UW PACC
Psychiatry and Addictions Case Conference
UW Medicine | Psychiatry and Behavioral Sciences

DISCUSSING CANNABIS USE WITH CLIENTS OR PATIENTS

JASON R. KILMER, PH.D.
PROFESSOR, PSYCHIATRY & BEHAVIORAL SCIENCES
UNIVERSITY OF WASHINGTON SCHOOL OF MEDICINE

UW Medicine UW SCHOOL OF MEDICINE
Integrated Care Training Program UW Psychiatry & Behavioral Sciences
project ECHO

1

SPEAKER DISCLOSURES

✓I have no conflicts of interest to disclose.

PLANNER DISCLOSURES

The following series planners have no relevant conflicts of interest to disclose; other disclosures have been mitigated.

Mark Duncan MD
Rick Ries MD
Kari Stephens PhD
Barb McCann PhD
Anna Ratzliff MD PhD
Betsy Payn MA PMP
Esther Solano
Cara Towle MSN RN

UW PACC

2

OBJECTIVES: PARTICIPANTS WILL BE ABLE TO…

1. …describe rates of cannabis use, particularly among young adults
2. …understand ways in which cannabis use could exacerbate (or be related to) presenting issues in a clinical setting
3. …identify at least one guideline for lower risk cannabis use

3

CANNABIS USE – ONSET

- **Many routes/means of use:**
  - Smoked (joints, bongs, pipes)
  - Vaped (vaporizer)
  - Ingested orally (brewed as a tea, food, edibles)
  - Concentrates (dabbing, hash oil, budder, shatter)
- **When smoked/vaped…**
  - Effects begin immediately
- **When consumed in food or drink…**
  - Effects begin 30-60 minutes

NIDA (2019)

4

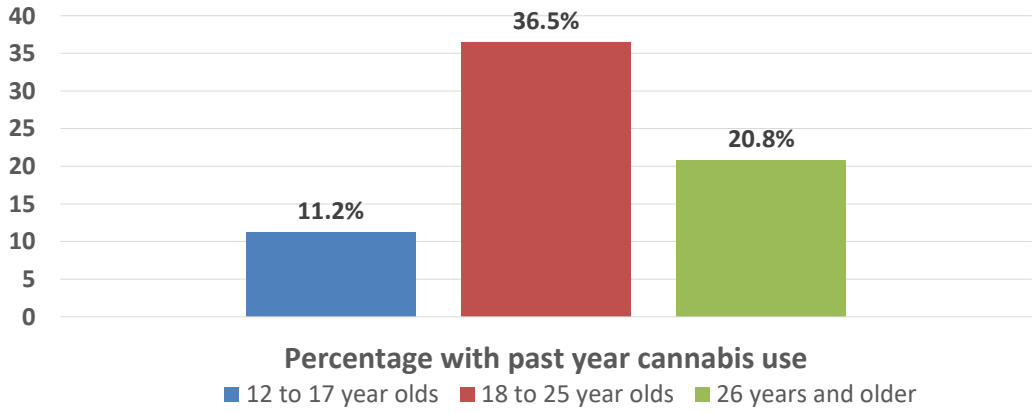
NORMS
(and highest misperceptions among those who report use)

Wolfson, S. (2000). Students' estimates of the prevalence of drug use: Evidence for a false consensus effect. *Psychology of Addictive Behaviors, 14*(3), 295–298. https://doi.org/10.1037/0893-164X.14.3.295

5

PAST YEAR CANNABIS USE BY AGE GROUP

Source: SAMHSA 2023 National Survey on Drug Use and Health



Center for Behavioral Health Statistics and Quality. (2024). Results from the 2023 National Survey on Drug Use and Health: Detailed tables. https://www.samhsa.gov/data/report/2023-nsduh-detailed-tables. Released July 30, 2024

6

CANNABIS USE DATA FROM MONITORING THE FUTURE STUDY (2023 SURVEY)

- **Cannabis**
  - **College students**
    - **Past 12 months: 39.5%**
    - **Past 30 days: 26.1%**
    - **20+ days/month: 6.3%**
  - **Non-college young adults (1-4 years beyond high school)**
    - **Past 12 months: 38.9%**
    - **Past 30 days: 28.8%**
    - **20+ days/month: 11.6% *** (sign. different from college)**

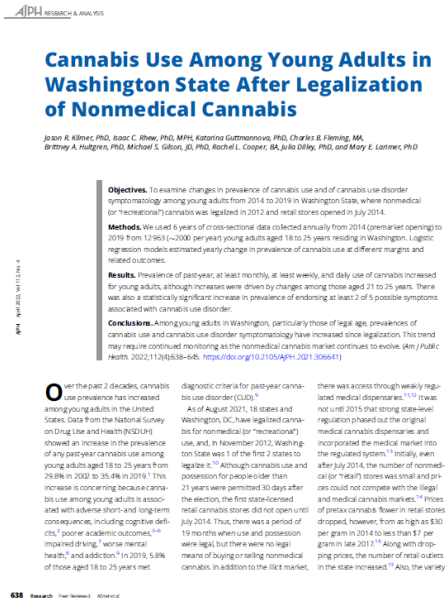
Patrick, M. E., Miech, R. A., Johnston, L. D., & O'Malley, P. M. (2024). *Monitoring the Future Panel Study annual report: National data on substance use among adults ages 19 to 65, 1976-2023.* Monitoring the Future Monograph Series. Ann Arbor, MI: Institute for Social Research, University of Michigan. Available at: https://monitoringthefuture.org/results/annual-reports/ Released July 2024.

UW PACC

7

Kilmer, J.R., Rhew, I.C., Guttmannova, K., Fleming, C.B., Hultgren, B., Gilson, M.S., Cooper, R.L., Dilley, J., & Larimer, M.E. (2022). Cannabis use among young adults in Washington State after legalization of nonmedical cannabis. American Journal of Public Health, 112, 638-645.

- n=12,963 young adults in Washington over 6 time points
- Included covariates for:
  - Sex assigned at birth
  - Race
  - Ethnicity
  - Geographic region of the state
  - Age
  - Attending 4 year college
  - Full time employment status
- Applied post-stratification weights to make sample more similar to general population



AJPH RESEARCH & ANALYSIS

Cannabis Use Among Young Adults in Washington State After Legalization of Nonmedical Cannabis

Jason R. Kilmer, PhD, Isaac C. Rhew, PhD, MPH, Katarina Guttmannova, PhD, Charles B. Fleming, MA, Brittney A. Hultgren, PhD, Michael S. Gilson, JD, PhD, Rachel L. Cooper, BA, Julia Dilley, PhD, and Mary E. Larimer, PhD

Objectives. To examine changes in prevalence of cannabis use and of cannabis use disorder symptomatology among young adults from 2014 to 2019 in Washington State, where nonmedical (or "recreational") cannabis was legalized in 2012 and retail stores opened in July 2014.

Methods. We used 6 years of cross-sectional data collected annually from 2014 (premarket opening) to 2019 from 12 963 (~2000 per year) young adults aged 18 to 25 years residing in Washington. Logistic regression models estimated yearly change in prevalence of cannabis use at different margins and related outcomes.

Results. Prevalence of past-year, at least monthly, at least weekly, and daily use of cannabis increased for young adults, although increases were driven by changes among those aged 21 to 25 years. There was also a statistically significant increase in prevalence of endorsing at least 2 of 5 possible symptoms associated with cannabis use disorder.

Conclusions. Among young adults in Washington, particularly those of legal age, prevalences of cannabis use and cannabis use disorder symptomatology have increased since legalization. This trend may require continued monitoring as the nonmedical cannabis market continues to evolve. (*Am J Public Health.* 2022;112(4):638–645. https://doi.org/10.2105/AJPH.2021.306641)

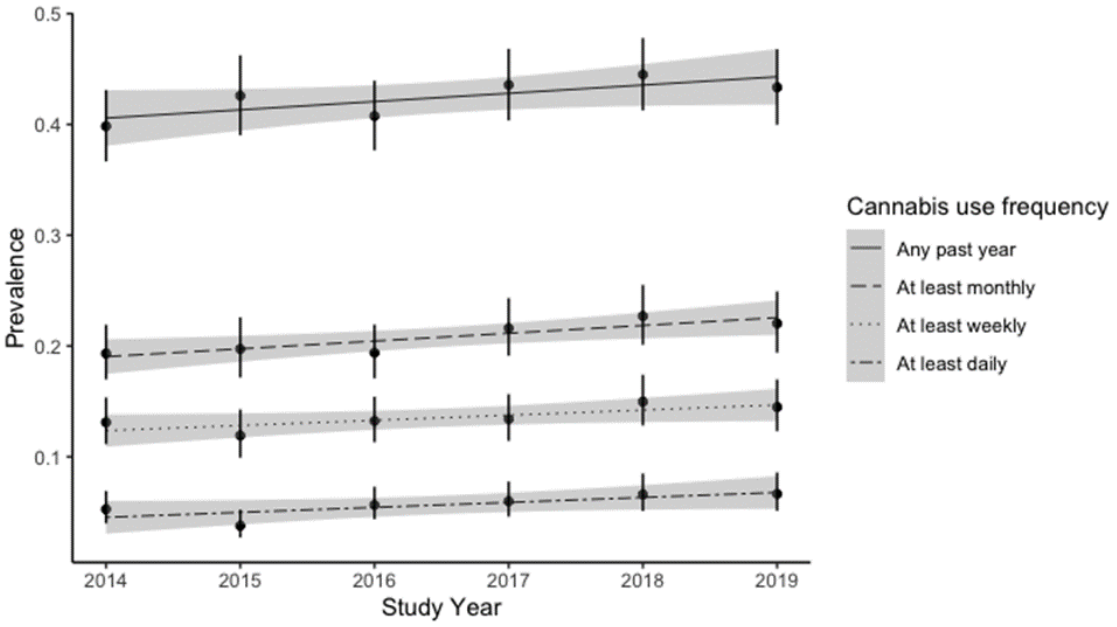
Over the past 2 decades, cannabis use prevalence has increased among young adults in the United States. Data from the National Survey on Drug Use and Health (NSDUH) showed an increase in the prevalence of any past-year cannabis use among young adults aged 18 to 25 years from 29.8% in 2002 to 35.4% in 2019.[1] This increase is concerning because cannabis use among young adults is associated with adverse short- and long-term consequences, including cognitive deficits,[2] poorer academic outcomes,[3–5] impaired driving,[6] worse mental health,[7] and addiction.[8] In 2019, 5.8% of those aged 18 to 25 years met diagnostic criteria for past-year cannabis use disorder (CUD).[9]

As of August 2021, 18 states and Washington, DC, have legalized cannabis for nonmedical (or "recreational") use, and, in November 2012, Washington State was 1 of the first 2 states to legalize it.[10] Although cannabis use and possession for people older than 21 years were permitted 30 days after the election, the first state-licensed retail cannabis stores did not open until July 2014. Thus, there was a period of 19 months when use and possession were legal, but there were no legal means of buying or selling nonmedical cannabis. In addition to the illicit market, there was access through weakly regulated medical dispensaries.[11,12] It was not until 2015 that strong state-level regulation phased out the original medical cannabis dispensaries and incorporated the medical market into the regulated system.[13] Initially, even after July 2014, the number of nonmedical (or "retail") stores was small and prices could not compete with the illegal and medical cannabis markets.[14] Prices of pretax cannabis flower in retail stores dropped, however, from as high as $30 per gram in 2014 to less than $7 per gram in late 2017.[15] Along with dropping prices, the number of retail outlets in the state increased.[16] Also, the variety

