Sales permitted to members and nonresident guests only.	
			Other Terms	Issued to a bona fide regular, standard golf course in continuous active existence and operation for a period of not less than 2 years in the county where it exists. A qualifying club must consist of at least 9 holes, clubhouse, locker rooms and attendant golf facilities, comprising at least 35 acres of land owned or leased by the club. A golf club license holder may sell alcoholic beverages to those other than members and their nonresident guests on days when the club is open to the public, limited to one event per year not exceeding 8 consecutive days. For each such day of service to nonmembers, the club shall obtain from the division for a fee of \$50 an extension of its license to permit such sales.	
Municipally-Owned Golf Club \$400	11CG-PC	561.20(7)(a)2 561.20(7)(b) 565.02(4)	Products Permitted	Beer; Wine; Liquor.	FORM 6001
			Type of Sale	By the drink for consumption on premises only.	
			Other Terms	Issued only to a golf club operated by or on behalf of any incorporated municipality in this state. A qualifying club must consist of at least 9 holes, clubhouse, locker rooms and attendant golf facilities, comprising at least 35 acres of land owned or leased by the club.	
SPECIAL LOCATION LICENSES – LIMITED TO SPECIFIC LOCATIONS OR FACILITIES AS AUTHORIZED BY STATUTE					
Bottle Club \$500	14BC	561.01(15) 561.14(6)	Products Permitted	Beer; Wine; Liquor.	FORM 6036
			Type of Sale	Sales of alcoholic beverages are not permitted.	
			Other Terms	“Bottle Club” means a commercial establishment operated for a profit wherein patrons consume alcoholic beverages which are brought onto the premises and not sold or supplied to the patrons by the establishment. Establishment must be located in a building or other enclosed permanent structure. Licensee may not hold any other alcoholic beverage license for the premises while licensed as a bottle club. Purchases of alcoholic beverages for resale are not permitted.	

FLORIDA DIVISION OF ALCOHOLIC BEVERAGES AND TOBACCO
LICENSES AND PERMITS FOR ALCOHOLIC BEVERAGES

VENDORS – ALCOHOLIC BEVERAGES					
TYPE AND FEE	CLASS	STATUTE	REGULATIONS OF LICENSE ACTIVITY		APPLICATION
Horse, Dog Track, or Jai Alai Fronton Caterer \$675	12RT	565.02(5) 550.6315 551.119	Products Permitted	Beer; Wine; Liquor.	FORM 6001
			Type of Sale	By the drink for consumption on premises only.	
			Other Terms	Sales permitted only within the enclosure in which such races or jai alai games are conducted and only during the period beginning 10 days before and ending 10 days after racing or jai alai under the authority of the Division of Pari-mutuel Wagering is conducted at the racetrack or jai alai fronton. If the caterer is also licensed as provided in s. 551.119, F.S., the facility may serve alcohol any day it is open for slot machine play.	
Club (Hillsborough County) \$1750	11CS	Ch.63-1412, Laws of Florida	Products Permitted	Beer; Wine; Liquor.	FORM 6001
			Type of Sale	By the drink for consumption on premises only.	
			Other Terms	For Hillsborough County only. License may not be moved to a new location and is not transferable.	
American Legion Post \$500	11AL	561.20(11)	Products Permitted	Beer; Wine; Liquor.	FORM 6001
			Type of Sale	By the drink for consumption on premises only.	
			Other Terms	Issued to historic American Legion Posts in Florida chartered prior to September 16, 1919. Sales may be made to resident guests as well as members and nonresident guests. Revenue generated from the sale of alcoholic beverages which exceeds the cost of operation must be donated to a local non-profit charitable organization on an annual basis or maintained in an emergency fund not to exceed the costs of operation of the American Legion Post from the prior calendar year.	
SPECIAL LOCATION LICENSES – LIMITED TO SPECIFIC LOCATIONS OR FACILITIES AS AUTHORIZED BY STATUTE					
John & Mable Ringling Museum of Art \$400	11CT	565.02(11)	Products Permitted	Beer; Wine; Liquor.	FORM 6001
			Type of Sale	By the drink for consumption on premises only.	
			Other Terms	Issued to the Board of Trustees of the John & Mable Ringling Museum of Art or the board's designee. Sales permitted on the premises of the museum in conjunction with artistic, educational, cultural, civic, or charitable events held under the auspices of the licensee.	

FLORIDA DIVISION OF ALCOHOLIC BEVERAGES AND TOBACCO
LICENSES AND PERMITS FOR ALCOHOLIC BEVERAGES

VENDORS – ALCOHOLIC BEVERAGES					
TYPE AND FEE	CLASS	STATUTE	REGULATIONS OF LICENSE ACTIVITY		APPLICATION
Sacramental Wine Permit No Fee.	SWP	564.03	Products Permitted	Wine.	FORM 6038
			Type of Sale	No sales permitted. Permit authorizes the purchase of wine for sacramental purposes.	
			Other Terms	Any religious order, monastery, church or religious body, or any minister, pastor, priest or rabbi may obtain a permit to purchase wine from a distributor or retailer for sacramental purposes. Requires a sworn application, stating the name of the applicant, the religious purpose for which the wine is to be used, the amount to be purchased, and from whom the purchase is to be made.	
Special Restaurant Issued Pursuant to Prior Laws 8COP / 7COP / 6COP / 5COP / 4COP \$624 / \$858 / \$1300 / \$1560 / \$1820 (fee based on county population)	SR	561.20(2)(a)	Products Permitted	Beer; Wine; Liquor.	Transfer of Ownership Only. License is not available for new applicants.
			Type of Sale	For licenses issued pre-1958: By the drink or in sealed containers for consumption on or off the premises where sold. For licenses issued post-1958: By the drink for consumption on premises only.	
			Other Terms	Contact the Division to discuss minimum premises and operating requirements applicable to any particular SR license which was issued pursuant to prior laws and has remained in continuous active operation. Special provisions of law may apply to individual licenses based on date and location of original license issuance for these special licenses.	
LIMITED PERMITS – TEMPORARY PERMITS, TEMPORARY PREMISES EXTENSIONS, AND OTHER LIMITED PERMITS					
Temporary Permit \$25	ODP	561.422	Products Permitted	Beer; Wine; Liquor.	FORM 6003
			Type of Sale	By the drink for consumption on premises only for a period not to exceed 3 days.	
			Other Terms	Issued to a bona fide nonprofit civic organization, charitable organization, municipality, or county to sell alcoholic beverages for consumption on the premises only for a period not to exceed 3 days, subject to any state law or municipal or county ordinance regulating the time of sale. See s. 561.422, F.S., for special requirements applicable to municipal and county applicants. Limited to 12 permits per calendar year.	

FLORIDA DIVISION OF ALCOHOLIC BEVERAGES AND TOBACCO
LICENSES AND PERMITS FOR ALCOHOLIC BEVERAGES

VENDORS – ALCOHOLIC BEVERAGES					
TYPE AND FEE	CLASS	STATUTE	REGULATIONS OF LICENSE ACTIVITY		APPLICATION
Temporary Permit Pursuant to Special Act \$25	SODP	Special Acts	Products Permitted	Beer; Wine; Liquor.	FORM 6003
			Type of Sale	By the drink for consumption on premises only for a period not to exceed 3 days.	
			Other Terms	Issued to bona fide non-profit civic organizations pursuant to terms of special acts governing issuance of temporary permits in certain localities. See special acts.	
Temporary Extension of Premises \$100	TXP	561.01(11)	Products Permitted	As permitted by corresponding primary license.	FORM 6029
			Type of Sale	As permitted by corresponding primary license.	
			Other Terms	Limited permit issued for the expansion of the license premises to include a sidewalk or other outside area for special events. Requires written approval from the county or municipality attesting to compliance with local ordinances for the extension area of the premises.	
Special Temporary Extension of Premises \$100 per calendar year	STXP	Ch. 2017-212	Products Permitted	Beer; Wine; Liquor.	FORM 6029
			Type of Sale	By the drink or in sealed containers for consumption on or off the premises during certain events.	
			Other Terms	Limited permit issued to a business located in the City of Jacksonville, within the Stadium District during a ticked event.. Requires written approval from the municipality attesting to compliance with local ordinances for the extension area of the premises.	
Temporary Convention Permit No Fee.	TCP	561.421	Products Permitted	Beer; Wine; Liquor.	Submit Letter
			Type of Sale	By the drink for consumption on premises only.	
			Other Terms	Permit authorizes manufacturers and distributors to display products licensed under the Beverage Law in convention halls, coliseums, and similar type buildings where there is an existing beverage license. Permit is valid for not more than 5 days.	

