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Medical Cannabis Program

Impact of High Potency Cannabis Use

Gary J. French, MD

Medical Director

Elizabeth Bisio, MHP, CHES

Health Educator

Disclaimer

- The opinions shared during this meeting do not necessarily reflect the position of the Medical Cannabis Program.
- The Medical Cannabis Program does not endorse any specific product, producer, or vendor.

News¹

- On August 29, 2023, the Department of Health and Human Services (HHS) recommended to the Drug Enforcement Agency (DEA) that cannabis be rescheduled from Schedule I to Schedule III under the Controlled Substances Act (CSA).
 - Schedule III – Tylenol with codeine, ketamine, suboxone, anabolic steroids, and testosterone.

DEA enforces drug laws – FDA enforces drug standards

Is there precedent?

- No instance yet of DEA rejecting an FDA recommendation to reschedule.
- In September 1998 FDA recommended to DEA that Marinol be rescheduled to Schedule III.
- In July 1999 DEA rescheduled Marinol to Schedule III.
- Agencies are entitled under case law to “change their mind,” but must provide reasonable scientific evidence to support the change.

Federal Policy Implications

- Those who manufacture, distribute, dispense, and possess *medical cannabis* may now be able to do so lawfully under the Controlled Substances Act (CSA).
- Cannabis producers and retailer would be able to deduct the costs of selling their product for the purposes of federal income tax filing.
- Easier access to banking services for cannabis businesses.
- Researchers would face less strict regulatory controls in researching cannabis as a Schedule III likely promoting greater research on cannabis.

Impact on Patients

- Those who use *medical cannabis* lawfully may now be eligible to:
 - Access public housing
 - Obtain immigrant and nonimmigrant visas
 - Purchase and possess firearms
 - Fewer barriers for federal employment
 - Eligibility to serve in the military

Where it gets weird

- Will the FDA fully enforce regulations on the cannabis industry as it does all other Schedule III drugs?
- What will be considered “medical cannabis”?
- Will providers be required to “prescribe” a cannabis product that has met FDA regulatory standards now that the federal government is acknowledging a potential medical benefit?
- Will pharmaceutical industries now develop cannabis drugs that can pass FDA muster and be dispensed at pharmacies?
- Will the change to Schedule III and aggressive FDA, actually be regressive to current state medical cannabis programs?

What would rescheduling not do?

- Rescheduling would ***not*** make all medical and recreational cannabis legal at the federal level.
 - Products such as flower, edibles, vape products, suppositories, and topicals would still be illegal - ***until FDA approved.***
- Rescheduling would ***not*** impact criminal code.
 - Penalties for federal cannabis crimes would still exist - ***but be lower.***

