

Benzodiazepine and prescription stimulant use in youth — What's the impact on SUD and its treatment?

Sep 17th, 2021 12:30 – 1:30 PM

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Meet The Presenter



Marc Fishman, M.D.

Marc Fishman, MD, is an addiction psychiatrist, Medical Director of Maryland Treatment Centers, and a member of the Psychiatry faculty of the Johns Hopkins University School of Medicine. Dr Fishman leads Maryland Treatment Centers, a regional behavioral health care provider, which includes Mountain Manor Treatment Centers in Baltimore and Emmitsburg as well as several other inpatient and outpatient programs. In that role he has been involved in development and implementation of innovative programming in addiction and co-occurring disorder treatment. His clinical specialties include treatment of drug-involved and dual-diagnosis youth, opioid addiction in adolescents and adults, and addiction with co-occurring psychiatric disorders. His research work has focused on medication treatment for SUDs as well as, models of care and treatment outcomes in youth, in particular opioid addiction. He has been a president of the MD Society of Addiction Medicine and is currently a member of its Board.



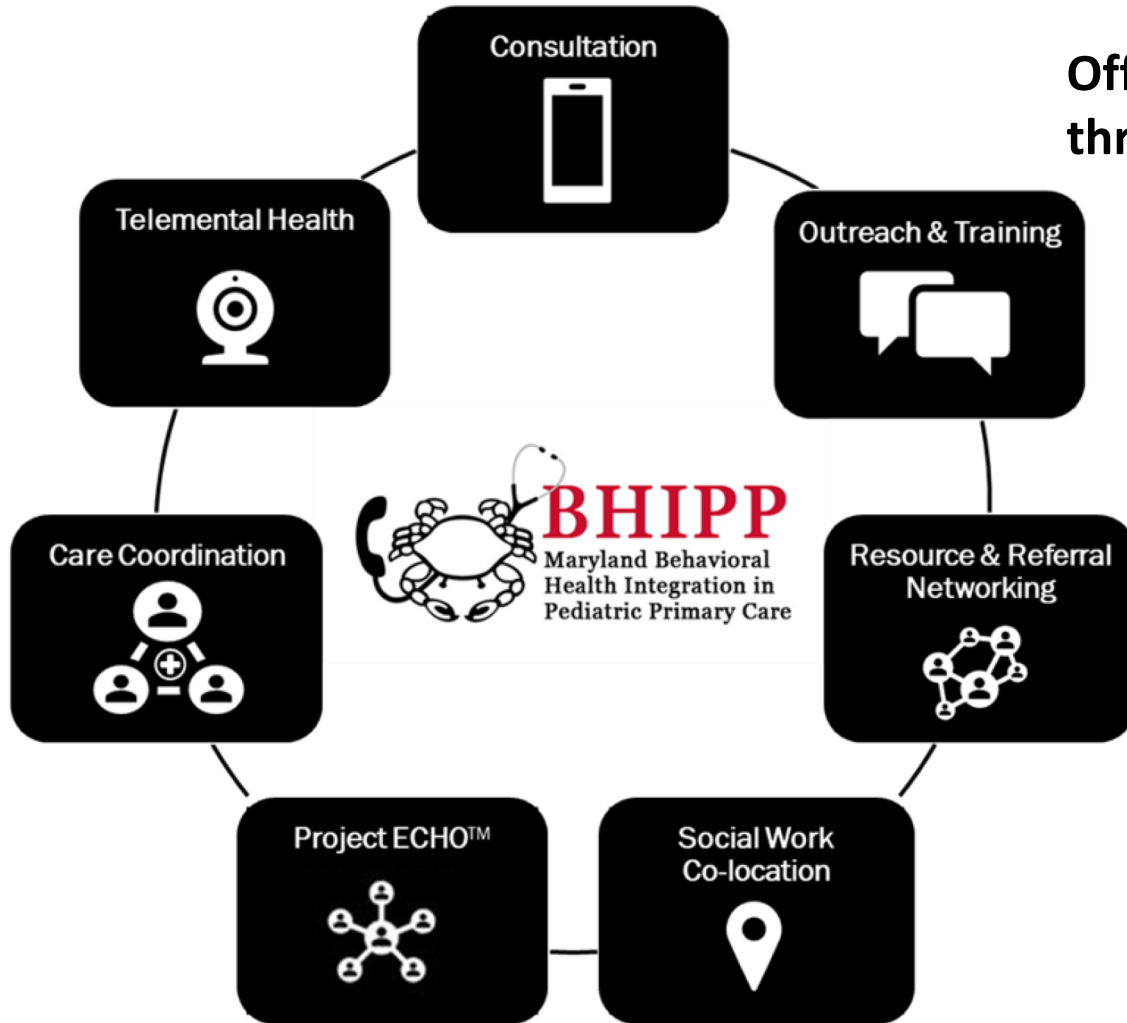
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- *This program is supported by the **Health Resources and Services Administration (HRSA)** of the U.S. Department of Health and Human Services (HHS) as part of an award totaling \$433,296 with approximately 20% financed by non-governmental sources. The contents of this presentation are those of the author(s) and do not necessarily represent the official views of, nor an endorsement, by HRSA, HHS or the U.S. Government. For more information, visit www.hrsa.gov.*