FLORIDA DIVISION OF ALCOHOLIC BEVERAGES AND TOBACCO
LICENSES AND PERMITS FOR ALCOHOLIC BEVERAGES

VENDORS – ALCOHOLIC BEVERAGES					
TYPE AND FEE		CLASS	STATUTE	REGULATIONS OF LICENSE ACTIVITY	APPLICATION
LIMITED PERMITS – TEMPORARY PERMITS, TEMPORARY PREMISES EXTENSIONS, AND OTHER LIMITED PERMITS					
Non-Member Sales Permit for Golf Clubs \$50 per day	NMSP	565.02(4)	Products Permitted	Beer; Wine; Liquor.	Submit Letter
			Type of Sale	By the drink for consumption on premises only.	
			Other Terms	Issued to holders of golf club licenses (11CG) to authorize limited sales to those other than members and their nonresident guests on days when the club is open to the public.. Limited to one event per year not to exceed 8 consecutive days.	
Special Sales License \$25	SSL	561.20(12)	Products Permitted	Beer; Wine; Liquor	FORM 6003
			Type of Sale	Package sales for off-premises consumption.	
			Other Terms	Valid for 3 days. Issued to a person or an organization for the limited purpose of: a sale pursuant to a levy and execution; a sale by an insurance company in possession of alcoholic beverages; a bankruptcy sale; a sale resulting from a license suspension or revocation; a sale of damaged goods by a common carrier; sale by a bona fide wine collector; or a sale of packaged alcoholic beverages pursuant to part V of chapter 679. Distributors may purchase packaged alcoholic beverages at a special sale authorized by this special license.	
CHILD LICENSES – LICENSES CORRESPONDING TO A PRIMARY LICENSE TYPE AT A LICENSED PREMISES					
Additional Points of Sale/Service More than 3 Rooms with Permanent Bars \$1000	3M	565.02(1)(g)	Products Permitted	Beer; Wine; Liquor.	FORM 6001
			Type of Sale	By the drink for consumption on premises only.	
			Other Terms	Required for any spirituous alcoholic beverage vendor operating a place of business where consumption on the premises is permitted and which has more than three separate rooms or enclosures in which permanent bars or counters are located from which alcoholic beverages are served for consumption on the licensed premises. Permanent bars or counters do not include service bars not accessible to the public or portable or temporary bars being used for a single occasion or event.	

FLORIDA DIVISION OF ALCOHOLIC BEVERAGES AND TOBACCO
LICENSES AND PERMITS FOR ALCOHOLIC BEVERAGES

VENDORS – ALCOHOLIC BEVERAGES					
TYPE AND FEE	CLASS	STATUTE	REGULATIONS OF LICENSE ACTIVITY		APPLICATION
CHILD LICENSES – LICENSES CORRESPONDING TO A PRIMARY LICENSE TYPE AT A LICENSED PREMISES					
Additional Points of Sale/Service For Theme Parks \$1500 for up to 5 Additional Bars \$2500 for 6-10 Additional Bars \$3500 for more than 10 Additional Bars	3M	565.02(6) 565.02(7)(d)	Products Permitted	Beer; Wine; Liquor.	FORM 6001
			Type of Sale	By the drink for consumption on premises only.	
			Other Terms	Required for Theme Park operators having a place of business where consumption on the premises is permitted and which has bars from which alcoholic beverages are served for consumption on the licensed premises.	
Portable Bars at Golf Club \$100	11CX	565.02(1)(g)	Products Permitted	Beer; Wine; Liquor.	FORM 6001
			Type of Sale	By the drink for consumption on premises only.	
			Other Terms	Can only be issued to a Golf Club (11CG or 11CG PC) license holder. May operate service or portable bars on contiguous property.	
Portable Bars at Golf Club Operating as Vendor Other Than 11CG/11CG-PC \$100	GC	565.02(1)(g)	Products Permitted	As permitted by corresponding primary license.	FORM 6001
			Type of Sale	By the drink for consumption on premises only.	
			Other Terms	Additional license issued to golf clubs which are ineligible for an 11CG or 11CG PC license. Authorizes service of alcoholic beverages allowed by parent license at various points of sale on the licensed premises.	
Manufacturer of Malt Beverages in Vendor Premises \$500	CMBP	561.221(3) 563.02(2)	Products Permitted	Malt Beverages.	FORM 6001
			Type of Sale	By the drink for consumption on premises only.	
			Other Terms	Manufacturer engaged in the business of brewing less than 10,000 kegs of malt beverage annually; for consumption on premises only. Issued in connection with a primary consumption on premises vendor license.	

MANUFACTURERS – ALCOHOLIC BEVERAGES					
TYPE AND FEE	CLASS	STATUTE	REGULATIONS OF LICENSE ACTIVITY		APPLICATION
Manufacturer of Wine \$1000 per plant or branch	AMW	564.02(2)(a)	Engaged in manufacturing or bottling wine. License permits the manufacture of alcoholic beverages and the distribution of the same at wholesale to licensed distributors and to no one else within the state, unless authorized by statute.		FORM 6001
Manufacturer of Wine and Cordials \$2000 per plant or branch	BMWC	564.02(2)(b)	Engaged in manufacturing of wines and cordials. License permits the manufacture of alcoholic beverages and the distribution of the same at wholesale to licensed distributors and to no one else within the state, unless authorized by statute.		FORM 6001

FLORIDA DIVISION OF ALCOHOLIC BEVERAGES AND TOBACCO
LICENSES AND PERMITS FOR ALCOHOLIC BEVERAGES

MANUFACTURERS – ALCOHOLIC BEVERAGES				
TYPE AND FEE	CLASS	STATUTE	REGULATIONS OF LICENSE ACTIVITY	APPLICATION
Manufacturer of Malt Beverages \$3000 per plant or branch	CMB	563.02(2)	Engaged in brewing malt beverages. License permits the manufacture of alcoholic beverages and the distribution of the same at wholesale to licensed distributors and to no one else within the state, unless authorized by statute.	FORM 6001
Distiller of Spirituous Liquor \$4000 per plant or branch	DD	565.03(2)(a)1	Engaged in manufacturing distilled spirits. License permits the manufacture of alcoholic beverages and the distribution of the same at wholesale to licensed distributors and to no one else within the state, unless authorized by statute.	FORM 6001
Distiller of Spirituous Liquor – Craft Distillery \$1,000 per plant or branch	DD(CD)	565.03(2)(a)1	Engaged in manufacturing distilled spirits and produces 75,000 or fewer gallons per calendar year. License permits the manufacture of alcoholic beverages and the distribution of the same at wholesale to licensed distributors and may sell to consumers, at its souvenir gift shop, no more than six factory-sealed individual containers of each branded product.	FORM 6001
Rectifier/Blender \$4000 per plant or branch	ERB	565.03(2)(a)2	Engaged in rectifying and blending spirituous liquors. License permits the manufacture of alcoholic beverages and the distribution of the same at wholesale to licensed distributors and to no one else within the state, unless authorized by statute.	FORM 6001

DISTRIBUTORS – ALCOHOLIC BEVERAGES				
TYPE AND FEE	CLASS	STATUTE	REGULATIONS OF LICENSE ACTIVITY	APPLICATION
Distributor of Beer, Wine, and Liquor \$4000 per establishment or branch	KLD	565.03(3)	Engaged in distribution of spirituous, vinous, and malt beverages to vendors and distributors.	FORM 6001
Distributor of Beer, Wine, and Liquor in counties with a population of 15,000 or less \$1000 per establishment or branch	KLD2	565.03(3)	Engaged in distribution of spirituous, vinous, and malt beverages to vendors and distributors in counties having a population of 15,000 or less if the county has permitted such sales.	FORM 6001
Distributor of Beer and Wine \$1250 per establishment or branch	JDBW	564.02(3)(a)	Engaged in distribution of beer and/or wine to vendors and other distributors.	FORM 6001
Distributor of Alcoholic Beverages in Dry Counties \$1250 per establishment or branch	EDB	565.03	Engaged in distribution of alcoholic beverages containing no more than 3.2% of alcohol by weight in dry counties.	FORM 6001
Distributor of Sacramental Wines \$50	JDSW	564.02(3)(b)	Issued to a bona fide religious order, monastery, church, or religious body that has a tax-exempt status as provided by s. 212.08(7)(m) or (p). Sales and distribution are limited to wines sold solely for religious or sacramental purposes to holders of valid permits obtained under s. 564.03, F.S.	FORM 6001

FLORIDA DIVISION OF ALCOHOLIC BEVERAGES AND TOBACCO
LICENSES AND PERMITS FOR ALCOHOLIC BEVERAGES

DISTRIBUTORS – ALCOHOLIC BEVERAGES				
TYPE AND FEE	CLASS	STATUTE	REGULATIONS OF LICENSE ACTIVITY	APPLICATION
Alcoholic Beverages Importer \$500	IMPR	561.14(5) 565.03(4)	Importers, whether resident or nonresident, licensed to sell, or cause to be sold, shipped and invoiced, domestic and foreign alcoholic beverages to licensed manufacturers, distributors and no one else in the state. Licensed importers shall have no direct or indirect affiliation with any vendor licensed in this state. The holder of an importer's license shall be considered as having complied with the licensing requirements of a broker or sales agent.	FORM 6008
Alcoholic Beverages Exporter No Fee.	MEXP	561.01(16)	"Exporter" means any person who sells alcoholic beverages to persons for use outside the state and includes a ship's chandler and a duty free shop.	FORM 6026
Salesmen of Wine and Spirits \$50	LQS	561.68	Before any person may solicit or sell to vendors or become employed as a salesman of spirituous or vinous beverages for a licensed Florida distributor, a salesman's license must be obtained. This license is not applicable to the solicitation or sale of cider.	FORM 6013
Brokers / Sales Agents \$500	BSA	561.14(4) 565.03(4)	Brokers or sales agents, whether resident or nonresident, licensed to sell, or cause to be sold, shipped, invoiced, alcoholic beverages to licensed manufacturers, distributors and no one else in the state. Such licensed brokers or sales agents, except as relates to malt beverages, only shall represent one or more primary American sources of supply, registered as such with the division, and may be compensated on a commission or remuneration basis and shall have no direct or indirect affiliation with any vendor licensed in this state.	FORM 6008

OTHER PERMITS – ALCOHOLIC BEVERAGES				
TYPE AND FEE	CLASS	STATUTE	REGULATIONS OF LICENSE ACTIVITY	APPLICATION
Off-Premises Storage Permit No Fee.	OPS	562.03 565.03(3)	Off premises storage of alcoholic beverages upon division approval.	FORM 6017
State Bonded Warehouse \$1	SBW	562.25(1)	Issued to an operator of any storage warehouse accepting for storage alcoholic beverages subject to tax under the Beverage Law. Bond required in an amount of not more than \$5,000 nor less than \$1,000, in the discretion of the division, with a surety company licensed to do business in the state as surety. The SBW permit is not applicable to a federal bonded warehouse owned wholly by, and operated solely for, a manufacturer or distributor licensed under the Beverage Law.	Submit Letter

