



# Emerging Drug Trends

William Eggleston, PharmD, DABAT

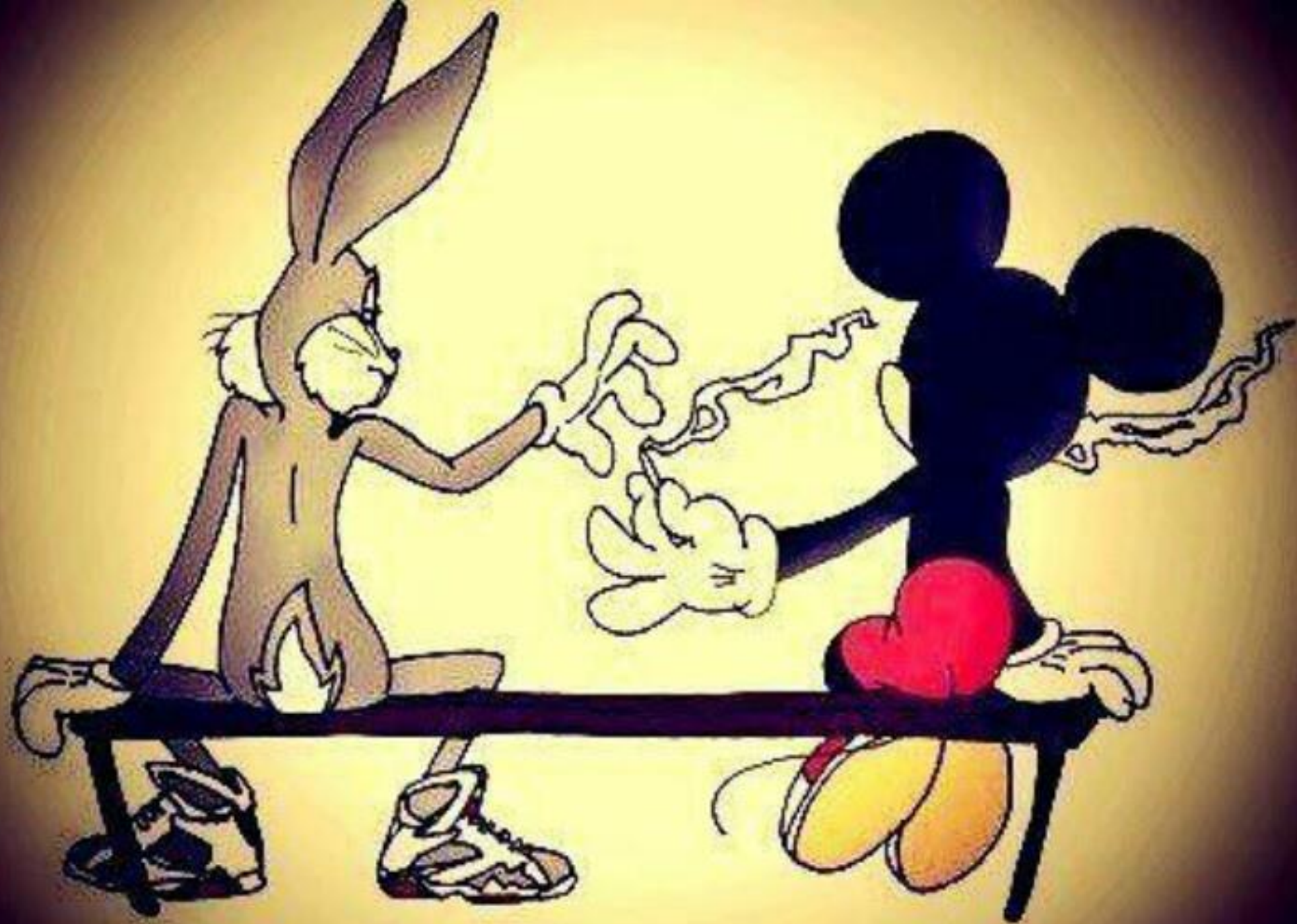
No conflicts of interest to disclose.

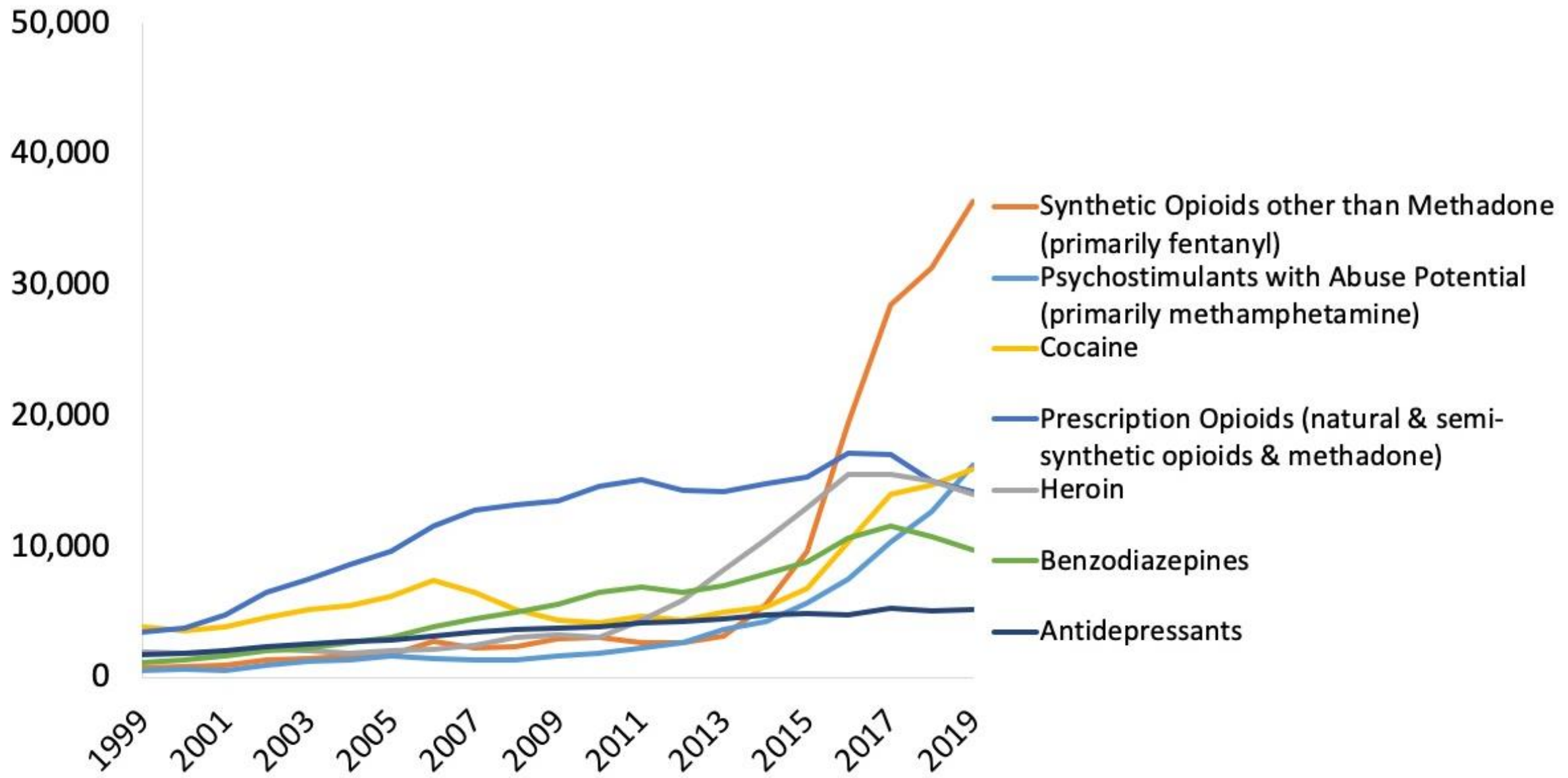
# Objectives

Identify common characteristics of emerging synthetic and substitute drugs.

Discuss the toxicities associated with kratom, phenibut, and marijuana use.

Develop a treatment and monitoring plan for a patient presenting with kratom, phenibut, or marijuana toxicity.







COME INSIDE

*and shop*



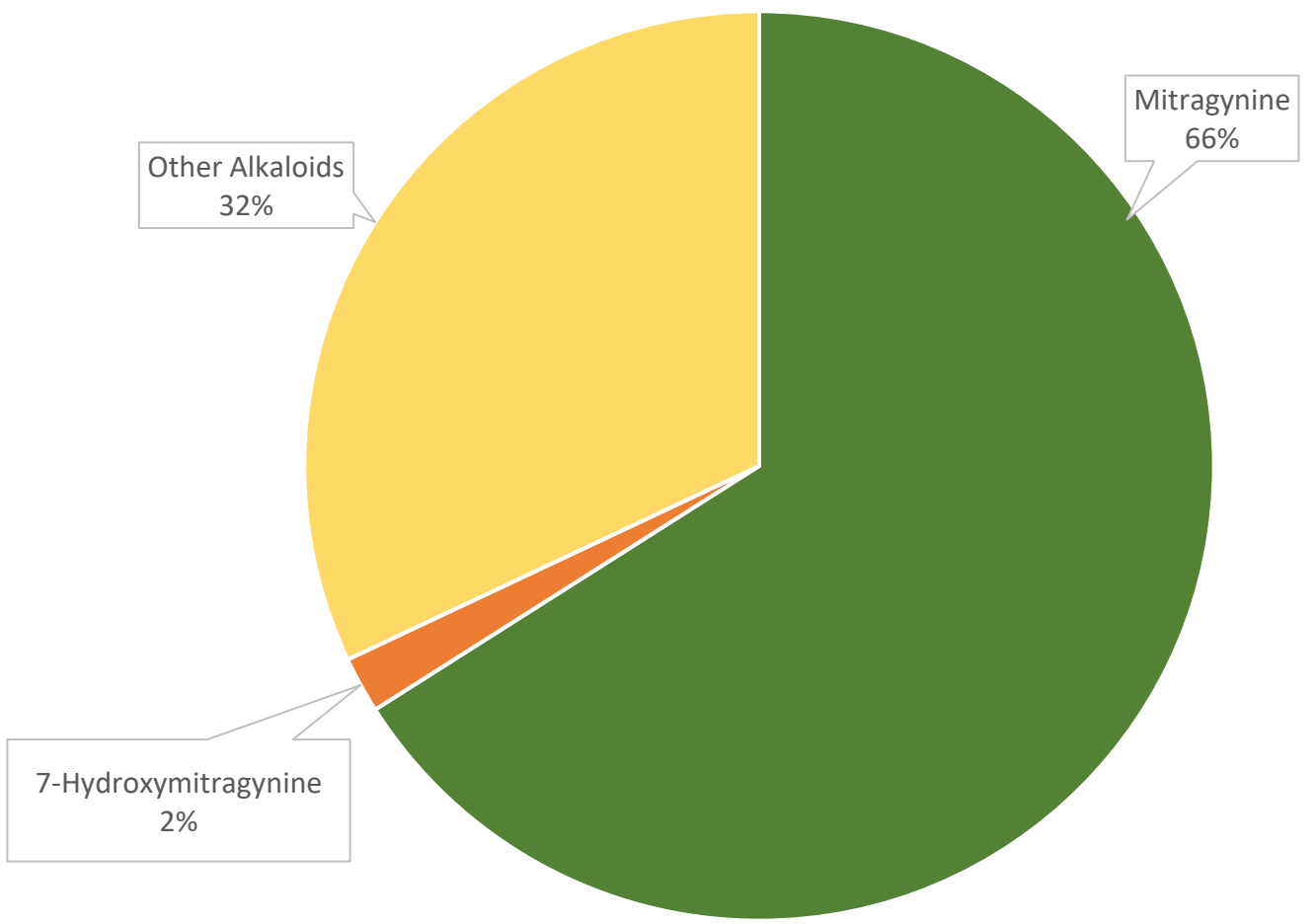
- KRATOM —
- CBD —
- TAPESTRIES —
- JEWELRY —
- CLOTHING —

