

To: House Government Operations Committee
From: Jill Sudhoff-Guerin, Vermont Medical Society, American Academy of Pediatrics VT Chapter and Vermont Psychiatric Association
Date: April 29, 2022
RE: H.548, Cannabis Regulation

The 2,600 physician and physician assistant members of the Vermont Medical Society (VMS), the American Academy of Pediatrics Vermont Chapter (AAPVT) and the Vermont Academy of Family Physicians (VAFM) urge you NOT to remove the current statutory THC potency limit of 60% for concentrates.

The Senate-passed version of H.548 removes the 60% THC potency cap only on cannabis solid concentrates, despite the [acute mental health and public health impacts that THC potency of up to 99% has had on users in states](#) where they have legal commercial cannabis markets with no THC limits (*The Senate-passed version also removes a prohibition on the sales of oil cannabis products separate from a battery devise, but these products never had a THC potency cap because they are currently prohibited*).

VMS has commented strongly since the consideration and passage of S. 54 in 2019 that potency limits are an important factor to protect public health. The risks of physical dependence and addiction increase with exposure to high concentrations of THC, and higher doses of THC are more likely to produce anxiety, agitation, paranoia, suicidality, psychosis and uncontrollable vomiting.¹

The VMS supports the prohibition of butane and hexane extraction methods but does not support the removal of the 60% THC potency cap for solid concentrates. You can have both, as there are non-solvent-based extractions that yield lower THC potency concentrates. Studies show non-solvent-based concentrates yield lower THC potency products that are not created with toxic chemicals and are less harmful. From [this American Academy of Pediatrics study from September, 2019](#):

“Solvent-based extraction methods produce concentrates (eg, wax, dab, shatter, and butane hash oil [BHO]) with average THC content of ~54% to 69%. Nonsolvent-based extraction methods produce concentrates (eg kief, hash or hashish, and rosin) with THC content of ~39% to 60%.”



Picture of solid concentrates

Questions from H.548 discussion from 4.28.22:

What are Solid Concentrates? And if you have a 60% THC potency product, what is the other 40%?

In yesterday's hearing in House Human Services there were several questions regarding what solid concentrates are and there seemed to be some confusion between a solid concentrate and an infused product that would be vaped with additives. [The National Institute of Drug Abuse](#) provides definitions of solid concentrates. **A concentrate is an extracted substance that has been isolated and reduced down to a high THC potency cannabis substance.** According to [cannabis retailers](#):

- An extract is a substance that's made by extracting a desirable compound from the raw material. That compound is then suspended in a solvent, most often alcohol or water.
- A concentrate is what is left when they remove the compound from the solvent. What remains is a more potent form of extract that doesn't contain any alcohol or water.
- Concentrates are a more solid substance that needs to be melted before it is inhaled. Concentrate vaping is the process of heating up the extract or concentrate inhaling the vapor.

Therefore, the "additives" that Gillian Schauer, Ph.D, discussed today are not in the concentrate itself at all, but rather could be what it is put into an infused product, like an edible or vape, (which is not what the bill addresses).

The non-solvent-based concentrates, which tend to be under the 60% THC potency limit, are reported [by cannabis retailers](#) to be "the cleanest" products and chemical free: *"CO2 extraction, also less commonly known as supercritical fluid extraction, is solvent-free, mess-free, and very expensive. It's also very popular with pros because the product is completely without toxins (unlike, is the case with butane and propane), while retaining a terpenes-rich flavor."*

Will Use of Lower THC Potency Concentrates Increase EVALI (e-cigarette vaping associated lung injury)?

It was not concentrates that caused EVALI, it was oil-based THC products that led to the EVALI crisis, as 82% of patients hospitalized with EVALI reported vaping a THC product. What the CDC found was that vaping THC oil, especially oil that contains vitamin E acetate, can be particularly harmful to your lungs when it's inhaled.¹ According to the CDC, [Emergency department \(ED\) visits related to e-cigarette, or vaping, products](#) continue to decline, after they targeted the Vitamin E acetate as the problem. This bill, as passed the Senate, also removes the prohibition on oil cannabis products. **The VMS supports the continued prohibition of the oil cannabis products (except for those that are sold prepackaged for use with battery-powered devices, which were exempted for medical cannabis for symptom relief users.)**

By allowing Limitless THC Potency in Solid Concentrates Will Vermont Eliminate the Black Market for Cannabis?