FLORIDA DIVISION OF ALCOHOLIC BEVERAGES AND TOBACCO
LICENSES AND PERMITS FOR ALCOHOLIC BEVERAGES

BRAND REGISTRATIONS – ALCOHOLIC BEVERAGES				
TYPE AND FEE	CLASS	STATUTE	REGULATIONS OF LICENSE ACTIVITY	APPLICATION
Beer \$30 per brand	BRND	563.045	Any manufacturer, brewer, bottler, distributor, or importer of malt beverages, whether licensed under the beverage laws of this state or not, must register its name and the brands or labels under which malt beverages are to be sold or moved. Registration is required prior to selling, offering for sale, moving, or causing to be moved, any malt beverages in this state. See statutory definition of “beer” and “malt beverages” in s. 563.01, F.S.	Online Registration
Wine \$15	BRND	564.045	All vinous beverages that require a federal label approval and are scheduled for shipment to a licensed distributor or importer within this state for the purpose of being sold within the state must be registered. See statutory definition of “wine” in s. 564.01, F.S.	Online Registration
Liquor \$30	BRND	565.095	All distilled spirits that require a federal label approval and are scheduled for shipment to a licensed distributor or importer within this state for the purpose of being sold within the state must be registered. See statutory definition of “liquor,” “distilled spirits,” “spirituous liquors,” “spirituous beverages,” and “distilled spirituous liquors” in s. 565.01, F.S.	Online Registration
Brand Registrant for Malt Beverages No Fee.	RGST	563.045	Licensure as a Brand Registrant authorizes the shipment of malt beverages that move or are caused to be moved, sold, or offered for sale within the state. The Brand Registrant must be licensed for each brand or label shipped into or within this state.	Online Registration
Primary American Source of Supply for Wine or Spirituous Beverages No Fee.	RGST	564.045 565.095	<p>“Primary American source of supply” means the manufacturer, vintner, winery, rectifier, or bottler, or their legally authorized exclusive agent, who, if the product cannot be secured directly from the manufacturer by an American distributor, is the source closest to the manufacturer in the channel of commerce from whom the product can be secured by an American distributor, or who, if the product can be secured directly from the manufacturer by an American distributor, is the manufacturer. It shall also include any applicant who directly purchases vinous beverages or spirituous liquors from a manufacturer, vintner, winery, rectifier, or bottler who represents that there is no primary American source of supply for the brand, and such applicant must petition the division for approval of licensure.</p> <p>Licensure as the Primary American Source of Supply authorizes the shipment of vinous or spirituous alcoholic beverages to distributors, importers, manufacturers, bonded warehouses and registered exporters within the state. The Primary American Source of Supply must be licensed for each product shipped within and without the state.</p>	Online Registration

FLORIDA DIVISION OF ALCOHOLIC BEVERAGES AND TOBACCO
PERMITS FOR CIGARETTES AND OTHER TOBACCO PRODUCTS

VENDORS – CIGARETTES AND OTHER TOBACCO PRODUCTS				
TYPE AND FEE	CLASS	STATUTE	REGULATIONS OF LICENSE ACTIVITY	APPLICATION
Retail Tobacco Products Dealer \$50	RTPD	569.003	Issued to any person, firm, association, or corporation that seeks to deal, at retail, in tobacco products within this state, or to allow a tobacco products vending machine to be located on its premises in this state. One permit is required for each vending machine, place of business, or the premises where tobacco products are sold, unless tobacco products are sold both through a vending machine and over the counter, in which case only one permit for the location is required. Purchases of cigarettes and other tobacco products must be made through a licensed wholesale dealer. Review chapter 569, F.S., for additional regulations applicable to the permit.	FORM 6028

MANUFACTURERS – CIGARETTES AND OTHER TOBACCO PRODUCTS				
TYPE AND FEE	CLASS	STATUTE	REGULATIONS OF LICENSE ACTIVITY	APPLICATION
Cigarette Manufacturer \$100	CMFG	210.01(21) 210.15(1)	“Manufacturer” means any domestic person or entity with a valid permit under 26 U.S.C. s. 5712 that manufactures, fabricates, assembles, processes, or labels a finished cigarette.	FORM 6024

DISTRIBUTORS – CIGARETTES AND OTHER TOBACCO PRODUCTS				
TYPE AND FEE	CLASS	STATUTE	REGULATIONS OF LICENSE ACTIVITY	APPLICATION
Cigarette Wholesale Dealer \$100	CWD	210.01(6) 210.15(1)	“Wholesale dealer” means any person located inside or outside this state who sells cigarettes to retail dealers or other persons for purposes of resale only. No retail sales of cigarettes may be made at a location for which a wholesale dealer, distributing agent, or exporter permit has been issued.	FORM 6024
Cigarette Distributing Agent \$100	CDA	210.01(14) 210.15(1)	“Distributing agent” means every person, firm or corporation in this state who acts as an agent for any person, firm or corporation outside or inside the state by receiving cigarettes in interstate or intrastate commerce and storing such cigarettes subject to distribution or delivery upon order from said principal to wholesale dealers and other distributing agents inside or outside this state. No retail sales of cigarettes may be made at a location for which a wholesale dealer, distributing agent, or exporter permit has been issued.	FORM 6024

FLORIDA DIVISION OF ALCOHOLIC BEVERAGES AND TOBACCO
PERMITS FOR CIGARETTES AND OTHER TOBACCO PRODUCTS

DISTRIBUTORS – CIGARETTES AND OTHER TOBACCO PRODUCTS				
TYPE AND FEE	CLASS	STATUTE	REGULATIONS OF LICENSE ACTIVITY	APPLICATION
Cigarette Importer \$100	CIMP	210.01(20) 210.15(1)	“Importer” means any person with a valid permit under 26 U.S.C. s. 5712 who imports into the United States, directly or indirectly, a finished cigarette for sale or distribution.	FORM 6024
Cigarette Exporter \$100	EXP	210.01(17) 210.15(1)	“Exporter” means a person who transports tax-exempt cigarettes into this state under bond for delivery beyond the borders of this state. Each permit shall entitle the permittee to store such cigarettes under bond at one location in this state pending shipment beyond the borders of this state. No retail sales of cigarettes may be made at a location for which a wholesale dealer, distributing agent, or exporter permit has been issued.	FORM 6024
Cigar Wholesale Dealer No Fee.	CGR	210.65(2)	The CGR permit provides a license registration for persons engaged solely in the sale and distribution of cigars to retail dealers for resale only. The permit is not necessary for persons licensed as a CWD or TWD.	FORM 6006
Tobacco Wholesale Dealer/Distributor \$25	TWD	210.25(5) 210.40	<p>“Distributor” means:</p> <p>(a) Any person engaged in the business of selling tobacco products in this state who brings, or causes to be brought, into this state from outside the state any tobacco products for sale;</p> <p>(b) Any person who makes, manufactures, or fabricates tobacco products in this state for sale in this state; or</p> <p>(c) Any person engaged in the business of selling tobacco outside this state who ships or transports tobacco products to retailers in this state to be sold by those retailers.</p> <p>Bond required in the sum of \$1,000 and in a form prescribed by the division. Whenever it is the opinion of the division that the bond given by a licensee is inadequate in amount to fully protect the state, the division shall require an additional bond in such amount as is deemed sufficient.</p> <p>“Tobacco products” means loose tobacco suitable for smoking; snuff; snuff flour; cavendish; plug and twist tobacco; fine cuts and other chewing tobaccos; shorts; refuse scraps; clippings, cuttings, and sweepings of tobacco, and other kinds and forms of tobacco prepared in such manner as to be suitable for chewing; but “tobacco products” does not include cigarettes, as defined by s. 210.01(1), or cigars.</p>	FORM 6005

**Department of Business and Professional Regulation
Division of Alcoholic Beverages and Tobacco**

**Beer/Wine Consumption On-Premises/
Package Inspection Form**

Bureau of Law Enforcement

Licensed Premises (DBA): LOS BOBOS CAFETERIA

Inspection Date: Sep 23, 2019 09:30

License Number: 2306873 Series: 1APS

Re-Inspection Date:

Owner Name: ARES CORPORATION

License Expiration:

Establishment Address: 5600 NW 79TH AVE

Inspection Reason: Alcohol Routine

DORAL FL 33166

Business Phone:

