



UW PACC

Psychiatry and Addictions Case Conference

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**HARM REDUCTION STRATEGIES FOR
CANNABIS USE:
HOW CAN I MINIMIZE THE IMPACT OF
CANNABIS USE IN MY PATIENTS?**

KATE REAN

**ADDICTION PSYCHIATRY FELLOW
UNIVERSITY OF WASHINGTON**



GENERAL DISCLOSURES

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SPEAKER DISCLOSURES

None

OBJECTIVES

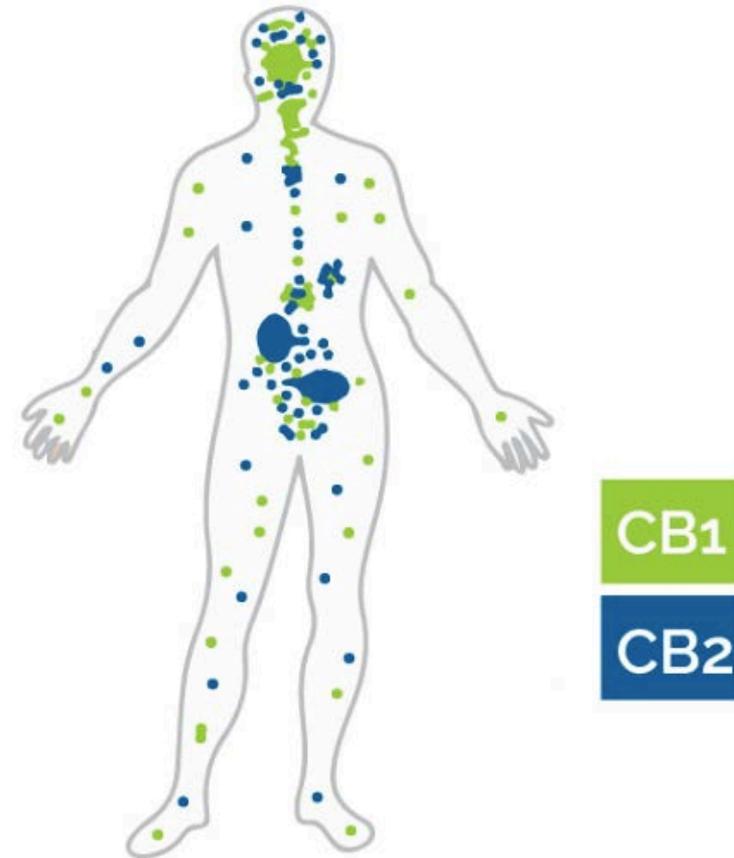
1. GENERAL CANNABIS INFORMATION
2. PSYCHIATRIC HARMS
3. PHYSICAL HARMS
4. HARM REDUCTION STRATEGIES
5. TREATMENT

