

A Study: Best Practices of Public Health Measures in States that have Legalized the Adult Recreational Use of Cannabis

**National Council on
Alcoholism and Drug
Dependence-Maryland**

October 2021

Acknowledgements

This report was researched and written by Ann Ciekot of Public Policy Partners on behalf of the Maryland Chapter of the National Council on Alcoholism and Drug Dependence. The layout was designed by Bree Parker. The publication of this report was made possible by the generous support of the Abell Foundation.

About NCADD-Maryland

NCADD-Maryland's mission is to raise public awareness of alcoholism and drug dependence issues across the state, while working to ensure those affected by the disease of addiction have the resources necessary when accessing treatment and sustaining recovery.



Executive Summary

This report was written by the Maryland Chapter of the National Council on Alcoholism and Drug Dependence (NCADD-Maryland) to identify the actions and outcomes of other states in the country that have legalized recreational cannabis, with a particular focus on public health policies. The research is intended to identify best practices for Maryland lawmakers on what public health approaches should be taken in the process of legalizing cannabis for recreational adult use, should the State decide to move in this direction. Based on our conversations with professionals from other states and available research, NCADD-Maryland has identified the following major public health policies related to recreational cannabis use:

Policies Addressing Consumption— Advertising and Packaging

Nearly all states that have legalized recreational cannabis have advertising and packaging policies to curb cannabis use amongst adolescents and vulnerable populations. Advertising and packaging restrictions are particularly important because the risks of negative health effects associated with cannabis use are not widely recognized by the public.

Public Health Education Campaigns

Negative health impacts can be a result of heavy cannabis use. Other states have found public health messaging and policies that fund, require, and support educational campaigns are effective ways to minimize adverse outcomes in high-risk groups such as adolescents, people with mental health disorders and pregnant women.

Policies Related to Potency and Mitigating Negative Public Health Impacts

Potency is an emerging issue as more states legalize

recreational cannabis. As cannabis products become more diverse, THC potency has increased and the methods of use have changed significantly.

Fee Structures to Promote Public Health

The “war on drugs” policies in the United States have resulted in mass incarceration of primarily Black and Hispanic males, undermining public health in these communities. Black and Hispanic individuals are also less likely to complete addiction treatment. Legalizing cannabis provides an opportunity, through revenue generation, fees, and taxes, to reinvest in communities that have been historically impacted by discriminatory practices.

Other Public Health Policies

This report also focuses on other significant policies that were raised in a few states:

Public Use

Similar to alcohol and tobacco, there are public health and safety interests associated with the public use of certain substances. It is important to address the use of cannabis in public without creating additional criminal penalties.

Driving Safety

Driving impairment has been a prominent issue of concern in a number of states, with data showing an increase in driving while impaired by cannabis.

Governing Structures

Some governing structures in other states have placed responsibility with existing state agencies, while other states have created new entities to oversee this new market.

Data Collection

States that have legalized recreational cannabis have recognized the significant gaps in baseline data, which is incredibly important to quantify whether public health strategies are effective.

Recommendations

- Clearly define specific restrictions and requirements on how, when, and where advertising of cannabis products can take place and what content and images can and cannot be in advertisements and on packaging.
- Incorporate the extensive knowledge Maryland and the federal government has developed over the last few decades in successful efforts to deter minors from using tobacco and alcohol products.
- Develop age-appropriate public education campaigns designed to ensure the public understands cannabis and to mitigate any negative public health impact.
- Require the development of public health campaigns be led by the Department of Health's Public Health Administration, in consultation with health and educational campaign experts.
- Set clear and specific limits on potency levels in the various products for sale to the public. Policies should prohibit potencies above a certain percentage, such as Maryland does with alcohol content.
- Create a higher tax rate on higher potency products to deter young people from accessing those products and to influence the market.
- Specify minimum percentages of revenue generated by taxes and licensing fees for specific purposes. Revenue should significantly support:
 - Public health education campaigns
 - Youth prevention strategies
 - Treatment and recovery services for people with substance use and mental health disorders
 - Treatment and recovery workforce development
 - Re-entry services
 - Community programs that benefit disadvantaged communities, including those communities disproportionately impacted by the war on drugs
- Restrict the use of cannabis in public without creating additional criminal penalties. Smoking cannabis indoors should be restricted consistent with Maryland's Clean Indoor Air Act.
- When considering the issue of "clubs" or other public spaces to allow for the consumption of cannabis products, Maryland should look to consistencies with restrictions and requirements on bars and other locations where alcohol is consumed on-site.
- Maryland's laws on impaired driving should be applied as consistently as possible to laws addressing any impairment, whether caused by cannabis or alcohol. While the technologies are not equal at this time, the policies should not create substantially different standards.
- Public health authorities should be placed in leadership positions and ensure cannabis related regulations are overseen by appointed public health officials.
- Collection of baseline data is needed now, prior to any legalization implementation, to ensure policy makers have the most comprehensive and accurate data when regulating this industry.

Introduction



CONTAINS THC
NOT SAFE FOR KIDS OR PETS

Cannabis is one of the most commonly used psychoactive drugs worldwide, with recent estimates from the United Nations Office on Drugs and Crime suggesting over 188 million users in 2017¹ While cannabis has remained an illicit drug federally in the United States, many states are legalizing cannabis for medical and recreational use. In 2012, Colorado and Washington became the first two states to pass referenda to legalize recreational cannabis, with retail sales beginning in 2014. Since then, over a dozen more states have followed legalizing recreational cannabis use in a similar posture.² While there are many social and equity-based benefits associated with legalizing cannabis, there are also concerns surrounding public health harms.

This report identifies the actions and outcomes of other states in the country that have legalized the recreational use of cannabis, with a particular focus on public health. The research is intended to identify best practices for Maryland lawmakers on what public health ap-

proaches should be taken in the process of legalizing cannabis for recreational adult use, should the State decide to move in this direction.

NCADD-Maryland is not currently advocating for or against the legalization of cannabis for personal use. The organization has closely monitored Maryland's medical cannabis program since its creation to ensure that issues related to addiction are taken into account. As more and more states move toward full legalization, NCADD-Maryland believes State law makers should examine carefully best practices that should be replicated and pitfalls that should be averted, if Maryland approves adult recreational use of cannabis. NCADD-Maryland intends to use this information to educate law makers and stakeholders about the policies that need to be in place to safeguard the health and safety of Marylanders.

¹ <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7538627/>

² Ibid.



Source: National Conference of State Legislatures

- Policies Addressing Consumption – Advertising and Packaging
- Public Health Education Campaigns
- Policies Related to Potency and Mitigating Negative Public Health Impacts
- Fee Structures to Promote Public Health
- Other Public Health Policies: Public Use, Driving Safety, Governing Structures and Data Collection

History of Cannabis in Maryland

Bills on this issue have been introduced in the Maryland General Assembly for at least ten years, ranging from successful legislation creating a medical cannabis program and decriminalizing the possession of small amounts of cannabis for personal use, to proposals that have not passed to allow for full legalization and taxation in a commercial market.

In 2014, a number of bills concerning cannabis legalization were signed into law, including two bills that allowed certain patients with qualifying medical conditions to obtain access to medical cannabis in a legal manner. In addition to establishing a medical cannabis program, Maryland decriminalized the possession of small amounts of cannabis. Under the new law, possession of up to 10 grams of cannabis is considered a civil, rather than a criminal offense.

In 2017, the medical cannabis program in Maryland became fully operational. Medical cannabis is regulated by the Natalie M. LaPrade Maryland Medical Cannabis Commission, which oversees all licensing, registration, inspection, and testing measures related to Maryland's medical cannabis program.

In February of 2019, the General Assembly's presiding officers at that time, Senate President Mike Miller and House Speaker Mike Busch, announced the creation of a joint legislative workgroup to consider a number of policy areas related to the legalization of cannabis. That workgroup ended its work without formally making recommendations, largely because of the changes in

leadership in the Senate and House.

In July of 2021, House Speaker Adrienne Jones announced she would support passage of a Constitutional Amendment in the 2022 General Assembly Session to allow voters to decide on the November 2022 ballot whether or not legalization should take place in Maryland. She announced the formation of a legislative workgroup which started meeting in September to examine various components of the issue. This significantly increases the chance that the General Assembly will pass a Constitutional Amendment in the 2022 Session which would put the measure on the ballot in November. Senate President Bill Ferguson has expressed public support for several years.

