

# Navigating Adolescent Addiction

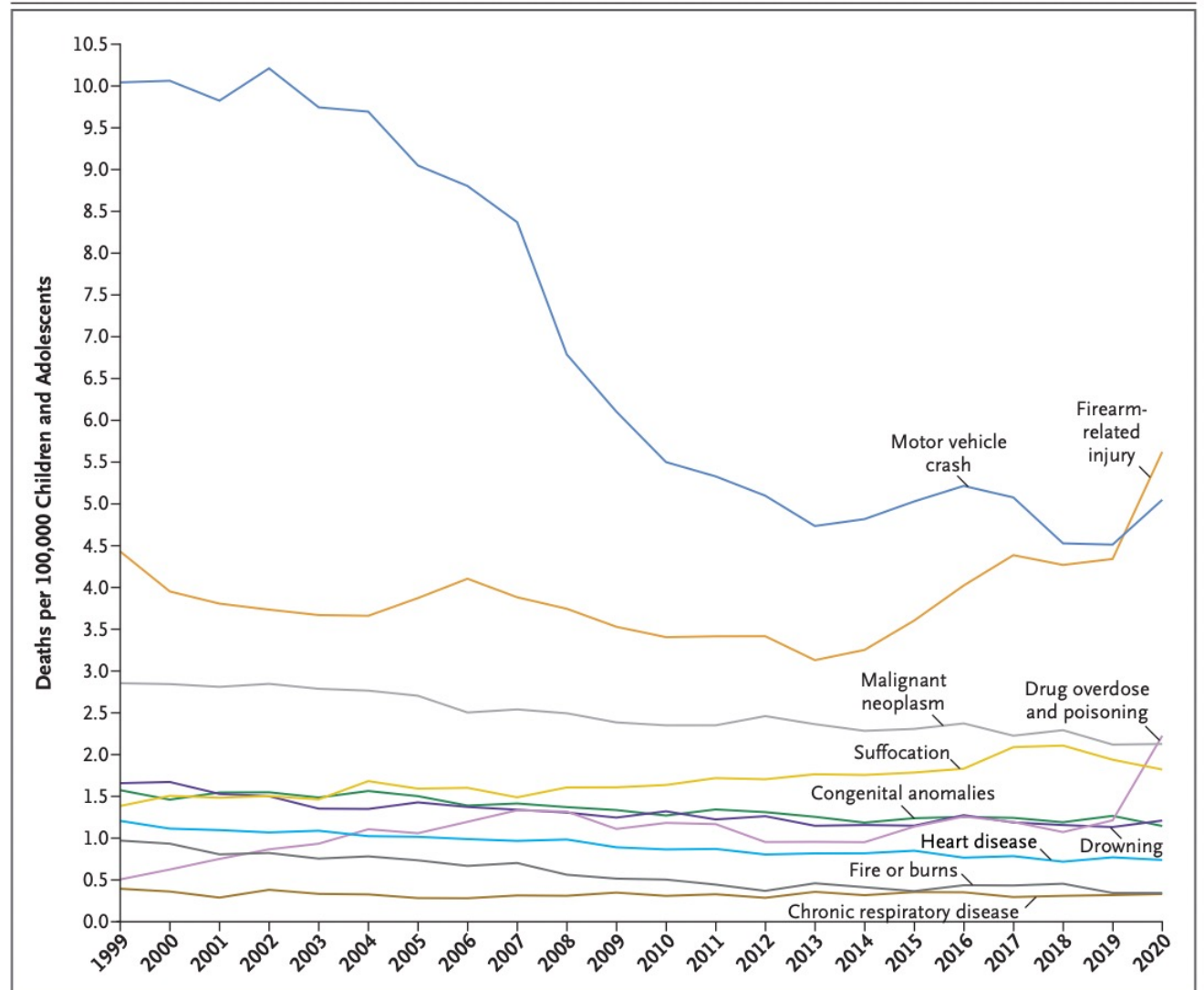
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