

Creating a Culture of Safety: Harm Reduction Strategies for Consumption of Edibles Amongst Youth



Dr. Kevin Osterhoudt
Medical Director, The
Poison Control Center,
Professor of Pediatrics
Children's Hospital of
Philadelphia



Dr. Chris Gaw
Assistant Professor of
Pediatrics, Division of
Emergency Medicine
Nationwide Children's
Hospital



Kristy F. Steele
Founder and President
Save Our Families



THC Edibles: Implications for Child Injury

Kevin C Osterhoudt
2023 MIPA Conference

Nov 30, 2023



Case Story

7-Year-Old Girl

- **Healthy**
- **Started grabbing her head uncomfortably**
- **Increasingly lethargic**

No fever, trauma, medications
No possible drug ingestions



Case Exam

A busy hospital emergency room with medical staff attending to a patient on a gurney. The scene is filled with medical equipment, including monitors, IV stands, and gurneys. Several healthcare workers in white coats and scrubs are visible, focused on their tasks. The lighting is bright, typical of a clinical setting.

7-Year-Old Girl “not acting right”

- Stupor (briefly opens eyes to loud voice)
- 128/min 89/47mmHg 16/min 36.5 C 96%
- Pupils 5mm
- Became hypopneic and placed on BiPAP

Case – Differential Diagnosis

Vascular – stroke, migraine

Infection / Inflammation

Trauma

A lot of toxicants *note – unusual age for poisoning

Metabolic – hypoglycemia, etc

Intussusception

Neoplasm

Seizure / post-ictal

Case – Medical Evaluation



CT Brain

- Normal



Blood Sugar

- Normal



Blood Counts

- Normal



VBG

- **pH 7.32 / pCO₂ 58**



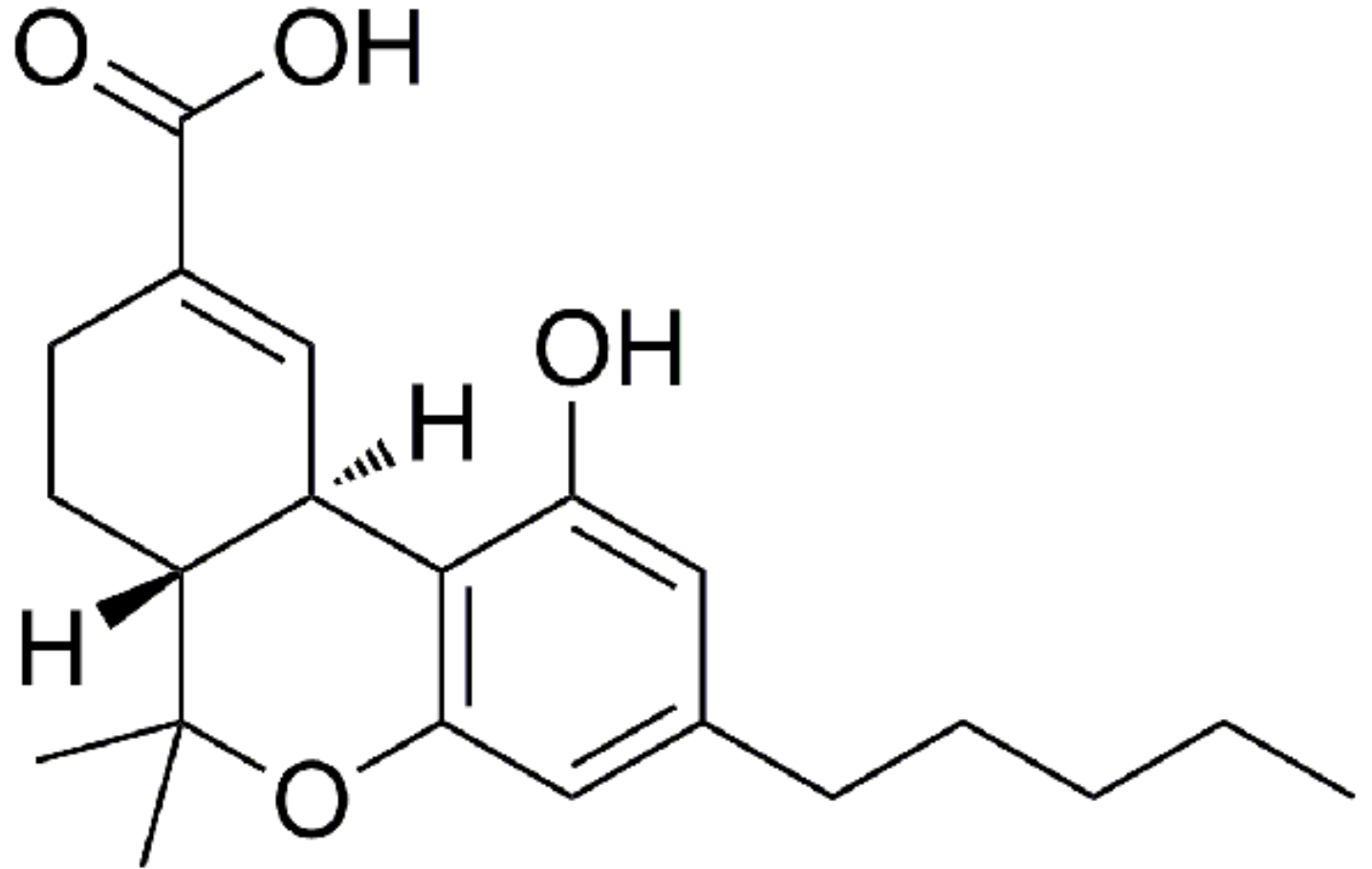
Ethanol

- Not Detected

Case – Urine Toxicology Testing

7-Year-Old Girl “not acting right”

- **UDS (immunoassay):**
+THC-COOH
negative opioids
- **LCMSMS: Confirms THC**



A close-up portrait of a man with short, dark hair and a light beard, looking slightly to the right with a serious, intense expression. He is wearing a dark suit jacket. The background is blurred, suggesting an indoor setting with some light sources.

Case Conundrum

- Family denied THC use
- Child had gone to school, was picked up by babysitter, got snack in grocery store, and came home
- Became ill ~2 hours after getting home



Digging deeper into the story...

Babysitter stopped in grocery store in Philadelphia.

Girl asked for a “Crispy Treat” in grocery aisle.



Purchased by Dr. O
@King of Prussia Mall (PA)

- not the actual item implicated
- not a legitimate commercial product

So many THC stories with kids...

- The “Nerds Rope*”
Birthday Party



*Not real Nerds® candy.



Just yesterday...

