

ADHD and Substance Use Disorders: Understanding and Managing Risk

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- Off-label use of medication will be discussed.

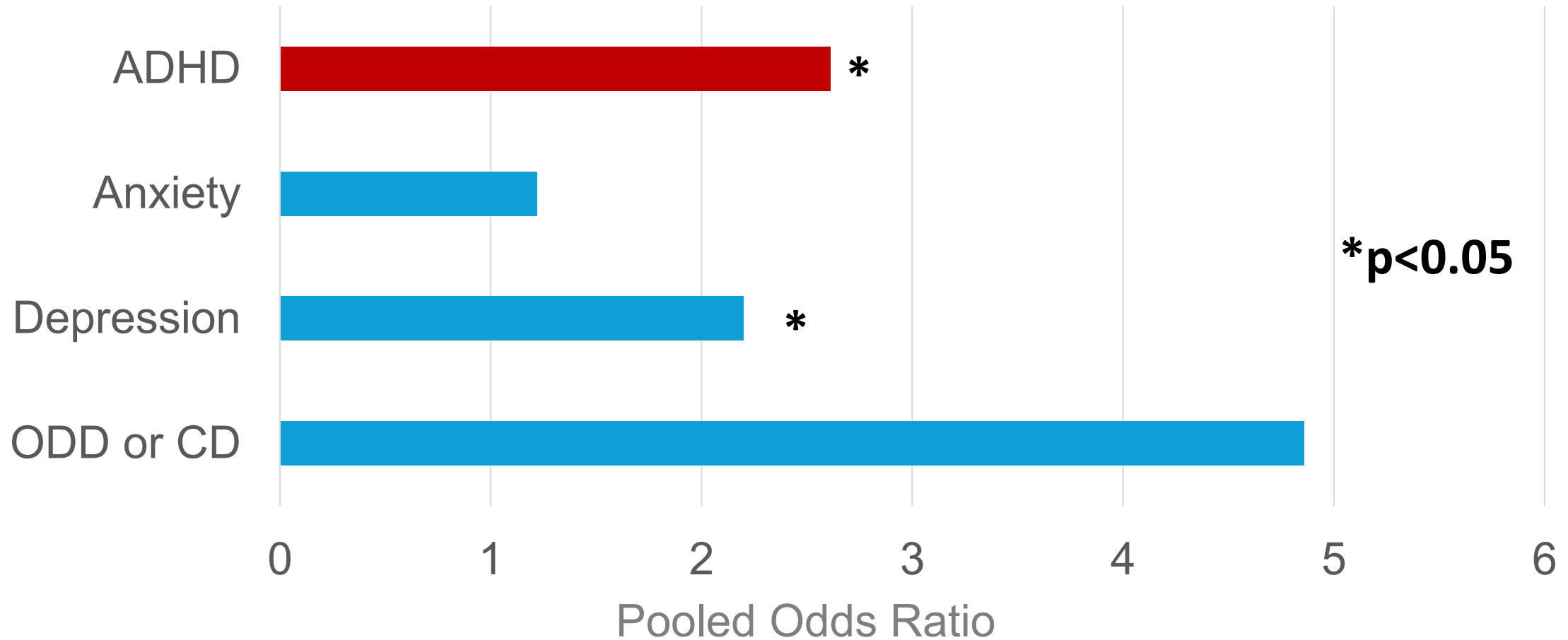
Learning objective

- Review the relationship between attention deficit hyperactivity disorder (ADHD) and substance use disorders (SUD)
- Describe strategies to decrease risk associated with non-medical use of prescription stimulants
- Review principles for assessing and treating ADHD when co-occurring with SUD

The relationship between ADHD and SUD

ADHD is associated with increased risk for SUD

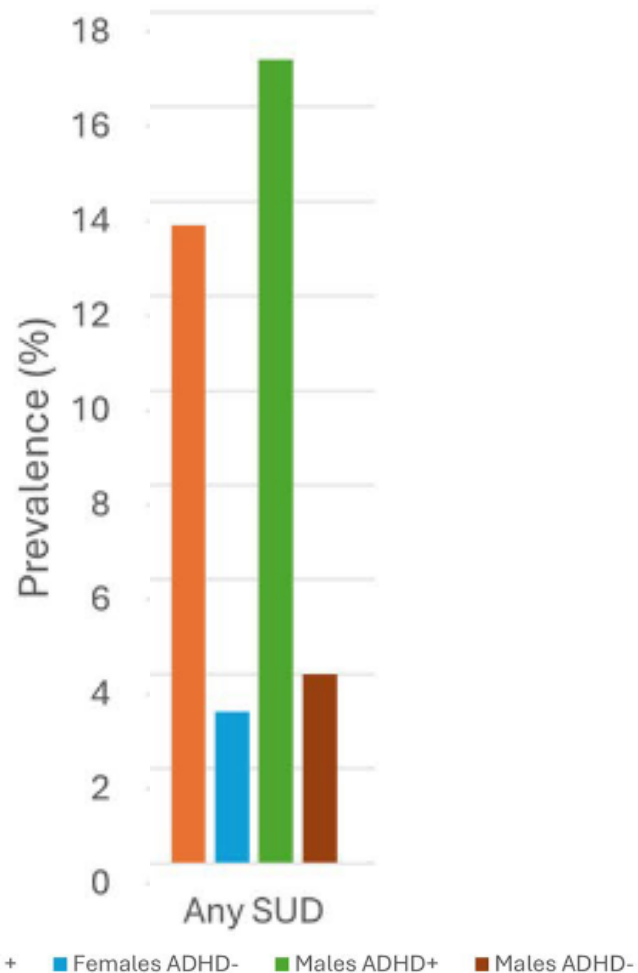
Psychiatric Disorder and Risk for SUD



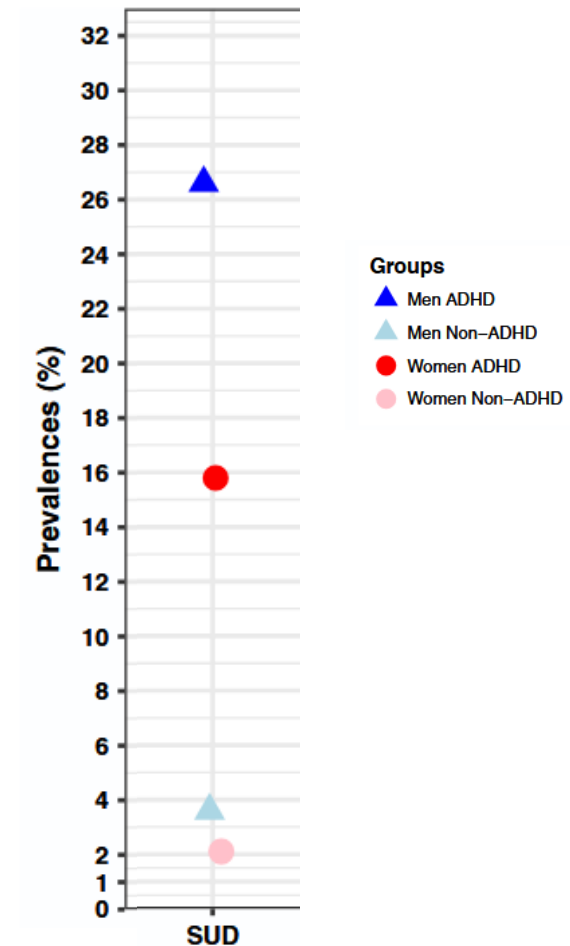
SUD is common among individuals with ADHD