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Disclosures

Consultant for Alkermes, US World Meds, Drug Delivey LLC, Verily Life Sciences, Danya, ASAM

Research funding from Alkermes, US World Meds, NIH, Arnold Foundation, University of MD

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Outline

- Background and scope of the problem
- Psychiatric use for co-occurring disorders: impact and problems
- Treatment of use disorder
- Case illustrations
- Conclusions

Benzodiazepines



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BZD use trends

- BZD use very common: 12-15% of US adults, and
 - Increasing: up 67% 1996→2013
- Of these ~20% have misused
 - Young adults 50%
- 15-30% of opioid OD deaths involve BZDs
- 85-95% of BZD deaths involve opioids

Blanco et al. al. Prevalence and Correlates of Benzodiazepine Use, Misuse, and Use Disorders Among Adults in the United States. J Clin Psych2018

Bachhuber et al. Increasing Benzodiazepine Prescriptions and Overdose Mortality in the United States, 1996-2013. Am J Public Health. 2016;106(4):686-688.

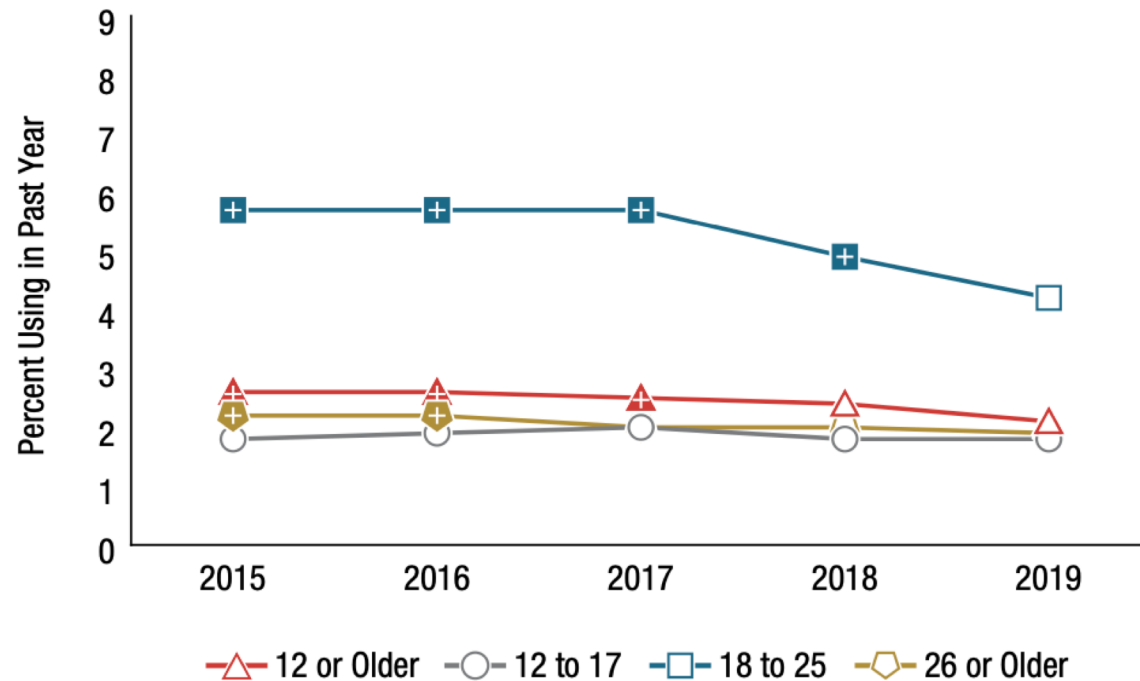
Maust et al . Benzodiazepine Use and Misuse Among Adults in the United States. Psych Services. 2018

