Washington State Health Care Authority

Report to the Legislature

High THC concentration cannabis policy | Initial report

Exploring policy solutions to address public health challenges of high THC concentration cannabis

Engrossed Substitute Senate Bill 5092; Section 215(55); Chapter 334; Laws of 2021

December 31, 2021

ADAI

ADDICTIONS, DRUG & ALCOHOL INSTITUTE

High concentration cannabis policy

Acknowledgements

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Executive summary

The WA State Health Care Authority was directed by ESSB 5092 (2021) to contract with the University of Washington's Addictions, Drug & Alcohol Institute to conduct individual interviews with stakeholders and experts, facilitate joint meetings with stakeholders to identify areas of common ground and consensus, and develop recommendations for state policies related to cannabis concentration and mitigating detrimental health impacts.

This preliminary report summarizes the progress made and policy options regarding products that contain high THC concentration that have been considered in North America.

Report highlights

The activities described in this initial report refer to beginning of the project on July 1st, 2021, through September 30th, 2021.

Progress made to date

- Assembled a professional team to conduct associated work.
- Developed a detailed project plan.
- Conducted initial stakeholder mapping.
- Created a preliminary inventory of policies adopted or under consideration in North America aimed at curbing harms of high concentration THC products
- Initiated contact with out-of-state organizations that share concerns with the use and availability of high concentration THC products.

Potential policies identified

NOTE: No recommendations or ranking of these policies have been made in this initial report, given how recent the work has begun and the absence of stakeholder input to date.

- Cap THC concentration in products.
- Require a serving size for all products.
- Prohibit certain type of cannabis products.
- Limit total THC in a single purchase.
- Require a minimum CBD content.
- Restrict consumption by age.
- Regulate or prohibit marketing.
- Regulate packaging and labeling.

Next steps

Next steps for the remaining 15 months of this project are outlined in Appendix A and include:

- Recruit and interview stakeholders and partners.
- Synthesize policy recommendations.
- Interview experts from in and out of state and complete a local assessment of health impacts related to high THC concentration products in WA state.

A final report summarizing the analysis, the process and stakeholders involved, an inventory of relevant cannabis policies in other states, and recommendations for policy changes to reduce the negative impacts of high concentration cannabis will be submitted to Washington State Legislature by December 31, 2022. Please note that this interim report does not include specific policy recommendations.

Background

Project development

The first task completed was the development of a detailed project plan that expands on the scope of work outlined in the legislative mandate and its submission to HCA. The project plan describes the project approach, methods, measures, deliverables, indicators, and timeline.

Project team and advisory council

Project team

ADAI selected and hired staff to execute the project plan, including the writing and presenting of the final legislative report.

Table 1: ADAI project team

Beatriz Carlini, PhD, MPH	Project lead, Research Scientist, high-THC concentration expert
Caislin Firth, PhD, MPH	Research Scientist, lead stakeholder analysis
Gillian Schauer, PhD, MPH	Research Scientist, cannabis policy expert
Sharon Garrett, MA, MPH	Project management
Lexi Nims, BA	Project coordinator
Meg Brunner, MLIS	Communication and information dissemination
Erinn McGraw, BFA	Graphic Design
Outreach Specialist (TBD)	Community connections and engagement

NOTE: Table 1 describes each ADAI project team member and their role on the project.

Peer advisory council

ADAI recruited members and convened a first meeting of a Peer Advisory Council for this project. The role of the Peer Advisory Council is to provide feedback and suggestions at several key decision-points of the project. Current members were selected based on their knowledge of local attempts to regulate high THC concentration products in WA and their understanding of the health risks of consuming such products.

Table 2: Peer advisory council

Jacob Delbridge, MPH	WA State Department of Health
Kevin Haggerty, PhD	University of Washington
Michael McDonell, PhD	Washington State University
Megan Moore, MPH	Kitsap Public Health District

NOTE: Table 2 describes each of the peer advisory council members and their credentials.