Registry studies from Norway

Ages 7
through 31

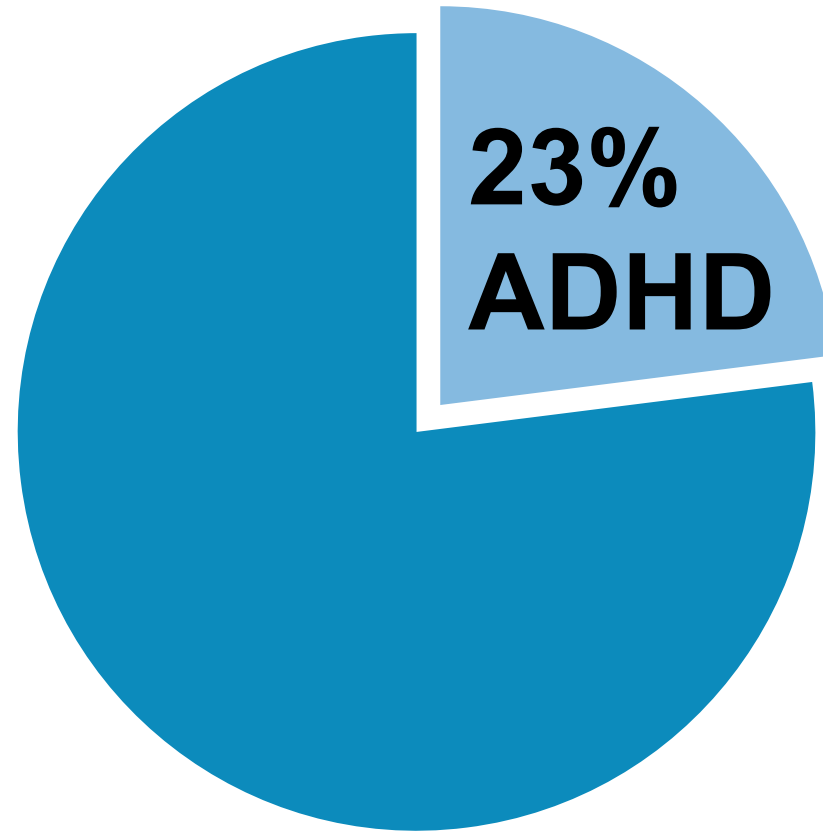


Ages
18+

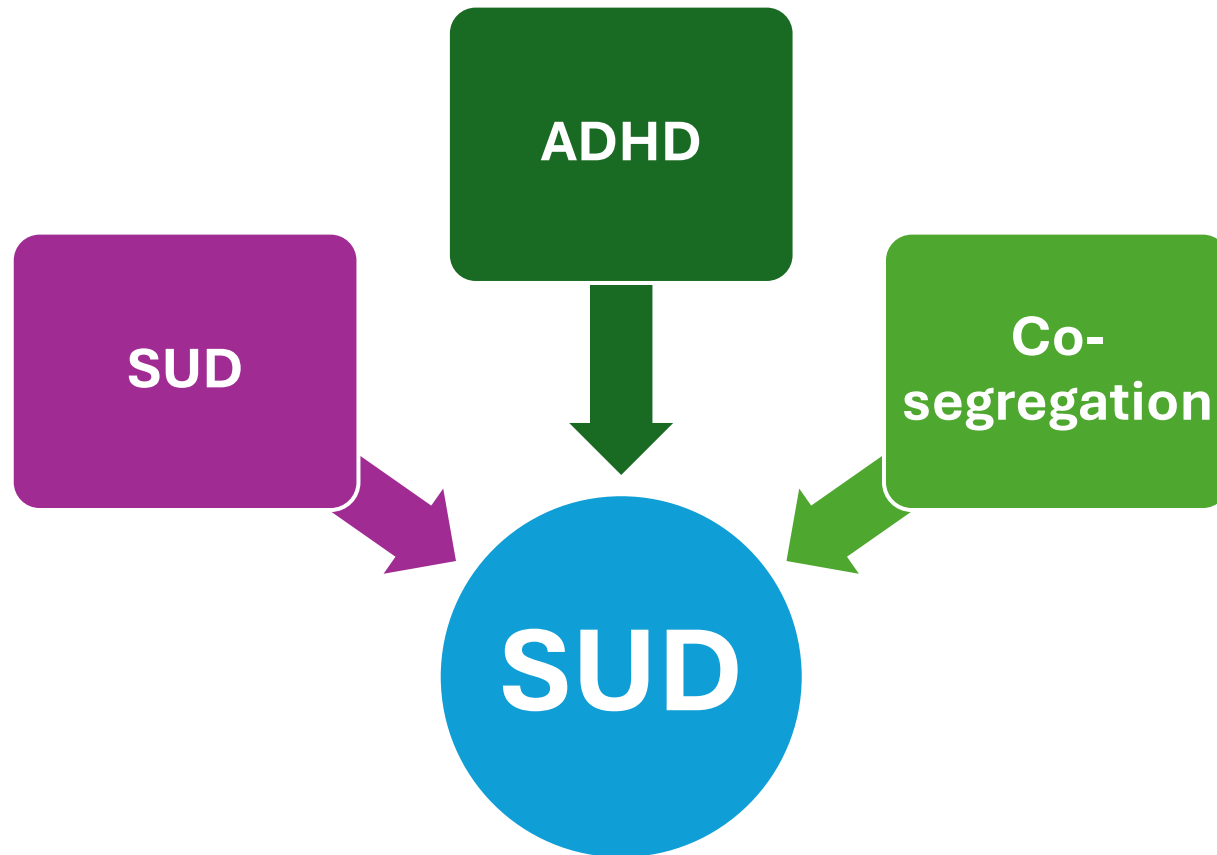


ADHD is common among individuals with a SUD

**Meta analysis
of studies with
individuals
with a SUD**



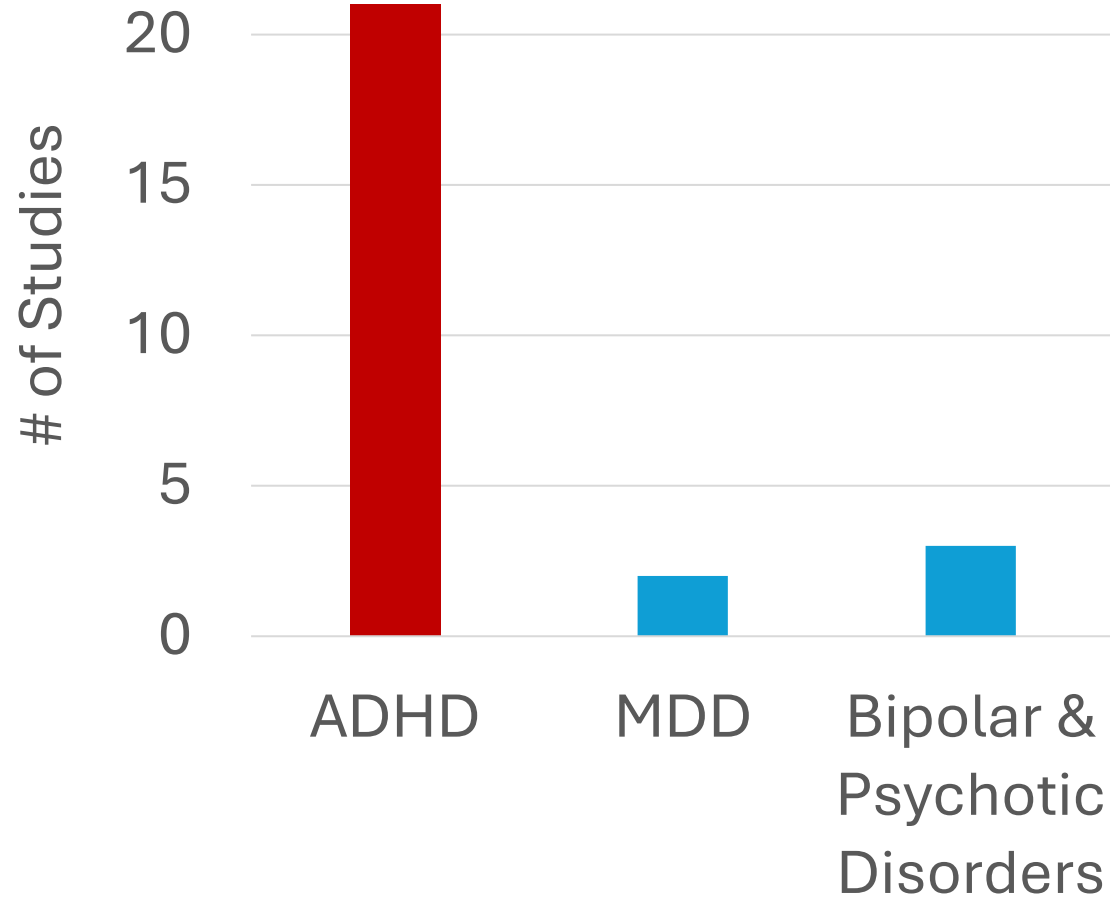
There is a familial relationship between ADHD and SUD



Various pathways are involved in the transmission of SUD in ADHD families

Stimulant treatment during childhood does not increase risk for SUD

Systematic review:
pharmacologic treatments of
child-onset psychiatric
disorders and
SUD risk



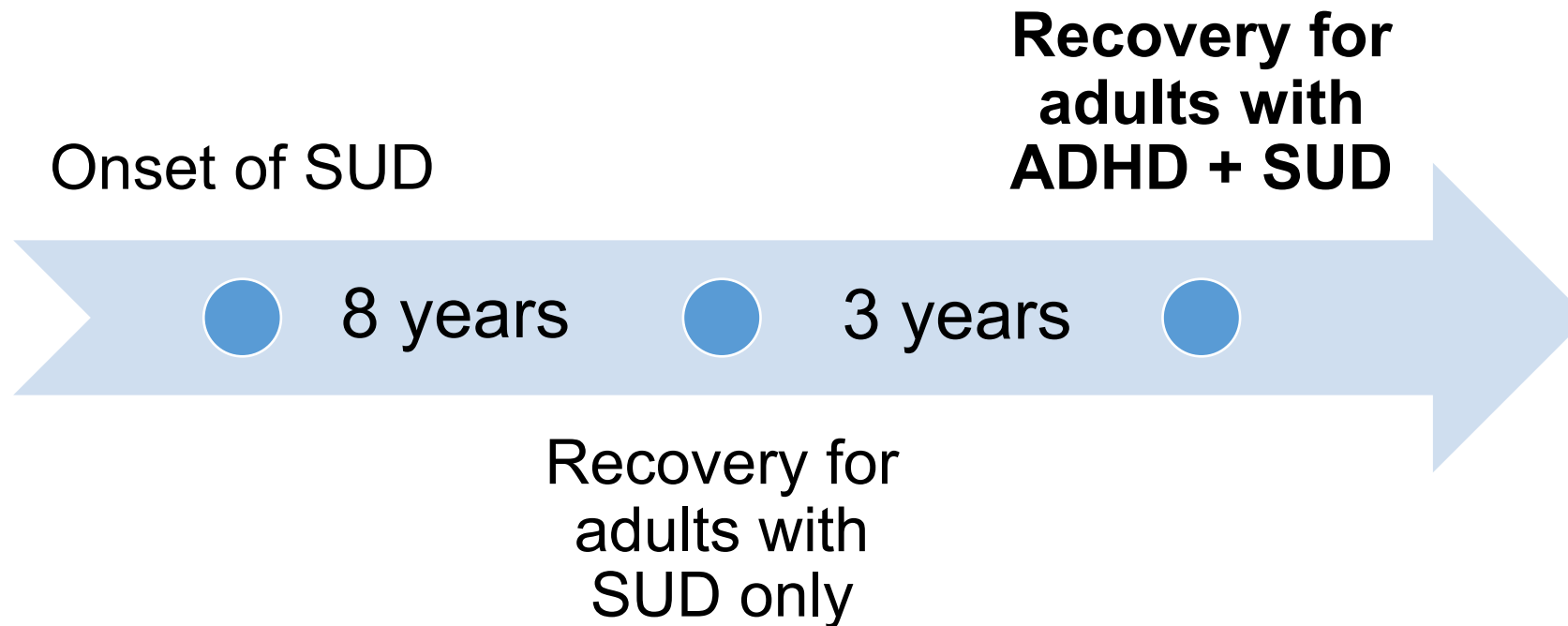
Timing of treatment matters—earlier initiation of treatment and more consistent treatment is associated with decreased risk for SUD

Co-occurring ADHD and SUD is associated with a more complicated course in SUD treatment

- Co-occurring ADHD/SUD associated with:
 - More severe SUD
 - Higher prevalence of other psychiatric co-morbidities
 - Less likely to achieve remission from SUD
 - Lower retention in substance use treatment

Co-occurring ADHD and SUD is associated with a more complicated course in SUD treatment

It takes longer to reach recovery for people with ADHD and SUD compared to those with SUD only

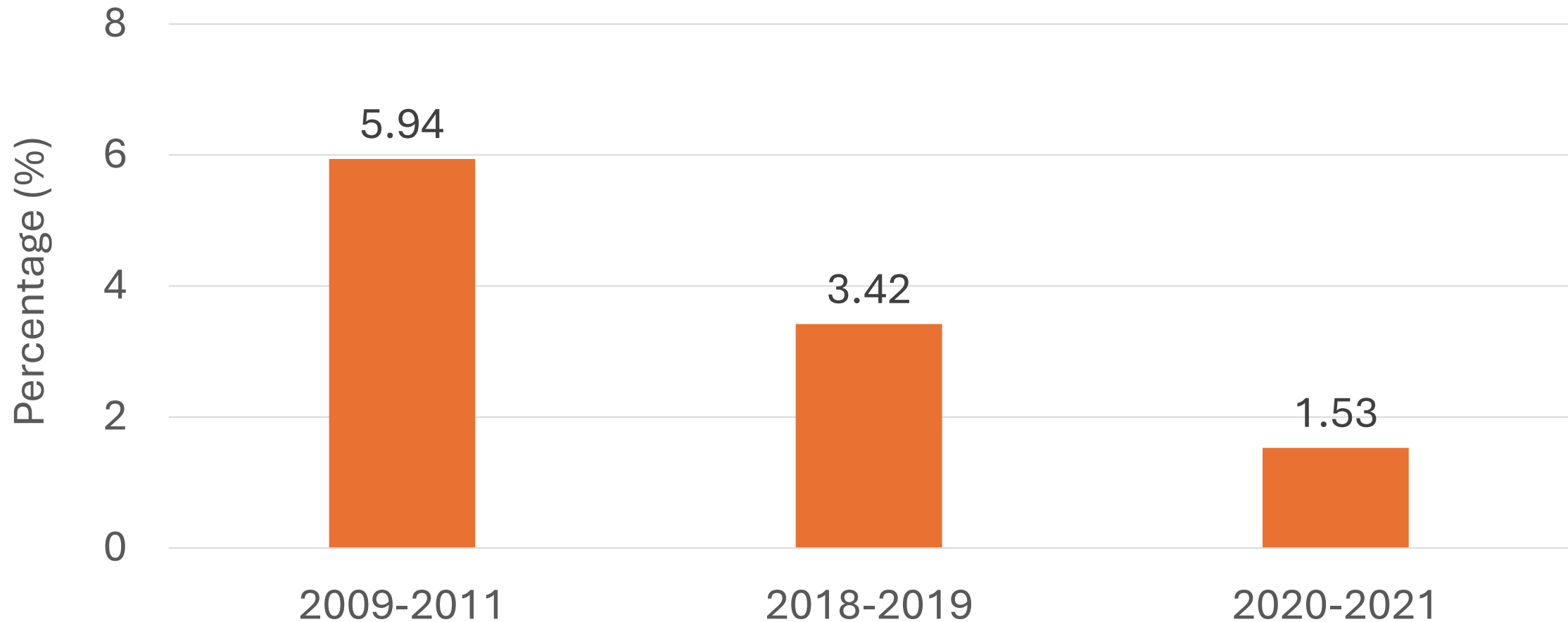


Strategies to decrease risk
associated with non-medical use
of prescription stimulants