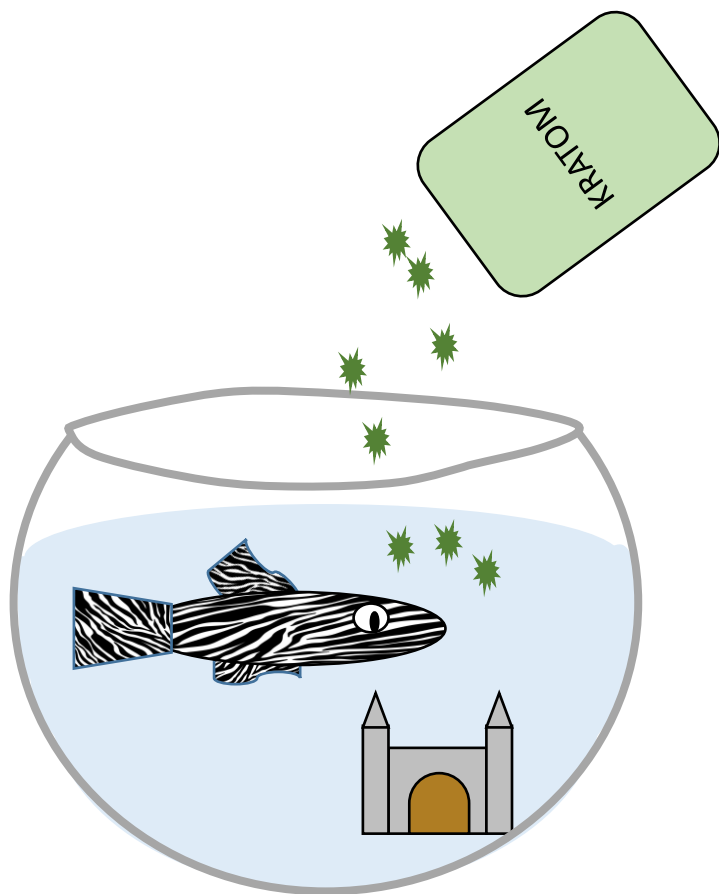
Kratom



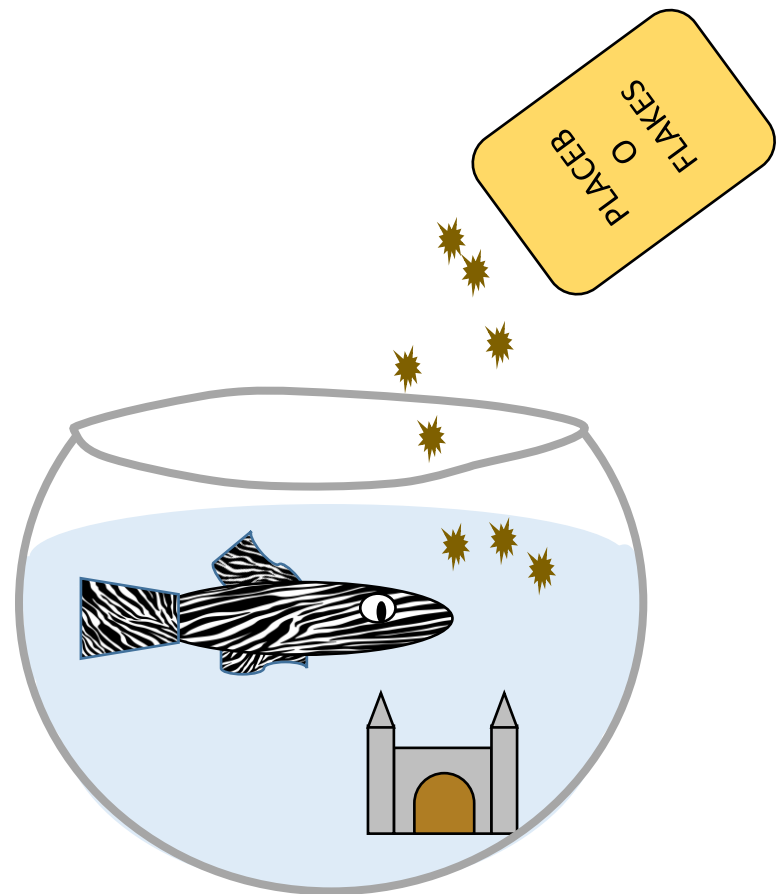


# Alkaloids

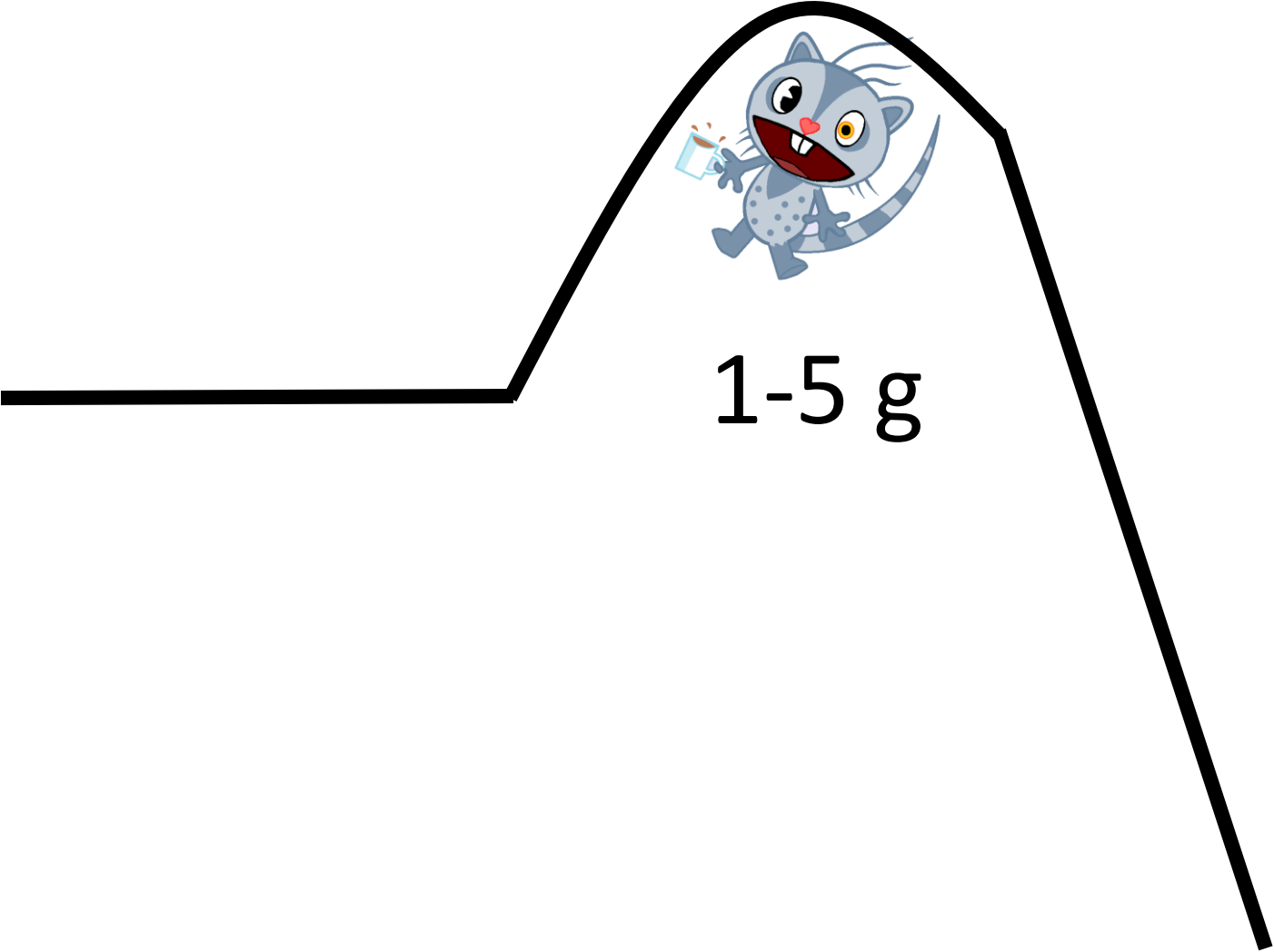




Baseline



**WITHDRAWAL**

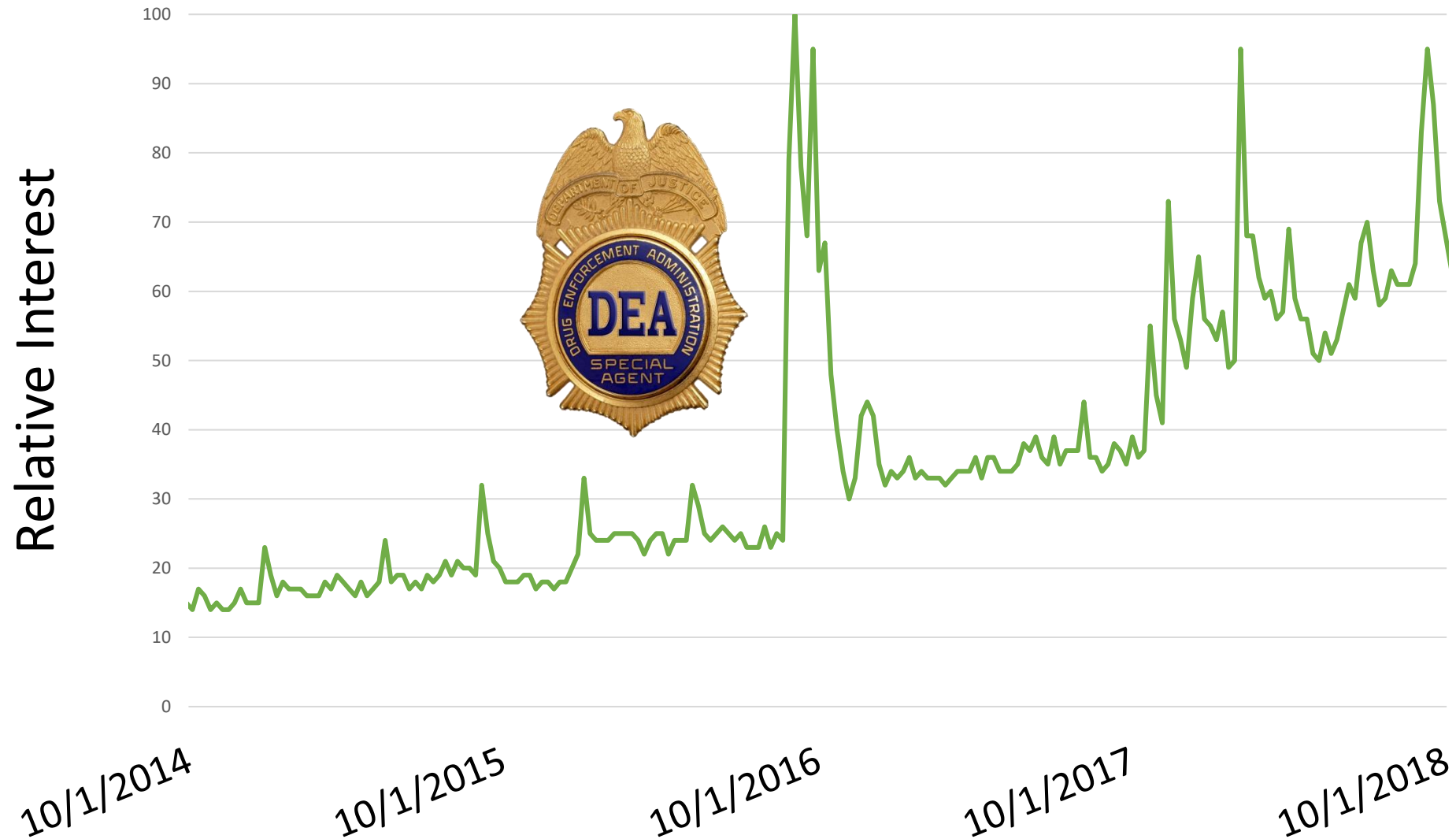


1-5 g

5-15 g

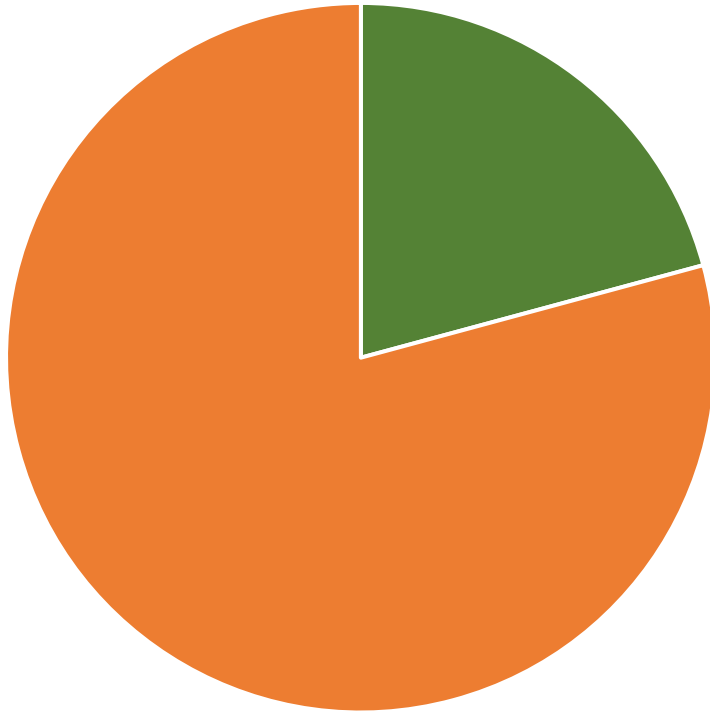


# Kratom Interest in the United States

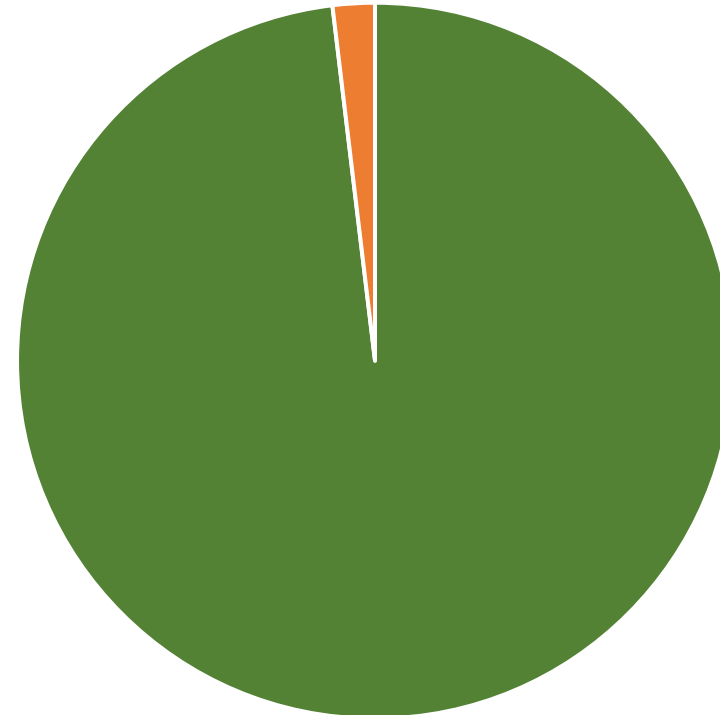


# Substance Use Disorder

Kratom Use



Non-Rx Suboxone Use





NAS  
Dependence/SUD  
Withdrawal  
CNS Depression

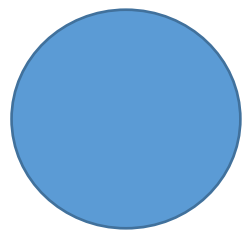
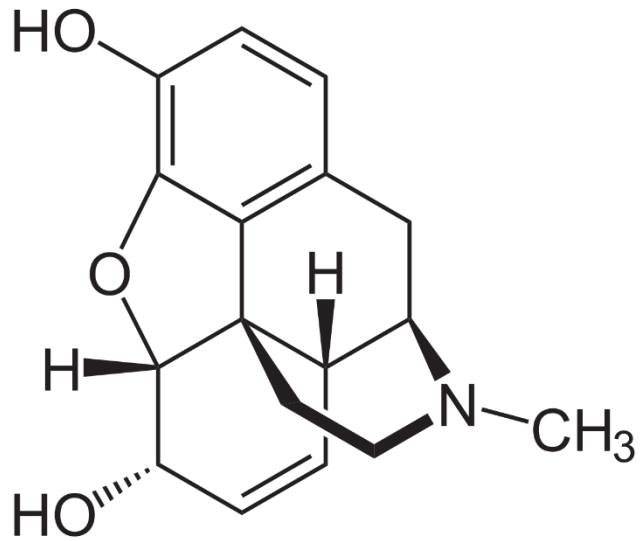


Seizures  
Hallucinations  
Tachycardia/Agitation  
Hepatotoxicity

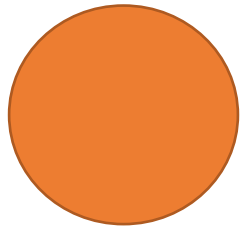


A simple illustration of a grey, arched tombstone standing in a field of green grass. The tombstone is centered and has the letters 'RIP' inscribed on it in a black, serif font. The grass is depicted with individual blades, and the background is plain white.

