



CHS Prevalence and Risk Factors in the U.S.

Presenter:

Nicholas Glodosky, PhD

Co-Authors:

Sarah Okey, PhD

Tyler Watson, PhD, MPH

David Hammond, PhD

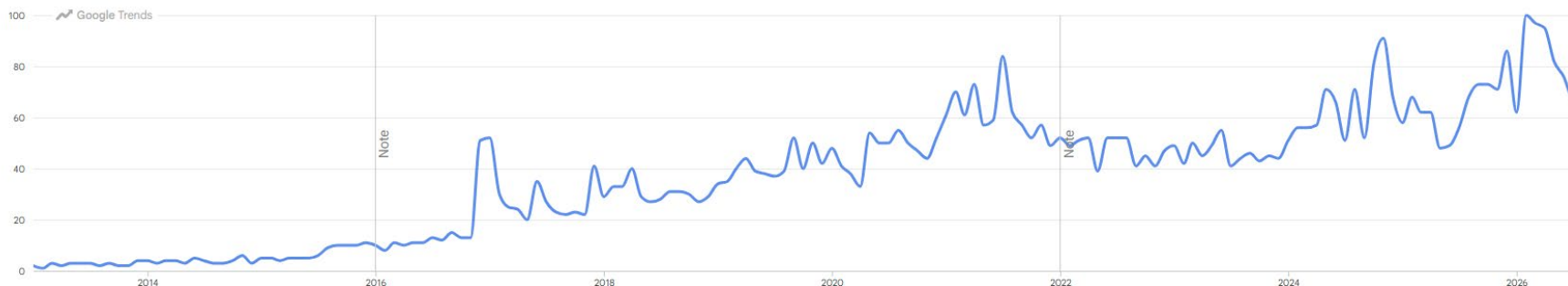


Cannabinoid Hyperemesis Syndrome

Cannabinoid hyperemesis syndrome (CHS) is characterized by intense nausea, abdominal pain, and cyclical vomiting associated with frequent and long-term cannabis use.

Interest over time ⓘ

Worldwide · Jan 1, 2013 - Aug 31, 2026





Washington State Liquor and Cannabis Board

Who is at risk?



Young men ages 16-34¹⁻³



Frequent, long-term use²



Genetic factors⁴



Cannabis legality⁵



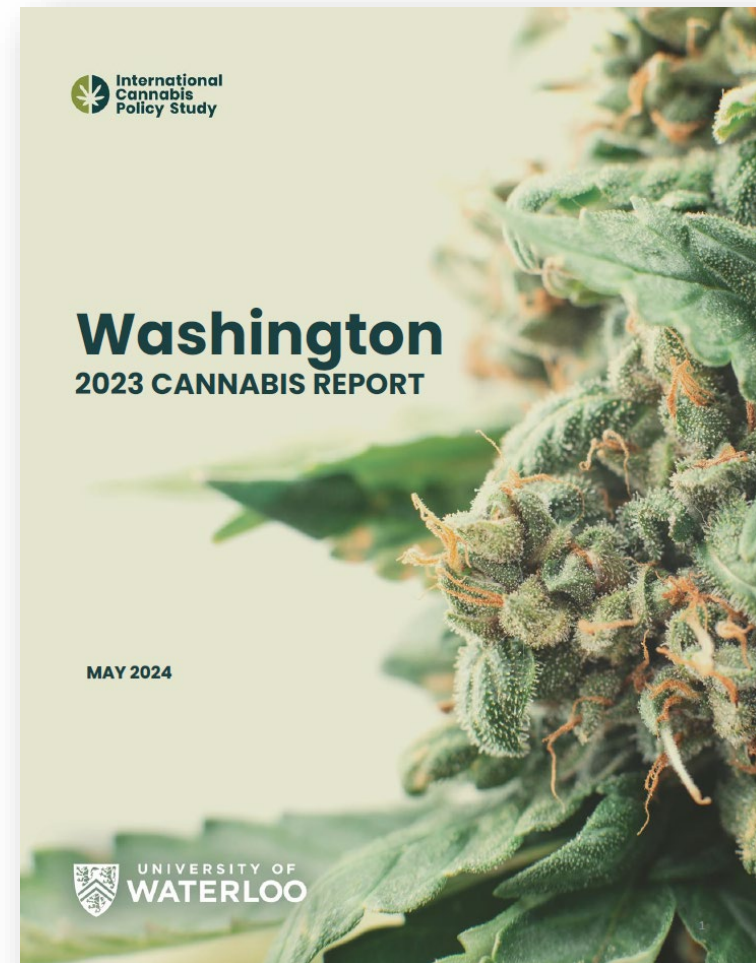


Washington State Liquor and Cannabis Board



International Cannabis Policy Study

- ICPS conducts an annual survey to evaluate the impact of cannabis policies
- LCB has partnered with ICPS since 2022
- 2023 was the first year participants were asked about past-year CHS