CASE EXAMPLES

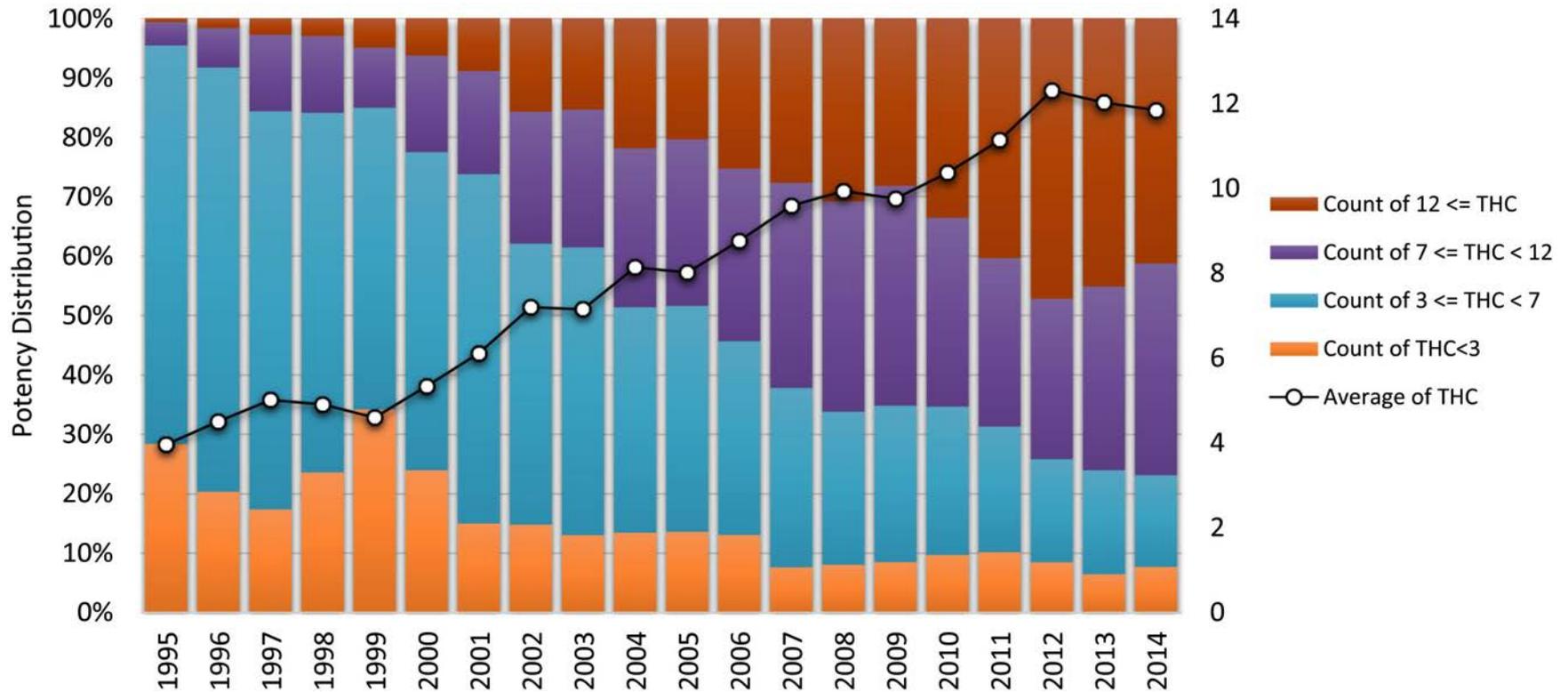
- GH – 19yo M, decreased school/work performance
- AL – 54yo M, cannabinoid hyperemesis
- DC – 27yo M, hospitalized for acute psychosis with auditory hallucinations, paranoia, and aggression
- AE – 35yo M, bipolar I disorder with psychosis

CANNABIS 101

- Cannabinoid receptors
 - CB1 – central nervous system
 - CB2 – immune system
- Endogenous cannabinoids
 - Anandamide
 - 2-arachidonyl glycerol (2-AG)
- Cannabinoids – > 100
 - Tetrahydrocannabinol (Δ 9-THC)
 - CB1 agonist
 - Psychoactive – altered mood, cognition
 - Cannabidiol (CBD)
 - Indirect CB1 and CB2 antagonist
 - Immunologic and anti-inflammatory effects
 - Antipsychotic?