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Trends in BZD use

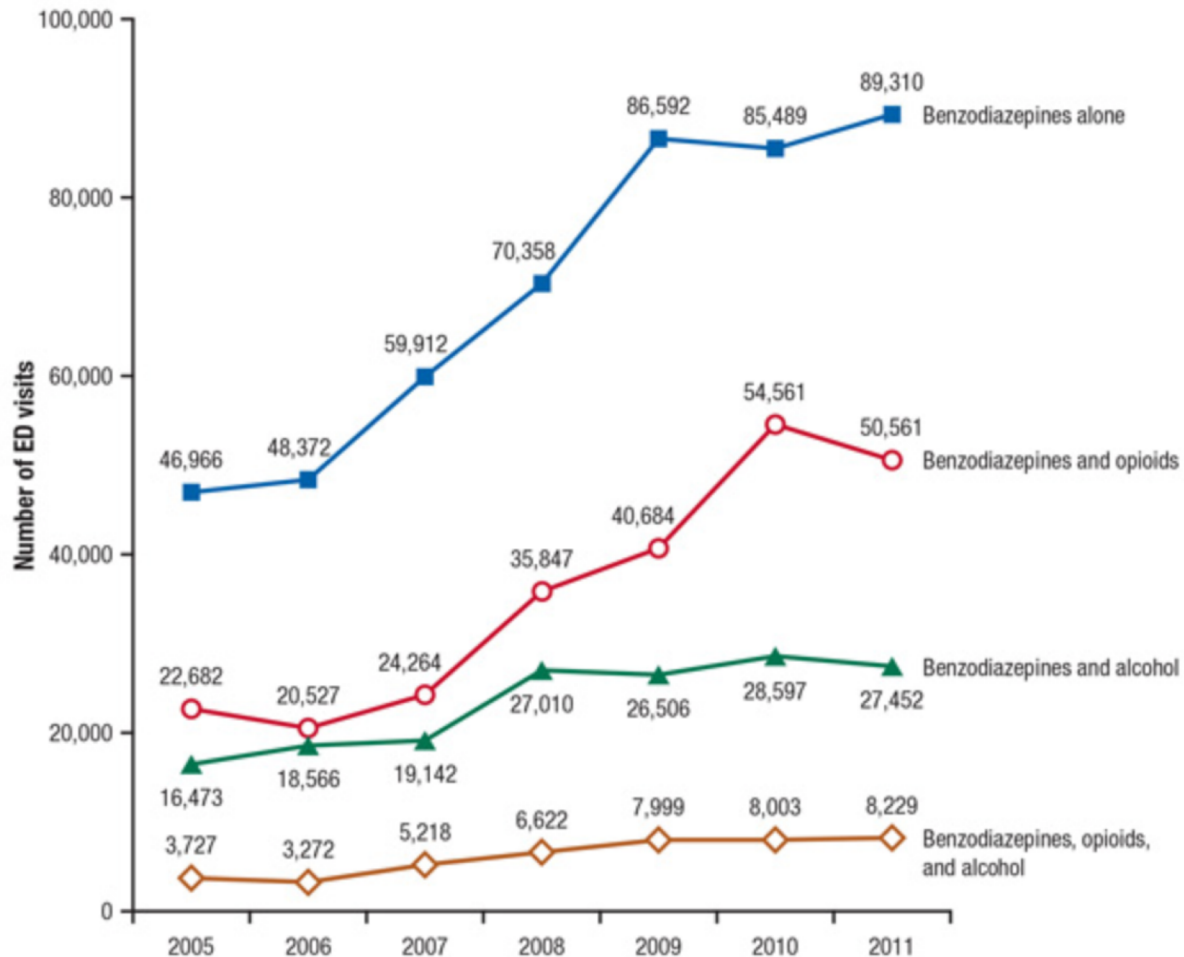
Figure 19. Past Year Prescription Tranquilizer or Sedative Misuse among People Aged 12 or Older: 2015-2019