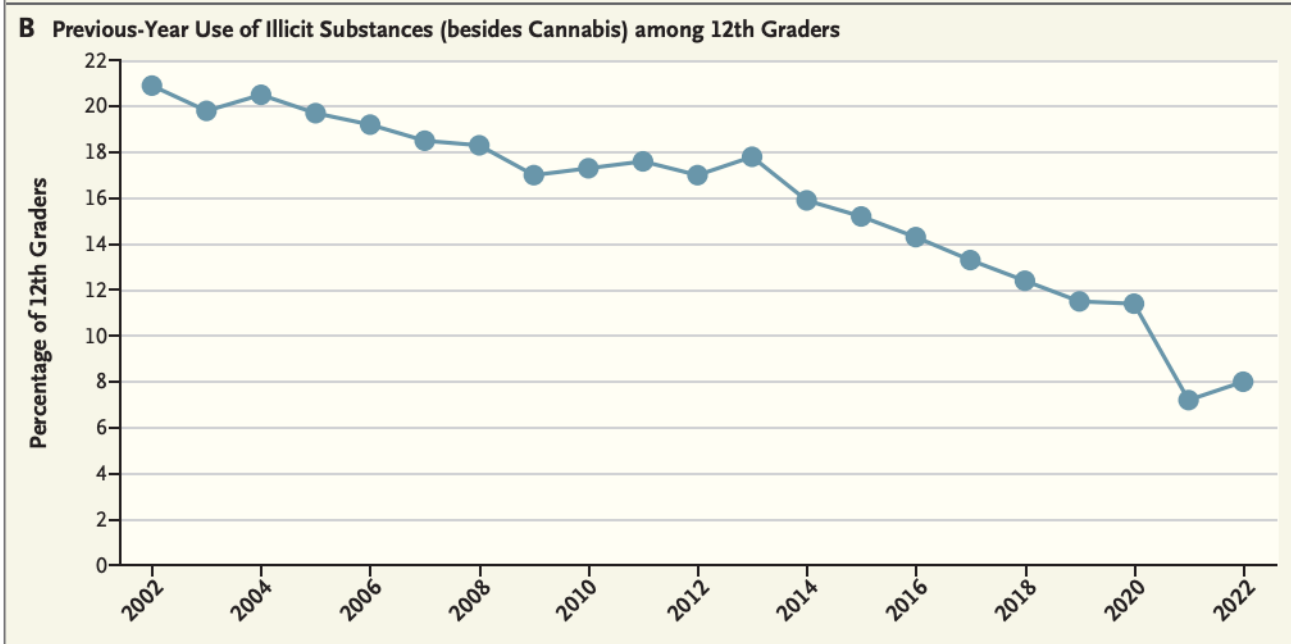
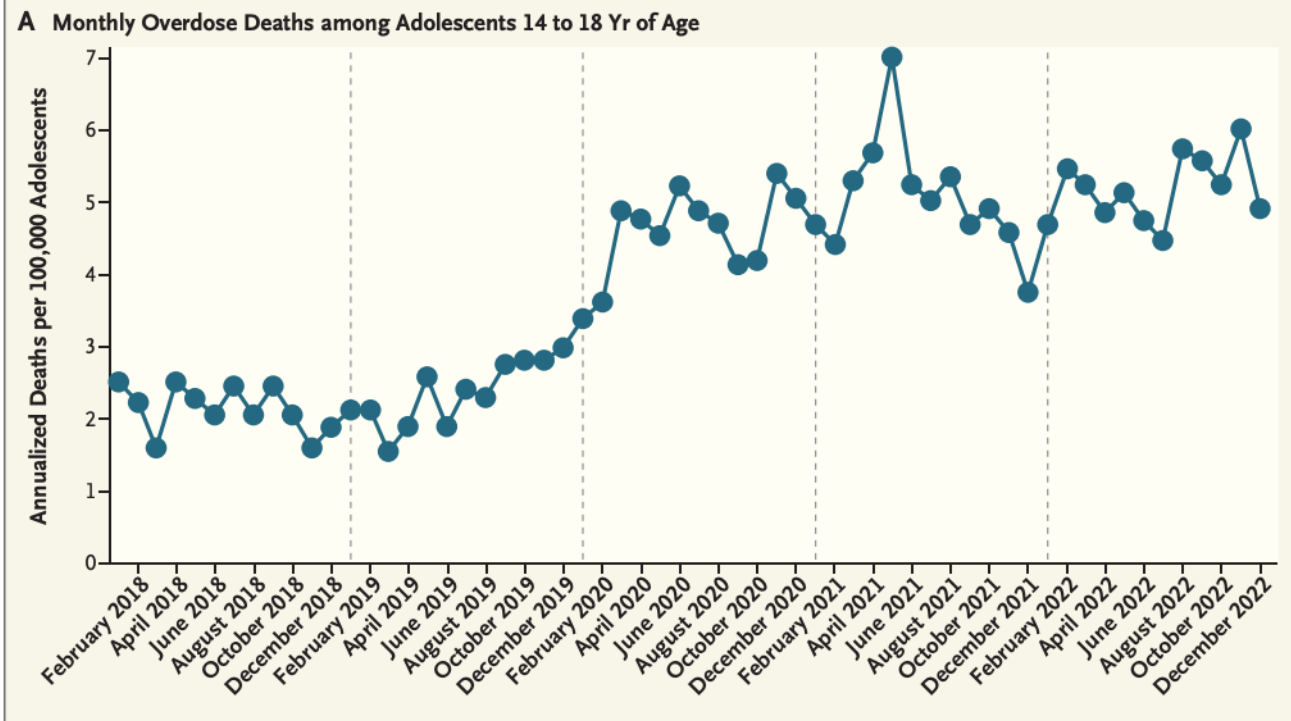
MOUD Forum – January 10, 2024