Various polls conducted over the past few years show a growing trend of support for legalization in Maryland and around the country. In March of 2021, a finding from a Goucher College poll found 67% of Marylanders support the legalization of cannabis for recreational use.³ This was the first poll that showed majority support among both registered Democrats and Republicans. This result shows the highest percentage of support in Maryland since Goucher first starting including the question in 2013, and is reflective of a recent national poll conducted by Pew Research Center that found 60% of American adults support legalization.⁴

³ <https://www.goucher.edu/hughes-center/documents/Goucher-College-Poll-Mar-2021-Part-2.pdf>

⁴ <https://www.pewresearch.org/fact-tank/2021/04/16/americans-overwhelmingly-say-marijuana-should-be-legal-for-recreational-or-medical-use/>

Public Health as a Priority in Legalization Discussions

Public health is an incredibly diverse and multi-disciplinary field. States that have legalized recreational cannabis have considered a number public health measures and involved a diverse set of professionals in the development of policies. Experts include those in field who examine acute and chronic disease, maternal health, environmental health, food and safety, toxicology, poisoning and injury prevention, and more. Legalizing cannabis, in a thoughtful manner with a focus on public health, is no easy task. Luckily, Maryland can draw policies from other states that have been successful and learn from states that have been less successful.

The American Public Health Association (APHA) issued a policy statement in 2020 acknowledging the lack of national cannabis policy research and calling for evidence-based public health approaches to how states regulate the legal selling of cannabis.⁵ They urge such approaches build on the studied and effective strategies used for tobacco and alcohol control. The recommendations to existing approaches are supported by the evidence that cannabis, just like tobacco, alcohol, and other substances have some similar health impacts, especially on youth.⁶ For example, evidence shows that the earlier a person begins regular use of cannabis, the greater the chance to develop a dependency or disorder. Evidence shows that frequent and heavy use impacts brain function.⁷ This is not to say that the substances are the same, but rather, a number of the common elements can be addressed

in similar ways.

Since 1970 when Congress passed the Controlled Substance Act (CSA), cannabis has been a Schedule I Controlled Substance. Substances are classified as such when they are determined to have no accepted medical use and a high potential for abuse. One of the effects of the federal government's classification of cannabis on Schedule I has been the difficulty or inability of research institutions to obtain cannabis, leading to a lack of comprehensive, well-controlled studies of cannabis, either for medical purposes or recreational use.⁸ This contributes to the public confusion about cannabis, as the Food and Drug Administration approved in 2018 a drug that contains cannabidiol extracted from the cannabis plant to treat certain forms of epilepsy, and Congress removed low-THC hemp from the CSA.⁹ This also means that unlike other substances such as tobacco and alcohol, there are no uniform standards related to what might be considered a safe level of use.

⁵ <https://www.apha.org/policies-and-advocacy/public-health-policy-statements/policy-database/2021/01/13/a-public-health-approach-to-regulating-commercially-legalized-cannabis>

⁶ Ibid.

⁷ <https://www.cdc.gov/marijuana/nas/>

⁸ <https://alcoholpolicy.niaaa.nih.gov/about-cannabis-policy>

⁹ Ibid.

Findings



The policy areas identified below are based on conversations with officials and stakeholders from a number of states that have legalized recreational cannabis, state resources, and publicly available studies and reports. NCADD-Maryland has identified in this document policies and strategies that are robust and detailed, and where data is available, the ones that have proven effective. While Colorado and Washington were the first states to legalize recreational cannabis in November of 2012, the collection of data to demonstrate the efficacy of certain policies and programs has been limited. As more states have legalized cannabis, the general trend has shown an increased focus on public health, safety, equity, and revenue distribution. As some of those more robust policies are among the more recent states to have legalized cannabis, such as New York, Connecticut and

Illinois, data is not yet available to quantify or measure the efficacy of these programs.

At the end of these policy areas, NCADD-Maryland has made recommendations for consideration by Maryland law makers if and when developing policies for recreational cannabis. The recommendations are based on available literature and data, as well as the conversations with people in the states where cannabis is legal. A number of these recommendations are items already under consideration by Maryland law makers.

Policies Addressing Consumption—Advertising and Packaging

Studies have shown that plain cigarette packaging and health warning labels reduce brand appeal and increase health knowledge. This similar packaging and warning structure has been commonly applied to cannabis in recreational-use states.¹⁰ Packaging and advertising regulations are particularly important for cannabis products because the public perceptions of the risks and harms associated with cannabis use are not widely recognized.¹¹ There are significant knowledge gaps on cannabis use, and clear educational packaging and limited advertisement is key to bridging this gap.¹²

Advertising

In nearly all states that have legalized recreational cannabis, there are limitations to advertising and marketing cannabis products. These restrictions are primarily to deter adolescents and vulnerable populations, such as those with underlying health conditions and pregnant women, from purchasing and using recreational cannabis. Robust policies surrounding advertising do a number of things, including: restricting imaging; requiring commercial cannabis dispensaries and advertisements to be located a certain number of feet away from day cares, schools, playgrounds and youth facilities; and prohibit misleading information. States have commonly restricted imaging that would appeal to younger audiences including limiting colorful advertisements, cartoons, etc.

According to the Centers for Disease Control and

Prevention (CDC), research from tobacco and alcohol markets suggests advertising exposure is associated with perceptions of lower risk and increased use among young people.¹³ This study also found that groups with higher exposure to advertising may benefit from targeted prevention efforts or counter-messaging to delay initiation of cannabis use.¹⁴ According to one study, a complete ban on alcohol advertising would result in 7,609 fewer deaths and a 16.4% drop in alcohol-related life years lost.¹⁵ In conversations with professionals from Illinois, Oregon, the City of Denver, and Connecticut, there is a consensus in highlighting the importance of advertising limitations and encouraging use prevention among adolescents and vulnerable populations.

When recreational cannabis began to be legalized in the United States, the APHA created recommendations to safeguard public health. For advertising, it is recommended that health warnings be placed in stores and on advertisements. Further it is recommended that rotating warnings must be required on cannabis advertisements, whether print, internet, radio, or other.¹⁶ Rotating warnings prevents “wear out” of the messages and helps maintain their effectiveness.¹⁷

Colorado and Washington were the first states to legalize recreational cannabis in 2012. As both states were faced with public health challenges that had never been faced before, they used other controlled

¹⁰ <https://bmcpublihealth.biomedcentral.com/articles/10.1186/s12889-018-6247-2>

¹¹ Ibid.

¹² Ibid.

¹³ https://www.cdc.gov/pcd/issues/2020/19_0206.htm

¹⁴ Ibid.

¹⁵ <https://www.apha.org/policies-and-advocacy/public-health-policy-statements/policy-database/2021/01/13/a-public-health-approach-to-regulating-commercially-legalized-cannabis>

¹⁶ Ibid.

¹⁷ <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3977488/>

Illinois Cannabis Regulation and Tax Act

Advertising Restrictions

Businesses may not engage in advertising that:

- Is false or misleading.
- Promotes over consumption of cannabis or cannabis products; Depicts the actual consumption of cannabis or cannabis products.
- Depicts a person under 21 years of age consuming cannabis.
- Makes any health, medicinal, or therapeutic claims about cannabis or cannabis infused products.
- Makes any health, medicinal, or therapeutic claims about cannabis or cannabis infused products.
- Includes the image of cannabis leaf or bud.
- Includes any image designed or likely to appeal to minors, including cartoons, toys, animals, or children, or any other likeness to images, characters, or phrases that is designed in any manner to be appealing to or encourage consumption of persons under the age of 21.

substance policies, such as tobacco and alcohol, as a foundation for recreational cannabis policies. In Colorado, the requirements surrounding cannabis advertising mirror alcohol advertising. Colorado directs industry to refrain from advertising on television, radio, print media, and websites where more than approximately 30 percent of the audience is reasonable expected to be under the age of 21.¹⁸ Studies have shown that a major success of the Colorado experience was in part due to the close involvement of public health officials during the development of cannabis regulations, which allowed a more proactive approach to implementing important policies such as advertising and sales restrictions.^{19 20}

Data shows that cannabis use among young people has remained steady in Colorado.²¹ However, the method in which adolescents consume cannabis has changed since 2015. While smoking has remained the most common way for high schoolers to use cannabis, it has decreased to 15.3% in 2019, compared to 18.6% on 2015. Other methods, such as vaping or dabbing (heating the extract on a device and inhaling the vapor) have increased over the past 5-8 years, however, over-

all use remains steady.²²

Illinois began its medical cannabis market in 2013, when Governor Pat Quinn signed the Compassionate Use of Medical Cannabis Pilot Program Act.²³ In 2019, the Illinois Cannabis Regulation and Tax Act was passed, and legalized recreational cannabis use in the state.²⁴ Illinois was also the first state to legalize recreational cannabis use through legislation,²⁵ rather than a voter initiative. Following in the footsteps of ten other states, Illinois developed detailed policies to address public health and social equity issues that other states had faced. With regard to advertising, the Illinois law specifies what cannot be included (see inset above).

