

Substance Use Disorder in Teens and Young Adults

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Disclosures / Funding Source

- **Conflict of interest statement:**
 - I have no commercial relationships to disclose
 - I will not be discussing any unapproved uses of pharmaceuticals or devices

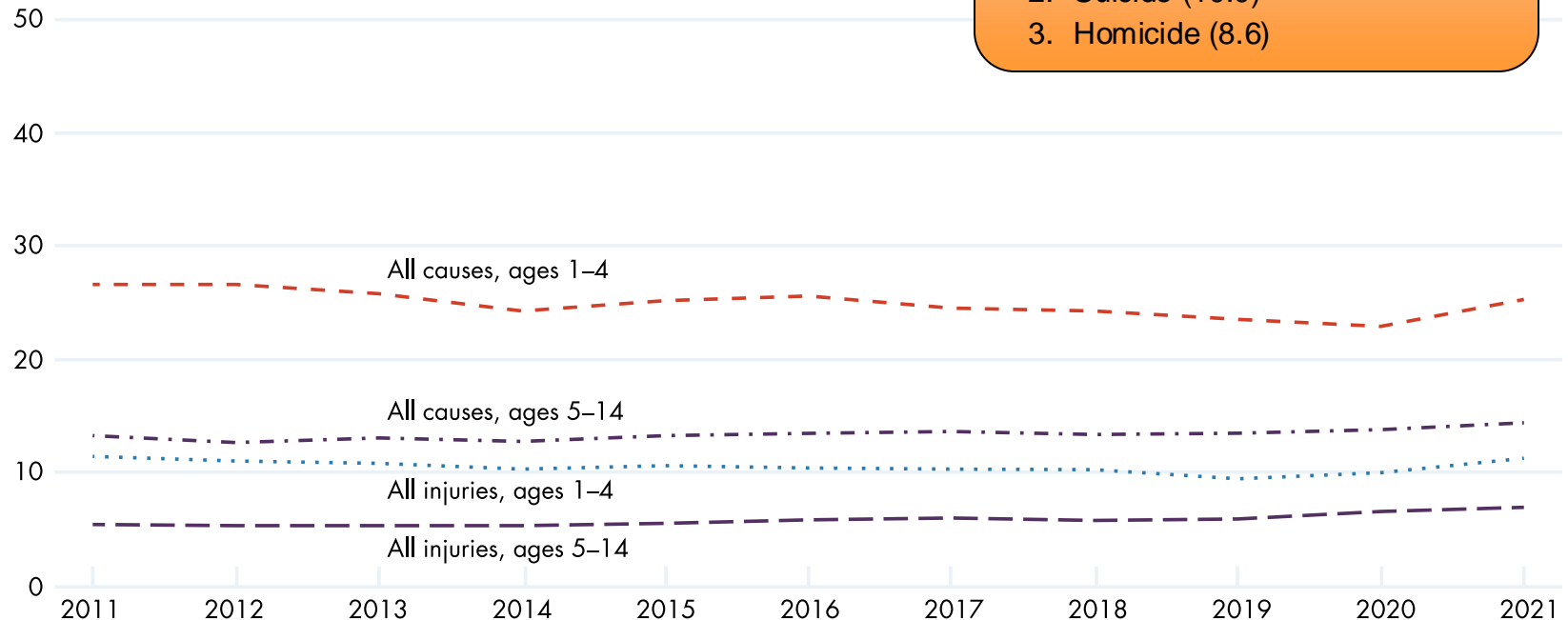
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 - National Institute on Drug Abuse R01DA057566, R34DA062280, K18DA059913, R01DA047975, R34DA052836
 - Patient-Centered Outcomes Research Institute EACB-26846, AU-2022C1-26455

Urgency of Teen Substance Use

3 Leading Causes of Death among Adolescents (per 100,000):

1. Motor vehicle crashes (12.4)
2. Suicide (10.0)
3. Homicide (8.6)

Deaths per 100,000 children in specific age group



Federal Interagency Forum on Child and Family Statistics, 2023

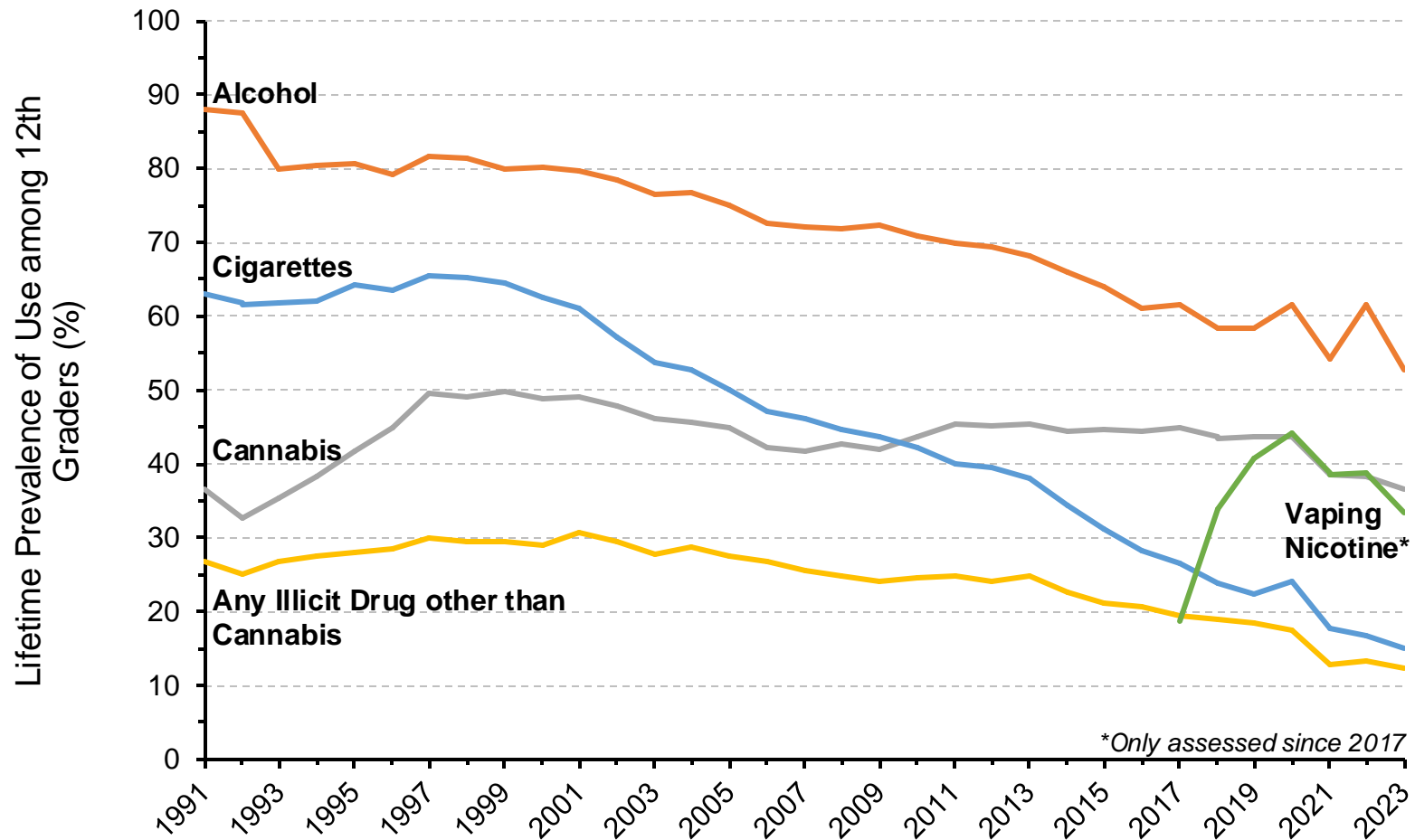
*By the end of 60 minutes,
learners will:*

1. Describe the epidemiology of substance use-related harm in the US, with a focus on adolescents and young adults (“youth”)
2. Ensure evidence-based screening and treatment for youth with substance use disorders



