To:	House Government Operations Committee
From:	Jill Sudhoff-Guerin, Vermont Medical Society, American Academy of Pediatrics VT Chapter and Vermont Psychiatric Association
Date:	February 15, 2022
RE:	H.548, Cannabis Regulation

On behalf of the over 2,500 physician and physician assistant members of the Vermont Medical Society (VMS), the American Academy of Pediatrics Vermont Chapter (AAPVT) and the Vermont Psychiatric Association, we appreciate your consideration of our comments regarding H.548. We have worked closely with the Cannabis Control Board during the off-session, providing our feedback throughout their rulemaking process, in an effort to ensure the inclusion of evidence-based strategies aimed at combatting negative health impacts on Vermont's population and protecting Vermont's youth and young adults.

Specifically, VMS submits comments at this time regarding:

1. **Sec. 1. 7 V.S.A. § 868** we urge you not to remove these products from the prohibited products currently in statute**:**
    a. solid concentrate cannabis products with greater than 60 percent THC;
    b. oil cannabis products except for those that are sold prepackaged for use with battery-powered devices
2. **Sec. 6. 18 V.S.A. § 4230h** we support the prohibition of using butane or hexane to manufacture concentrated cannabis by chemical extraction or chemical synthesis

Sec. 1. 7 V.S.A. § 868 – High THC Potency Products Can Result in Acute Harms

Our clinicians are particularly concerned with the proposal to remove the THC potency limits in this bill. VMS has commented since the consideration and passage of S. 54 in 2019 that potency limits are an important factor to protect public health. In November of 2021, the VMS adopted a policy resolution specifically urging the Vermont Cannabis Control Board and the Vermont legislature to require that all cannabis grown, produced or sold in the state contain less than 15% THC.

Why?
1. Evidence shows 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. According to a January 2020 report presented by the Vermont Department of Health, cannabis use can lead to the development of schizophrenia or other psychoses, as well as suicidal ideation and suicide completion.[1] 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.[2] Currently, habitual users of marijuana are going to emergency rooms complaining of bouts of uncontrollable vomiting related to their frequent cannabis use. This condition, named "cannabis hyperemesis syndrome," has been shown to subside when the consumer stops using cannabis products.[3]

According to the National Institute of Drug Abuse,[4] marijuana concentrates have particularly high levels of THC. Solvent-based products tend to be especially potent, with THC levels documented at an average of about 54-69% and reported to exceed 80%, while nonsolvent-based extraction methods produce average THC levels between 39-60%.[5] Not only do concentrates have high levels of THC, but dabbers inhale the entire amount all at once—in a single breath. As a result, concentrates can deliver extremely large amounts of THC to the body quickly. 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, and psychosis.[6]

2. In Vermont, there is a significant, inappropriately low perception of harm of cannabis use. Many Vermonters associate legalized cannabis sales with marijuana from the 1990s, when the THC levels were less than 2%. Yet, in states like Colorado and Washington, where commercial cannabis sales have already been legalized, THC potency has dramatically increased, with averages for marijuana flower ranging from 17-28% and for concentrates, such as dabs and waxes, as high as 90% THC.

3. Currently, Vermont has some of the highest rates of young adult use of marijuana in the country, with 38% of 18–25-year-olds using marijuana in the past 30 days. According to Andrea Villanti, PhD, MPH, from the Vermont Center on Behavior & Health at the University of Vermont, since the start of COVID-19, 50 percent of youth and young adult past 30-days users reported increasing their use of marijuana.[7] Cannabis is considered by young users to be one of the least harmful psychoactive substances, in part because it is often perceived as more 'natural' than other substances.

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[1] https://legislature.vermont.gov/Documents/2020/WorkGroups/House%20Health%20Care/Regulation%20of%20Cannabis/W~Kelly%20Dougherty~Health%20Impacts%20of%20Marijuana~1-24-2020.pdf

[2] https://www.thelancet.com/journals/lanpsy/article/PIIS2215-0366(19)30048-3/fulltext#seccestitle140

[3] https://www.cnn.com/2021/09/17/health/marijuana-vomiting-wellness/index.html

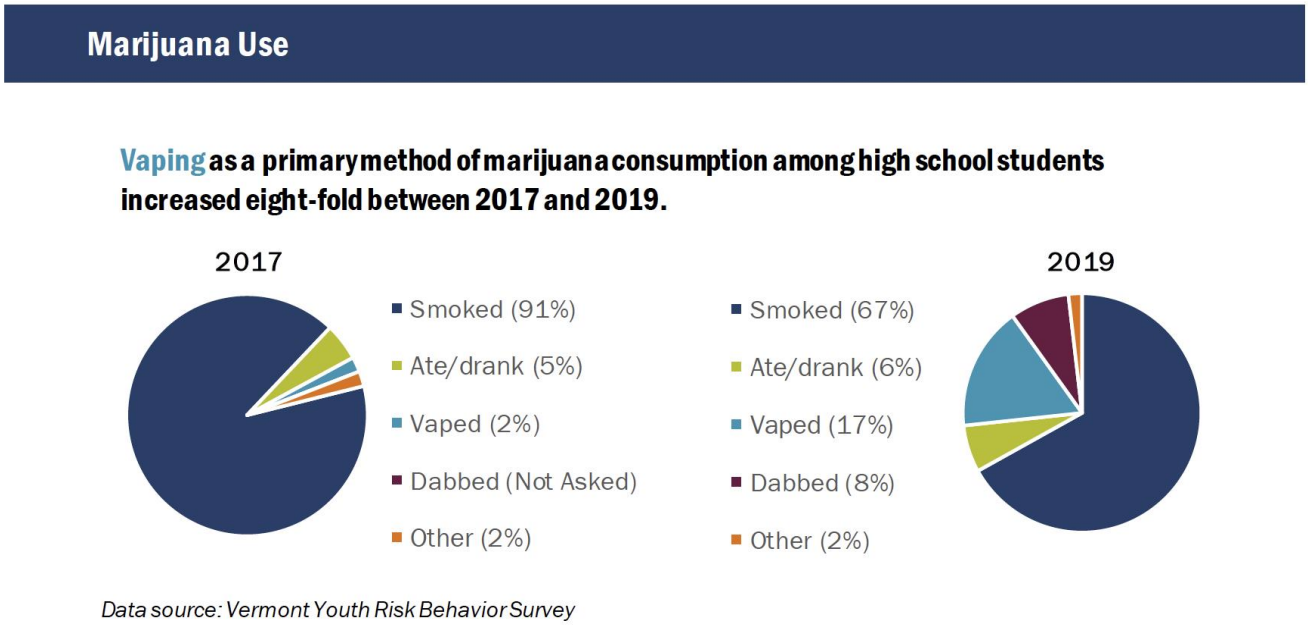
[4] https://www.drugabuse.gov/publications/drugfacts/marijuana-concentrates