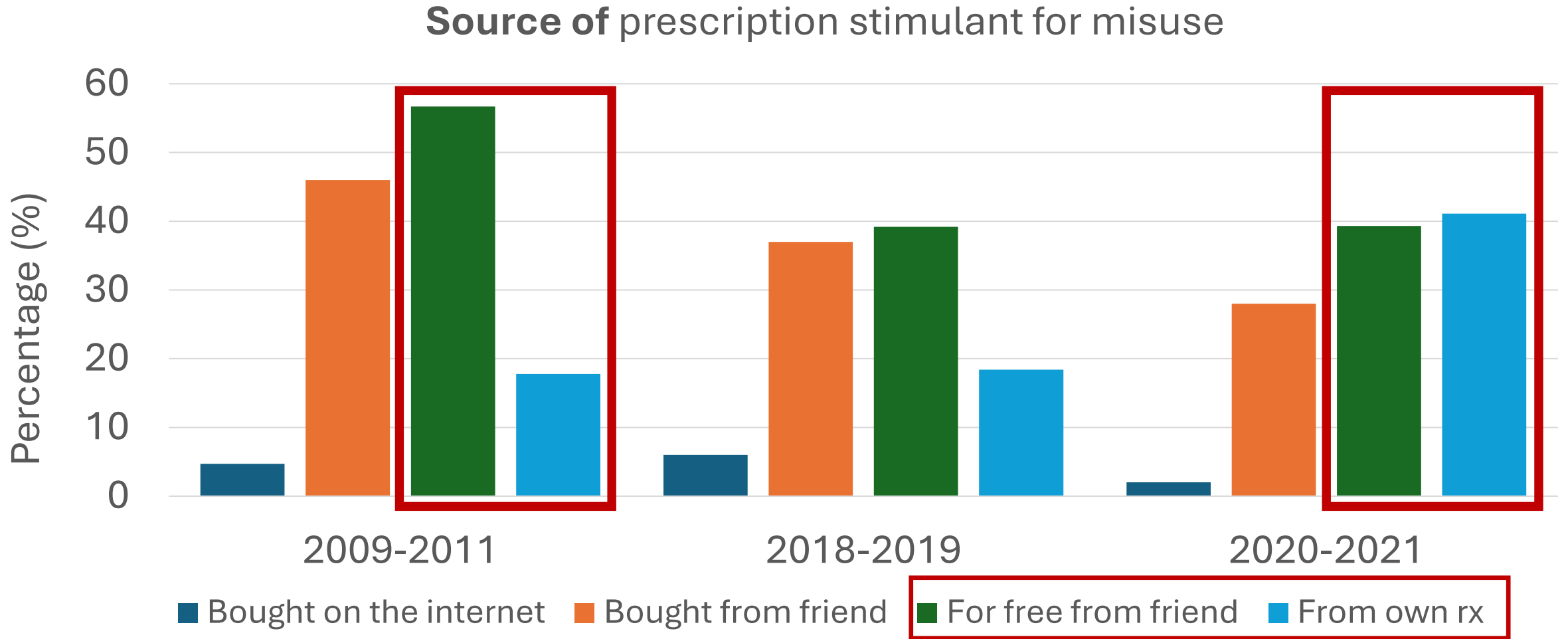
Risk for non-medical use of
prescription stimulants

Overall, nonmedical use of prescription stimulants has declined among adolescents

Past year non medical use of prescription stimulants



Source of prescription stimulants for misuse has shifted



Stimulant Medication Diversion



- Young adults (Avg age 21) in an ADHD study
 - 11% sold prescription in the past 4 years
 - **Those who misused their prescription or skipped dosages were more likely to sell**

Nonstimulant misuse among college students



- **54%** of college students with ADHD were approached to divert their stimulant prescription

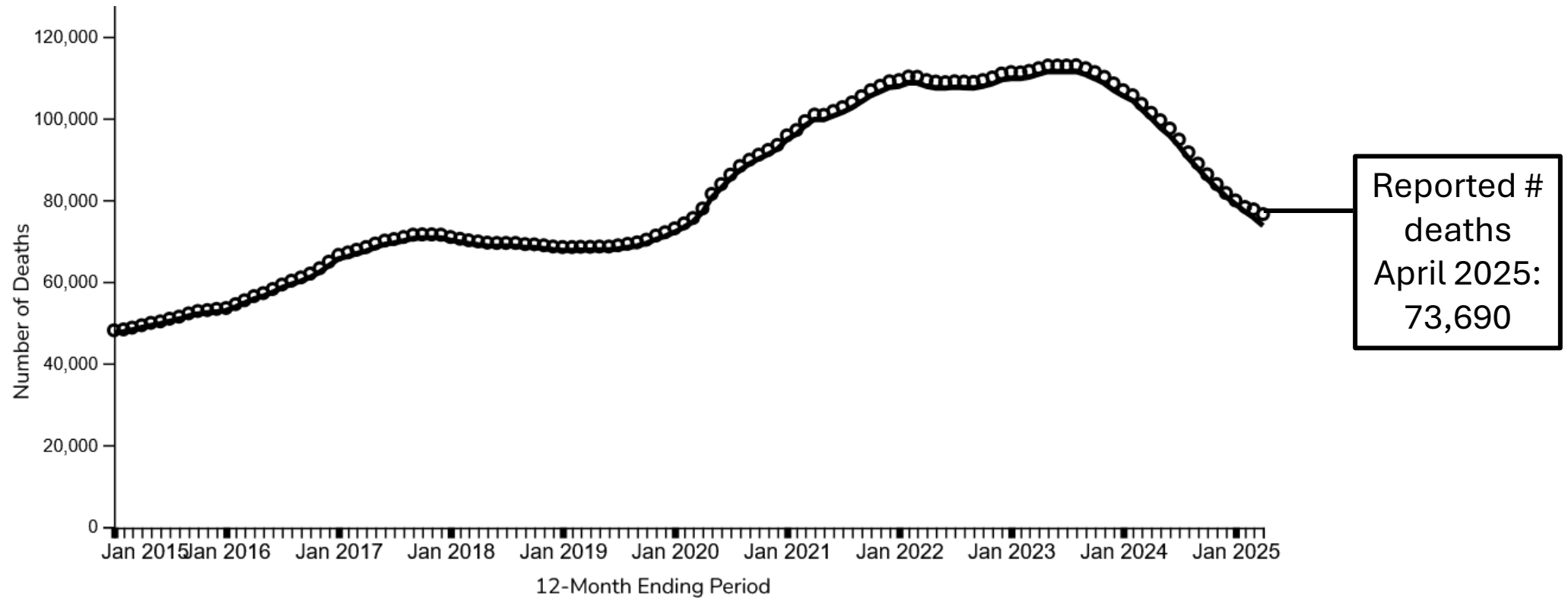
Medication Guidance



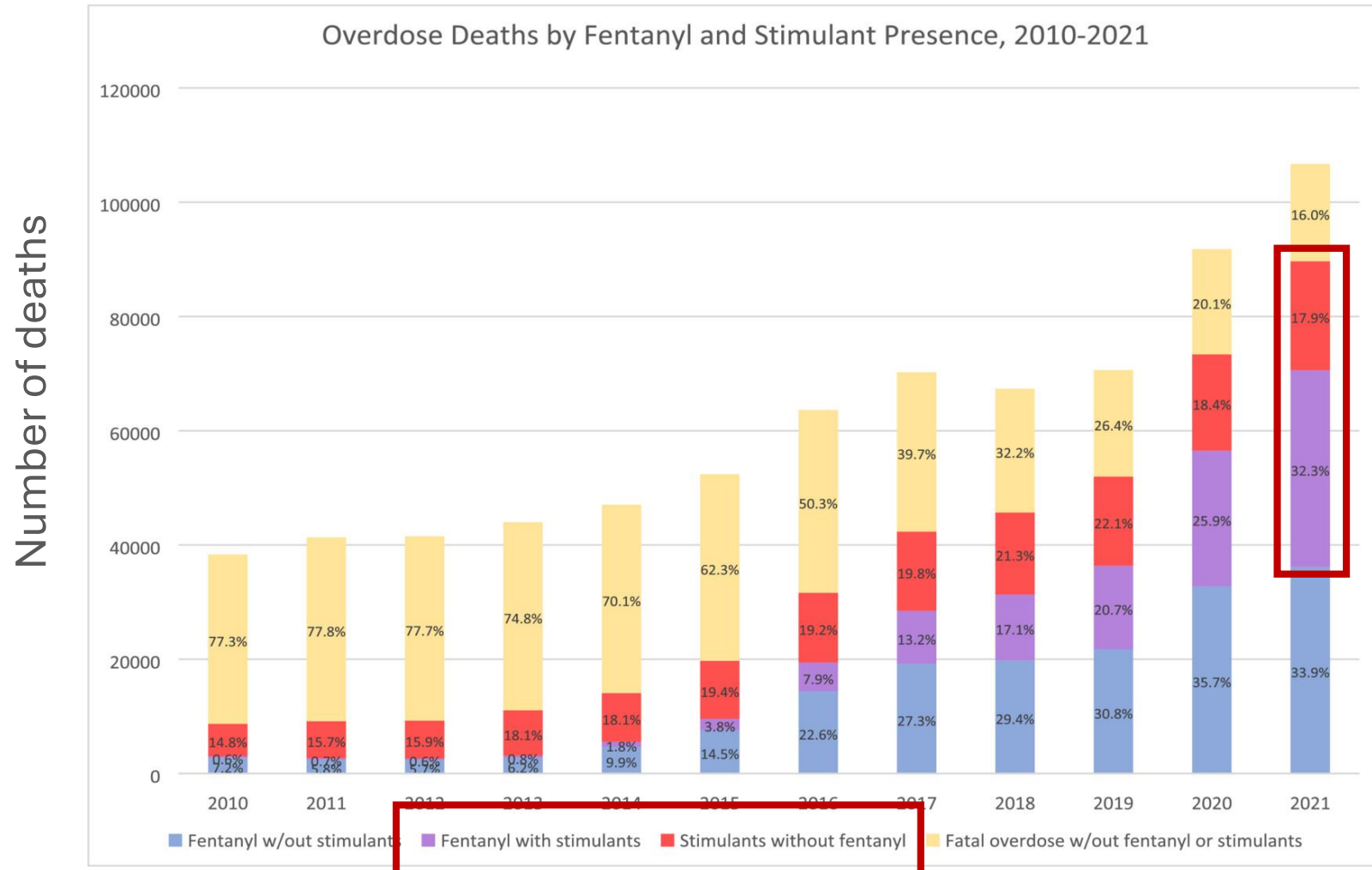
- Patient and Family Guidance
 - **Take your medication as prescribed**
 - **Do not share your medication**
 - Role play what to do if asked to share medication
- Safe storage
 - Medication lock box
 - Stored “out of sight”
- Periodic parent monitoring of medication adherence
- Discard unused medication every 3 to 4 months