The first Advisory Council meeting was held on September 27th, 2021, where the project team presented an overview of the project plan, received input on the project plan, and recommendations on additional members to join the Advisory Council.

In-state and out-of-state expert support network connections

Contacts with two organizations who are involved in high THC concentration policy work have been initiated.

1. Getting it Right From the Start (California)[1], an organization committed to developing and testing models for optimal cannabis policy based on the best available scientific evidence with the goal of reducing harms, youth use, and problem use and promoting social justice and equity.
2. Dr. Jon Samet, Dean and Professor at Colorado School of Public Health. Dr. Samet and his team were mandated by Colorado HB21-1317[2] to make recommendations to legislators on high THC concentration cannabis and to produce a public education campaign for the general public on the effects that consuming such products have on the developing brain and mental health.

The goal of networking is to create a community of practice that can be leveraged when working with stakeholders and policy makers. While out-of-state expertise will be included in our consideration of policy options, only WA state stakeholder interviews will be included in the policy mapping analysis described below in the next steps section.

Preliminary stakeholder mapping

The team has identified five main groups of Washington state stakeholders and developed a preliminary mapping of organizations and individuals.

Table 3: Initial list to be contacted for stakeholder assessment

Stakeholder groups	Examples
Community agencies	Agencies/people focused on social justice, mental health, parenting, schools, cannabis use (medical and non-medical)
Health care providers	Medical cannabis authorizers, primary care providers, pediatricians, mental health providers, emergency medicine physicians
WashingtonState/Government agencies	State & county level agencies, law enforcement, courts
Community-based prevention agencies	Community organizations that work to promote health through the prevention of substance misuse, including Community Prevention and Wellness Initiative (CPWI) Coalitions
Cannabis industry	Producers, processors, retail owners, lobbying associations, & related agencies

NOTE: Table 3 describes the different stakeholder categories and a preliminary list of example stakeholders that belong in each category.

[1] Getting it Right from the Start. https://gettingitrightfromthestart.org/. Published 2020.
[2] Colorado General Assembly. Regulating Marijuana Concentrates, HB21-1317. https://leg.colorado.gov/bills/hb21-1317. Published 2021.

Preliminary identification of policy options

An initial inventory of policies related to high THC concentration in all states with legal non-medical cannabis and Canada has been assembled. Some of these policies will be included in a menu of policy options to be presented and discussed with a wide range of WA-based stakeholders. Below is a preliminary summary of notable policy options, some that have been implemented in other states or in Canada and some that have not. This list represents a partial inventory and will be refined over the course of the project.

Taxation based on THC concentration

One policy consideration to reduce THC consumption is to enact a tax scheme that is based on the THC concentration of a cannabis product, measured by percent or total THC weight. Illinois and New York are currently the only states that have enacted THC-based taxes.

- **Illinois**[3] taxes cannabis infused products (e.g., edibles) at 20 percent of the retail price, and taxes other cannabis products based on their THC content, with those with an adjusted THC content above 35 percent taxed at 25 percent of the retail price, and those with a THC content below 35 percent THC taxed at 10 percent of the retail price.
- **New York**[4] imposes a wholesale tax based on total milligrams of THC (mg) which is dependent upon product type (e.g., edible, flower, concentrate).

Cap THC concentration in products

This policy option focuses on limiting the concentration of THC that can be in products (e.g., limiting vape cartridges to 60 percent THC concentration), thereby reducing the amount of THC consumed per unit. At least four states, including Washington, have recently introduced bills to cap THC. Two states that recently legalized adult cannabis use will have THC concentration caps in place:

- **Vermont**[5], where cannabis flower cannot exceed 30 percent THC, and concentrates cannot exceed 60 percent THC.
- **Connecticut**[6], where cannabis flower is not permitted to have more than 30 percent THC on a dry weight basis, and cannabis products other than flower are not allowed to have greater than 60 percent THC on a dry weight basis, with the exception of prefilled vaping cartridges.