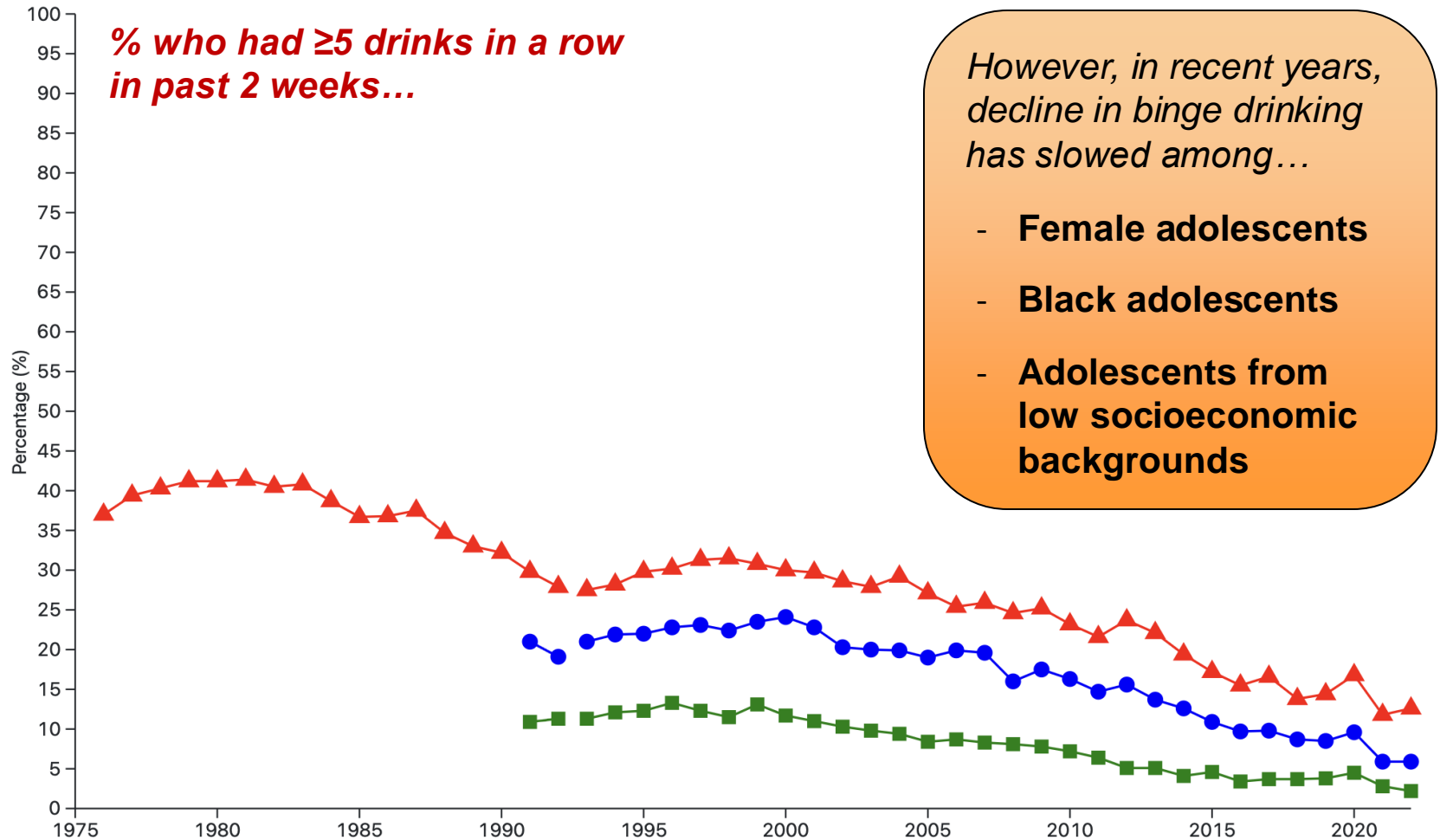
Part 1: Epidemiology

An Overview



Monitoring the Future 2023, University of Michigan, published 2024

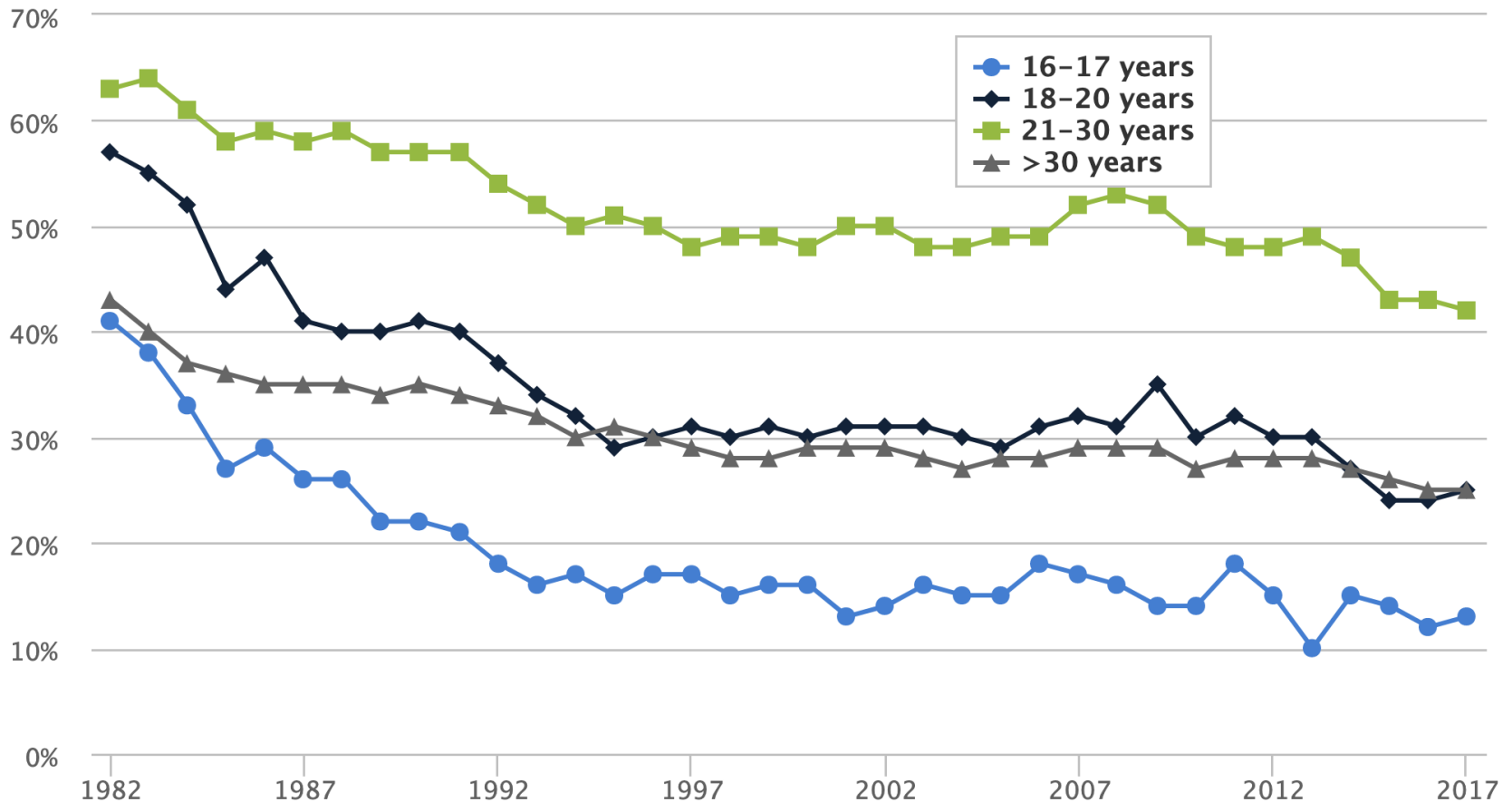
Alcohol: Binge Drinking



Monitoring the Future 2021, University of Michigan, published 2022

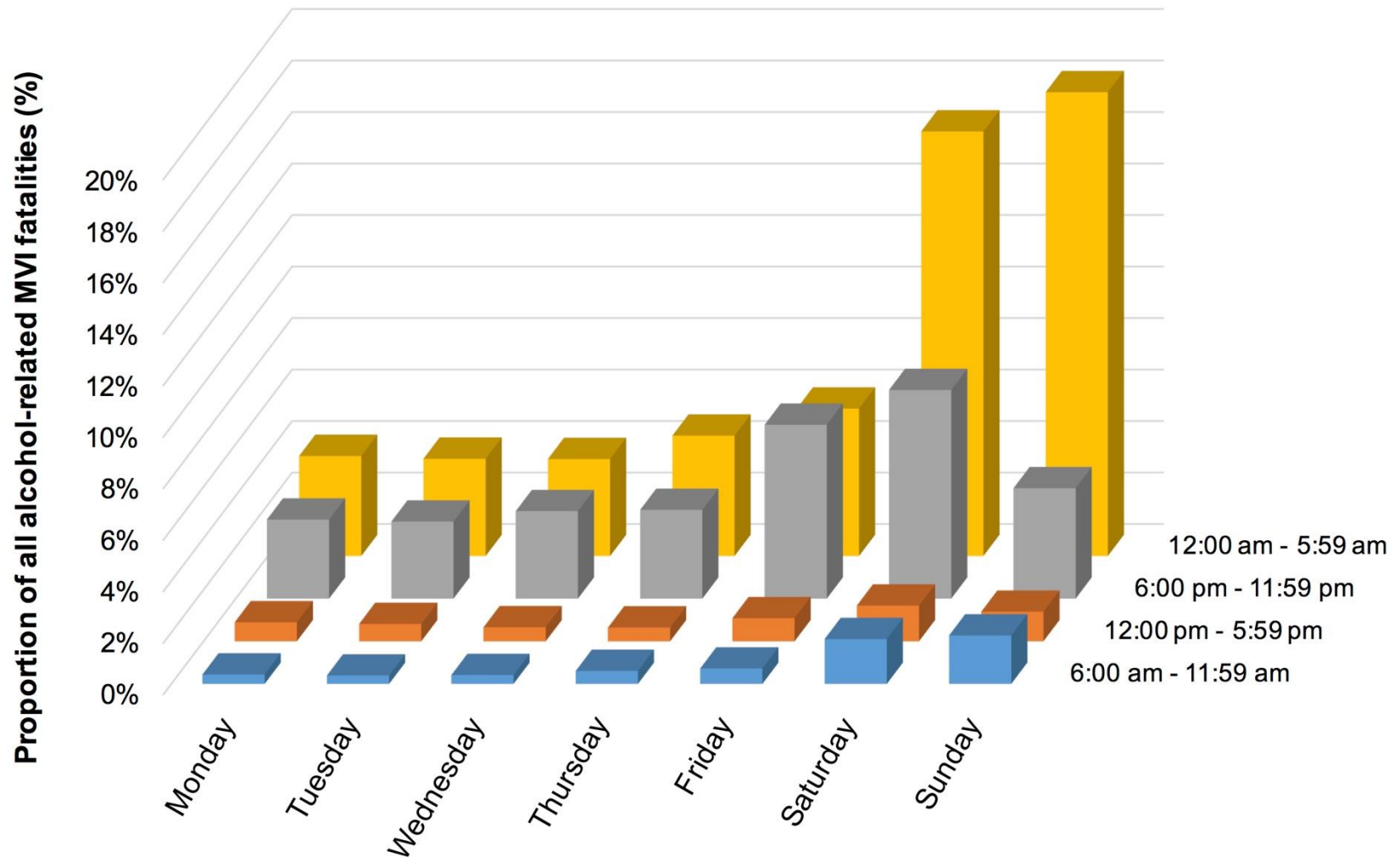
Alcohol: Motor Vehicle Crashes