- From the poison center's chart

S:_

PT is a 3 y/o female this morning went to daycare and acting lethargic and vomiting, reported eating dad's edibles 25 mg thc each unknown qty but bag is almost empty

Currently tired but stable and protecting airway

O:_

119/70 36.5 HR 88 RR 20 100% RA

THC Poisoning – Our PCC Epidemiology

2014-2019

- 500% increase in child cases
- Increase attributable to edibles

<https://injury.research.chop.edu/blog/posts/rise-child-injury-cannabis-not-high-we-wanted>

RESEARCH IN ACTION

[Home](#) > [Research In Action Blog](#) > [Rise in Child Injury from Cannabis: Not the High We Wanted](#)



[Rise in Child Injury from Cannabis: Not the High We Wanted](#)

Does THC Cause Severe Illness?

Bennett, Acad Pediatr, 2021

- **15% in ICU**
- **4% endotracheally intubated**

Intubation risk seems greatest when THC exposure unknown.

Common toxidrome = CNS depression, ↑HR, large pupils.

Greatest dangers = Respiratory depression, “seizures”.


Recent Trends in Marijuana-Related Hospital Encounters in Young Children

Colleen E. Bennett, MD, MSHP; Atheendar Venkataramani, MD, PhD; Fred M. Henretig, MD; Jennifer Faerber, PhD; Lihai Song, MS; Joanne N. Wood, MD, MSHP

Resource Utilization in Child THC Poisoning?

American Journal of Emergency Medicine 73 (2023) 171–175

Contents lists available at ScienceDirect

 American Journal of Emergency Medicine

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



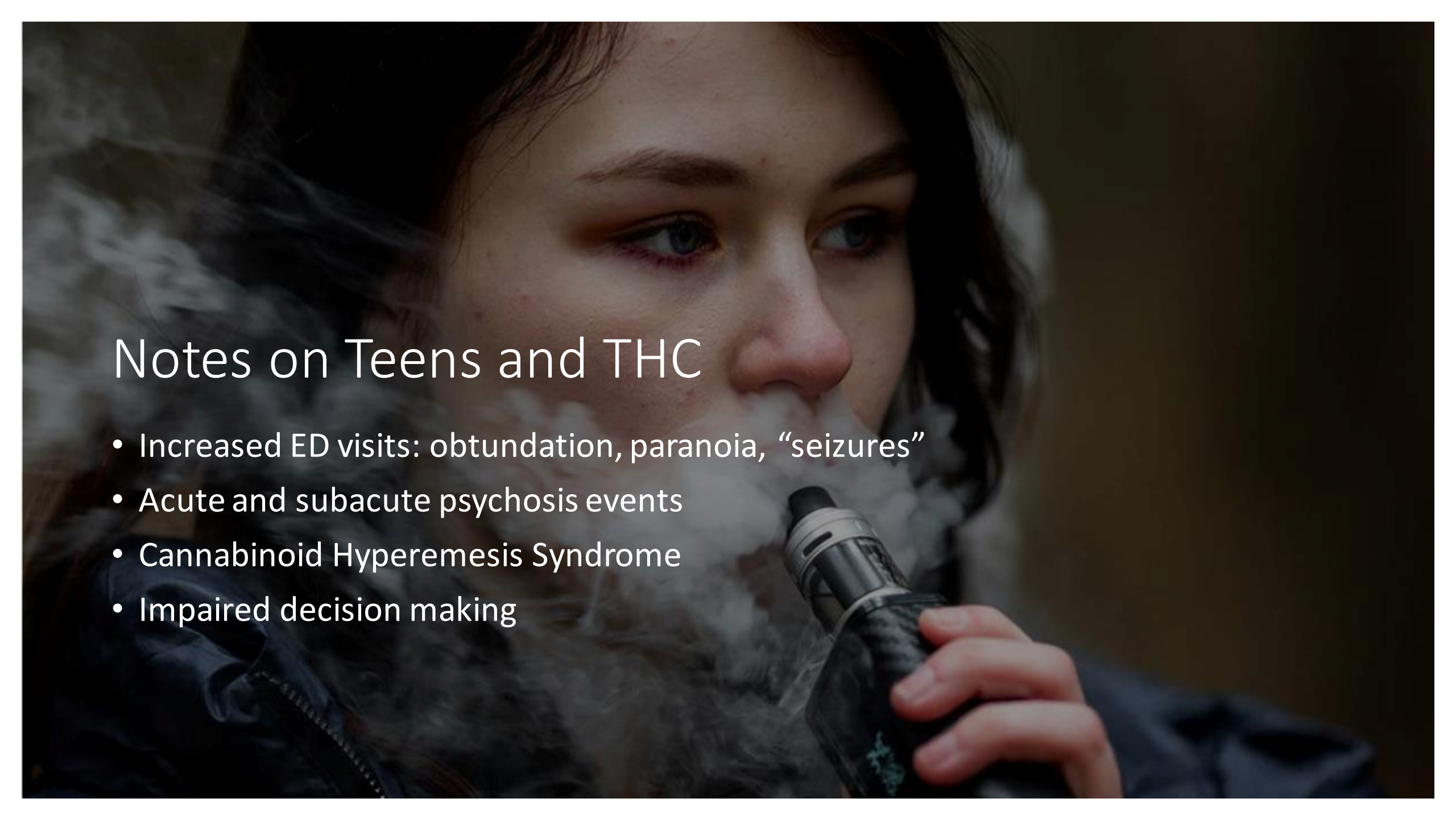
Resource utilization among children presenting with cannabis poisonings in the emergency department

Michael S. Toce, M.D., M.S. ^{a,b,c,*}, Kate Dorney, MD, MHPed ^{a,c}, Gabrielle D'Ambrosi, MPH ^{a,c}, Michael C. Monuteaux, ScD ^{a,c}, Niloufar Paydar-Darian, MD ^{a,c}, Vidya R. Raghavan, MD ^{a,c}, Florence T. Bourgeois, M.D., M.P.H ^{a,c,d}, Joel Hudgins, M.D., M.P.H ^{a,c}

Pediatric Health Information Systems (PHIS) database

2016-2021

- 65% Blood tests
- 29% CT scan
- 2% Lumbar puncture





Notes on Teens and THC


- Increased ED visits: obtundation, paranoia, “seizures”
- Acute and subacute psychosis events
- Cannabinoid Hyperemesis Syndrome
- Impaired decision making



A Budding Problem From Increased Marijuana Use: Severe Vomiting

 Published on September 6, 2022 in Research In Action

Share   

By Casey Pitts  and Kevin Osterhoudt

Cannabinoid Hyperemesis Syndrome

<https://injury.research.chop.edu/blog/posts/budding-problem-increased-marijuana-use-severe-vomiting>