INSPECTION RESULT Comply

Does this Establishment have a Dual License?		N/A
1 Is the alcoholic beverage license conspicuously posted?		YES
2 Does the business name (DBA) of the licensed premises match the business name (DBA) on the alcoholic beverage license?		YES
3 Does the physical address of the licensed premises match the location address on the alcoholic beverage license?		YES
4 Is the name of the licensee on all required or other licenses, permits, and certificates? (Department of Revenue, Occupational License, Hotels & Restaurants License, if applicable, Lottery Retail License, if applicable)		YES
5 If corporation or limited liability corporation; has any change of officer/managing member been disclosed to the Division?		N/A
6 If sketch available, does premises match diagram reflected on sketch submitted with the alcoholic beverage license application?		N/A
7 Does licensee employ only persons of legal age and not otherwise disqualified?		N/A
8 Are all alcoholic beverage products obtained from a licensed distributor?		YES
9 If alcoholic beverages are stored or kept off the licensed premises, does the licensee possess an Off-Premises Storage Permit?		N/A
10 If licensee / vendor transports alcoholic beverage purchases from a distributor's place of business to the licensed premises or off-premises storage, are only vehicles owned or leased by the licensee or by any person who has been disclosed on the license application used?		N/A
11 Are malt beverages, packaged under one gallon, sold in container sizes of 32 ounces or less or in 64 ounce growlers?		N/A
12 If draft beer is sold, do the taps or spigots display on the handle in plain view of the consuming public, the name of the beer currently being served through the taps or spigots?		N/A
13 Is wine offered for sale in individual containers of one gallon or less or in 5.16 gallon reusable containers?		N/A
14 Do all bottles appear free of refilling and misrepresentation?		N/A
15 Are all invoices for alcoholic beverages maintained for a period of three years and available upon request?		N/A
16 Does the licensed premises only possess alcoholic beverages permitted to be sold under the alcoholic beverage license?		YES
17 Is licensee in compliance with Tied House Evil laws and rules based on observations during this inspection?		YES
18 If coin-operated amusement machines are on the licensed premises, does licensee have required DOR certificate for each machine?		N/A
Sales Tax Registration #:	If no - Number of Machines:	
19 Is the licensed premises in compliance with the Florida Clean Indoor Air Act?		YES
20 Is the licensed premises in compliance with all other possible violations?		YES
21 Records Request		N/A
22 Is the retail tobacco products dealer permit conspicuously posted?		N/A
23 Is the required sign stating "The sale of tobacco products to persons under the age of 18 is against Florida Law. Proof of age is required for purchase." conspicuously posted?		N/A
24 Is the required sign stating "NOTICE TO CUSTOMER: FLORIDA LAW PROHIBITS THE POSSESSION OR SALE OF UNSTAMPED CIGARETTES. REPORT VIOLATIONS TO 1-866-540-7837. YOU MAY BE ELIGIBLE FOR A CASH REWARD." conspicuously displayed?		N/A
25 Is instructional material for assisting in determining legal age clearly visible to employees at checkout counter?		N/A
26 Are cigarette invoices maintained and kept on the licensed premises for a period of three years?		N/A
27 Are all other tobacco product invoices maintained and kept on the licensed premises for a period of three years?		N/A
28 Do all packages of cigarettes for sale have proper tax stamp affixed?		N/A
29 Are all cigarettes obtained from a licensed wholesaler?		N/A
30 Are all other tobacco products obtained from a licensed distributor?		N/A
31 Are cigarettes sold only in packages or cartons as received from the wholesaler?		N/A
32 If tobacco product sales are through vending machine, does the vending machine operator (owner of vending machine) possess a retail tobacco products dealer permit (separate from licensed premises)?		N/A
33 Does the vending machine display at least one pack of each cigarette brand being sold through such machine?		N/A
34 Is the vending machine equipped with an operational lockout device which is under the control of the dealer or the dealer's agent or employee?		N/A
35 Are all sales and deliveries of tobacco products under the direct control or line of sight of the licensee or licensee's agent or employee?		N/A

Comment:

DRAFT

**Department of Business and Professional Regulation
Division of Alcoholic Beverages and Tobacco**

SFS/SR - Inspection Form

Bureau of Law Enforcement

Licensed Premises (DBA): IL LUSSO RESTAURANT

Inspection Date: Sep 23, 2019 09:22

Re-Inspection Date:

License Number: 4704223 Series: 4COP

License Expiration:

Owner Name: 201 POP, INC.

Inspection Reason: Alcohol Routine

Establishment Address: 201 EAST PARK AVE, STE 100

Business Phone: 850-765-8620

TALLAHASSEE FL 32301

INSPECTION RESULT

Comply

Does this Establishment have a Dual License?	N/A
1 Is there an applicable special act governing the location of the licensed premises?	N/A
1b Does the licensed premises comply with the requirements of the special act governing this licensed location?	N/A
2 Does the licensed premises have an outdoor service area or areas?	N/A
3 Does the licensed premises have the required square footage of service area? (2,500 unless covered by general law or special act; or 4,000 if issued prior to 1958)	YES
4 Does the licensed premises have the required accommodations for the service of patrons at one time within its total service area? (150 persons, unless subject to different special act requirements)	YES
5 If sketch available, does premises match diagram reflected on sketch submitted with the alcoholic beverage license application?	N/A
6 Is food served or consumed during the time the licensed premises are serving alcoholic beverages?	YES
7 Is there equipment to serve food?	YES
8 Is the alcoholic beverage license conspicuously posted?	YES
9 Does the business name (DBA) of the licensed premises match the business name (DBA) on the alcoholic beverage license?	YES
10 Does the physical address of the licensed premises match the location address on the alcoholic beverage license?	YES
11 Is the name of the licensee on all required or other licenses, permits, and certificates? (Department of Revenue, Occupational License, Hotels & Restaurants License, if applicable, Lottery Retail License, if applicable)	N/A
12 If corporation or limited liability corporation; has any change of officer/managing member been disclosed to the Division?	N/A
13 Does licensee employ only persons of legal age and not otherwise disqualified?	YES
14 Are all alcoholic beverage products obtained from a licensed distributor?	YES
15 If alcoholic beverages are stored or kept off the licensed premises, does the licensee possess an Off-Premises Storage Permit?	N/A
16 Are distilled spirits offered for sale 153 proof or less?	N/A
17 If draft beer is sold, do the taps or spigots display on the handle in plain view of the consuming public, the name of the beer currently being served through the taps or spigots?	N/A
18 If SR license series, is wine offered for sale in individual containers of one gallon or less or in 5.16 gallon reusable containers?	N/A
19 Are distilled spirits offered for sale in containers not in excess of 1.75 liters or 59.18 ounces?	N/A
20 If SR license series, are malt beverages, packaged under one gallon, sold in container sizes of 32 ounces or less?	N/A
21 Do all bottles appear free of refilling and misrepresentation?	YES
22 Does licensed premises have required 3M modifier if it has more than three separate rooms or enclosures in which permanent bars or counters are located from which alcoholic beverages are served for consumption?	N/A
23 Are all alcoholic beverages sold for consumption on the licensed premises only? (If license issued prior to 1958, packages sales are permitted.)	N/A
24 Is licensee in compliance with Tied House Evil laws and rules based on observations during this inspection?	YES
25 If coin-operated amusement machines are on the licensed premises, does licensee have required DOR certificate for each machine?	N/A
Sales Tax Registration #:	If no - Number of Machines:
26 Is the licensed premises in compliance with the Florida Clean Indoor Air Act?	YES
27 Is the licensed premises in compliance with all other possible violations?	YES
28 Records Request	N/A
29 Is the retail tobacco products dealer permit conspicuously posted?	N/A
30 Is the required sign stating "The sale of tobacco products to persons under the age of 18 is against Florida Law. Proof of age is required for purchase." conspicuously posted?	N/A
31 Is the required sign stating "NOTICE TO CUSTOMER: FLORIDA LAW PROHIBITS THE POSSESSION OR SALE OF UNSTAMPED CIGARETTES. REPORT VIOLATIONS TO 1-866-540-7837. YOU MAY BE ELIGIBLE FOR A CASH REWARD." conspicuously displayed?	N/A
32 Is instructional material for assisting in determining legal age clearly visible to employees at checkout counter?	N/A
33 Are cigarette invoices maintained and kept on the licensed premises for a period of three years?	N/A
34 Are all other tobacco product invoices maintained and kept on the licensed premises for a period of three years?	N/A

35 Do all packages of cigarettes for sale have proper tax stamp affixed?	N/A
36 Are all cigarettes obtained from a licensed wholesaler?	N/A
37 Are all other tobacco products obtained from a licensed distributor?	N/A
38 Are cigarettes sold only in packages or cartons as received from the wholesaler?	N/A
39 If tobacco product sales are through vending machine, does the vending machine operator (owner of vending machine) possess a retail tobacco products dealer permit (separate from licensed premises)?	N/A
40 Does the vending machine display at least one pack of each cigarette brand being sold through such machine?	N/A
41 Is the vending machine equipped with an operational lockout device which is under the control of the dealer or the dealer's agent or employee?	N/A
42 Is the sale or delivery of tobacco products under the direct control or line of sight of the licensee or licensee's agent or employee?	N/A

Comment:



Florida Police Chiefs Association

Serving Florida's Law Enforcement Since 1952

October 2, 2019

Coordinator Amy Baker
Office of Economic & Demographic Research
111 West Madison Street
Suite 574
Tallahassee, FL 32399-6588

RE: Constitutional Amendment Titled: Regulate Marijuana in a Manner Similar to Alcohol to Establish Age, Licensing and Other Restrictions

Dear Coordinator Baker:

The Florida Police Chiefs Association (FPCA) has been asked if the proposed Constitutional Amendment "Regulate Marijuana in a Manner Similar to Alcohol to Establish Age, Licensing and Other Restrictions" would have a fiscal impact on law enforcement. In our research to provide an accurate response, we have learned that this is a difficult question to answer - simply because there is not one specific standard from which to compare to or with.

We have also learned that; in fact, it is difficult to grasp the true impact until you see the model that your state utilizes to regulate the industry. **To date, not one of the models is effectively regulating the commercial marijuana industry.**

In the United States, we have 33 different medical models and 10 recreational models. Given the fact that the 10 recreational models are also medical models - they, in most instances, differ even when they are in the same state.

In researching this issue, we consulted with The National Marijuana Initiative (NMI), which is one of three national initiatives within the Federal High Intensity Drug Trafficking Areas (HIDTA) Program. The White House Office of National Drug Control Policy has established HIDTA task forces all over the country to respond to both regional and national drug threats. The NMI's purpose is to educate both the public and policymakers on issues surrounding marijuana, and they offered the following information on possible impacts:

Broad Law Enforcement Impact:

This is dependent on the degree to which law enforcement agencies are required to regulate/enforce the marijuana industry within the confines of their respective jurisdictions.