638 Research Peer Reviewed Kilmer et al. AJPH April 2022, Vol 112, No. 4

UW PACC

8

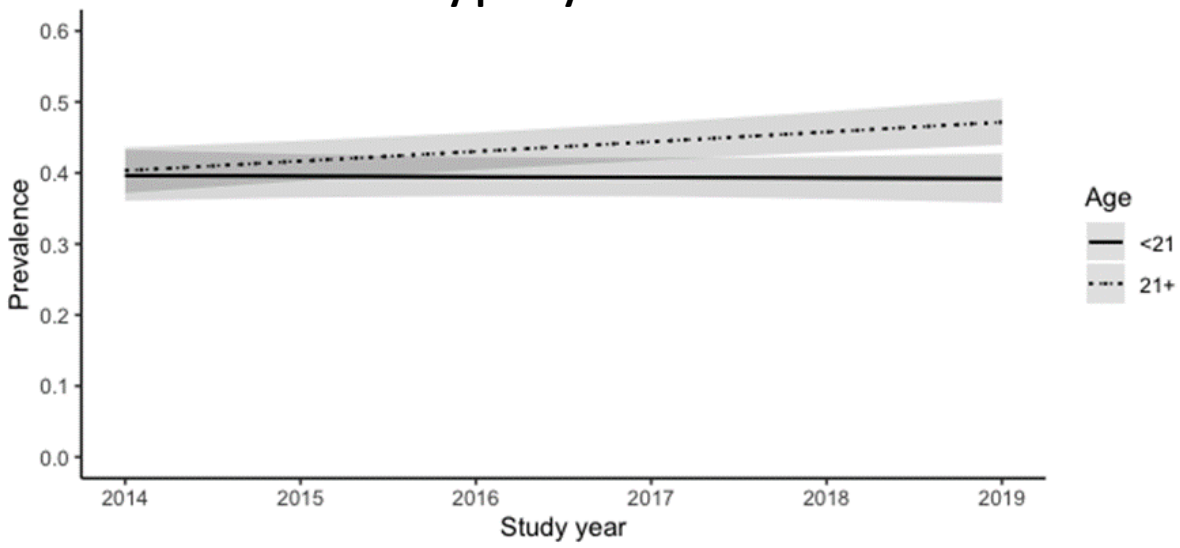


Kilmer, et al. (2022)

UW PACC

9

Any past year cannabis use

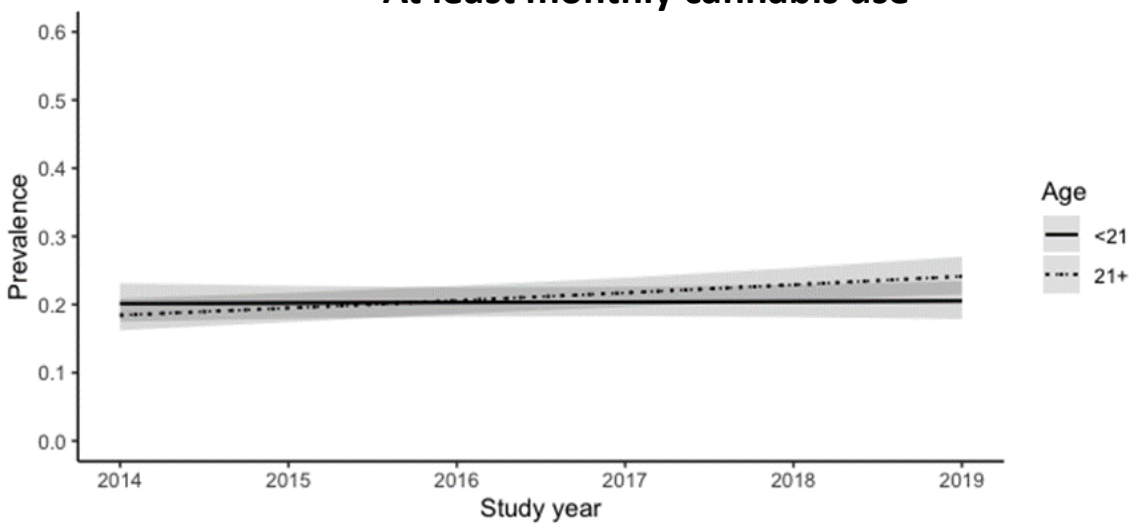


Kilmer, et al. (2022)

UW PACC

10

At least monthly cannabis use

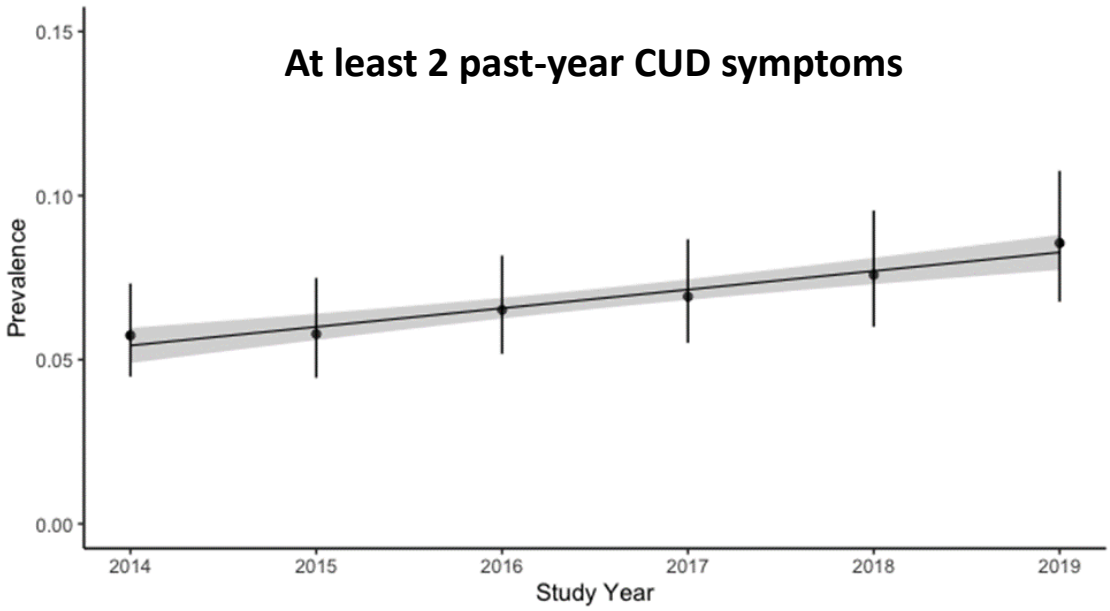


Kilmer, et al. (2022)

UW PACC

11

At least 2 past-year CUD symptoms



Kilmer, et al. (2022)

UW PACC

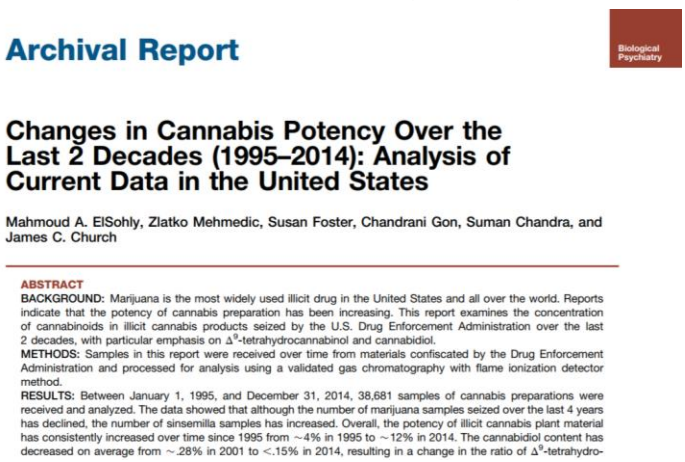
12

Considering cannabis use by young adults in the context of high potency cannabis

UW PACC

13

ElSohly, M.A., Mehmedic, Z., Foster, S., Gon, C., Chandra, S., & Church, J.C. (2016). Changes in cannabis potency over the last 2 decades (1995-2014) – Analysis of current data in the United States. *Biol Psychiatry, 79,* 613-619.



Archival Report

Biological Psychiatry

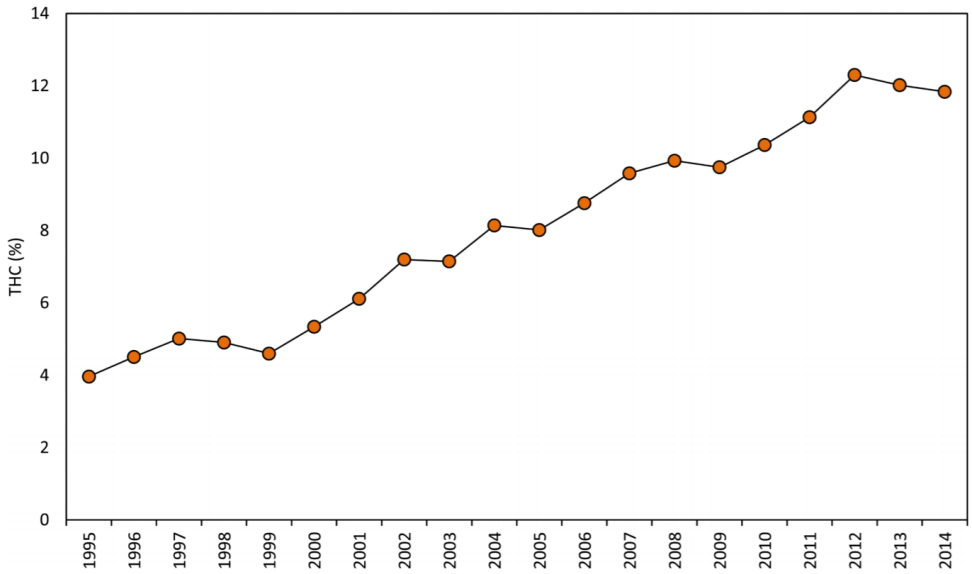
Changes in Cannabis Potency Over the Last 2 Decades (1995–2014): Analysis of Current Data in the United States

Mahmoud A. ElSohly, Zlatko Mehmedic, Susan Foster, Chandrani Gon, Suman Chandra, and James C. Church

ABSTRACT
BACKGROUND: Marijuana is the most widely used illicit drug in the United States and all over the world. Reports indicate that the potency of cannabis preparation has been increasing. This report examines the concentration of cannabinoids in illicit cannabis products seized by the U.S. Drug Enforcement Administration over the last 2 decades, with particular emphasis on Δ^9-tetrahydrocannabinol and cannabidiol.
METHODS: Samples in this report were received over time from materials confiscated by the Drug Enforcement Administration and processed for analysis using a validated gas chromatography with flame ionization detector method.
RESULTS: Between January 1, 1995, and December 31, 2014, 38,681 samples of cannabis preparations were received and analyzed. The data showed that although the number of marijuana samples seized over the last 4 years has declined, the number of sinsemilla samples has increased. Overall, the potency of illicit cannabis plant material has consistently increased over time since 1995 from ~4% in 1995 to ~12% in 2014. The cannabidiol content has decreased on average from ~.28% in 2001 to <.15% in 2014, resulting in a change in the ratio of Δ^9-tetrahydro-