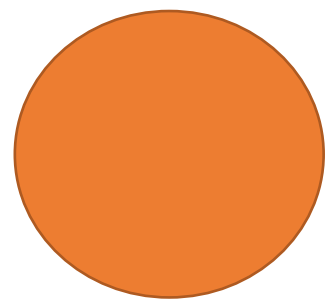
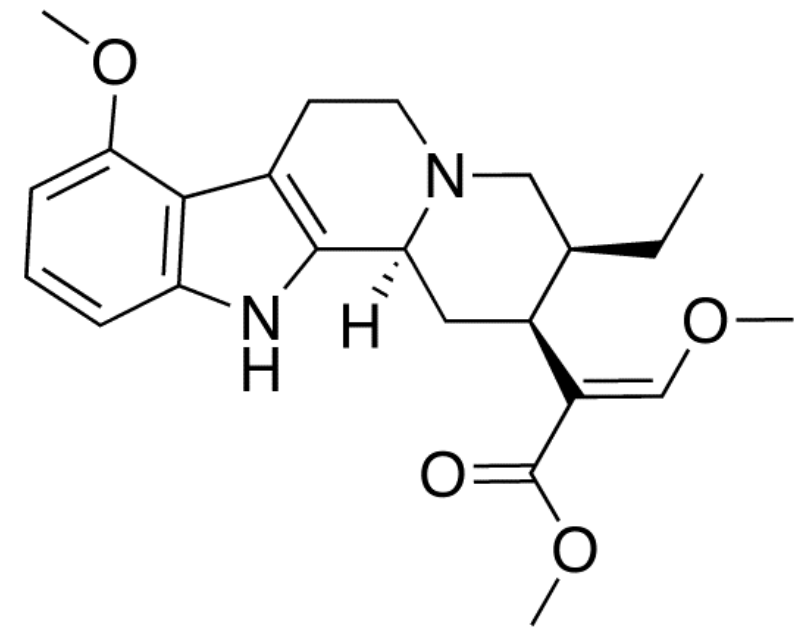
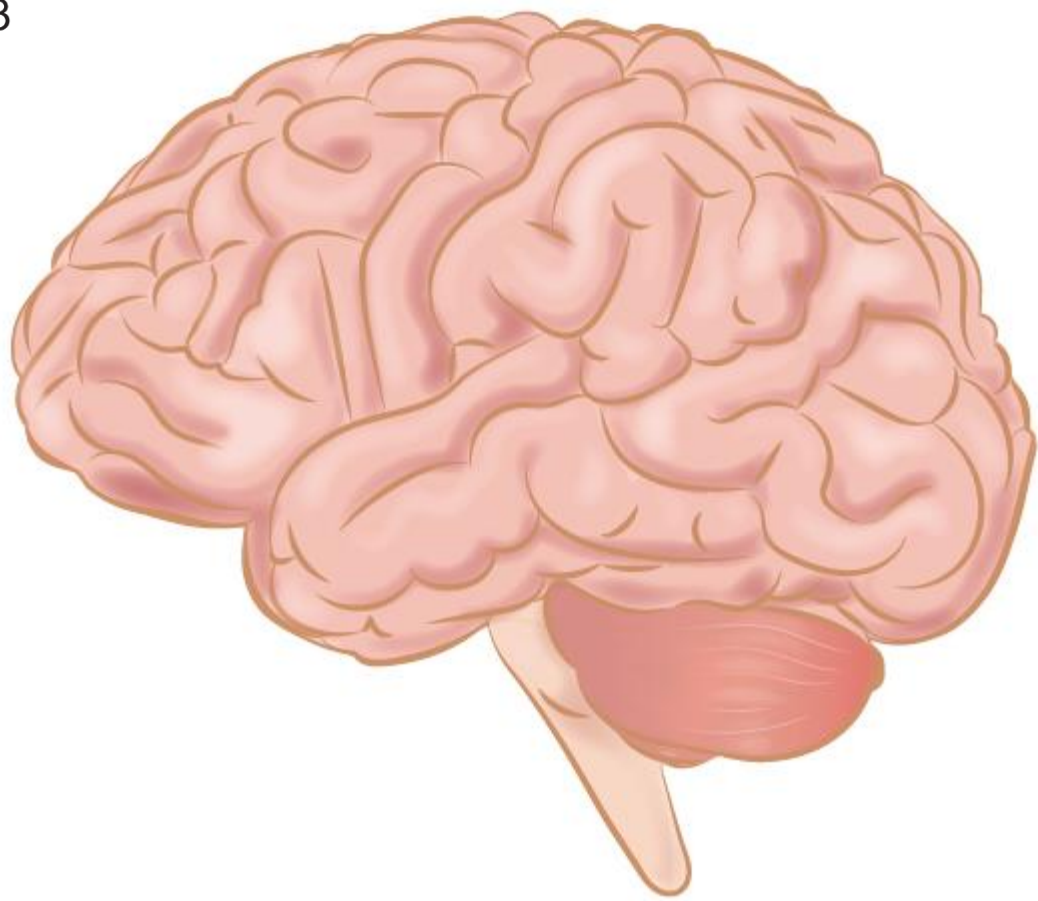
RIP



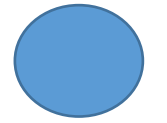
**β-Arrestin 2**



**G-Protein**



**G-Protein**



**β-Arrestin 2**

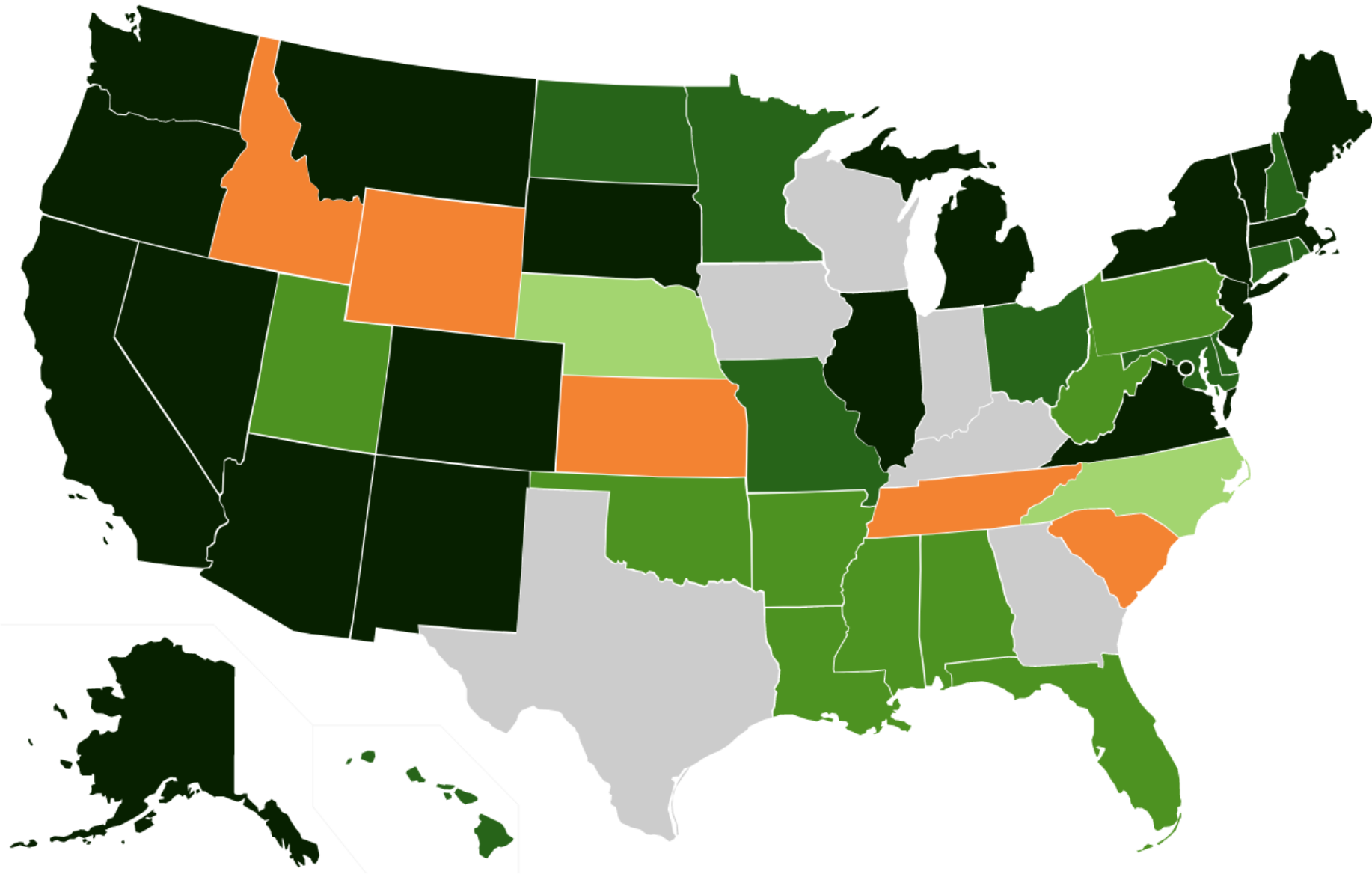




# *New York Reaches a Deal to Legalize Recreational Marijuana*

The move paves the way for a potential \$4.2 billion industry, with millions of dollars in sales tax revenue reinvested in minority communities each year.



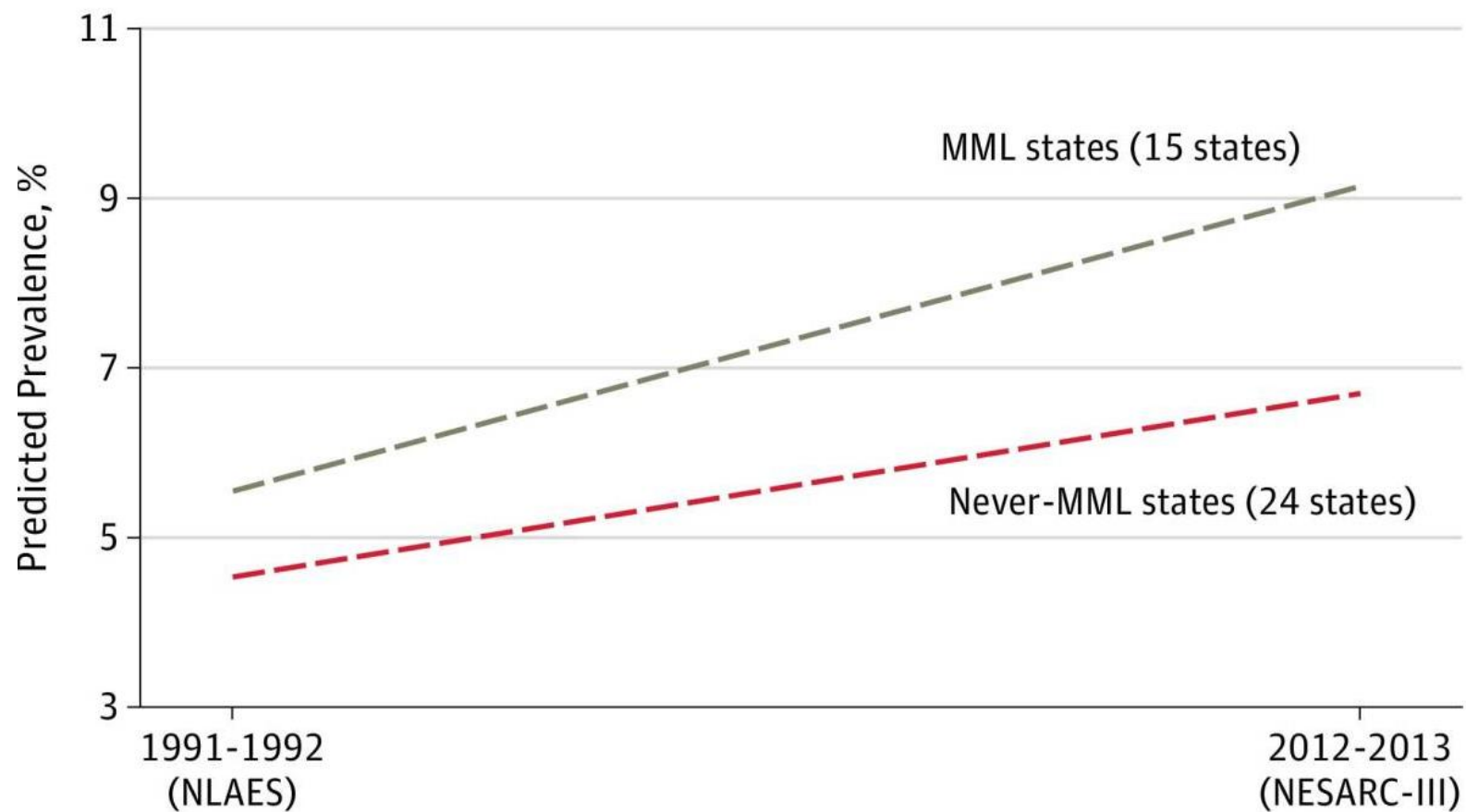


Legalized Medical and Decriminalized Medical Decriminalized CBD Only Fully Illegal



