



To: Senate Judiciary Committee
From: Jill Sudhoff-Guerin, Vermont Medical Society, American Academy of Pediatrics VT Chapter, Vermont Academy of Family Physicians and Vermont Psychiatric Association
Date: February 23, 2023
RE: S.72, Cannabis Regulation

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

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 According to [a report](#) produced in 2020 by the Washington State Prevention Research Subcommittee “higher potency cannabis, on average in the U.S., used at cannabis initiation was associated with over four times the risk of Cannabis Use Disorder (CUD).

The VMS applauds the legislature for voting down last session’s effort to remove the 60% THC potency cap on cannabis solid concentrates. States that have a legal commercial cannabis markets with no THC limits citizens are experiencing [acute mental health and public health impacts](#).

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%](#)
- [Washington State also has a bill to place a 65% tax on cannabis products with over 35% THC potency](#)
- Politico, [“The cannabis industry's next war: How strong should its weed be?”](#)

There appears to be a lot of confusion between solid concentrates vs. liquid concentrates, which makes the public health debate regarding cannabis potency limits even more difficult. Advocates of removing the potency caps have argued that the “diluent” used to get the cannabis products to 60% THC potency are more unhealthy than the adverse public health and mental health impacts of 100% THC concentrates. But, diluents are only necessary in liquid concentrates and oil-based cannabis products, and before the passage of [Act 158](#) in May of 2022, these products were prohibited.

Last session we were advocating to keep the potency cap on solid concentrates, because that was the only concentrate on the market. This year, we now have solid concentrates, liquid concentrates, and oil cannabis products separate from a battery device. In order for Vermont to properly regulate all cannabis products and to understand the full health risks we need to better articulate the difference between each of these three products.

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

[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.

The VMS supports the prohibition of chemical 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. See [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%.”

The non-solvent-based concentrates, which tend to be under 60% THC potency, are reported [by cannabis retailers](#) to be “the cleanest” products and chemical free.



Picture of solid concentrates

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

The “additives” and “dilutents” pointed to as riskier are not in the solid concentrate itself at all, but rather could be what it is put into a cannabis oil-based product, like a vape. 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. According to a recent study, thinning agents often mixed with cannabis oil used in vaporizers can also produce high levels of formaldehyde and acetaldehyde when heated, putting users at high risk of exposure.ⁱⁱ **The VMS supports the prohibition of the oil cannabis products (except for those**

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

that are sold prepackaged for use with battery-powered devices, which were exempted for medical cannabis for symptom relief users.)

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

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.**ⁱⁱⁱ 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 health^{iv}, 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).

Please put public health over profit and keep the current THC potency limit of 60% for concentrates and put oil-based cannabis products back on the prohibition list.

Please contact Jill Sudhoff-Guerin with any questions jsudhoffguerin@vtmd.org or 802.917.581

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://pubmed.ncbi.nlm.nih.gov/28355118/>

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

^{iv} <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7538627/>

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)