T4CIP (Trainees for Child Injury Prevention) @T4CIP_ · Sep 29

We are so excited to announce our next Day of Action will focus on the safe storage of edibles and will take place next month on October 25! Follow our accounts @t4cip on IG & @T4CIP_ on Twitter to stay informed on everything our trainees have planned. #T4CIP #SafeEdiblesStorage

**#SafeEdiblesStorage
Day of Action
OCTOBER 25, 2023**

- Download materials: <https://bit.ly/SafeEdiblesStorage>
- On October 25:
 - Post on social media using **#SafeEdiblesStorage**
 - Join in the X chat from 1-2 p.m. ET using **#SafeEdiblesStorage**
 - Tune into the **#SafeEdiblesStorage** Webinar from 3-4 p.m. ET
- Follow:
 - @T4CIP_
 - @T4CIP



T4CIP
TRAINees FOR CHILD INJURY PREVENTION



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Healthy Children > Ages & Stages > Teen > Substance Use > Edible Marijuana Dangers: How Parents Can Prevent THC Poisoning

AGES & STAGES

Edible Marijuana Dangers: How Parents Can Prevent THC Poisoning

By: Kevin Osterhoudt, MD, MSCE, FAAP, FAAC, FAGMT

Marijuana (cannabis) is now legal for medical or recreational use in most U.S. states. That means the availability of tempting treats that contain tetrahydrocannabinol (THC), the psychoactive ingredient in marijuana, is on the rise. Unfortunately, so is the unintentional THC poisoning risk these products pose to kids who get a hold of them.



BRIEF

LEGALIZATION OF MARIJUANA IN NEW JERSEY: IMPLICATIONS FOR PEDIATRIC INJURY PREVENTION

Christopher E. Gaw, MD,^{a,b}; Kevin C. Osterhoudt, MD ^{a,b}

Affiliations:

^aDivision of Emergency Medicine, Children's Hospital of Philadelphia, 3401 Civic Center Boulevard, Philadelphia, PA 19104, USA

^bThe Poison Control Center at Children's Hospital of Philadelphia

remain incompletely characterized. Much of our understanding of cannabis' physiological effects can be attributed to advances in characterizing the endogenous cannabinoid system over the past several decades [6, 7]. The endocannabinoid system is composed of endogenous cannabinoids and two major cannabinoid receptors, CB1 and CB2 [8], which are widely distributed throughout the central nervous system and other body tissues (e.g., myocardium, smooth muscle, myocardium) [9]. This system has been