+ Difference between this estimate and the 2019 estimate is statistically significant at the .05 level.

Trends in BZD use

Figure 1. Estimated number of emergency department (ED) visits involving benzodiazepines alone or in combination with opioids or alcohol,* by year and drug combination (patients aged 12 and older): 2005 to 2011



* No other drugs were involved.

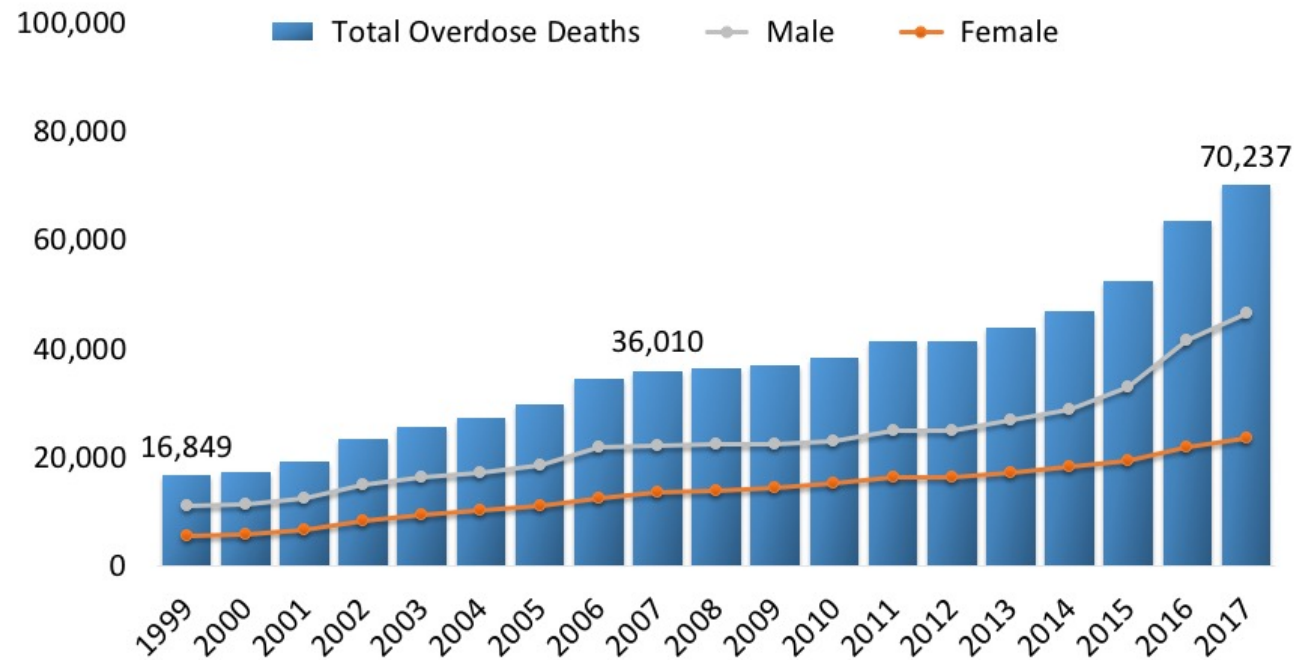
Source: 2005 to 2011 SAMHSA Drug Abuse Warning Network (DAWN).