One classroom full of high school students  
dies each week from drug overdose

Overdose and poisoning is now the 3rd leading cause of death in children and adolescents



**Figure 1.** Leading Causes of Death among Children and Adolescents in the United States, 1999 through 2020. Children and adolescents are defined as persons 1 to 19 years of age.



Despite decrease in  
illicit drug use,  
**overdose deaths**  
**continue to rise** in  
adolescents

# Overdose deaths among adolescents has increased 109% from 2019 to 2021

90% of deaths involved opioids

40% had documented mental health hx

Two thirds of deaths had a bystander present, but most provided no overdose response

# Objectives

- Improving awareness of rise in opioid related overdose deaths
- Trends in substance use among adolescents
- Screening for substance use
- Treatment options – Buprenorphine is FDA approved for adolescents!
- Tx for AUD, CUD, and nicotine/tobacco use
- Harm Reduction
- Resources

# The teenager's brain 🧠💥

- ↑ risk taking
- ↑ increase novelty/sensation seeking behaviors
- Heavy alcohol consumption
  - Decrements in memory, attention, and speed processing
  - Impaired executive functioning
- Regular cannabis uses:
  - Poor learning performance, cognitive flexibility and working memory

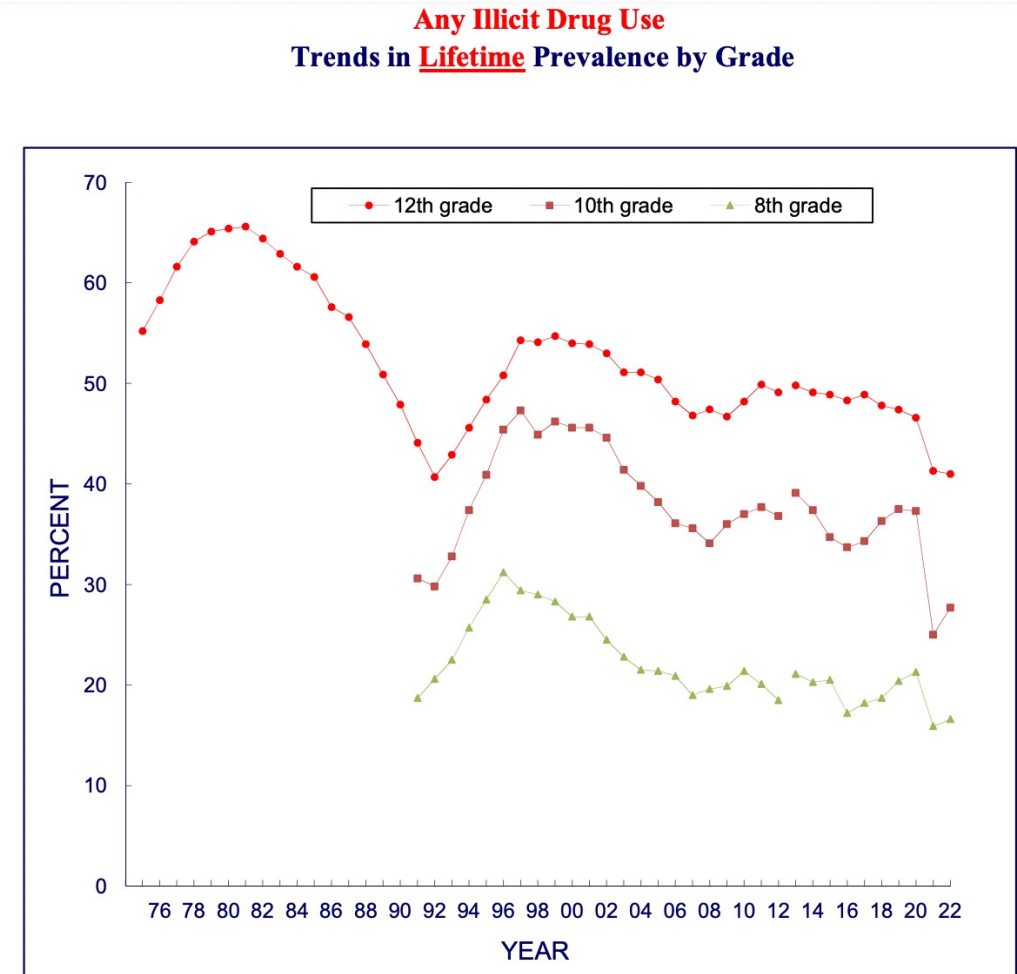
# What are the implications?

- Adolescents and young adults are at highest risk of illicit drug use
- 90% of adults with SUD began using ETOH or drugs during adolescence
- Earlier initiation of substance use correlates with:  
School related issues, involvement in criminal justice system, and neurocognitive and health impairments



# Drug use trends in 2023 among adolescents

- Self reported illicit substance use continues to hold below pre-pandemic levels
- Reported illicit drug use in past year per grade:
  - 10.9% of 8<sup>th</sup> graders
  - 19.8% of 10<sup>th</sup> graders
  - 31.2% of 12<sup>th</sup> graders



# 2023 Trends in Substance Use

## Alcohol use

- 8th grade: 15.1%
- 10th grade: 30.6%
- 12th grade: 45.7%

## Nicotine vaping

- 8th grade: 11.4%
- 10th grade: 20.5%
- 12th grade: 27.3%

## Cannabis

- 8th grade: 8.3%
- 10th grade: 17.8%
- 12th grade: 29.0%

## Delta-8-THC

- 12th grade: 11.4%

## Illicit drug use except cannabis

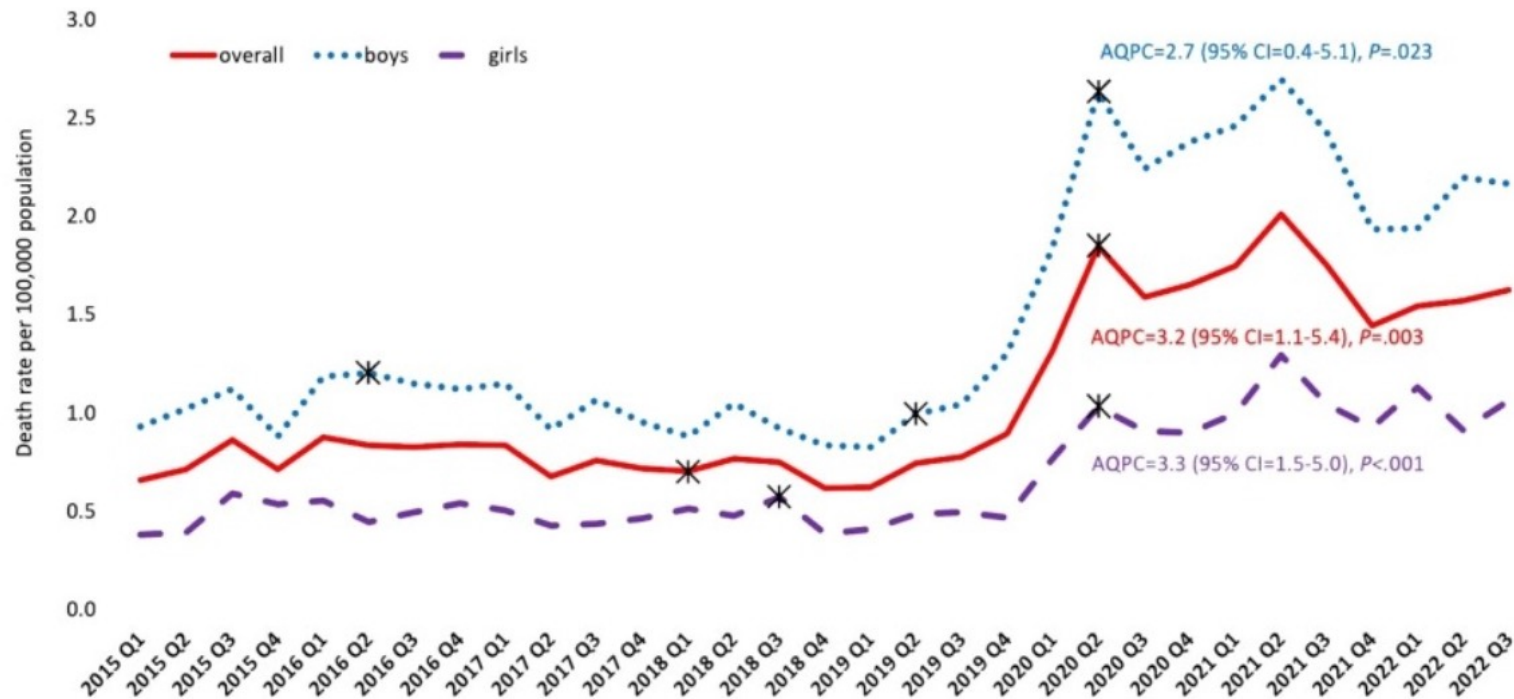
- 8th grade: 4.6%
- 10th grade: 5.1%
- 12th grade: 7.4%