Percent of fatally injured passenger vehicle drivers with BACs ≥ 0.08 percent by age, 1982–2017



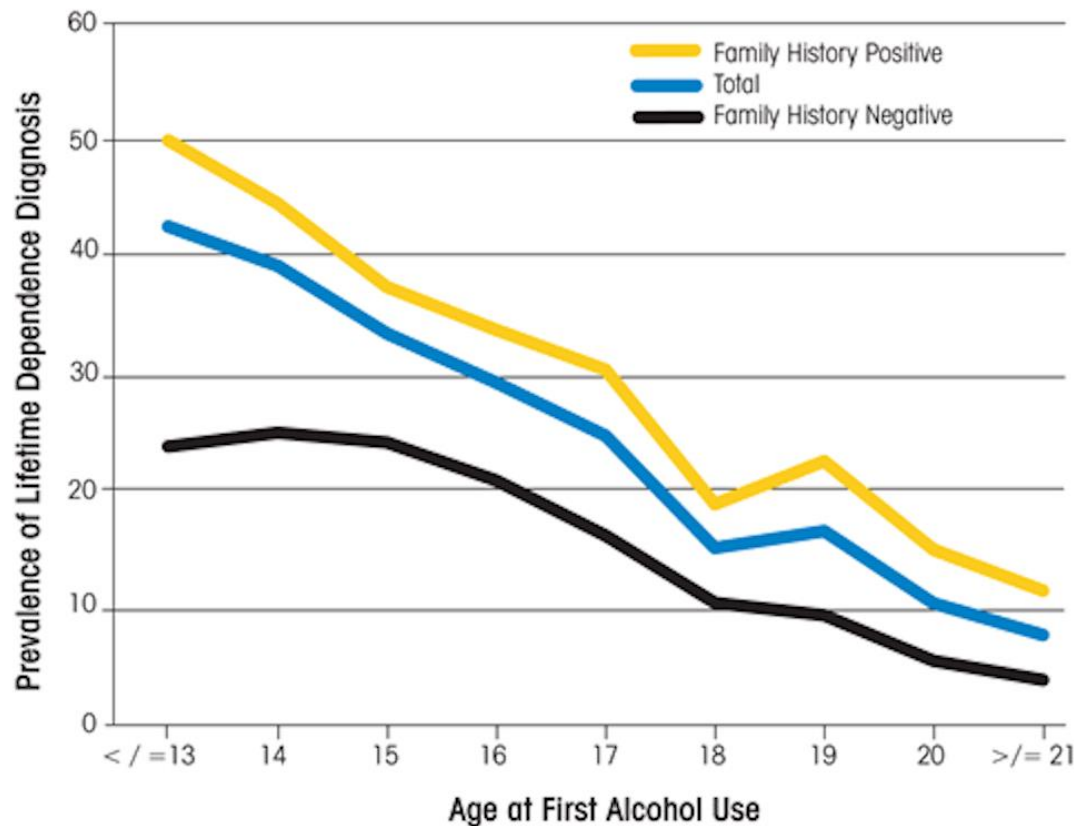
National Highway Traffic Safety Administration, Department of Transportation, 2018

Alcohol: When Crashes Occur



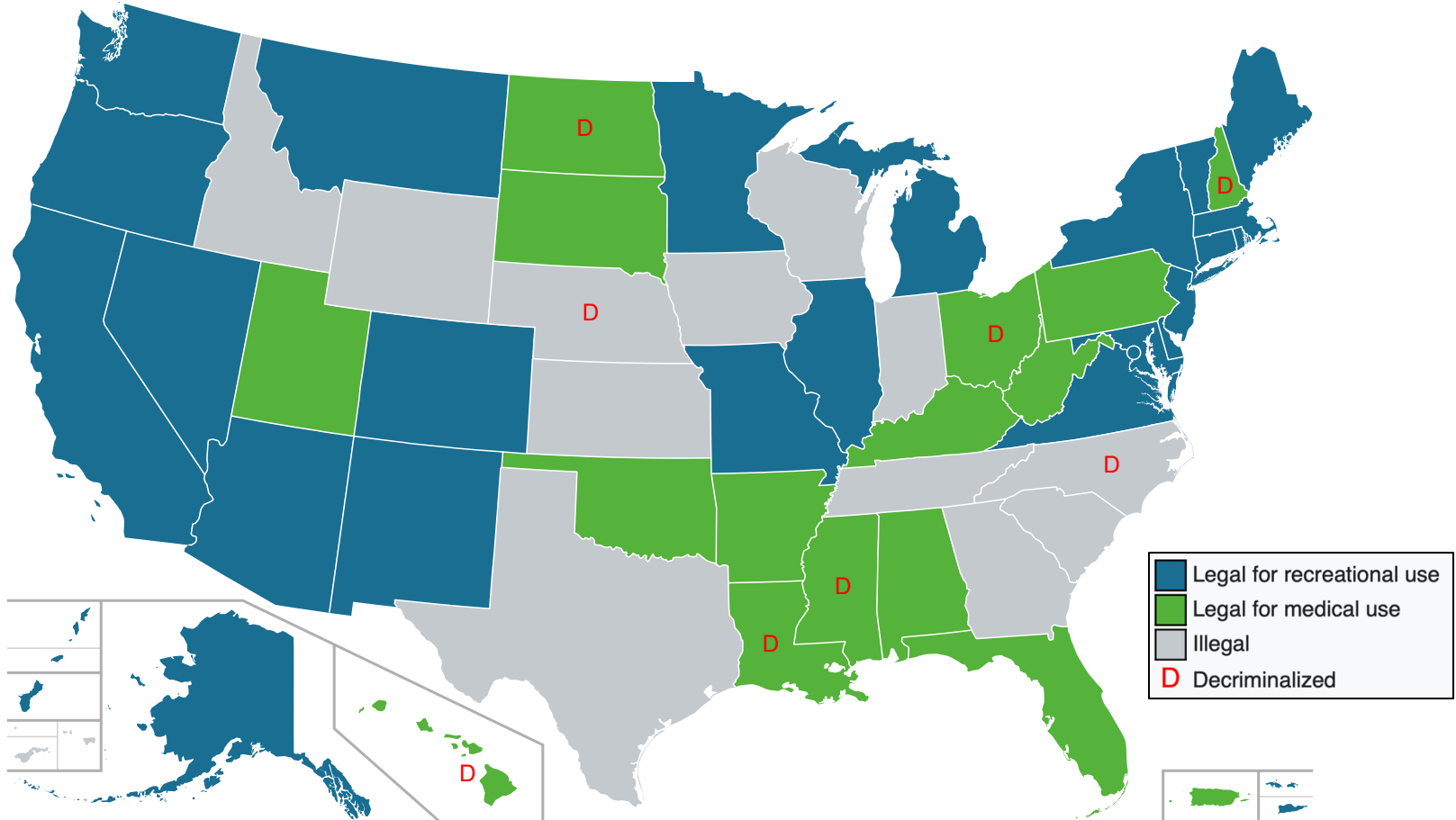
Hadland SE et al. *Pediatrics*, 2017;139(3):e20163037