[5] Meier MH, Docherty M, Leischow SJ, Grimm KJ, Pardini D. Cannabis concentrates use in adolescents. Pediatrics. 2019;144(3):e20190338. doi:10.1542/peds.2019-0338

[6] 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

[7] https://ccb.vermont.gov/sites/ccb/files/2021-07/2021-07-08%20Villanti%20-%20VT%20Cannabis%20Control%20Board%20(002).pdf

In 2019, 40% of Vermont high school students (grades 9-12) reported that they had used marijuana at least once in their lives. Whereas, in 2019, 27% of high school students reported using marijuana regularly. This was significantly higher than past 30-day use in 2015 (22%) and 2017 (24%), but similar to 2009 (25%).[8]



A November 2020 report, published by the Washington State Prevention Research Subcommittee[9], found that:

a) Young people are particularly vulnerable to negative effects of high potency cannabis.
b) Negative effects from manufactured products are especially high among children, and exposure to vaping liquids is more likely to need medical intervention.
c) Negative impacts are more acute for adolescents who use cannabis with high THC concentration or use these products more frequently.
d) Use of cannabis with high THC concentration increases the chances of developing cannabis use disorder or addiction to cannabis, particularly among adolescents.
e) High potency cannabis use can have lifelong mental health consequences, which often manifest in adolescence or early adulthood.
f) Daily cannabis use, particularly of high potency products, increases the risk of developing a psychotic disorder, like schizophrenia, and is related to an earlier onset of symptoms compared to people who do not use cannabis.
g) Among those with a psychotic disorder diagnosis, the use of high potency cannabis exacerbates disease symptoms.

[8] ADAP Marijuana Use in Vermont. August, 2021.
[9] https://adai.uw.edu/wordpress/wp-content/uploads/2020/11/Cannabis-Concentration-and-Health-Risks-2020.pdf

Sec. 1. 7 V.S.A. § 868 – Oil based THC products led to EVALI (e-cigarette vaping associated lung injury)

Vaping THC oil involves heating the oil and inhaling it through a vaporizing device like a vape pen or an e-cigarette. Recent evidence shows that vaping THC oil, especially oil that contains vitamin E acetate, can be particularly harmful to your lungs.[3] Vitamin E acetate, which is regularly added to THC when preparing it for use in e-cigarettes and vaping devices, is particularly harmful when it's inhaled.

According to the CDC, as of February 18, 2020, a total of 2,807 hospitalized EVALI cases or deaths were reported from every state in the nation. 82% of patients hospitalized with EVALI reported vaping a THC product. Vitamin E acetate and other oils were strongly linked to this acute lung failure in otherwise healthy people.[10]

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.)

Sec. 6. 18 V.S.A. § 4230h Butane and/or hexane should not be used to manufacture concentrated cannabis for chemical extraction or chemical synthesis

Butane is used to isolate the THC in hemp and in THC cannabis concentrates as well. According to the Chemical and Engineering News on August 30th, 2021, the synthetic solvents required to isolate the Delta-8 THC use "pretty aggressive" heavy metals and strong acids. A medicinal cannabis expert at the University of California San Diego said, "A lot of irresponsible production is going on in the sense that most of these people are getting their information from online forums, and many of them aren't necessarily trained chemists."[11]

Flammable solvents, like butane and hexane, are also popular methods for producing concentrated THC products, commonly known as "oil," "budder," "crumble," "wax," and "dabs," as they extract the cannabinoid for a more potent product. According to the CDC, cannabis "dabbing" is increasingly popular among teenagers and young adults in the US. The high THC concentration in butane-extracted dabs, typically around 80 percent, is delivered to users at once in a single breath, increasing the risk of physical dependence and addiction. There is also higher risk of contamination, a 2015 study showed 80 percent of "dab" samples contained considerable residual solvent and pesticide contamination.[12]

The VMS supports the prohibition of butane and hexane extraction methods.

[10] https://www.cdc.gov/mmwr/volumes/69/wr/mm6903e2.htm?s_cid=mm6903e2_w
[11] https://cen.acs.org/biological-chemistry/natural-products/Delta-8-THC-craze-concerns/99/i31
[12] https://pubmed.ncbi.nlm.nih.gov/26558460/