Stimulants and drug overdoses

Drug overdose deaths have been declining in the United States over the past ~year



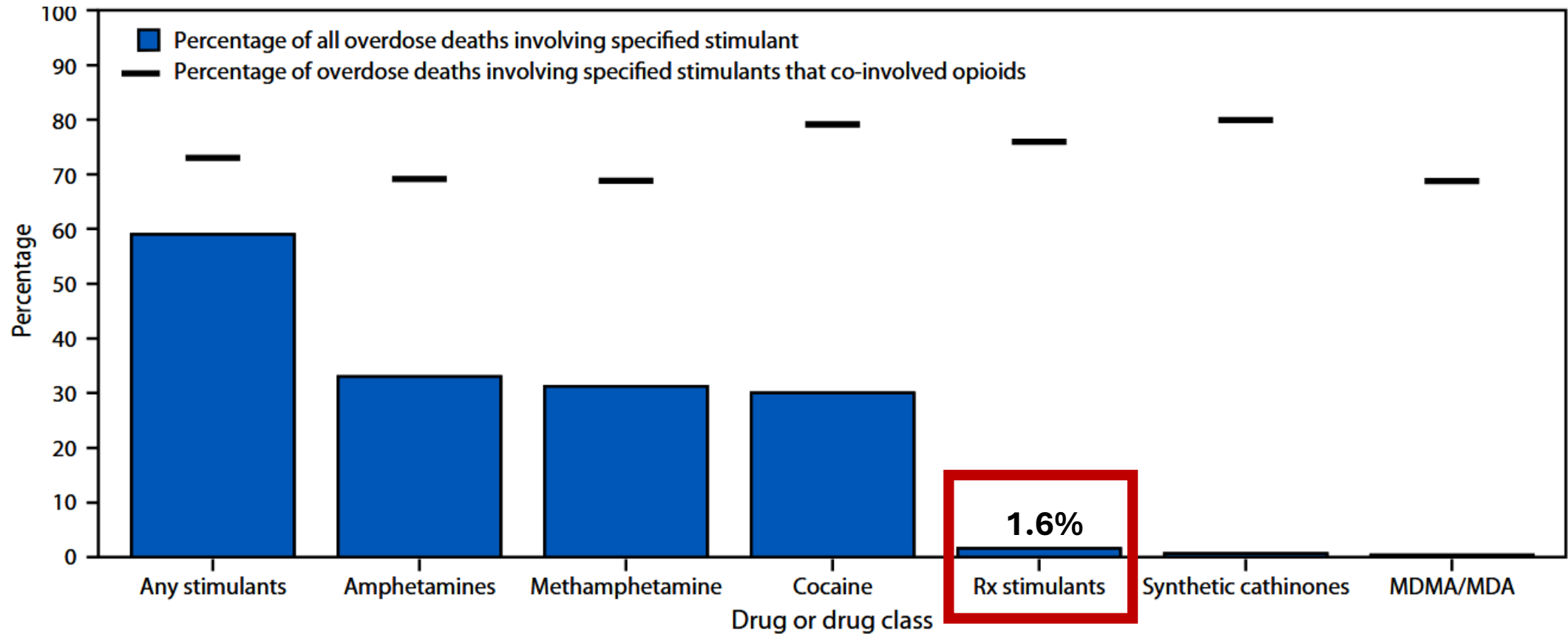
Over the past five years **stimulant involved** drug overdoses have become more common in the general population



- **Stimulants=cocaine & methamphetamines**
- In epidemiologic reports methamphetamines are often classified as psychostimulants with abuse potential

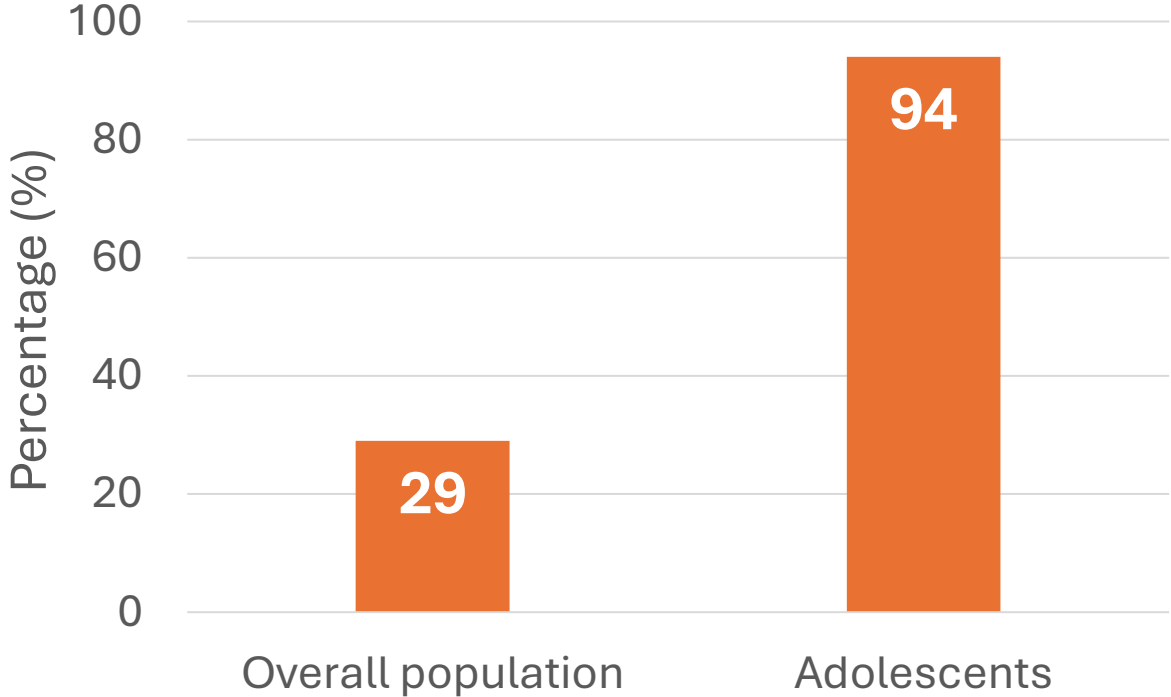
Prescription stimulant medication is rarely involved in drug overdose deaths

Percentage of overdose deaths by TYPE of stimulant involved (Jan 2021-June 2024)

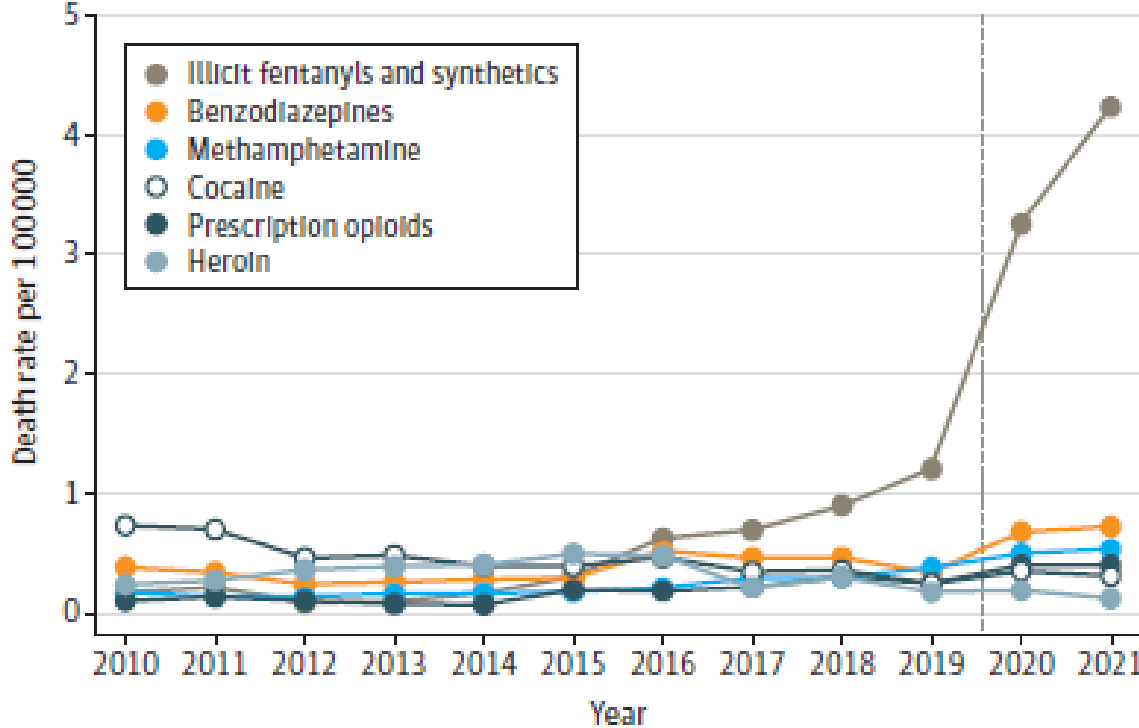


Relative to the general population there has been a disproportionate increase in youth overdose deaths

Increase in drug overdose deaths between 2019 and 2020



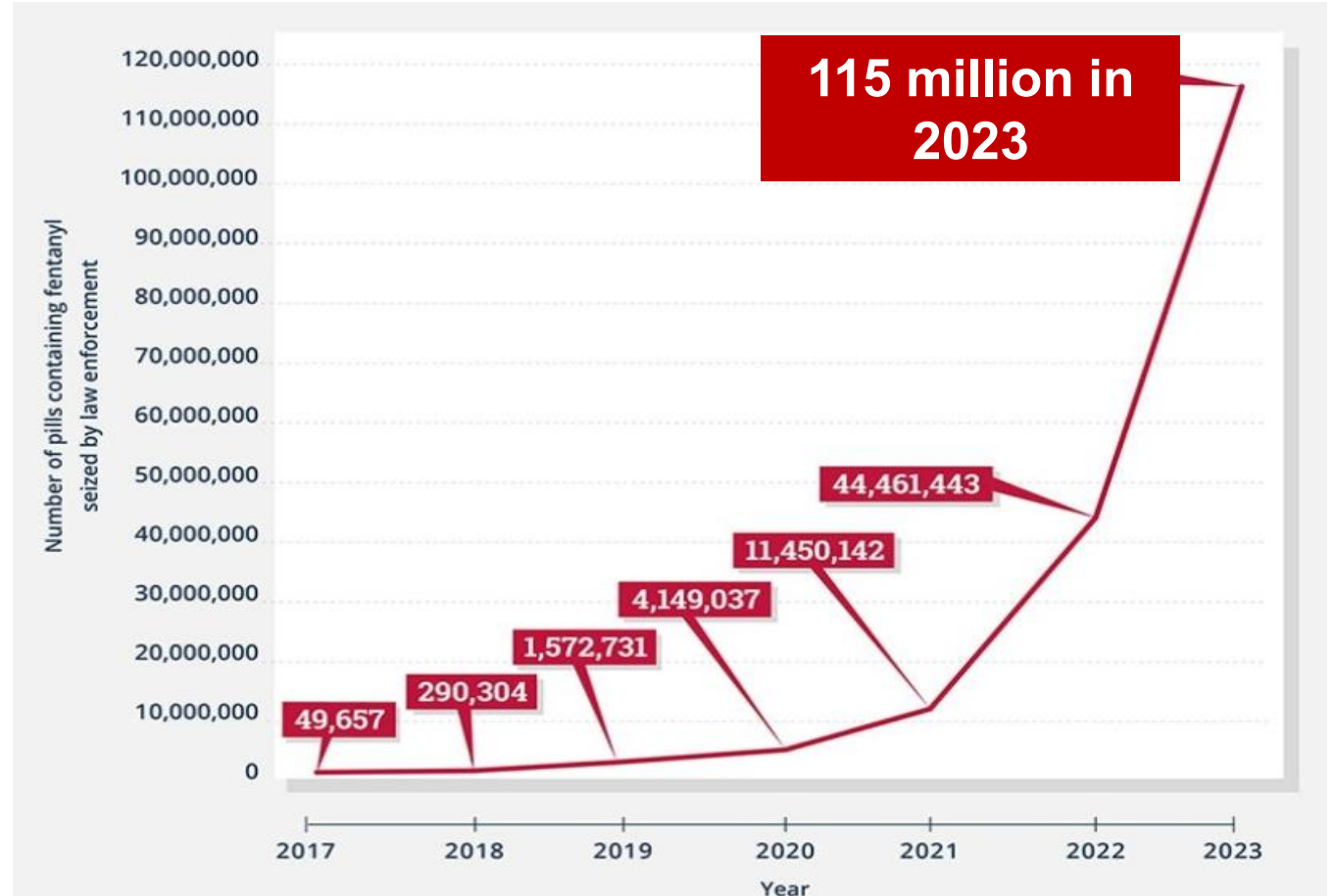
Drug Overdose Deaths for Adolescents by Substance



