Edible Cannabis Products: An analysis of current best practices in the United States

ORIGINAL RESEARCH

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2019 FDA CENTRAL REGION RETAIL FOOD PROTECTION SEMINAR

AUGUST 28, 2019

Disclaimers

- I have no conflicts of interest to declare
- My opinions are my own, and do not necessarily represent those of the Maryland Department of Health
- This landscape analysis was completed in March 2019; the information is current as of that date and may have changed since then
- If reusing or repurposing the information contained within this presentation please use the appropriate citations
- Institutional Review Board Not Human Subjects Research Determination: FWA #00000287

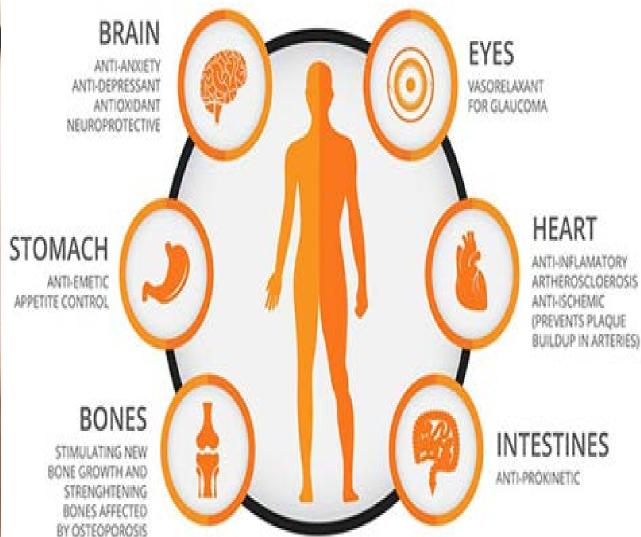
Outline

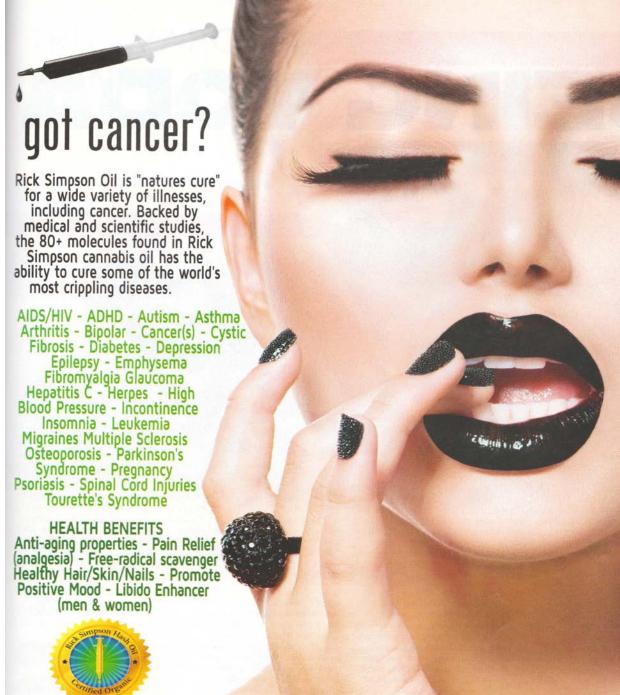
- Public health problem
- Need for safe edible cannabis products
- Analysis of current regulatory landscape in the United States
 - Manufacturer requirements
 - Product restrictions
 - Packaging requirements
 - ► Labeling requirements
 - Packaging/labeling restrictions
- Issues to address when moving forward

Public Health Problem

- No central oversight of edible cannabis products
- ► Few standardized regulations between U.S. jurisdictions
 - ► Many jurisdictions offer reciprocity for qualified patients from other states
- Some cannabis processors are manufacturing edible products without being held to, or inspected for, the same safety and sanitation standards as regular food processors

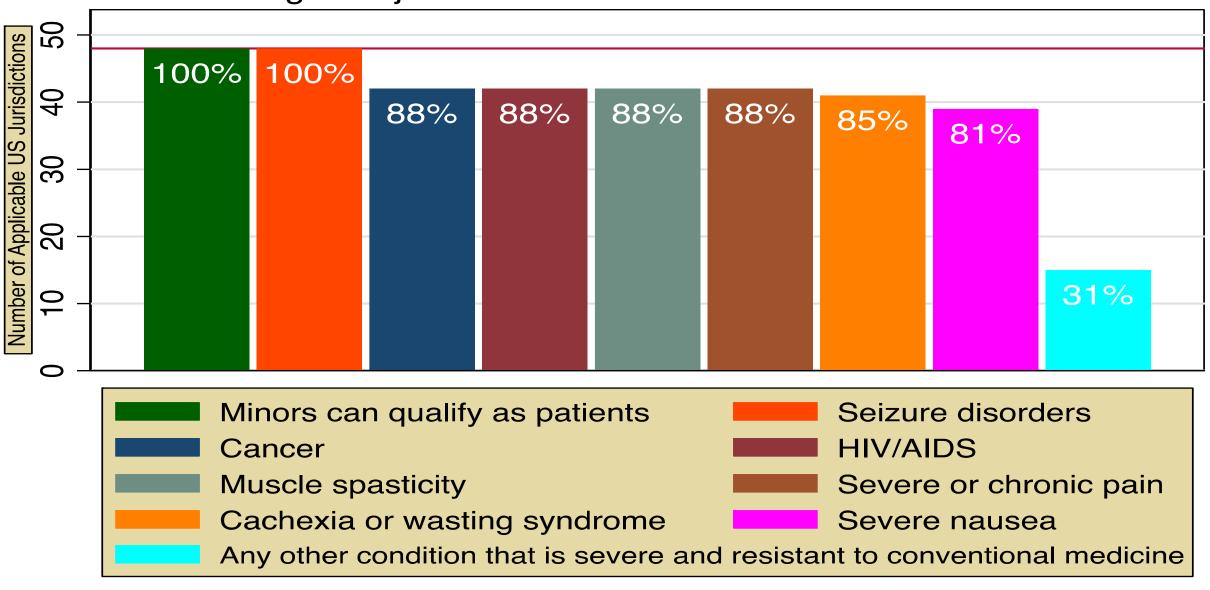
CANNABIDIOL (CBD)





Common Qualifying Medical Conditions for Cannabinoid Use

excluding U.S. jurisdictions where medical use is not indicated





Division of Licensing Services Bureau of Special Licensing

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DOUGLAS A. DUCEY, GOVERNOR CARA M. CHRIST, MD, DIRECTOR

Recommendations for Best Practices Regarding Marijuana Extractions, Concentrates, Infusion Kitchens and Edible Food Products Containing Marijuana

The Bureau of Special Licensing within the Arizona Department of Health Services (Department) houses the Arizona Medical Marijuana Program which is responsible for ensuring that the Arizona Medical Marijuana Act is enforced and that all dispensaries, cultivation sites and infusion kitchens are operating as required. Dispensaries that prepare, sell, or dispense edible food products containing marijuana must do so according to the requirements of the Arizona State Food Code which is covered under Arizona Administrative Code Title 9, Chapter 8, Article 1 (9 A.A.C. 8, Article 1).