## “Narcotics” other than heroin

- 12th grade: 1.0%

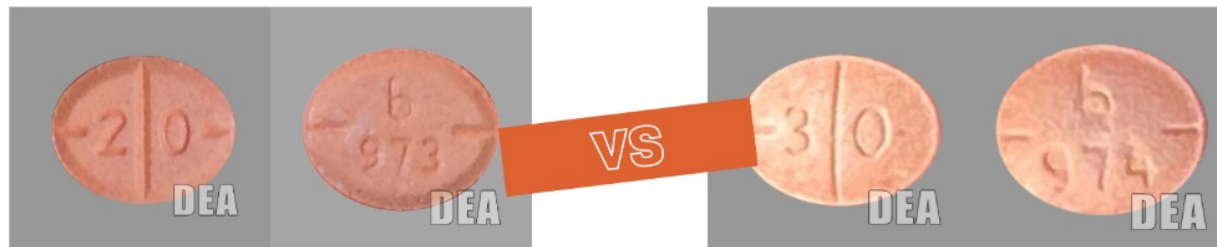
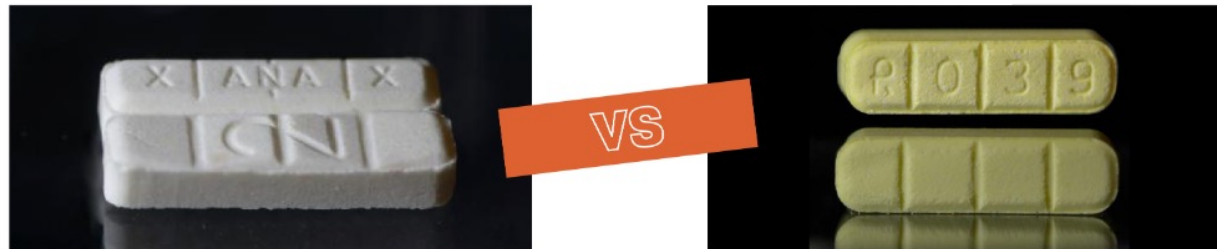
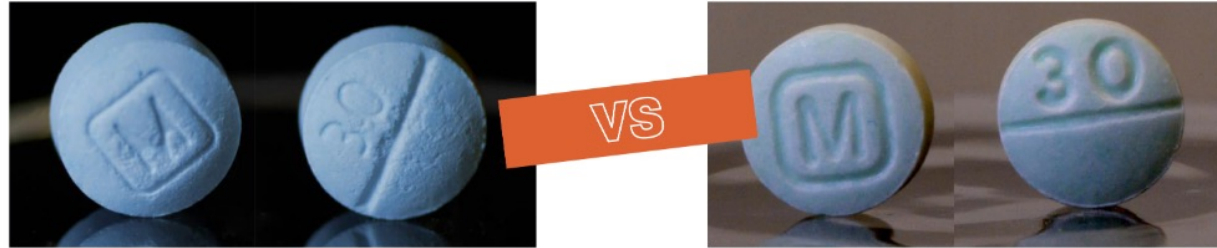
# Rise in overdose deaths

## Unintentional Drug Overdose Death Rates Among US Youth Aged 15-19



Data sources: National Vital Statistics System's multiple-cause-of-death 2019-2021 final and 2022-2023 provisional data and the U.S. census monthly data. \*: Joinpoints identified indicate significant changes in nonlinear trends using Bayesian Information Criterion. AQPC=average quarter percentage change during 2019 Q1-2023 Q1.

# Can you tell the difference?



# Risk/Protective Factors for SUD

## Risk Factors for High-Risk Substance Use

Risk factors for youth high-risk substance use can include:

- Family history of substance use
- Favorable parental attitudes towards the behavior
- Poor parental monitoring
- Parental substance use
- Family rejection of sexual orientation or gender identity
- Association with delinquent or substance using peers
- Lack of school connectedness
- Low academic achievement
- Childhood sexual abuse
- Mental health issues

## High-Risk Substance Use Prevention

Research has improved our understanding of factors that help buffer youth from a variety of risky behaviors, including substance use.

These are known as protective factors. Some protective factors for high risk substance use include:

- Parent or family engagement
- Family support
- Parental disapproval of substance use
- Parental monitoring
- School connectedness

### Refer parents to:

- **CDC – Adolescent and School Health**
- **NIDA Parents & Educators for tips/conversation starters**

# Screening Tools

# The CRAFFT Interview (version 2.1)

To be orally administered by the clinician

**Begin: "I'm going to ask you a few questions that I ask all my patients. Please be honest. I will keep your answers confidential."**

## Part A

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

1. Drink more than a few sips of beer, wine, or any drink containing alcohol? Put "0" if none.

# of days

2. Use any **marijuana** (weed, oil, or hash by smoking, vaping, or in food) or "**synthetic marijuana**" (like "K2," "Spice")? Put "0" if none.

# of days

3. Use **anything else to get high** (like other illegal drugs, prescription or over-the-counter medications, and things that you sniff, huff, or vape)? Put "0" if none.