Exposure to Illicit Fentanyl is Largely Through Counterfeit Pills



Counterfeit pill

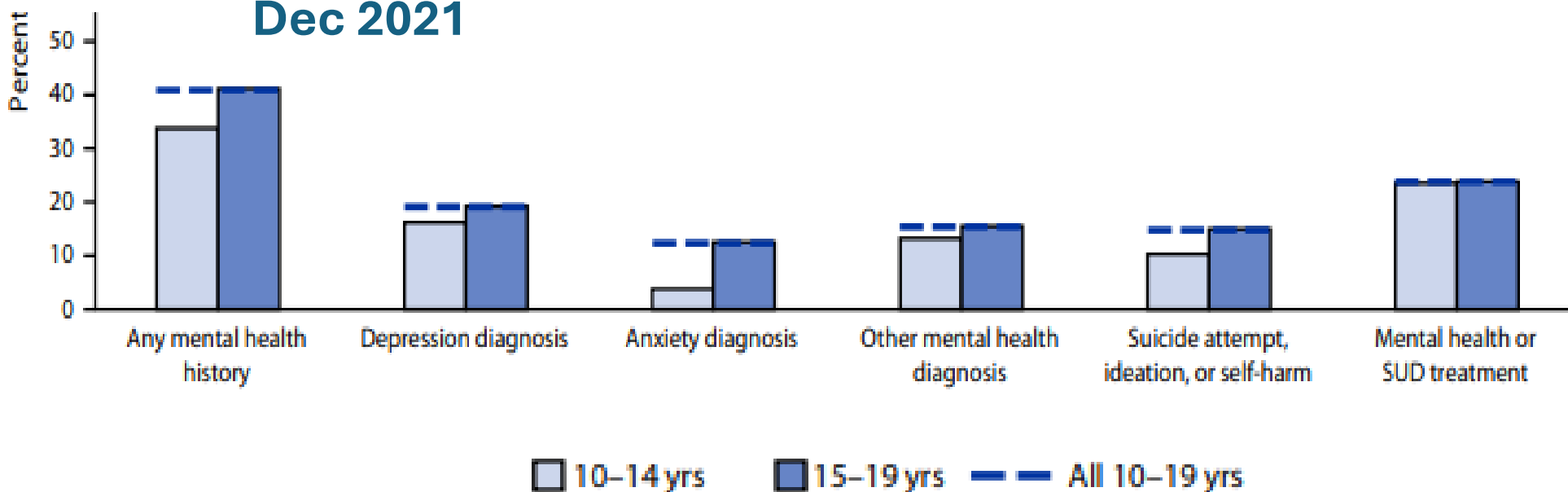


<https://www.dea.gov/onepill-toolbox>

Palamar JJ 2025. National and regional trends in fentanyl seizures in the United States, 2017-2023

Many of the youth who died by overdose had a psychiatric disorder and no known history of opioid use

Mental health diagnosis and treatment history for youth who died by drug overdose from July 2019 to Dec 2021



65% had no known history of opioid use

Universal overdose prevention

Educate:

Si/sx
overdose



How to
respond to an
overdose

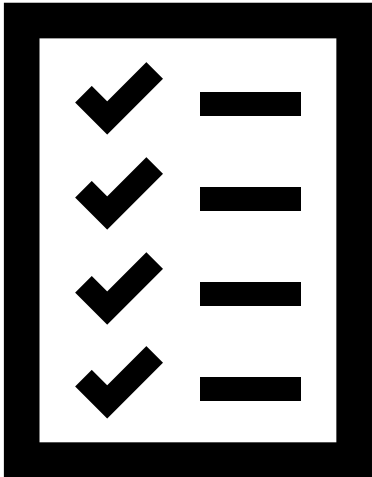


Risk factors
for overdose



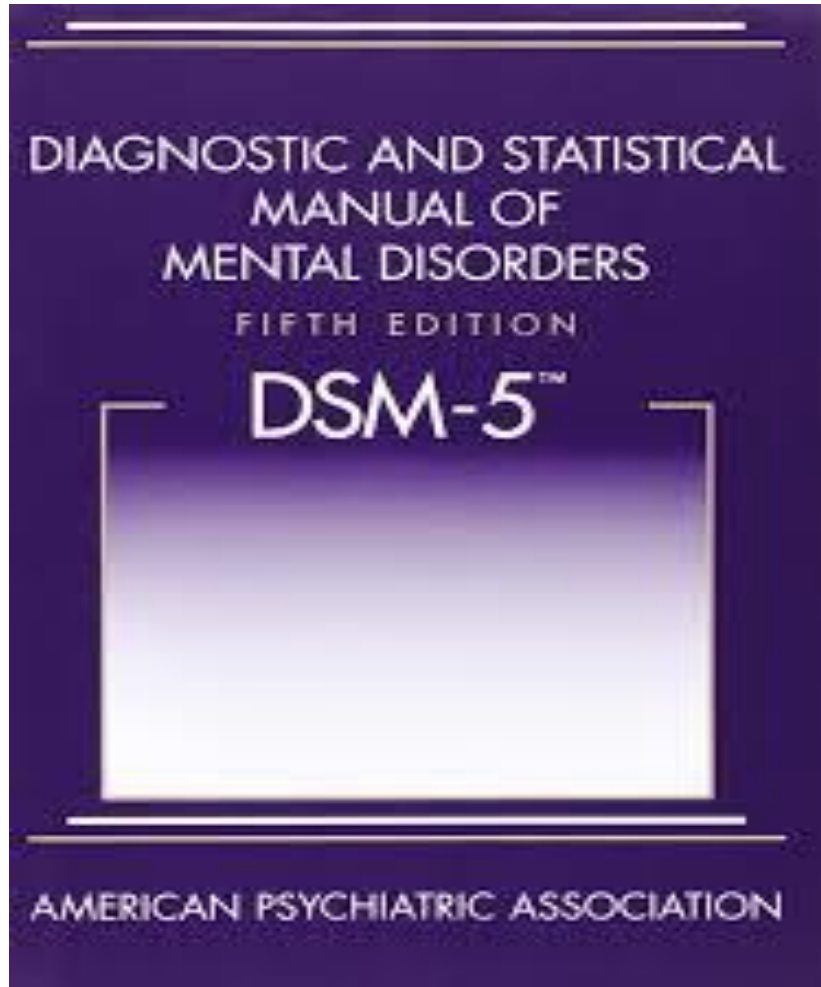
Screening and Assessment

Systematic screening for substance use is essential to identify individuals with a SUD



- Systematic screening is using a **validated questionnaire** designed to identify individuals at risk for a SUD who need further evaluation
 - Youth: Screening to Brief Intervention (S2BI), Brief Screener for Tobacco, Alcohol, and other Drugs (BSTAD)
 - Adults: Tobacco, alcohol, prescription drugs, and other substances (TAPS)

Substance use ≠ Substance use disorder (SUD)



Substance use disorder diagnosis

- Problematic pattern of substance use leading to *clinically significant impairment* over the past 12 months
- Total of 11 criteria
 - Impaired control
 - Social impairment
 - Risky use
 - Tolerance, withdrawal

SUD severity

Severity is determined based on the number of criteria endorsed

Mild
(2 to 3)

Moderate
(4 to 5)

Severe (6+)

SUDs are highly stigmatized—language matters

Use....	Instead of....	Because....
Person with a substance use disorder	Addict User Substance or drug abuser	Using person-first language shows that SUD is an illness Using these words shows that a person with a SUD “has” a problem/illness, rather than “is” the problem
Person in recovery or person who previously used drugs	Former addict Reformed addict	

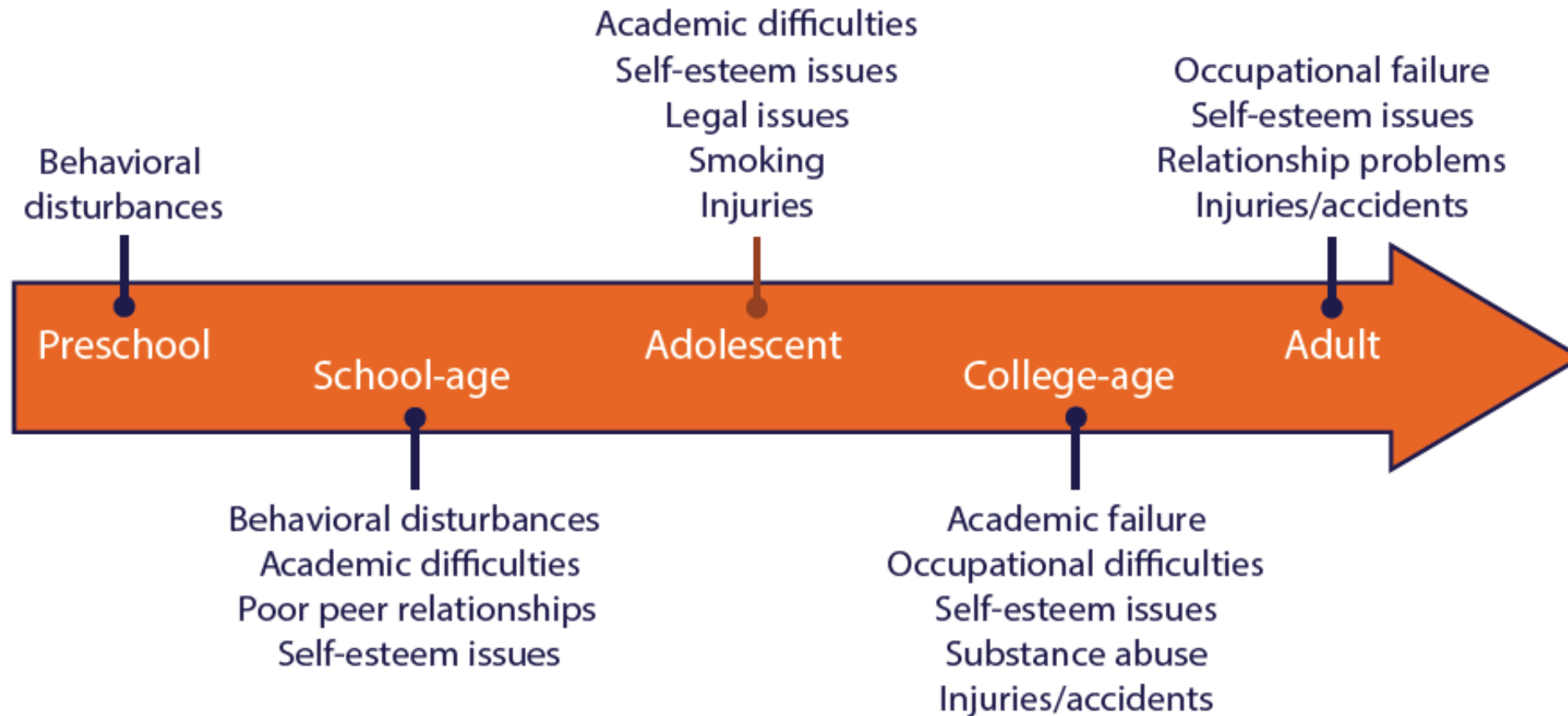
Screening for ADHD—the ASRS tool is still valid for use with adults with a SUD