Washington State Liquor and Cannabis Board

Methods

Sample

2023 ICPS surveyed nearly
40,000 U.S. participants



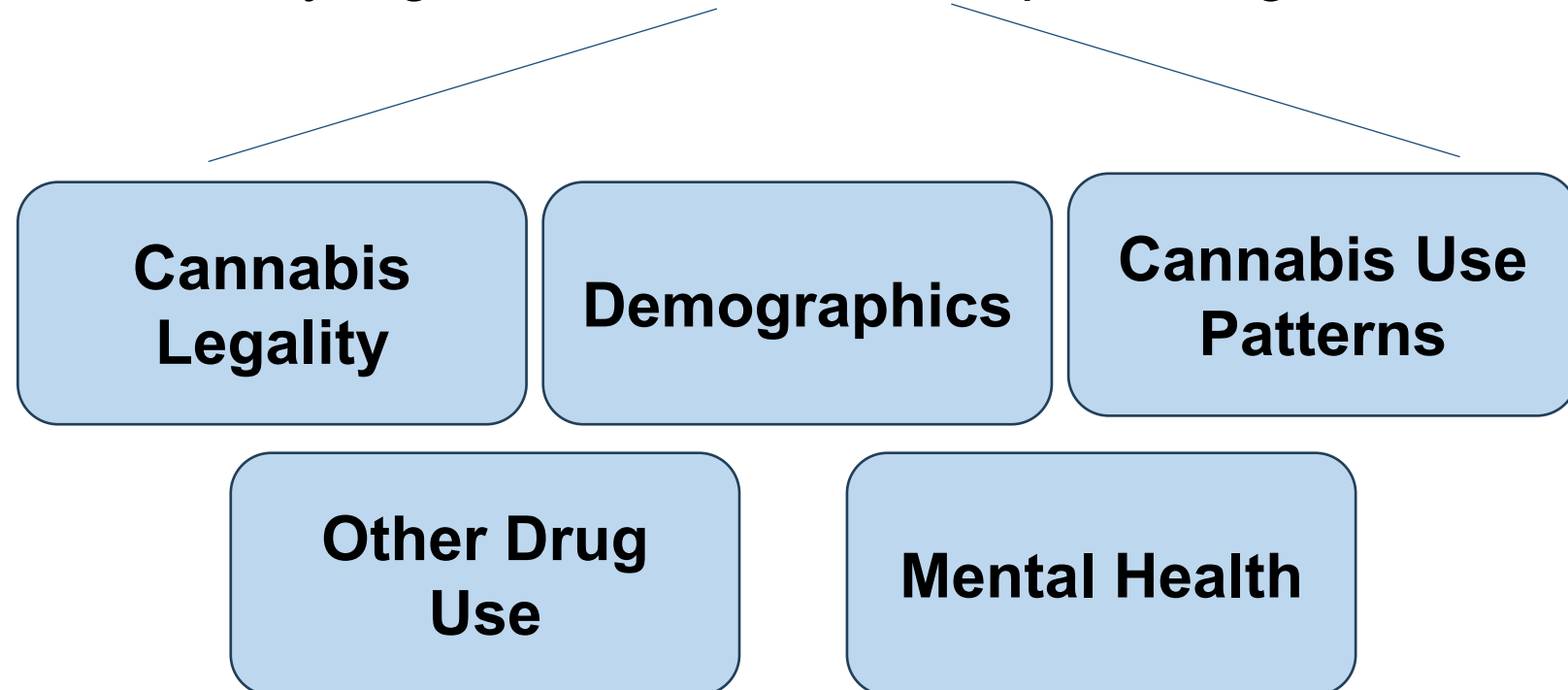
14,233 reported past-
year cannabis use



10,255 answered
questions about CHS

Analytic Approach

Binary logistic multilevel model predicting CHS





Washington State Liquor and Cannabis Board