# of days

**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**

## Part B

**C** Have you ever ridden in a **CAR** driven by someone (including yourself) who was "high" or had been using alcohol or drugs? ☐ No ☐ Yes

**R** Do you ever use alcohol or drugs to **RELAX**, feel better about yourself, or fit in? ☐ No ☐ Yes

**A** Do you ever use alcohol or drugs while you are by yourself, or **ALONE**? ☐ No ☐ Yes

**F** Do you ever **FORGET** things you did while using alcohol or drugs? ☐ No ☐ Yes

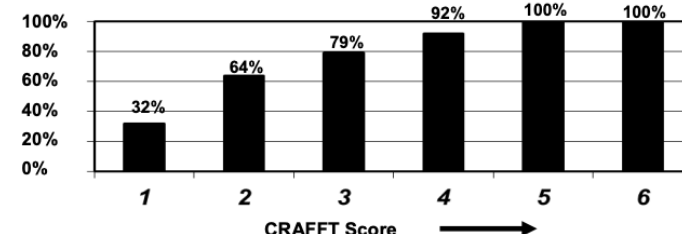
**F** Do your **FAMILY** or **FRIENDS** ever tell you that you should cut down on your drinking or drug use? ☐ No ☐ Yes

**T** Have you ever gotten into **TROUBLE** while you were using alcohol or drugs? ☐ No ☐ Yes

**\*Two or more YES answers suggest a serious problem and need for further assessment. See back for further instructions →**

**1. Show your patient his/her score on this graph and discuss level of risk for a substance use disorder.**

**Percent with a DSM-5 Substance Use Disorder by CRAFFT score\***



\*Data source: Mitchell SG, Kelly SM, Gryczynski J, Myers CP, O'Grady KE, Kirk AS, & Schwartz RP. (2014). The CRAFFT cut-points and DSM-5 criteria for alcohol and other drugs: a reevaluation and reexamination. Substance Abuse, 35(4), 376-80.

**2. Use these talking points for brief counseling.**



1. **REVIEW** screening results  
For each "yes" response: "Can you tell me more about that?"



2. **RECOMMEND** not to use  
"As your doctor (nurse/health care provider), my recommendation is not to use any alcohol, marijuana or other drug because they can: 1) Harm your developing brain; 2) Interfere with learning and memory, and 3) Put you in embarrassing or dangerous situations."



3. **RIDING/DRIVING** risk counseling  
"Motor vehicle crashes are the leading cause of death for young people. I give all my patients the Contract for Life. Please take it home and discuss it with your parents/guardians to create a plan for safe rides home."



4. **RESPONSE** elicit self-motivational statements  
Non-users: "If someone asked you why you don't drink or use drugs, what would you say?" Users: "What would be some of the benefits of not using?"



5. **REINFORCE** self-efficacy  
"I believe you have what it takes to keep alcohol and drugs from getting in the way of achieving your goals."

**3. Give patient Contract for Life.** Available at [www.crafft.org/contract](http://www.crafft.org/contract)

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(617) 355-5433 [www.ceasar.org](http://www.ceasar.org)

For more information and versions in other languages, see [www.ceasar.org](http://www.ceasar.org).

**Available on [coloradosbirt.org](http://coloradosbirt.org)**



## Screening to Brief Intervention (S2BI) Tool

The following questions will ask about your use, if any, of alcohol, tobacco, and other drugs. Please answer every question by checking the box next to your choice.

### IN THE PAST YEAR, HOW MANY TIMES HAVE YOU USED:

#### Tobacco?

- ☐ Never
- ☐ Once or twice
- ☐ Monthly
- ☐ Weekly or more

*S2BI Tool developed at Boston Children's Hospital with support from the National Institute on Drug Abuse.*

*It is best used in conjunction with "The Adolescent SBIRT Toolkit for Providers" [mass.gov/maclearinghouse](http://mass.gov/maclearinghouse) (no charge).*

#### Alcohol?

- ☐ Never
- ☐ Once or twice
- ☐ Monthly
- ☐ Weekly or more

#### Marijuana?

- ☐ Never
- ☐ Once or twice
- ☐ Monthly
- ☐ Weekly or more

**STOP** if answers to all previous questions are "never." Otherwise, continue with questions on the back.

#### Prescription drugs that were not prescribed for you (such as pain medication or Adderall)?

- ☐ Never
- ☐ Once or twice
- ☐ Monthly
- ☐ Weekly or more

#### Illegal drugs (such as cocaine or Ecstasy)?

- ☐ Never
- ☐ Once or twice
- ☐ Monthly
- ☐ Weekly or more

#### Inhalants (such as nitrous oxide)?

- ☐ Never
- ☐ Once or twice
- ☐ Monthly
- ☐ Weekly or more

#### Herbs or synthetic drugs (such as salvia, "K2", or bath salts)?

- ☐ Never
- ☐ Once or twice
- ☐ Monthly
- ☐ Weekly or more

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SA3542  
MAY 2015

OVER

Available on [nida.nih.gov/s2bi](http://nida.nih.gov/s2bi)