In addition to limitations on the content that can be included in advertisements, there are also restrictions on when and where cannabis can be advertised. These restrictions have the same goal as the limitations in content: to curb adolescent and vulnerable populations' cannabis use. These policies can come in the form of requiring advertisements to be a certain distance away from youth related facilities, and requiring that an audience through television or radio reach a

¹⁸ https://www.colorado.gov/pacific/sites/default/files/Retail%20Marijuana%20Rules,%20Adopted%20090913,%20Effective%20101513%5B1%5D_0.pdf

¹⁹ <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4695936/>

²⁰ <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4627877/>

²¹ <https://cdphe.colorado.gov/healthy-kids-colorado-survey-data-tables-and-reports>

²² <https://cdphe.colorado.gov/healthy-kids-colorado-survey-data-tables-and-reports>

²³ <https://illinoisnorml.org/history/>

²⁴ Ibid.

²⁵ Ibid.

Illinois Cannabis Regulation and Tax Act

Packaging Requirements and Restrictions

(c) Any product containing cannabis shall be packaged in a sealed, odor-proof, and child-resistant cannabis container consistent with current standards, including the Consumer Product Safety Commission standards referenced by the Poison Prevention Act.

(d) All cannabis-infused products shall be individually wrapped or packaged at the original point of preparation. The packaging of the cannabis-infused product shall conform to the labeling requirements of the Illinois Food, Drug and Cosmetic Act, in addition to the other requirements set forth in this Section.

Additionally, packaging, similar to general advertisements, must not contain information that:

- (1) Is false or misleading.
- (2) Promotes excessive consumption
- (3) Depicts a person under 21 years of age consuming cannabis.
- (4) Includes the image of a cannabis leaf.
- (5) Includes any image designed or likely to appeal to minors, including cartoons, toys, animals, or children, or any other likeness to images, characters, or phrases that are popularly used to advertise to children, or any packaging or labeling that bears reasonable resemblance to any product available for consumption as a commercially available candy, or that promotes consumption of cannabis.

certain adult percentage threshold.

In Illinois, no advertisement of cannabis or cannabis-infused products is allowed in any form or through any medium:

- Within 1,000 feet of the perimeter of school grounds, a playground, a recreation center or facility, a child care center, a public park or public library, or a game arcade to which admission is not restricted to persons 21 years of age or older.
- On or in a public transit vehicle or public transit shelter.
- On or in publicly owned or publicly operated property.

Packaging

In addition to the advertising of cannabis products, the packaging of the product is equally important to regulate. Generally, most states have some form of a boilerplate statement, similar to those found on tobacco products. Effective and comprehensive packaging policies for recreational cannabis are often based on

successful policies or lessons learned from the tobacco industry. In a 2016 study, researchers outlined the following best practices for labeling and packaging: (1) mandatory health warning label, (2) warnings that cover over 30% of the primary product panel, (3) pictorial warnings in addition to text, (4) rotating health warning content, (5) plain product packaging, (6) prohibition of harmful additives, (7) prohibition of characterizing flavors, and (8) restricting potency.²⁶ Packaging is usually required to be child resistant and in containers that are not particularly appealing to adolescents.

In Illinois, their packaging and labeling section of their law outlines a number of requirements that relate to youth consumption prevention (see inset above).²⁷

These requirements touch on a number of recommendations outlined in the 2016 packaging study, including plain product packaging to minimize youth consumption. In addition, research conducted in Canada found that pictorial warnings were highly effective compared to text-only warnings, particularly those related to dose,

²⁶ <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5878137/#R11>

²⁷ <https://www.ilga.gov/legislation/ilcs/documents/041007050K55-21.htm>

Illinois Cannabis Regulation and Tax Act

Packaging Requirements and Restrictions (cont.)

(6) Contains any seal, flag, crest, coat of arms, or other insignia likely to mislead the purchaser to believe that the product has been endorsed, made, or used by the

State of Illinois or any of its representatives except where authorized by this Act.

co-morbid drug use and pregnancy, which exemplified believability across populations.²⁸

Cannabis packaged products must also contain a warning label to disclose health impacts of consuming cannabis. In Illinois the warning label is dependent on the product. For example, if the cannabis product can be smoked, it must contain a statement that “smoking is hazardous to your health.”²⁹ Cannabis infused products, other than topical products, must state: “CAUTION: This product contains cannabis, and intoxication following use may be delayed 2 or more hours.”³⁰ Any cannabis-infused products intended for topical application must contain the statement “DO NOT EAT” in bold, capital letters.³¹ The National Institutes of Health recommends health warnings be no more than 10 to 15 words long and use language at a sixth-grade reading level or lower to ensure readability across a wide array of socioeconomic backgrounds.³²

Alaska legalized recreational cannabis shortly after Washington and Oregon. The state initially legalized the use of cannabis for medical purposes following a citizens initiative in which 69% of voters voted for medical legalization. In 2014, the state’s Governor approved the voter initiative to legalize, tax, and regulate an adult use market. Alaska has similarly structured language and requires cannabis product manufacturing facilities to have the following statements on products:³³

“(A) ‘Marijuana has intoxicating effects and may be habit forming and addictive’

(B) ‘Marijuana impairs concentration, coordination, and judgment. Do not operate a vehicle or machinery under its influence’

(C) ‘There are health risks associated with consumption of marijuana’

(D) ‘For use only by adults twenty-one and older. Keep out of reach of children’

(E) ‘Marijuana should not be used by women who are pregnant or breast feeding.’.”

Oregon received a high readability score based on a study published in the American Journal of Public Health for designing warning statements suitable for low-literacy children and adults.³⁴

The Public Health Institute in conjunction with the State of California established a Model Cannabis Ordinance.³⁵ The model ordinance provides what they promote as best practices for advertising and packaging, including signage requirements in cannabis retail establishments and written educational material to customers purchasing products. While not every recommendation from the Public Health Institute was adopted by California, parts were adopted and formally put into law. See Attachment A.

²⁸ <http://cannabisproject.ca/wp-content/uploads/2017/09/Leos-Tor-et-al.-2019-Perceptions-of-effectiveness-and-believability-of-pictorial-and-text-only-health-warning-labels-for-cannabis-products-among-Canadian-youth.pdf>

²⁹ <https://www.ilga.gov/legislation/ilcs/documents/041007050K55-21.htm>

³⁰ Ibid.

³¹ Ibid.

³² <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5993386/>

³³ <https://www.msnpackaging.com/pages/state-compliance-a-m>

³⁴ <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5993386/#bib98>

³⁵ <https://gettingitrightfromthestart.org/our-model-ordinances/>

Public Health Education Campaigns

Drug dependence can be a consequence of frequent and heavy cannabis use.⁵⁹ This is also a pattern of use most strongly associated with psychosis, poor mental health, cognitive impairment and poor school outcomes.⁶⁰ Public health messaging and policies that fund, require, and support educational campaigns are effective ways to minimize adverse outcomes in high-risk groups such as adolescents, people with mental health disorders and pregnant women.⁶¹ Additionally, many cannabis users have low accuracy in identifying effective harm reduction techniques such as not driving within six hours of using cannabis. This exemplifies the public misconception of the harms associated with cannabis use and the lack of education surrounding safe use. As recreational cannabis continues to grow, it becomes even more important that public health officials equip the public with knowledge about cannabis use.