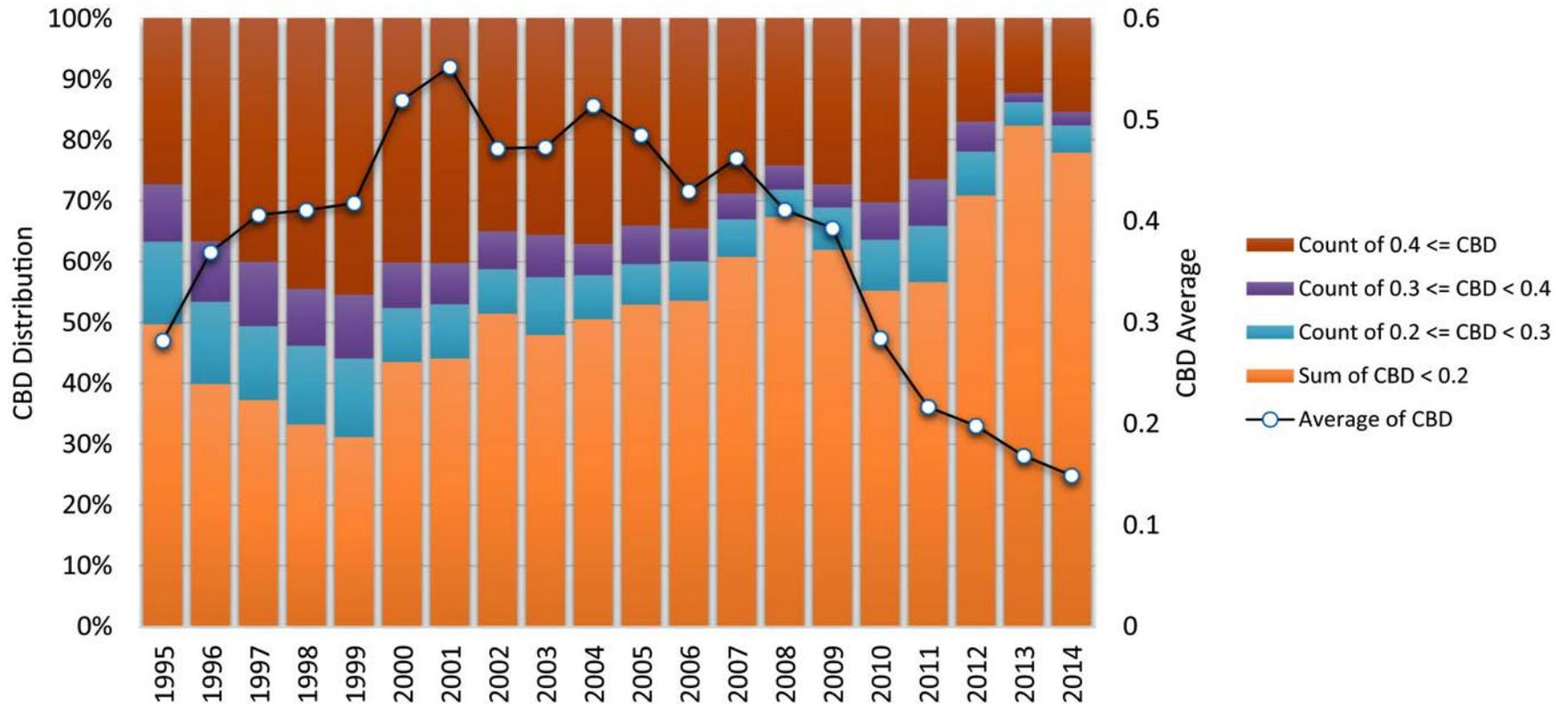


THC CONCENTRATION



ElSohly et al. Biological Psychiatry (2016) 79(7):613-619

CBD CONCENTRATION



ElSohly et al. Biological Psychiatry (2016) 79(7):613-619

CANNABIS STRAINS

SATIVA

People feel more energetic

Hallucinogenic, cerebral effect

Preferred for day use



INDICA

Has a relaxing effect

You experience a "body buzz"