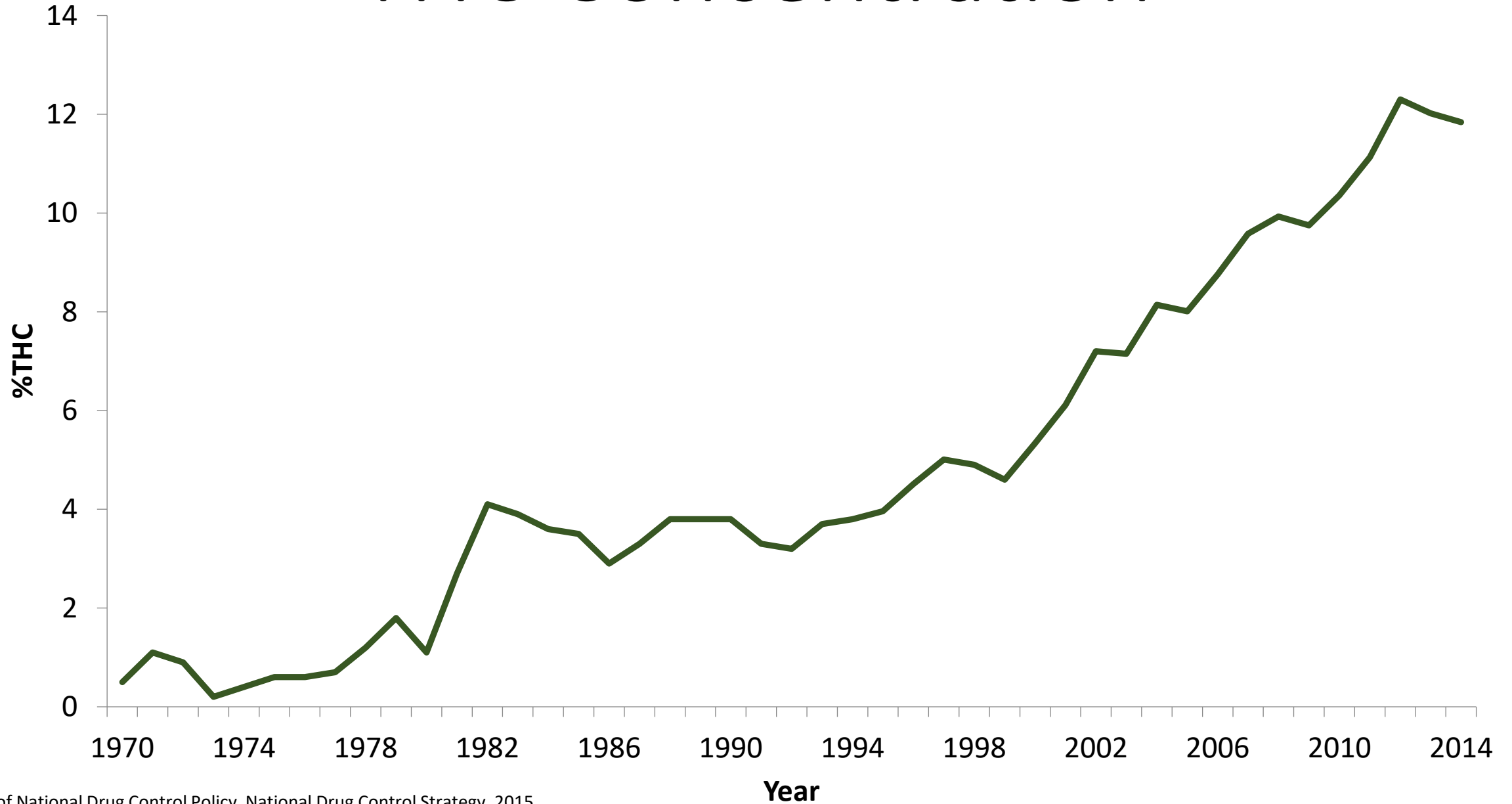


# Marijuana Use Prevalence



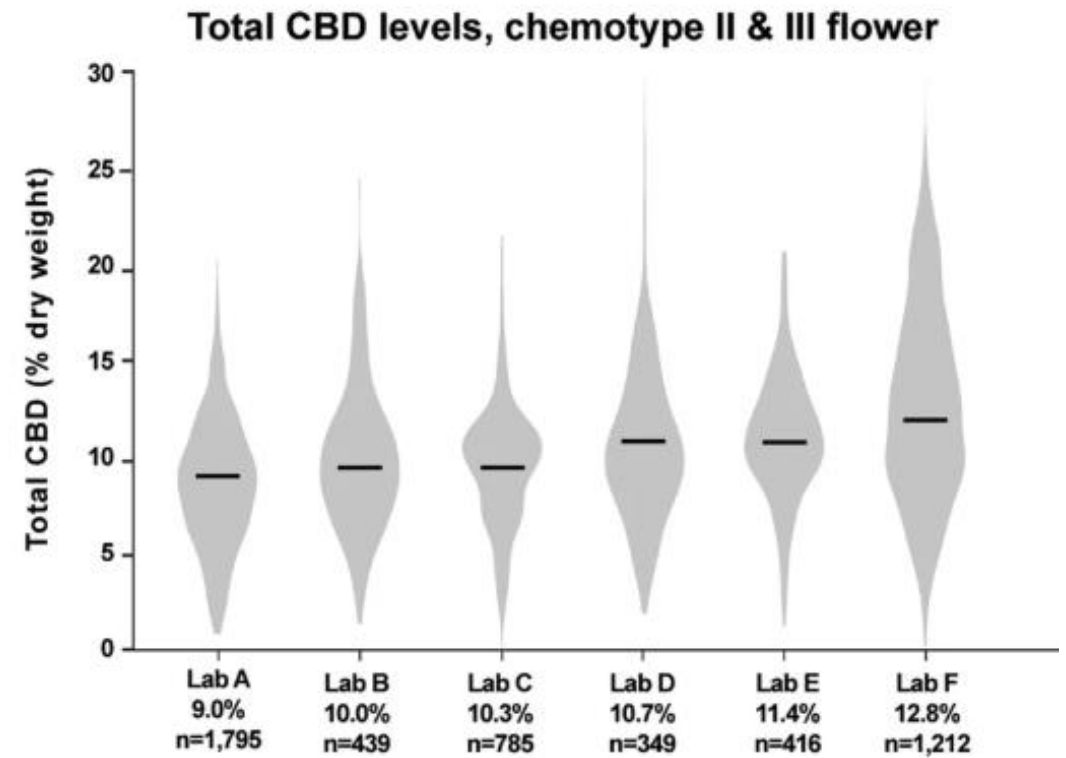
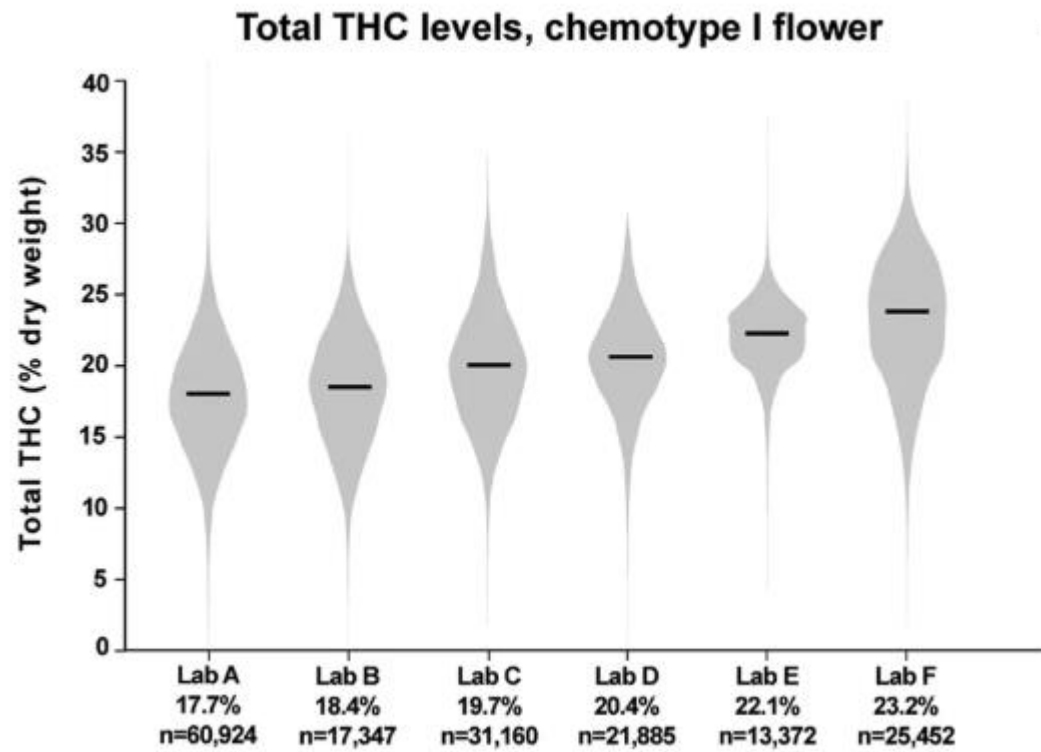


# THC Concentration





# THC Concentration



Cereal TREATS

EVERGREEN ORGANIX  
PREMIUM QUALITY  
ESTD 2015  
LAS VEGAS  
HOMEMADE TASTE  
PEANUT BUTTER COOKIES  
ORGANIX

EVERGREEN ORGANIX  
PREMIUM QUALITY  
ESTD 2015  
LAS VEGAS  
HOMEMADE TASTE  
PREMIUM CHOCOLATE BAR  
MILK CHOCOLATE  
CONTAINS QUALITY LOCAL CANNABIS  
ORGANIX

EVERGREEN ORGANIX  
PREMIUM QUALITY  
ESTD 2015  
LAS VEGAS  
HOMEMADE TASTE  
RICE CRISPY TREATS  
ORGANIX

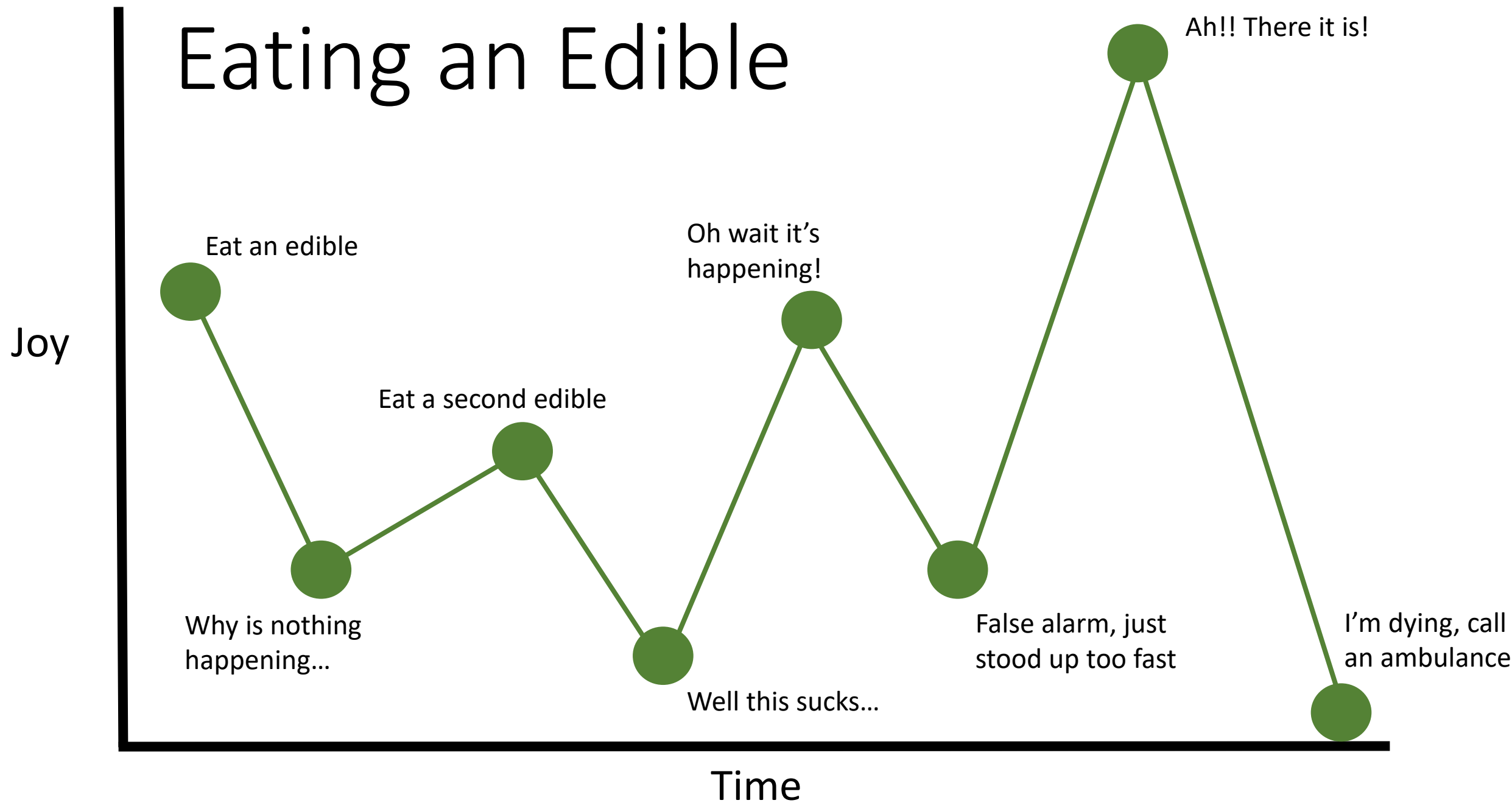
EVERGREEN ORGANIX  
PREMIUM QUALITY  
ESTD 2015  
LAS VEGAS  
HOMEMADE TASTE  
PREMIUM CHOCOLATE BAR  
DARK CHOCOLATE  
CONTAINS QUALITY LOCAL CANNABIS  
ORGANIX

EVERGREEN ORGANIX  
PREMIUM QUALITY  
ESTD 2015  
LAS VEGAS  
HOMEMADE TASTE  
Chocolate Chip  
Cookie Miniatures  
10MG FINE GRADE CANNABIS  
IN EACH BITE  
ORGANIX

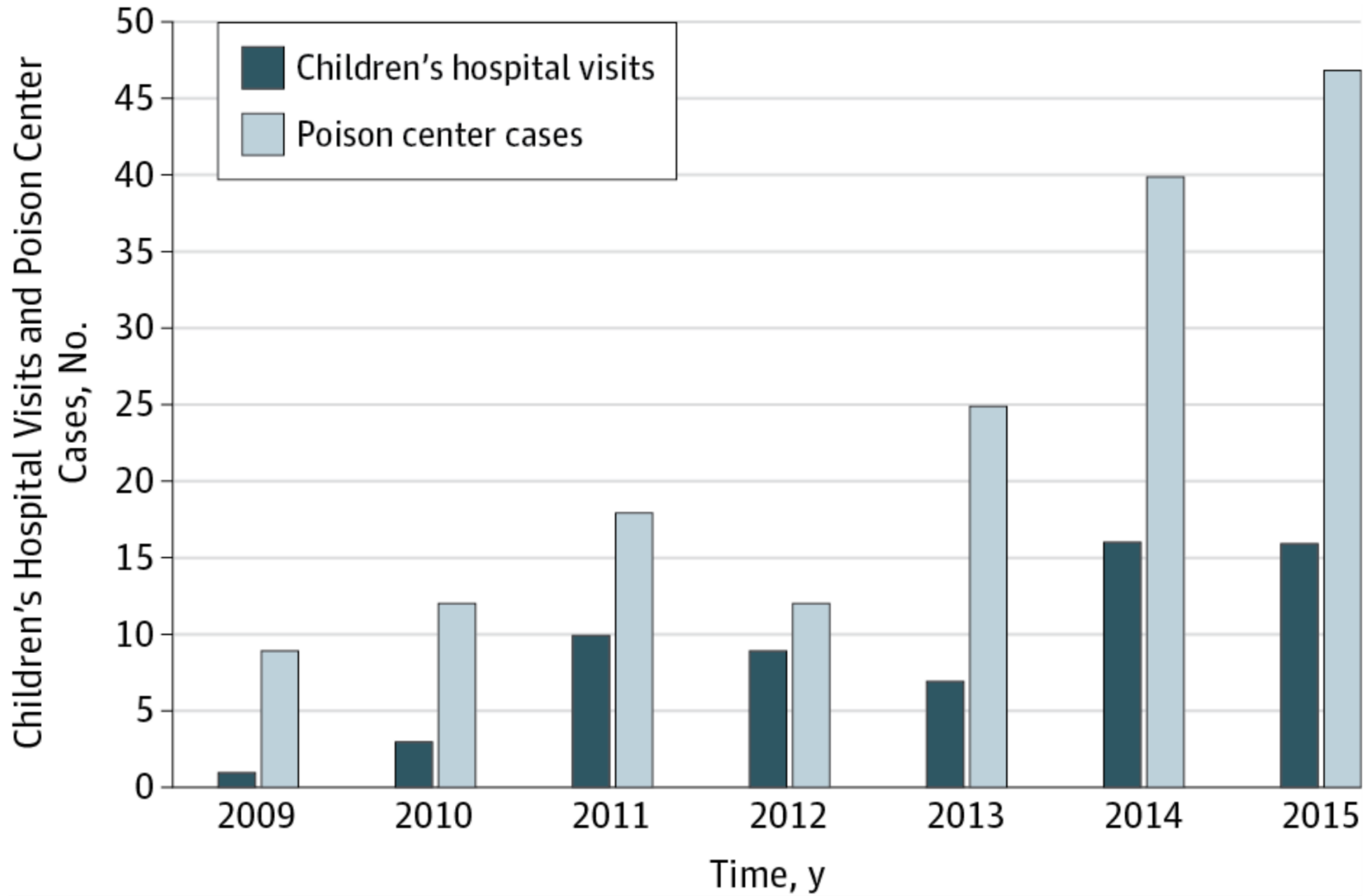
EVERGREEN ORGANIX  
PREMIUM QUALITY  
ESTD 2015  
LAS VEGAS  
HOMEMADE TASTE  
Double Chocolate  
Shunk Brownie Bites  
10MG FINE GRADE CANNABIS  
IN EACH BITE  
ORGANIX