Alcohol: Age of 1st Use



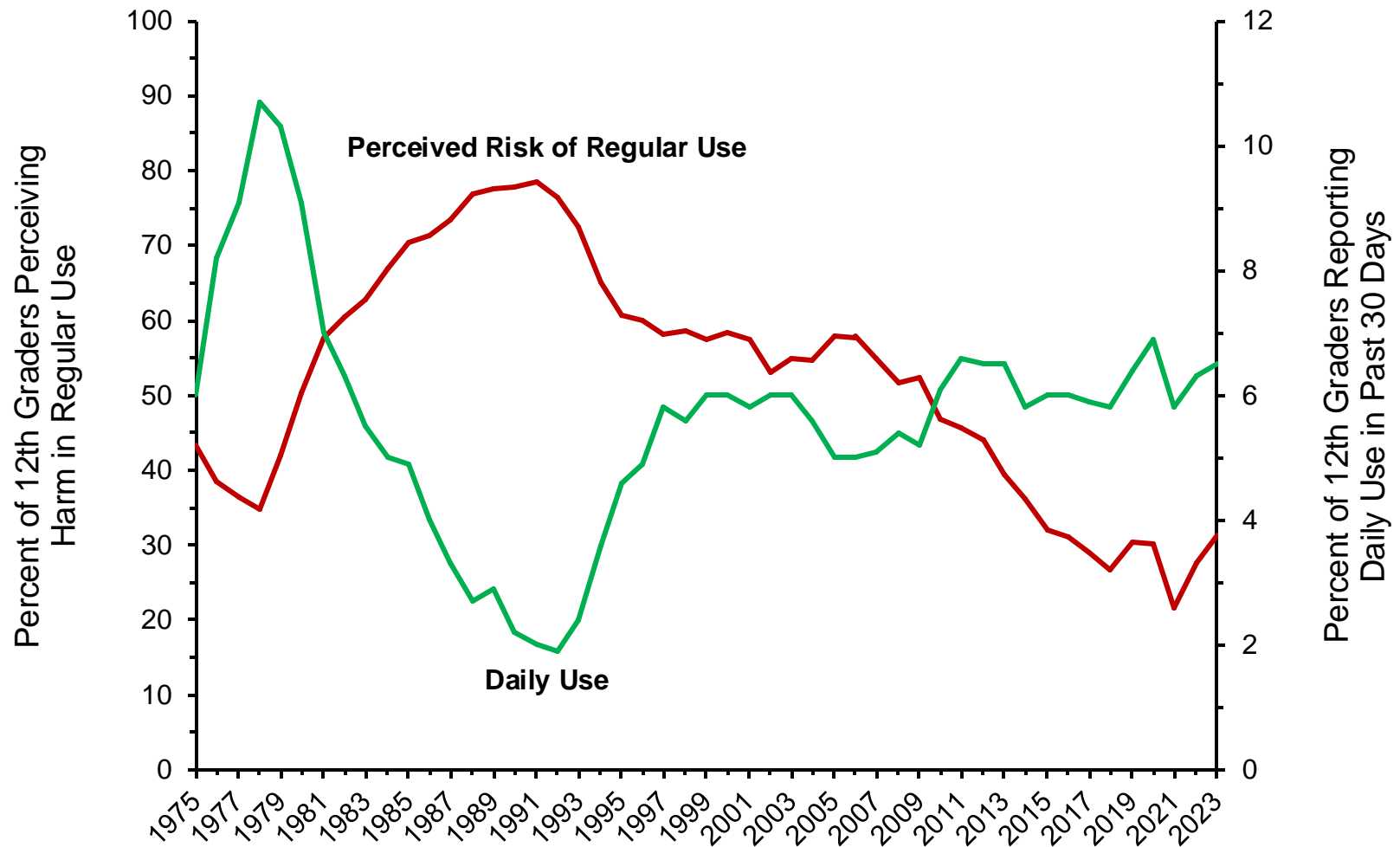
Used with Permission. National Epidemiologic Survey on Alcohol and Related Conditions

Cannabis: Policies in the US



By Lokal_Profil, CC BY-SA 2.5, <https://commons.wikimedia.org/w/index.php?curid=2370050>

Cannabis: Perceptions of Harm



Monitoring the Future 2023, University of Michigan, published 2024

What Are Potential Health Risks?

- **Double the odds** of motor vehicle accident
- No cardiovascular or lung effects among youth...
- But, some concerning data on immediate effects on:
 - Male sexual function
 - Gastrointestinal function
- Numerous studies showing brain structure and function changes, with poorer IQ attainment among individuals who used heavily as adolescents
- Multiple emerging studies showing links with **depression, anxiety** following heavy use during adolescence

W Hall & L Degenhardt. *Lancet*, 2009;374(9698):1383-91

Cannabis Policies and Use

YRBS data, 9th to 12th graders across the US and all 50 states, 1993-2017:

Medical cannabis use laws:

- **No changes** in past-30 day use or frequent use (i.e., ≥ 10 times in the past 30 days)

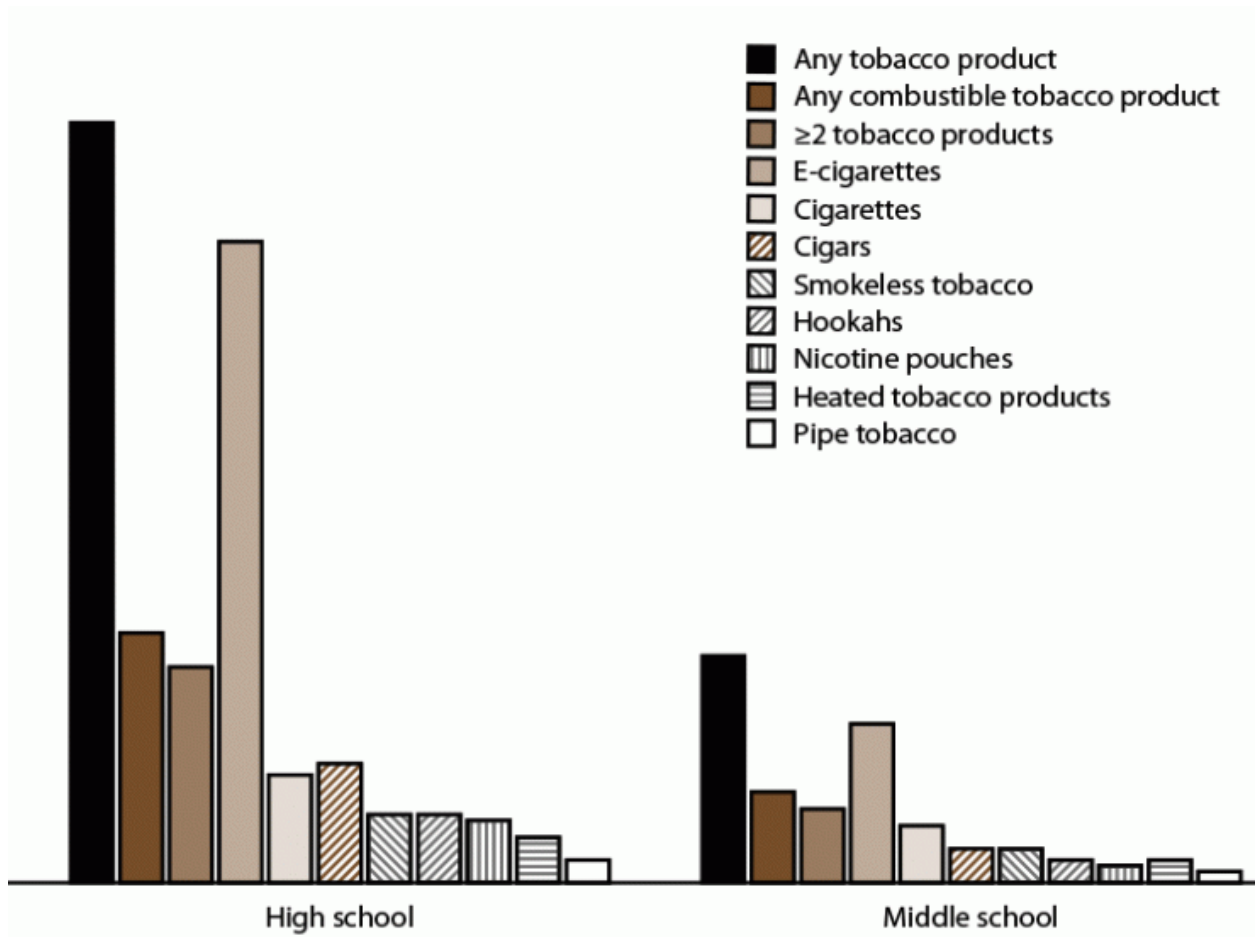
Recreational use laws:

- **8% decrease** in odds of cannabis use
- **9% decrease** in odds of frequent use



Anderson DA, et al. *JAMA Pediatr.* 2019;173(9):879-881.