+ Screening → Treatment

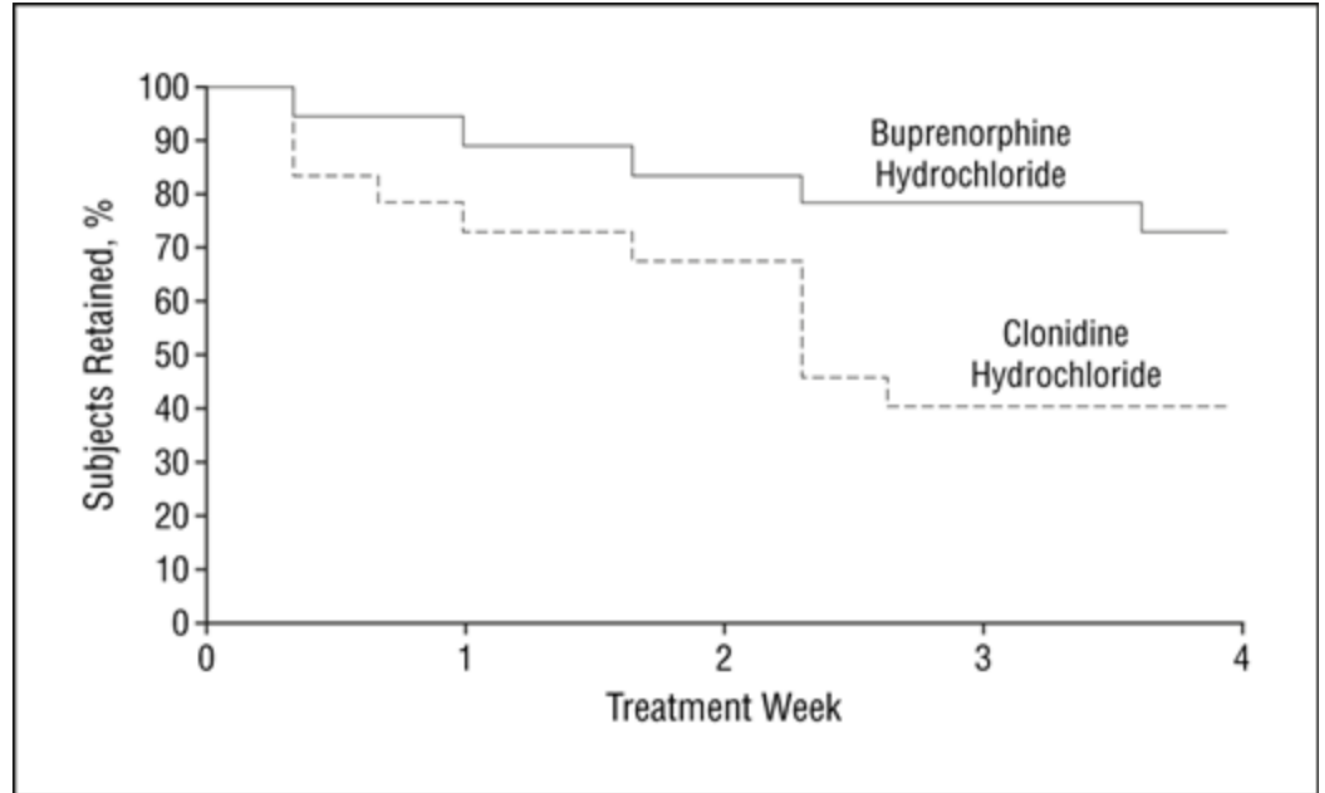
Opioid use disorder

# Buprenorphine ↑ treatment retention

Outpatient detox with buprenorphine ( $\leq 8$  mg) + placebo patch vs. clonidine ( $\leq 3$  mg) patch + placebo tablets

↑ retention in buprenorphine (72%) vs clonidine (39%) ( $p < 0.05$ )

↑ % of negative UDS (64% vs. 32%,  $p = 0.01$ )



# Buprenorphine RCTs

Clinical Trial	Sample Characteristics	Design	Interventions and dose	Results
Woody et al. (2008)	N = 152 treatment-seeking adolescents who met DSM-IV criteria for opioid dependence	Randomized, nonblinded 12-week trial	14-day outpatient detoxification ( $\leq 14$ mg of buprenorphine) vs. 12-week buprenorphine/naloxone ( $\leq 24$ mg)	12wk bup/naloxone ( $\leq 24$ mg) with: <b>↓ Opioid-positive urine</b> tests at week 4 & 8 <b>↓ reported opioid use</b> before week 6 <b>↓ reported injections</b> before week 6 <b>↓ cocaine and marijuana use</b>
Marsh et al. (2016)	N = 53 youth who met DSM-IV opioid dependence criteria	Randomized, double-blind, placebo-controlled, multicenter randomized controlled trial	28-day or 56-day buprenorphine/naloxone detoxification and followed over a 63-day study period.	56-day buprenorphine taper: <b>↑ treatment retention</b> by 11 days <b>↑ % negative UDS</b> (35 vs. 17%).

# Buprenorphine Rx Trends

Buprenorphine prescribing has dropped by ~25% in people <19yo from 2015 to 2019.

Decrease in buprenorphine Rx during COVID-19 pandemic among commercial insurance and cash payers

Alcohol use disorder

# Naltrexone for AUD

- Small open label pilot study – naltrexone well tolerated in adolescents

- Two clinical trials

1. Miranda et al.:

naltrexone ↓ **likelihood of drinking and heavy drinking**

Blunted ETOH cravings

Rx was well tolerated

2. O'Malley et al.:

naltrexone did not reduce frequency of drinking nor heavy drinking days

Did reduce drinking intensity and BAL



Cannabis use disorder

# Psychotherapy = gold standard for CUD

- Individual Psychotherapies:

- Cognitive behavioral therapy (CBT): ↓ cannabis use ↓ heavy use ↑ negative UDS
- Motivation enhancement therapy + CBT: ↓ cannabis use ↑ in recovery
- Adding contingency management: ↑ negative UDS ↑ abstinence - *however effects are not sustained once incentives discontinued*