[3] Cannabis Tax Frequently Asked Questions. Illinois.gov. https://www2.illinois.gov/rev/research/taxinformation/other/Pages/Cannabis-Tax-Frequently-Asked-Questions.aspx#qst1.
[4] New York State Office of Cannabis Management. Adult Use. https://cannabis.ny.gov/adult-use.
[5] Vermont General Assembly. An act relating to the regulation of cannabis, S.54 (Act 164). https://legislature.vermont.gov/bill/status/2020/S.54. Published October 7, 2020.
[6] Connecticut General Assembly. An Act Concerning Responsible and Equitable Regulation of Adult-Use Cannabis, SB. 1201. https://www.cga.ct.gov/2021/ACT/PA/PDF/2021PA-00001-R00SB-01201SS1-PA.PDF. Published June 22, 2021.

Require a serving size for all products

Washington State WAC 314-55-095[7] limits the amount of THC in a single serving cannabis-infused product to 10 milligrams and the number of servings per product to 10 for a total of 100 milligrams in any one product. Cannabis-infused solid edibles products must be packaged individually in childproof packaging. Liquids must include a measuring device with packaged products that include more than one serving.

> Consideration can be given to requiring all cannabis products, not just cannabis infused products, to have a certain serving size of THC, or to be sold as single serving units, thereby requiring consumers to intentionally open a new serving to consume a larger amount of THC.

Prohibit certain types of products

THC concentration varies by product type[8], with flowers typically containing between 15 and 25 percent THC, and cannabis concentrates (e.g., oils, waxes, shatter) containing between 54 percent and 69 percent THC with some products exceeding 80 percent THC. Some prevention groups have recommended a total ban on product types which generally contain a higher concentration of THC.

> For example, Vermont prohibits the sale of cannabis oils outside of a vape pen. In addition to concerns about the high levels of THC in concentrates, many of these products contain pesticides, residual solvents, and other contaminants which may be harmful.

Limit total THC in a single purchase

Washington State allows legal possession of up to 1 oz. (28 g) of cannabis but does not restrict the amount of THC in a single purchase. However, some medical cannabis programs have limits on single purchases or daily purchases.

> Consideration could be given to limiting the total THC in a single sale or imposing daily THC purchasing limits. Such a policy would, in theory, require consumers to actively seek out THC amounts greater than those allowed in a single purchase or transaction.

[7] Washington State Legislature. Marijuana Servings and Transaction Limitations, WAC 314-55-095. https://apps.leg.wa.gov/WAC/default.aspx?cite=314-55-095

[8] National Institute on Drug Abuse. Marijuana Concentrates Drug Facts. National Institute on Drug Abuse. https://www.drugabuse.gov/publications/drugfacts/marijuana-concentrates. Published June 2020.

Require a minimum CBD content

A number of studies[9] [10] [11] have shown that cannabidiol (CBD), a nonintoxicating cannabinoid found in the cannabis plant, helps to mitigate the neuropsychiatric risks associated with high-concentration THC cannabis.

> Health policy, then, could focus on increasing CBD content rather than attempting to reduce or control THC content in products sold in the legal market. This shift in focus from THC to CBD has not been implemented in other jurisdictions.

Restrict consumption by age

All states that have legalized adult use of cannabis have restricted use to adults over age 21 and in at least one Canadian province, adults as young as 18 can legally purchase cannabis. Evidence exists that use of high concentration cannabis in early adulthood **increases the risk of negative psychiatric problems and may present and increased risk of addiction**[12].

> As such, consideration could be given to increasing the age of legal use to 25, which is more consistent with developmental trajectories.

Regulate or prohibit marketing

Much has been learned from alcohol and tobacco about how marketing can impact consumer behaviors and, in particular, youth and young adult consumption[13] [14] [15].

Potential policy actions taken for tobacco have included:

- Limiting the placement of advertisements.
- Restrictions on advertising content.
- Prohibition of certain types of advertising.
- Restrictions on who advertising can target.