The first infusion kitchen in Arizona opened in 2013. Due to the novelty of the industry, regulation and oversight of the production of infused products and edibles must adapt with the industry. Unlike traditional food products which have published research regarding safety and growth of pathogens, edible food products containing marijuana do not have published research that address pathogen growth in extractions. Given the increase in infusion kitchens as well as variety of edible products, it is the Department's responsibility to enforce current food regulations to protect the health and safety of consumers and use existing research to assess any risks associated with edible food products containing marijuana.

Safety Concerns

A safety concern with marijuana extractions is the potential presence of Clostridium botulinum (C. botulinum), a spore-forming bacterium found on plant matter and in the soil. Other types of plant extractions are known to contain spores and these spores can survive high temperatures during cooking or pasteurization. When spores germinate under the right conditions, they can produce a harmful toxin that results in severe illness or death

Products of Concern

Products that have the potential to harbor this bacterium include:

- -Consumable marijuana extractions and concentrates
- -Infusions made from extractions (infused oils, butters, honey, tinctures, syrups, juices, etc.)
- -Most edibles that contain extraction ingredients (excepting those with a pH <4.6, water activity
- < 0.92, or a pH < 5.6 with a water activity < 0.95)

Safety Controls

Ways to prevent formation of C. botulinum toxin include:

- -Irradiating plant material to destroy spores and bacteria which will prevent toxin formation
- -Refrigerating plant material extractions and concentrates at 41°F or less to prevent growth of existing spores, unless infused into low water activity baked goods proven to be shelf-stable
- -Infusion of extraction or concentrate into a 190/200 proof alcohol with no added ingredients

Health and Wellness for all Arizonans

Ducey DA, Christ CM. Recommendations for Best Practices Regarding Marijuana Extractions, Concentrates, Infusion Kitchens and Edible Food Products Containing Marijuana. Arizona Department of Health Services, Division of Licensing Services, Bureau of Special Licensing. https://azdhs.gov/documents/licensing/medicalmarijuana/dispensaries/infusion-kitchens-quidance-refrigeration.pdf. Accessed June 4, 2019.



Department of Environmental Health Public Health Inspections Division

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Special Concerns Associated with Marijuana Extractions, Concentrations, Infusions, and Infused Foods

The Public Health Inspections Division (PHI) of the Denver Department of Environmental Health is responsible for enforcing regulations that preserve the health of consumers in Denver. PHI enforces the Denver Food Establishment Rules and Regulations to regulate all food/products which are commercially manufactured and/or sold in Denver and that are ingested via non-smoking oral consumption (i.e. eating, drinking). Please visit www.denvergov.org/phi for more information or to view the Regulations.

Commercial manufacturing of marijuana-infused products is an emerging industry, and regulation of this industry is a new area of regulation. There is no known published research that addresses how pathogens grow in marijuana extractions and their derivatives. Until such information is available, it is the responsibility of PHI to enforce existing food regulations to protect the health of consumers and to use existing research and food science to assess the risks of foods. Requirements may change as new information becomes available regarding the safety of marijuana extractions.

What are the public health concerns associated with marijuana extractions and infusions?

The extraction process can be dangerous if not performed properly, and the final extract can be harmful to consume if the extraction is not performed properly. All extractions must be conducted using a closed loop system with an approved solvent, and in Denver the system must be permitted by the Fire Department. Refer to the State's Marijuana Rules for further information about extraction requirements.

Clostridium botulinum is a bacteria whose spores are present on plant material and in soil. Spores are present in many plant material extractions and can survive cooking/pasteurization temperatures. These spores can spontaneously germinate (grow into bacteria) given the right conditions/substrate. The bacteria can produce a powerful toxin which can cause severe illness or death.

What are the products of concern?

Affected products include:

- -marijuana extractions and concentrates intended for non-smoking oral consumption (i.e. eating, drinkina)
- -most infusions made from these extractions, such as infused oils, butters, honey, etc.
- -many foods that have such infusions/extractions as an ingredient

What are the known controls for preventing *C. botulinum* toxin formation?

- -Irradiating plant material destroys the spores and bacteria, preventing toxin formation.
- -Refrigerating the plant material extractions/concentrates and derivatives at 41 °F or less prevents the growth of existing *C. botulinum* spores. (Please note that if a marijuana extraction, concentrate, or infusion has been continuously refrigerated and is then added as an ingredient into baked goods that have a low water activity, such as most cookies and brownies, these baked products are considered shelf-stable.)

Denver Department of Environmental Health, Public Health Inspections Division. Special Concerns Associated with Marijuana Extractions, Concentrations, Infusions, and Infused Foods.

https://www.denvergov.org/content/dam/denvergov/Portals/771/documents/PHI/Food/Special%20Concerns%20wit h%20MJ%20extractions.pdf. Accessed June 4, 2019.

Potential Side Effects

- ► Compounds in cannabis can affect the activity of cytochrome p450 enzymes
- Cannabinoid-induced hyperemesis
- Psychological distress