Preferred for night use

SYNTHETIC CANNABIS

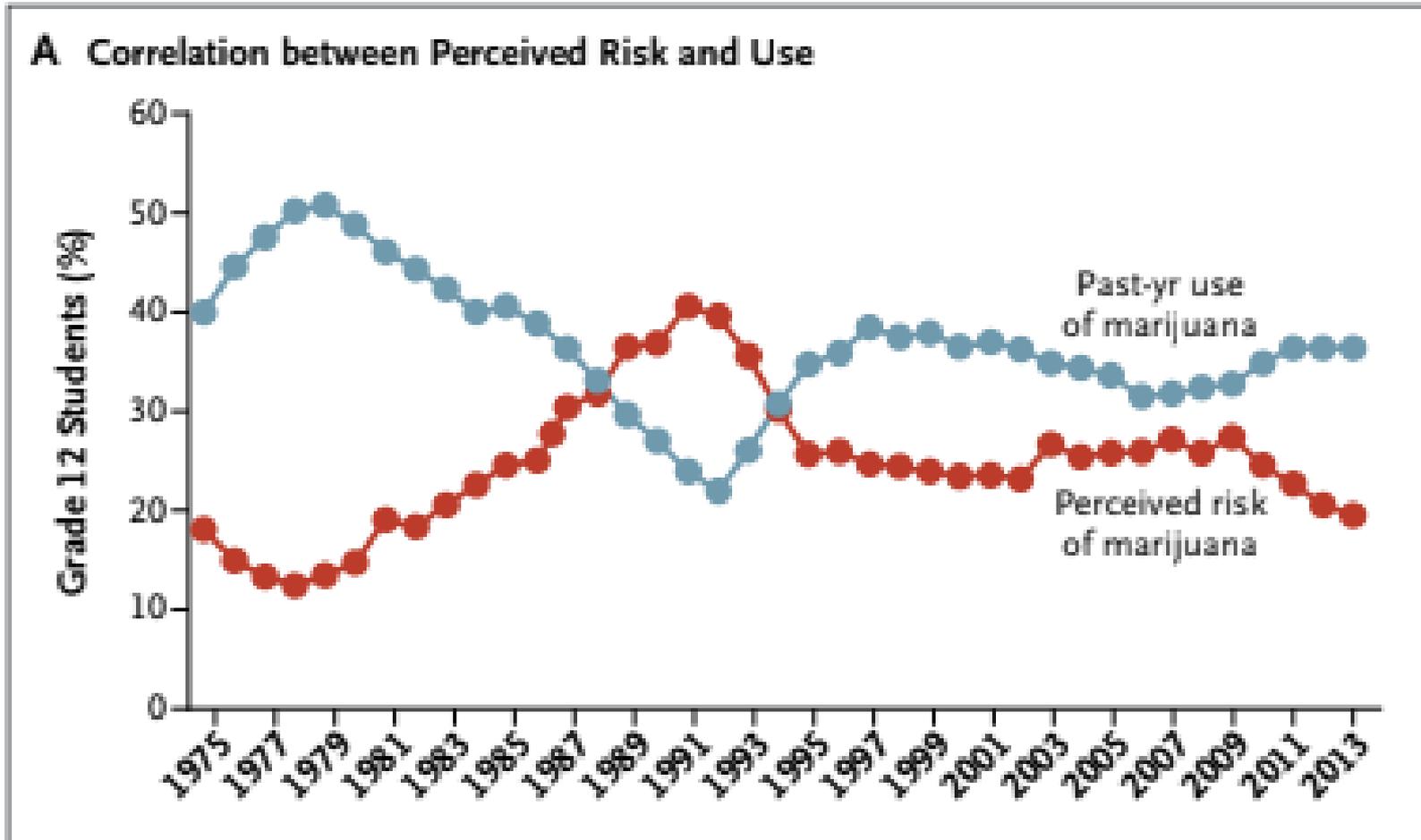


METHODS OF USE

- Smoking
 - Pipe, bong, blunt, joint, vaporizer
 - Often mixed with tobacco
- Edibles
 - Delayed effects
- Concentrates
 - Butane hash oil, dabs, wax, shatter
 - Up to 80-90% THC



PERCIEVED RISK AND USE OF MJ



Volkow N, et al. NEJM (2014) 370:2219-2227

DSM V CONSEQUENCES OF USE

- CANNABIS USE DISORDER

- CUDIT-R – 8 Question Screener

- 8-9% cannabis users will develop use disorder (Sabioni and Le Foll 2018)