The City of Denver, CO needed to set up a whole new section within their police department to regulate and control dispensaries, production and distribution facilities within their jurisdiction without any additional manpower or budget upgrades. Tax revenue is supposed to pay for all regulation and enforcement activities. Seldom do we see in any of these models enough revenue stream to even offset the additional burdens placed on the enforcement agency tasked with regulating and controlling the industry.

Even when a new branch of state government is created, or the marijuana division is moved within the state alcohol and beverage control, there is rarely enough manpower, expertise or fiscal resource to effectively regulate and control this industry. Enforcement and Regulation by default falls to county and city governments and their respective regulatory and enforcement agencies. Most are ill equipped or underfunded to initiate the regulation of medical and recreational marijuana. So essentially, the first real fiscal impact to a law enforcement agency is staffing, training and equipping a unit or section to regulate and enforce. Again, this cost is predicated on the actual model and the statutory responsibilities assigned to the various agencies.

Whatever resources that are devoted to this endeavor naturally take away from the total force, and something or some service will ultimately suffer. Again, another example of giving law enforcement additional tasks without fully funding the mission.

Specific Law Enforcement impacts:

The following are some of the specific issues that we see in states that have legalized marijuana for medical/recreational purposes. Granted, the degree to and severity with which these occurs varies from state to state and jurisdiction to jurisdiction - again depending on the specific regulatory model imposed upon the state or local jurisdictions by the state legislatures.

The following are common in every state:

1. Usage rates in all age categories
 - a. 18-25 by percent is the largest use group. College-aged students make up the primary users in this age category, and departments with college campuses will experience an uptick in activities associated with high potency marijuana.
2. Potency- you will see a dramatic increase in the potency of marijuana available as well as THC delivery devices that didn't exist prior to the recreational legalization of this drug in Colorado. I expect to see an uptick in homelessness, and the issues associated with it, to be a significant drain on not only law enforcement, but all Social Service resources. Look at Colorado, Washington, Oregon and California for prime examples of the increase in homelessness since legalization.
3. Public Safety issues to include, but not limited to, the following:
 - a. Impaired driving
 - b. Black market
 - i. It will be there, and the degree and severity depend upon the level of taxation of the product.

- ii. Colorado has seen a dramatic increase in Cuban nationals from South Florida who are growing illicitly in Colorado and will return home once legalization occurs in Florida.
- c. Crime in general levels of property crimes and overall crime rates have increased in states that legalize this drug. (See latest Rocky MT HIDTA report Vol 6) that can be found here: <https://rmhidta.org/files/D2DF/FINAL-Volume6.pdf>
- d. Hospitalizations are a result of higher potency marijuana, which in a lot of cases is initiated by Law Enforcement Officers' responses to calls for service.
- e. Diversion- this product in all its forms will be a source of income for DTO who will utilize all transportation modes to move the product within the boundaries of your state to counties or cities who have opted out, as well as to other states that have not legalized this substance.
- f. Extraction lab issues- explosions, as well as physical injury and property damage, due to home extraction.
- g. School performance issues- marijuana will be more readily available, and for the departments with School Resource Officers- more marijuana-impaired students will be encountered, as well as concealment devices for the product. A common theme in these states is, "if you increase availability, increase use and increase disruption within the classroom – you will also increase involvement with law enforcement officers".

I also feel it is important to consider that Florida law enforcement is already experiencing severe recruitment and retention issues, strained budgets and a declining Criminal Justice Standards and Training Trust Fund that helps to fund training for law enforcement officers in Florida. In addition, in recent years the Legislature has placed several more training mandates on Florida law enforcement.

In closing, The Florida Police Chiefs Association believes that it is evident that there will certainly be a considerable impact to law enforcement should this amendment pass; however, with all the unknowns, it is impossible to provide an accurate cost projection. We would recommend that you look at the National Marijuana Initiative website at www.THENMI.org for additional resources.

We appreciate the opportunity to provide this information.

Sincerely,

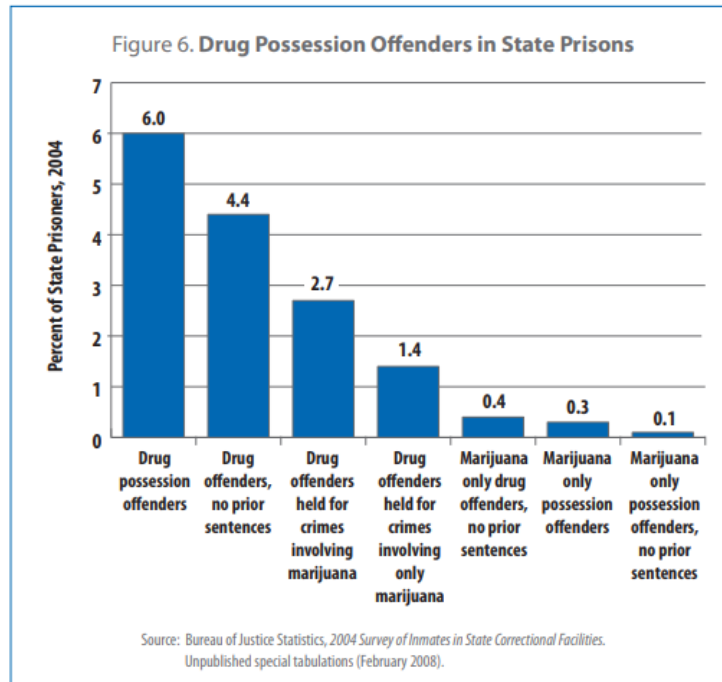


Amy Mercer
Executive Director

The Impact of Marijuana Legalization on Florida Sheriffs

Florida Sheriffs Association

1. Advocates state marijuana legalization will reduce minor arrests and allow law enforcement to focus on more serious, violent crime.
 - a. From 2014-2018, 6.8% of all arrests in Florida were for possession of marijuana.
 - b. 1% of prisoners are incarcerated for possession of marijuana as a primary offense.
 - i. (Florida Department of Corrections, analysis of July 2019 data)
 - c. Nationally, that number is 1.4% (Bureau of Justice Statistics, 2008).
 - d. There is just 1 academic study that suggests efficiencies were gained through marijuana legalization.
 - i. Makin, D. A., Willits, D. W., Wu, G., DuBois, K. O., Lu, R., Stohr, M. K., ... & Lovrich, N. P. (2019). Marijuana legalization and crime clearance rates: Testing proponent assertions in Colorado and Washington State. *Police quarterly*, 22(1), 31-55.
2. We expect crime will shift to other areas
 - a. It's difficult to predict what would happen if we had widespread marijuana legalization
 - i. but if legal alcohol is any warning than under marijuana legalization, we might have even more arrests and more law enforcement involvement.
 - ii. (Reefer Sanity: Seven Great Myths About Marijuana, 2013).
 - b. For example, in 2009 there were 2.7M arrests for alcohol-related violations, not including violent crimes.
 - i. This included public drunkenness, violation of liquor laws and driving while intoxicated.
 - ii. Arrests for marijuana violations stand at less than one-third of alcohol arrests.
 1. (Reefer Sanity: Seven Great Myths About Marijuana, 2013).



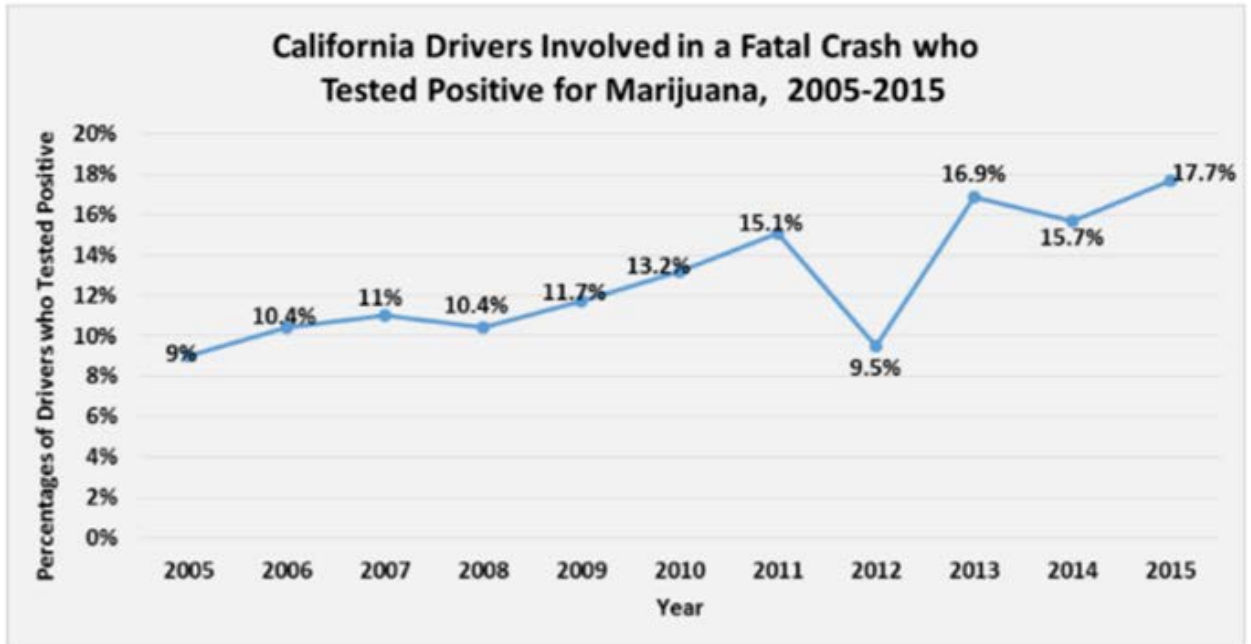
3. We looked at the experiences of Colorado, California, and Washington