In states with established cannabis markets, with NO potency limits on cannabis flower, concentrates, vapes or edibles, the illicit market for cannabis products continues to thrive. According to NPR for Northern Colorado, in a 2019 article, [Seven Years After Legalization, Colorado Battles Illegal Market](#), "State and federal officials are calling it the largest illegal marijuana market Colorado has even seen. It's a puzzling situation considering that back in 2012, proponents of Amendment 64 promised a regulated market would do away with the illegal dealers and drug cartels. In fact, it appears to have done just the opposite." According to the 2021 Guardian article, [California Legalized Weed Five Years Ago. Why is the Illicit Market Still Thriving?](#)

¹ https://www.cdc.gov/tobacco/basic_information/e-cigarettes/severe-lung-disease.html

about 80-90 percent of California's market remains underground, despite them legalizing commercial cannabis in 2016. Whereas, in Quebec, there is a 30 % THC potency cap on cannabis concentrates, edibles and THC vape products and this 2021 study, "[Vape Oils, E-Cigarettes and Public Health](#)," using 2018-2020 data, **shows lower use of all of these products.**

Which is why states like CO and WA are seeking legislation to put THC potency limits in now:

- [Colorado passed a bill last year](#) limiting the daily THC purchase of high potency concentrates because of the public health crisis.
- [Washington State has a bill to reduce their legal THC potency limit for concentrates to 30%](#)
- Politico, "[The cannabis industry's next war: How strong should its weed be?](#)"

What is the Prevalence of Use of Solid Concentrate Cannabis Products?

Currently, the Cannabis industry is pushing the Cannabis Control Board to remove Vermont's potency caps on [solid concentrates](#) because these products are a big dollar generator, as the purchase of concentrates from cannabis retailers continues to rise. **For example, by October 2019, concentrates accounted for 35% of the cannabis market in Washington state, from 9% in 2014 and 27% in 2017.**ⁱⁱ This [2020 Cannabis Market Study](#) shows that they are roughly 19% of the market in Massachusetts. According to an American Academy of Pediatrics 2019 study, cannabis concentrate use is common in adolescents (prevalence = 24%).²

How to Protect Public Health in Vermont's Cannabis Market Rollout

[Evidence shows](#) high potency cannabis use, especially with potency greater than 15% THC is associated with increased urgent and emergency department psychiatric visits and increased mental health disorders, including psychosis. It is also associated with increased urgent non-psychiatric visits for respiratory distress, cannabis hyperemesis syndrome (uncontrollable vomiting) and poisonings. A 2019 study published in the Lancet found that the strongest independent predictors of whether any given individual would have a psychotic disorder or not were daily use of cannabis and use of high-potency cannabis.³

In a 2020 Frontiers in Psychiatry literature review looking at high potency concentrates and public healthⁱⁱⁱ, they provide these recommendations to minimize acute health impacts:

1. Early restriction of cannabis edibles and high-potency products;
2. Clear and consistent labeling that communicates dose/serving size and health risks; and,
3. Implementation of robust data collection frameworks to monitor acute health impacts, broken down by cannabis product type (e.g. dose, potency, route of administration) and consumer characteristics (e.g. age, sex, gender, ethnicity).

They state that ongoing data collection and monitoring of health impacts is critical to understanding the impact of cannabis legalization and maximizing public health benefits. **The VMS suggests you add a study, analyzing the experience of other states and countries, of the best way to minimize the acute mental health and physical health impacts of high THC potency products before you remove the current statutory limits of THC potency of 30% for flower and 60% for solid concentrates.**

Thank you for your attention. Please contact Jill Sudhoff-Guerin with any questions jsudhoffguerin@vtmd.org or 802.917.5817

² <https://publications.aap.org/pediatrics/article/144/3/e20190338/38413/Cannabis-Concentrate-Use-in-Adolescents>

³ [https://www.thelancet.com/journals/lanpsy/article/PIIS2215-0366\(19\)30048-3/fulltext#seccesstitle140](https://www.thelancet.com/journals/lanpsy/article/PIIS2215-0366(19)30048-3/fulltext#seccesstitle140)

ⁱ Freeman TP, Winstock AR. Examining the profile of high-potency cannabis and its association with severity of cannabis dependence. *Psychol Med.* 2015;45(15):3181-9. doi: 10.1017/S0033291715001178

ⁱⁱ <https://gettingitrightfromthestart.org/wp-content/uploads/2021/01/Cannabis-Concentration-and-Health-Risks-2020-Washington.pdf>

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