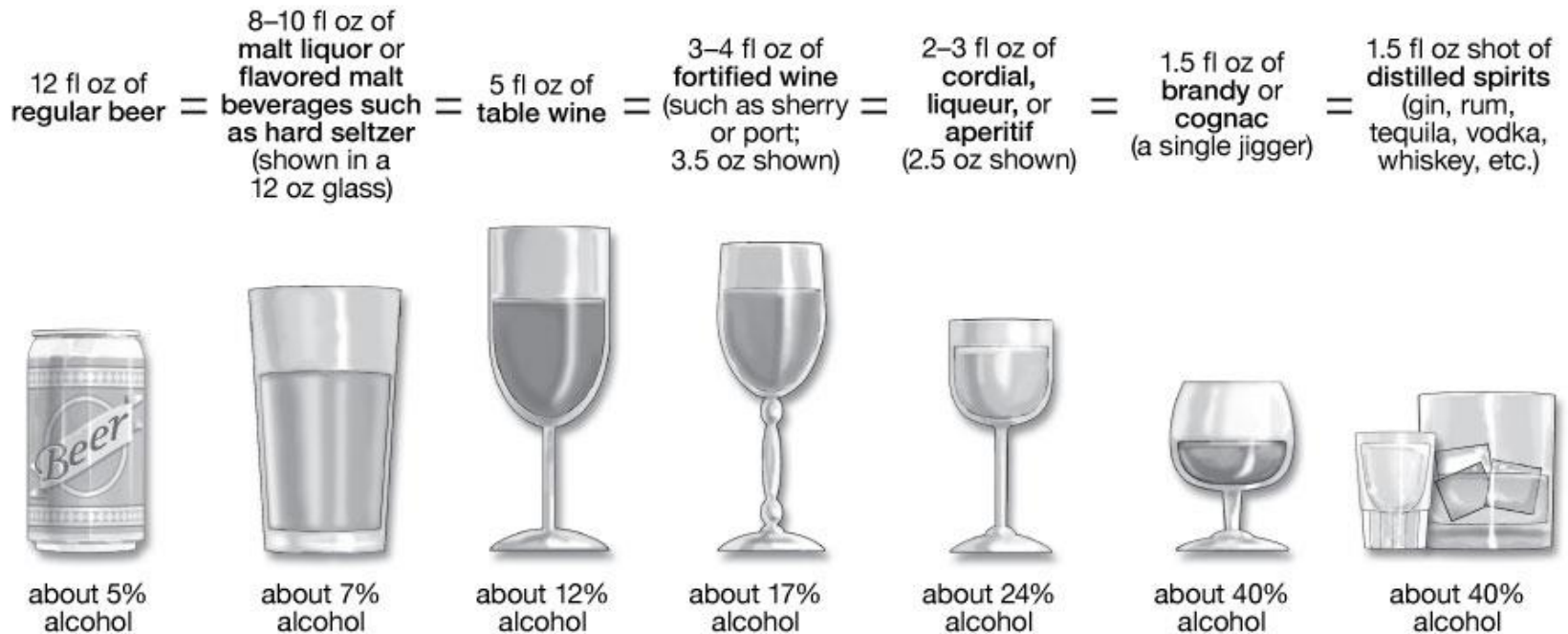
Why not just “de-schedule”?

- Would work better for current federal and state cannabis laws.
 - Example of testosterone (pharmacy vs. dispensary)
 - Current state-legal cannabis markets are not designed for a Schedule III drug
- Analogy to alcohol and tobacco

What is a standard drink?²

- One alcoholic drink equivalent = 14 grams of pure alcohol.
 - 12 ounces of regular beer (5% alcohol)
 - 5 ounces of wine (12 % alcohol)
 - 1.5 ounces distilled spirits (40% alcohol)

Standard Drink options




Each drink shown above represents one U.S. standard drink and has an equivalent amount (0.6 fluid ounces) of "pure" ethanol.

What is a standard THC dose for edible products?

BEGINNERS MICRODOSERS	1-5 MG EDIBLE DOSING	Increased appetite Decreased anxiety
BEGINNERS MICRODOSERS	5-10 MG EDIBLE DOSING	Euphoria, increased appetite, feelings of euphoria, general relaxation, coordination and perception may be altered
PATIENTS WITH CONTINUOUS PROBLEMS PATIENTS WITH SLEEPING PROBLEMS	10-20 MG EDIBLE DOSING	Euphoria, helps some users with acute pain, significant sleep problems & chronic pain problems, coordination and perception may be altered
WELL SEASONED CONSUMERS MEDICAL PATIENTS WITH HIGH TOLERANCE	20-50 MG EDIBLE DOSING	Strong euphoria or unpleasant effects in beginners, helps with acute, chronic pain & sleeping through the entire night, increased appetite, coordination and perception very likely to be altered
VERY WELL SEASONED CONSUMERS PATIENTS WITH SEVERE CONDITIONS	50-100+ MG EDIBLE DOSING	Reserved for users that have severe, chronic conditions (like Cancer or Crohn's disease), coordination and perception extremely likely to be altered

But what about high potency products?