a. Colorado

- i. possession arrests decreased by 47%.
 1. (Colorado Department of Public Safety, 2016, p. 20).
- ii. marijuana related traffic deaths increased 151%
 1. (Rocky Mountain HIDTA, 2018, p. 1)
- iii. 70% of drivers charged with driving under the influence of alcohol also tested positive for marijuana
 1. (Rocky Mountain HIDTA, 2018, p. 19)
- iv. interdiction seizures involving Colorado marijuana increased 39%
 - v. (Rocky Mountain HIDTA, 2018, p. 53)
- vi. High taxes and regulations have created a thriving black market (Freeman, B., Gliha, L., & Ferrugia, J., 2018)

b. California

- i. drivers testing positive for marijuana involved in a fatal crash increased by 52.8% (California High Intensity Drug Trafficking Areas Report, 2018, p. 30).
- ii. 80% of the cannabis sold in California, worth an estimated \$3.7 billion, comes from the illegal black market (Murphy, K., 2019).
- iii. California's governor, Gavin Newsom, has declared that illegal grows in Northern California "are getting worse, not better" and redeployed a contingent of National Guard troops stationed on the border with Mexico to go after illegal cannabis farms instead (Fuller, 2019).



Source: Fatalities Analysis Reporting System (FARS) 2005-2016, National Highway Traffic Safety Administration (NHTSA) , 2018

Note: FARS 2016 Provisional Data was not collected as of the creation of this report .

c. Washington

- i. marijuana related traffic deaths increased 122% (Northwest High Intensity Drug Trafficking Area, 2017, p. 74).
- ii. Marijuana DUI cases increased 80% from 2012 to 2014 (Northwest High Intensity Drug Trafficking Area, 2017, p. 75).
- iii. 80% of the marijuana cases examined within the first half of 2015 involved minors (Northwest High Intensity Drug Trafficking Area, 2017, p. 89).

4. Trends

- a. An increase in marijuana-related traffic deaths
- b. An increase in non-fatal traffic crashes
- c. An increase in marijuana-related DUI cases
- d. Resources being shifted to a thriving black market that legalization was intended to eliminate.
- e. Illegal sales to minors

5. Impact on FL Sheriffs

- a. Impaired driving will increase. Legalization would mean more use, and thus more violations of marijuana-related regulations, more public intoxication violations, and an increased probability of drivers high on marijuana on our roads.
 - i. No statutory limit for THC while driving
 - ii. No field sobriety tests or breathalyzers for THC
 - iii. Cost
 1. Traffic fatalities will increase 50%

- a. 3,077 fatal crashes¹ = 1,539 additional deaths/yr
 - b. 286 drug-related fatal crashes¹ = 143 additional deaths/yr
 - 2. Non-fatal crashes will increase 3.6%
 - a. 405,214 crashes¹ = 14,588 additional crashes/yr
 - b. 614 drug-related crashes¹ = 22 crashes/yr
 - 3. DUI cases will increase 40%
 - a. 34,106 cases² (2018) = 13,642 DUI cases/yr
 - 4. New equipment
 - 5. Officer training
- b. Training
 - i. Deputies will need to be trained on how to operate within the legal marijuana law.
 - 1. Impaired Driver Training, drug testing procedures, search and seizure, legal and illegal grow operations, and collection and preservation of evidence.
 - ii. Cost
 - 1. unknown
- c. Marijuana centers
 - i. Impaired drivers following use after purchase
 - ii. Law enforcement
 - 1. Similar to alcohol and tobacco enforcement at licensed retailers
 - a. Underage sales and purchases
 - b. Use of false identification
 - 2. Unlicensed sellers, private clubs
- d. New drug K-9s will be required
 - i. Canines are trained to target all drugs, including marijuana. New training and protocols may be needed. Current drug K-9s may need to be retired and replaced with newly trained drug-sniffing dogs to prevent illegal searches.
 - ii. Cost
 - 1. According to the National Police Dog Foundation, the cost of a new dog is \$8,000 and training would cost another \$12,000.
 - a. \$20,000 per dog
 - b. Cost of training K9 officer
- e. Marijuana interdiction will increase
 - i. Increased seizures of marijuana being transported to neighboring states and though US mail and private delivery systems.
 - ii. The U.S. mail system has seen an 844% increase in marijuana seizures.
- f. Black market enforcement will increase

¹ FHSMV (2018a).

² FHSMV (2018b).

6. Conclusion

a. We expect

- i. The current legislation will decrease possession arrests.
- ii. Legalization will create more challenges for law enforcement rather than less
- iii. Driving fatalities, traffic crashes, and DUI cases will increase.
- iv. The marijuana black market will increase.
- v. Costs to law enforcement will increase.

References

- California High Intensity Drug Trafficking Areas Report (2018). Marijuana's Impact on California. Retrieved from <https://learnaboutsam.org/wp-content/uploads/2018/10/2018-MJ-Impact-Report-FINAL.pdf>.
- Colorado Department of Public Safety (2016). Marijuana Legalization in Colorado: Early Findings. Retrieved from <https://cdpsdocs.state.co.us/ors/docs/reports/2016-SB13-283-Rpt.pdf>.
- FHSMV (2018a). Traffic Crash Facts, Annual Report 2017. Retrieved from https://flhsmv.gov/pdf/crashreports/crash_facts_2017.pdf.
- FHSMV (2018b). Annual Uniform Traffic Citation Report. Retrieved from <https://services.flhsmv.gov/SpecialtyPlates/UniformTrafficCitationReport>.
- Freeman, B., Gliha, L., & Ferrugia, J (2018, Dec. 20). Cultivating crime: How Colorado became a major exporter of black-market marijuana. Coloradoan. Retrieved from <https://www.coloradoan.com/story/news/2018/12/20/colorado-recreational-marijuana-black-market-cannabis/2369154002/>
- Fuller, T. (2019, April 27). 'Getting worse, not better': Illegal pot market booming in California despite legalization. *The New York Times*. Retrieved from <https://www.nytimes.com/2019/04/27/us/marijuana-california-legalization.html>.
- Murphy, K. (2019). Cannabis' Black Market Problem. Forbes. Retrieved from <https://www.forbes.com/sites/kevinmurphy/2019/04/04/cannabis-black-market-problem/#6b69223a134f>.
- Northwest High Intensity Drug Trafficking Area (2017). Washington State Marijuana Impact Report. Retrieved from <http://www.mfiles.org/docs/marijuanaimpact2017.pdf>.
- Rocky Mountain HIDTA (2018). The legalization of marijuana in Colorado: The impact. Retrieved from <https://rmhidta.org/files/D2DF/FINAL-%20Volume%205%20UPDATE%202018.pdf>.



IMPACT ANALYSIS OF PETITION INITIATIVE 16-02

**PREPARED UPON REQUEST OF THE FINANCIAL IMPACT ESTIMATING CONFERENCE
FOR THE OCTOBER 4, 2019 FIEC PRINCIPALS WORKSHOP**

I. INTRODUCTION

A. Petition Initiative 16-02

Petition Initiative 16-02,¹ titled “Regulate Marijuana in a Manner Similar to Alcohol to Establish Age, Licensing, and Other Restrictions,” is a citizen petition initiative sponsored by Sensible Florida, Inc., which was approved as a petition initiative by the Florida Division of Elections on March 17, 2016. The petition initiative seeks to propose a constitutional amendment for consideration on the 2020 election year ballot to regulate marijuana for limited use and growing by persons twenty-one years of age or older.

On August 12, 2019, Petition Initiative 16-02 triggered review by a Financial Impact Estimating Conference of the Office of Economic and Demographic Research pursuant to section 100.371, Florida Statutes. Upon notice of workshops for this statutory review process, the Financial Impact Estimating Conference requested that the Department of Business and Professional Regulation (Department or DBPR) prepare an agency analysis providing projections on financial impacts related to establishing a regulatory program and administering regulations associated with a legal cannabis market if the constitutional amendment were placed on the ballot and approved by the voters as presented.

B. Regulatory Responsibilities of the Department in Petition Initiative 16-02

Petition Initiative 16-02 provides that the Department shall adopt regulations necessary for implementation of the constitutional section created by the proposed amendment. The proposed amendment language requires the Department to adopt these regulations no later than 6 months from the effective date, or by July 5, 2021, based on the assumed effective date of January 5, 2021.

The proposed amendment language specifies that the Department’s regulations shall include, in part:

- Procedures for the issuance, renewal, suspension, and revocation of a license to operate a cannabis establishment in accordance with the licensure qualifications and restrictions provided in the constitutional amendment;
- Security requirements for cannabis establishments;
- Requirements to prevent the sale or diversion of cannabis and cannabis products to persons under the age of twenty-one;
- Labeling and packaging requirements for cannabis and cannabis products sold or distributed by a cannabis establishment;
- Health and safety regulations and standards for the manufacture and testing of cannabis products and the cultivation of cannabis;

¹ The full text of Petition Initiative 16-02, titled “Regulate Marijuana in a Manner Similar to Alcohol to Establish Age, Licensing, and Other Restrictions,” is available from the Florida Division of Elections, accessible at: <https://dos.elections.myflorida.com/initiatives/>.

- Guidelines on the advertising and display of cannabis and cannabis products; and
- Civil penalties for the failure to comply with regulations made pursuant to this section.