Colorado's Public Health Campaign

Different states have taken different approaches in their education campaigns. Importantly, Colorado focuses heavily on public health research. When Colorado became one of the first states in the nation to open retail cannabis stores, the Colorado General Assembly mandated that the Colorado Department of Public Health and Environment monitor the scientific data and medical literature on cannabis use patterns and health effects associated with cannabis use.⁶² Every two years, a summary of information and litera-

ture found is presented to the Colorado State Board of Health, the Colorado Department of Revenue and the Colorado General Assembly as a report.⁶³

In addition to the legislative mandate, Colorado also pushed out two main campaigns to educate Colorado residents on new laws involving cannabis and a public health campaign to share information about potential risks for vulnerable populations, such as teens and pregnant women. In Colorado's campaign "Responsibility Grows Here," the following public health topics are addressed: (1) Responsible Marijuana Use;⁶⁴ (2) Youth and Marijuana;⁶⁵ (3) Talking Tips for Adults;⁶⁶ (4) Marijuana and Pregnancy.⁶⁷

The content and tone of Colorado's "Responsibility Grows Here" is incredibly informal, and therefore easily absorbed by readers. It is known to resonate with Colorado culture and cannabis users. Prior to the "Responsibility Grows Here" campaign, Colorado launched the "Good to Know Campaign" to help Coloradans and visitors navigate the rule and guidelines that govern safe, legal, and responsible cannabis use.⁶⁸ The idea behind this education campaign was to start an open conversation surrounding cannabis. With more people being familiar with the law and safe uses, users and non-users can speak confidently to friends and family about cannabis use. This campaign also highlighted proper doses with consuming retail cannabis products and the importance of ensuring cannabis should not be used or stored around children.⁶⁹

⁵⁹ <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6148646/>

⁶⁰ Ibid.

⁶¹ Ibid.

⁶² <https://marijuanahealthinfo.colorado.gov/>

⁶³ Ibid.

⁶⁴ <https://responsibilitygrowshere.com/responsible-marijuana-use/>

⁶⁵ <https://responsibilitygrowshere.com/youth-and-marijuana/>

⁶⁶ <https://responsibilitygrowshere.com/marijuana-talking-tips-for-adults/>

⁶⁷ <https://responsibilitygrowshere.com/marijuana-and-pregnancy-facts/>

⁶⁸ https://cdpsdocs.state.co.us/safeschools/Resources/CDPHE%20Colorado%20Department%20of%20Public%20Health%20Environment/CDPHE_GoodToKnow_FactsTheLaw_FINAL.pdf

⁶⁹ Ibid.



Part of a multi-media public education campaign created by the Liquor, Gaming and Cannabis Authority of Manitoba, 2019

California's Public Health Campaigns

While Colorado has a successful statewide initiative, California's public health campaigns occurred on a smaller scale – in individual communities. When California voters decided to legalize cannabis, local jurisdictions were given a narrow window of time in which to decide how to approach commercial cannabis in their communities. Local jurisdictions could do anything from completely ban cannabis locally to allowing cannabis to operate under state rules. Communities could also develop their own rules and regulations. Ultimately, many communities decided to temporarily ban recreational cannabis until they had time to draft thoughtful local policy.

California established "Getting it Right from the Start" which gathers information on how each California jurisdiction has regulated cannabis. This information was used to prepare a cannabis policy scorecard for those jurisdictions which allow storefront sales and

how policies protect children, public health, and social equity. California's statewide public health campaign is the "Let's Talk Cannabis" webpage. This site touches on five topics: (1) what's legal; (2) pregnant and breastfeeding women; (3) youth; (4) parents and mentors; and (5) responsible use.

California's "Let's Talk Cannabis" campaign includes a community toolkit which is designed to help start conversations in communities about how cannabis affects peoples' bodies, minds, and health.⁷⁰ The toolkit includes customizable fact sheets, media advisory templates, information points, and more.⁷¹ A customizable toolkit for communities can lead to greater public education surrounding cannabis use and encourage safe usage.

⁷⁰ <https://www.cdph.ca.gov/Programs/DO/letstalkcannabis/Pages/Community-Toolkit.aspx>

⁷¹ Ibid.

Policies Related to Potency and Mitigating Public Health Impacts

As legalization of recreational cannabis increases across the country, industry has been producing more diverse and potent cannabis products. The focus on the potency of Tetrahydrocannabinol (THC) – the main psychoactive compound in cannabis – is a result of the evolution of the legal retail cannabis market. Smoking has historically been the dominant method of cannabis use, however, with the growth of the legal retail market, there is a great diversification in products.³⁶ Importantly, edibles, which are typically dessert or food products that use cannabis-infused oil in the baking process, have become increasingly popular. Other oral THC products such as candies, oils, and tinctures have become popular as well.³⁷

With the increase in edible-use, a new set of public health questions are raised. A concern with edibles is the delayed and unpredictable onset and duration of psychotropic effect as a result of slower absorption of THC into the system.³⁸ In addition to edibles, vaporized cannabis (“vaping”) and the inhalation of cannabis concentrates (waxes and “dabs”) are becoming more popular trends. These products often contain high concentrations of THC and are known for a greater drug-induced high. Since 1995, THC concentrations have increased on average over 300%.³⁹ Dabs are concentrated extracts of hash oil created using a butane solvent, while “dabbing” refers to the behavior of heating the extract on a device and inhaling the vapor, often resulting in a very large immediate dose of THC.⁴⁰

The use of dabs⁴¹ has been attributed to cases of acute psychosis, cardiotoxicity, and respiratory failure.⁴² As a result, emergency room (ER) clinicians in Colorado say they are starting to see more patients who come into the ER with cannabis-associated issues.⁴³ Of these visits, approximately 10% are from highly potent edible cannabis products, even though only 0.32 % of cannabis products sold are edibles.⁴⁴ THC in low and high concentrations causes significantly different effects on the body. While low-level THC products can decrease anxiety, highly potent THC products can cause users to become psychotic and paranoid. Similarly, low-potent products can curb nausea, while high-potent products can cause users to go to the ER with a syndrome of extreme vomiting and intense abdominal pain.⁴⁵ Highly concentrated products are particularly dangerous to children and young adults often because they are experimenting with cannabis use and do not know how to use the drug safely.

In order to minimize the adverse health impacts associated with highly potent cannabis products, a few states have created potency-based cannabis policies. Based on conversations with states, there are two ways in which highly potent cannabis products are regulated: (1) potency-based limits; and (2) potency-based taxes.

Potency-Based Limits

Potency based limits regulate how many milligrams

³⁶ <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7538627/>

³⁷ Ibid.

³⁸ Ibid.

³⁹ <https://www.npr.org/sections/health-shots/2019/05/15/723656629/highly-potent-weed-has-swept-the-market-raising-concerns-about-health-risks>

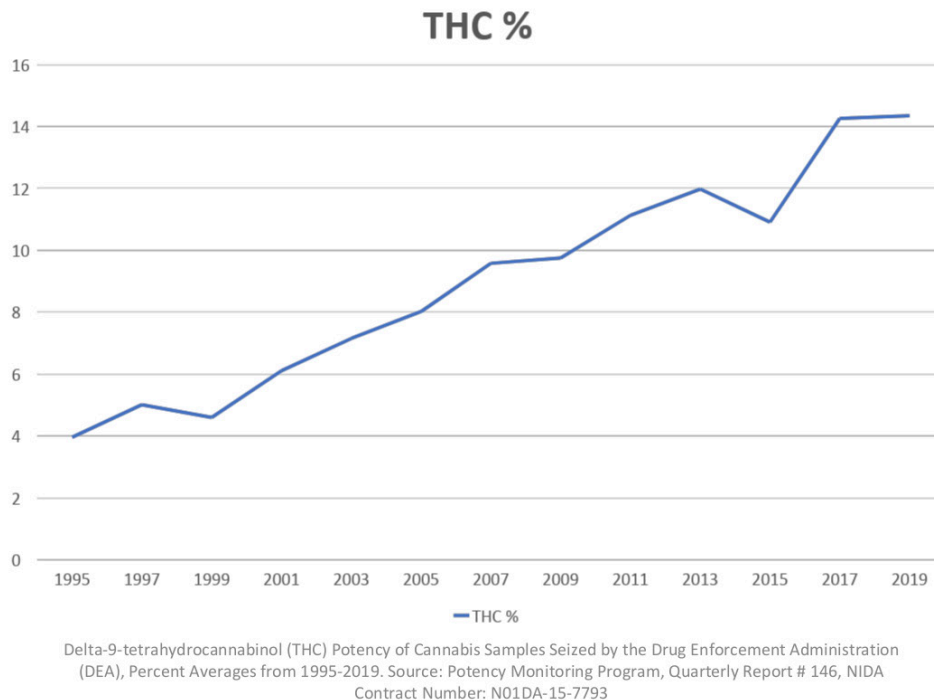
⁴⁰ <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7538627/>