DAB CHART

Dab Size	THC Per Dose (assuming 80% THC Concentrate)	Effects
Smaller Dose (0.025 - 0.05 grams)	20 - 40 mg of THC	Expect a mild high with subtle effects lasting 1-3 hours.
Increased Dose (0.05 - 0.1 grams)	40 - 80 mg of THC	Expect a more pronounced high with more noticeable effects lasting 1-3 hours.
Moving up the Ladder (0.1 - 0.2 grams)	80 - 160 mg of THC	Expect a strong high, with more noticeable effects lasting 1-3 hours.
Big Dab (0.2 - 0.4 grams)	160 - 320 mg of THC	Expect a more intense high paired with a prolonged experience lasting 3-4 hours.
Heavy Hitter (0.5 - 1 gram)	400 - 800 mg of THC	Expect an extremely potent high, with effects lasting up to or more than 5 hours.

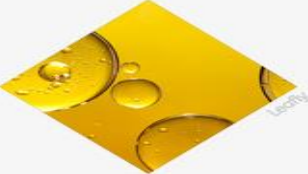
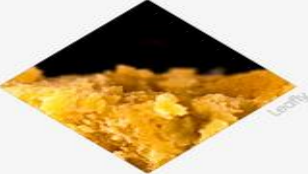
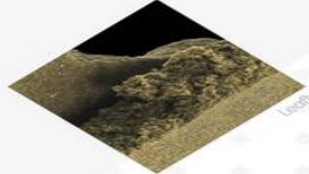

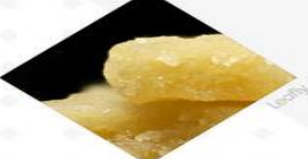
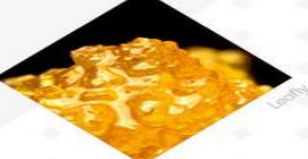
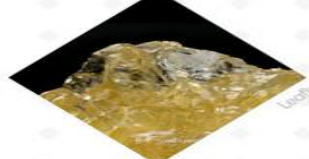
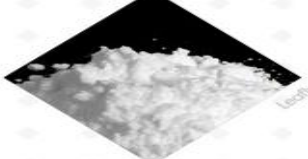
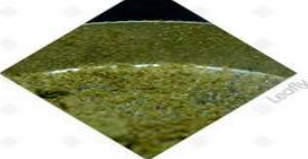

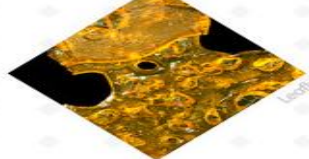
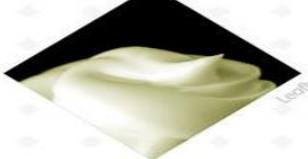
1 mg THC versus 800 mg THC



What do we know about high potency products?

- Cannabis products are not standardized.
- Potency of THC can vary widely.
- Consumers knowledge of THC levels in the products they use is low.³
- Concentrates are more likely to contain residues and contaminants.
- New concentrates continue to flood the market.

*****This year, more than a third of the US's \$34 billion in expected cannabis sales will come from products high in THC.⁴ (Last year, it made up only a quarter of sales.)*****

			
<p>Oil <i>aka distillate</i> Blanket term for thick, oily extracts mostly found in vape carts. From basic and cheap to award-winning and bank-busting.</p>	<p>Wax <i>aka crumble</i> Drier consistency. Widely available. Easy to make. Versatile—find it in wax pens, dab rigs, sprinkled on bowls.</p>	<p>Bubble Hash <i>aka water hash</i> Crumbly, dried product of ice water agitation and screen filtration. Wide range of color, quality, price, terpenes, and ways to enjoy.</p>	<p>Rosin Thick, clear, tinted sap. All natural, made without volatile solvents. Super popular in 2020, it's easily made at home.</p>
			
<p>Live Resin Beloved extract from fresh-frozen buds can have more terpene power than regular dried, cured weed.</p>	<p>Sauce Terpene-rich hybrid of runny oil and chunky, potent THC crystals. Must be kept cool. Enjoyed almost exclusively in dab rigs.</p>	<p>Diamonds Crystals of THC-A, the main active ingredient in cannabis. Must be kept cool. Almost always found in Sauce.</p>	<p>Isolate Found in tinctures and edibles, isolates of CBD or THC are the purest form of those active ingredients. Popular in medical use.</p>
			