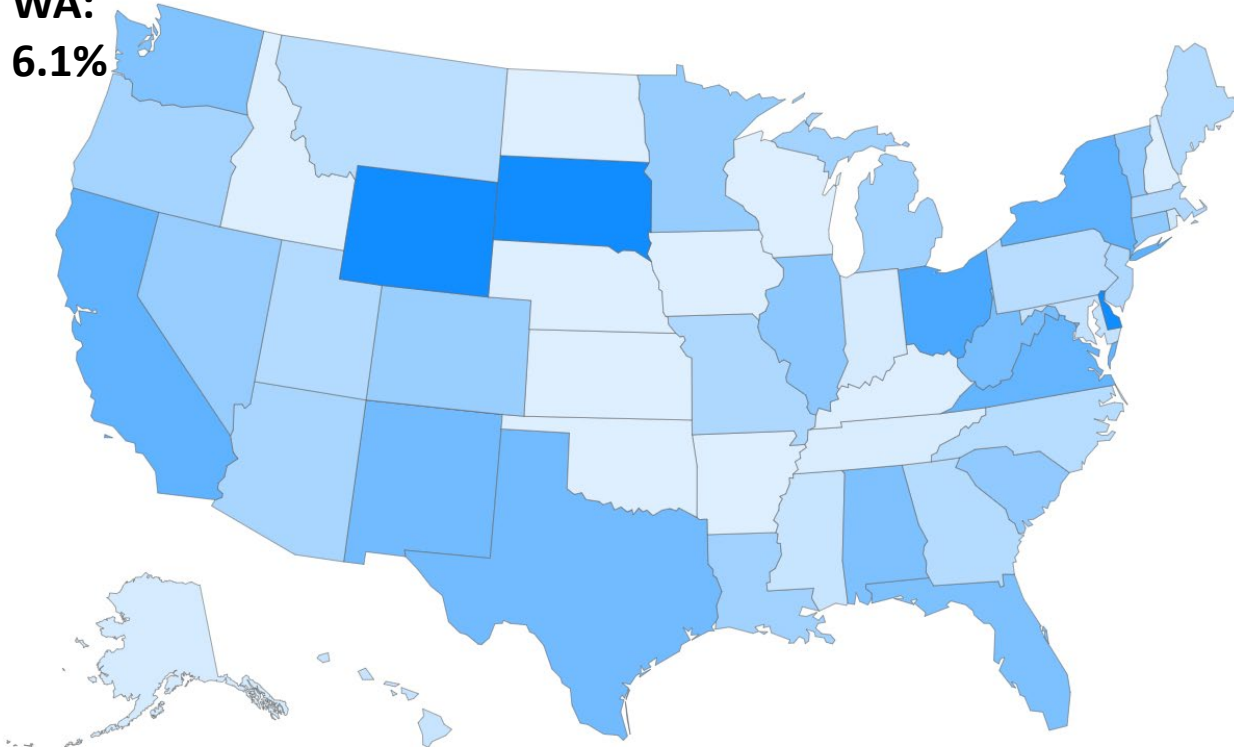
Prevalence

Nationwide Prevalence: ~6%

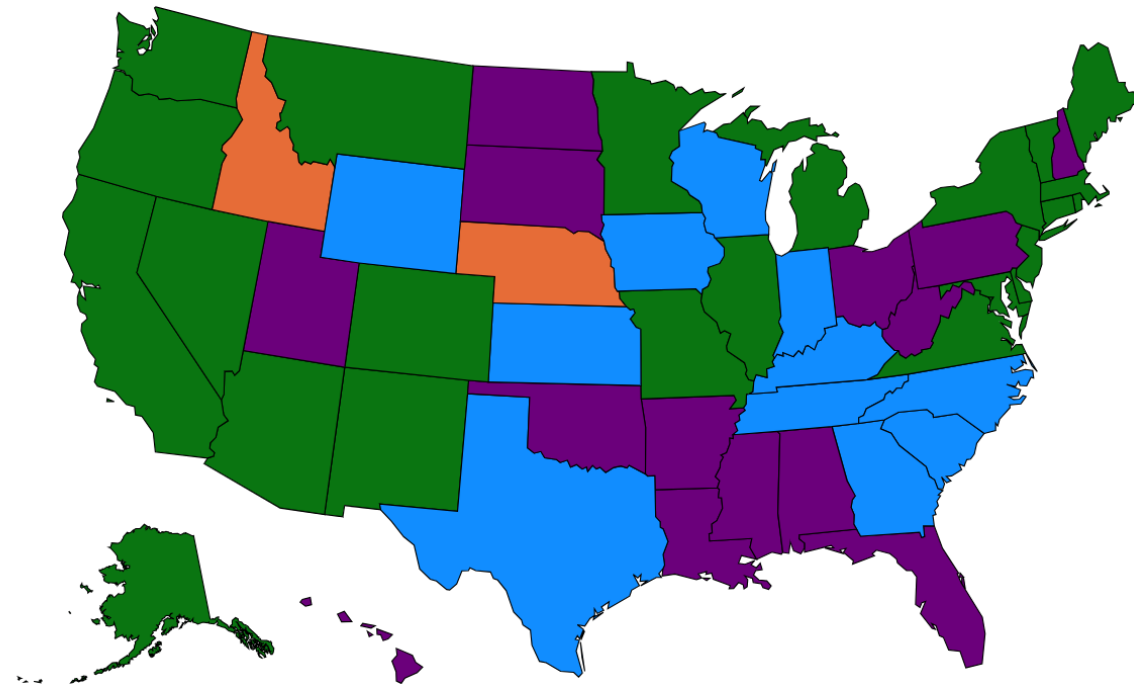
No relationship to state legality

0% 13%

WA:
6.1%



Legal Status ● Fully legal ● Medical only ● CBD only ● Illegal





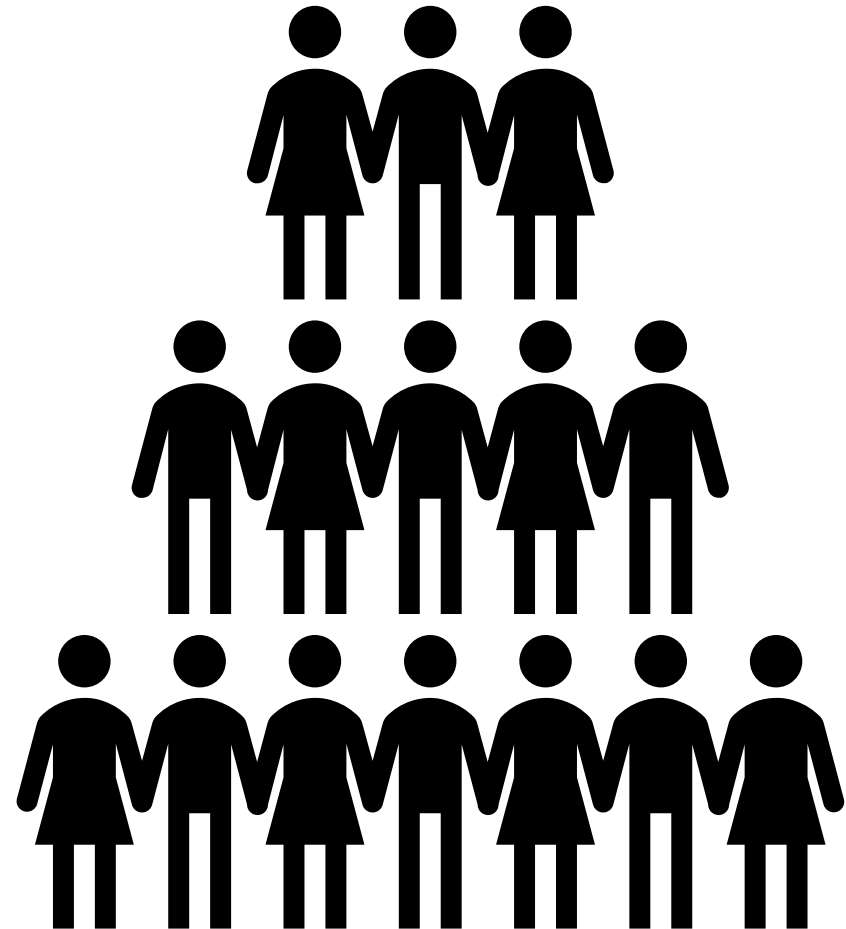
Washington State Liquor and Cannabis Board

Risk Factors: Demographics

Younger

Male

Hispanic and
Multi-racial





Risk Factors: Cannabis Use Patterns

Product Types:

- Edibles and concentrates were associated with increased risk
- Flower use was associated with *decreased* risk

Edibles



Concentrates



Flower





Risk Factors: Cannabis Use Patterns

Home grown cannabis:

- Potential link to mycotoxin contamination
- More frequent cannabis use

**High frequency use
and/or use of high THC
products predict greater
risk for CHS**





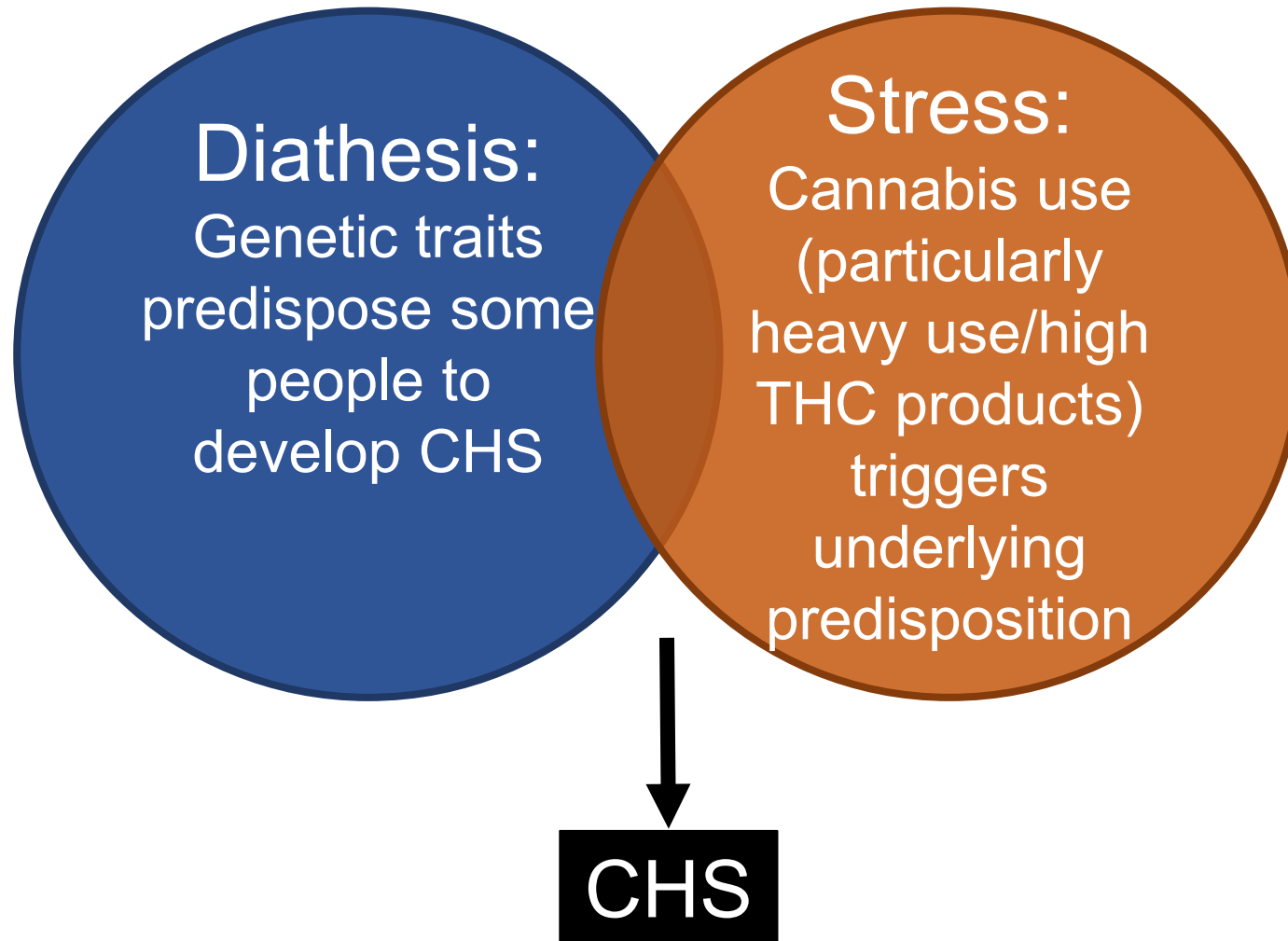
Washington State Liquor and Cannabis Board