Vaping: % Past 30-Day Prevalence



Gentzke AS, et al. *MMWR* 2022;71(No. SS-5):1–29.

Vaping Cannabis (THC) Products

- National Youth Tobacco Survey
- Survey of 38,061 youth in 2018
- History of ever vaping THC (table, right)
- The % of youth who had ever vaped THC was:
 - **6%** among middle school students
 - **22%** among high school students
 - **43%** among youth who had ever tried vaping
 - **30%** among youth who had family members who vape, and **18%** among youth who had family members who used any kind of tobacco product

9-12 yrs	3%
13-15 yrs	11%
16-17 yrs	24%
≥18 yrs	28%

Dai H. *JAMA*. 2020;323(5):473-474.

E-Cig / Vaping-Assoc Lung Injury

As of February 2020, there had been:

- **2,807 lung injury cases** in 50 states
- **68 confirmed deaths** in 29 states

Most reported a history of vaping THC; **vitamin E** is cause

80% of patients are under age 35

- **>1 in 3 is under age 21**

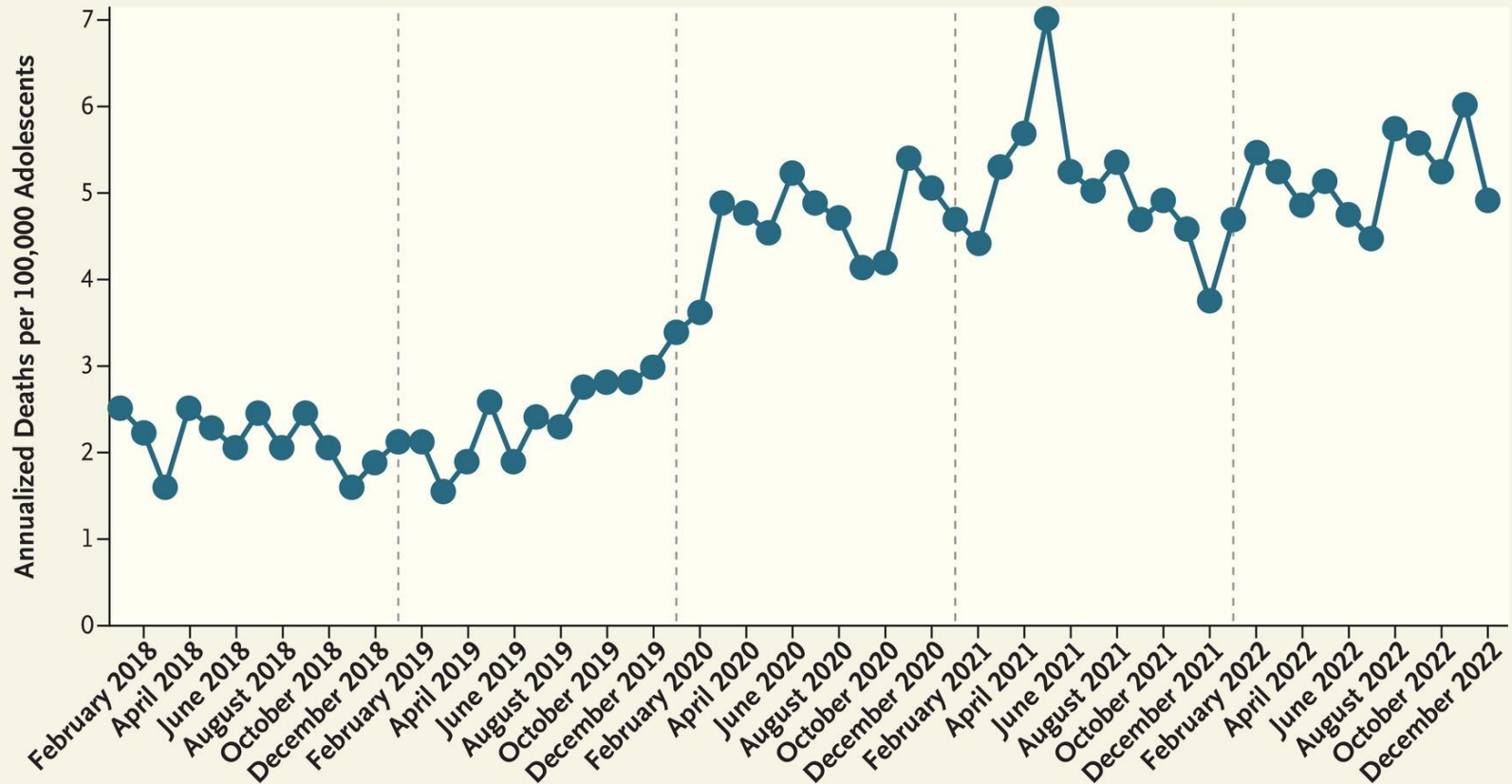
Histopathological findings: acute lung injury, including acute fibrinous pneumonitis, diffuse alveolar damage, or organizing pneumonia, and accompanied by bronchiolitis

Blount BC, et al. N Engl J Med. 2020; 382(8):697-705

Centers for Disease Control and Prevention. www.cdc.gov.

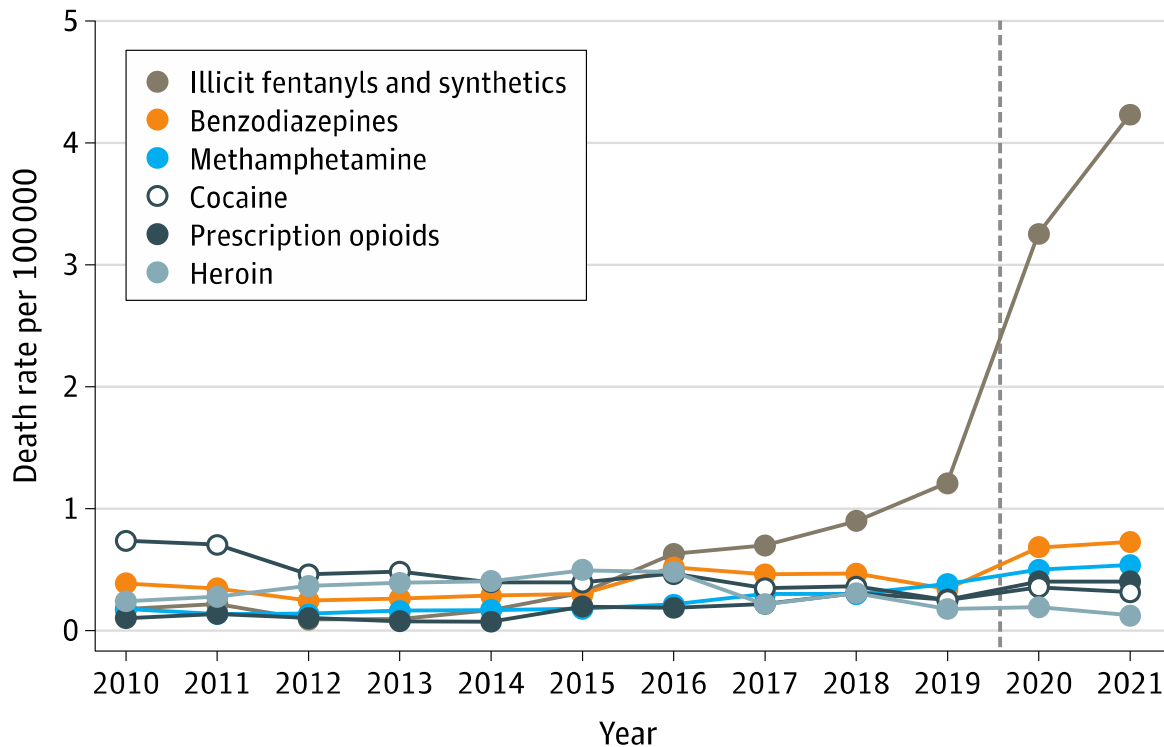
Youth Overdose Deaths

A Monthly Overdose Deaths among Adolescents 14 to 18 Yr of Age



Friedman J, Hadland SE. *N Engl J Med.* 2024;390(2):97-100

Youth Overdose Deaths



Fentanyl: ~8 in 10 of all overdose deaths in teens...