UW PACC

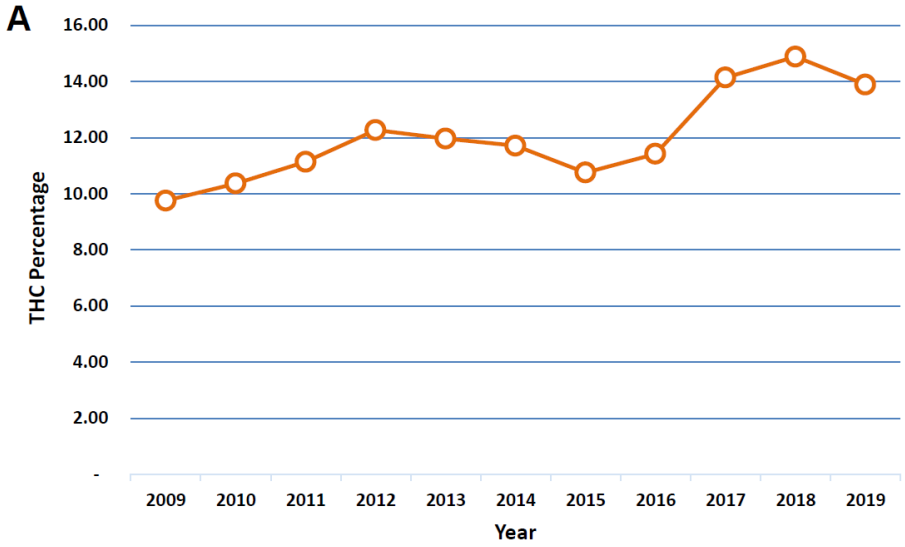
14



El Sohly, M.A., Mehmedic, Z., Foster, S., Gon, C., Chandra, S., & Church, J.C. (2016). Changes in cannabis potency over the last two decades (1995-2014) – Analysis of current data in the United States. *Biol Psychiatry, 79,* 613-619.

UW PACC

15



ElSohly, M.A., Chandra, S., Radwan, M., Majumdar, C.G., Church, J.C. (2021). A comprehensive revie of cannabis potency in the United states in the last decade. *Biological Psychiatry: Cognitive Neuroscience, and Neuroimaging, 6,* 603-606.

UW PACC

16

ADDICTION
SSA SOCIETY FOR THE STUDY OF ADDICTION
RESEARCH REPORT
doi:10.1111/add.13886

Variation in cannabis potency and prices in a newly legal market: evidence from 30 million cannabis sales in Washington state

Rosanna Smart[1], Jonathan P. Caulkins[1,2], Beau Kilmer[1], Steven Davenport[1] & Greg Midgette[1]

RAND Corporation, Santa Monica, CA, USA[1] and Heinz College, Carnegie Mellon University, Pittsburgh, PA, USA[2]

ABSTRACT

Aims To (1) assess trends and variation in the market share of product types and potency sold in a legal cannabis retail market and (2) estimate how potency and purchase quantity influence price variation for cannabis flower. **Design** Secondary analysis of publicly available data from Washington State's cannabis traceability system spanning 7 July 2014 to 30 September 2016. Descriptive statistics and linear regressions assessed variation and trends in cannabis

17

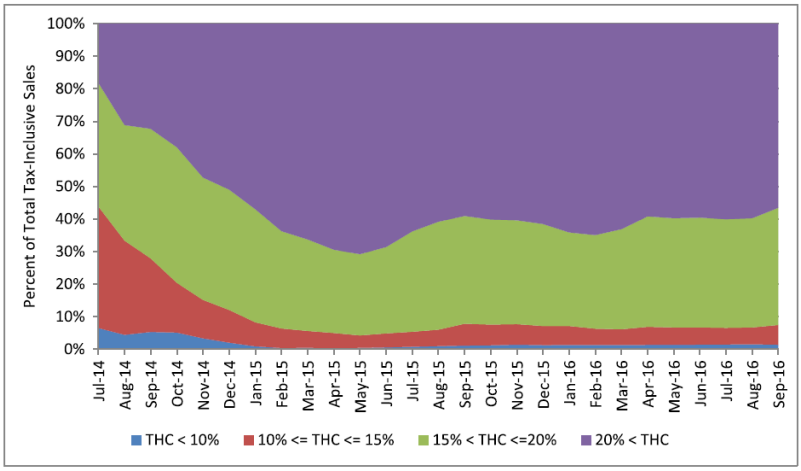
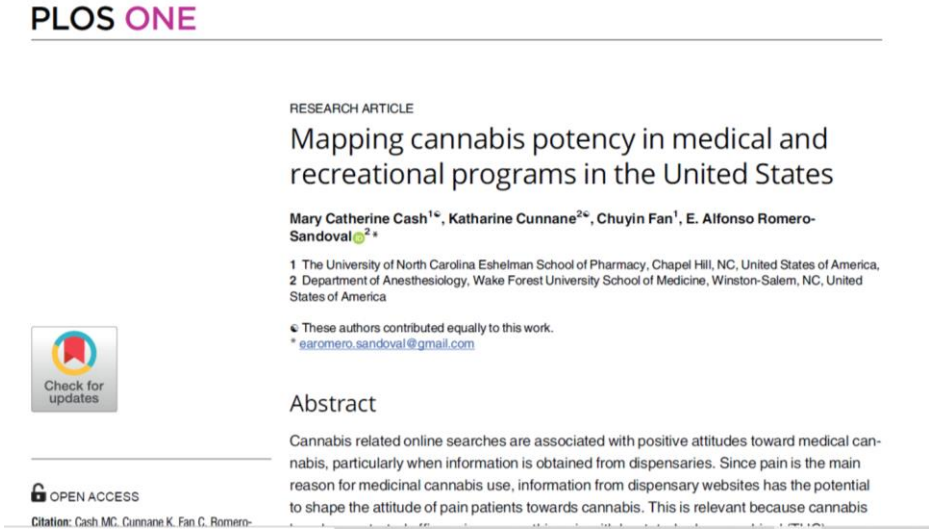


Figure 3 Market shares for cannabis flower products sold, by delta-9-tetrahydrocannabinol (THC) % category. Market share is calculated as a percent of total cannabis flower expenditures (excise-tax-inclusive). [Colour figure can be viewed at wileyonlinelibrary.com]

Smart, R., Caulkins, J.P., Kilmer, B., Davenport, S., & Midgette, G. (2017). Variation in cannabis potency and prices in anewly legal market: Evidence from 30 million cannabis sales in Washington state. *Addiction, 112,* 2167-2177.

18

Cash, M.C., Cunnane, K., Fan, C., Romero-Sandoval, E.A. (2020). Mapping cannabis potency in medical and recreational programs in the United States. *PLoS ONE 15*(3): e0230167. https://doi.org/10.1371/journal.pone.0230167



PLOS ONE

RESEARCH ARTICLE

Mapping cannabis potency in medical and recreational programs in the United States

Mary Catherine Cash[1☯], Katharine Cunnane[2☯], Chuyin Fan[1], E. Alfonso Romero-Sandoval[2]*

1 The University of North Carolina Eshelman School of Pharmacy, Chapel Hill, NC, United States of America, 2 Department of Anesthesiology, Wake Forest University School of Medicine, Winston-Salem, NC, United States of America

☯ These authors contributed equally to this work.
* earomero.sandoval@gmail.com

Check for updates

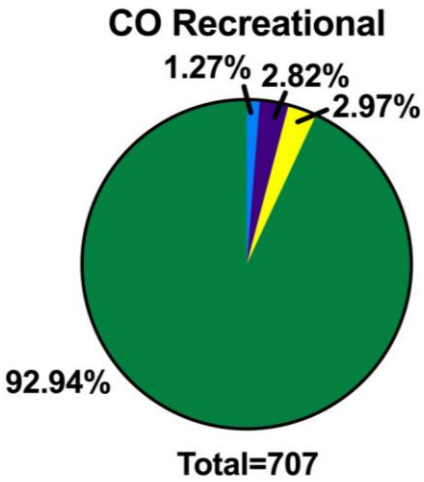
OPEN ACCESS

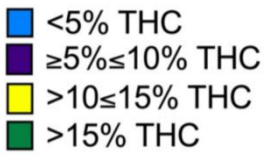
Citation: Cash MC, Cunnane K, Fan C, Romero-

Abstract

Cannabis related online searches are associated with positive attitudes toward medical cannabis, particularly when information is obtained from dispensaries. Since pain is the main reason for medicinal cannabis use, information from dispensary websites has the potential to shape the attitude of pain patients towards cannabis. This is relevant because cannabis

19

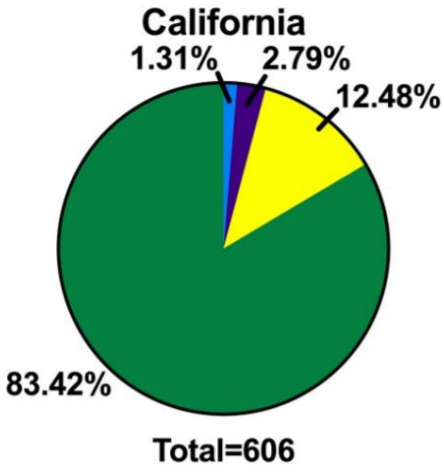


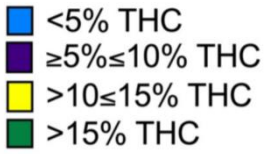


95.91% of Colorado market is "high potency" cannabis

Cash, M.C., Cunnane, K., Fan, C., Romero-Sandoval, E.A. (2020). Mapping cannabis potency in medical and recreational programs in the United States. *PLoS ONE 15*(3): e0230167. https://doi.org/10.1371/journal.pone.0230167

20



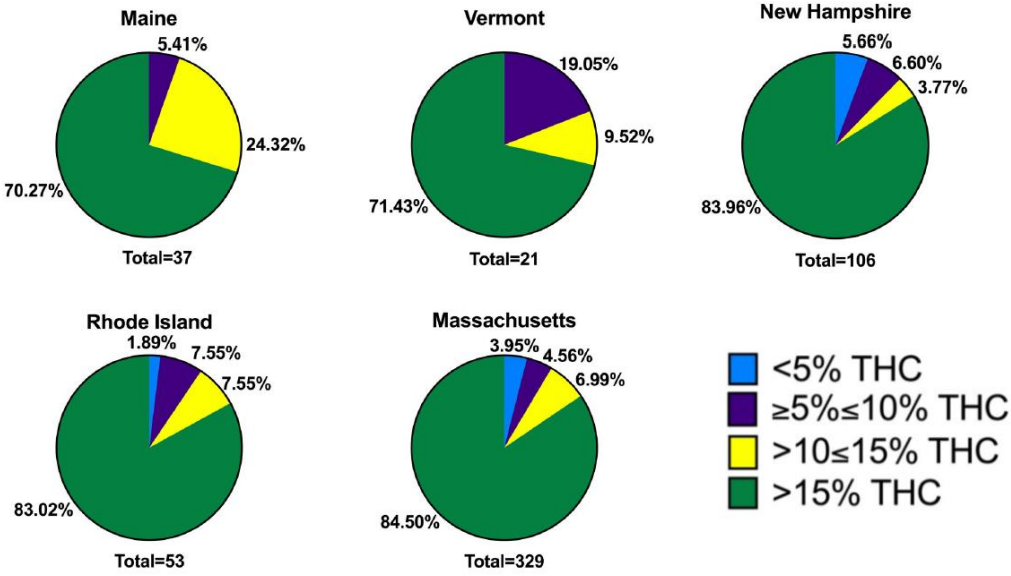


95.90% of California market is "high potency" cannabis

Cash, M.C., Cunnane, K., Fan, C., Romero-Sandoval, E.A. (2020). Mapping cannabis potency in medical and recreational programs in the United States. *PLoS ONE 15*(3): e0230167. https://doi.org/10.1371/journal.pone.0230167