In WA State[16], cannabis advertising cannot be false or misleading, promote overconsumption, represent that the use of cannabis has curative or therapeutic effects, depict a child, or appeal to youth. Signage is regulated and advertising on radio and television is prohibited, however there are no other restrictions on

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[9] Hudson R, Renard J, Norris C, Rushlow WJ, Laviolette SR. Cannabidiol Counteracts the Psychotropic Side-Effects of Δ-9-Tetrahydrocannabinol in the Ventral Hippocampus through Bidirectional Control of ERK1-2 Phosphorylation. *The Journal of neuroscience*. 2019;39(44):8762-8777. doi:10.1523/JNEUROSCI.0708-19.2019

[10] Schubart CD, Sommer IE., van Gastel WA, Goetgebuer RL, Kahn RS, Boks MP. Cannabis with high cannabidiol content is associated with fewer psychotic experiences. *Schizophrenia research*. 2011;130(1):216-221. doi: 10.1016/j.schres.2011.04.017

[11] Madras BK. Tinkering with THC-to-CBD ratios in Marijuana. *Neuropsychopharmacology (New York, NY)*. 2019;44(1):215-216. doi:10.1038/s41386-018-0217-3

[12] Carlini B. et al. Cannabis Concentration and Health Risks. https://adai.uw.edu/research/cannabis-research-education/high-potency-cannabis/. Published November 2020.

[13] Anderson P, de Bruijn A, Angus K, Gordon R, Hastings G. Impact of Alcohol Advertising and Media Exposure on Adolescent Alcohol Use: A Systematic Review of Longitudinal Studies. *Alcohol and alcoholism (Oxford)*. 2009;44(3):229-243. doi:10.1093/alcalc/agn115

[14] Dai H. Exposure to Advertisements and Marijuana Use Among US Adolescents. *Preventing chronic disease*. 2017;14: E124-E124. doi:10.5888/pcd14.170253

[15] Pierce JP, Sargent JD, Portnoy DB, et al. Association Between Receptivity to Tobacco Advertising and Progression to Tobacco Use in Youth and Young Adults in the PATH Study. *JAMA pediatrics*. 2018;172(5):444-451. doi:10.1001/jamapediatrics.2017.5756

[16] Washington State Liquor and Cannabis Board. Frequently Requested Lists. https://lcb.wa.gov/records/frequently-requested-lists. Published 2021.

the type of media outlet that can advertise cannabis products including advertising on social media, YouTube, and via "influencers".

Other states have restricted advertising based on the expected age of the target audience.

- **California**[17], broadcast, cable, radio, print, and digital communications must be in markets where at least 71.6 percent of the audience is reasonably expected to be over 21, determined by current audience composition data. Similarly,
- **Connecticut's** Adult Use of Cannabis Act requires that 90 percent of the intended audience is expected to be over 21, and advertising restrictions apply not only to licensed cannabis industry participants, but to anyone seeking to advertise cannabis, cannabis paraphernalia, or goods or services related to cannabis in ways that target or are designed to appeal to individuals under the ages of 21.

States like **New Jersey**[18], have restrictions on the time of day in which cannabis advertisements can appear on television or radio, with a ban on advertising between 6AM and 10PM to prevent youth exposure.

Regulate packaging and labeling

Packaging and labeling can also appeal to youth and young adults. Specific policies could be considered to further limit the potential appeal that packaging may have to underage and young adult consumers (for whom their brain is still developing), and labeling could more clearly articulate concerns that THC exposure may present for the developing brain.

For example, Canada's policies regulating adult consumption of cannabis include a provision that packaging should be plain with no graphics or logos beyond a branded element that is the same size or smaller than the universal symbol denoting that the package contains cannabis.

Canada[19] also has a large panel occupying half of packaging that is bright yellow and contains a rotating warning for consumers. Warnings include:

> "WARNING: Frequent and prolonged use of cannabis containing THC can contribute to mental health problems over time. Daily or near-daily use increases the risk of dependence and may bring on or worsen disorders related to anxiety and depression."
> "WARNING: Adolescents and young adults are at greater risk of harms from cannabis. Daily or near-daily use over a prolonged period of time can harm brain development and function."