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Christopher Gaw, MD

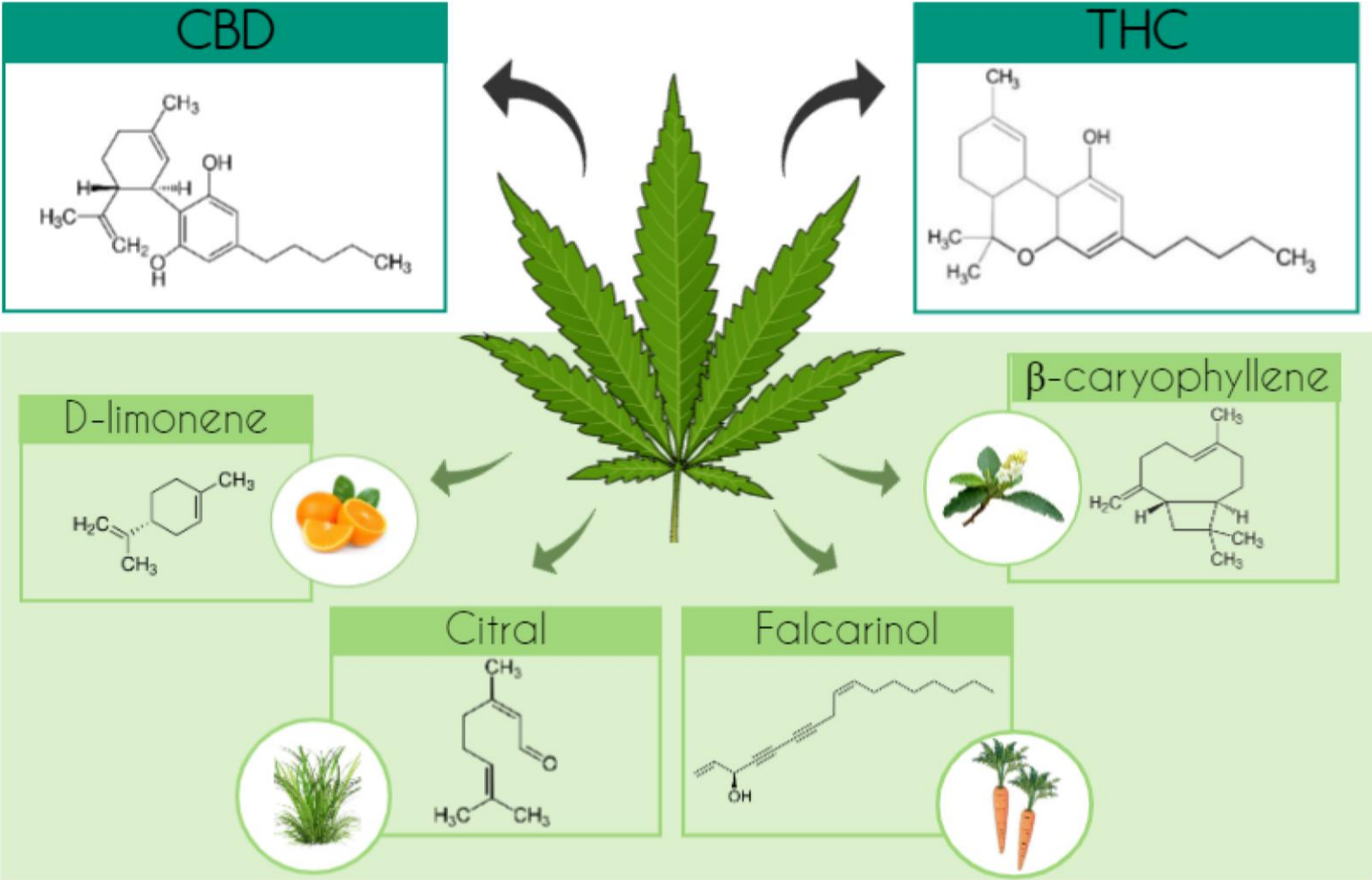
2023 MIPA Virtual Conference

November 30th, 2023



MIDWEST INJURY PREVENTION ALLIANCE

Definitions: Cannabis, THC, Edibles



The Cannabis Product and Policy Landscape



Increasing THC potency increases risk

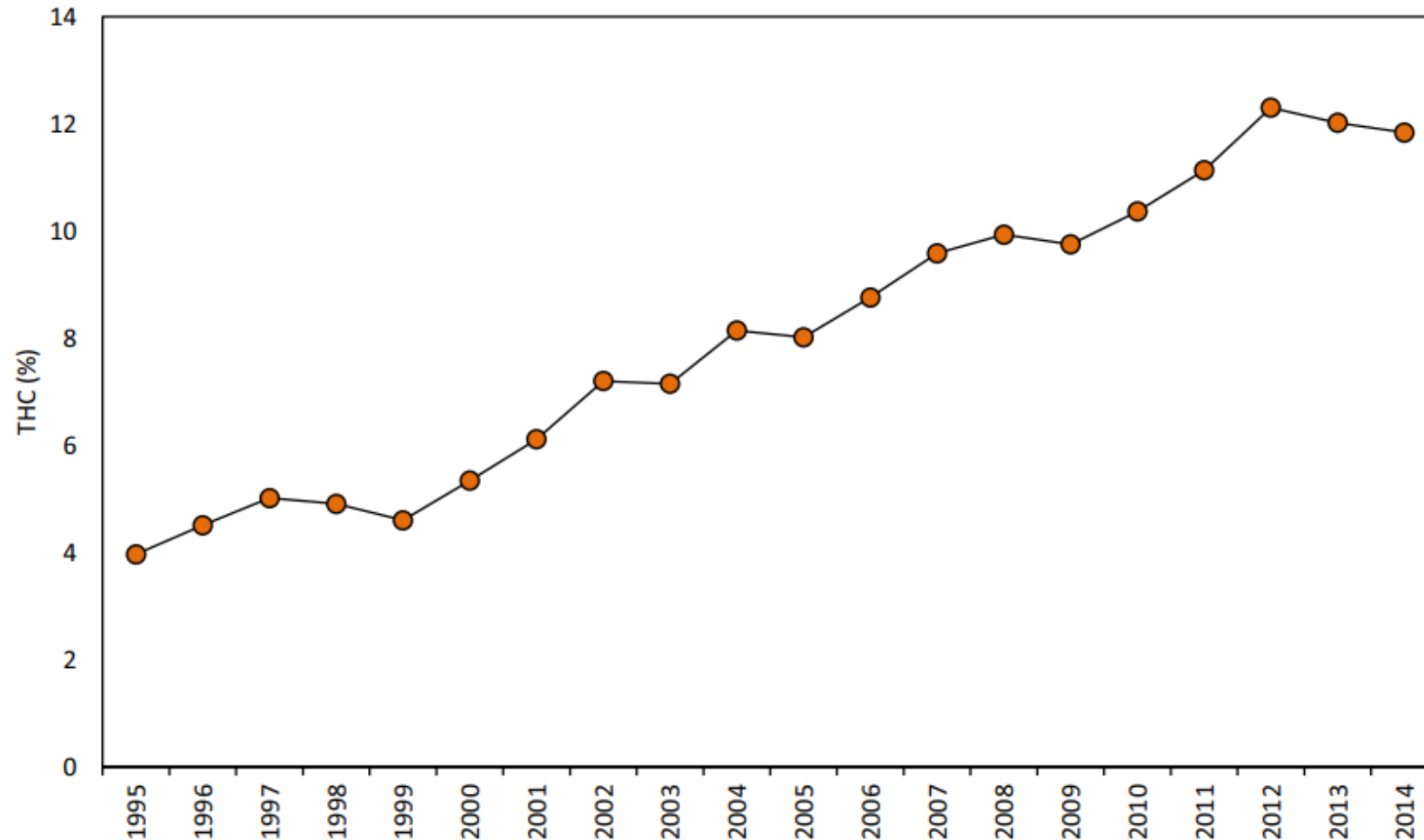


Figure 1. Average Δ^9 -tetrahydrocannabinol (THC) concentration of Drug Enforcement Administration specimens by year, 1995–2014.



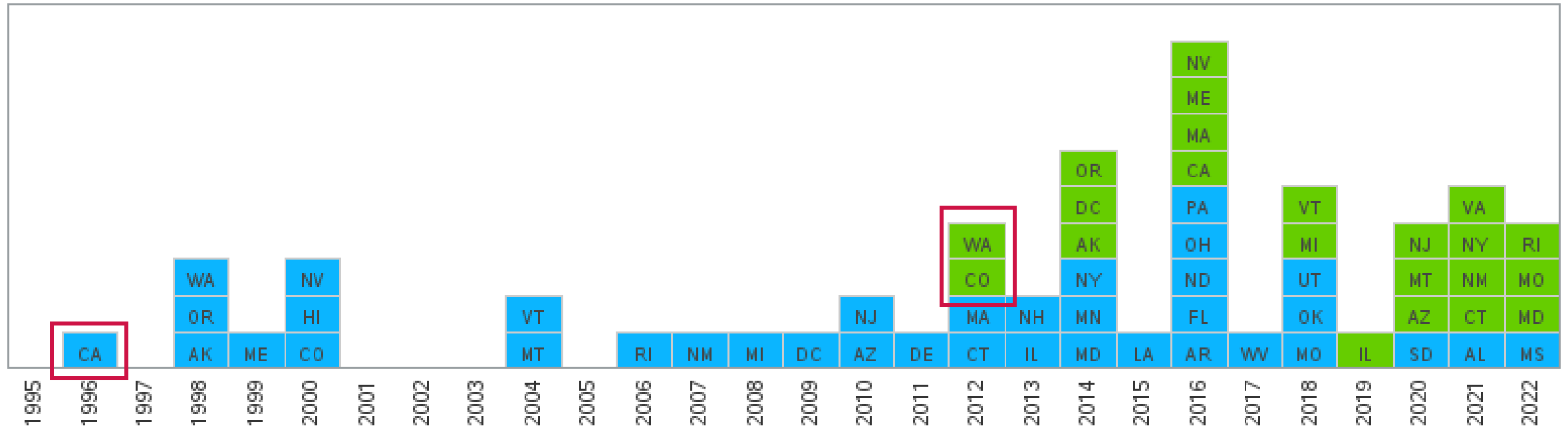
Potent Edible Products

THC per dose	Dose category	What to expect	Edible recommendation
1 – 2.5 mg	Microdose	Most users don't experience intoxication at this dose, but may feel that their pain, anxiety, and nausea have abated without affecting their cognition.	Mints
3 – 5 mg	Low	This dose helps with pain, nausea, inflammation, and may help with sleep. New users will likely feel a degree of intoxication, including feeling less coordinated and more silly. A 5mg dose is when a "high" begins to set in for many new and/or inconsistent consumers.	Infused seltzer, some gummies, honey sticks
10 – 15 mg	Moderate	This is an ideal dose for more experienced users looking to have fun, sleep, or manage pain. New users may feel overwhelmed.	Gummies, single-dose baked goods, savory snacks, some beverages
20 – 30 mg	High	This dose is only recommended for experienced edible consumers: expect strong euphoria and impaired coordination and/or perception. May be beneficial for chronic illness, insomnia, or severe pain.	Infused chocolate bars, THC-infused condiments