UW PACC

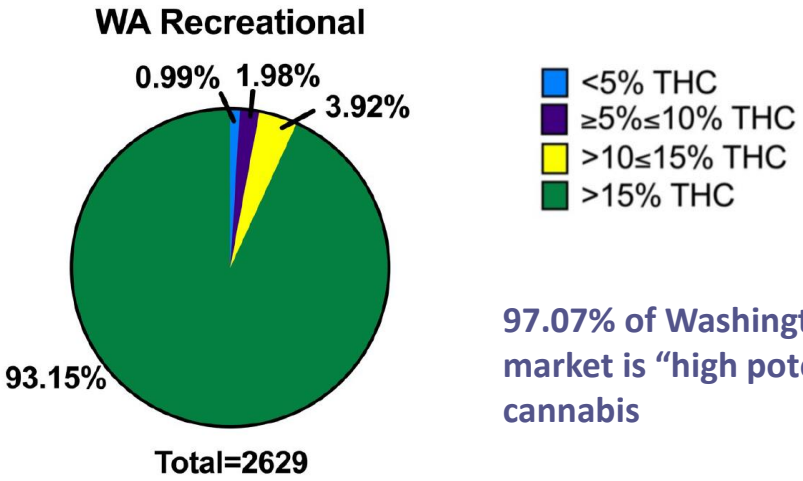
21



Cash, M.C., Cunnane, K., Fan, C., Romero-Sandoval, E.A. (2020). Mapping cannabis potency in medical and recreational programs in the United States. *PLoS ONE 15*(3): e0230167. https://doi.org/10.1371/journal.pone.0230167

UW PACC

22



97.07% of Washington market is "high potency" cannabis

Cash, M.C., Cunnane, K., Fan, C., Romero-Sandoval, E.A. (2020). Mapping cannabis potency in medical and recreational programs in the United States. *PLoS ONE 15*(3): e0230167. https://doi.org/10.1371/journal.pone.0230167

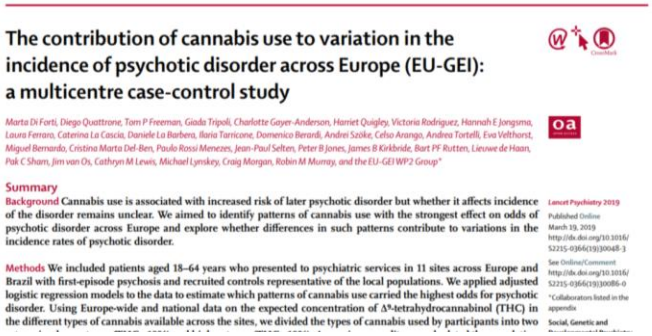
UW PACC

23

DiForti, M., Quattrone, D., Freeman, T.P., Tripoli, G., et al. (2019). The contribution of cannabis use to variation in the incidence of psychotic disorder across Europe (EU-GEI): A multicenter case-control study. *Lancet Psychiatry, 6* (5), 426-436.

Articles

Increased risk of psychosis



The contribution of cannabis use to variation in the incidence of psychotic disorder across Europe (EU-GEI): a multicentre case-control study

Marta Di Forti, Diego Quattrone, Tom P Freeman, Giada Tripoli, Charlotte Gayer-Anderson, Harriet Quigley, Victoria Rodriguez, Hannah E Jongsma, Laura Ferraro, Caterina La Cascia, Daniele La Barbera, Ilaria Tarricone, Domenico Berardi, Andrei Szöke, Celso Arango, Andrea Tortelli, Eva Velthorst, Miguel Bernardo, Cristina Marta Del-Ben, Paulo Rossi Menezes, Jean-Paul Selten, Peter B Jones, James B Kirkbride, Bart PF Rutten, Lieuwe de Haan, Pak C Sham, Jim van Os, Cathryn M Lewis, Michael Lynskey, Craig Morgan, Robin M Murray, and the EU-GEI WP2 Group*

Summary

Background Cannabis use is associated with increased risk of later psychotic disorder but whether it affects incidence of the disorder remains unclear. We aimed to identify patterns of cannabis use with the strongest effect on odds of psychotic disorder across Europe and explore whether differences in such patterns contribute to variations in the incidence rates of psychotic disorder.

Methods We included patients aged 18–64 years who presented to psychiatric services in 11 sites across Europe and Brazil with first-episode psychosis and recruited controls representative of the local populations. We applied adjusted logistic regression models to the data to estimate which patterns of cannabis use carried the highest odds for psychotic disorder. Using Europe-wide and national data on the expected concentration of Δ⁹-tetrahydrocannabinol (THC) in the different types of cannabis available across the sites, we divided the types of cannabis used by participants into two

Lancet Psychiatry 2019

UW PACC

24

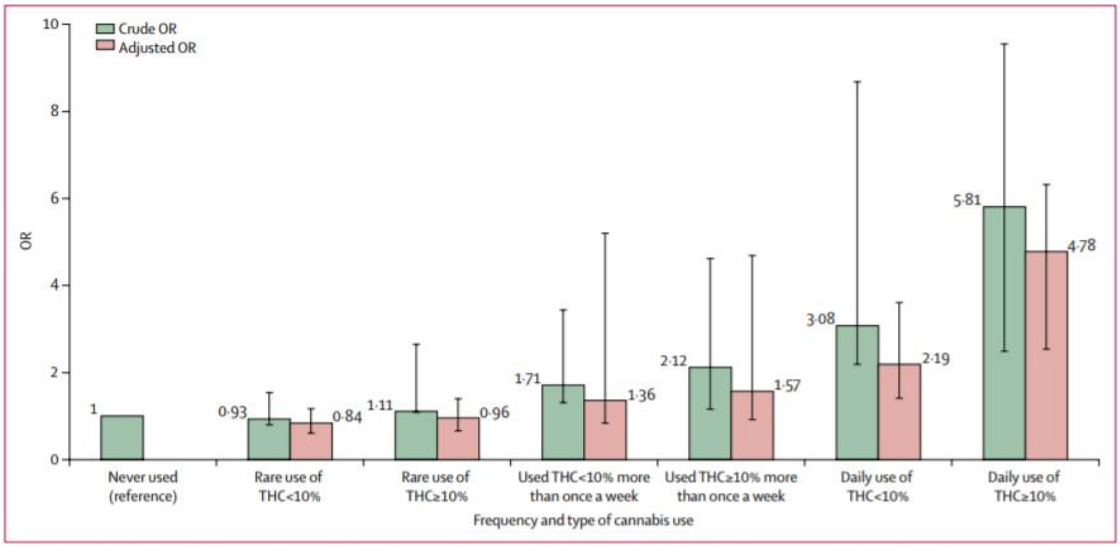


Figure 1: **Crude and fully adjusted ORs of psychotic disorders for the combined measure of frequency plus type of cannabis use in the whole sample**
Crude ORs are adjusted only for age, gender and ethnicity and fully adjusted ORs are additionally adjusted for level of education, employment status, and use of tobacco, stimulants, ketamine, legal highs, and hallucinogenics. Error bars represent 95% CIs. OR=odds ratio.

DiForti, et al. (2019)

25

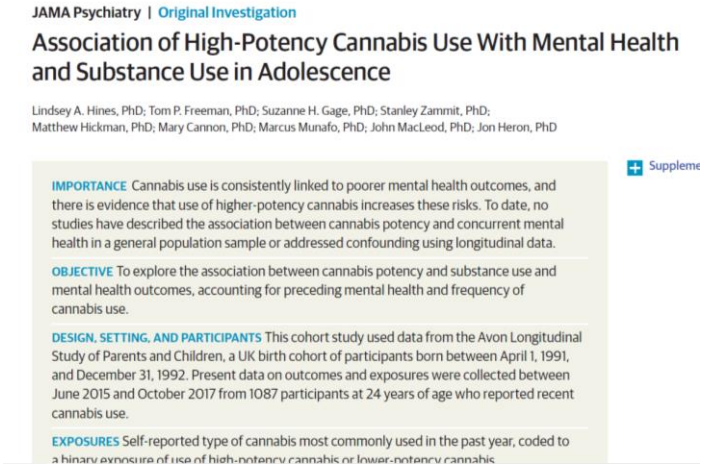
CONCLUSIONS

- 20% of new cases of psychotic disorder "could have been prevented if daily use of cannabis had been abolished (page 433)"
- If high-potency cannabis were no longer available, 12.2% of cases of first-episode psychosis could be prevented
- Numbers for Amsterdam?
  - **50.3% of cases attributed to high potency cannabis**

DiForti, et al. (2019)

UW PACC

26



JAMA Psychiatry | Original Investigation

Association of High-Potency Cannabis Use With Mental Health and Substance Use in Adolescence

Lindsey A. Hines, PhD; Tom P. Freeman, PhD; Suzanne H. Gage, PhD; Stanley Zammit, PhD; Matthew Hickman, PhD; Mary Cannon, PhD; Marcus Munafo, PhD; John MacLeod, PhD; Jon Heron, PhD

IMPORTANCE Cannabis use is consistently linked to poorer mental health outcomes, and there is evidence that use of higher-potency cannabis increases these risks. To date, no studies have described the association between cannabis potency and concurrent mental health in a general population sample or addressed confounding using longitudinal data.

OBJECTIVE To explore the association between cannabis potency and substance use and mental health outcomes, accounting for preceding mental health and frequency of cannabis use.

DESIGN, SETTING, AND PARTICIPANTS This cohort study used data from the Avon Longitudinal Study of Parents and Children, a UK birth cohort of participants born between April 1, 1991, and December 31, 1992. Present data on outcomes and exposures were collected between June 2015 and October 2017 from 1087 participants at 24 years of age who reported recent cannabis use.

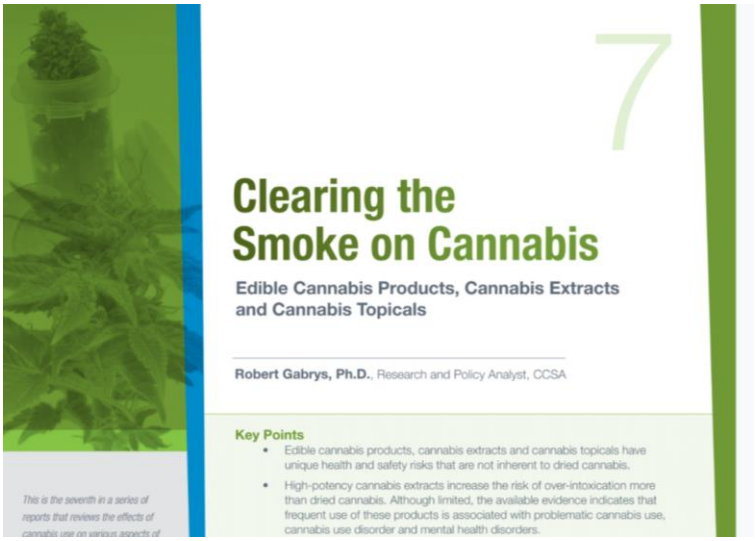
EXPOSURES Self-reported type of cannabis most commonly used in the past year, coded to a binary exposure of use of high-potency cannabis or lower-potency cannabis

Increased risk of addiction and generalized anxiety disorder

Hines, L.A., Freeman, T.P, Gage, S.H., Zammit, S., Hickman,M., Cannon, M., Munafo, M., MacLeod, J., & Heron, J. (2020). Association of high-potency cannabis use with mental health and substance use in adolescence. *JAMA Psychiatry, 77,* 1044-1051. doi: 10.1001/jamapsychiatry.2020.1035.