Based on this general regulatory scope outlined in Petition Initiative 16-02, the Department addresses in this analysis the projected needs for program personnel, support personnel, equipment, facilities, and other resources that would be necessary for the initial establishment and ongoing maintenance of a licensure and compliance program associated with regulating cannabis in Florida.

II. DEPARTMENT ANALYSIS: ASSUMPTIONS AND APPROACH

A. Analysis Assumptions

Necessarily, the Department has relied upon a series of assumptions related to the viability of the ballot initiative, the authorization of the constitutional amendment, and if adopted by voters, the subsequent legislative and regulatory approach to implementing the licensure and compliance elements of a state program for administering laws and regulations related to this new cannabis market. The assumptions utilized to inform this analysis have been designed solely for the purpose of establishing a baseline expectation and a basic set of parameters through which organizational design, operational costs, and other factors influencing this analysis can be measurably projected. Accordingly, none of the assumptions reflect an official statement of position related to the proposed constitutional amendment and should not be construed to represent the Department as a proponent or opponent of any particular assumption or any alternative assumption not incorporated in this analysis.

1.0 Assumptions Regarding the Constitutional Amendment Proposed by Petition Initiative 16-02

- 1.1 The Constitutional Amendment proposed by Petition Initiative 16-02 will appear on the November 2020 election ballot.
- 1.2 The Constitutional Amendment proposed by Petition Initiative 16-02 will be approved by Florida voters and be effective on January 5, 2021.

2.0 Assumptions Regarding State Implementation of the Constitutional Amendment

- 2.1 DBPR will develop and promulgate administrative rules necessary for implementation of the constitutional section by July 5, 2021.
- 2.2 Unless restricted by local regulation, a maximum license population will not be restricted for any particular license type.
- 2.3 Projected license types will align with the entity types defined by the constitutional amendment, including: cannabis cultivation facility; cannabis product manufacturing facility; cannabis testing facility; and retail cannabis store.
- 2.4 Comparable to licenses authorized in the regulation of alcoholic beverages, each license type administered by the cannabis regulatory program will have a

corresponding annual license fee. License fee amounts to be established upon implementation are undetermined and not factored into this analysis.

- 2.5 Applications for licensure will be available electronically and required to be filed electronically for direct assignment and processing by cannabis division licensure staff.
- 2.6 Comparable to excise tax imposed upon alcoholic beverages, the analysis assumes an excise tax will be applied to cannabis in Florida at an undetermined amount. This assumption is utilized for calculating personnel and operational costs associated with the collection and auditing functions, including technical systems requirements, necessary to administer an excise tax in any amount.
- 2.7 Taxation will be calculated and collected at the license tier established for a Cultivation Facility.
- 2.8 Electronic reporting and remittance of the anticipated excise tax will be mandated by statutory implementation when an excise tax is authorized.
- 2.9 The Department will develop an expanded module of the existing electronic data submission system employed for alcoholic beverages and tobacco tax reporting for facilitating the receipt of reporting by cannabis license holders.
- 2.10 Tax-remitting license holders at the cannabis cultivation facility tier will be audited, at minimum, once per year.
- 2.11 Regulations of product testing and reporting of product testing results, when adopted, will require costs of testing and reporting to be covered by the license holder.
- 2.12 Though the Department may incur testing expenses for compliance and investigative purposes, the Department will not establish an independent laboratory for this testing. For resource efficiency, the Department will rely on a state laboratory equipped through FDLE or another agency for any regulatory testing functions.

3.0 Assumptions Regarding Organizational Design and Operational Costs Upon Adoption of Constitutional Amendment

- 3.1 The regulatory program for cannabis will be established as a new and separate unit from existing department divisions.
- 3.2 The regulatory program will incorporate a similar organizational design to existing DBPR divisions with positions allocated for central division management, functional bureau management, and function-based central and field personnel executing authority of the program in supervised work units.
- 3.3 Hiring of projected staff positions, particularly central program leadership and counsel positions, will need to be expedited following adoption to maximize time available for program development and implementation. Licensure and compliance positions will need to be expedited to afford reasonable time for internal staff training and development regarding procedures and regulations adopted as part of the implementation.

- 3.4 The regulatory program for cannabis will not incorporate sworn law enforcement functions or personnel positions upon program implementation.

4.0 Assumptions Regarding a Future Adult-Use Cannabis Market in Florida

- 4.1 Licensure demand in Florida will be comparable on a per capita basis to license populations of early adoption states where existing adult-use cannabis markets are authorized and regulated.
- 4.2 Interest in the new program, including legislative, industry, public, media, legal, and other inquiries, will be significant through the immediate launch and first 12-24 months of the program's implementation, creating unique operational burdens that compound resource needs.

NOTE: To the extent these assumptions do not materialize as presented herein in the final implementation approach of state cannabis regulations or in the market demand for licensure, the department projections incorporated in this analysis will need to be reevaluated and modified or revised in subsequent program planning.

B. Analysis Approach

For purposes of this impact analysis, the Department convened a team of staff specialists representing organizational components anticipated to be involved in or impacted by the incorporation of a program authorized to regulate cannabis for limited use and growing by persons twenty-one years of age or older. The team included staff positions representing the Department's Division of Alcoholic Beverages and Tobacco, Division of Drugs, Devices, and Cosmetics, Division of Administration, Division of Technology, Division of Service Operations, Office of Planning and Budget, and Office of General Counsel.

With the support of this team, the Department reviewed data and publications relating to existing adult-use market states, and based on available data, focused primary analysis factors on data derived from the states of Colorado, Oregon, and Washington. Colorado and Washington authorized an adult-use cannabis market in 2012. Oregon authorized an adult-use cannabis market in 2014.

1. Establishment of Baseline Cannabis License Population in Projected Florida Market

To apply the assumptions above to a projected license population scenario, the Department researched current license populations by license type as administered by the respective cannabis regulatory authorities in each of the three primary factor states – Colorado, Oregon, and Washington. The table below provides license population data from each factor state, census population data for each factor state, and a per capita calculator for each license category based on the factor state's population.

Colorado			
License Type	License Population	State Population	Per Capita Factor
Cultivation Facilities	694	5,700,000	0.0001218
Retail Stores	574	5,700,000	0.0001007
Product Manufacturers	288	5,700,000	0.0000505
Testing Facilities	13	5,700,000	0.0000023

Washington			
License Type	License Population	State Population	Per Capita Factor
Cultivation Facilities	1,205	7,400,000	0.0001628
Retail Stores	504	7,400,000	0.0000681
Product Manufacturers	1,274	7,400,000	0.0001722
Testing Facilities		7,400,000	

Oregon			
License Type	License Population	State Population	Per Capita Factor
Cultivation Facilities	1,115	4,100,000	0.000272
Retail Stores	606	4,100,000	0.000148
Product Manufacturers	210	4,100,000	0.000051
Testing Facilities	21	4,100,000	0.000005

In order to establish a potential license population in Florida from which to calculate other staffing and resource needs, the Department averaged the per capita calculator of each factor state within each license type category. This averaged per capita calculator, when multiplied by the population figure selected for Florida, resulted in potential license populations of the license categories corresponding with defined establishment types in the amendment language. The table below reflects the potential license population for the Florida market utilizing this per capita calculation.

Per Capita License Factor Averages				
License Type	Colorado	Washington	Oregon	Average Per Capita Factor
Cultivation Facilities	0.0001218	0.0001628	0.000272	0.0001855
Retail Stores	0.0001007	0.0000681	0.000148	0.0001055
Product Manufacturers	0.0000505	0.0001722	0.000051	0.0000913
Testing Facilities	0.0000023		0.000005	0.0000025

Per Capita Average Applied to Florida Population			
License Type	Average Per Capita Calculator	Florida Population	Projected Florida License Population
Cultivation Facilities	0.0001855	21,300,000	3,951
Retail Stores	0.0001055	21,300,000	2,248
Product Manufacturers	0.0000913	21,300,000	1,945
Testing Facilities	0.0000025	21,300,000	53

For the remaining financial impact analysis, the Department's projections rely primarily on these baseline license population figures factored with current workload capacity by position for regulatory activities contemplated to be needed in the administration of the cannabis regulatory program.

III. DEPARTMENT ANALYSIS: IMPACT PROJECTIONS

A. *Core Program Staffing Anticipated for Administering Regulatory Program*

Pursuant to the analysis assumptions utilized herein, the Department projects a new office, division, or unit to be established within the agency for purposes of administering the regulation of the adult-use cannabis market authorized by the amendment. The Department has evaluated the immediately apparent functions that may be necessary based on the ballot initiative language and the assumptions regarding implementation of the amendment. Based on the Department's analysis, the new division or office established for regulation of cannabis is anticipated to serve two primary functions: (1) licensing, with staff and resources to design, promulgate, accept, and process applications of persons or entities seeking to operate an establishment within one of the authorized licensed activity scopes, including ongoing license maintenance, renewal, and recordkeeping; and (2) compliance, with staff and resources to facilitate routine compliance inspections, tax and revenue audits, and other field-based compliance activities.