<p>Kief <i>aka keef, dry sieve</i> Potent golden-green dust. A collection of cannabis resin glands called trichomes. Find it at home in your grinder.</p>	<p>Budder <i>aka butter, batter, badder</i> Light, creamy, white gold product of super high-quality production. Very terpy, very pure. Can be made with fresh-frozen buds.</p>	<p>Shatter <i>aka amber glass</i> Solid, translucent glass-looking extract. Poetry of form and function. Can be very pure, terpy, smooth, and shelf stable.</p>	<p>Flan The apex of pure, terpy, modern extracts. Flan is wet with terps and paired with dab rigs. Highly refined, four times the price of gold.</p>

Dangers of High Potency

- Young people are more vulnerable
 - socially and developmentally
- Accidental overconsumption
- Rapid development of tolerance⁵
- Using high THC products increases the risk of developing of Cannabis Use Disorder⁶
- Increased likelihood of Cannabis Withdrawal
- Cannabis Hyperemesis Syndrome
- Potential lifelong mental health issues - psychosis

Increased risk of psychosis with daily and higher potency cannabis

- Patients are at a greater risk for psychosis as cannabis exposure increases.⁷
- Patients with psychosis have greater risk of psychosis relapse with continued cannabis use.⁸
- Self-reported psychotic disorders are more common among people who use cannabis and become more prevalent with increased cannabis use.⁹
- Schizophrenia linked to problematic (high potency) cannabis use.¹⁰

Not only psychosis

- Anxiety⁶
- Depression¹¹
- Downregulation of CB1 Receptors¹²
 - 20% reduction in CB1 receptors in the brain's outer cortex in individuals currently using cannabis heavily.
- Capped “high”⁵
 - Level of impairment limited once CB1 receptors are saturated
- Extended Impairment – (Weed Hangover)
 - Cannabis “high” lasting longer than expected or desired due to the continued release of THC that has built up in the fatty tissues from frequent use of high-potency cannabis products.