UW PACC

27



7

Clearing the Smoke on Cannabis

Edible Cannabis Products, Cannabis Extracts and Cannabis Topicals

Robert Gabrys, Ph.D., Research and Policy Analyst, CCSA

Key Points

- Edible cannabis products, cannabis extracts and cannabis topicals have unique health and safety risks that are not inherent to dried cannabis.
- High-potency cannabis extracts increase the risk of over-intoxication more than dried cannabis. Although limited, the available evidence indicates that frequent use of these products is associated with problematic cannabis use, cannabis use disorder and mental health disorders.

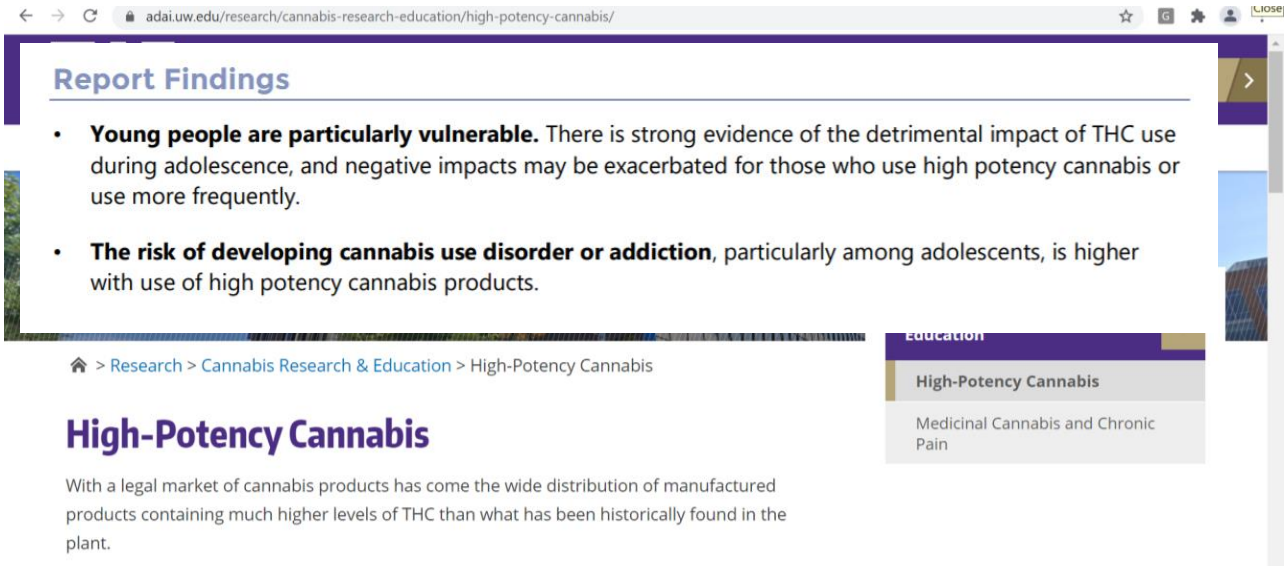
This is the seventh in a series of reports that reviews the effects of cannabis use on various aspects of

For concentrates/ extracts, more association with "problematic cannabis use, cannabis use disorder, and mental health disorders." -- Gabrys (2020)

Gabrys, R. (2020). *Clearing the Smoke on Cannabis: Edible Cannabis Products, Cannabis Extracts and Cannabis Topicals.* Canadian Centre on Substance Use and Addiction.

UW PACC

28



https://adai.uw.edu/cerp/high-potency-cannabis/

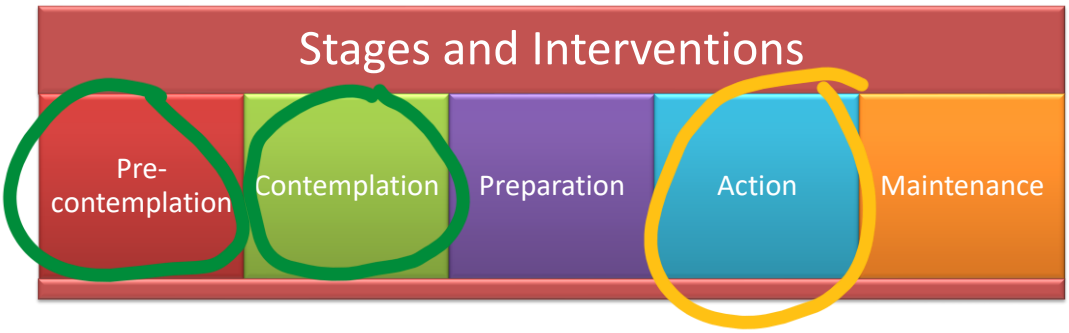
29

A really quick detour to talk about motivational interviewing

30

THE STAGES OF CHANGE MODEL

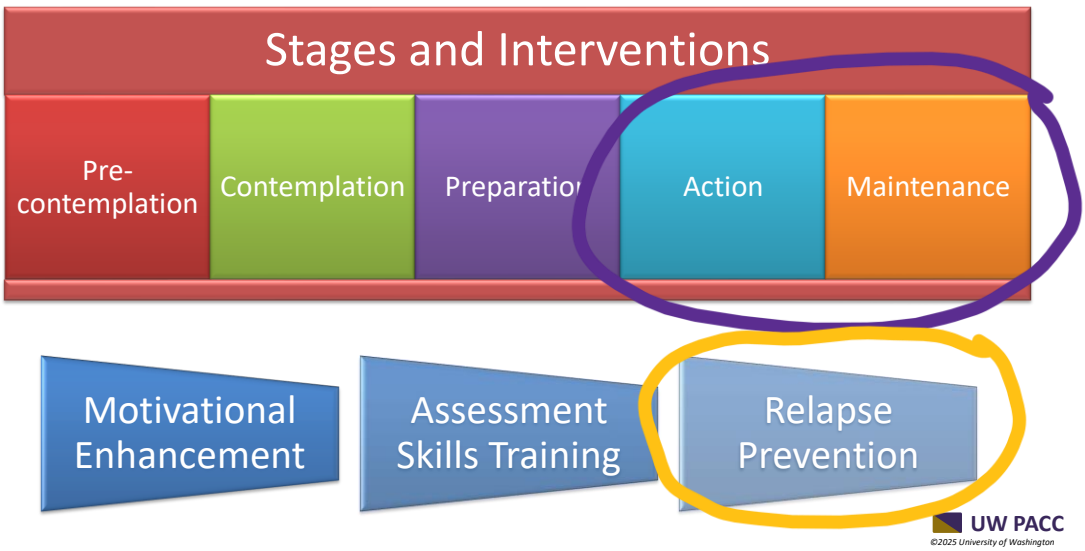
(PROCHASKA & DICLEMENTE, 1982, 1984, 1985, 1986)



31

THE STAGES OF CHANGE MODEL

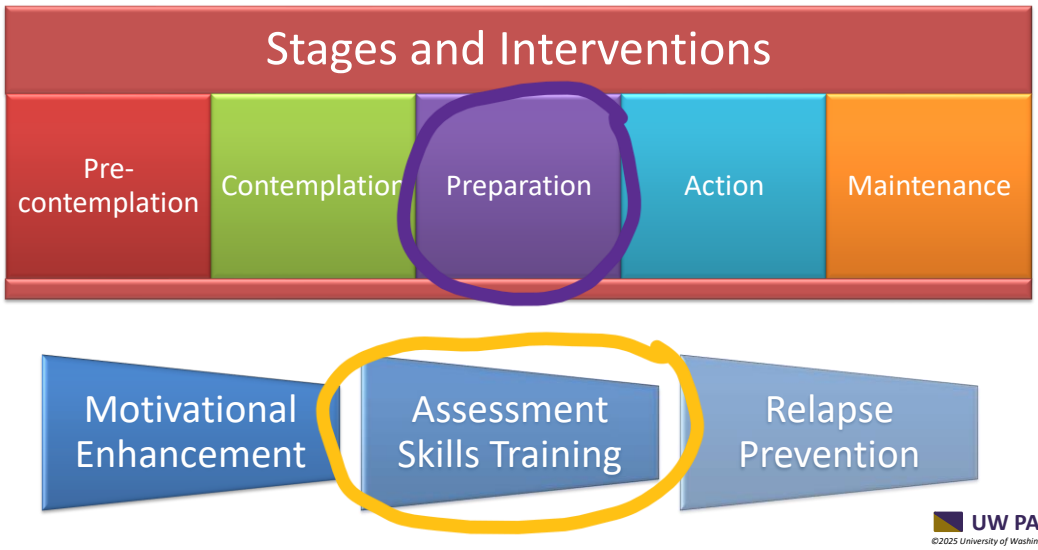
(PROCHASKA & DICLEMENTE, 1982, 1984, 1985, 1986)



32

THE STAGES OF CHANGE MODEL

(PROCHASKA & DICLEMENTE, 1982, 1984, 1985, 1986)

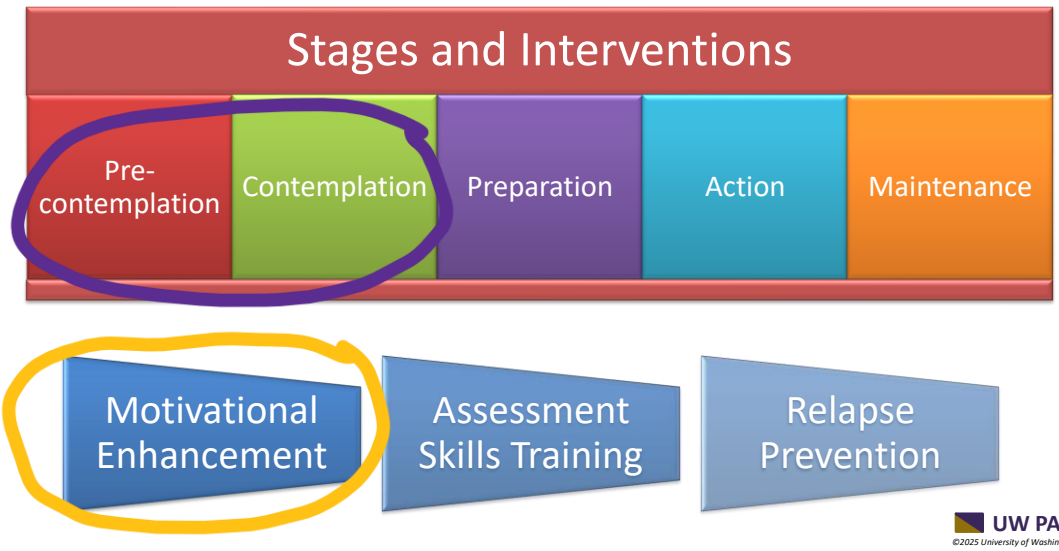


UW PACC

33

THE STAGES OF CHANGE MODEL

(PROCHASKA & DICLEMENTE, 1982, 1984, 1985, 1986)



UW PACC

34

Motivational Interviewing
Basic Principles
(Miller and Rollnick, 1991, 2002)

1. **Express Empathy**
2. **Develop Discrepancy**
3. **Roll with Resistance**
4. **Support Self-Efficacy**

UW PACC

35

Some examples of topics/domains relevant to presenting issues to discuss in the context of a motivational framework

UW PACC
©2025 University of Washington

36

Impact on attention, concentration, and memory

37

Cannabis and cognitive abilities

- **Effects on the brain**
  - **Hippocampus**
    - **Attention, concentration, and memory**
  - **Research with college students shows impact on these even 24 hours after last use (Pope & Yurgelun-Todd, 1996)**
  - **After daily use, takes 28 days for impact on attention, concentration, and memory to go away (Pope, et al., 2001)**
  - **Hanson et al. (2010):**
    - **Deficits in verbal learning (takes 2 weeks before no differences with comparison group)**
    - **Deficits in verbal working memory (takes 3 weeks before no difference with comparison group)**
    - **Deficits in attention (still present at 3 weeks)**

38

Relationship Between Cannabis Use and Academic Success

- **More frequent cannabis use associated with lower GPA, skipping more classes, less current enrollment, and being less likely to graduate on time (Arria, et al., 2013, 2015; Suerken, et al., 2016)**

Arria, A.M., Caldeira, K.M., Bugbee, B.A., Vincent, K.B., O'Grady, K.E. (2015). The academic consequences of marijuana use during college. *Psychology of Addictive Behaviors, 29,* 564-575.