Similar packaging and labeling approaches could be considered by WA state.

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[17] Division 10: Cannabis [26000-26260], Chapter 15: Advertising and Marketing Restrictions. California Legislative Information. https://leginfo.legislature.ca.gov/faces/codes_displayText.xhtml?lawCode=BPC&division=10.&title=&part=&chapter=15.&article=. Published November 8, 2016.

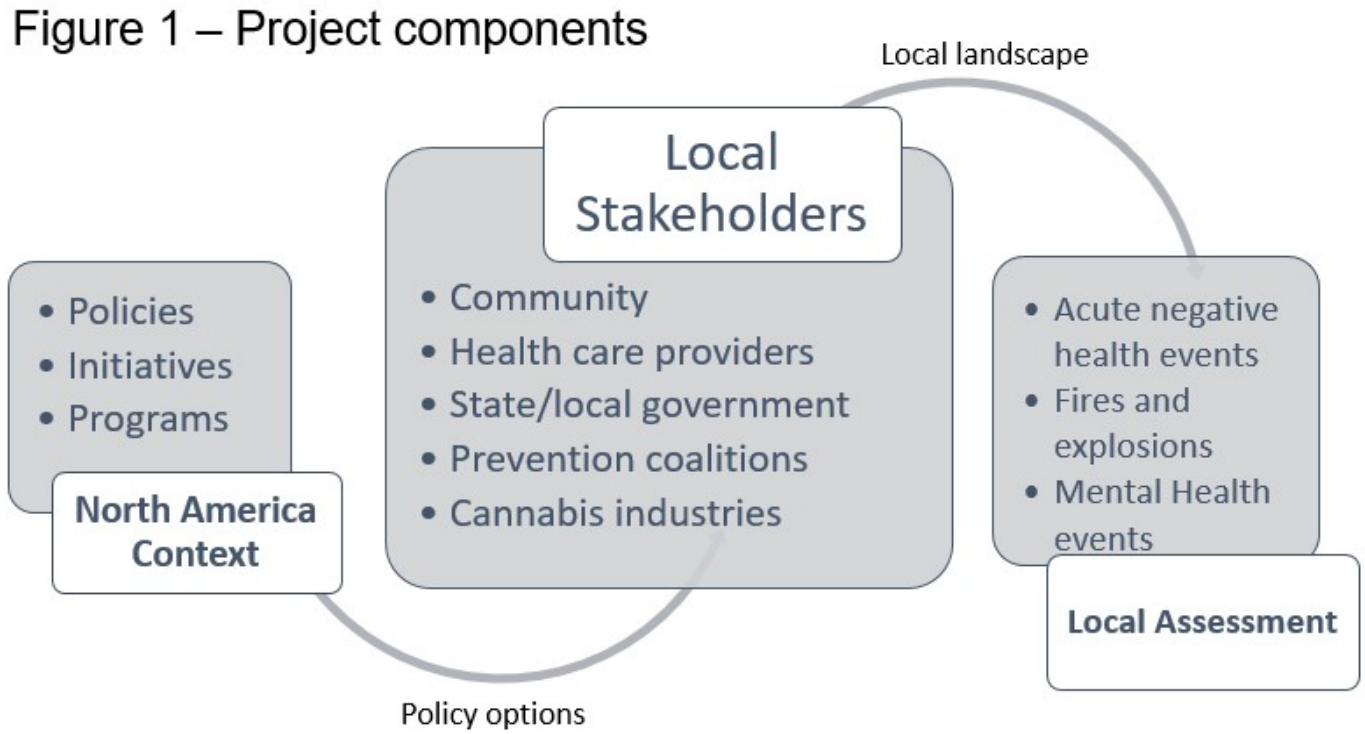
[18] New Jersey Cannabis Regulatory Commission. Personal Use Cannabis Rules. https://www.nj.gov/cannabis/documents/rules/NJAC%201730%20Personal%20Use%20Cannabis.pdf. Published August 19, 2021.