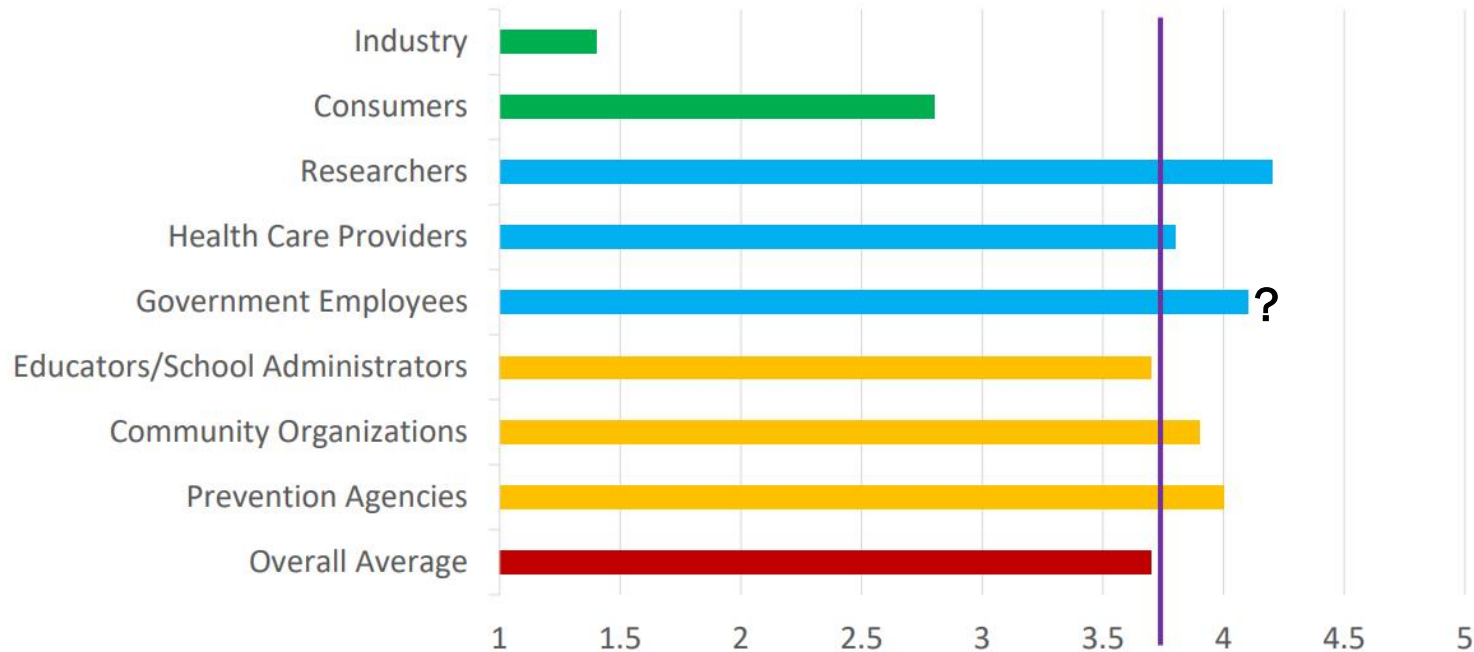
Not even a good high

- Many argue that high-potency THC doesn't even produce a “good high”. The focus on concentrating for THC eliminates many of the terpenes, phytocannabinoids, and flavonoids associated with a beneficial cannabis entourage effect.¹³

Why is this happening?¹⁴



Concern Level for High THC



Focus of current enacted state cannabis laws¹⁵

- Raising tax revenue
- Investing in communities most harmed by drug prohibition
- Eliminating the illegal market
- Reforming the criminal justice system
- But what about public health policy and misperceptions about safety?
 - Lack of decades-long scientific evidence on the harms from excessive cannabis use is not indicative of cannabis safety.

What can be done?¹⁵

- Cannabis legalization policies can minimize threats to public health while achieving social justice, equity and economic goals, but this requires the regulatory will to prioritize the promotion of responsible cannabis use up front, rather than wait for the high potency fallout.
 - Vermont and Connecticut are the only states that cap potency of THC on most cannabis products sold.
 - Colorado, Washington, Montana, Massachusetts and Florida introduced similar bills that were defeated or shelved primarily due to resistance from cannabis business and industry proponent groups.

Regulatory strategies on the horizon¹⁶

- Designing a tax structure based on potency of products
- Prohibit marketing and advertising of high THC products
- Raise legal age for high THC products' purchase to 25 years old
- Add high THC-specific mandatory health warning labels
- Implementing seed-to-sale data-tracing systems
- Cap THC concentration
- Set purchase limits for THC content

References

1. Congressional Research Service <https://crsreports.congress.gov> IN12240
2. NIH National Institute on Alcohol Abuse and Alcoholism <https://rethinkingdrinking.niaaa.nih.gov>
3. Goodman S, Hammond D. THC labeling on cannabis products: an experimental study of approaches for labeling THC servings on cannabis edibles. *J Cannabis Res.* 2022 Apr 7;4(1):17. doi: 10.1186/s42238-022-00124-1. PMID: 35387681; PMCID: PMC8988394.
4. Kary T. High-Potency Pot Market Worth Billions Draws Regulator Scrutiny. Bloomberg News. 2023 Aug 15; <https://www.bloomberg.com/news/features/2023-08-16/marijuana-with-high-thc-levels-draws-scrutiny-in-colorado-washington>
5. Bidwell LC, Ellingson JM, Karoly HC, et al. Association of Naturalistic Administration of Cannabis Flower and Concentrates With Intoxication and Impairment. *JAMA Psychiatry.* 2020;77(8):787–796. doi:10.1001/jamapsychiatry.2020.0927
6. Hines LA, Freeman TP, Gage SH, Zammit S, Hickman M, Cannon M, Munafo M, MacLeod J, Heron J. Association of High-Potency Cannabis Use With Mental Health and Substance Use in Adolescence. *JAMA Psychiatry.* 2020 Oct 1;77(10):1044-1051. doi: 10.1001/jamapsychiatry.2020.1035. PMID: 32459328; PMCID: PMC7254445.
7. Marconi A, Di Forti M, Lewis CM, Murray RM, Vassos E. Meta-analysis of the Association Between the Level of Cannabis Use and Risk of Psychosis. *Schizophr Bull.* 2016 Sep;42(5):1262-9. doi: 10.1093/schbul/sbw003. Epub 2016 Feb 15. PMID: 26884547; PMCID: PMC4988731.
8. Schoeler T, Monk A, Sami MB, Klamerus E, Foglia E, Brown R, Camuri G, Altamura AC, Murray R, Bhattacharyya S. Continued versus discontinued cannabis use in patients with psychosis: a systematic review and meta-analysis. *Lancet Psychiatry.* 2016 Mar;3(3):215-25. doi: 10.1016/S2215-0366(15)00363-6. Epub 2016 Jan 15. PMID: 26777297.
9. Livne O, Shmulewitz D, Sarvet AL, Wall MM, Hasin DS. Association of Cannabis Use-Related Predictor Variables and Self-Reported Psychotic Disorders: U.S. Adults, 2001-2002 and 2012-2013. *Am J Psychiatry.* 2022 Jan;179(1):36-45. doi: 10.1176/appi.ajp.2021.21010073. Epub 2021 Oct 14. PMID: 34645275; PMCID: PMC8945254.