- Increased risk among users who initiate early and use daily

- INTOXICATION

- WITHDRAWAL

ACUTE INTOXICATION

- Transient increase in anxiety/panic symptoms and paranoia/psychosis
 - Especially synthetic MJ or high THC content (Fattore 2016)
- ED visits
 - 5x higher prevalence of mental health diagnoses in cannabis-related ED visits in Colorado from 2012-2014 (Hall et al 2018)
- Motor Vehicle Accidents
 - 1.36 x increase risk in MVA (Rogeberg et al 2016)
 - No difference in MVA fatalities in WA and CO after legalization (Aydellote et al 2017)

MENTAL HEALTH CONSEQUENCES

- Very generally, there tends to be an acute improvement in symptoms, but chronic use can lead to worsening symptoms and outcomes
- PTSD
 - Possible worsening of PTSD symptoms (O’Neil et al 2017)
- Anxiety
 - Higher rates of cannabis use in individuals with anxiety disorders (Zammit et al 2008)
- Depression
 - Higher levels of depressive symptoms in cannabis users (Moore et al 2007)
- Bipolar Disorder
 - Lower rates of relapse/remission (Aguado et al 2015)

COGNITIVE CONSEQUENCES

- “AMOTIVATIONAL SYNDROME”
 - Decreased school and work performance, less interest in activities (Palamar 2014)
- COGNITION
 - Acute and chronic impairment in learning, attention, and memory (Broyd et al 2016)
 - Impaired educational attainment – poorer grades, increased dropout rates (Volkow 2014)
 - 6 point decline in IQ among heavy, early users (Meier et al 2012)

PSYCHOSIS

- Cannabis increases the risk of psychosis
 - 1.9X for any use, 3.9X for heavy use (Marconi et al 2016)
- Daily, High Potency, Early Onset Use (<16YO)
 - 5X increased risk of first episode psychosis (Di Forti 2015)
 - Onset of first episode psychosis 6yrs earlier (Di Forti 2014)
- Family or personal history of psychosis increases the risk associated with cannabis (Verdoux et al 2003)
- Caveats
 - At risk individuals may be more likely to use cannabis
 - Cannabidiol may have antipsychotic effects (McGuire et al AJP 2017)

PHYSICAL CONSEQUENCES

- RESPIRATORY SYMPTOMS

- Chronic bronchitis (Taylor et al. Addiction 2002)
- Cannabis + Tobacco → Synergistic respiratory harm (Tan et al. CMAJ 2009)

- LUNG CANCER

- Unclear but probably not an increased risk unless combining with tobacco (Volkow 2014)

- CANNABINOID HYPEREMESIS

- Cyclic vomiting associated with heavy use

CASE EXAMPLES

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HARM REDUCTION STRATEGIES

- Specific populations at high risk
 - Adolescents
 - Mental health diagnoses
 - Family history of psychosis
- Decrease overall use
 - Both frequency and amount consumed
 - Limiting time of day
 - Limit amount purchased at a time
- Decrease THC potency
 - No synthetics
 - No concentrates

HARM REDUCTION STRATEGIES

- Protect lung health
 - Do not mix cannabis with tobacco
 - Do not use a cigarette filter
 - Do not inhale too deeply or hold smoke in your lungs
 - Avoid using bong/water pipe
 - Vaporizers are probably safer than smoking
- Public health
 - Do not mix with alcohol or other drugs
 - Do not drive while intoxicated

LEGALIZATION AS HARM REDUCTION

- Less legal problems for individuals
- Increased knowledge of product purity and potency
- Decreases use of synthetics
- Decreases cannabis consumption via smoking and increases ingestion
- But increased use of concentrates

Lynskey et al. 2016

TREATMENT

- Psychosocial interventions
 - Contingency Management
 - Motivational Enhancement Therapy
 - Cognitive Behavioral Therapy
- Pharmacology
 - Gabapentin decreased cannabis use and withdrawal symptoms (Mason et al 2012)
 - N-Acetyl cysteine decreased cannabis use and cravings in adolescents but not replicated in larger, adult study (Gray et al 2017)

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