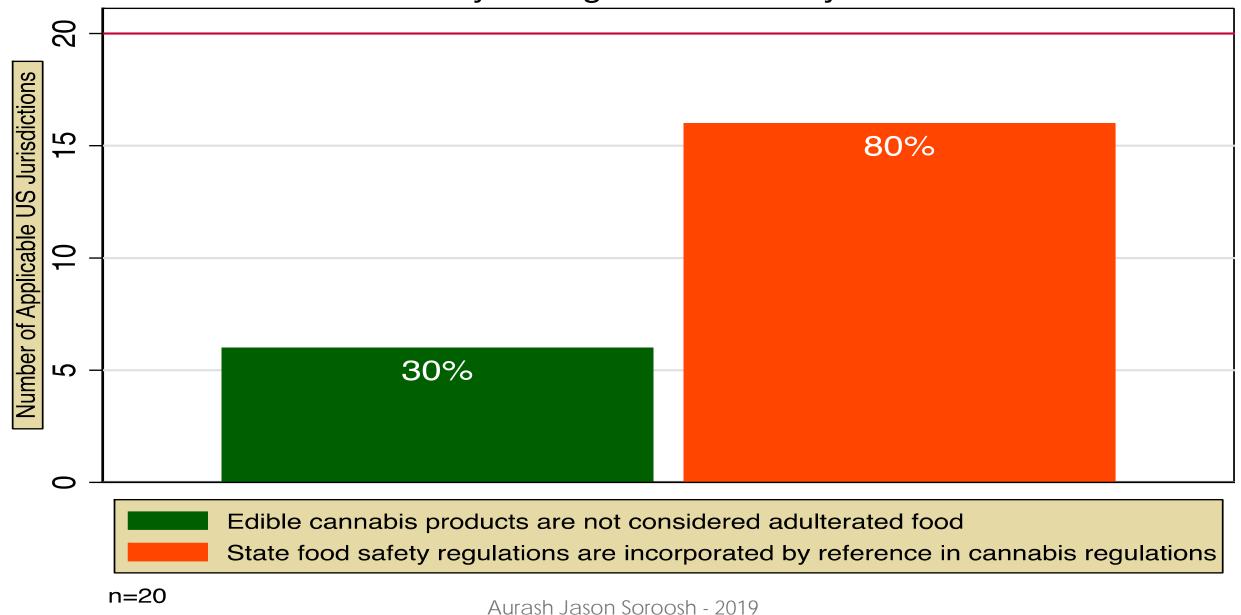
Alternative Consumption Methods

- Smoking
 - Smoking is a public health issue, and the behavior should not be supported
 - ▶ We want to encourage all people **not to smoke**, cannabis users are no exception
- Vaping
 - Still not good for your lungs
- Topical products
 - Limited applications
- Tinctures, pills, and lozenges
 - Anything made with food ingredients to be consumed by mouth should be subject to mandatory minimum food safety standards

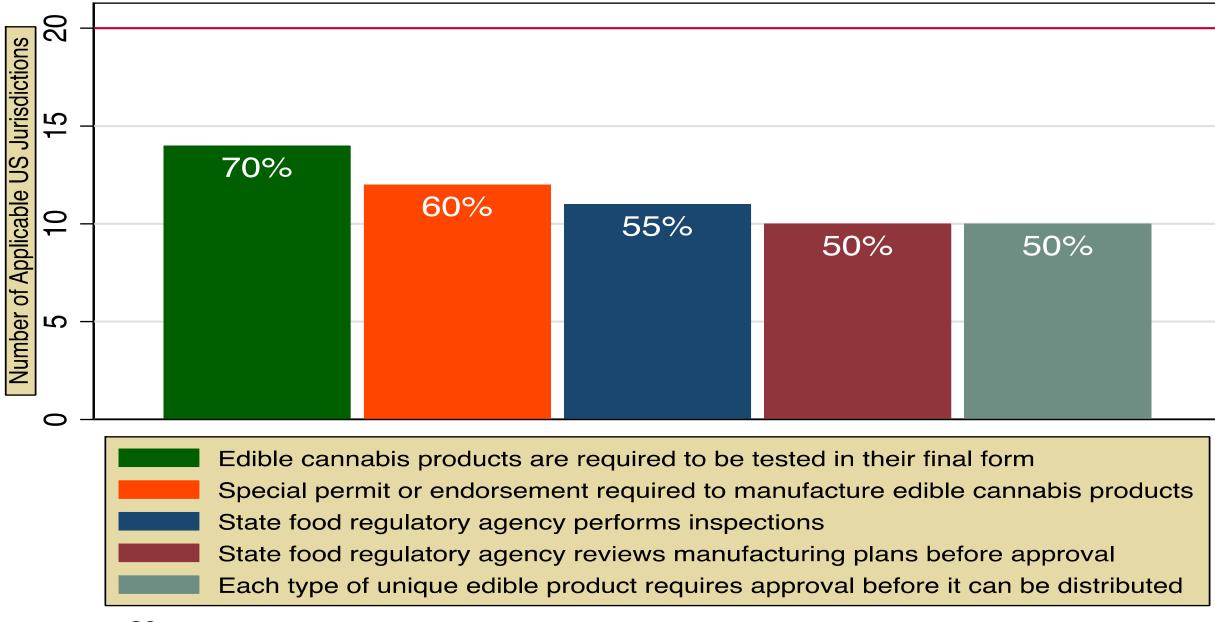
Sample Size

- ► n=20
 - Alaska, Arizona, California, Colorado, Connecticut, Illinois, Maine, Massachusetts, Michigan, Montana, Nevada, New Hampshire, New Mexico, Ohio, Oklahoma, Oregon, Rhode Island, Vermont, Washington State, and the District of Columbia
- Jurisdictions which currently have regulations in place for edible cannabis products made with food ingredients that are not limited to tinctures, pills, and lozenges

Are Edible Cannabis Products Adulterated Food and should they be regulated similarly to normal food?