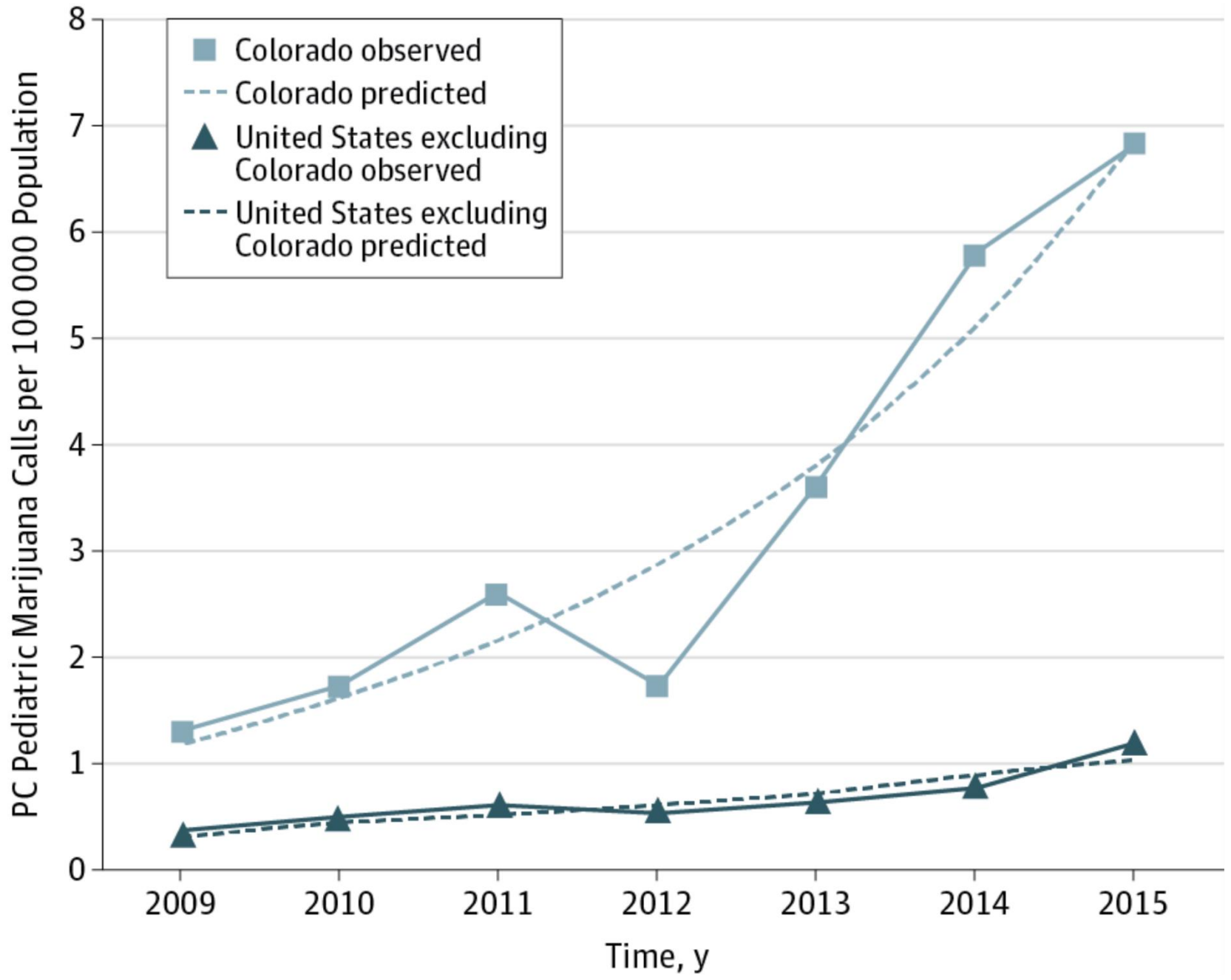
EVERGREEN ORGANIX  
PREMIUM QUALITY  
ESTD 2015  
LAS VEGAS  
HOMEMADE TASTE  
Coconut Cho  
Macaroon  
FINE GRADE CA  
IN EACH BITE  
ORGANIX