ASRS 6 Questions	Never	Rarely	Sometimes	Often	Very often
1. How often do you have trouble wrapping up the final details of a project, once the challenging parts have been done?					
2. How often do you have difficulty getting things in order when you have to do a task that requires organization?					
3. How often do you have problems remembering appointments or obligations?					
4. When you have a task that requires a lot of thought, how often do you avoid or delay getting started?					
5. How often do you fidget or squirm with your hands or your feet when you have to sit down for a long time?					
6. How often do you feel overly active and compelled to do things, like you were driven by a motor?					

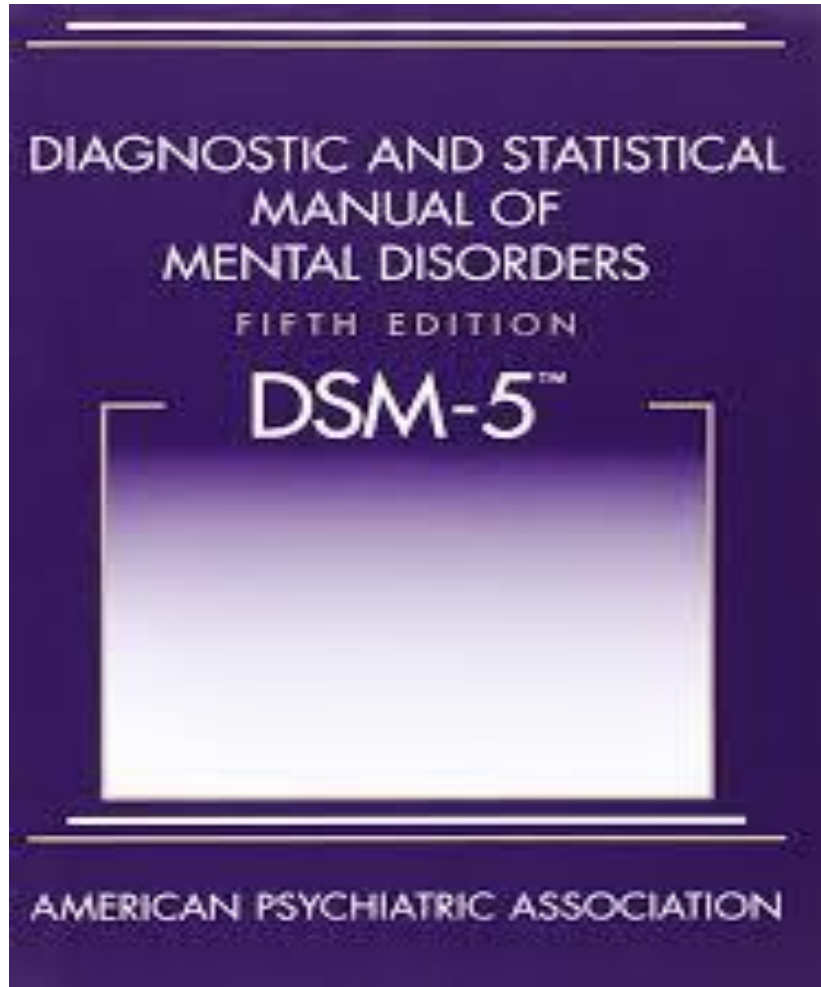
ADHD Symptom Rating Scale (ASRS) can be used to screen for ADHD in adults presenting for SUD treatment

- 0.84 sensitive
- 0.66 specific

ADHD symptoms and functional impairment *across the lifespan*



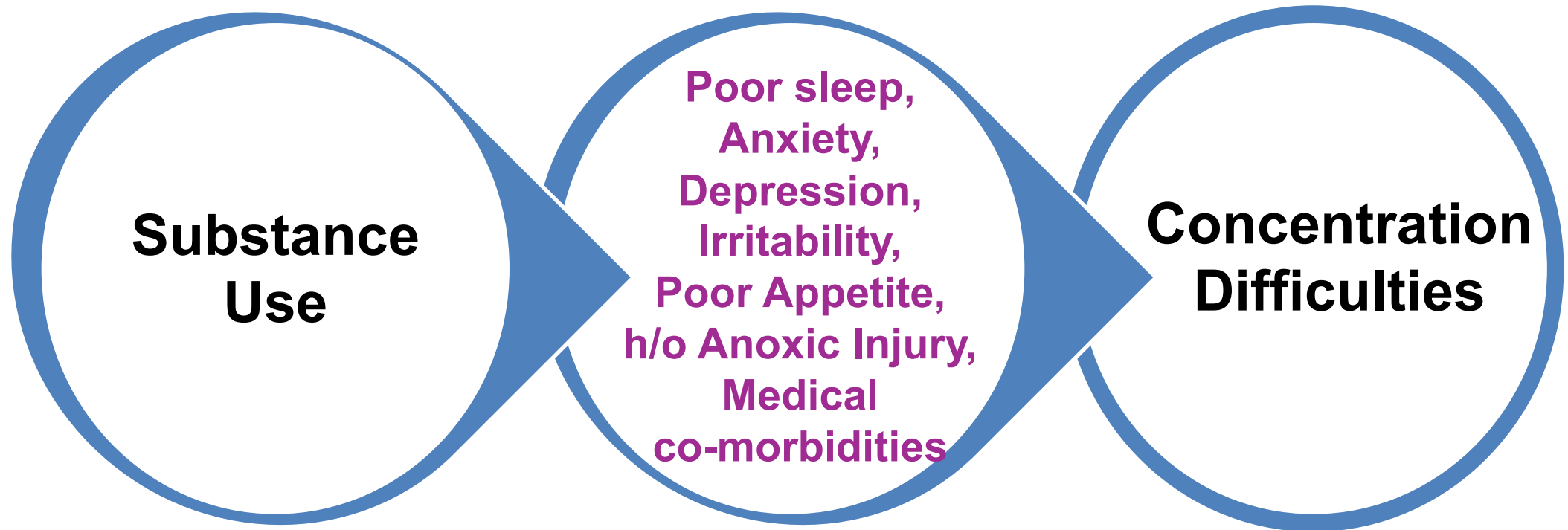
Concentration problems ≠ ADHD diagnosis



ADHD diagnosis

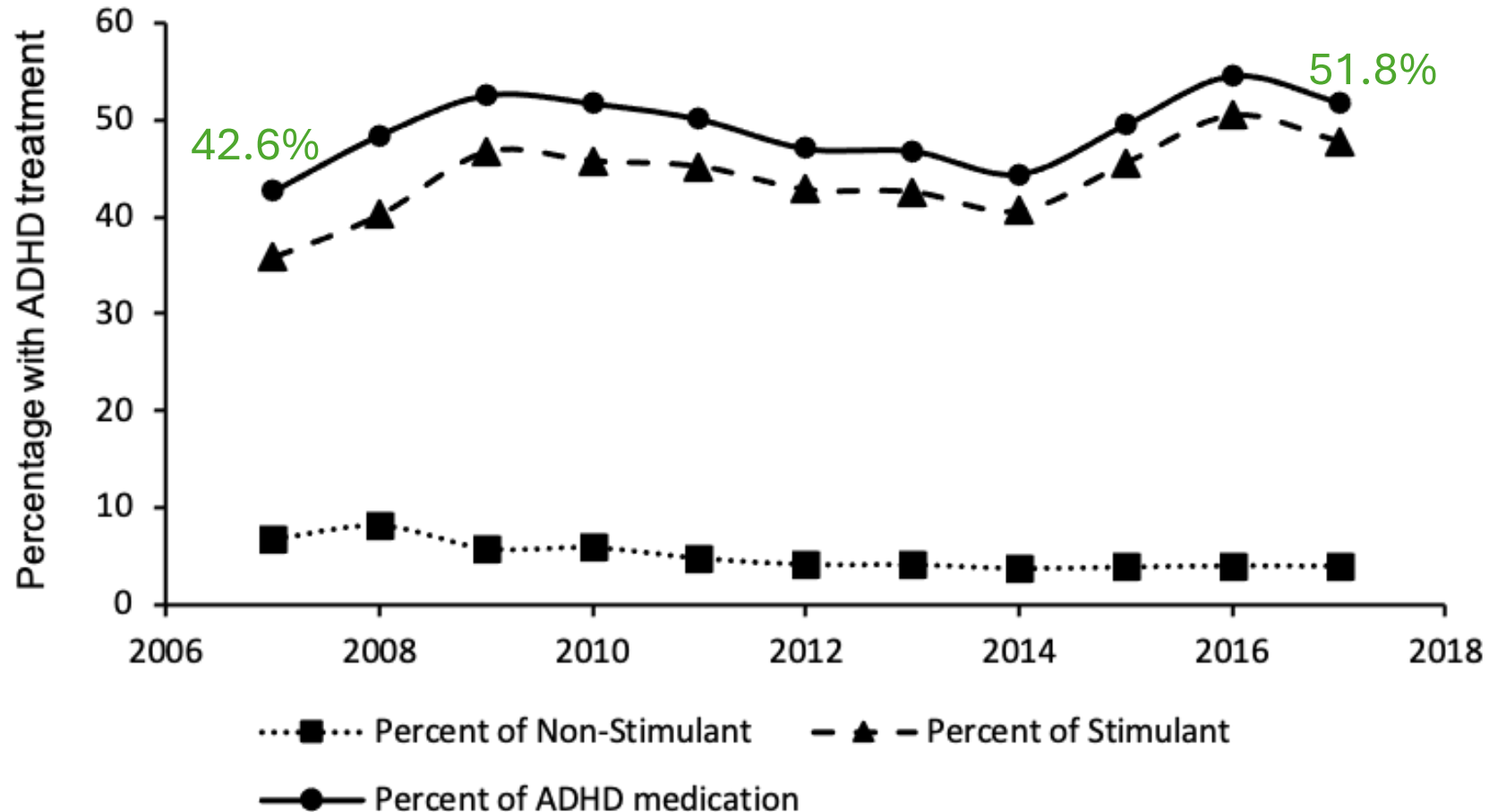
- Some symptoms present in childhood (before age 12)
- Core symptom domains include inattention and hyperactivity/impulsivity
- Need to endorse 5 criteria for inattentive symptoms and/or 5 criteria for hyperactive symptoms
- **Impairment** needs to be present in at least two settings (home, school/work, social)