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Trends in BZD OD deaths

Figure 1. National Drug Overdose Deaths
Number Among All Ages, by Gender, 1999-2017



Source: : Centers for Disease Control and Prevention, National Center for Health Statistics. Multiple Cause of Death 1999-2017 on CDC WONDER Online Database, released December, 2018

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Impact of the pandemic

Along with US ODs and OD deaths broadly
2019 → 2020:

- ED visits for BZD OD increased 24%
- OD deaths increased
 - Prescription -- 22%
 - Non-prescription -- 520%

Liu S, et al. Trends in Nonfatal and Fatal Overdoses Involving Benzodiazepines — 38 States and the District of Columbia, 2019–2020. MMWR Morb Mortal Wkly Rep 2021;70:1136–1141. DOI: <http://dx.doi.org/10.15585/mmwr.mm7034a2external> [icon](#).

BZDs use profile

- Alprazolam (short-acting) most commonly misused
- Clonazepam, diazepam, zolpidem, others
- Often used in poly-substance combination
- Common problem of mixed non-medical and medical including doctor shopping

Characteristics of BZDs

- Very reinforcing
- Tolerance – dose escalation is typical
- Short-lived relief
- Prominent side effect profile
 - Intoxication, sometimes subtle (“alcohol in a pill”)
 - Disinhibition
 - Affective instability
 - Rebound anxiety
 - Cognitive impairment
 - Physiologic dependence and withdrawal

Anxiety

- A symptom not a disease
- “I’ve tried everything and nothing works except xanax”
 - Characteristic side effect profile of benzos including worsening anxiety, cognitive impairment, subtle intoxication
 - Immediate relief vs lasting relief
- SSRI + CBT usually most effective, but takes time (“I don’t have depression”)
- Desensitization, self-soothing, tools for stress relief

Withdrawal management

- Switch to longer-acting agent (eg clonazepam, diazepam)
- Taper: 1-2 wks up to months
- Chronic users have considerable difficulty getting off
- Morbidity similar to alcohol withdrawal – potential for seizures, hallucinosis, delirium
- Ancillary meds
 - Insomnia – trazodone, quetiapine, mirtazapine
 - Sympatholytic – clonidine
 - Gaba-ergic substitute – gabapentin
- Consider bed-based care
- Consider longer taper, but complicated by inability to distinguish prescribed from non-prescribed on UDS

Longer-term treatment

- Very low threshold for diagnosis and treatment of affective disorder
- Even if hypothesis is substance-induced etiology, tends not to resolve quickly for many, maybe shorter term treatment
- Gabapentin as maintenance gaba-ergic substitute, not evidence based but reasonable

Anxiety

- “I’ve tried everything and nothing works except xanax”
- Anxiety as a symptom not a disease, conceptualize as a feature of affective disorder
- “you don’t understand... I don’t have depression”
- “You’re targeting me as a drug addict but I’ve never abused it...”
- It’s not that I think you’ll abuse it, it’s that I think it will make you worse
- Immediate but unsustainable relief vs slow but lasting relief
- SSRI + CBT usually most effective, but takes time
- Desensitization, self-soothing, repertoire of tools for stress relief

Case

- 20 F
- Onset cannabis/ alcohol 15
- Chronic depression /anxiety /panic, intermittent Rx antidepressants +/- alprazolam, erratic adherence
- Presents for eval: “nothing works except Xanax”
- Alternative scenarios:
 - presents to primary care
 - presents to psychiatric care
 - presents to SUD care
 - onset opioids age 18
 - Rx alprazolam with another provider