# Eating an Edible



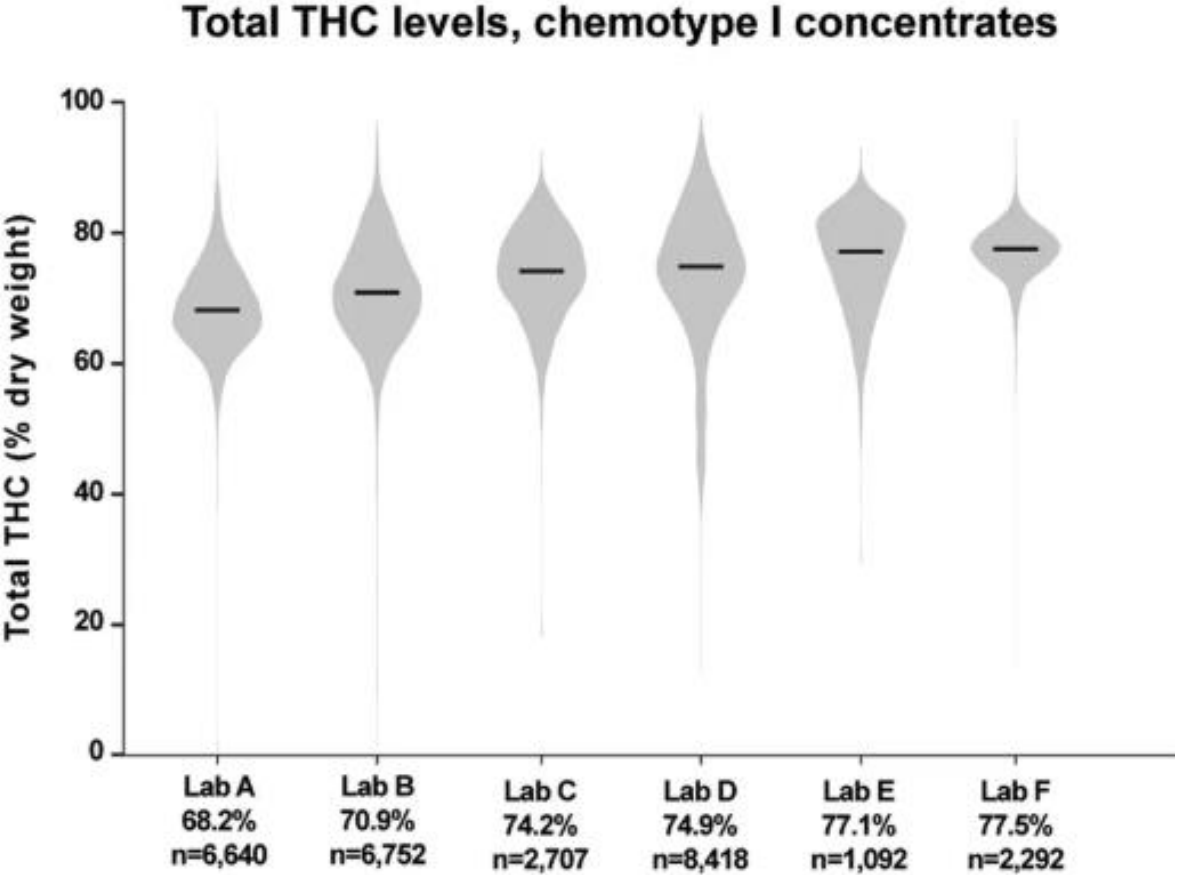






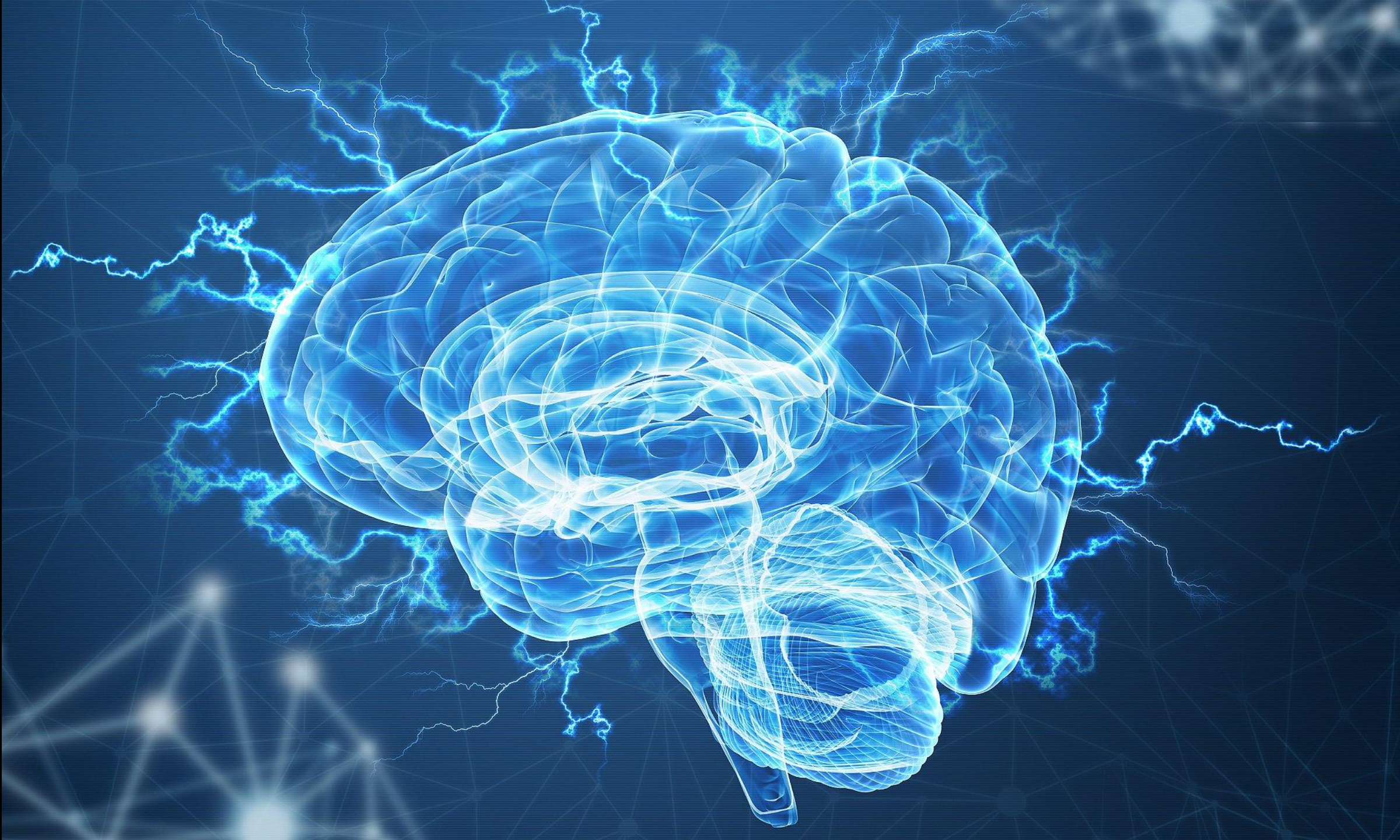


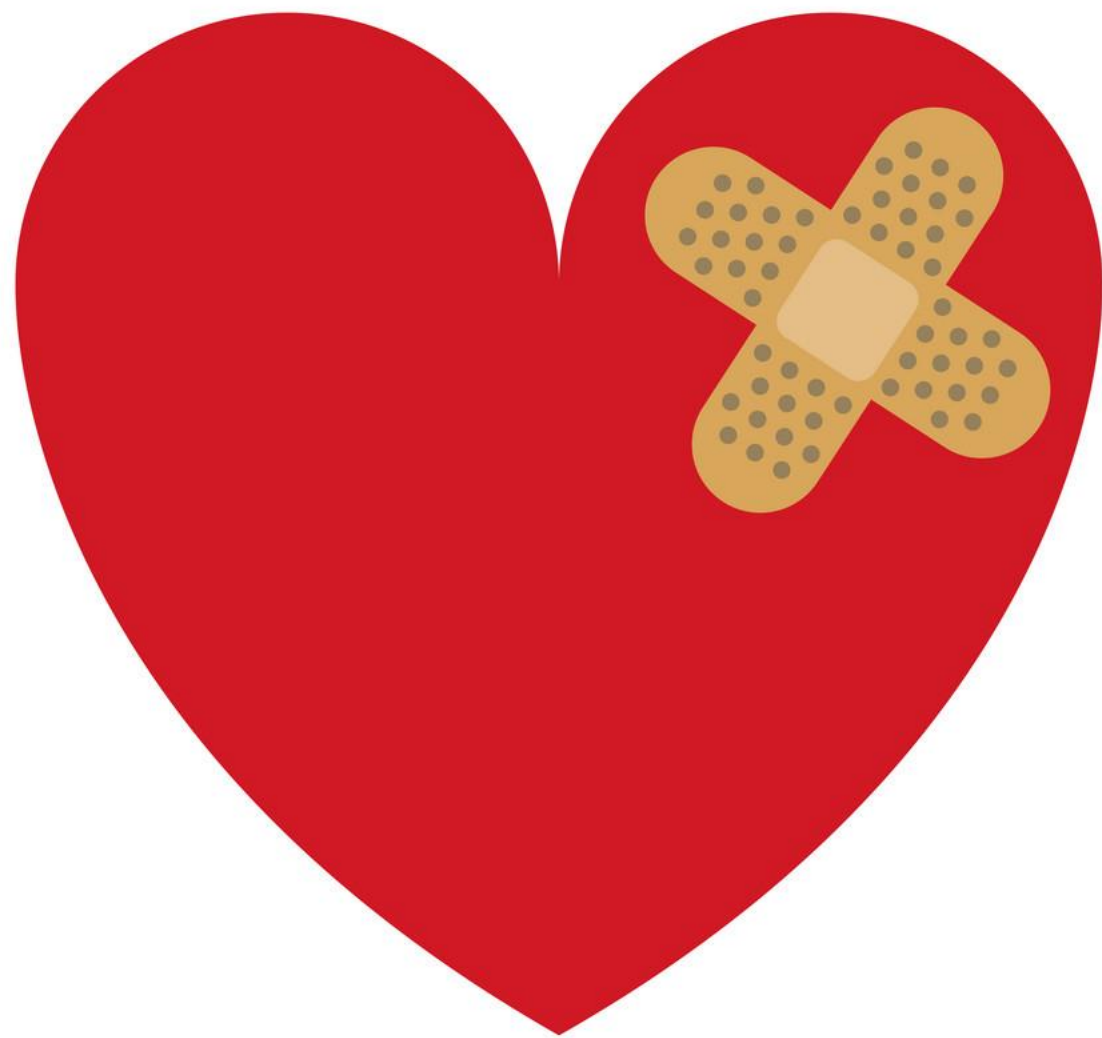
# THC Concentrates







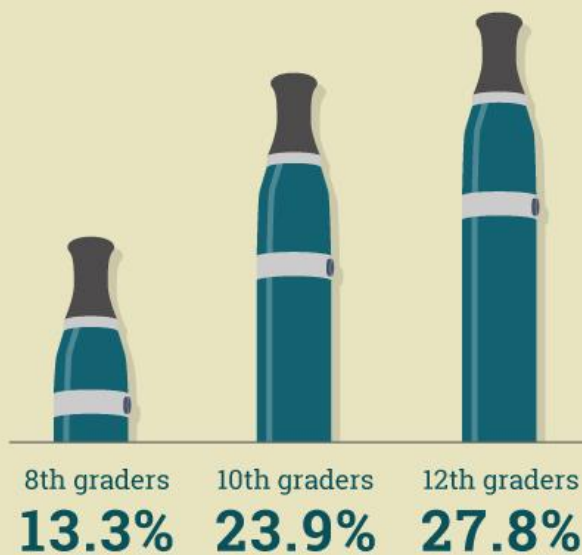




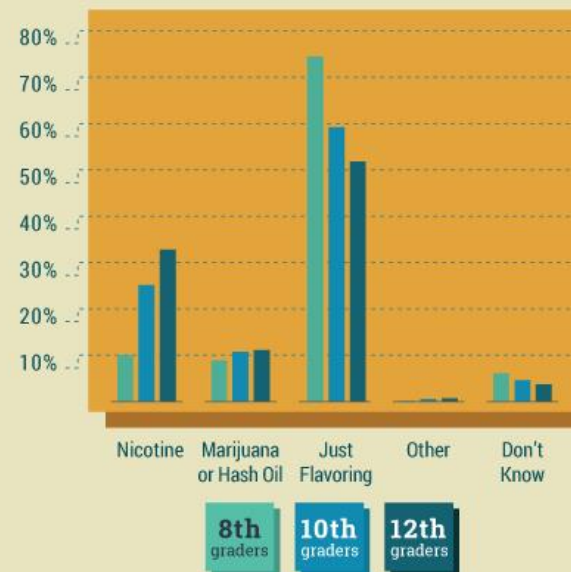




## PAST-YEAR E-VAPORIZER USE AND WHAT TEENS ARE INHALING



When asked what they thought was in the e-vaporizer mist students inhaled the last time they smoked, these were their responses:



NEARLY 1 IN 3 STUDENTS IN 12TH GRADE REPORT PAST-YEAR USE OF E-VAPORIZERS, RAISING CONCERNS ABOUT THE IMPACT ON THEIR LONG-TERM HEALTH.



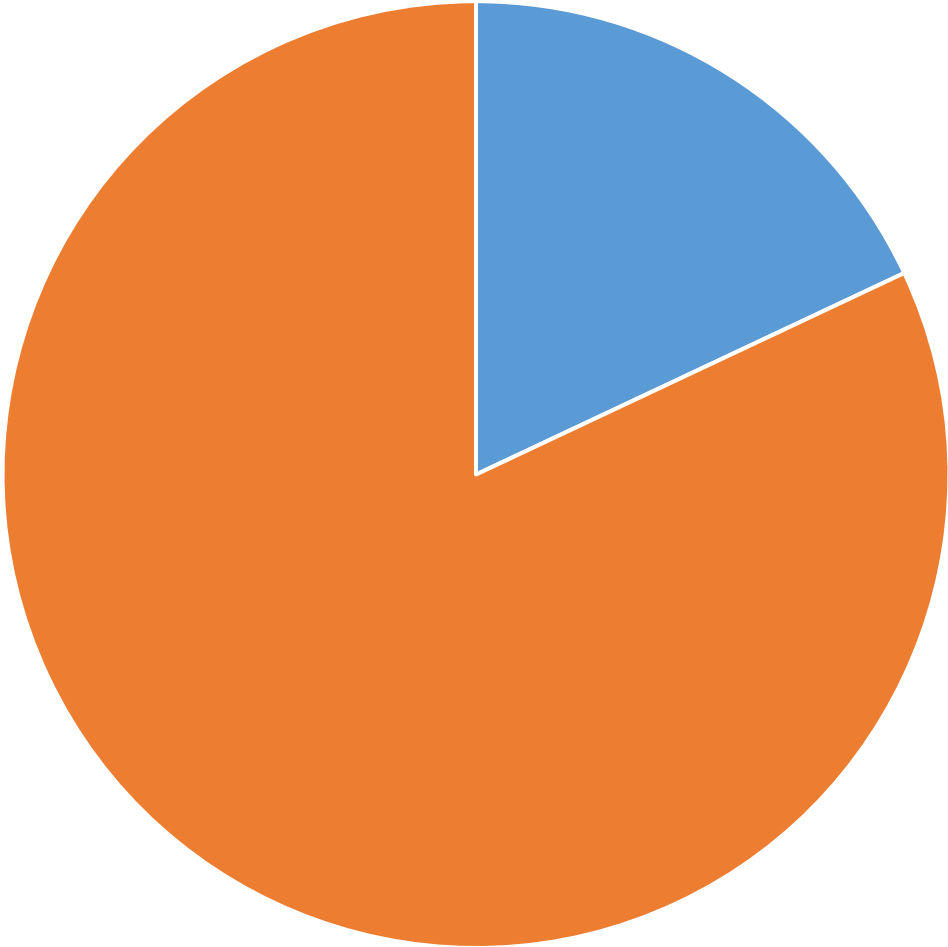
DRUGABUSE.GOV

## ***The Mysterious Vaping Illness That's 'Becoming an Epidemic'***

A surge of severe lung ailments has baffled doctors and public health experts.



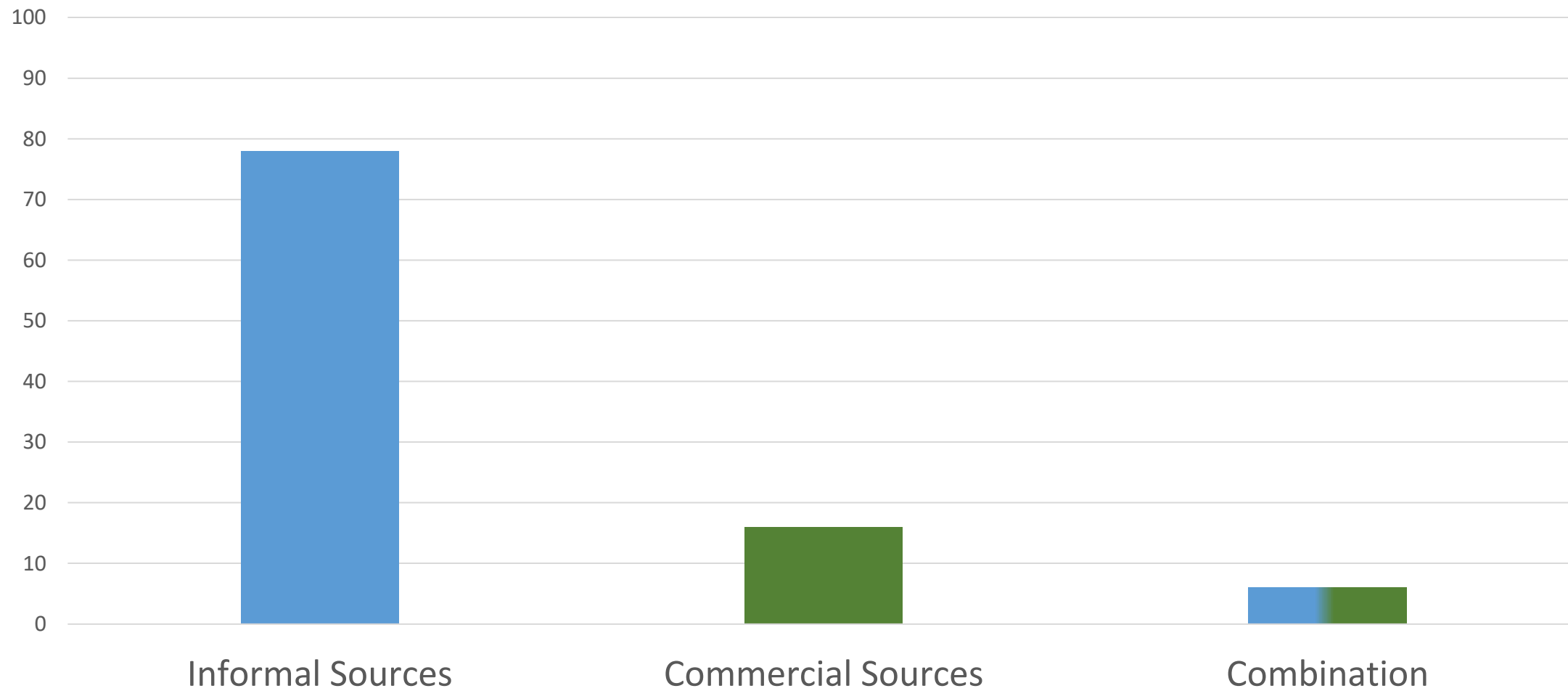
# EVALI Cases



■ No THC Products ■ THC Products



# Vape Products



# Priority Toxicants

Toxicant	EVALI Case	Non-Use	E-Cigarette Use	Cigarette Use
Vitamin E acetate	48/51	0/52	0/18	0/29
Medium chain TGs	0/49	0/34	0/11	0/18
Coconut oil	1/48	0/34	0/11	0/18
Plant oil	0/49	0/34	0/11	0/17
Squalene/Squalane	0/38	0/52	0/17	0/29
$\alpha$ -pinene/ $\beta$ -pinene	0/39	0/52	0/17	0/28
3-careen	0/39	0/52	0/17	0/28
Limonene	1/39	0/52	0/17	0/28
Petroleum distillates	0/12	0/52	0/17	0/29

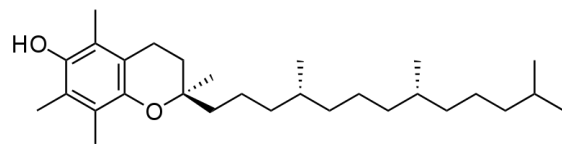
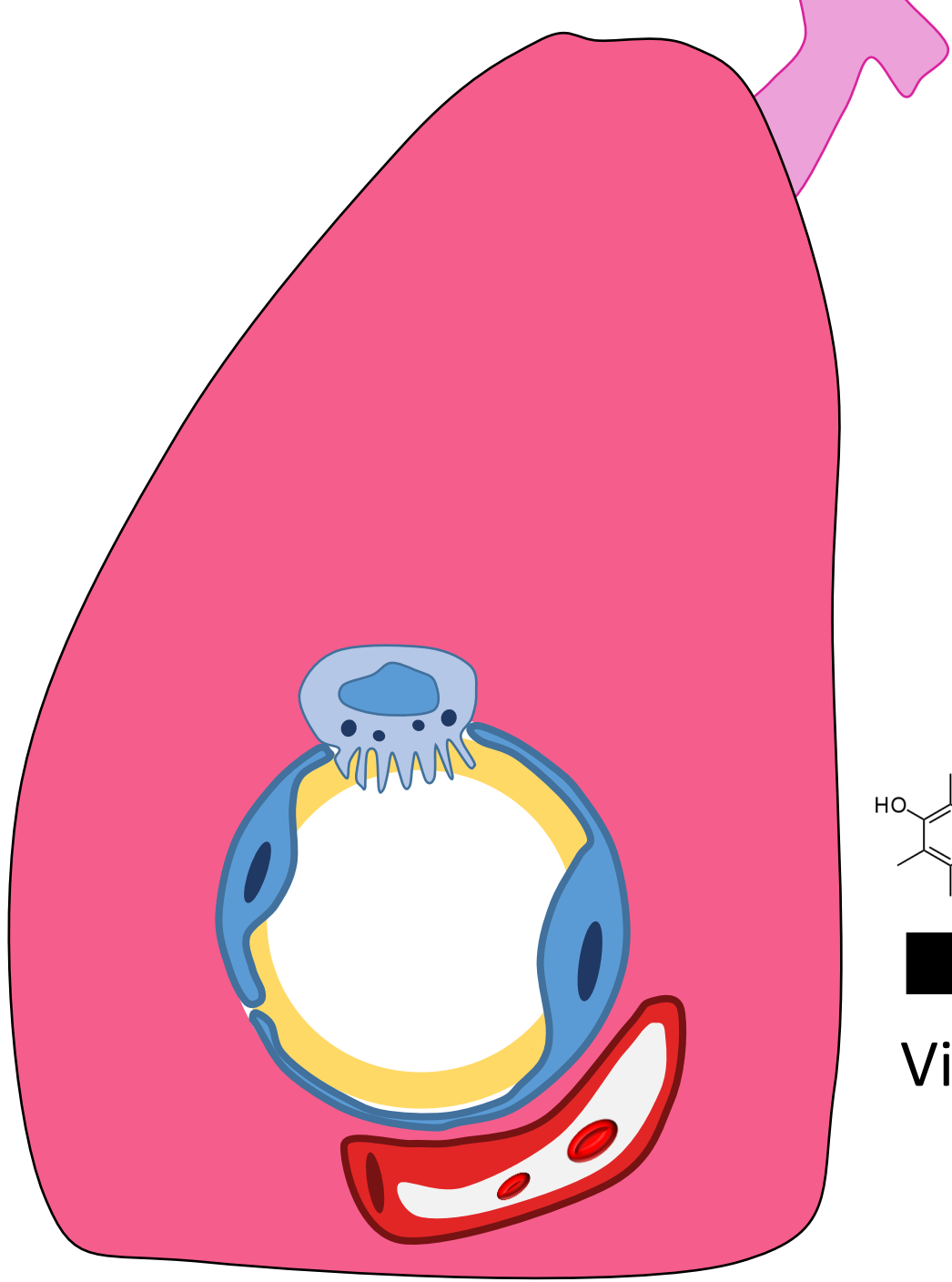
# Why is it in THC Vapes?