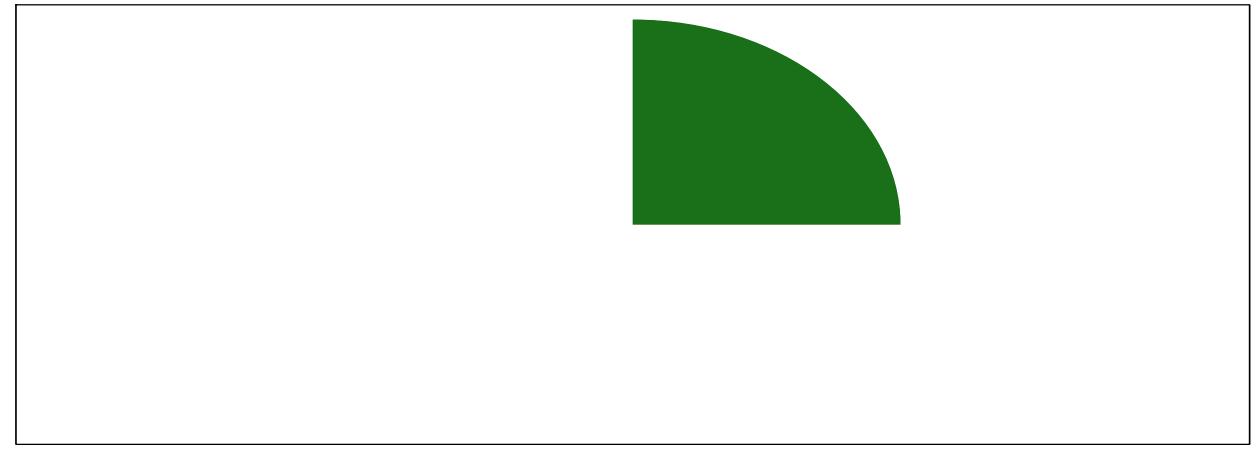


Edible Cannabis Product Manufacturer Requirements



Food Safety Training Requirements

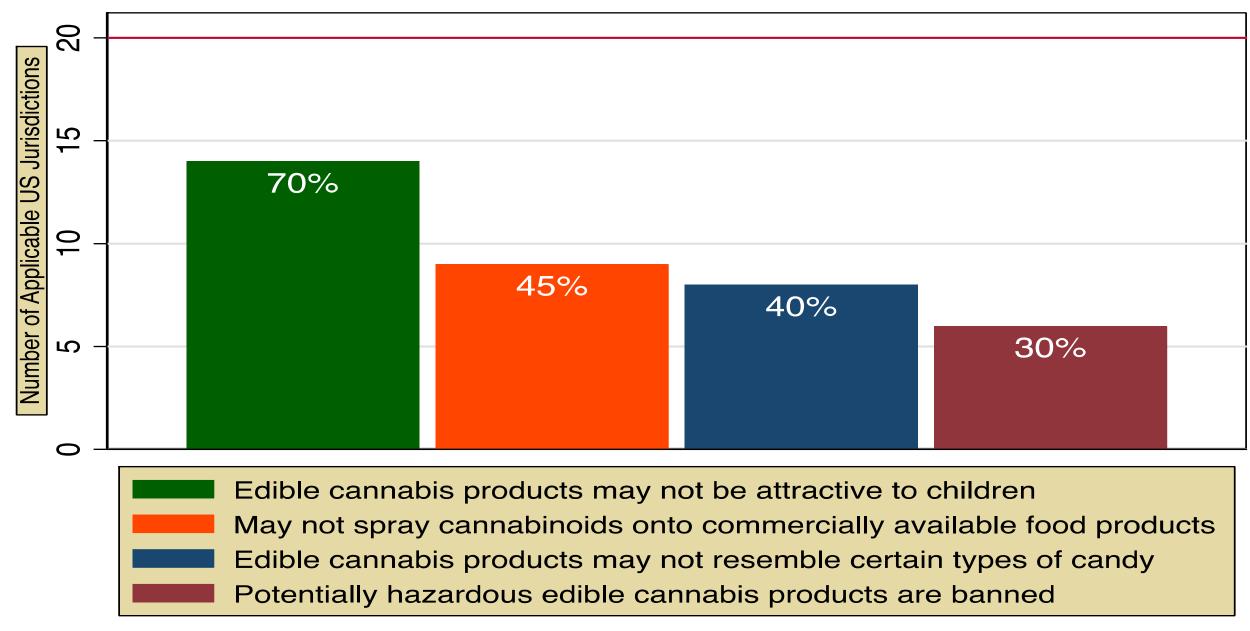
for edible cannabis product manufacturers