[19] Government of Canada. Cannabis Health Warning Messages. https://www.canada.ca/en/health-canada/services/drugs-medication/cannabis/laws-regulations/regulations-support-cannabis-act/health-warning-messages.html. Published October 17, 2019.

Next steps

Over the next 15 months, ADAI will initiate and complete the remainder of the project work as described in three sections below. More details can be found in Appendix A.

Figure 1: Project components



Assessing existing high-THC product policies, programs, and initiatives in North America

Next-steps include:

1. **Complete an inventory of policies in US states and Canadian provinces related to high THC concentration products, as presented in this initial report.**
   We acknowledge that this initial inventory of policies may be out of date by the time the final report is due. The final report will include the complete and most current policy options.
2. **Consult with cannabis policy experts in North America and develop a concise menu of policy options to be presented to stakeholders.**
   This menu will serve as a starting point for stakeholders to comment on and suggest policy solutions.

Mapping and synthesizing Washington State stakeholders' and partners' perspectives on policy options

Next-steps include:

1. **Finalize stakeholder mapping**.
   An initial list of stakeholder organizations and individuals will be completed and modified/updated as needed.
2. **Include perspectives from sovereign tribes**.
   In addition to the stakeholder groups listed, we will seek to gather perspectives of the policies options explored with stakeholders from two sovereign tribes who have Marijuana Compacts in place with WA State Liquor and Cannabis Board (WSLCB), as well as at least one tribe without a compact. Partnering with tribes will involve tribal liaisons including the Office of International and Tribal Affairs (OIA).
3. **Recruit and interview stakeholders**.
   ADAI staff will interview stakeholders who have agreed to participate over Zoom or another web-faced platform. Stakeholders will be provided with a menu of policy options prior to the interview. The interview will explore high THC product awareness, interests and considerations related to the policy options outlined, position for or against the policy, and ability/interest in affecting the policy process (through power and/or leadership). The interview will also elicit new policy ideas from stakeholders that may not have been implemented yet in other states.
4. **Synthesize stakeholders' perspectives**.
   ADAI will utilize concept mapping, a mixed-methods methodology that provides a picture from diverse stakeholders of factors that influence policy implementation, to summarize the information collected and produce visual charts and other accessible information to share with stakeholders.
5. **Conduct a second round of stakeholder meetings**.
   In a next phase, ADAI will share with stakeholders the mapped findings of policy options gathered from interviews, ranked by potential public health impact, and the results of local assessment. The goal of this second round of engagement is to provide additional context to results of policy synthesis and public health assessment.

6. **Create "Go-Zones" to set policy agendas**.
   In this last step, stakeholders will engage in autonomous ranking of policy options to create a collective "short list" of high impact and feasible policy options.

Local public health assessment

Information and data on cannabis products with high THC concentration and acute negative health effects in Washington State will be collected, to allow for an understanding of the impact of high THC concentration products at a local level. Information collected may include case notes on a sample of patients exposed to high THC concentration products from the WA Poison Center, media accounts of fires/explosions caused by the production of high THC concentration products, and data on the mental health effects of using high THC concentration products from local organizations such as **New Journeys**[20] and the **local chapter of the National Association of Mental Illness**[21].

These findings will be made available to stakeholders, inform the policy recommendations, and be disseminated as a brief report, accessible to diverse audiences.

[20] Washington State Health Care Authority. New Journeys: First Episode Psychosis Coordinated Specialty Care Teams. https://www.hca.wa.gov/assets/free-or-low-cost/fact-sheet-early-psychosis-initiative.pdf. Published December 23, 2019.
[21] National Alliance on Mental Illness Washington. Homepage. NAMI Washington. https://www.namiwa.org/. Accessed September 30, 2021.

Appendix A: Full project plan

Appendix A includes the complete project plan prepared by the University of Washington's Addictions, Drugs and Alcohol Institute, Cannabis Research and Education on August 17, 2021.

This Appendix can be accessed on **HCA's website**.