THC per dose	Dose category	What to expect	Edible recommendation
50 – 100 mg	Acute	An effective dose for experienced users seeking relief from intense physical pain, PMS, MS, cancer treatment, and other conditions. Not recommended for those dealing with mental health issues. May cause nausea or disrupt the emotions of inconsistent consumers.	Infused baked goods
100 – 500 mg	Macrodose	A useful dose for patients with GI absorption issues and other severe medical conditions like cancer. This is an intensely intoxicating dose, and many users risk experiencing adverse effects. Consume with caution and intention.	Infused shots and sodas

Policy changes are increasing availability

■ =Medical ■ =Recreational



Cannabis Consumption and Older Youth



State data provided us an early warning

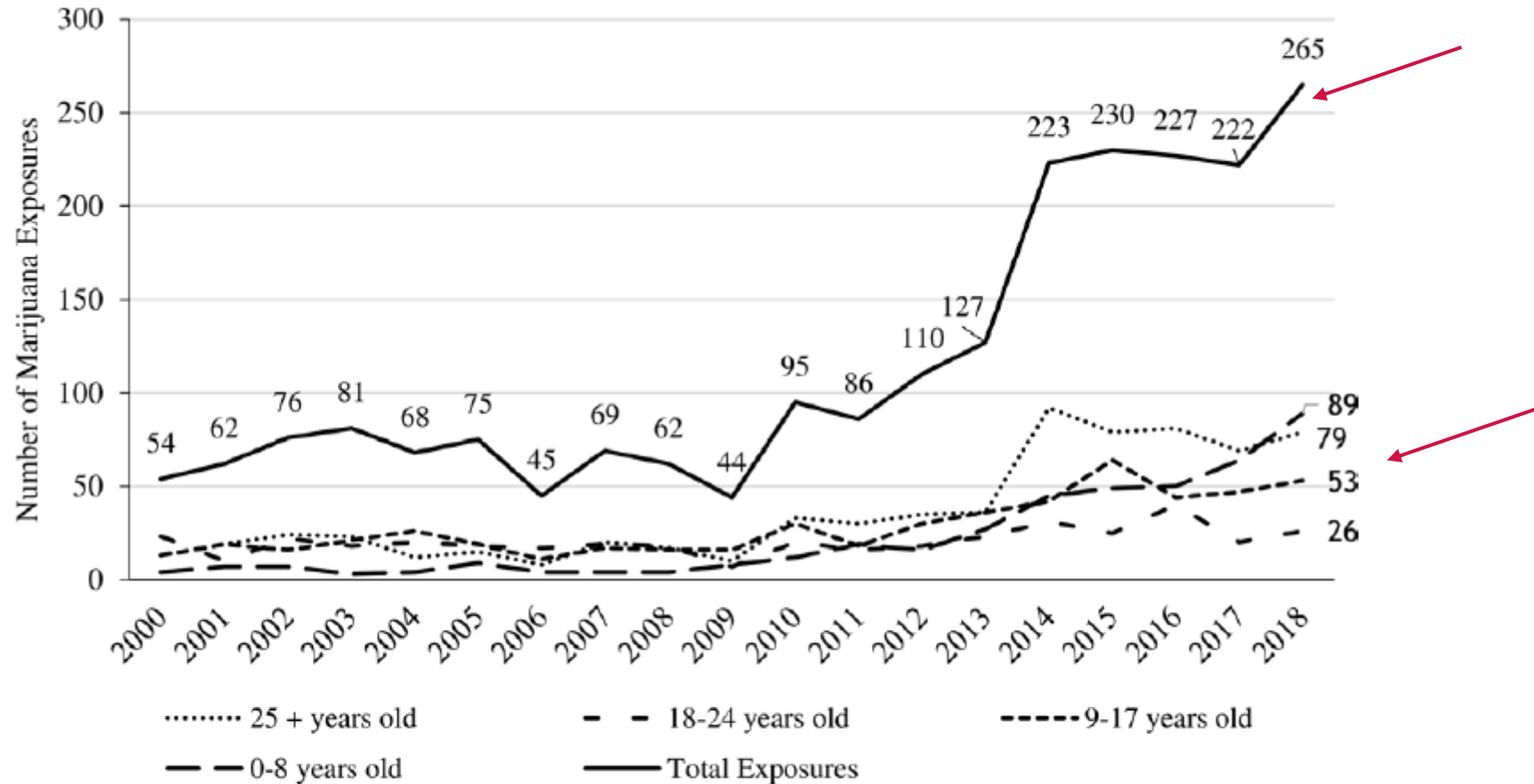
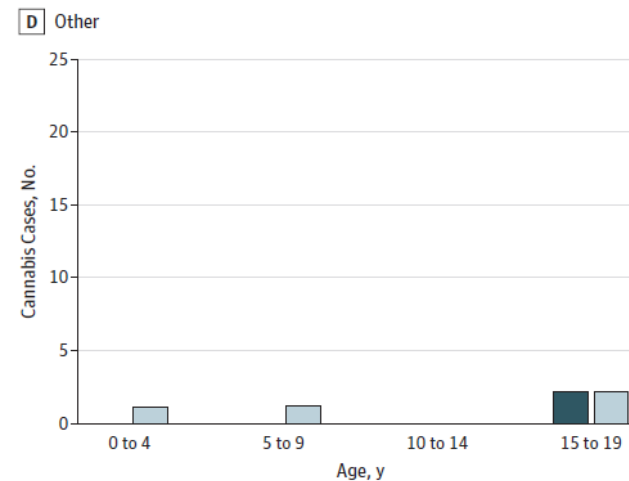
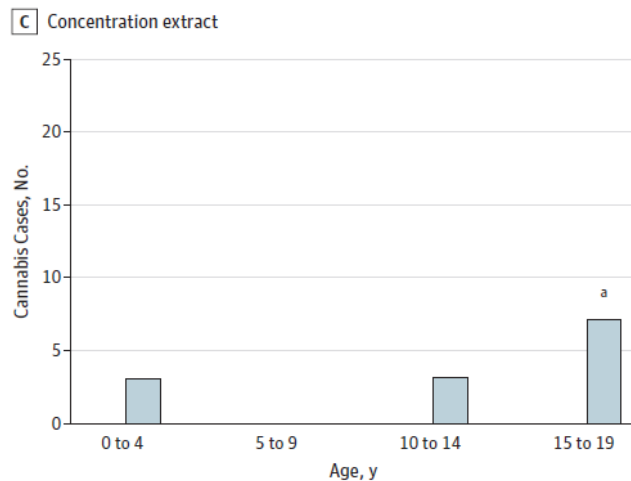
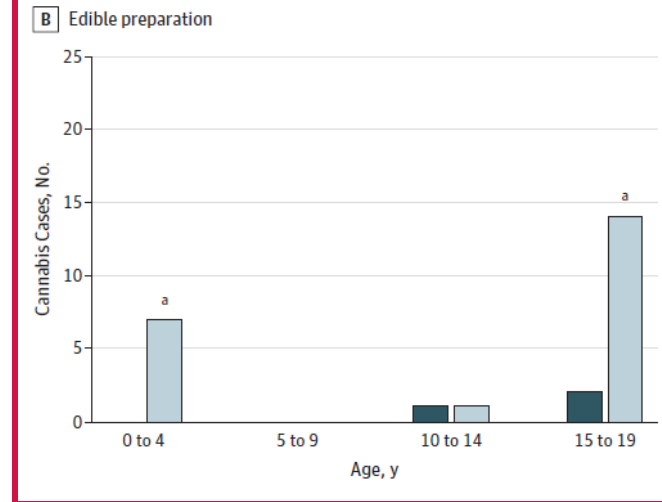
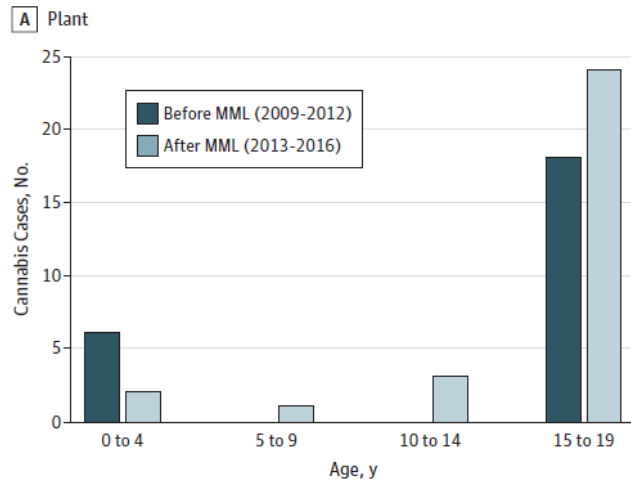