od handler license

No enforced requirement

Edible Cannabis Product Restrictions

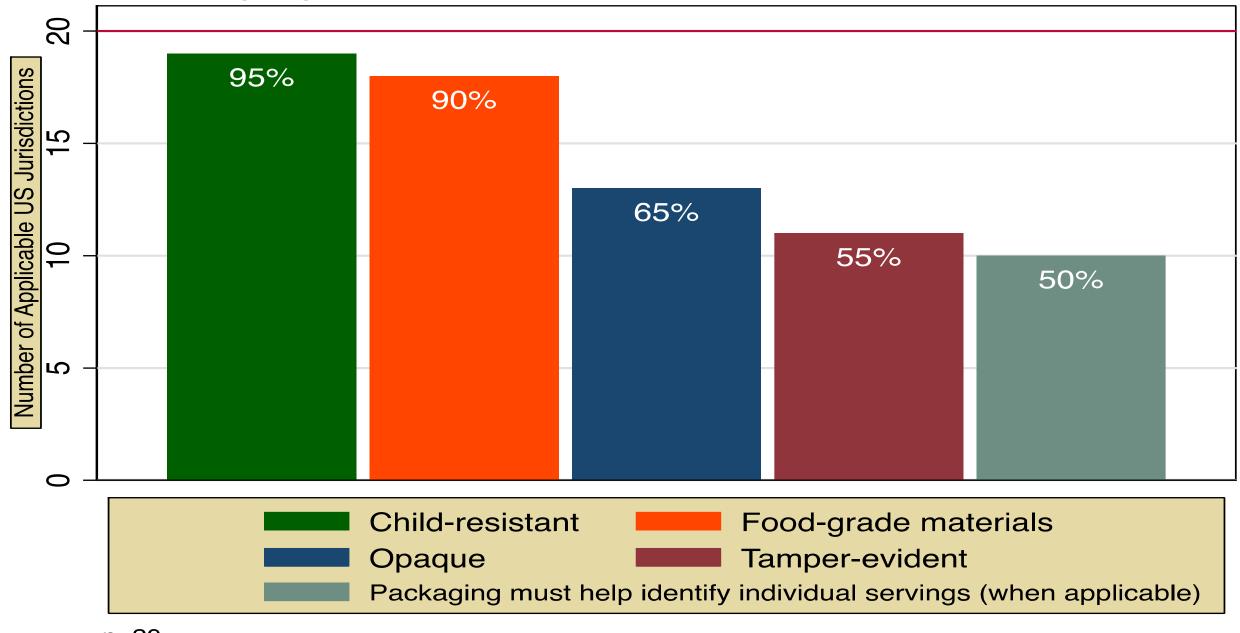




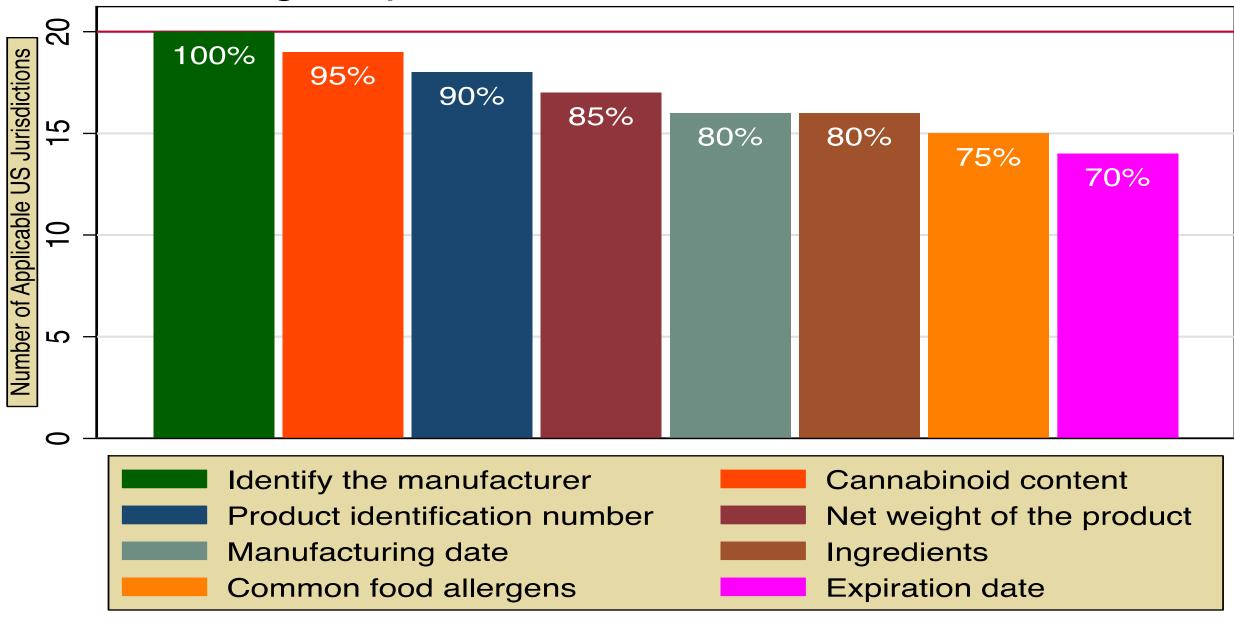
Other Edible Cannabis Product Restrictions

- No seafood
- No meat products
- No finished dairy products
 - Ice cream
 - ▶ Infused milk
- Cannabis-infused vegetable oils and butter can be made by and sold to manufacturers, but cannot be sold to the consumer

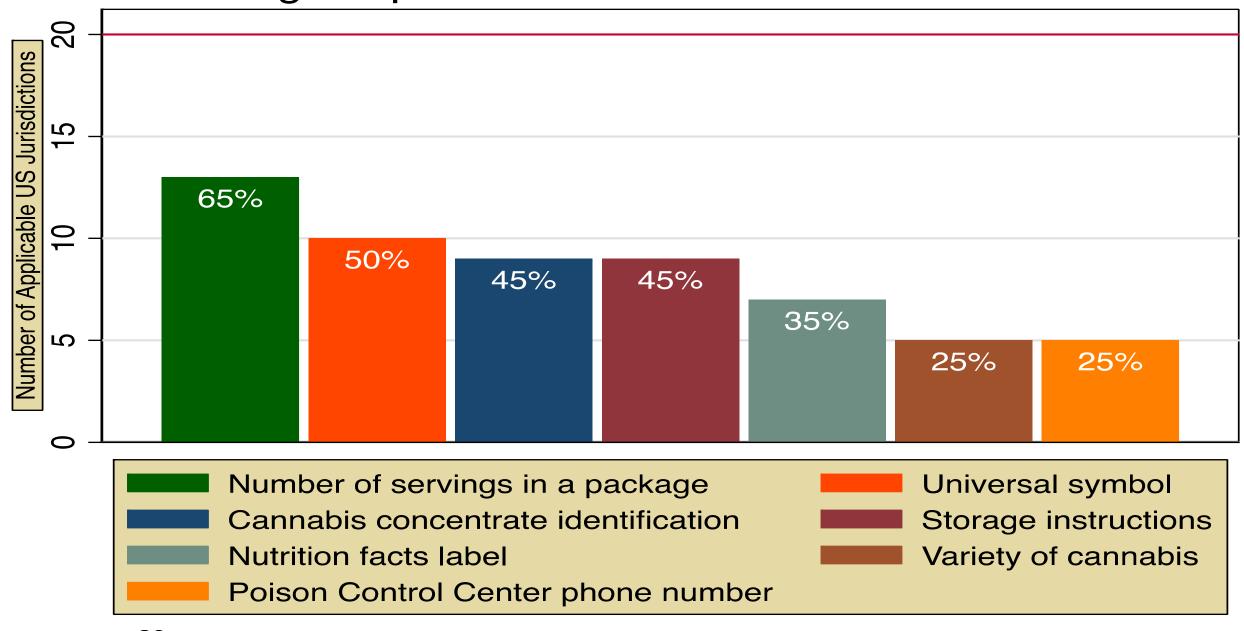
Packaging Requirements for Edible Cannabis Products



Labeling Requirements for Edible Cannabis Products



Labeling Requirements for Edible Cannabis Products









Contains Marijuana. Keep away from children.

https://www.colorado.gov/pacific/sites/default/files/Universal%20Symbol%20Image%20March%202018.PNG



https://www.cdph.ca.gov/Programs/ CEH/DFDCS/MCSB/PublishingImages /UniversalSymbol.jpg



https://mass-cannabis-control.com/wp-content/uploads/2019/01/SEC-OFFICIAL_935cmr500.pdf



EMERGENCY (800) **222 1222**

https://lcb.wa.gov/laws/labeling -resources



http://marijuana.nv.gov/uploadedFiles/marijuananvgov/Content/Safety_Information/SymbolFinal