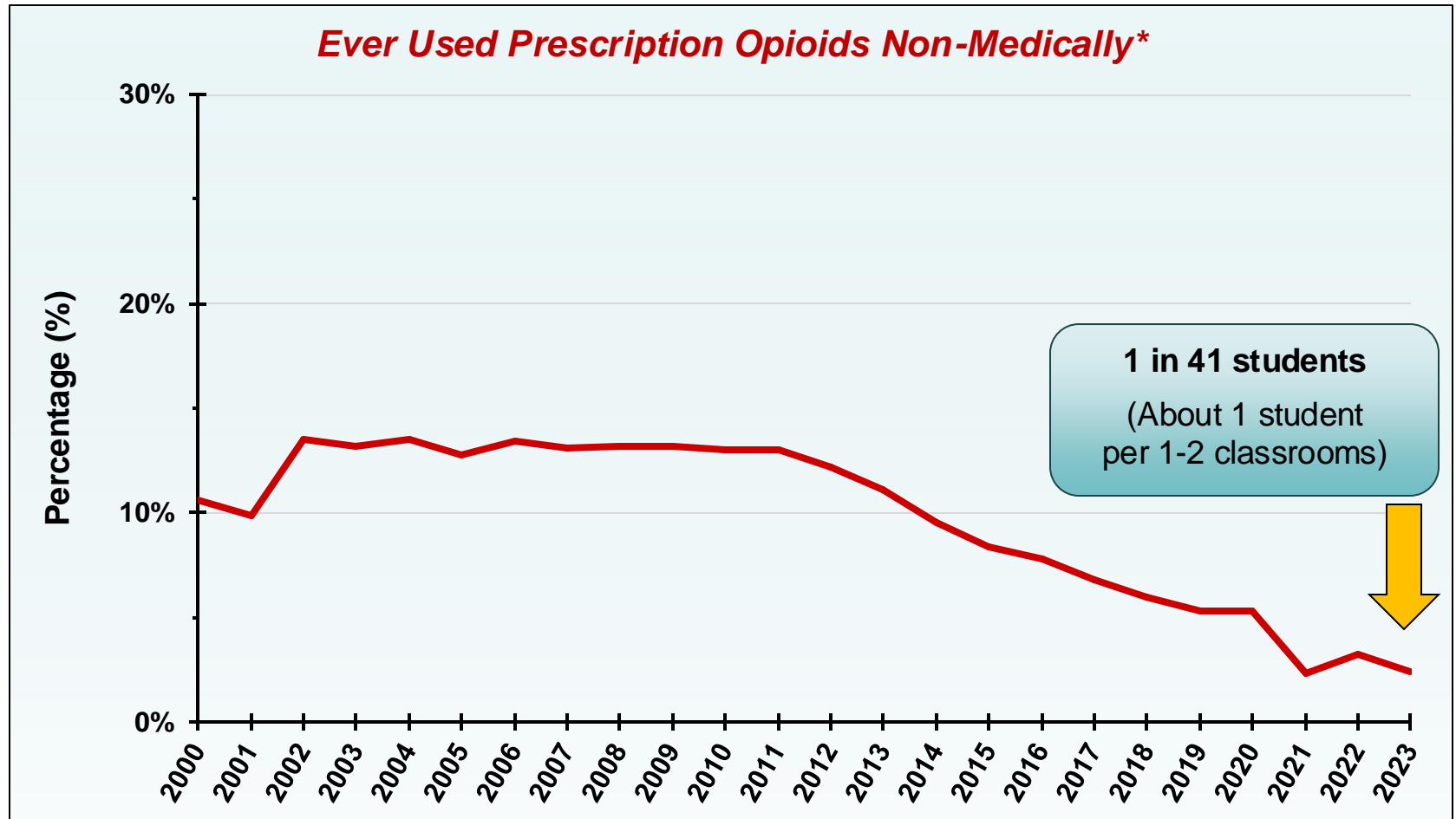
...However, most deaths in youth >21 involve an opioid **PLUS** another drug:

1. Cocaine
2. Methamphetamine
3. Benzodiazepines

Friedman J, et al. *JAMA*. 2022;327(14):1398-1400

Buchholz C, Friedman J, Hadland SE, et al. *Unpublished data*, 2024

Declining Non-Medical Use of Pills



2023 data, Monitoring the Future, University of Michigan, published 2024

Counterfeit Pills:



US Drug Enforcement Administration Fact Sheet, 2021



Overdose Deaths, 10- to 19-year-olds, 2021:

- At least 1 in 4 involve counterfeit pills (probably more)
- Most (60%) overdose deaths occurred at home
- Two-thirds (67%) of the time, someone else was also home
- 60% of the time, teen was pulseless by the time EMS arrived
- Naloxone given in fewer than 1 in 3 overdose deaths

US Centers for Disease Control and Prevention, 2022

Part 2: Screening and Treatment

Substance Use Disorder

Opioid use occurring over 12 months with ≥ 2 of:

1. Taken in larger amounts / over a longer period than intended
2. Persistent desire / unsuccessful efforts to cut down
3. Excess time spent in activities to obtain, use or recover from substance
4. Craving
5. Failure to fulfill major role obligations at work, school, or home
6. Continued use despite having persistent / recurrent social or interpersonal problems
7. Social, occupational, or recreational activities given up
8. Recurrent use in situations in which it is physically hazardous
9. Continued use despite knowledge of having a persistent or recurrent physical or psychological problem
10. Tolerance
11. Withdrawal

Mild:

2-3 criteria

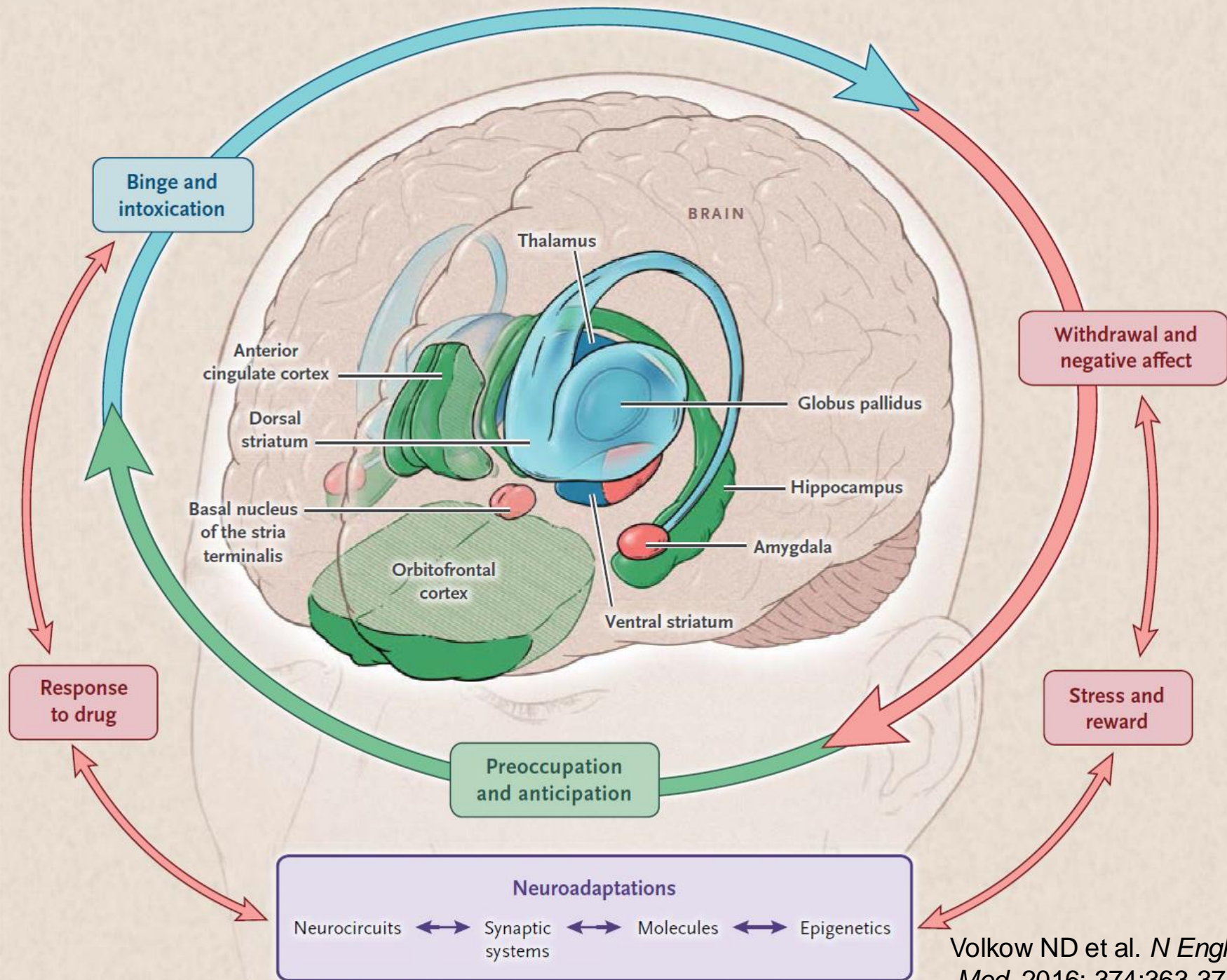
Moderate:

4-5 criteria

Severe:

≥ 6 criteria

Diagnostic and Statistical Manual of Mental Disorders 5, APA, 2013.