Risk Factors: Health Problems

Predictor	Genetic Correlate
<i>Medical Cannabis Use</i>	
Headaches/Migraines (+)	TRPV1
Pain	TRPV1, DRD2
Nausea/vomiting (+)	DRD2
Digestion/gastrointestinal Issues	TRPV1, DRD2
<i>Mental Health Problems</i>	
Anxiety	COMT, TRPV1, DRD2
Depression (-)	COMT, DRD2
Bipolar disorder(+)	TRPV1
Psychosis or Dissociative Identity Disorder (+)	COMT, DRD2
ADD/ADHD	COMT
Cannabis Use Disorder	COMT, CYP2C9



Stress-Diathesis Model





Limitations

- Cross sectional, self-report survey
- Non-probability sample
- Standard question development

“2023:

Did you experience cannabinoid hyperemesis syndrome (repeated, severe vomiting from marijuana use) in the past 12 months?”

“2026:

*Did you experience cannabinoid hyperemesis syndrome (repeated, severe vomiting from **long-term** cannabis use) in the past 12 months?*

Hot showers or baths are often used to relieve nausea and vomiting from cannabinoid hyperemesis syndrome.”



Future Directions

- Systematic, longitudinal surveillance is needed
 - Must account for a constantly shifting cannabis legal landscape
 - In October 2025, CHS was added to the ICD-10 code for medical professionals
- More research is needed to determine the underlying cause(s) of CHS



Washington State Liquor and Cannabis Board

Conclusions

- Considerations for regulators:
 - High THC cannabis products
 - Types of products that are available
 - Home grown cannabis
- Resources like ICPS are invaluable for researchers and regulators

Know the Risks of High-THC Cannabis Products

Frequently using products with 35% THC or higher can increase the risk of developing mental health disorders, including:

- Cannabis Use Disorder (tolerance, cravings, loss of control)
- Psychotic disorders (e.g., Schizophrenia)

The risk is higher if you:

- Have a personal or family history of psychotic or mental health disorders
- Are under 25 years old



Scan the QR code for more info on
high-THC and your health.
doh.wa.gov/High-THC

Need Help?

Call the Washington Recovery Helpline at 1-866-789-1511.

Notice required at Point of Purchase under RCW 69.50.357 5(a)





Washington State Liquor and Cannabis Board

International Journal of Drug Policy 153 (2026) 105307

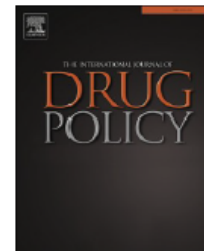


ELSEVIER

Contents lists available at [ScienceDirect](#)

International Journal of Drug Policy

journal homepage: www.elsevier.com/locate/drugpo



Research Paper

Cannabinoid hyperemesis syndrome prevalence and risk factors in the U.S.

Nicholas C. Glodosky^{a,*} , Sarah A. Okey^a, Tyler D. Watson^{a,b}, David Hammond^c

^a Washington State Liquor and Cannabis Board, Olympia, WA, USA

^b School of Public Health, University of Washington, Seattle, WA, USA

^c School of Public Health Sciences, University of Waterloo, Waterloo, ON, Canada





Washington State Liquor and Cannabis Board

References

1. Angulo, M. I. (2024). Cannabinoid hyperemesis syndrome. *JAMA*, 332(17), 1496. <https://doi.org/10.1001/jama.2024.9716>
2. Sorensen, C. J. et al. (2017). Cannabinoid hyperemesis syndrome: Diagnosis, pathophysiology, and treatment – a systematic review. *Journal of Medical Toxicology: Official Journal of the American College of Medical Toxicology*, 13(1), 71–87. <https://doi.org/10.1007/s13181-016-0595-z>
3. Plebon-Huff, S. et al. Trends in hospitalizations for cannabinoid hyperemesis syndrome in Canada, 2016-17 to 2024-25. *Frontiers in Public Health*, 14, Article 1740300. <https://doi.org/10.3389/fpubh.2026.1740300>
4. Russo, E. B., Spooner, C., May, L., Leslie, R., & Whitely, V. L. (2022). Cannabinoid hyperemesis syndrome survey and genomic investigation. *Cannabis and Cannabinoid Research*, 7(3), 336–344. <https://doi.org/10.1089/can.2021.0046>
5. Kim, H. S., Anderson, J. D., Saghafi, O., Heard, K. J., & Monte, A. A. (2015). Cyclic vomiting presentations following marijuana liberalization in Colorado. *Academic Emergency Medicine: Official Journal of the Society for Academic Emergency Medicine*, 22, 694–699. <https://doi.org/10.1111/acem.12655>