CONTAINS THC



https://www.michigan.gov/images/lara/Conatins_THC_613985_7.jpg



https://www.oregon.gov/oha/ph/pre ventionwellness/marijuana/pages/sy mbol.aspx



CONTAINS THC NOT SAFE FOR KIDS OR PETS

http://omma.ok.gov/thc-universal-symbol

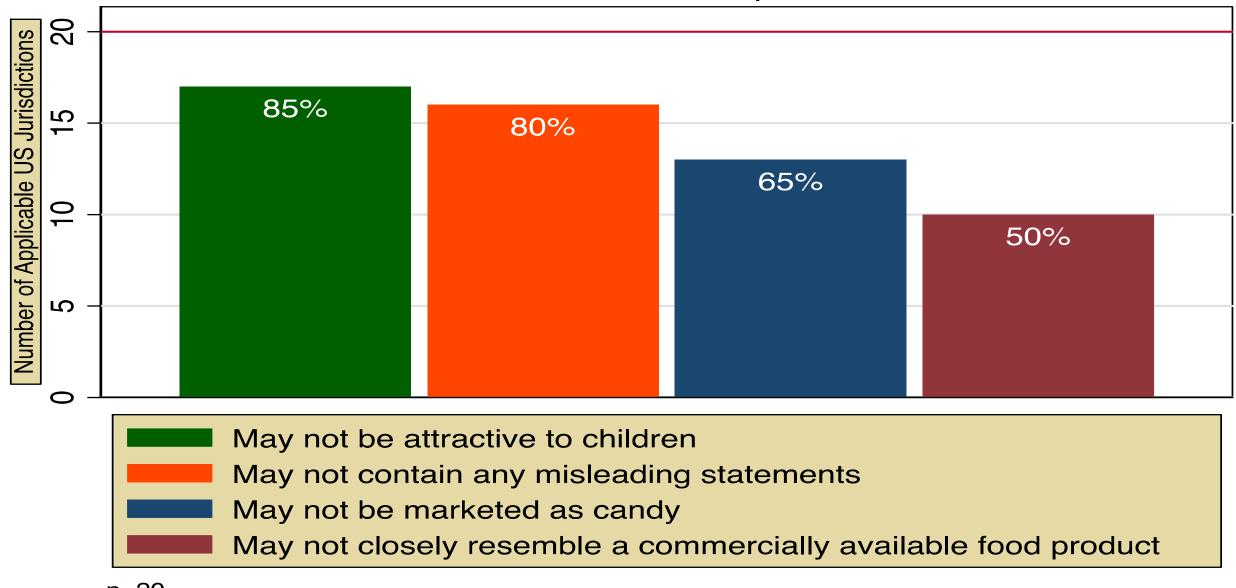
Required Warning Statements

15/20 Jurisdictions (75%)	Keep away from children
14/20 Jurisdictions (70%)	Diversion statement: it is illegal to transfer the product to anyone other than a qualified patient, across state lines, or, if applicable, to anyone under the age of 21
12/20 Jurisdictions (60%)	Warning about the delayed onset of effects when consuming an edible cannabis product
11/20 Jurisdictions (55%)	Do not operate a vehicle or heavy machinery under the influence of cannabis
7/20 Jurisdictions (35%)	There may be unknown health risks associated with cannabis use
6/20 Jurisdictions (30%)	Cannabis should not be used by females who are pregnant or nursing
6/20 Jurisdictions (30%)	Cannabis has intoxicating effects and may be habit-forming
Aurash Jason Soroosh - 2019	

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Common Packaging and Labeling Restrictions

for edible cannabis products



Cannabinoid Limits

- No best practice
 - ▶ 35% of this sample had a delta-9 THC limit of 10mg per serving and 100mg per package
 - ▶ 40% of this sample had no cannabinoid limits established
- Should we consider potentially active THC?
 - ▶ Delta-9 THC + (THC-A x 0.877)
- What is an appropriate variability threshold?

Need for High Dose Cannabis Products

- Allows people with higher needs to consume fewer servings to attain their required dose
 - Severely ill individuals may have an extremely high tolerance to cannabinoids
- ▶ Patients with limited mobility may not be able to visit their cannabis dispensary often
- Many jurisdictions with recreational cannabis have exemptions for THC limits in certain types of products intended for medical cannabis patients

Developing New Regulations in Maryland

- Abide by food safety and sanitation standards set forth in the Code of Maryland Regulations (COMAR) 10.15.03 (retail foodservice) and 10.15.04 (commercial food processing)
- ► Incorporate best practices from other states
- Involve cannabis dispensaries to help ensure food safety

Issues to Address

- Should stability studies be required for all edible cannabis products?
- ▶ Do we need to re-validate microbial testing methods used with normal foods for edible cannabis products?
- Should any orally-consumed cannabis products be exempt from meeting food safety requirements?
- Nationwide monitoring of adverse events

Acknowledgements

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- 2016 Al. ALS 268, 2016 Ala. Acts 268, 2016 Al. Pub. Act 268, 2016 Al. HB 61 (May 4, 2016)
- Carly's Law, 2014 Al. ALS 277, 2014 Ala. Acts 277, 2014 Al. Pub. Act 277, 2014 Al. SB 174 (April 2, 2014)
- ▶ Chapter 38. The Regulation of Marijuana., Alaska Stat. Title 17, Ch. 38 Note (Current through 2019 SLA, chapter 5.)
- ▶ 3 AAC 306. Regulation of Marijuana Industry, 3 AAC 306. (This section is current through Register 229 (April 2019)
- Department of Health Services Medical Marijuana Program Chapter 17., A.A.C. Title 9, Ch. 17 (This document is current through Register 25, Issue 16, published April 19, 2019.)
- Amendment 98 Note, Ark. Const. Amendment 98 Note (Unofficially updated through Act 1092 of the 2019 Regular Session (except Acts 288, 315, 377-394, 545, 552, 577 sec. 4, 597, 738 sec. 7, 884 sec. 6, 904 secs. 1-2, 907 sec. 1, 910, and 972 sec. 3; however, new Title 25, Chapter 43, enacted by Act 910, is included). Unofficial updates are provisional only and do not include corrections and edits by the Arkansas Code Revision Commission.)
- ▶ 005. RULES AND REGULATIONS GOVERNING MEDICAL MARIJUANA REGISTRATION, LABELING, AND TESTING IN ARKANSAS, 007 16 CARR 005 (This document reflects changes received through April 25, 2019 The Arkansas Register: Volume XLII, Number 8, February 2019)
- ▶ Health and Human Services Agency, 2017 CA Regulation Text 24911 (Proposed Rule, July 16, 2018).
- § 40100 to 40601. Manufactured Cannabis Safety, 17 CCR 40100 to 40601 (This document is current through Register 2019, No. 20, May 17, 2019)
- § 11362.5. Use of marijuana for medical purposes, Cal Health & Saf Code § 11362.5 (Deering's California Codes are current through Chapter 5 of the 2019 Regular Session, including all legislation effective May 15, 2019 or earlier.)
- 2017 Cal ALS 27, 2017 Cal SB 94, 2017 Cal Stats. ch. 27 (June 27, 2017)
- ▶ 1 CCR 212-1. MEDICAL MARIJUANA RULES, 1 CCR 212-1 (This document reflects all regulations in effect as of April 25, 2019)
- ▶ 1 CCR 212-2. RETAIL MARIJUANA RULES, 1 CCR 212-2 (This document reflects all regulations in effect as of April 25, 2019)