When assessing **impairment** from attentional problems it is important to assess for other factors related to substance use that can impact attention and focus



ADHD treatment when co-occurring with a SUD

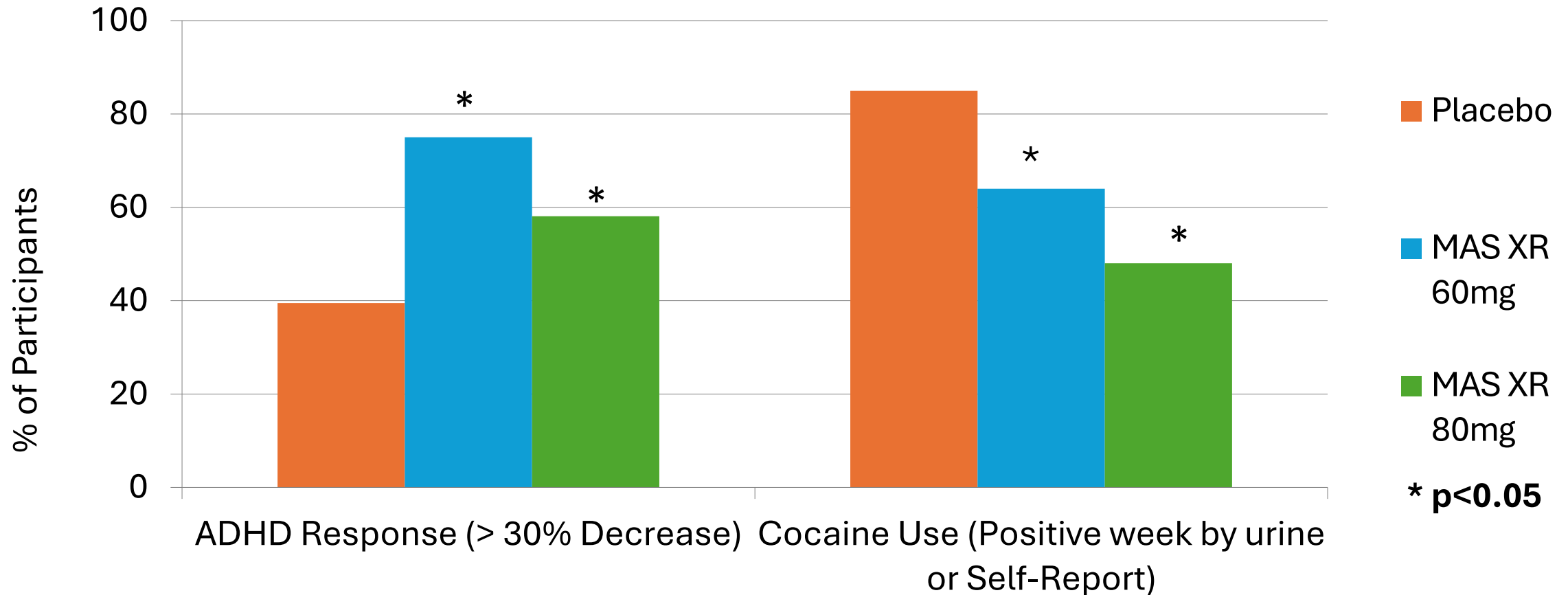
Receipt of ADHD treatment among individuals with ADHD/opioid use disorder in the United States



Pharmacologic Treatment of ADHD/SUD

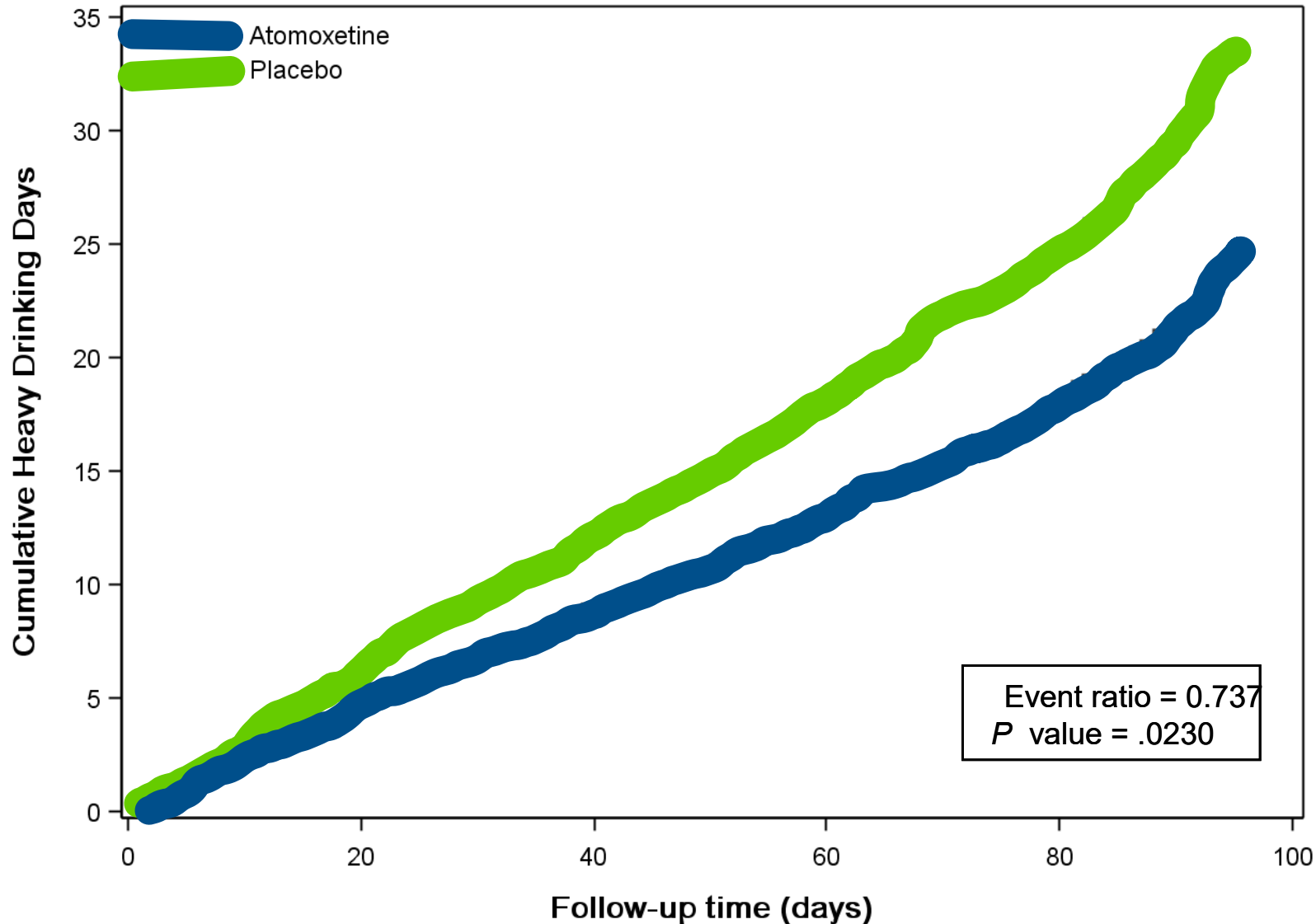
- Meta-analysis of 17 randomized controlled trials of medication for SUD and ADHD
 - 13 involved stimulant medication, largely methylphenidate
 - Overall positive impact of medication on ADHD/SUD—decreased symptoms of ADHD and decreased substance use

Stimulant treatment of ADHD and cocaine use disorder—Efficacy



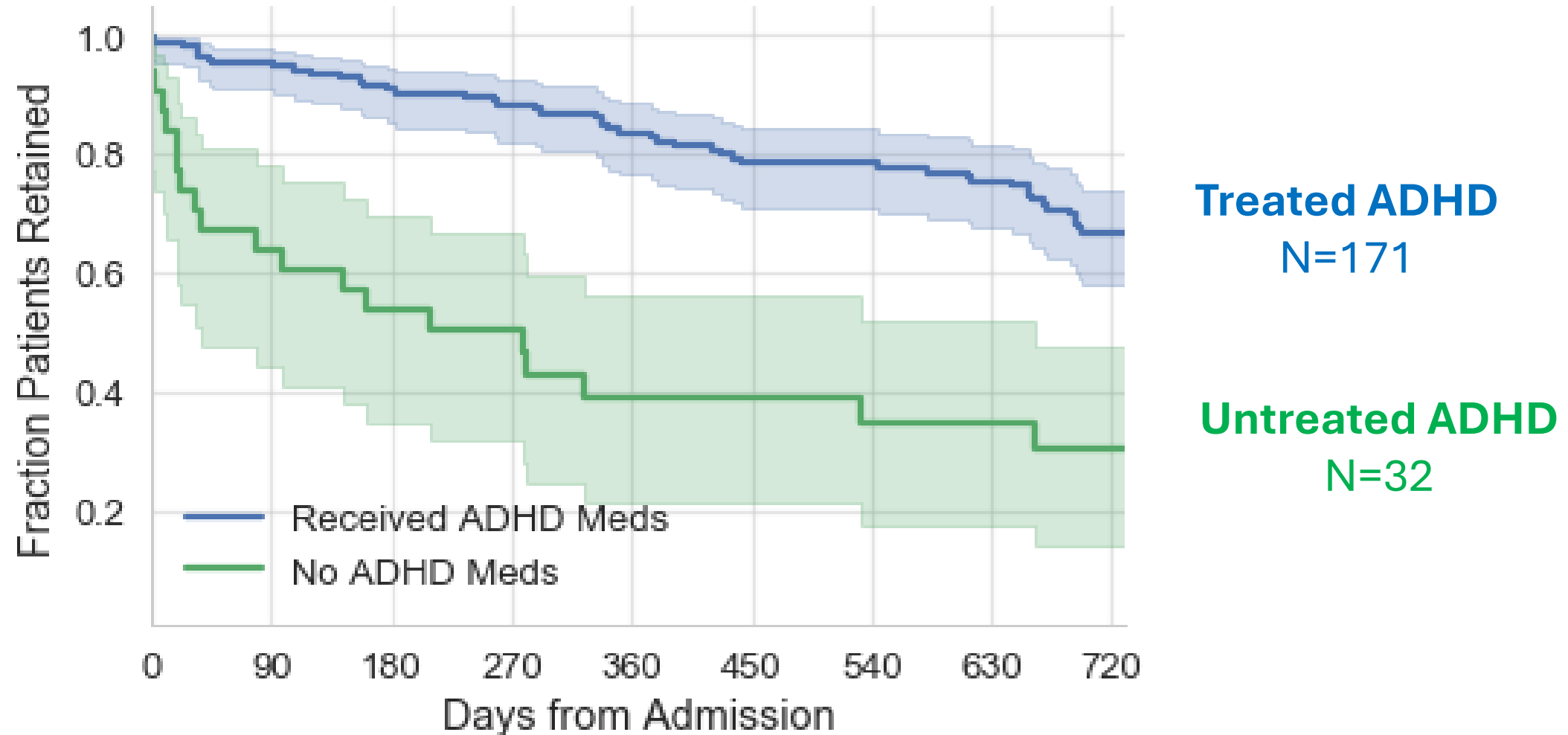
Mixed amphetamine salts extended-release improved symptoms of ADHD and decreased cocaine use