closely resembles pure THC oil

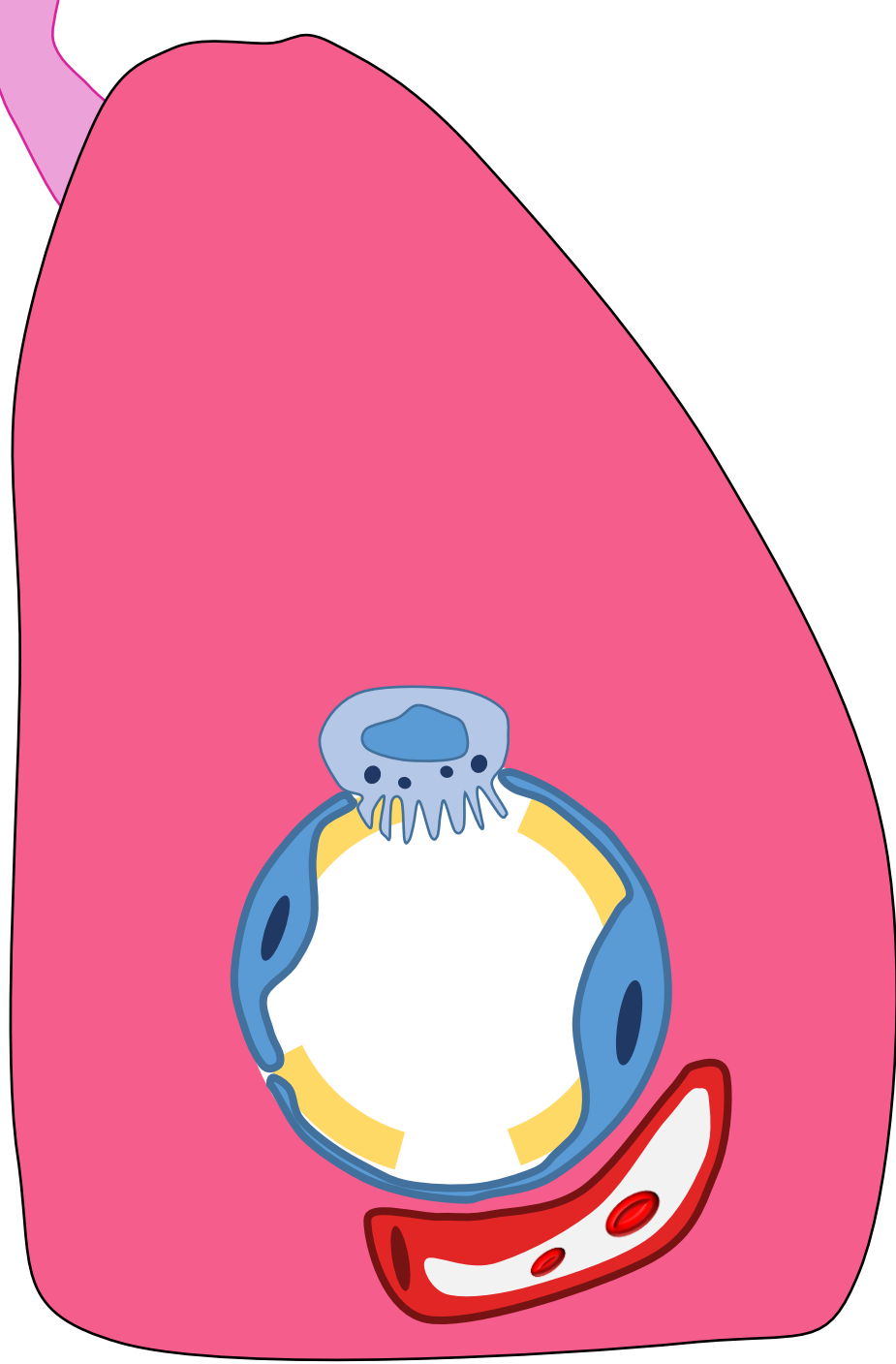
a thickener used to “cut” illicit THC vape cartridges

thin, colorless oil is a red flag for consumers

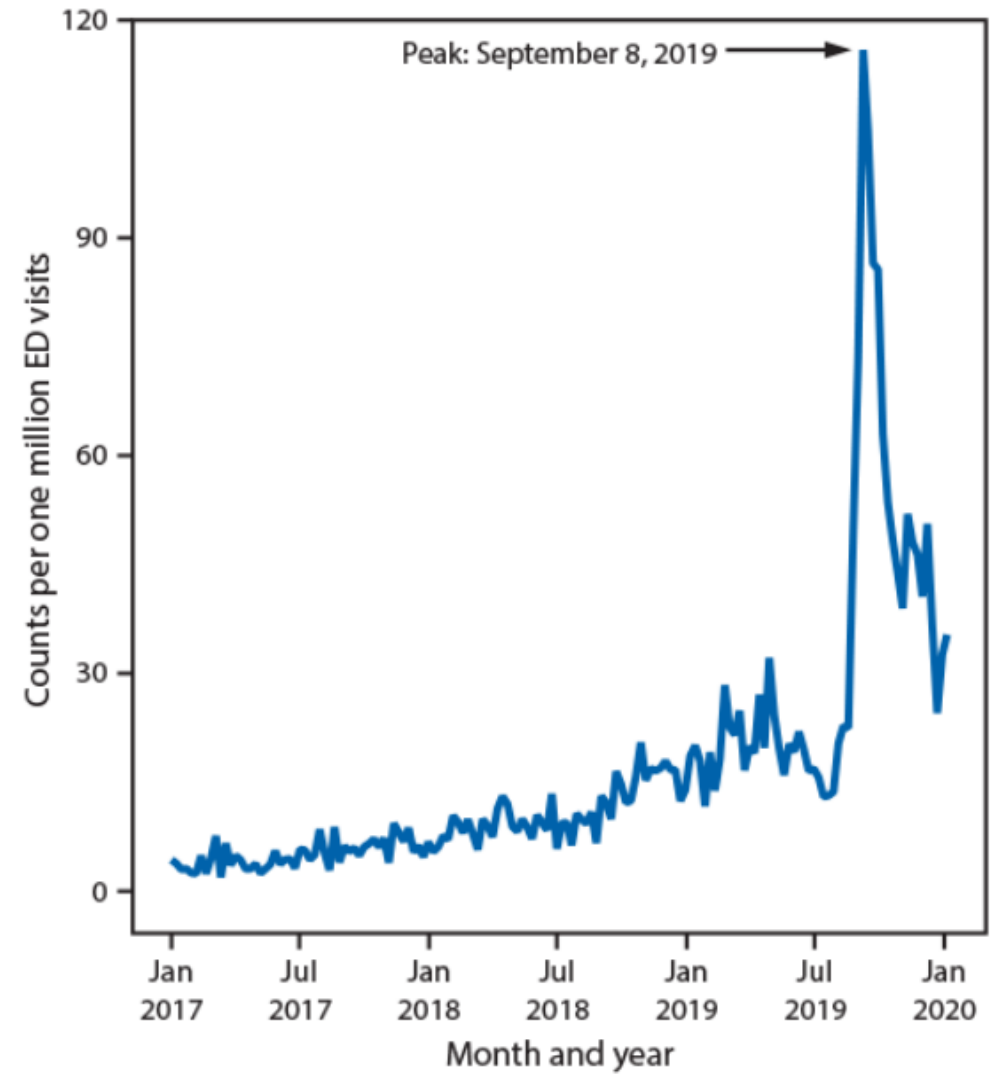




Vitamin E acetate



# ED Visits





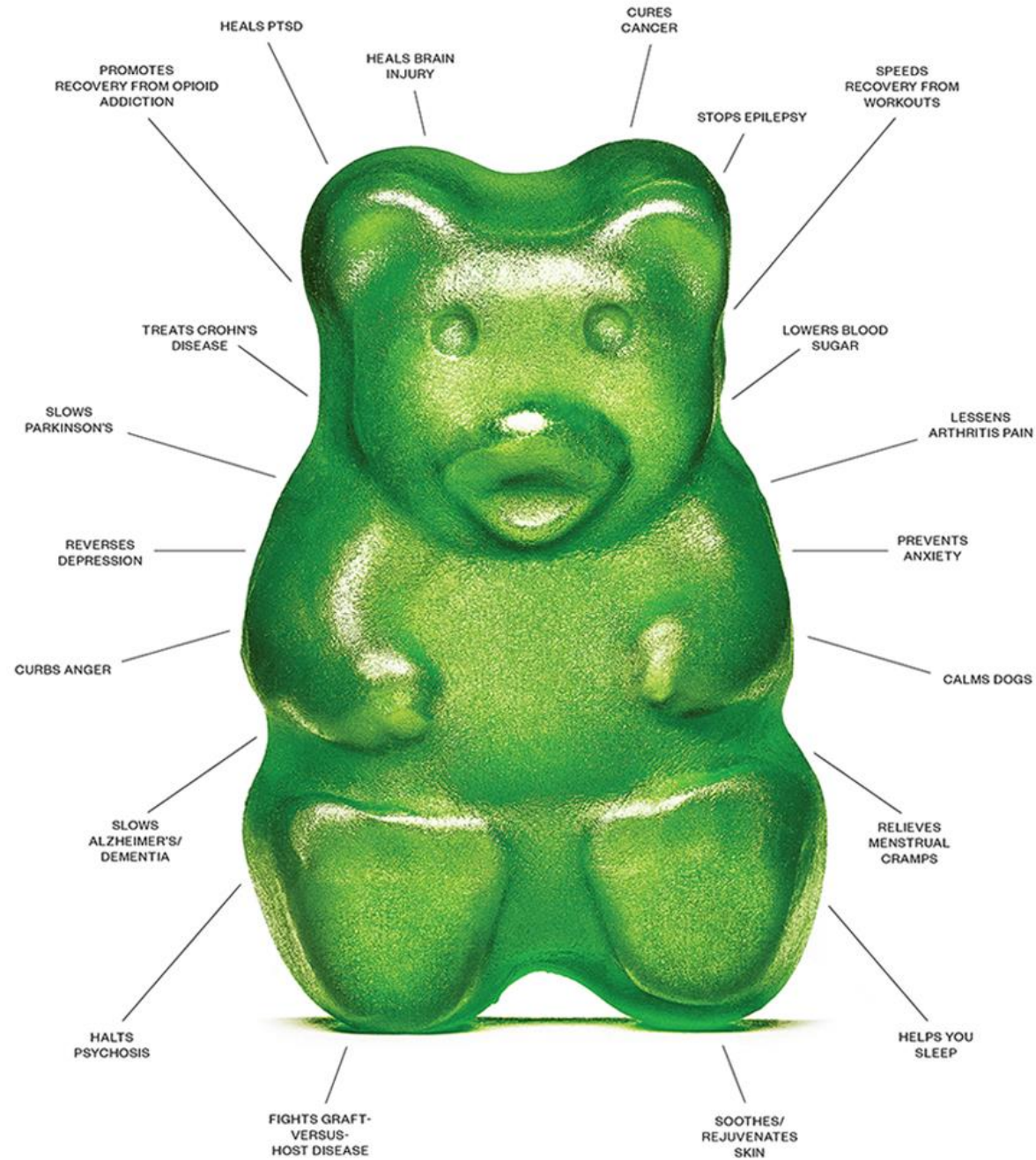






**FDA**





[Home](#) > [Search Results](#)

[Modify Search](#) [Start Over](#)

266 Studies found for: **cannabidiol**

Also searched for **Epidiolex**. [See Search Details](#)

[List](#) [By Topic](#) [On Map](#) [Search Details](#)

[Hide Filters](#)

[Download](#) [Subscribe to RSS](#)

[Show/Hide Columns](#)

Filters

Showing: 1-10 of **266** studies  studies per page

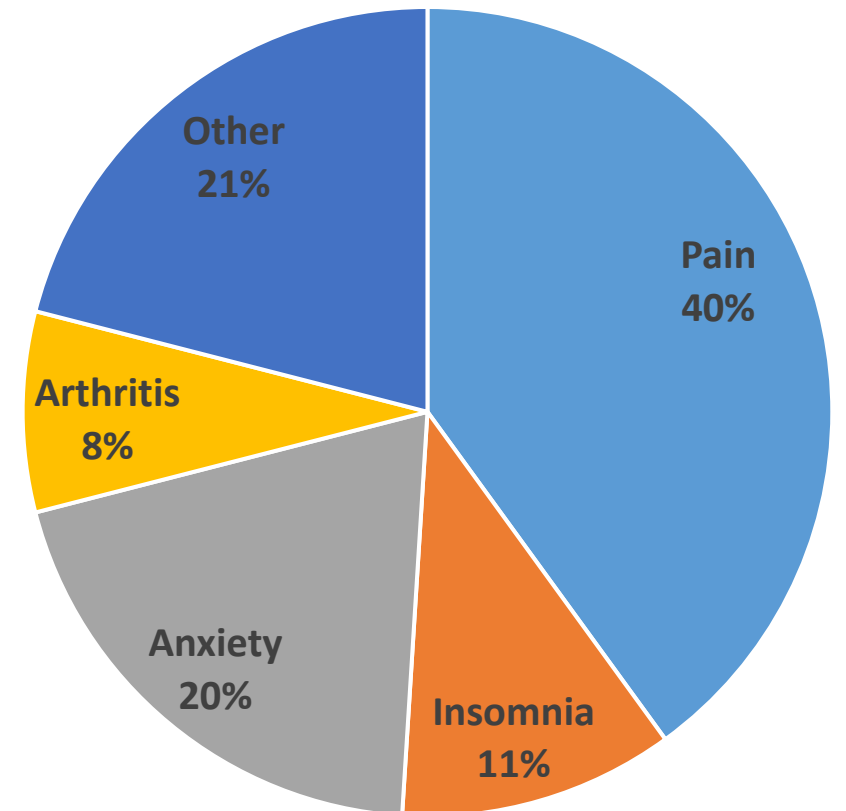
[Apply](#) [Clear](#)

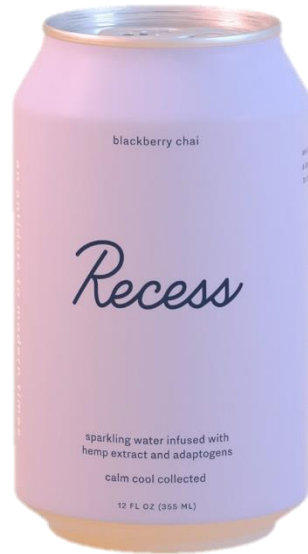
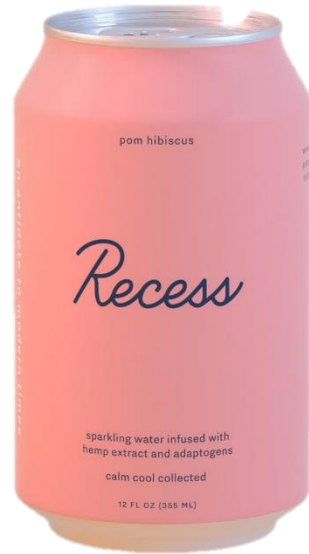
**Status**

Recruitment ⓘ :

Not yet recruiting

Row	Saved	Status	Study Title	Conditions	Interventions	Locations
1	<input type="checkbox"/>	Recruiting	<a href="#">Cannabidiol Use to Reduce Cravings in Individuals With Opioid Use Disorder on Buprenorphine</a>	<ul style="list-style-type: none"><li>Opioid-use Disorder</li></ul>	<ul style="list-style-type: none"><li>Drug: <b>Cannabidiol</b> 600mg</li></ul>	<ul style="list-style-type: none"><li>Brigham and Women's Hospital Boston, Massachusetts, United States</li></ul>