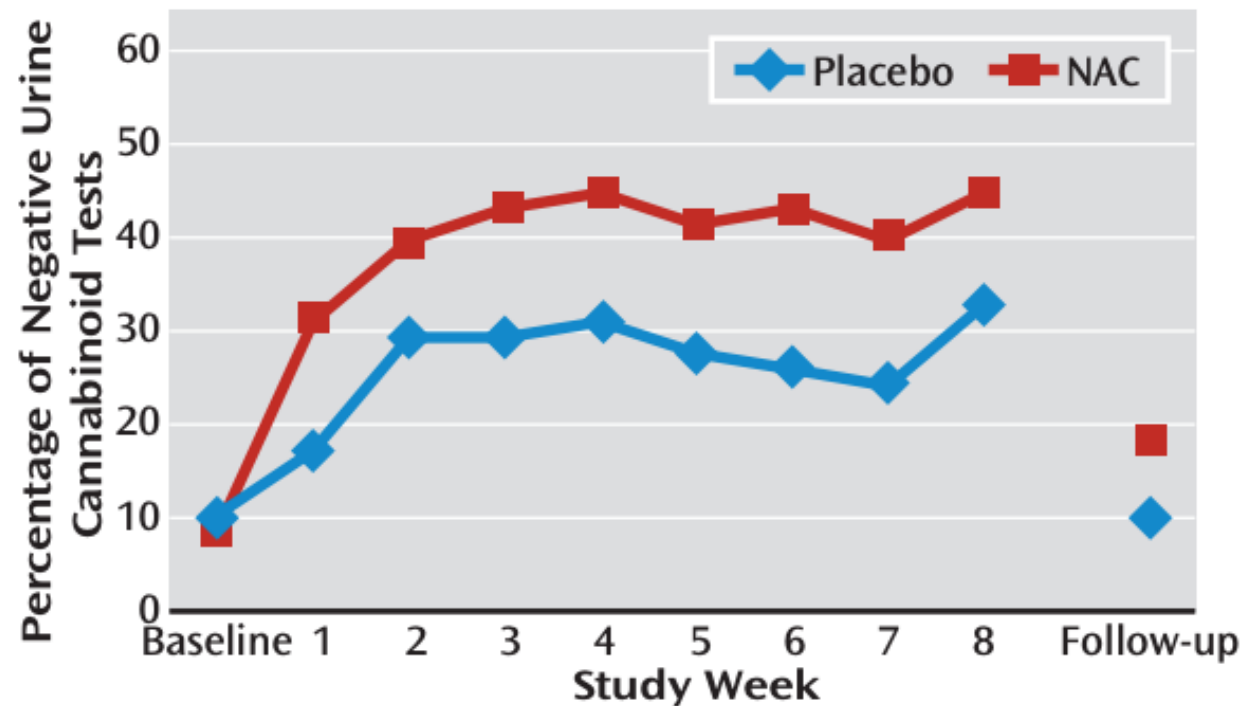
- Family Based Therapies

↑ abstinence/minimal use, ↓ # adolescent meeting criteria for CUD, ↓ heavy use

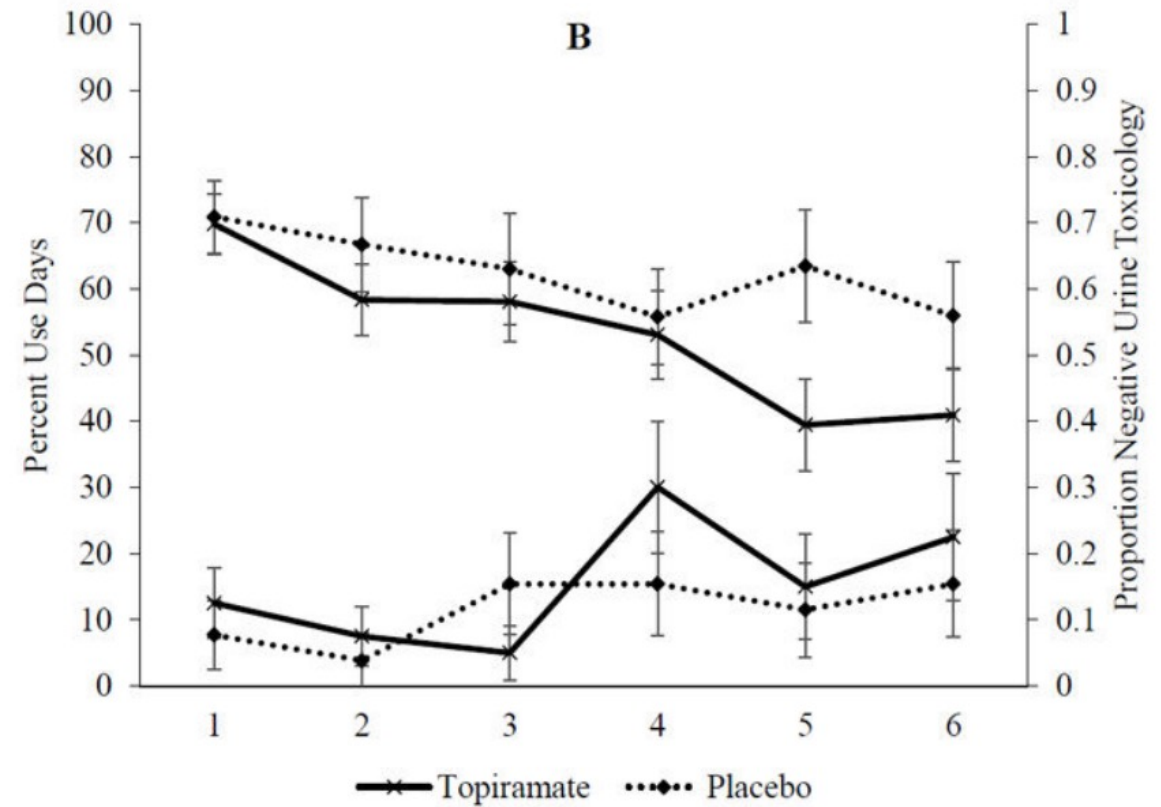
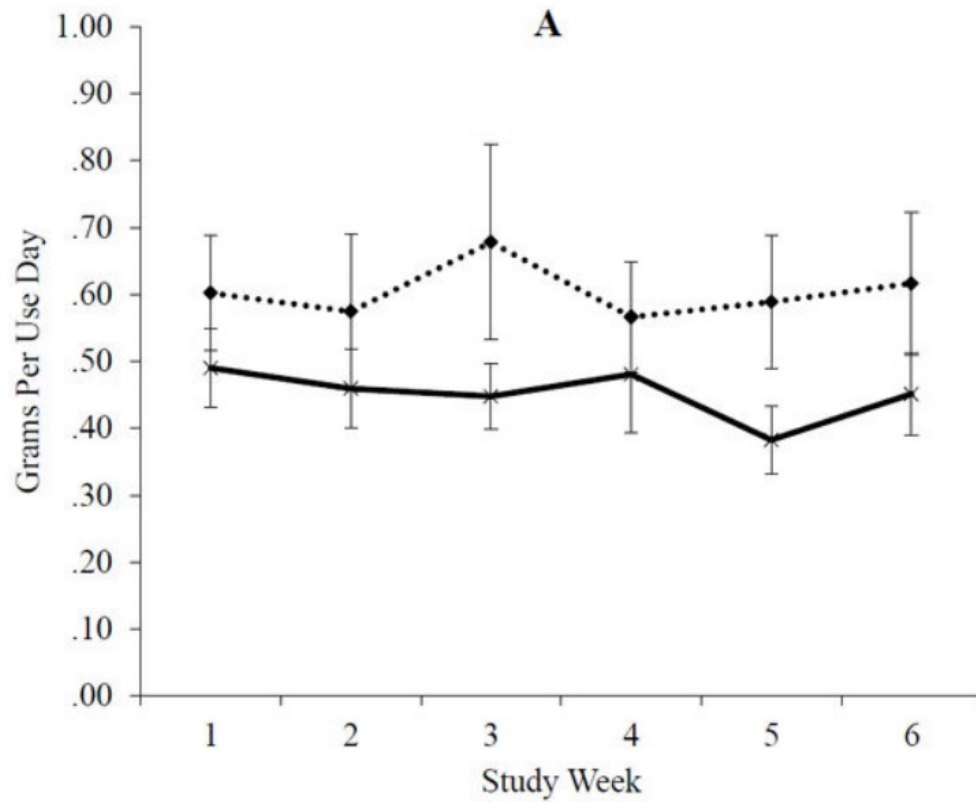
# Pharmacotherapy for CUD - NAC