1. Licensure

Based on the per capita license population projections established from the Department's research and analysis, the Department estimates a need for the following additional full-time positions to support the licensure functions of the new regulatory program:

Position Class	FTE Positions	Total Rate/Benefits	Recurring
Chief of Licensing	1	105,318	Y
Deputy Chief of Licensing	1	96,008	Y
Regulatory Supervisor/Consultant	4	243,961	Y
Regulatory Specialist II	14	668,388	Y

2. Compliance

Based on the per capita license population projections established from the Department's research and analysis, the Department estimates a need for the following additional full-time positions to support the compliance functions of the new regulatory program:

Position Class	FTE Positions	Total Rate/Benefits	Recurring: Y/N
Chief of Compliance	1	105,318	Y
Deputy Chief of Compliance	1	96,008	Y
Compliance Officer Supervisor	11	911,876	Y
Tax Auditor III	82	6,203,969	Y
Tax Auditor II	32	1,714,592	Y
Regulatory Specialist III	1	51,491	Y
Revenue Specialist II	11	506,506	Y
Investigation Specialist II	28	1,500,268	Y
Inspector Specialist	2	127,362	Y

3. Central Program Management

Based on the per capita license population projections established from the Department's research and analysis, the Department estimates a need for the following additional full-time positions to support the primary management and central support functions of the new regulatory program:

Position Class	FTE Positions	Total Rate/Benefits	Recurring: Y/N
Division Director	1	147,882	Y
Deputy Division Director	1	114,610	Y
Administrative Assistant III	1	55,790	Y
Budget Analyst	1	71,501	Y
Business Consultant I	3	160,743	Y
Information Specialist III	1	47,742	Y
Systems Programming Consultant	1	80,004	Y
Biological Scientist IV	1	96,324	Y
Human Resource Analyst	1	64,849	Y
Management Review Specialist	1	63,680	Y
Operations Review Specialist	2	180,753	Y

B. Support Staffing Anticipated for Administering Regulatory Program

To support core program personnel and resources employed in the regulation of the new cannabis market, the Department projects supplemental staff needs in several program support functions, including: Administration, Technology, Service Operations, and General Counsel.

1. Administration

The Department's Division of Administration projects the need for the following additional full-time positions to support increased activities in facility maintenance and support, purchasing and contract management, personnel recruitment and appointment, and employee relations resulting from implementation and ongoing support of the new regulatory program:

Position Class	FTE Positions	Total Rate/Benefits	Recurring: Y/N
HR – Personnel Services Specialist	1	54,943	Y
AS – General Services Specialist	1	55,790	Y

2. Technology

The Department's Division of Technology projects the need for the following additional full-time positions to support development, maintenance, and support of expanded electronic tax-reporting systems and increased user support associated with the additional program positions projected in this analysis:

Position Class	FTE Positions	Total Rate/Benefits	Recurring: Y/N
IT – Systems Project Analyst	1	63,681	Y
IT – Systems Programming Cons.	1	66,460	Y

In addition to the full-time technology staff projections, the anticipated need for system development in expanding the Department's current Electronic Data Submission System to accommodate report filing and tax collection from cannabis license holders, particularly on the expedited implementation timelines required by the amendment, will require non-recurring staff augmentation in the Division of Technology, including the contracted services projections below. The staff augmentation projection is based on 2 positions contracted for 26 weeks at \$90 per hour on a 40-hour week.

Contracted Services	Positions	Total Expense	Recurring: Y/N
IT Staff Augmentation	2	187,200	N

3. Service Operations

The Department's Division of Service Operations projects the need for the following additional full-time positions to support increased call volume and customer processes facilitated through the Department's customer contact center and central intake operations:

Position Class	FTE Positions	Total Rate/Benefits	Recurring: Y/N
Regulatory Specialist II	2	95,484	Y
Regulatory Specialist III	2	102,982	Y

4. General Counsel and Program Legal Services

The Department's Office of General Counsel projects the need for the following additional full-time and OPS positions to support legal challenges to agency action, including rulemaking, license approval and denial, and administrative enforcement actions:

Position Class	FTE Positions	Total Rate/Benefits	Recurring: Y/N
Attorney Supervisor – Chief	1	98,000	Y
Senior Attorney – Deputy Chief	1	83,291	Y
Senior Attorney	3	237,873	Y
Attorney	1	60,135	Y
Administrative Assistant I	2	86,328	Y
Administrative Assistant II	1	47,654	Y
Administrative Assistant III	1	53,646	Y
OPS Position	OPS Positions	Total Rate/Benefits	Recurring
OPS Paralegal – Law Clerk	1	31,200	Y
OPS Attorney	1	47,374	Y

Additionally, based on the anticipated legal elements associated with the formation of the program, including wholesale drafting and development of new rules, forms, and other policies and procedures, the Department is projecting the need for specialized counsel positions to directly advise licensure, tax collection, and regulatory and compliance functions of the program through the following positions:

Position Class	FTE Positions	Total Rate/Benefits	Recurring
Senior Attorney	3	287,373	Y

C. Summary of Core Program and Support Staffing Projections

Based on projected positions identified in sections III.A. and III.B. above, the Department projects a total of 225 full-time positions with a recurring \$14,886,803 in salaries and benefits. For budget calculations, the standard expense package factored for these positions is \$2,277,000, of which \$1,348,650 is recurring.

Other non-operating and allocated costs associated with administration of the program under the Department's budget are not projected in this analysis. The Department assumes a transfer of non-operating and allocated costs to the Department's Administration Trust Fund would be necessary and may be calculated should this additional information be needed by the FIEC.

D. Equipment, Facilities and Resources

The Department anticipates financial impacts will be realized in the procurement of facilities, supplemental equipment, and other resources needed to support the daily operation of the new regulatory program.

1. Facility Leasing

Rule 60H-2.002, Florida Administrative Code, directs state agencies to obtain an average of 180 net useable square feet of space per full-time employee. Based on analysis of space in the Department's current central office location at the Capital Commerce Center, the available square footage under the Department's current lease and other available space at the same facility is insufficient to support the square footage per full-time employee recommended by state regulations for the number of positions projected in this analysis. Therefore, the new program is projected to be located at a new location to be leased within a state-managed or privately-owned facility. For efficiency of analysis, the Department has presented a range of potential facility lease expenses based on current state and private rates per square foot.

Projected Facility Lease Expenses Utilizing Current State Rate				
Projected FTE Positions	Square Feet Per Position	Total Square Feet Needed	Current DMS Rate Per SF/Per Month	Total Projected Annual Lease Expense
225	180	40,500	\$17.18	\$8,349,480
Projected Facility Lease Expenses Utilizing Sample Rates at Private Facilities (Tallahassee)				
Projected FTE Positions	Square Feet Per Position	Total Square Feet Needed	Current Sample Rate Per SF/Per Month	Total Projected Annual Lease Expense
225	180	40,500	\$20.00	\$9,720,000

The above projections do not factor the potential assignment of projected positions to field-based locations dependent on final organizational design upon implementation. Lease expenses

may vary based on the number of positions assigned to a field office location, the current capacity of existing department facilities to absorb additional assigned positions, and the competitive market rates for private facility space leases should new field-location leasing be necessary.

2. Fleet Acquisition and Management

The Department projects a need for acquisition of fleet vehicles to support the daily compliance inspection activity assumed for purposes of this analysis. Based on projected compliance inspection positions, including positions associated with testing inspection, the Department projects a minimum need of the following vehicle assets:

	Expense Per Vehicle	Expense Projected for 30 Vehicles
Motor Vehicle Acquisition	\$18,000	\$540,000
Motor Vehicle Operation	\$3,000	\$90,000

3. Supplemental Technology Equipment

The Department's Division of Technology projects non-recurring, initial expenses for establishing network drops, procuring software licenses, and equipping field-based personnel with mobile technology assets to support implementation of regulatory functions in this program as follows:

	Network Drops	Laptops	iPads	General Software Licenses	Specialized Software*	Misc. Program Equipment
Per Unit	\$150	\$1,100	\$732.24	\$800	Varied	Varied
Total Projected	\$34,650	\$26,400	\$28,557	\$184,800	\$6,959	\$8,576
Total Non-Recurring	\$281,366					

Specialized software and miscellaneous equipment expenses are primarily related to items supporting intake and recordkeeping of license information within the Department's records management system and centralized call center operations facilitated by the Department's Division of Service Operations.

The Department's Division of Technology projects recurring expenses for maintenance, support, and data services on the technology assets that are procured in support of the regulatory program as follows:

	Program Equipment Maintenance	iPad Data Service and Maintenance	General Software Maintenance	Specialized Software Maintenance
Per Unit	\$1,427	\$483	\$301	\$400
Total Projected	\$2,854	\$18,837	\$69,531	\$800
Total Recurring	\$92,022			

E. Other Department Expenses Related to Implementation of Constitutional Amendment

1. Litigation Regarding Rule Development and Licensure Determinations

The Department anticipates litigation relating to rulemaking development, licensure actions, and other regulatory actions arising during implementation of this new program will increase litigation expenses during the first 12-24 months of implementation. Reasonable projections forecast litigation expenses, depending on the volume of litigation involving the Department and the State of Florida, to be \$250,000 or more per year in the first two years of program development. These litigation expense projections are highly variable and contingent upon needs for outside counsel, expert witnesses, testing and laboratory analyses, and other litigation factors beyond the reasonable ability to predict at the time of this analysis.

IV. DEPARTMENT ANALYSIS: REVENUE PROJECTIONS

Petition Initiative 16-02 expressly provides that the Department shall adopt regulations for licensure and civil penalties for failure to comply with the promulgated regulations. The initiative's proposed language further provides that the amendment shall not be construed to limit any taxing authority to make, collect, administer, enforce, or distribute any tax levy relating to the provisions of the constitutional section created by the amendment. For purposes of this analysis, the Department declines to speculate on a future schedule of fees or civil penalties for licenses administered by the regulatory program or on the future tax rates which may be applied to the products offered through the regulated cannabis market.

Without known license fee and tax factors, the Department is unable to reach reliable revenue projections that may result from implementation of the regulatory program for cannabis in Florida. Accordingly, this analysis does not incorporate specific revenue projections associated with license issuance or activities conducted under the authority of the licenses anticipated for issuance by the Department.

###