Arria, A.M., Caldeira, K.M., Vincent, K.B., Winick, E.R., Baron, R.A., O'Grady, K.E. (2013). Discontinuous college enrollment: Associations with substance use and mental health. *Psychiatric Services, 64,* 165-172.

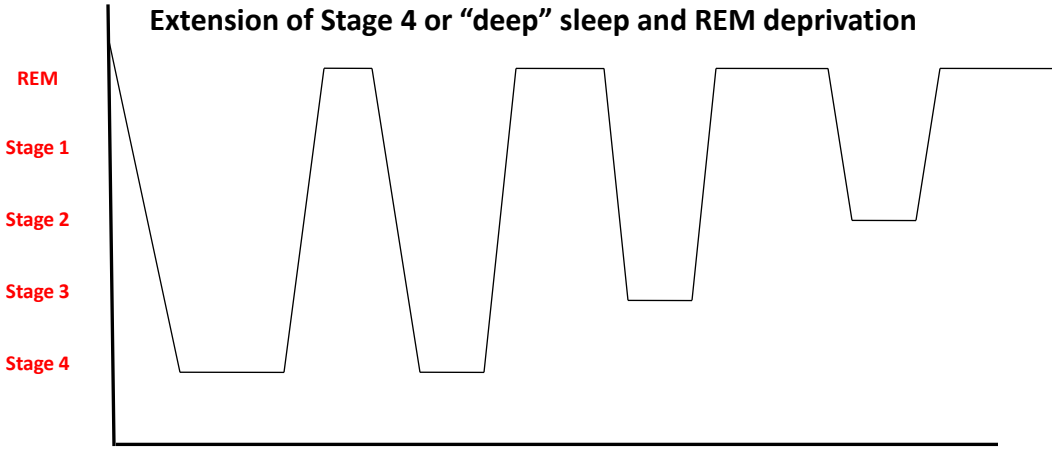
Suerken, C.K., Reboussin, B.A., Egan, K.L., Sutfin, E.L., Wagoner, K.G., Spangler, J. & Wolfson, M. (2016). Marijuana use trajectories and academic outcomes among college students. *Drug and Alcohol Dependence, 162,* 137-145.

39

Impact of substance use on sleep quality (and subsequent effects)

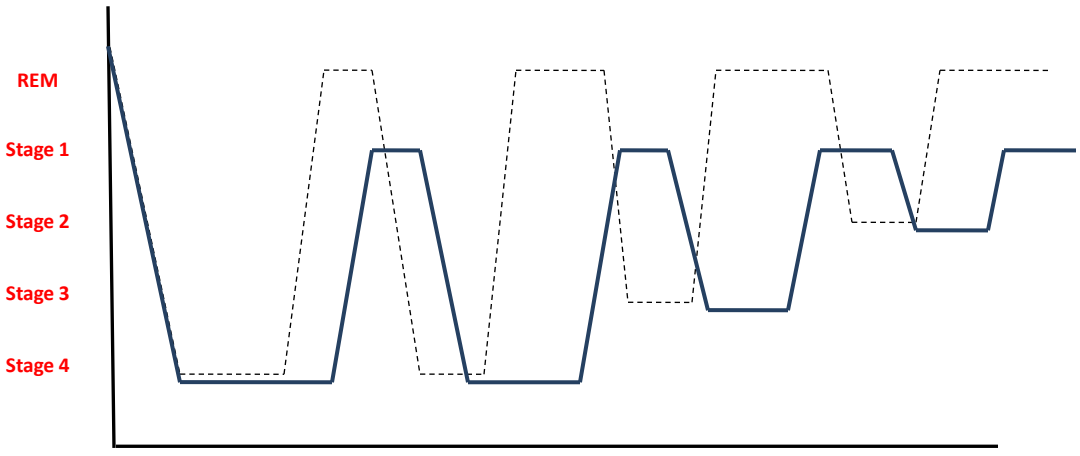
40

With cannabis, two things happen…
Extension of Stage 4 or "deep" sleep and REM deprivation



Angarita, G.A., Emadi, N., Hodges, S., & Morgan, P.T. (2016). Sleep abnormalities associated with alcohol, cannabis, cocaine, and opiate use: A comprehensive review. *Addiction Science & Clinical Practice, 11:* 9.

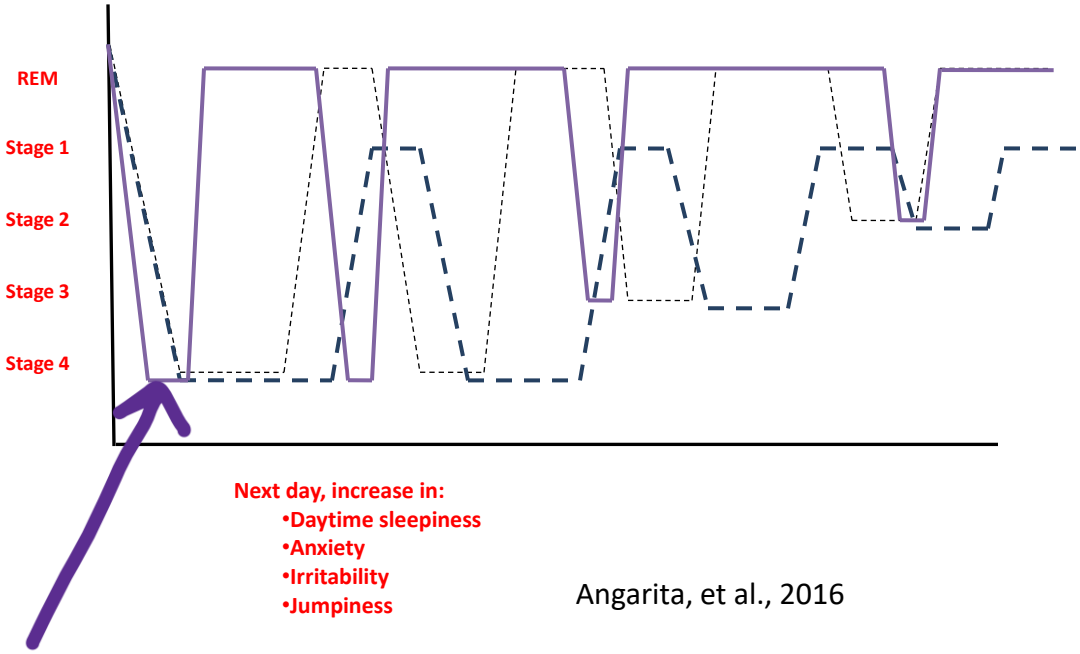
41



Next day, increase in:
- **Daytime sleepiness**
- **Anxiety**
- **Irritability**
- **Jumpiness**

Angarita, et al., 2016

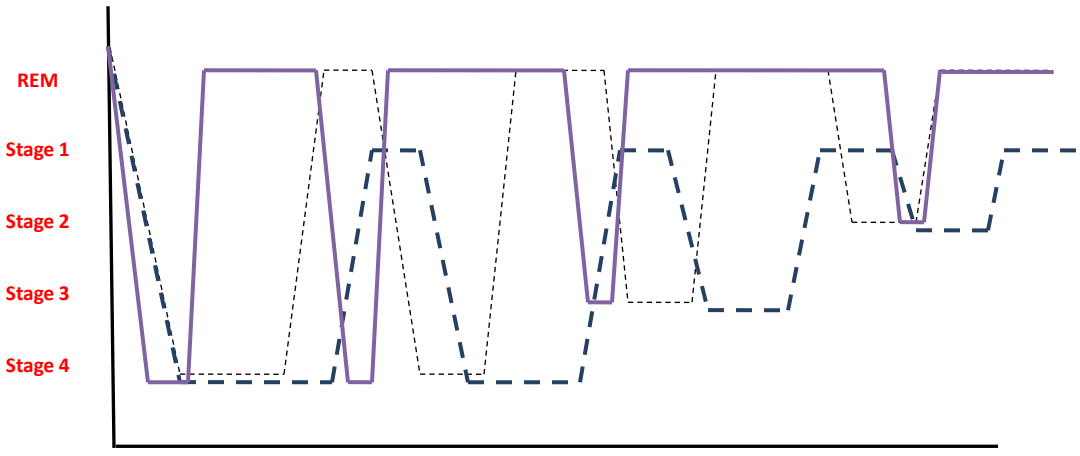
42



Next day, increase in:
- **Daytime sleepiness**
- **Anxiety**
- **Irritability**
- **Jumpiness**

Angarita, et al., 2016

43



Next day, increase in:
- **Daytime sleepiness**
- **Anxiety**
- **Irritability**
- **Jumpiness**

Next day, feel:
- **Fatigue**

Angarita, et al., 2016

44

Factors associated with health and mental health (not already addressed earlier)

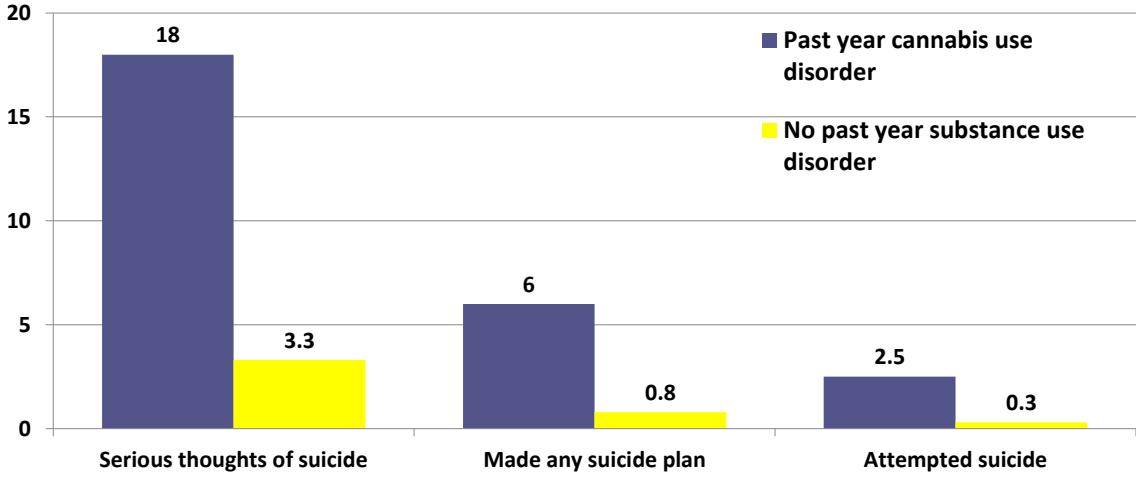
45

Cannabis Use Associated With Risk Of Psychiatric Disorders (Hall & Degenhardt, 2009; Hall, 2009; Hall 2013)