Figure 1 Marijuana exposures reported to the regional poison centre in Colorado from 1 January 2000 to 31 December 2018 by age.



State data provided us an early warning



^a Indicates a statistically significant change in the percentage of all Regional Center for Poison Control and Prevention calls from before to after MML.



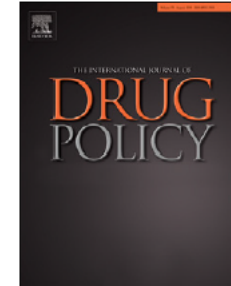


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International Journal of Drug Policy

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



Systematic Review

The impact of legal cannabis availability on cannabis use and health outcomes: A systematic review



Jakob Manthey^{a,b,c,*}, Britta Jacobsen^{a,b}, Tobias Hayer^d, Jens Kalke^{a,b}, Hugo López-Pelayo^{e,f}, Maria Teresa Pons-Cabrera^e, Uwe Verthein^a, Moritz Rosenkranz^{a,b}

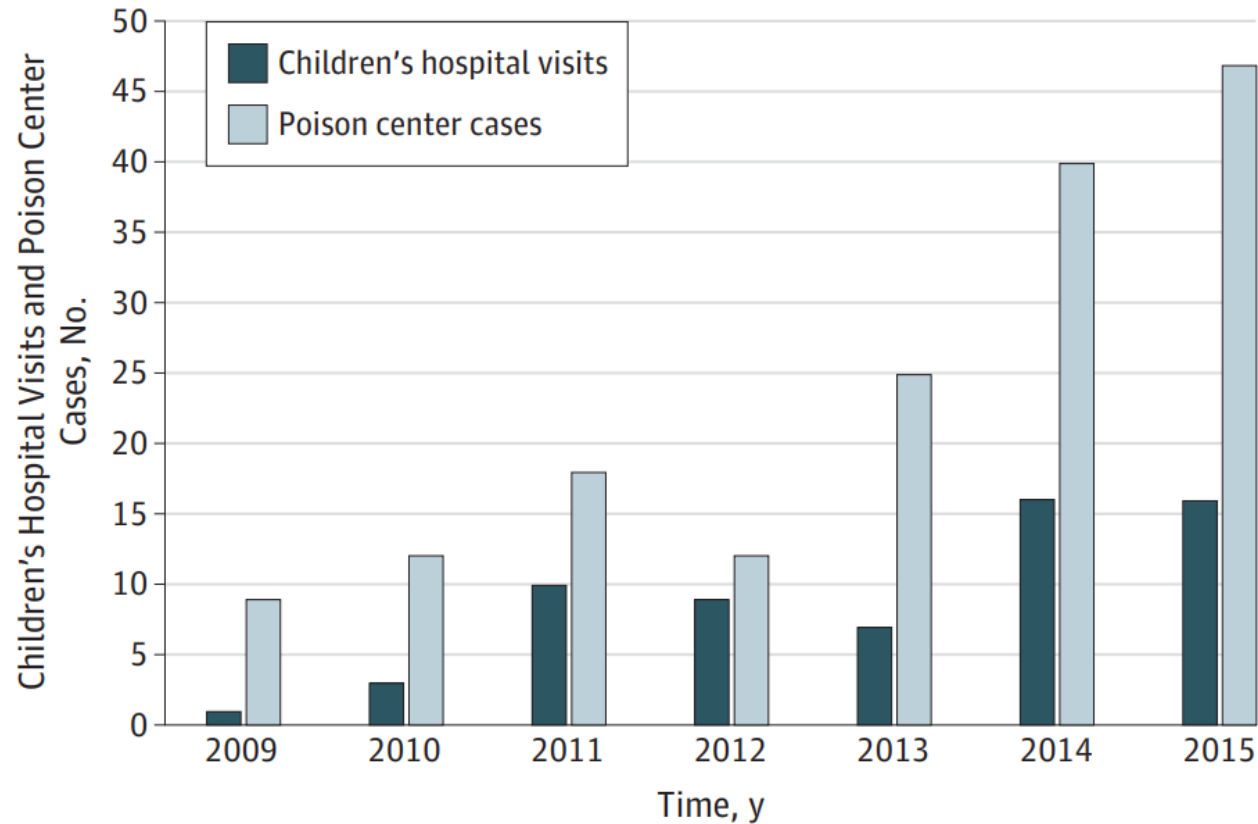


Cannabis Consumption and Young Children

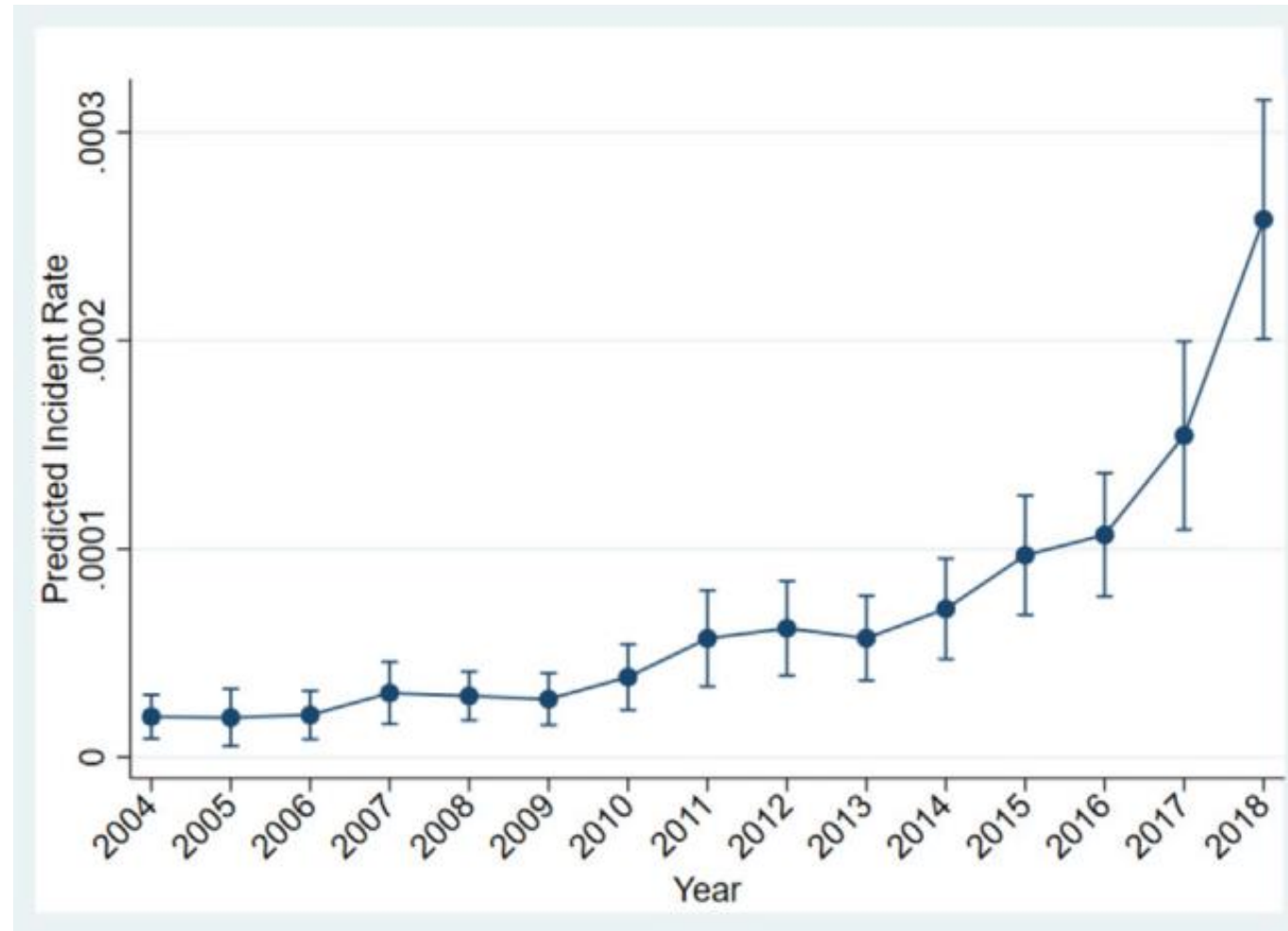


Again, state data provided an early warning

Figure 1. State Pediatric Marijuana Exposures



Not just ED visits, but hospitalizations



Not just ED visits, but hospitalizations

Table. Characteristics of Patients Identified to Have Hallucinogen-Related Hospital Encounters

Characteristics	Number of Encounters (%)
Total encounters	1296
Mean age in years (SD)	2.1 (1.4)
Race	
White	570 (44%)
Black	440 (34%)
Other	213 (16%)
Unknown	73 (6%)
Ethnicity	
Hispanic/Latino	243 (19%)
Non-Hispanic/Latino	882 (68%)
Unknown	171 (13%)
Insurance	
Medicaid	939 (72%)
Private	206 (16%)
Self	76 (6%)
Other/unknown	75 (6%)
Length of stay in days	
1	1018 (79%)
2	151 (12%)
3 or greater	127 (10%)
Encounter type	
Inpatient	645 (50%)
Emergency department	360 (28%)
Observation unit	291 (22%)
ICU stay	199 (15%)
NICU stay	4 (0.3%)
Mechanical ventilation	53 (4%)