Conclusions - BZDs

- BZDs common, increasing both medical and non-medical
- Dangerous OD risk in combination with alcohol and esp opioids
- Side effect profile overall not favorable, esp for youth
- Contraindicated with concurrent SUD and SUD risk
- Treatment for use disorder difficult but worth undertaking, requires integrated approach

Prescription stimulants



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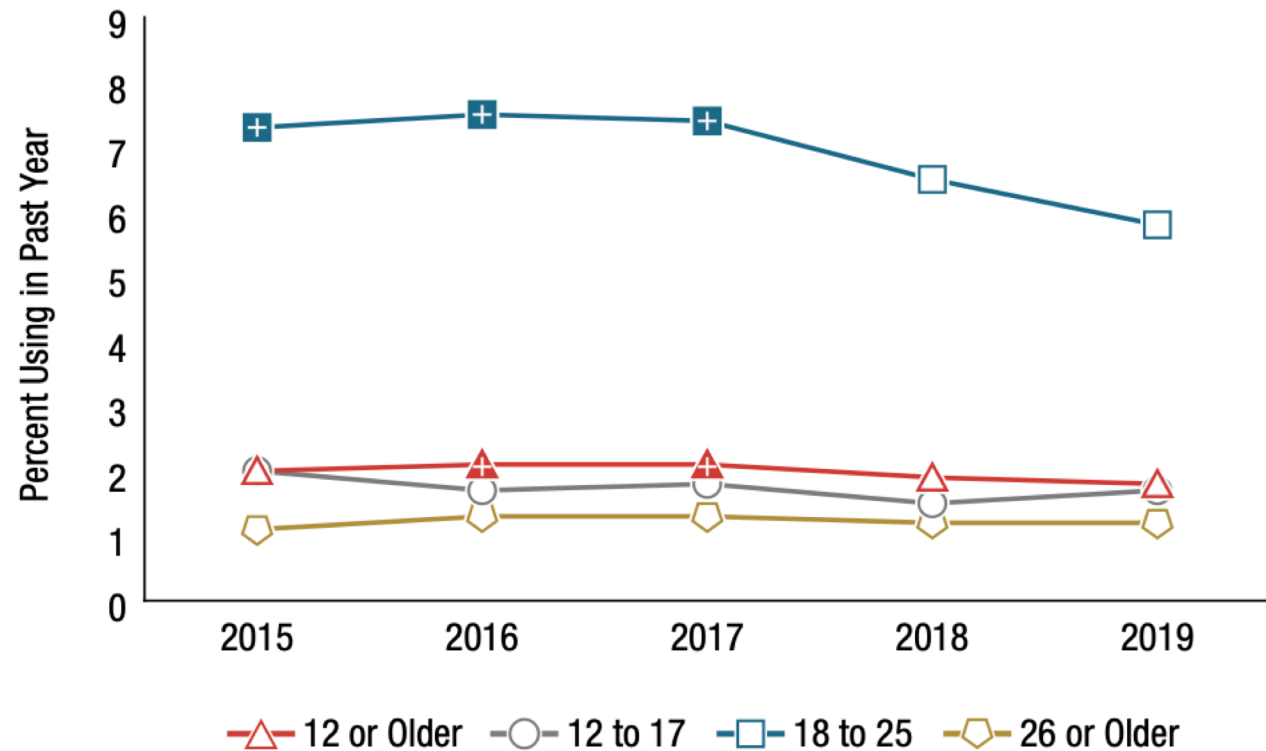
Prescription stimulant use trends

- Rx stimulant use common: 6% of US adults
- Of these ~1/3 have misused, half of those getting supply from others
- Use among college students 10-20%, 40-80% non-medical
- 20% of youth prescribed Rx stimulant divert

Compton et al et al. Disorders, and Motivations for Misuse Among Adults in the United States. *Am J Psych.* 2018

Trends in Rx stimulant use

Figure 18. Past Year Prescription Stimulant Misuse among People Aged 12 or Older: 2015-2019



+ Difference between this estimate and the 2019 estimate is statistically significant at the .05 level.