⁴¹ <https://lagunatreatment.com/drug-abuse/marijuana/what-is-a-dab/>

⁴² <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7538627/>

⁴³ <https://www.npr.org/sections/health-shots/2019/05/15/723656629/highly-potent-weed-has-swept-the-market-raising-concerns-about-health-risks>

⁴⁴ <https://www.nbcnews.com/health/health-news/er-visits-linked-marijuana-rose-colorado-hospital-after-legalization-study-n987161>



of THC can be in a single serving, package, or retail sale for certain products. While the health impacts due to high potency THC products are still inconclusive, some scientists suggest high-potency products can lead to greater events of psychosis. In adolescents, heavy high-potency cannabis use can, in certain situations, lead to greater hospitalization rates for severe vomiting or psychiatric evaluation.⁴⁶

Currently, Vermont is the only state to impose a potency limit for adult use sales. Their current law states that the flower of the cannabis plant cannot exceed 30% THC. Solid concentrates cannot not exceed 60% THC. Oils, apart from cartridges for vape pens, are not allowed. A single package cannot exceed 50 milligrams of THC other than non-consumable products, such as topical salves, and medical cannabis. These restrictions do not apply to medical cannabis or

home cultivation.⁴⁷

In addition to Vermont, Virginia's newly passed legalization law gives its future Cannabis Control Authority the power to set THC limits.⁴⁸

Potency is particularly worrisome for edible products. Alaska's Lt. Governor recently signed off on regulation that would prohibit a cannabis product manufacturing facility from preparing a cannabis product with potency levels exceeding: (1) for a single serving of a cannabis product, more than 10 milligrams of THC; and (2) in a single packaged unit of cannabis product to be eaten or swallowed, not more than 10 servings of 100 milligrams of active THC or Delta-9.⁴⁹ This regulation actually increases potency levels from 5 milligrams and 50 milligrams, respectively, but still caps the potency levels.

⁴⁵ <https://www.npr.org/sections/health-shots/2019/05/15/723656629/highly-potent-weed-has-swept-the-market-raising-concerns-about-health-risks>

⁴⁶ <https://www.claimsjournal.com/news/national/2021/04/22/303328.htm>

⁴⁷ <https://www.mpp.org/states/vermont/summary-of-s-54-the-bill-to-regulate-and-tax-cannabis-in-vermont/>

⁴⁸ <https://lis.virginia.gov/cgi-bin/legp604.exe?212+sum+SB1406>

⁴⁹ <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2731700/>

Example of Potency Taxes

New York

(b) Section 493: Imposition of Tax.

(a) There is hereby imposed a tax on adult-use cannabis products sold by a distributor to a person who sells adult-use cannabis products at retail at the following rates:

(1) cannabis flower at the rate of five-tenths of one cent per milligram of the amount of total THC, as reflected on the product label.

(2) concentrated cannabis at the rate of eight-tenths of one cent per milligram of the amount of total THC, as reflected on the product label.

(3) cannabis edible product at the rate of three cents per milligram of the amount of total THC, as reflected on the product label. This tax shall accrue at the time of such sale or transfer. Where a person who distributes adult-use cannabis is licensed under the cannabis law as microbusiness or registered organization, such person shall be liable for the tax, and such tax shall accrue at the time of the retail sale.

Potency-Based Taxes

Potency-based taxes are those based on the THC level of the cannabis product. Potency is becoming a larger public health concern since THC levels have been increasing in recent decades – from 4% in 1995 to about 12% in 2014.⁵⁰ Potency-based taxes can have a number of public health benefits, particularly on the purchasing ability of adolescents. There are now several decades of research demonstrating the impact of higher taxes on tobacco products reducing the number of young people who can afford them. It is reasonable to apply the same policy with regard to cannabis products.

Linking taxes to a number of standard THC doses or THC content may also discourage market trends toward higher potency.⁵¹ A 2017 examination of cannabis by the National Academies of Sciences, Engineering and Medicine listed increasing potency among factors that “create the potential for an increased risk of adverse health effects.”⁵² Currently, three states have potency-based taxes that may discourage or deter

youth and other recreational users from consuming high THC potency products.⁵³

In October of 2018, Canada passed the Cannabis Act, which legalized adult use cannabis and established production, distribution, and sales. The tax structure imposes an ad valorem tax of 10 percent on the sale price or a flat rate tax of \$1.00 per gram of flower and \$0.25 per gram for trim – whichever is greater.⁵⁴ Oils are not taxed by weight or as a percentage of sale price, but by their THC content – generally at \$0.01 per milligram. Edibles, topicals, and extracts are taxed similarly to oils in Canada.⁵⁵

Since potency-based limits and taxes are fairly new, there is ongoing monitoring in the states listed above, as well as Canada, to determine the effectiveness in curbing the use of highly potent cannabis products. In 2019, the State of Washington established a workgroup to develop a cannabis potency tax feasibility study.⁵⁶ The workgroup discussed four potential options for a potency-based cannabis tax: (1) tax by the number of milligrams of THC in the cannabis product; (2) tax by

⁵⁰ <https://abcnews.go.com/Health/wireStory/states-set-pot-potency-potency-77181080>

⁵¹ https://taxfoundation.org/recreational-marijuana-tax/#_ftn98

⁵² <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6312155/>

⁵³ <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4877221/>

⁵⁴ <https://www.gaiaca.com/what-to-do-with-cannabis-trim/#:~:text=Cannabis%20trim%20actually%20refers%20to,fan%20leaves%20are%20virtually%20worthless.> , Cannabis trim refers to two different leaves: sugar leaves and fan leaves. An Ad Valorem Tax is a tax based on the assessed value of an item (ex. Higher THC = higher tax)

⁵⁵ https://lcb.wa.gov/sites/default/files/publications/Marijuana/Potency_Tax_Study/Cannabis-Potency-Tax-Workgroup_Report_FINAL.PDF

⁵⁶ Ibid.

Example of Potency Taxes

Connecticut

(b)(1) For the privilege of making any sales of cannabis in this state, a tax is hereby imposed on each cannabis retailer, hybrid retailer or micro-cultivator at the following rates:

(A) Cannabis plant material, at the rate of six hundred twenty-five thousandths of one cent per milligram of total THC, as reflected on the product label.

(B) Cannabis edible products, at the rate of two and seventy-five-hundredths cents per milligram of total THC, as reflected on the product label.

(C) Cannabis, other than cannabis plant material or cannabis edible products, at the rate of nine-tenths of one cent per milligram of total THC, as reflected on the product label.

product type; (3) tax by range of concentrations (i.e. threshold at 20%); or (4) a hybrid option.⁵⁷ While the workgroup ultimately found that a potency-based tax would not be feasible at the time, the rationale speaks to the need to establish robust data collection and periodic analysis of data and research on consumer behavior, public health implications, and the potential need for higher potency products for medical cannabis patients.⁵⁸

More states are considering potency-based policies as there is more research concerning the health impacts related to the consumption of highly potent THC goods. Including such taxes from the beginning of any new commercial market would prioritize the potential public health benefit and avoid concerns about impacting small businesses.

⁵⁷ https://lcb.wa.gov/sites/default/files/publications/Marijuana/Potency_Tax_Study/Cannabis-Potency-Tax-Workgroup_Report_FINAL.PDF

⁵⁸ Ibid.