Nonstimulant treatment of ADHD and alcohol use disorder—Efficacy



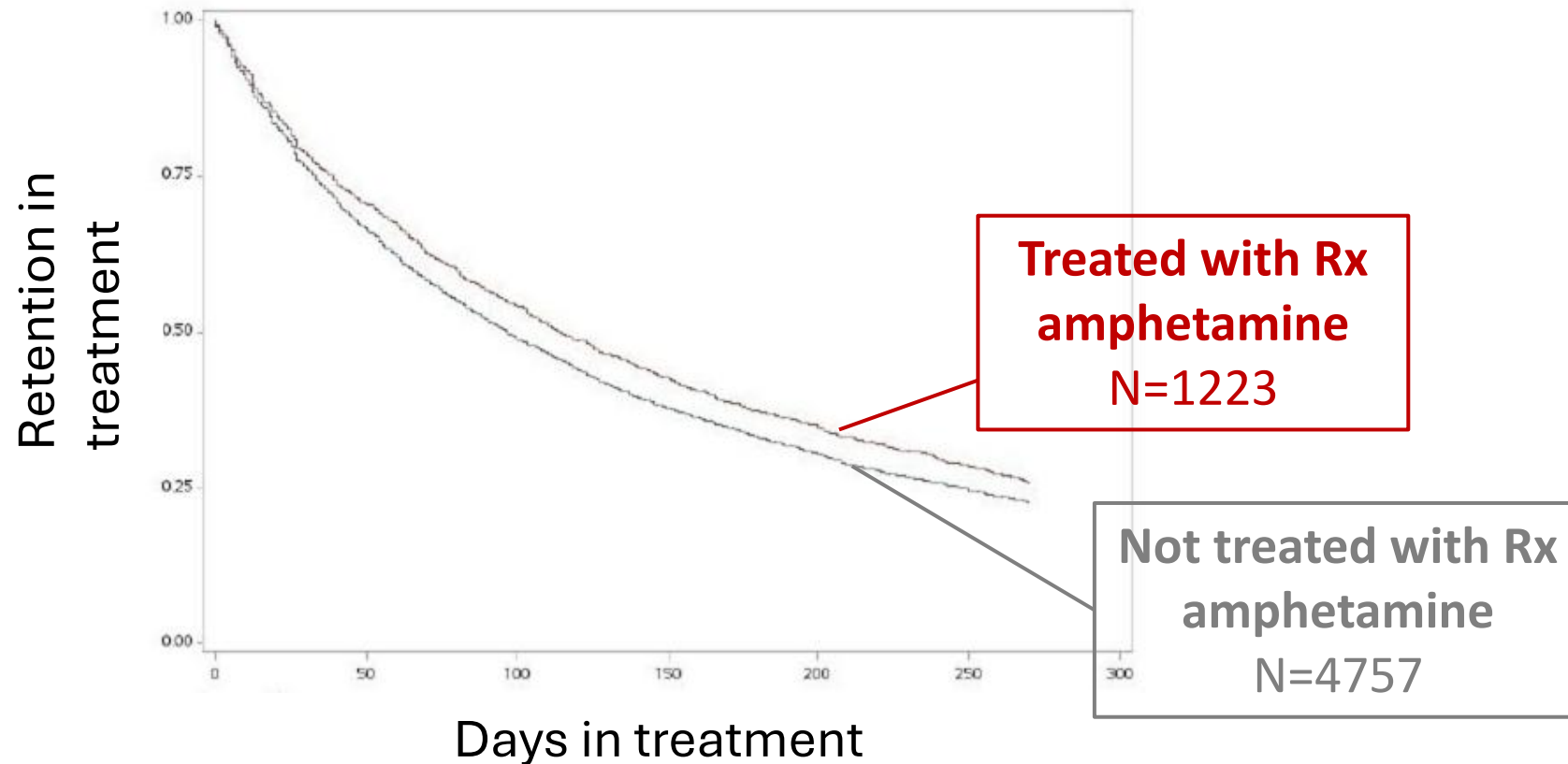
- Event ratio → compared to individuals treated with placebo, atomoxetine treated patients had a 26.3% greater reduction in the rate of heavy drinking
- **Atomoxetine improved heavy drinking in recently abstinent adults**

Pharmacologic treatment of ADHD/SUD— Retention in SUD Treatment



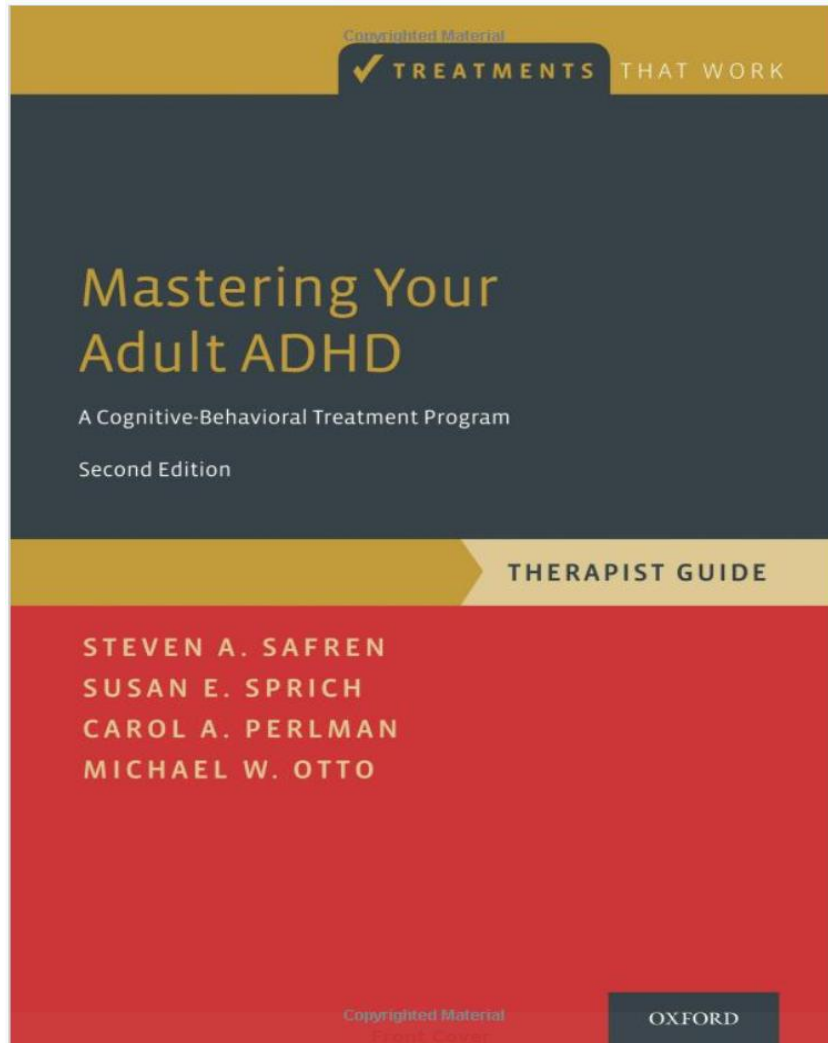
Stimulant treatment of ADHD/SUD— Retention in SUD Treatment (Buprenorphine)

Retention in buprenorphine treatment among adults with OUD, **psychostimulant use disorder**, & ADHD



- Improved retention in buprenorphine treatment associated with ADHD treatment
- No increase in SUD related emergency room visits or drug-related poisonings associated with ADHD treatment

Behavioral Interventions for ADHD and SUD



- Cognitive behavioral therapy for SUD and/or ADHD
 - Promising results for Integrated CBT for ADHD and SUD
- School accommodations for increased academic support
- Accommodations in substance use treatment if indicated

Clinical Management of ADHD/SUD

1. Assess co-morbidity—1st priority is to make sure co-occurring disorders, **including SUD**, are stabilizing
 - a. If substance misuse or less severe SUD—treat ADHD and SUD concomitantly
 - b. More severe SUD—prioritize treatment of SUD
2. Discuss ADHD medication
3. Encourage CBT and integrate behavioral strategies into appointments
 - a. Give verbal and written information
 - b. Assess for knowledge retention
 - c. Discuss organizational strategies to support treatment engagement

Clinical Management When Stimulant Medication is Used

1. Use long-acting stimulants or pro-drugs
2. Involve a support person if possible
3. Medication guidance:
 - Take medication as prescribed—daily
 - Role play what to say if approached to divert medication
 - Safe medication storage
4. Initial management: Frequent follow up, short prescriptions, check prescription monitoring program

Clinical case

Chief Complaint

Mr. X is a 17-year-old presents for psychiatric evaluation due to his parent's concerns about increased anxiety and poor functioning. His history is notable for frequent cannabis use associated with a decline in academic performance in early high school. More recently he has not been attending school for two weeks.

History of present illness

Mr. X began using cannabis at age 12. His use increased from every month to most days per week when he transitioned from middle school to high school. Although he struggled with school in early elementary school he did well after he was diagnosed with ADHD and treated with stimulant medication. He began having increased academic difficulty when he started high school which have worsened during his junior year.

His parents report he has also been increasingly anxious, withdrawn from the family, and he has been losing weight. They are particularly concerned that he stopped going to school two weeks ago.

History of present illness

In the office Mr. X is initially difficult to engage and guarded. He appears uncomfortable, is diaphoretic, and his pupils are dilated. When you ask about prescription medication misuse he shares that he has been taking pills that he obtained through social media.

He initially thought he was taking mixed amphetamines which he ordered to help him academically. However, when he took the medication he felt calmer and fell asleep. He thinks that he got oxycodone and began taking this more regularly because he found it helped him forget about his worries.

Recently he has found the oxycodone very helpful for relieving his anxiety—worries, restlessness, and sweating—that he has been experiencing in the mornings.

Initial impression and plan

You review the criteria for opioid use disorder and diagnose Mr. X with opioid use disorder, moderate in addition to cannabis use disorder, severe.

You discuss treatment options for opioid use disorder moderate with Mr. X and his parents. Mr. X's parents were initially interested in having him attend a locked treatment unit. You discuss with Mr. X and his parents the effectiveness of buprenorphine/naloxone and other outpatient treatment interventions.

Mr. X agrees to start buprenorphine/naloxone SL and attend an intensive outpatient treatment program. Mr. X's parents also start parent guidance with a therapist trained in community reinforcement and family therapy.

Course in treatment

As Mr. X's opioid use disorder stabilizes he transitions back to school with additional educational support through an individualized education plan (IEP).

Mr. X's parents would also like him to restart medication for his ADHD. Mr. X is less interested in stimulant medication and reported he did not like how it impacted his appetite and sleep when he was younger which he is currently struggling with even without stimulant medication.

Mr. X shares that his anxiety is better since he started buprenorphine/naloxone but he still has persistent general and social worries which have been contributing to his difficulties with appetite, sleep, and functioning. You initiate treatment with a SSRI to target co-occurring generalized anxiety disorder and social anxiety disorder.

Course in treatment

Mr. X shows progress in treatment and is regularly attending school. He is still struggling in school however with symptoms of ADHD. He has difficulty staying in his seat for the full class period, he is easily distracted, has been making careless errors on his assignments, and frequently forgets to turn in assignments he has completed.

Mr. X expresses more interest in retrying stimulant medication for his ADHD. You call his mother during his appointment to discuss the plan to start medication. You provide him with an initial two-week prescription.

Summary

- ADHD and SUD commonly co-occur
- When ADHD/SUD co-occur:
 - Course of SUD treatment is more complicated
 - ADHD treatment, including medication, should be considered

Questions?