- Sec. 21a-408. Palliative Use of Marijuana, Regs., Conn. State Agencies § 21a-408 (This document is current through the amendments received as of May 28, 2019)
- ▶ Chapter 49A The Delaware Medical Marijuana Act, 16 Del. C. Pt. IV, Ch. 49A (This document is current through 82 Del. Laws, ch. 22.)
- § 381.986. Medical use of marijuana., Fla. Stat. § 381.986 (Current with legislation from the 2019 First Regular Session of the 26th Legislature in effect through May 17, 2019 (Act Chapters 2019-1 through 44).)
- ▶ 2015 Ga. ALS 20, 2015 Ga. Laws 20, 2015 Ga. Act 20, 2015 Ga. HB 1 (April 16, 2015).
- Chapter 329D Medical Cannabis Dispensary System, HRS Div. 1, Tit. 19, Ch. 329D (This document is current through Chapter 32 of the 2019 Session. Subject to changes by Revisor pursuant to HRS 23G-15.)
- ▶ Idaho Office of Drug Policy, Marijuana (2019), https://odp.idaho.gov/marijuana/ (last visited Jun 5, 2019).
- ▶ 410 ILCS 130 Compassionate Use of Medical Cannabis Pilot Program Act [Repealed July 1, 2020], 410 ILCS 130 (Statutes current through P.A. 101-6 of the 2019 Regular Session of the 101st General Assembly).
- 2018 Ind. ALS 153, 2018 Ind. Acts 153, 2018 Ind. PL 153, 2018 Ind. SEA 52 (March 21, 2018)
- ▶ 124E Medical Cannabidiol Act., Iowa Code § 124E (This document is current through legislation from the 2018 Regular Session of the 87th General Assembly and HF260, HF263, HF266, HF288, HF291, HF304, HF306, HF307, HF323, HF325, HF327, HF328, HF390, HF391, HF392, HF393, HF418, HF423, HF486, HF487, HF499, HF516, HF537, HF595, HF596, HF598, HF604, HF606, HF637, HF650, HF698, HF701, HF719, HF759, HF764, SF112, SF140, SF208, SF220, SF245, SF304, SF367, SF402, SF519, SF534, SF555, and SF558 of the 88th General Assembly.)
- ▶ 302 KAR 50:020. Policies and procedures for growers., 302 KAR 50:020 (Administrative Regulations and Emergency Administrative Regulations Currently in Effect as of May 2018 PENDING AMENDMENT versions appearing are proposed new and amended administrative regulations which are going through the regulation process)
- ▶ AN ACT To amend and reenact R.S. 40:1046(A)(1), (3), (4), and (H)(1)(a) and to repeal R.S. ..., 2019 Bill Text LA H.B. 358 (March 29, 2019)

- § 2421 to § 2430-H . Maine Medical Use of Marijuana Act, 22 M.R.S. § 2421 to § 2430-H (Current Chapters 1 through 112, 114 through 149 of the First Regular Session of the 129th Maine Legislature Session.)
- ▶ 10 144 122. MEDICAL USE OF MARIJUANA PROGRAM, CMR 10-144-122 (This document reflects changes current through April 29, 2019)
- m. Laws 2018, c. 409, Pt. A, § A-3, effective May 2, 2018, 7 M.R.S. §§ 2441 to 2442 (Current Chapters 1 through 112, 114 through 149 of the First Regular Session of the 129th Maine Legislature Session.)
- ▶ 10 62 NATALIE LAPRADE MEDICAL CANNABIS COMMISSION, COMAR 10.62 (This document is current through the 5/24/2019 issue of the Maryland Register)
- ▶ 2019 Md. ALS 456, 2019 Md. Laws 456, 2019 Md. Chap. 456, 2019 Md. HB 17 (May 13, 2019)
- ▶ 500.000: Adult Use of Marijuana, 935 CMR 500.000 (This document reflects all regulations in effect as of 04/19/2019)
- ▶ 501.000: Medical Use of Marijuana, 935 CMR 501.000 (This document reflects all regulations in effect as of 04/19/2019)
- ▶ 502.000: Colocated Adult-Use and Medical-Use Marijuana Operations, 935 CMR 502.000 (This document reflects all regulations in effect as of 04/19/2019)
- 2018 Mi. ALS 582, 2018 Mi. P.A. 582, 2017 Mi. S.B. 1262 (December 28, 2018)
- Act 281 of 2016 Medical Marihuana Facilities Licensing Act, MCLS Ch. 333, Act 281 (This document is current through Public Act 16 from the 2019 Legislative Session)
- Initiated Law 1 of 2018 Michigan Regulation and Taxation of Marihuana Act, MCLS Ch. 333, Initiated Law 1 of 2018 Note (This document is current through Public Act 16 from the 2019 Legislative Session.)
- ▶ 2014 Minn. ALS 311, 2014 Minn. Chapter Law 311, 2013 Minn. S.F. No. 2470 (May 29, 2014)
- 4770 MEDICAL CANNABIS., Minn. R. 4770 (This document reflects changes received through May 16, 2019)
- § 41-29-136. Harper Grace's Law; legal possession, use, research, cultivation, processing, dispensing, prescribing or administration of cannabidiol; restrictions [Repealed effective July 1, 2021]., Miss. Code Ann. § 41-29-136
- § 1. Right to access Medical Marijuana., Mo. Const. Art. XIV, § 1 (Effective December 6 2018)