- **Schizophrenia**
  - **Those who had used cannabis 10+ times by age 18 were 2-3 times more likely to be diagnosed with schizophrenia**
  - **"13% of schizophrenia cases could be averted if cannabis use was prevented (Hall & Degenhardt, 2009, p. 1388)"**
- **Depression and suicide**
  - **"Requires attention in cannabis dependent" (Hall, 2013)**

46

Percentage endorsing item among people 18 and older in the US



Center for Behavioral Health Statistics and Quality. (2024). Results from the 2023 National Survey on Drug Use and Health: Detailed tables. https://www.samhsa.gov/data/report/2023-nsduh-detailed-tables. Released July 30, 2024

47

CANNABIS USE – EFFECTS AFTER USE

- With high doses, may experience acute toxic psychosis
  - Hallucinations
  - Delusions
  - Depersonalization
- Seem more likely when person takes too much or potency is high

NIDA (2019)

48

Separating reported medical use from management of withdrawal

49

MOTIVATIONS FOR USE

	Motive Category	Proportion of participants endorsing motive	Proportion of primary motives
Enjoyment/fun	Enjoyment/fun (e.g., be happy, get high, enjoy feeling)	52.14%	24.03%
	Conformity (e.g., peer pressure, friends do it)	42.81%	16.40%
	Experimentation (e.g., new experience, curiosity)	41.25%	29.36%
Social enhancement	Social enhancement (e.g., bonding with friends, hang out)	25.71%	8.66%
Boredom	Boredom (e.g., something to do, nothing better to do)	25.08%	4.15%
	Relaxation (e.g., to relax, helps me sleep)	24.64%	6.97%
	Coping (e.g., depressed, relieve stress)	18.14%	5.10%
	Availability (e.g., easy to get, it was offered)	13.74%	2.23%
	Relative low risk (e.g., low health risk, no hangover)	10.88%	0.95%
Altered perception	Altered perception or perspectives (e.g., to enhance experiences, makes things more fun)	10.58%	1.81%
Activity enhancement	Activity enhancement (e.g., music sounds better, every day activities more interesting)	5.68%	0.80%
	Rebellion (e.g., rebelling against parents, thrill of something illegal)	5.21%	0.32%
	Alcohol intoxication (e.g., I was drunk)	4.42%	0.47%
	Food enhancement (e.g., enjoy good food, food tastes better)	3.79%	0.00%
	Anxiety reduction (e.g., be less shy, feel less insecure)	3.31%	0.00%
Image enhancement	Image enhancement (e.g., to be cool, to feel cool)	2.85%	0.32%
Celebration	Celebration (e.g., special occasion, to celebrate)	1.26%	0.16%
	Medical use (e.g., alleviate physical pain, have a headache)	1.26%	0.16%
	Habit (e.g., feeling was addictive, became a habit)	0.95%	0.00%

Lee, Neighbors & Woods (2007)

50

MOTIVATIONS FOR USE

Motive Category	Proportion of participants endorsing motive	Proportion of primary motives
Enjoyment/fun (e.g., be happy, get high, enjoy feeling)	52.14%	24.03%
Conformity (e.g., peer pressure, friends do it)	42.81%	16.40%
Experimentation (e.g., new experience, curiosity)	41.25%	29.36%
Social enhancement (e.g., bonding with friends, hang out)	25.71%	8.66%
Boredom (e.g., something to do, nothing better to do)	25.08%	4.15%
Relaxation (e.g., to relax, helps me sleep)	24.64%	6.97%
Coping (e.g., depressed, relieve stress)	18.14%	5.10%
Availability (e.g., easy to get, it was offered)	13.74%	2.23%
Relative low risk (e.g., low health risk, no hangover)	10.88%	0.95%
Altered perception or perspectives (e.g., to enhance experiences, makes things more fun)	10.58%	1.81%
Activity enhancement (e.g., music sounds better, every day activities more interesting)	5.68%	0.80%
Rebellion (e.g., rebelling against parents, thrill of something illegal)	5.21%	0.32%
Alcohol intoxication (e.g., I was drunk)	4.42%	0.47%
Food enhancement (e.g., enjoy good food, food tastes better)	3.79%	0.00%
Anxiety reduction (e.g., be less shy, feel less insecure)	3.31%	0.00%
Image enhancement (e.g., to be cool, to feel cool)	2.85%	0.32%
Celebration (e.g., special occasion, to celebrate)	1.26%	0.16%
Medical use (e.g., alleviate physical pain, have a headache)	1.26%	0.16%
Habit (e.g., feeling was addictive, became a habit)	0.95%	0.00%

Relaxation (includes helping w/sleep)

Coping (includes when depressed)

Food motives

Anxiety reduction

Medical use (including pain and headache)

Lee, Neighbors & Woods (2007)

51

WITHDRAWAL: CANNABIS

Diagnostic Criteria **292.0 (F12.288)**

A. Cessation of cannabis use that has been heavy and prolonged (i.e., usually daily or almost daily use over a period of at least a few months).

B. Three (or more) of the following signs and symptoms develop within approximately 1 week after Criterion A:

1. Irritability, anger, or aggression.
2. Nervousness or anxiety.
3. Sleep difficulty (e.g., insomnia, disturbing dreams).
4. Decreased appetite or weight loss.
5. Restlessness.
6. Depressed mood.
7. At least one of the following physical symptoms causing significant discomfort: abdominal pain, shakiness/tremors, sweating, fever, chills, or headache.

C. The signs or symptoms in Criterion B cause clinically significant distress or impairment in social, occupational, or other important areas of functioning.

D. The signs or symptoms are not attributable to another medical condition and are not better explained by another mental disorder, including intoxication or withdrawal from another substance.

52

Returning to motivational interviewing, especially since motivational enhancement-based brief interventions show promise

53

In-person, personalized feedback interventions have shown reductions in use, time spent high, and consequences (e.g., Lee, et al., 2013)

Lee, C.M., Kilmer, J.R., Neighbors, C., Atkins, D.C., Zheng, C., Walker, D.D., & Larimer, M.E. (2013). Indicated prevention for college student marijuana use: A randomized controlled trial. *Journal of Consulting and Clinical Psychology, 81,* 702-709.

54

Finding potential "hooks": an example

- "What are the good things about cannabis use for you?"
- "What are the 'not-so-good' things about cannabis use?"
- "What would it be like if some of those not-so-good things happened less often?"
- "What might make some of those not-so-good things happen less often?"

UW PACC

55

When people you're working with want to reduce some of the "not so good" outcomes associated with cannabis, ask what would result in that.

Look, too, toward the published literature on this topic.

UW PACC
©2025 University of Washington

56

International Journal of Drug Policy 99 (2022) 103381

Contents lists available at ScienceDirect

International Journal of Drug Policy

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

Review

Lower-Risk Cannabis Use Guidelines (LRCUG) for reducing health harms from non-medical cannabis use: A comprehensive evidence and recommendations update

Benedikt Fischer[a,b,c,*], Tessa Robinson[b,d], Chris Bullen[a,e], Valerie Curran[f,g], Didier Jutras-Aswad[h,i], Maria Elena Medina-Mora[j,k], Rosalie Liccardo Pacula[l], Jürgen Rehm[m,n], Robin Room[o,p], Wim van den Brink[q,r], Wayne Hall[s,t]

[a] Schools of Population Health and Pharmacy, Faculty of Medical and Health Sciences, University of Auckland, Auckland, New Zealand
[b] Centre for Applied Research in Mental Health and Addiction, Faculty of Health Sciences, Simon Fraser University, Vancouver, Canada
[c] Department of Psychiatry, Federal University of Sao Paulo, Sao Paulo, Brazil
[d] Department of Health Research Methods, Evidence & Impact, Faculty of Health Sciences, McMaster University, Hamilton, ON, Canada
[e] National Institute for Health Innovation (NIHI), The University of Auckland, Auckland, New Zealand
[f] Clinical Psychopharmacology Unit, Research Department of Clinical, Educational and Health Psychology, University College London, London, United Kingdom
[g] NIHR University College London Hospitals Biomedical Research Centre, London, United Kingdom
[h] Department of Psychiatry and Addictology, Université de Montréal, Montreal, Canada
[i] Research Centre of the Centre Hospitalier de l'Université de Montréal (CRCHUM), Montreal, Canada
[j] Center for Global Mental Health Research, National Institute of Psychiatry Ramón de la Fuente Muñiz, Mexico City, Mexico
[k] Department of Psychiatry and Mental Health, Faculty of Medicine, National Autonomous University of Mexico, Mexico City, Mexico

Published in January 2022 issue of International Journal of Drug Policy

57

General Precaution A:

"There is no universally safe level of cannabis use; thus, the only reliable way to avoid any risk for harm from using cannabis is to abstain from its use."

Fischer, et al. (2022)

58

Among other recommendations:

- People who use cannabis should use low potency cannabis products
- "Overall, there is no categorically 'safe' route of use for cannabis and each route option brings some level of distinct risks that needs to be taken into account for use. " That said, smoking is particularly risky.
- Keep use occasional (no more than 1 or 2 days a week, weekend only)
- If a person notices impacts to attention, concentration, or memory, "consider temporarily suspending or substantially reducing the intensity (e.g., frequency/potency) of their cannabis use."
- Avoid driving while under the influence (waiting at least 6-8 hours after inhaling, 8-12 hours after use of edibles)

Fischer, et al. (2022)

59

Recommendation #9: ***It is prudent for people who intend to procreate and for women who are pregnant or breastfeeding to abstain from cannabis use towards reducing possible risks for reproduction and of health harm to offspring, respectively.*** There is some evidence that especially intensive cannabis use may somewhat compromise reproductive abilities for women and men. Cannabis use, especially during pregnancy, may adversely affect some pre- and post-natal health outcomes in offspring. Cannabinoids may also be passed on to infants via breastmilk. The magnitude of any of these adverse effects from these exposures on conception, the fetus or infant development is likely small but it is generally prudent for those intending to reproduce, and for women who are pregnant or breastfeeding, to abstain from cannabis use during these particular periods of risk.

Fischer, et al. (2022)

60

Recommendation #11: ***Some specific groups of people are at elevated risk for cannabis use-related health problems because of biological pre-dispositions or co-morbidities. They should accordingly (and possibly on medical advice as required) avoid or adjust their cannabis use.*** Higher risks for harm extend to individuals with a genetic predisposition (e.g., a first-degree family or personal history) for, or an active psychosis, mood (e.g., depressive) disorder, or substance use disorder.