References

10. Hjorthøj C, Posselt CM, Nordentoft M. Development Over Time of the Population-Attributable Risk Fraction for Cannabis Use Disorder in Schizophrenia in Denmark. *JAMA Psychiatry*. 2021;78(9):1013–1019. doi:10.1001/jamapsychiatry.2021.1471
11. Chan GCK, Hall W, Freeman TP, Ferris J, Kelly AB, Winstock A. User characteristics and effect profile of Butane Hash Oil: An extremely high-potency cannabis concentrate. *Drug Alcohol Depend*. 2017 Sep 1;178:32-38. doi: 10.1016/j.drugalcdep.2017.04.014. Epub 2017 Jun 8. PMID: 28624604.
12. D'Souza DC, Cortes-Briones JA, Ranganathan M, Thurnauer H, Creatura G, Surti T, Planeta B, Neumeister A, Pittman B, Normandin M, Kapinos M, Ropchan J, Huang Y, Carson RE, Skosnik PD. Rapid Changes in CB1 Receptor Availability in Cannabis Dependent Males after Abstinence from Cannabis. *Biol Psychiatry Cogn Neurosci Neuroimaging*. 2016 Jan 1;1(1):60-67. doi: 10.1016/j.bpsc.2015.09.008. PMID: 26858993; PMCID: PMC4742341.
13. Ferber SG, Namdar D, Hen-Shoval D, Eger G, Koltai H, Shoval G, Shbiro L, Weller A. The "Entourage Effect": Terpenes Coupled with Cannabinoids for the Treatment of Mood Disorders and Anxiety Disorders. *Curr Neuropharmacol*. 2020;18(2):87-96. doi: 10.2174/1570159X17666190903103923. PMID: 31481004; PMCID: PMC7324885.
14. Carlini B, Firth C, Garrett S. Cannabis Concentrations and Health Risks: A Report for the Washington State PRSC. 2020; <https://ada1.uw.edu/wordpress/wp-content/uploads/2020/11/Cannabis-Concentration-and-Health-Risks-2020.pdf>
15. Pacula RL, Pessar S, Zhu J, Smart R. Federal Regulations of Cannabis for Public Health in the United States. Schaeffer Center White Paper Series. 2022 Jul 18; doi: <https://doi.org/10.25549/FBEW-6Z03>
16. Washington State Health Care Authority (HCA) & University of Washington Addictions, Drug & Alcohol Institute (ADAI). [Washington State HCA report to the legislature. High THC policy | Final report: Exploring policy solutions to address public health challenges of high THC products](#). Engrossed Substitute Senate Bill 5092; Section 215(55); Chapter 334; Laws of 2021. Olympia, WA; Washington State Health Care Authority, December 2022.

Any questions?



For More Information

- Website: www.nmhealth.org/go/mcp
- Phone: (505) 827-2321
- Email: medical.cannabis@doh.nm.gov

THANK YOU!!