Screening: CRAFFT

PART A:

During the PAST 12 MONTHS, on how many days did you:

1. Drink alcohol?
2. Use cannabis?
3. Use anything else to get high?
4. Vape any flavoring or nicotine?

Available for free at: <https://www.drugabuse.gov/ast/s2bi/>

Levy S, et al. *JAMA Pediatr.* 2014;168(9):822-8

Simon K, et al. *Child Adolesc Psychiatric Clin N Am.* 2020;675-6900

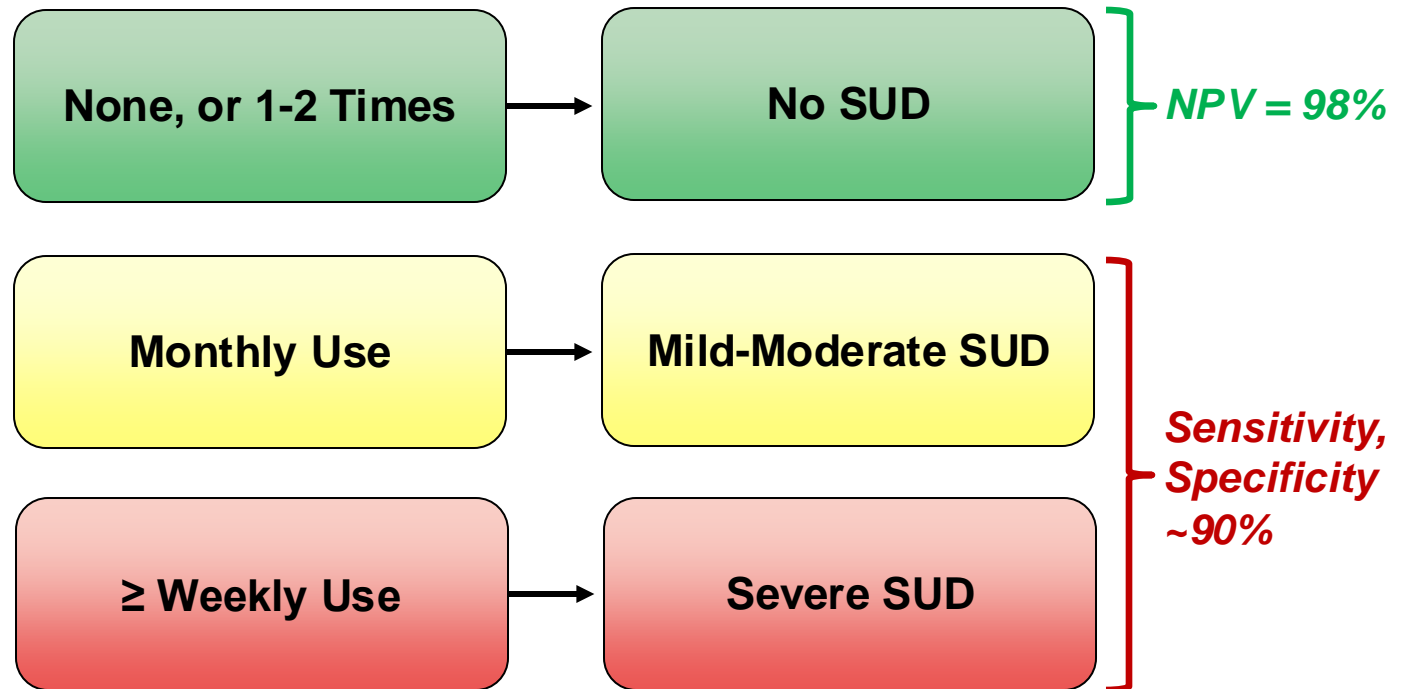
What We All Can Do:

1 Screen for substance use and refer for treatment

2 Discuss overdose prevention and harm reduction

3 Change the language of addiction to reduce stigma

Frequency of Use



Levy S, et al. *JAMA Pediatr.* 2014;168(9):822-8

Levy, S et al. *Subst Abus.* 2020 Aug 19;1-8

Part B: CRAFFT Questions

Did the patient answer “0” for all questions in Part A?

Yes ☐



Ask CAR question only, then stop

No ☐

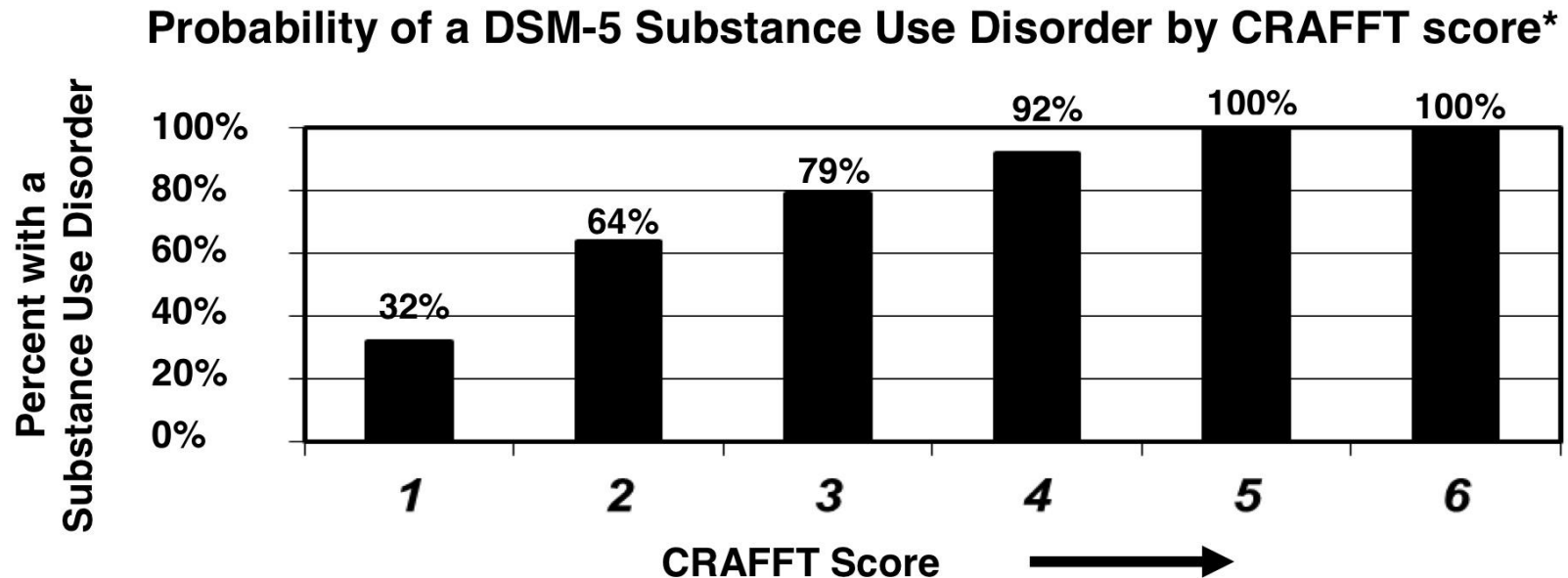


Ask all six CRAFFT* questions below

<i>Part B</i>	No	Yes
C Have you ever ridden in a CAR driven by someone (including yourself) who was “high” or had been using drugs	<input type="checkbox"/>	<input type="checkbox"/>
R Do you ever use alcohol or drugs to RELAX , feel better about yourself, or fit in?	<input type="checkbox"/>	<input type="checkbox"/>
A Do you ever use alcohol or drugs while you are by yourself, or ALONE ?	<input type="checkbox"/>	<input type="checkbox"/>
F Do you ever FORGET things you did while using alcohol or drugs?	<input type="checkbox"/>	<input type="checkbox"/>
F Do your FAMILY or FRIENDS ever tell you that you should cut down on your drinking or drug use?	<input type="checkbox"/>	<input type="checkbox"/>
T Have you ever gotten into TROUBLE while you were using alcohol or drugs?	<input type="checkbox"/>	<input type="checkbox"/>

Used with permission from John R. Knight, Boston Children’s Hospital, 2017.