## TRIAL OF N-ACETYLCYSTEINE IN CANNABIS-DEPENDENT ADOLESCENTS

**FIGURE 1. Proportion of Negative Urine Cannabinoid Tests Over Time Among Cannabis-Dependent Adolescents in a Randomized Controlled Trial of N-Acetylcysteine (NAC)<sup>a</sup>**



# Pharmacotherapy for CUD - topiramate



Nicotine vaping

# CIGS IN AN E-CIG

1 Pack of Cigarettes  
= ~22mg of Nicotine

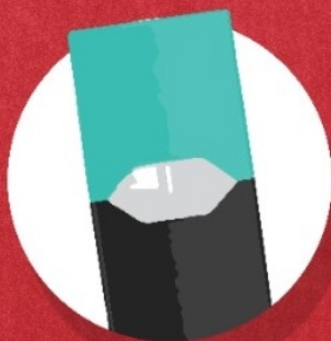


AMOUNT OF NICOTINE IN

~20  
CIGARETTES



1 JUUL Pod  
= ~41.3mg of Nicotine



AMOUNT OF NICOTINE IN

~37  
CIGARETTES



1 Flum Float  
= ~400mg of Nicotine

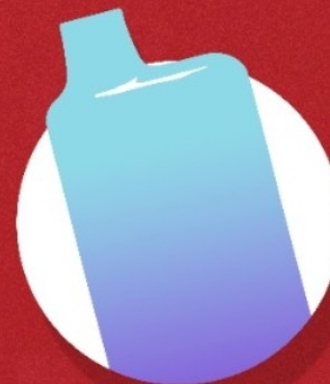


AMOUNT OF NICOTINE IN

~363  
CIGARETTES



1 Elf Bar  
= ~650mg of Nicotine



AMOUNT OF NICOTINE IN

~590  
CIGARETTES



# Tobacco use disorder / Nicotine vaping

<i>SUD indication</i>	<i>Medication</i>	<i>Number of studies and participants</i>	<i>Safety/tolerability</i>	<i>SUD outcomes</i>
Tobacco use disorder	Nicotine replacement therapy	9 ( $N = 1118$ )	Positive (negative for nasal sprayer)	Mixed for patch, mostly negative for nasal sprayer
	Bupropion SR	3 ( $N = 657$ )	Positive	Positive at 300 mg
	Varenicline	3 ( $N = 258$ ) + 1 pending publication ( $N = 307$ )	Positive	Preliminary/encouraging

# Mental health RX = MAT

- Major gap in care  
Only 4.6% of youth receiving comprehensive dual diagnosis care (care for both a substance use disorder and a mental health condition)
- Screening + treatment/referral for GAD, MDD, ADHD



Harm reduction

# PRINCIPLES OF MOTIVATIONAL INTERVIEWING



Build rapport by expressing genuine empathy for their experience.



Elicit the pros and cons of behaviors. Identify the difference between their goals and current behaviors.



Direct confrontation will put the patient on the defense and make change talk difficult.



Respect the person's autonomy and help them uncover their own motivations for behavior change.



Communicate to the person that he/she/they are capable of change.



# HOW TO USE

**nARCAN**  
(Naloxone)



REACH Lab



Use our **safetyfirst** curriculum to talk with your students

## Recognize a Fentanyl Overdose

Knowing the signs of opioid overdose is crucial in saving a life.

Signs Include:

- Slow, shallow, and erratic breathing
- Unconscious and unresponsive
- Slow or no pulse
- Pale and clammy

## Respond to the Emergency

Here are the steps to follow:

- Have Narcan ready to use
- Hold the device with your thumb on the bottom plunger and two fingers on the nozzle
- Insert the tip into either nostril
- Firmly press the plunger to release the dose
- Dial 911
- Repeat with additional Narcan

Click [here](#) to mail order Narcan or learn more



\*Narcan does not cause harm if there is no overdose



# Harm Reduction Resources

- [Dancesafe.org](https://dancesafe.org) – testing supplies
- [Stoptheclockcolorado.org](https://stoptheclockcolorado.org) - where naloxone is available
- Syringe access programs – list on CDPHE
- [Denvergov.org](https://denvergov.org) – naloxone and fentanyl test strips for Denver residents only

# Resources

## **STEP Clinic at Denver Health**

303-602-4848

Continuum of care - adolescent detox, 11 school based MAT/therapy, outpt clinic/MAT/therapy, in-home family therapy

Safety First Curriculum

CDC + NIDA

ColoradoSBIRT.org

# Key Points

- Opioid overdose is a leading cause of death among adolescents
- Prescribe buprenorphine in OUD !
- Encourage dialogue with young patients/families about substance use

Questions?