- 2017 Mt. ALS 408, 2017 Mt. Laws 408, 2017 Mt. Ch. 408, 2017 Mt. SB 333 (May 19, 2017)
- Chapter 46 Use of Marijuana for Debilitating Medical Conditions, Title 50, Ch. 46, MCA Note (This document is current through chapters effective, March 21, 2019, of the 2019 regular session, 66th Legislature.)
- > 37.107 MARIJUANA PROGRAM, ARM 37.107 (This document is current through April 27, 2019.)
- \$ 28-463. Cannabidiol; terms, defined; legislative findings. [Termination date October 1, 2019], R.R.S. Neb. § 28-463 (Current through the 2019 regular session of the 106th Legislature First Session acts: LB 1, LB 2, LB 3, LB 8, LB 11, LB 12, LB 16, LB 25A, LB 31A, LB 32, LB 33, LB 33A, LB 42, LB 48, LB 49, LB 56, LB 59, LB 61, LB 63, LB 71, LB 75, LB 77, LB 78, LB 79, LB 80, LB 82, LB 87, LB 102, LB 103, LB 112A, LB 115, LB 117, LB 122, LB 124, LB125, LB 127, LB 139, LB 141, LB 145, LB 146, LB 160, LB 190, LB192, LB 192A, LB 194, LB 195, LB 196, LB 200, LB 212, LB 217, LB 222, LB 252, LB 258, LB 259, LB 264, LB 268, LB 269, LB 307, LB 318, LB 319, LB 320, LB 339, LB 340, LB 348, LB 354A, LB 355, LB 359, LB 372, LB 384, LB 399, LB 409, LB 428, LB 430, LB443, LB 445, LB 463, LB514, LB 556A, LB 590, LB 603, LB 638, LB 660, LB 660A, LB 663, LB 669, and LB 698.)
- ▶ 453A. Medical Use of Marijuana. (NRS 453A), NAC 453A (This document reflects changes received through January 2019).
- ► Chapter 453D. Regulation and Taxation of Marijuana., Nev. Rev. Stat. Ann. Title 40, Ch. 453D Note (This document is current through Chapters 1-35, 37-39, 41, 58, 65 of the 80th Regular Session (2019), including all legislation effective May 14, 2019 or earlier.)
- Chapter 126-X Use of Cannabis for Therapeutic Purposes, RSA Tit. X, Ch. 126-X Note (Statutes current through Act 41 of the 2019 Regular Session.)
- ▶ He-C 400 Therapeutic Cannabis Program., N.H. Admin. Rules, He-C 400 (This document is current through May 2, 2019)
- ▶ Title 8, Chapter 64 Medical Marijuana, N.J.A.C. 8:64 (This file includes all Regulations adopted and published through the New Jersey Register, Vol. 51 No. 11, June 3, 2019)

- ▶ 50 N.J.R. 1398(a)
- § 7.34. MEDICAL USE OF CANNABIS, 7.34 NMAC (Current through New Mexico Register, Vol. XXX, No. 8 dated April 23, 2019)
- Part 1004 Medical Use of Marihuana, 10 NYCRR Part 1004 Medical Use of Marihuana (This document reflects those changes received from the NY Bill Drafting Commission through May 24, 2019)
- ▶ 2014 N.Y. ALS 90, 2014 N.Y. Laws 90, 2014 N.Y. Ch. 90, 2013 N.Y. AB 6357 (July 5, 2014)
- ▶ 2014 N.C. ALS 53, 2014 N.C. Sess. Laws 53, 2014 N.C. Ch. 53, 2013 N.C. HB 1220 (July 3, 2014)
- 2015 N.C. ALS 154, 2015 N.C. Sess. Laws 154, 2015 N.C. Ch. 154, 2015 N.C. HB 766 (July 16, 2015)
- CHAPTER 19-24.1 Medical Marijuana, N.D. Cent. Code, Title 19, Ch. 19-24.1
- > 33-44-01. Medical Marijuana., N.D. Admin. Code 33-44-01 (This section is current through amendments effective January 1, 2019)
- > 3796. Medical Marijuana., OAC Ann. 3796 (This document is current through the Ohio Register for the week of May 17, 2019)
- § 420. State-issued medical marijuana license, 63 Okl. St. § 420 (This document is current with the 57th Legislature act chapters 1 to 322, 324, 345, 349, 351 to 353, 361, 362, 382, 385, 386, 395, 399, 404, 410, 418, & 419.)
- ▶ EMERGENCY ADOPTIONS, OKLAHOMA STATE DEPARTMENT OF HEALTH, 36 OK Reg. 222 (February 1, 2019)
- ▶ 845-025 Recreational Marijuana, OAR 845-025 (This document is current through changes published in the May 4, 2019 Oregon Bulletin)
- Chapter 475B Cannabis Regulation, ORS Title 37, Ch. 475B (The Oregon Annotated Statutes is current through chapter 94 of the 2019 Regular Session. Some sections may have multiple variants due to amendments by multiple acts. Revision and codification by the Legislative Counsel are updated as available, see ORS 173.111 et seq. For sections pending codification by the Legislative Counsel, see Newly Added Sections in the Table of Contents.)
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- ▶ 216-20-10-3 MEDICAL MARIJUANA PROGRAM, 216 RICR 020-10-3 (This document reflects changes through April 26, 2019)
- ▶ 216-60-05-6 LICENSING ANALYTICAL LABORATORIES FOR SAMPLING AND TESTING MEDICAL MARIJUANA, 216 RICR 060-05-6 (This document reflects changes through April 26, 2019)
- § 21-28.6. The Edward O. Hawkins and Thomas C. Slater Medical Marijuana Act, R.I. Gen. Laws § 21-28.6 (Current through Chapter 20 of the January 2019 Session but not including all corrections and changes made by the Director of Law Revision. The final official version of the 2019 session will be available in October 2019.)
- ▶ 2014 S.C. Acts 221, 2013 S.C. S.B. 1035, 2013 S.C. R. 229 (June 2, 2014)
- ▶ 22-42. Controlled Substances and Marijuana., S.D. Codified Laws § 22-42 (Current through acts received as of April 30th from the 2019 General Session of the 94th South Dakota Legislative Assembly, Executive Order 2019-1 and Supreme Court Rule 19-15)
- 2016 Tenn. ALS 1083, 2016 Tenn. Pub. Acts 1083, 2016 Tenn. Pub. Ch. 1083, 2015 Tenn. HB 2144 (May 20, 2016)
- 2015 Tex. SB 339, 2015 Tex. Gen. Laws 301, 2015 Tex. Ch 301, 2015 Tex. ALS 301 (June 1, 2015)
- § 12. Compassionate Use/Low-THC Cannabis Program Administrative Rules, 37 TAC § 12 (This document reflects all regulations in effect as of MAY 31, 2019)
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- § 4472 to § 4474m. Marijuana for Medical Symptom Use by Persons with Severe Illness, 18 V.S.A. § 4472 to § 4474m (Statutes are current with all legislation through Act 9 of the Regular Session of the 2019 Vermont General Assembly)
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- The Pharmacy Act and The Drug Control Act with related statutes, (2018), https://www.dhp.virginia.gov/pharmacy/leg/Pharmacy Law 7-2018.docx (last visited Jun 4, 2019)

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