Risk of SUD Based on CRAFFT



Mitchell SG, et al. *Subst Abus*, 2014;35(4), 376–80.
Figure used with permission, Boston Children's Hospital, 2018.

Brief Intervention

- 'As your doctor, I recommend you stop using marijuana.'
- 'Smoking marijuana may affect your sports performance.'
- 'Marijuana directly affects your brain and can hurt your school performance and your future.'
- 'Marijuana use can cause lifelong problems for some people.'
- 'Please don't ever get in a car with someone who has been drinking or using drugs.'
- 'Please don't ever drive a car after using drugs, even if you don't feel high.'
- 'Make arrangements ahead of time for safe transportation.'
- 'Marijuana use can slowly get you into trouble – with your parents, at school, or even with the police.'
- 'Marijuana might be laced with other drugs; you never really know what you are getting.'
- 'Today's marijuana contains much higher THC content than in the 1960s and 1970s.'

Brooks T, Knight JR. In *Addiction Medicine*. 5th Ed. Lippincott Williams & Wilkins, 2014

Motivational Interviewing

Express Empathy

Develop Discrepancy

Roll with Resistance

Support Self-Efficacy

“What I hear you saying...”

“It sounds like...”

“I get the sense that...”

Motivational Interviewing

Express Empathy

Develop Discrepancy

Roll with Resistance

Support Self-Efficacy

“On a scale of 1 to 10, how motivated are you to stop smoking? Why an 8 instead of a 10? Why a 3 instead of a 1?”

“As you see them, what are the pros of smoking marijuana? What are some cons?”

Motivational Interviewing

Express Empathy

Develop Discrepancy

Roll with Resistance

Support Self-Efficacy

“What would it look like for you if you had a problem with drinking? What line would you have to cross to know you have a problem?”

Motivational Interviewing

Express Empathy

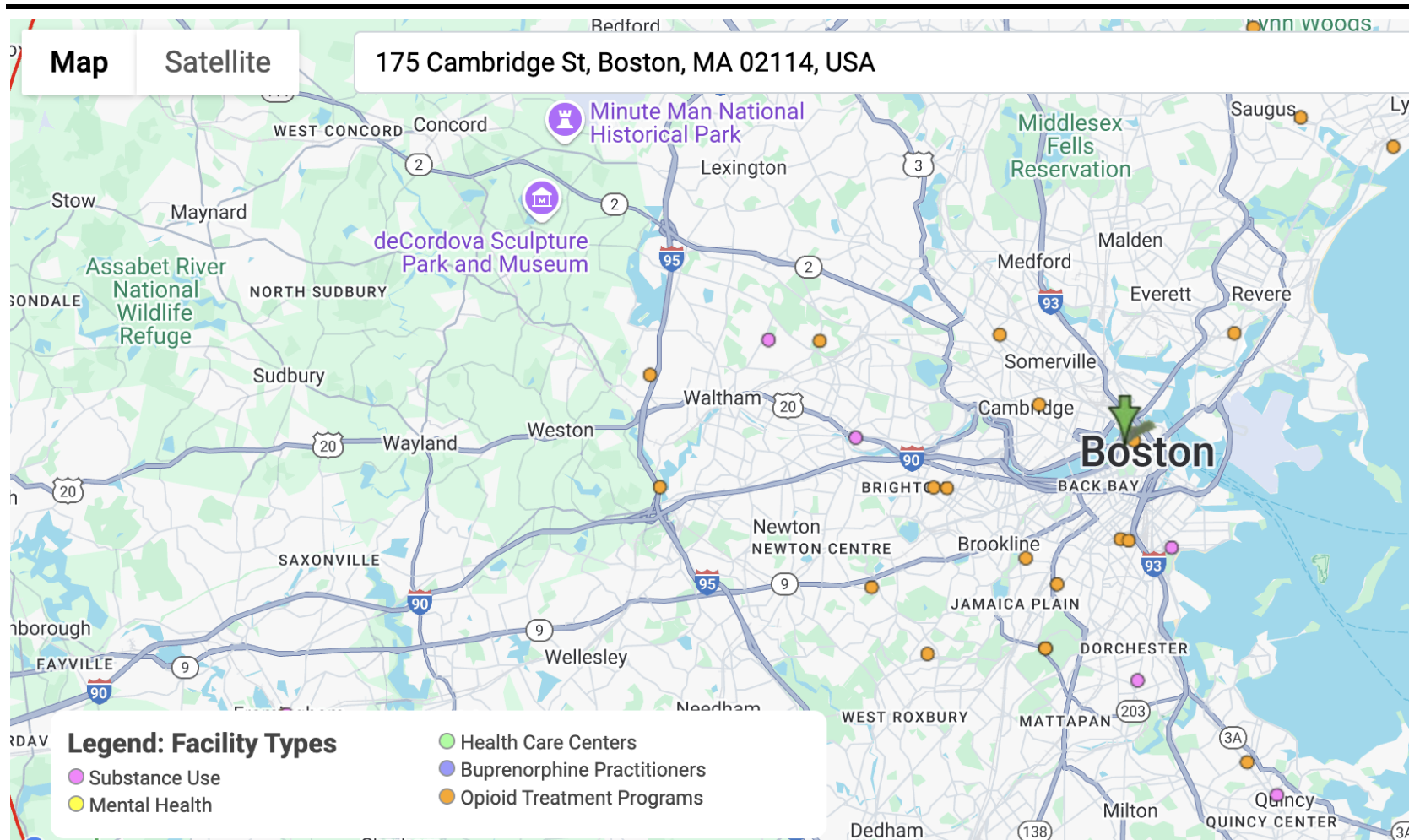
Develop Discrepancy

Roll with Resistance

Support Self-Efficacy

“Even though you haven’t quit, you have managed to cut down on your smoking. How were you able to do that?”

Know Where to Refer



<https://findtreatment.samhsa.gov>. Accessed 2024. Available at: <https://findtreatment.gov>

MCPAP



Connecting Primary Care
with Child Psychiatry

- Primary Care Plus Program (PC Plus), virtual counseling program
- Accept patients across the substance use spectrum, “from experimentation to addiction”
- Practices need to be members of MCPAP, a simple, no-cost process (link below)

MCPAP. Accessed 2024. Available at: <https://www.mcpap.com/provider/EnrollInMcPAP.aspx>



Medications for Opioid Use Disorder:

- 1. Buprenorphine (≥ 16 yrs)**
- 2. Methadone (≥ 18 yrs)**
- 3. Naltrexone (≥ 18 yrs)**

Evidence-based medications...

- Treat withdrawal and cravings for opioids
- Result in better retention in addiction care
- Recommended by the AAP, other orgs
- Typically offered alongside behavioral health services (though not required)
- Waiver no longer needed to prescribe buprenorphine
- Training available: <https://pcssnow.org>

What We All Can Do:

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Overdose Prevention:

- Be aware of counterfeit pills, contaminated drugs (e.g., cocaine)
- Don't use alone
- Start with a little to assess effect
- Avoid polysubstance use (especially with benzodiazepines, alcohol)
- Call 911 in event of overdose
- **Carry naloxone!**

Harm Reduction:

- Even when youth aren't ready or able to stop substance use, we can offer:
 - HIV testing and PrEP
 - HCV testing and treatment
 - Syringe exchange, education on safe injection
- Services keep youth safe and build trust with you as a clinician



Fentanyl Test Strips

1. Add small amount of drug to clean, dry container
2. Add ½ tsp of water & mix
3. Dip waxy end for 15 sec
4. Remove, place on a flat surface for 2 min



Photo: Photo: Stephen Crocker/Brown University
JE Goldman, et al. *Harm Reduct J.* 2019; 8;16(1):3

US CDC, 2022. Available at: <https://www.cdc.gov/stopoverdose/fentanyl/fentanyl-test-strips.html>

What We All Can Do:

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Problematic Terms	Preferable Terms
“Junkie”	“Person with substance use disorder”
“Druggie”	“Person with substance use disorder”
“Addict”	“Person with substance use disorder”
“Substance abuser”	“Person with substance use disorder”
“Substance abuse”	“Substance use”, “substance misuse”
“Clean”	“In recovery”
“Replacement therapy”	“Treatment” (buprenorphine)
“Born addicted”	“Born substance-exposed”

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Thank You!

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