Fee Structures to Promote Public Health

Public health and social justice are directly related to one another. The “war on drugs” policies in our country have resulted in mass incarceration of primarily Black and Hispanic males. This discrimination and inequity undermine public health by narrowing opportunity, disrupting families and social cohesion, and preventing civic participation. The same communities that have been victims of the war on drugs largely face health inequities as well. Black, Native American, and mixed-race adults are more likely than Whites to report a cannabis use disorder.⁷² But studies also show that Black and Hispanic individuals are less likely to complete addiction treatment, largely due to socioeconomic factors, and in particular greater unemployment and housing instability. Legalizing cannabis has provided an opportunity, through revenue generated by licensing fees and taxes, to reinvest in communities that have been historically impacted by discriminatory practices under law enforcement policies. This can include reinvestment into behavioral health, treatment facilities, healthcare and more.

This section will discuss two overarching policies: (1) how tax revenue from recreational cannabis can be reinvested into public health; and (2) how racial equity is embedded and acknowledged within the recreational market. It is crucial to prioritize reinvestment in public health and racial and social equity before directing funding to other important public needs. This can include reinvestment into the behavioral health

treatment and recovery system, reentry services, job training and creation, housing supports, and more.

Tax Revenue for Public Health

Almost all states allocate tax dollars generated from recreational cannabis to public health initiatives. States that maximize tax revenue allocate a specific percentage of revenue going into public health and treatment prevention programs prior to taking away revenue for administrative and regulatory costs. Having an explicit percentage or amount going into a public health program is essential. A good example of this is Illinois, which allocated 20% of all tax revenue into mental health and substance use treatment without taking funds away from administrative and regulatory costs first. A few examples of states allocating tax dollars to public health or substance use disorder treatment services can be found in Attachment B.⁷³

In addition to health and treatment services, a few states allocate funding into educational initiatives. For example, Arizona allocated a third of cannabis revenue into community colleges and Virginia allocated 40% of tax revenue to pre-K education for at risk children.

Funding Allocation and Development of a Social Equity Program

Equally important to direct public health funding,

⁷² <https://www.apha.org/policies-and-advocacy/public-health-policy-statements/policy-database/2021/01/13/a-public-health-approach-to-regulating-commercially-legalized-cannabis>

⁷³ <https://www.mpp.org/issues/legalization/marijuana-tax-revenue-states-regulate-marijuana-adult-use/>

social equity funding is necessary to reinvest in communities that have been disproportionately impacted by the war on drugs. It is important to note that social equity is closely tied to public health and successful public health practices cannot be achieved without first developing an equitable program.

New York and Illinois both have a strong social equity structure in their cannabis adult-use laws. The Illinois Department of Commerce and Economic Opportunity's mission under the adult use bill is to develop accessible opportunities for technical assistance and access to capital for persons seeking to participate in the Illinois cannabis industry.

New York has taken social equity a step further. Industry experts believe New York has the most robust provisions yet for including minorities, women, war veterans and struggling farmers in the recreational cannabis industry. Key provisions of New York's social equity program are as follows:

- The law would award 50% of all adult-use licenses to social and economic equity applicants.
- 40% of the tax revenues generated by adult-use sales would be funneled into communities disadvantaged by the war on drugs.
- Existing medical cannabis operators would be required to pay a one-time "special licensing fee" to convert three of their medical cannabis dispensaries into dual medical-recreational stores. This fee, though not specified, can help fund social equity programs.
- Financial support would be provided to social equity applicants including low- or no-interest loans, fee reductions or waivers, and assistance in preparing applications and operating a business.

Many of New York's equity provisions will be detailed

in regulation. Currently there are a number of concerns being addressed prior to implementation, such as how the capital needed to enter the market will be available and what areas of New York will be defined as social equity communities. Currently, New York is undergoing a comprehensive review of existing social equity programs so it better inform law makers on what will work.

Other Public Health Measures Worth Noting

Public Use

From a public health perspective, tobacco and cannabis products are oftentimes compared. Both products can be ingested consumed in similar ways – either by smoking or vaping.⁷⁴ Because consumption can look the same between the two substances, public health measures such as smoking in public can look similar between tobacco usage and cannabis usage.⁷⁵ Research has found that the combustion of cannabis, similar to tobacco produced carcinogens and toxins.⁷⁶ Toxic compounds found in smoke can cause respiratory symptoms such as coughing, phlegm, and wheezing.⁷⁷ The inhalation of smoke and exposure to second hand smoke is particularly important to more vulnerable populations, such as those who have asthma and pregnant women. For these reasons, public use provisions and “smoke-free” zone laws are common and generally supported across states.

Many states have a Public Use Provision which limits or prohibits the use of certain drugs in public spaces. In general, cannabis public use provisions specifically define the bounds of cannabis use, while broadly prohibiting consumption in public.⁷⁸ “Public” is generally defined as a place where large groups of people have access such as parks, playgrounds, schools, lobbies, and places of recreation and business.⁷⁹ It is important to note that “smoke-free” zones, often referred to when associated with tobacco use, are slightly different than public use policies associated with cannabis.

Smoke-free zones have generally been defined prohibit smoking in indoor spaces. Cannabis public use laws typically include indoor and outdoor use.

For example, in Alaska, the law prohibits individuals from consuming cannabis in public. “In public” is defined as “a place to which the public or a substantial group of persons have access” and includes “highways, transportation facilities, schools, places of amusement or business, parks, playgrounds, prisons, and hallways, lobbies, and other portions of apartment houses and hotels not constituting as rooms or apartments designed for actual residence.” While Alaska specifically defines “public,” Colorado has broader use restrictions associated with cannabis use. Under Colorado law, cannabis cannot be consumed in a manner that is “conducted openly and publicly or in a manner that endangers others.”⁸⁰ The City of Denver specifically states that cannabis can be consumed in a private residence, but only if it is allowed by the landlord.⁸¹ Oregon, Washington and the District of Columbia similarly have general prohibitions on recreational cannabis use public. These states also have express restrictions in certain facilities. Facilities where consumption is prohibited are broken up into three categories: (1) cannabis production, distribution, or retail facilities; (2) childcare facilities or schools; and (3) facilities for intellectually or developmentally disabled persons.

More recently, the emergence of “Cannabis Social Clubs” that allow the consumption of recreational

⁷⁴ <https://www.publichealthlawcenter.org/sites/default/files/resources/Toking-Smoking-Public-Health-2018.pdf>

⁷⁵ Ibid.

⁷⁶ Ibid.

⁷⁷ Ibid.

⁷⁸ <https://scholarship.shu.edu/cgi/viewcontent.cgi?article=1117&context=shlj>

⁷⁹ Ibid.

⁸⁰ <https://www.denvergov.org/Government/Agencies-Departments-Offices/Marijuana-Information/Marijuana-Information-for-Residents-Visitors-and-Business-Owners#:~:text=It%20is%20illegal%20to%20consume%20marijuana%20openly%20and%20publicly%20in-,marijuana%20hospitality%20and%20sales%20businesses.>

⁸¹ Ibid.

cannabis in a lounge-like facility are becoming more popular. These establishments often face issues with State's Clean Air Act which explicitly prohibits smoking indoors. The following are examples of "cannabis club" policies and initiatives:⁸²

- In Oregon, Oregon's Indoor Clean Air Act was amended to include vaporization and cannabis consumption. This means that smoking or vaporization of cannabis in businesses like clubs or lounges is not allowed. While there is an exception for cigar bars and tobacco smoke shops, no such exception exists for cannabis.
- In Washington, the Seattle City Attorney recommended in a memo titled "Moving Marijuana Policy Forward" to allow for cannabis consumption lounges. He states that this would only include edibles and vaporizations, and that smoking, due to Washington's Indoor Clean Air Act, would be prohibited.
- In Alaska, the Alaska Marijuana Control Board voted to allow people to consume cannabis in certain stores that offer cannabis for sale.
- The District of Columbia voted to ban cannabis clubs.