Fischer, et al. (2022)

61

Wrapping up

- Be mindful of "action" stage suggestions to people who might not be there yet
- Let people know what they can expect if they make a change in their substance use (e.g., possible withdrawal)
  - "T Break" Guide from the University of Vermont available to the public:
    - https://www.uvm.edu/health/t-break-take-cannabis-tolerance-break
- Help your clients/patients understand the recent science relevant to them (and what matters to them)

62

SLIDES ADDED DURING DISCUSSION

63

Doctors should think twice before prescribing medical marijuana: guideline Source: CTVNews.com

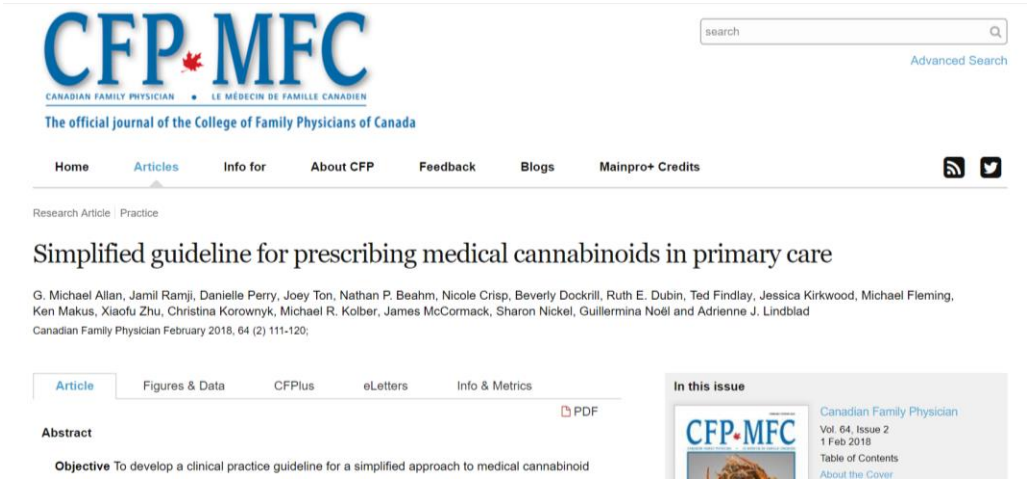
New guideline warns pain benefits of medical cannabis overstated
University of Alberta led guideline warns health risks may outweigh benefits, provides guidance on when (and when not to) prescribe.

Source: ScienceDaily.com

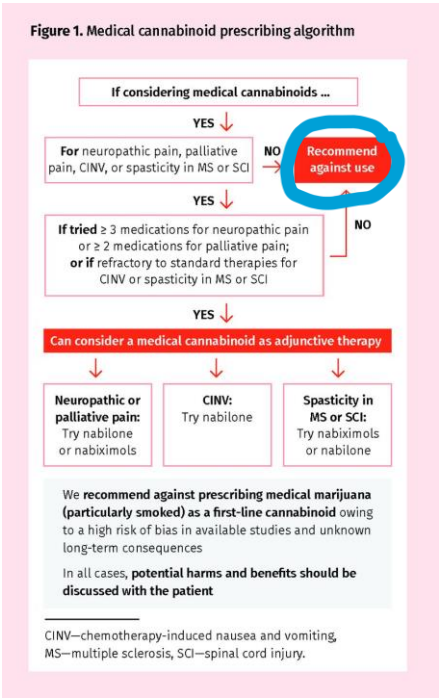
Canadian Doctors Warn Medical Pot Is Overhyped Source: Gizmodo.com

64

Allan, G.M., Ramji, J., Perry, D., Ton, J., Beahm, N.P., Crisp, N., Dockrill, B., Dublin, R.E., Findlay, T., Kirkwood, J., Fleming, M., Makus, K., Zhu, X., Korownyk, C., Kolber, M., McCormack, J., Nickel, S., Guillermina, N., & Lindblad, A.J. (2018). Simplified guidelines for prescribing medical cannabinoids in primary care. *Canadian Family Physician, 64,* 111-120.



65



Only are recommending for neuropathic pain, palliative and end-of-life pain, chemotherapy-induced nausea and vomiting, and spasticity due to multiple sclerosis or spinal cord injury…

AND

If tried traditional therapies/treatments first…

Allan, et al. (2018)

66

Cannabis and Cannabinoid Research
Volume 2.1, 2017
DOI: 10.1089/can.2017.0014

Cannabis and Cannabinoid Research
Mary Ann Liebert, Inc. publishers

ORIGINAL RESEARCH Open Access

Cannabidiol Does Not Dampen Responses to Emotional Stimuli in Healthy Adults

David L. Arndt and Harriet de Wit*

Abstract

Introduction: Cannabidiol (CBD) is a nonpsychoactive constituent of whole plant cannabis that has been reported to reduce anxiety-like behaviors in both pre-clinical and human laboratory studies. Yet, no controlled clinical studies have demonstrated its ability to reduce negative mood or dampen responses to negative emotional stimuli in humans. The objective of this study was to investigate the effects of CBD on responses to negative emotional stimuli, as a model for its potential anxiety-reducing effects.

Materials and Methods: The study used a double-blind, placebo (PLB)-controlled, within-subjects design in which 38 healthy, drug-free participants consumed oral CBD (300, 600, and 900 mg) or PLB before completing several behavioral tasks selected to assess reactivity to negative stimuli. Dependent measures included emotional arousal to negative and positive visual stimuli, perceptual sensitivity to emotional facial expressions, attentional bias toward emotional facial expressions, and feelings of social rejection. In addition, subjective drug effects and

"This study suggests that oral CBD does not alter responses to emotional stimuli, or produce anxiolytic-like effects in healthy human subjects. (p. 112)"

Arndt & de Wit (2017)

67

JAMA Network | Open

Original Investigation | Psychiatry

Effect of Medical Marijuana Card Ownership on Pain, Insomnia, and Affective Disorder Symptoms in Adults
A Randomized Clinical Trial

Jodi M. Gilman, PhD; Randi M. Schuster, PhD; Kevin W. Potter, PhD; William Schmitt, BA; Grace Wheeler, BA; Gladys N. Pachas, MD; Sarah Hickey, BSN; Megan E. Cooke, PhD; Alyson Dechert, BA; Rachel Plummer, BA; Brenden Tervo-Clemmens, PhD; David A. Schoenfeld, PhD; A. Eden Evins, MD, MPH

Abstract

IMPORTANCE Despite the legalization and widespread use of cannabis products for a variety of medical concerns in the US, there is not yet a strong clinical literature to support such use. The risks and benefits of obtaining a medical marijuana card for common clinical outcomes are largely unknown.

OBJECTIVE To evaluate the effect of obtaining a medical marijuana card on target clinical and cannabis use disorder (CUD) symptoms in adults with a chief concern of chronic pain, insomnia, or anxiety or depressive symptoms.

DESIGN, SETTING, AND PARTICIPANTS This pragmatic, single-site, single-blind randomized clinical trial was conducted in the Greater Boston area from July 1, 2017, to July 31, 2020. Participants

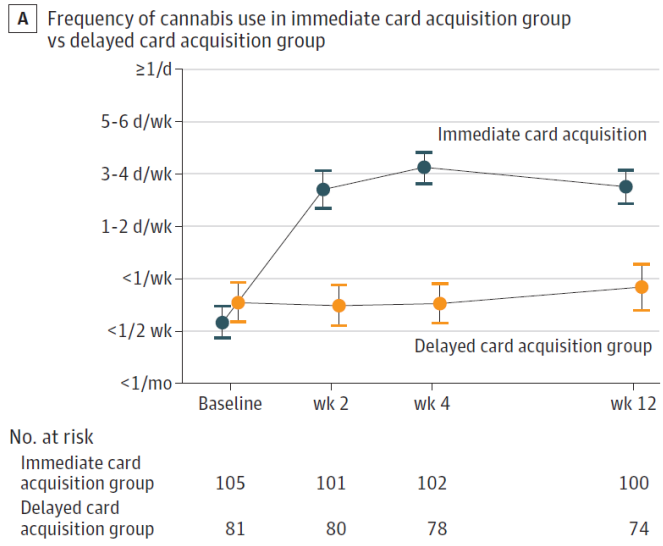
Key Points

Question What are the risks and benefits of obtaining a medical marijuana card for adults who seek medical marijuana for pain, insomnia, and anxiety or depressive symptoms?

Findings In this randomized clinical trial involving 186 participants, immediate acquisition of a medical marijuana card increased the incidence and severity of cannabis use disorder (CUD) and resulted in no significant improvement

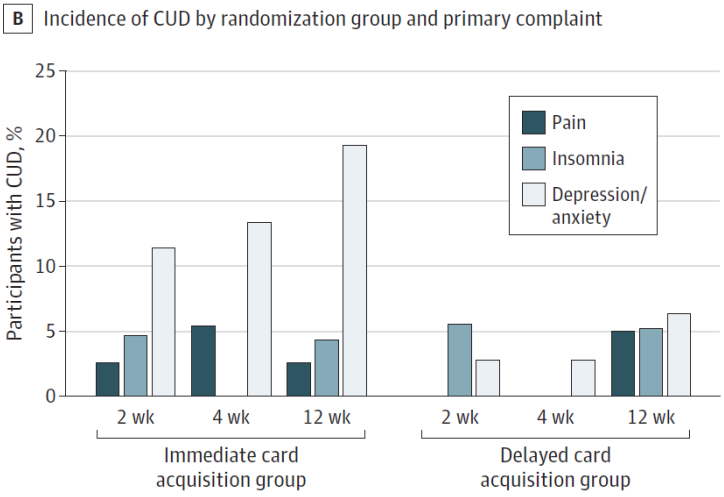
Gilman, et al. (2022) (released 3/18/2022)

68



Gilman, et al. (2022) (released 3/18/2022)

69



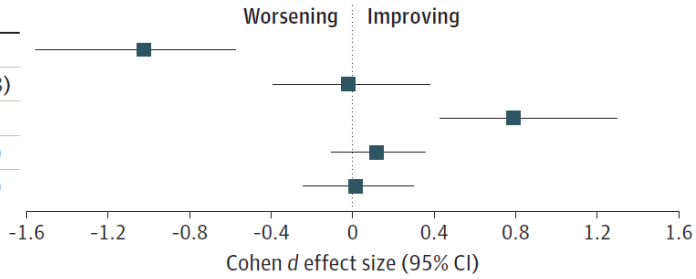
Gilman, et al. (2022) (released 3/18/2022)

70

Figure 3. Effect Sizes for Primary, Secondary, and Exploratory Outcomes

A Primary outcomes

Source	Cohen *d* effect size (95% CI)
CUD symptoms	1.02 (0.57 to 1.55)
Pain severity	-0.02 (-0.39 to 0.38)
Insomnia	0.79 (0.43 to 1.30)
Depression	0.12 (-0.11 to 0.36)
Anxiety	0.02 (-0.24 to 0.30)



"There were no observed benefits of obtaining a medical marijuana card for pain, anxiety, or depressive symptoms. (p. 11)"

Gilman, et al. (2022) (released 3/18/2022)

UW PACC

71

UW PACC
Psychiatry and Addictions Case Conference
UW Medicine | Psychiatry and Behavioral Sciences

THANK YOU!

Special thank you to Dr. Mark Duncan, Cara Towle, and Esther Solano

Jason Kilmer, Ph.D.

jkilmer@uw.edu

UW Medicine
UW SCHOOL OF MEDICINE

Integrated Care Training Program
UW Psychiatry & Behavioral Sciences

ECHO

72