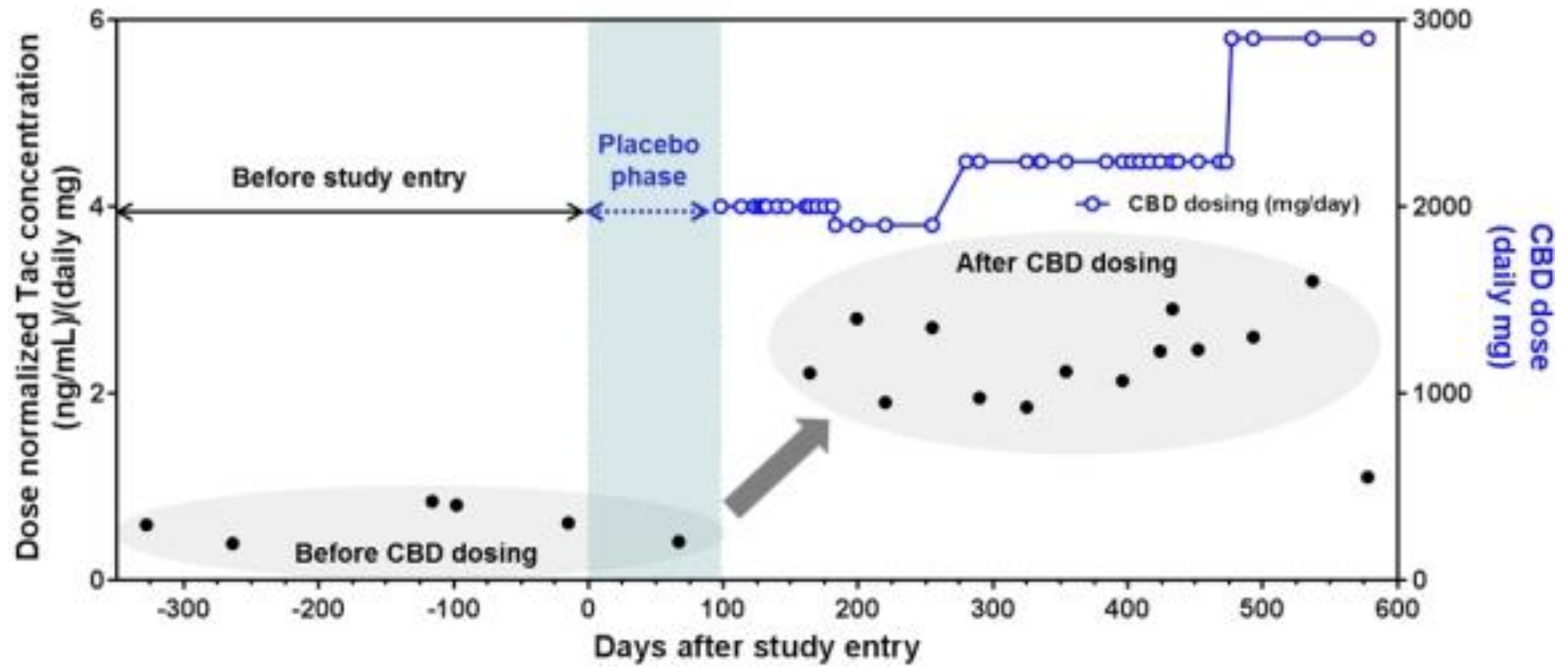


FDA NEWS RELEASE

# FDA warns 15 companies for illegally selling various products containing cannabidiol as agency details safety concerns

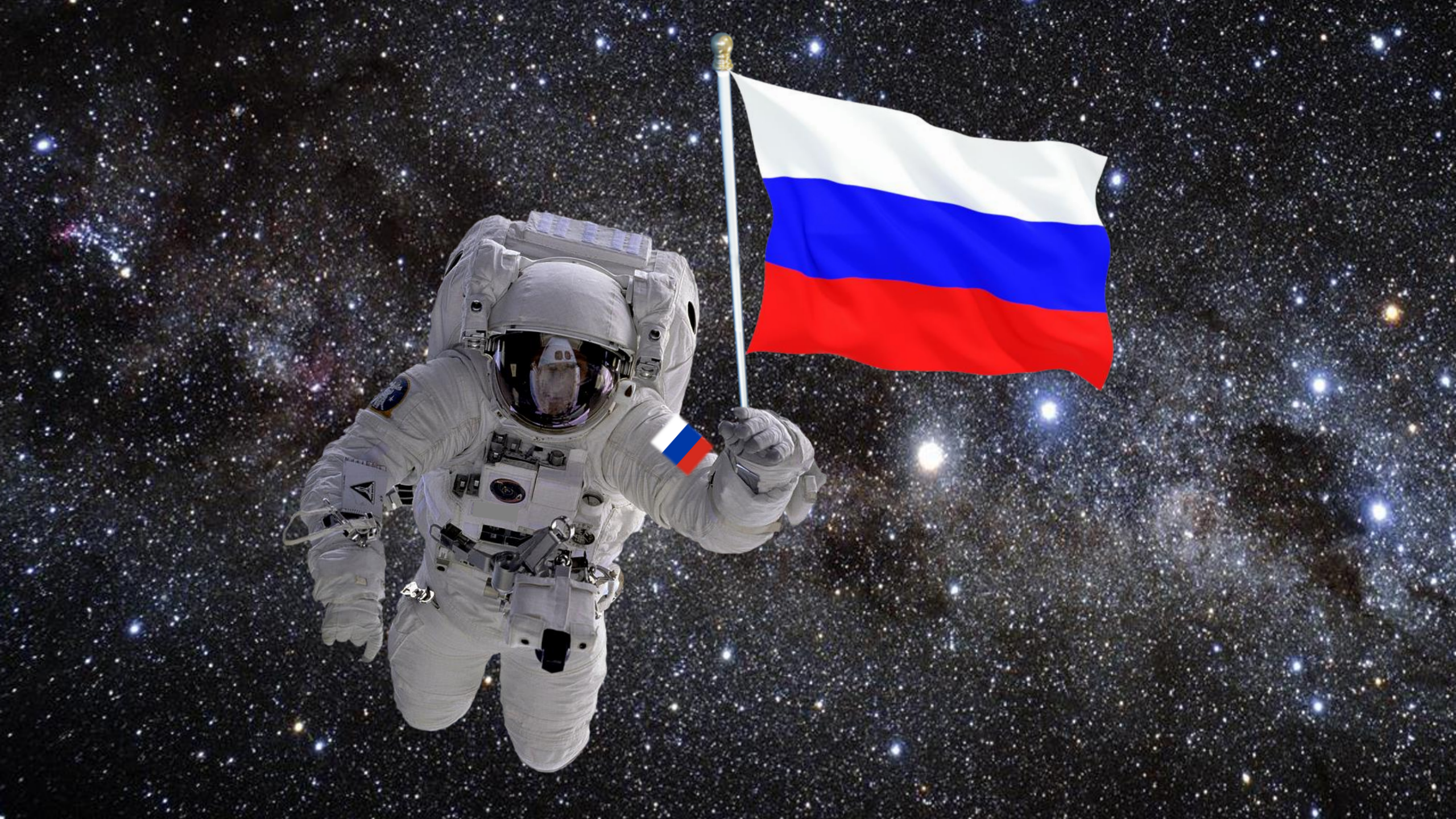
*Violations include marketing unapproved new human and animal drugs, selling CBD products as dietary supplements, and adding CBD to human, animal foods*

Figure 2: Tacrolimus Dose Normalized Trough Concentration

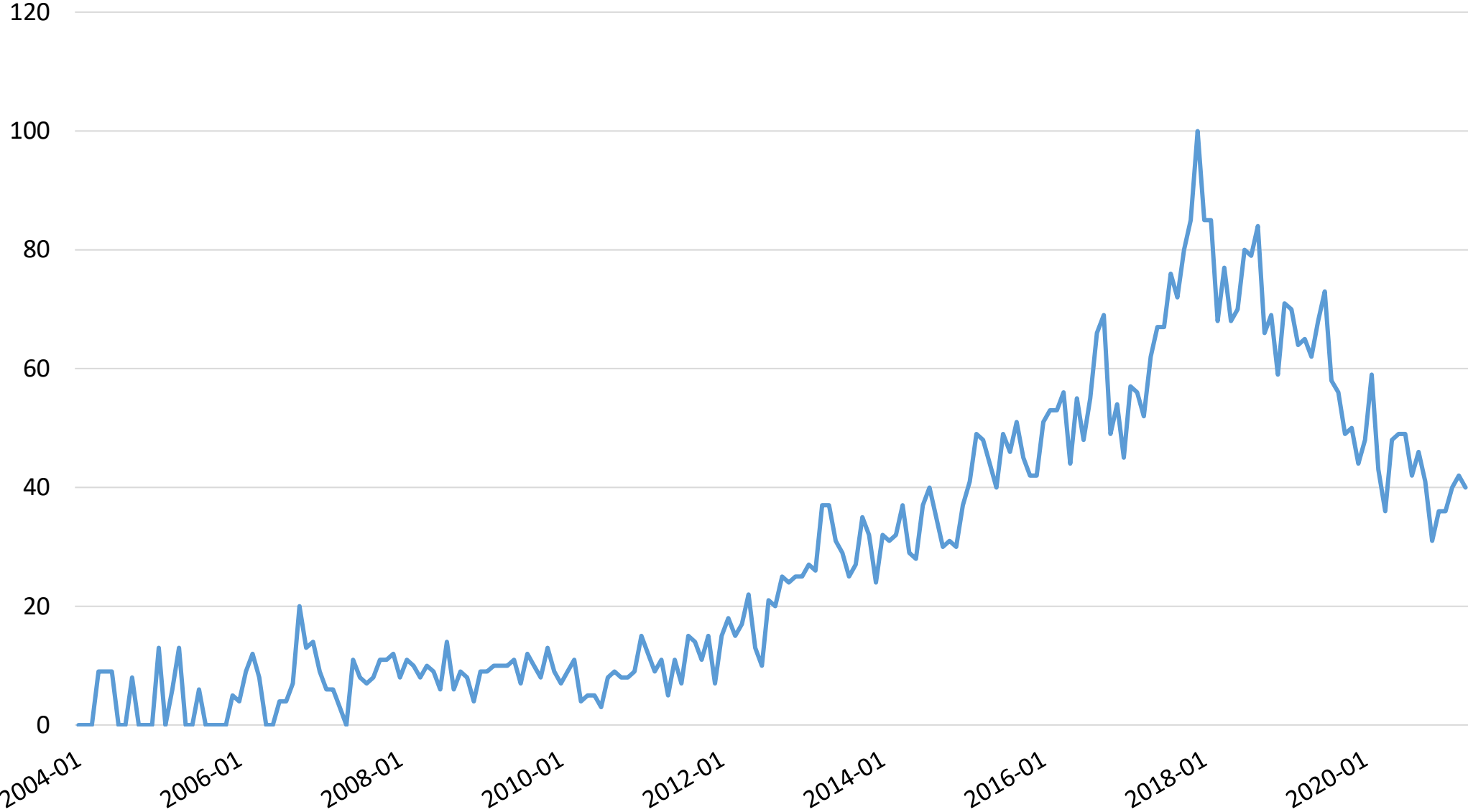


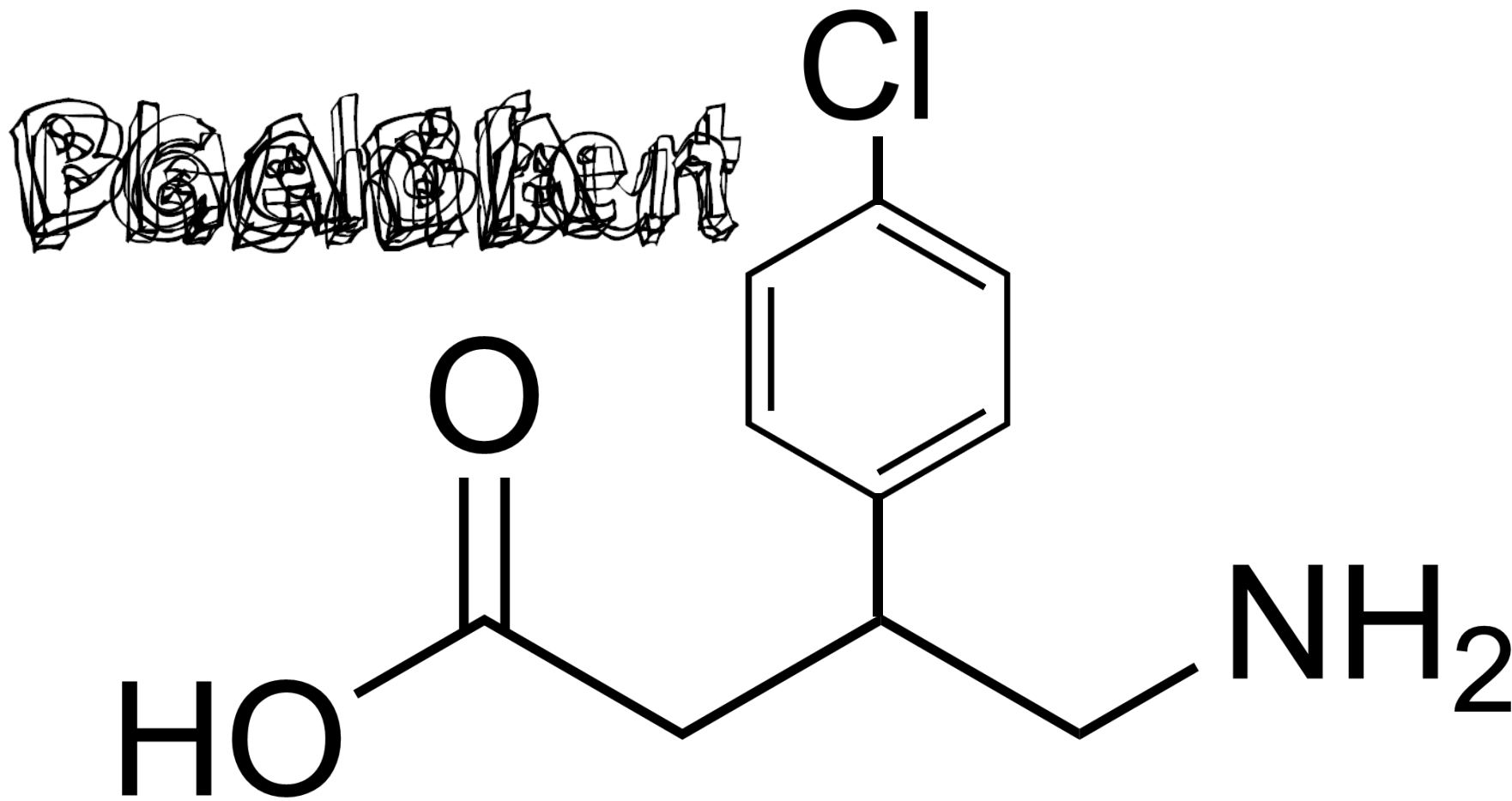






# Phenibut Interest











**FDA**

**U.S. Department of Health and Human Services  
Food and Drug Administration**



UPSTATE  
NEW YORK  
POISON CENTER

**1-800-222-1222**

**1-800-222-1222**



@WillieDoesTox