Exposures are increasing nationally

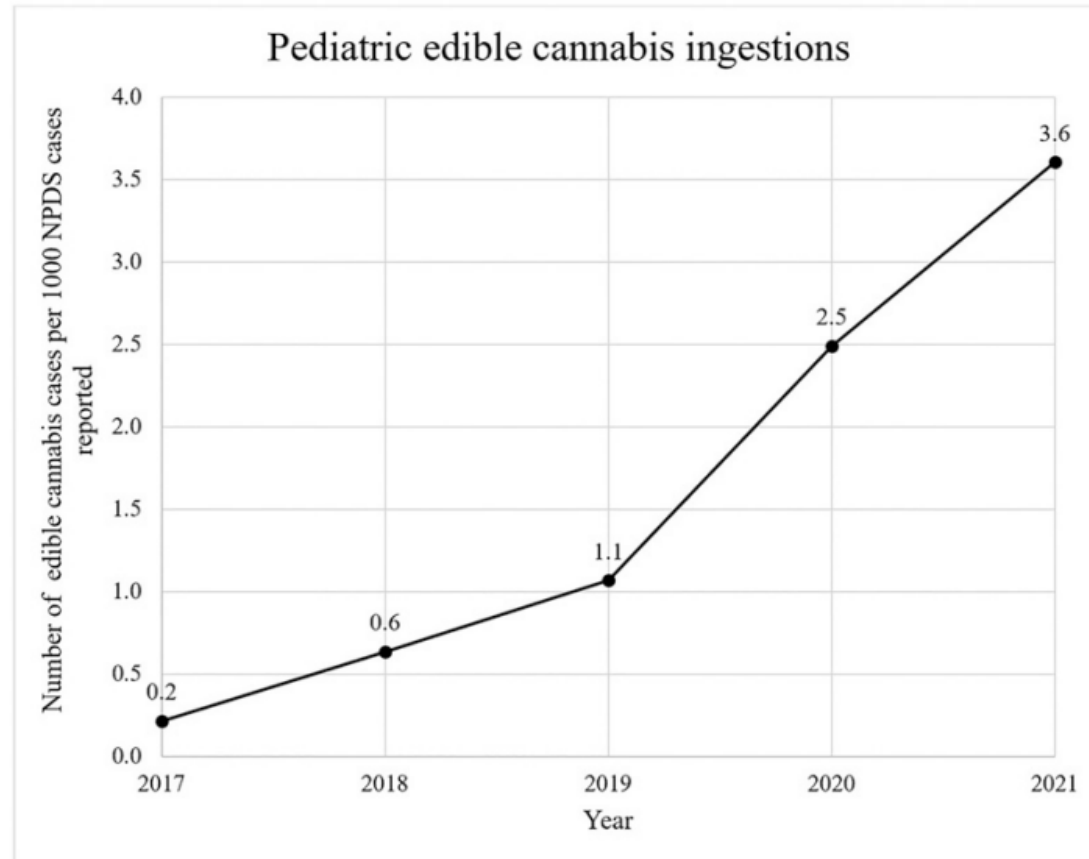
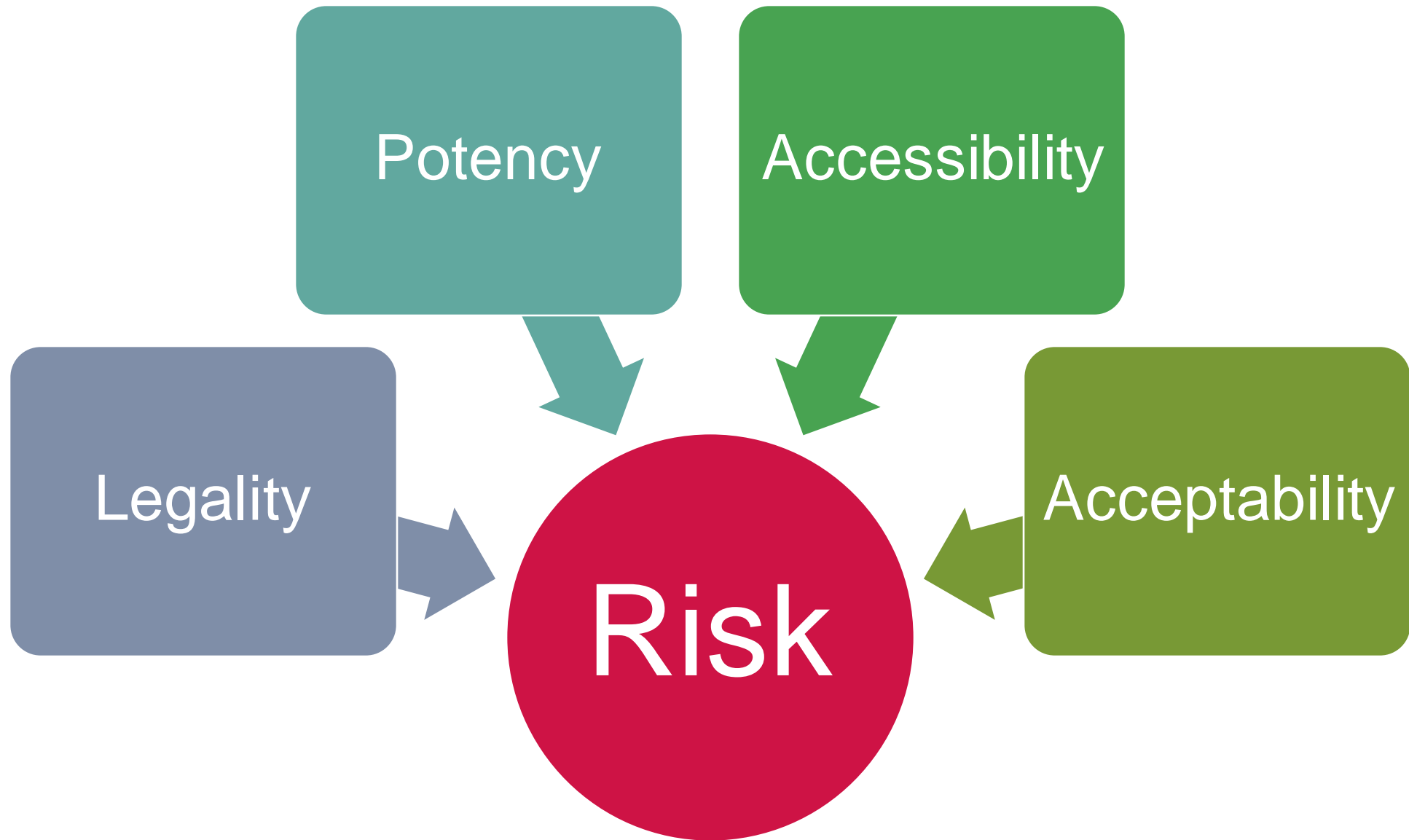


FIGURE 1
Pediatric edible cannabis product ingestions per 1000 pediatric calls to the National Poison Data System by year.





Thank you!

Christopher Gaw, MD

Christopher.Gaw@NationwideChildrens.org



BY KRISTY F. STEELE

CREATING A CULTURE OF SAFTEY

**HARM REDUCTION STRATEGIES FOR
EDIBLES CONSUMPTION AMONGST YOUTH**

HARM REDUCTION APPROACH



WHY DO KIDS USE DRUGS?



**LIVED
EXPERIENCE**



**STIGMAS
CREATE
BARRIERS**



DESTIGMATIZING DISCUSSIONS



BIASES & PREJUDICE



**PROMOTING
RESPONSIBLE
CANNABIS USE**



COLLABORATIVE APPROACHES FOR SUPPORT



ALTERNATIVE COPING MECHANISMS



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THE END.

Thank you