Prescription stimulants

- Medical uses: ADHD, narcolepsy
- Mechanism: increase brain dopamine levels
- Sustained release vs immediate release
- Examples: methylphenidate (Ritalin), mixed amphetamine salts (Adderall), lisdexamfetamine (Vyvanse), etc

Prescription stimulants

Main effects

- Increased alertness, delayed sleep
- Increased concentration, attention, focus
- Increased energy, confidence, enhanced mood
- Appetite suppression

Prescription stimulants

Side effects

Common

- Nervousness, anxiety
- Depression, lability, mood destabilization
- Insomnia
- Appetite suppression
- Increased heart rate and blood pressure
- Tolerance, dose escalation, craving

Less common

- Addiction
- Cardiac rhythm problems
- Psychosis

Prescription stimulants

- Stimulants improve attention but often problematic
 - Exacerbation of prominent affective instability
 - Very reinforcing
- Diversion
- Misuse

Smart drugs?

Characteristics of college students who misuse Rx stimulants

Behavior	Odds ratio
Substance Use, past 30d	
Marijuana	11
Ecstasy	16
Cocaine	20
Opiates	11
Cigarettes	6
Frequent binge drinking	7
Passenger with a drunk driver	7
Drove after drinking	4
Drove after binge drinking	5

N= 10,904

McCabe et al. Addiction. 2003.

Characteristics of college students who misuse Rx stimulants

	Past year non-medical users prescription stimulants	Non-users
Classes skipped (%)	16	9
Time studying (hrs/wk)	17	20
Time “going out” (hrs/wk)	30	25

N= 1,253.
Arria et al. J Drug Issues. 2008.

Which are the better performance enhancers?

- Sleep
- Going to class
- Asking for help
- Time management
- Doing the work
- Being thoughtful and creative
- Starbucks
- More Starbucks
- Prescription stimulants

Rx for ADHD with co-morbid SUD

- Treat ADHD, continue stimulants if doing well, but consider other non-stimulant Rx
 - Bupropion, SNRI's, TCA's
 - I know you can't "feel it," that's perfect
- If stimulants,
 - Use long acting preparations (OROS methylphenidate also not crushable)
 - Watch for dose escalation
 - Close monitoring including UDS
 - Concurrent SUD treatment
 - Abstinence contingency

Treatment of use disorder

- Taper using long acting agent
- Usually can accomplish in 1-2 wks
- Longer tapers sometimes helpful
- Rebound inattention, depression, fatigue
- Bupropion may be helpful

Case

- 17 M
- Onset cannabis/ alcohol 14
- Chronic inattention / distractability, intermittent Rx stimulants, mixed reponse
- Presents for eval seeking adderall
- Alternative scenarios:
 - presents to primary care
 - presents to psychiatric care
 - presents to SUD care
 - Hx misuse of Rx stimulants
 - Hx of cocaine/ methamphetamine

Conclusions – prescription stimulants

- Rx stimulants common, increasing both medical and non-medical
- Substantial side effect profile underappreciated
- “Smart drugs?” – not so much
- Use caution with concurrent SUD and SUD risk
- Treatment of concurrent SUD and ADHD may be very helpful, but not trivial

Overall conclusions

- Appreciate problematic side effect profile of sedative hypnotics and prescription stimulants, esp in youth
- Use extreme caution with concurrent substance use and esp SUD
 - BZDs: contraindicated in SUD
 - Prescription stimulants: close supervision and monitoring
- Monitor closely for substance use (UDS should be routine)
- Establish clear standard of expectation of no substance use
- Aggressive treatment of co-occurring conditions
- Expect (and manage) shenanigans

What does it mean when the patient says "I NEED..."



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Thank you! Questions?

Hypothetical miracle cures?



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