Driving Safety

Recent studies have shown that cannabis users who drive while under the influence are at increased risk of motor vehicle crashes. One study specifically states that the legalization of recreational cannabis in United States jurisdictions may be associated with a small but significant increase in fatal motor vehicle collisions in fatalities, which may result in as many as 308 additional driving fatalities annually.⁸³ Many states with recreational cannabis have included a prohibition on driving while under the influence of cannabis. Understanding impairment associated with cannabis can be difficult, however, because it can be affected by several variables.⁸⁴ Impairment can be based on individual tolerance, the consumption method (smoking, vaping,

ingestion), and the amount of THC consumed.⁸⁵ Based on the individual, THC can be detected in the blood well outside the time of impairment.⁸⁶

Cannabis related impairment increases risks while driving. Importantly, cannabis impairment degrades cognition and motor skills, meaning impairment from cannabis can alter a user's perception. Studies agree that cannabis use results in impaired coordination, memory, associative learning, attention, cognitive flexibility, and reaction time.⁸⁷ Greater risks occur when mixing cannabis and alcohol, resulting in additive effects.⁸⁸

There is currently no consensus on the amount of THC concentration in the blood that indicates impairment. State laws vary across the country and include zero-tolerance or non-zero per se law for cannabis.⁸⁹ Colorado, on the other hand, follows a reasonable inference law, where if THC is identified in a driver's blood in quantities of 5ng/ml or higher, it is permissible to assume the driver was under the influence.⁹⁰ Reasonable inference laws differ from per se law, such that they allow drivers who are charged to introduce an affirmative defense to show that despite having tested at or above the legal limit, they were not impaired.⁹¹ Per se laws establish that once a person is shown to have reached or surpassed a legal limit, that person is considered impaired by law, regardless of their actual impairment. Maryland, as an example, has a per se law with regard to blood alcohol level for purposes of identifying impairment.

Since recreational legalization, Connecticut has a specialized law enforcement division that detects impaired driving, known as a Drug Recognition Expert (DRE). There are 54 DREs in Connecticut which perform post arrest procedures after patrol officers make an impaired driving arrest. Under Connecticut's cannabis legislation, those arrested on suspicion of driving high will no longer be able to refuse a DRE

⁸² <https://www.portlandoregon.gov/civic/article/588381>

⁸³ <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8049641/>

⁸⁴ <https://www.iii.org/article/background-on-marijuana-and-impaired-driving>

⁸⁵ Ibid.

⁸⁶ Ibid.

⁸⁷ <https://www.sciencedirect.com/science/article/pii/S2352154616301346#bib0300>

⁸⁸ <https://www.iii.org/article/background-on-marijuana-and-impaired-drivingS2352154616301346#bib0300>

⁸⁹ <https://www.ncsl.org/research/transportation/drugged-driving-overview.aspxS2352154616301346#bib0300>

⁹⁰ <https://www.ncsl.org/research/transportation/drugged-driving-overview.aspxS2352154616301346#bib0300>

⁹¹ Ibid.

evaluation. DREs will also check the blood pressure, pulse rate, pupil size in varying lighting conditions, and body temperature.⁹²

The most common methods to detect cannabis are through blood, urine, or saliva, however, some states have launched oral fluid testing pilot programs.⁹³ For example, Alabama conducts oral fluid testing in both a screening and evidentiary capacity.⁹⁴ In 2016, Michigan passed a law that gave authority to state police to develop an oral fluid pilot program. These programs are still in their initial phases and need data collection and research surrounding them, but pose a step forward in better understanding how THC impairment can be quantified and measured.

Governing Structures

Each state, through law, establishes a regulatory framework to manage the recreational use of cannabis. This regulatory framework divides the responsibilities associated with recreational use to appropriate agencies and governing bodies. States differ in how much regulatory authority is delegated and what governing bodies exist to regulate cannabis. Understanding the regulatory structure is important because it provides an overview of who makes decisions and implements the laws and regulations for recreational cannabis. This is also important to advocate for sound policies that promote public health.

Colorado has a robust program within its Department of Public Health and Education (CDPHE) related to recreational cannabis use.⁹⁵ Commonly, state agencies related to health and public health carry out educational campaigns to educate the public on using recreational cannabis. The CDPHE has a wide variety of resources including retail cannabis public health information, cannabis research, cannabis occupational safety and health, health care provider resources, and fact sheets.⁹⁶ The CDPHE also rolled out a public

awareness campaign geared towards youth and first-time users.

The Retail Marijuana Public Health Advisory Committee is housed within the CDPHE. The Committee reviews scientific literature currently available on health effects of cannabis use, comes to a consensus on population health effects based on current science, recommends public-health related policies based on science, identifies and prioritize gaps in the science important to public health, and recommends public health surveillance activities to monitor population health effects.⁹⁷

In New Jersey, there is a specific Cannabis Regulatory Commission that oversees both medical and recreational cannabis use.⁹⁸ While recreational cannabis is still new in New Jersey, the commission has already compiled a large list of health research articles related to recreational cannabis.⁹⁹ With recreational cannabis recently legalized in Connecticut, the State established a 15-person Social Equity Council responsible for promoting diverse participation in the developing new industry.¹⁰⁰

In Illinois, the “Let’s Talk Cannabis” campaign is a resource created by the Illinois Department of Human Services.¹⁰¹ The Department pulled research and recommendations for safe recreational use while highlighting the risks associated with cannabis use.¹⁰² In Oregon, cannabis sold at medical dispensaries is regulated by the Oregon Health Authority (OHA), while retail cannabis is regulated by the Oregon Liquor Control Commission (OLCC). In conversations with officials in Oregon, experts highlighted the importance of public health funding and continuing research and data collection related to recreational cannabis use. Allocation of funding to health departments is crucial to safely regulate recreational use.

While governing structures vary greatly among

⁹² <https://www.nbcconnecticut.com/news/local/marijuana-legislation-strengthens-cts-impaired-driving-laws/2518970/#:~:text=The%20new%20cannabis%20law%20significantly,to%20result%20in%20license%20suspensions.>

⁹³ <https://www.ncsl.org/research/transportation/drugged-driving-overview.aspx>

⁹⁴ Ibid.

⁹⁵ <https://cdphe.colorado.gov/retail-marijuana>

⁹⁶ Ibid.

⁹⁷ <https://cdphe.colorado.gov/prevention-and-wellness/marijuana/retail-marijuana-public-health-information/retail-marijuana>

⁹⁸ <https://www.nj.gov/cannabis/>

⁹⁹ Ibid.

¹⁰⁰ <https://ctmirror.org/2021/07/22/council-appointed-to-promote-social-equity-in-ct-marijuana-industry/>

¹⁰¹ <https://www.prevention.org/lets-talk-cannabis/sources/>

¹⁰² Ibid.

states, there is consensus that recommendations should be based on science. Establishing a commission or committee that oversees recreational cannabis research, much like Colorado, has shown success in understanding how cannabis impacts public health and making recommendations to address those risks. Further, creating social equity committees, like in Connecticut, can reinvest money and resources into communities most hurt by the war on drugs. Reinvestment can include public health education, dollars, and facilities. Lastly, it is important to include the state's Department of Health in the recreational cannabis regulatory framework. While liquor boards generally manage recreational cannabis, providing health departments funding and responsibility can mitigate risks and improve public health.

Quebec, a province in Canada, has a particularly unique governing structure. The province has a wholly government-owned and operated recreational cannabis market, Société québécoise du cannabis (SQDC).¹⁰³ The government-owned monopoly has opened fewer than 50 store since legalization in late 2018. The benefits of a government-controlled market include keeping low cannabis prices which compete with the black market.¹⁰⁴ While SQDC has a number of benefits such as lower consumption and more direct control over the market and prices, the SQDC has limited numbers of stores.¹⁰⁵ Particularly, Quebec has fewer SQDC locations than its private market province counterparts.¹⁰⁶ Some claim that the limited number of stores may not make a big difference if they are strategically places and accessible, however critics claim that profit generation is low and the limited number of stores are not adequately serving Quebec's cannabis-using population.

Data Collection

As more states legalize the recreational use of cannabis, there will be a need to understand the impacts

of adult use on a state's economy, public health, and public safety. There are a number of data points that should be considered including: use patterns, pricing, substance use disorder treatment, poisonings, criminal justice measures, vehicle crashes, and tax revenue allocation and distribution. Generally, baseline data is extremely important for ongoing monitoring and evaluation. According to the CDC, baseline data serves as a point of reference, demonstrates change over time, monitors progress, and highlights areas or variables where a program hopes to impact change.¹⁰⁷

One of the biggest barriers to determining successful public health policies for recreational cannabis is the lack of data, and importantly, baseline data. Because many states have vague or non-existent reporting requirements on public health variables, it is difficult to know if policies such as advertisement requirements or potency limits are effective. Newer states, particularly Massachusetts recognized lack of data and reporting as being an issue. Massachusetts conducted a baseline review and assessment of adult use cannabis industry. While this data is limited to market demographics, licenses, and participation in the industry, a similar data collecting regulatory framework can be made for public health data sets as well.¹⁰⁸

¹⁰³ <https://mjbizdaily.com/why-does-quebec-marijuana-monopoly-have-relatively-few-stores/>

¹⁰⁴ Ibid.

¹⁰⁵ <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5993386/>

¹⁰⁶ <https://mjbizdaily.com/why-does-quebec-marijuana-monopoly-have-relatively-few-stores/>

¹⁰⁷ https://www.cdc.gov/dhds/pubs/docs/cb_jan2014.pdf

¹⁰⁸ https://mass-cannabis-control.com/wp-content/uploads/2020/02/Market_Data_and_Industry_Participation_February_2020.pdf

Recommendations

Based on the information collected from other jurisdictions that have legalized recreational adult use of cannabis, NCADD-Maryland offers the following recommendations to mitigate any negative impact on public health as Maryland lawmakers debate this issue.

Advertising & Packaging

Advertising policies are becoming more robust with more states legalizing recreational cannabis and learning from those who have already done so. It is clear that advertising regulations should be detailed and clear to provide effective guidance to industry, and to maximize protections to vulnerable populations.

- Policies in Maryland should clearly define specific restrictions and requirements on how, when, and where advertising of cannabis products can take place and what content and images can and cannot be in advertisements and on packaging.
- Maryland should incorporate the extensive knowledge it and the federal government have developed over the last few decades in successful efforts to deter minors from using tobacco and alcohol products.

Potency Limits and Taxes

Potency is emerging as a significant health and policy issue. Studies demonstrate people consume more edibles and dabs at one time, and they generally have higher potencies. Regular use of higher potency products creates greater risk of harms.

- Maryland should establish policies that set clear and specific limits on potency levels in the various products for sale to the public. Policies should prohibit potencies above a certain percentage, such as Maryland

does with alcohol content.¹⁰⁹

- Maryland should also create a higher tax rate on the higher potency products to deter young people from accessing those products and to influence the market.

Public Health Education Campaigns

Strong public health education campaigns will help improve the public's understanding of cannabis, its impact on the brain, and the risks involved with its use.

- Maryland should develop age-appropriate public education campaigns designed to ensure the public understands cannabis and to mitigate any negative public health impact.
- The development of public health campaigns should be led by the Department of Health's Public Health Administration, in consultation with health and educational campaign experts.

Fee Structures to Promote Public Health

Maryland must prioritize supporting public health and social equity with the revenue generated from legalizing the sale of cannabis for adult recreational use.

- Maryland should specify minimum percentages of revenue generated by taxes and licensing fees for specific purposes. Revenue should significantly support:
 - Public health education campaigns
 - Youth prevention strategies
 - Treatment and recovery services for people with substance use and mental health disorders
 - Treatment and recovery workforce development

¹⁰⁹ Maryland Annotated Code – Alcoholic Beverages § 6-316. Maximum alcohol content

- Re-entry services
- Community programs that benefit disadvantaged communities, including those communities disproportionately impacted by the war on drugs

Public Use

Given the public health and safety interests associated with the public consumption of various substances, including tobacco products and alcoholic beverages, it is important to address the public consumption of cannabis from the start.

- Maryland policies should restrict the use of cannabis in public without creating additional criminal penalties. Smoking cannabis indoors should be restricted consistent with Maryland's Clean Indoor Air Act.
- When considering the issue of "clubs" or other public spaces to allow for the consumption of cannabis products, Maryland should look to consistencies with restrictions and requirements on bars and other locations where alcohol is consumed on-site.

Driving Safety

Whether driving impairment is caused by cannabis, alcohol, or distractions, Maryland must consider driving safety when considering legalizing cannabis.

- Maryland's laws on impaired driving should be applied as consistently as possible to laws addressing any impairment, whether caused by cannabis or alcohol. While the technologies are not equal at this time, the policies should not create substantially different standards.

Governing Structure

While creating a governance structure that is absent a profit-making incentive may be ideal, the current environment in Maryland, including the existing retail

market in the medical cannabis program, does not make it politically or economically feasible.

- NCADD-Maryland recommends law makers place public health authorities in leadership positions and ensure cannabis related regulations are overseen by appointed public health officials.

Data Collection

One of the challenges of putting together this report was the inconsistent and sometimes absent data to show which public health strategies are the most effective across the board.

- Maryland must begin collecting baseline data now, prior to any legalization implementation, to ensure policy makers have the most comprehensive and accurate data when regulating this industry.

Attachment A

California's Model Cannabis Ordinance *Section I. Required in Store Safety Information*

(1) A storefront Cannabis Retailer must display a warning sign prominently behind the main dispensing counter. The sign must be at least 3 feet by 3 feet and be displayed at with mid-point 5 feet above the floor. The sign must be as follows:

WARNING:

- Are you pregnant or breastfeeding? According to the U.S. Centers for Disease Control (CDC), marijuana use during pregnancy can be harmful to your baby's health, including causing low birth weight and developmental problems.
- Marijuana use may be associated with greater risk of developing schizophrenia or other psychoses. Risk is highest for frequent users.
- Smoking marijuana long-term may make breathing problems worse and vaping has been associated with serious lung disease.
- Driving while high is a DUI. Marijuana use increases your risk of motor vehicle crashes.
- Not for Kids or Teens! Starting marijuana use young or using frequently may lead to problem use and, according to the Surgeon General, may harm the developing teen brain.

(2) Cannabis Retailer permit holders must provide to every consumer purchasing Cannabis or Cannabis Products from a storefront or Delivery facility a brochure or flyer of at least 8 ½ by 11 inches unfolded that includes the following information:

WARNING:

- Are you pregnant or breastfeeding? According to the U.S. Centers for Disease Control (CDC), marijuana use during pregnancy can be harmful to your baby's health, including causing low birth weight and developmental problems.
- Marijuana use may be associated with greater risk of developing schizophrenia or other psychoses. Risk is highest for frequent users.
- Smoking marijuana long-term may make breathing problems worse and vaping has been associated with serious lung disease.
- Driving while high is a DUI. Marijuana use increases your risk of motor vehicle crashes.
- Not for Kids or Teens! Starting marijuana use young or using frequently may lead to problem use and, according to the Surgeon General, may harm the developing teen brain.

THIS IS A GOVERNMENT HEALTH WARNING.

The state-required pregnancy warning notes that use while pregnant "may be harmful", which the PHI state is inadequate and weaker than other states. It is important to correctly identify the harms associated with cannabis and pregnancy and phrase the warnings with accurate scientific backing.

Attachment B

State	Where the Money Goes
Washington	Public health initiatives, including a fund that provides health insurance for low-income families; Tax revenue is designated for Washington Healthy Youth Survey, Substance Abuse Prevention, Department of Health, and the Washington Health Care Authority
Oregon	After paying for administration costs, 20% of revenue goes to mental health, alcoholism, and drug services, and 5% goes to the Oregon Health Authority for alcohol and drug abuse prevention, early intervention and treatment programs
Maine	Two funds: (1) public health initiatives; and (2) other public safety and law enforcement training
Arizona	10% to public health and criminal justice programs
New York	After regulatory and administrative costs, 40% of cannabis revenue will support drug treatment and public health programs
Virginia	After covering regulatory costs, 25% in substance use treatment and prevention, and 5% into public health programs
Montana	Substance use disorder recovery programs, conservation efforts, and services to veterans and families
Connecticut	A 3% tax that goes to municipalities must be used for one of five specific purposes: re-entry services, mental health or addiction services, youth services bureaus, and streetscape improvements near cannabis retailers
Illinois	Investing 20% of adult-use cannabis tax revenue into mental health services, then 25% of the funds to the Recover, Reinvest, and Renew program, which supports local organizations in developing programs that benefit disadvantaged communities
California	Covers regulatory and research administrative cost, and then 60% goes into anti-drug programs targeting youth and 20% goes into public safety