Treatment and Prevention of Opioid Use Disorder Among Young People in New England

Scott E. Hadland, MD MPH MS
Assistant Professor of Pediatrics
Boston University School of Medicine

scott.hadland@bmc.org
@DrScottHadland

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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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  - NIDA/NIH 1R03DA037770-01
  - NIDA/NIH - SAHM Training Grant

New Horizons, New Beginnings

Objectives

By the end of the hour, participants will:

1. Describe the epidemiology of prescription opioid and heroin misuse and overdose in New England and the US
2. Identify evidence-based interventions to prevent and treat opioid use disorder and overdose
3. Apply effective treatment approaches to college health settings

Part 1 of 3: Epidemiology

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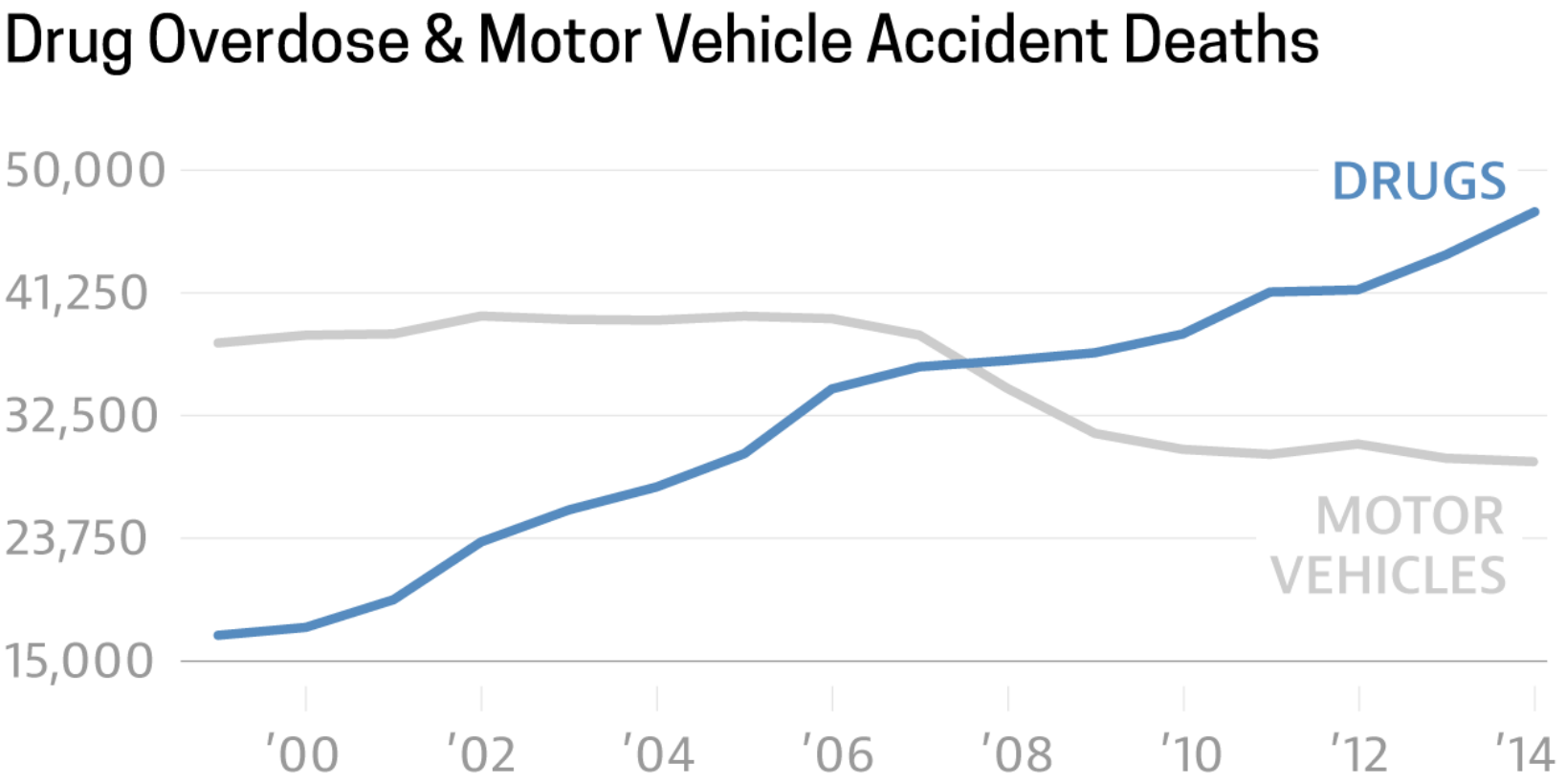
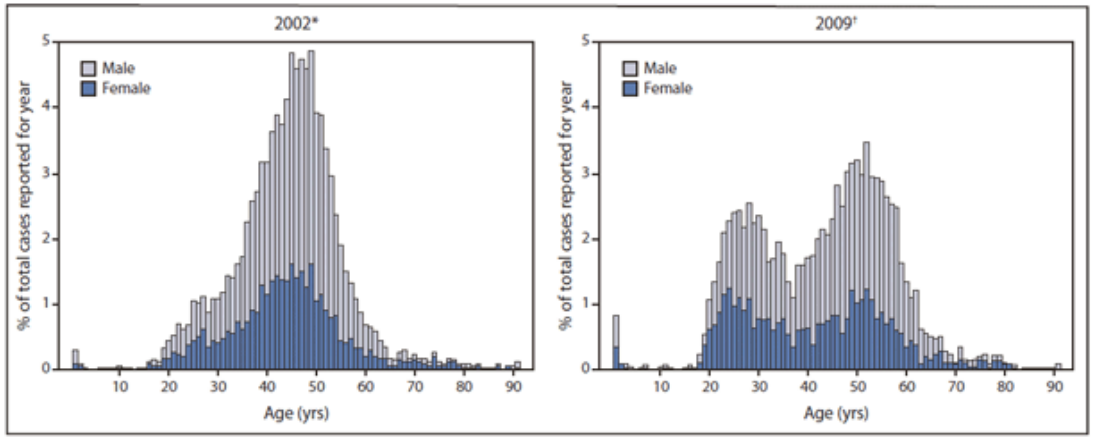
A Public Health Crisis



PBS Frontline, 2016
CDC WONDER, 2016

A Public Health Crisis

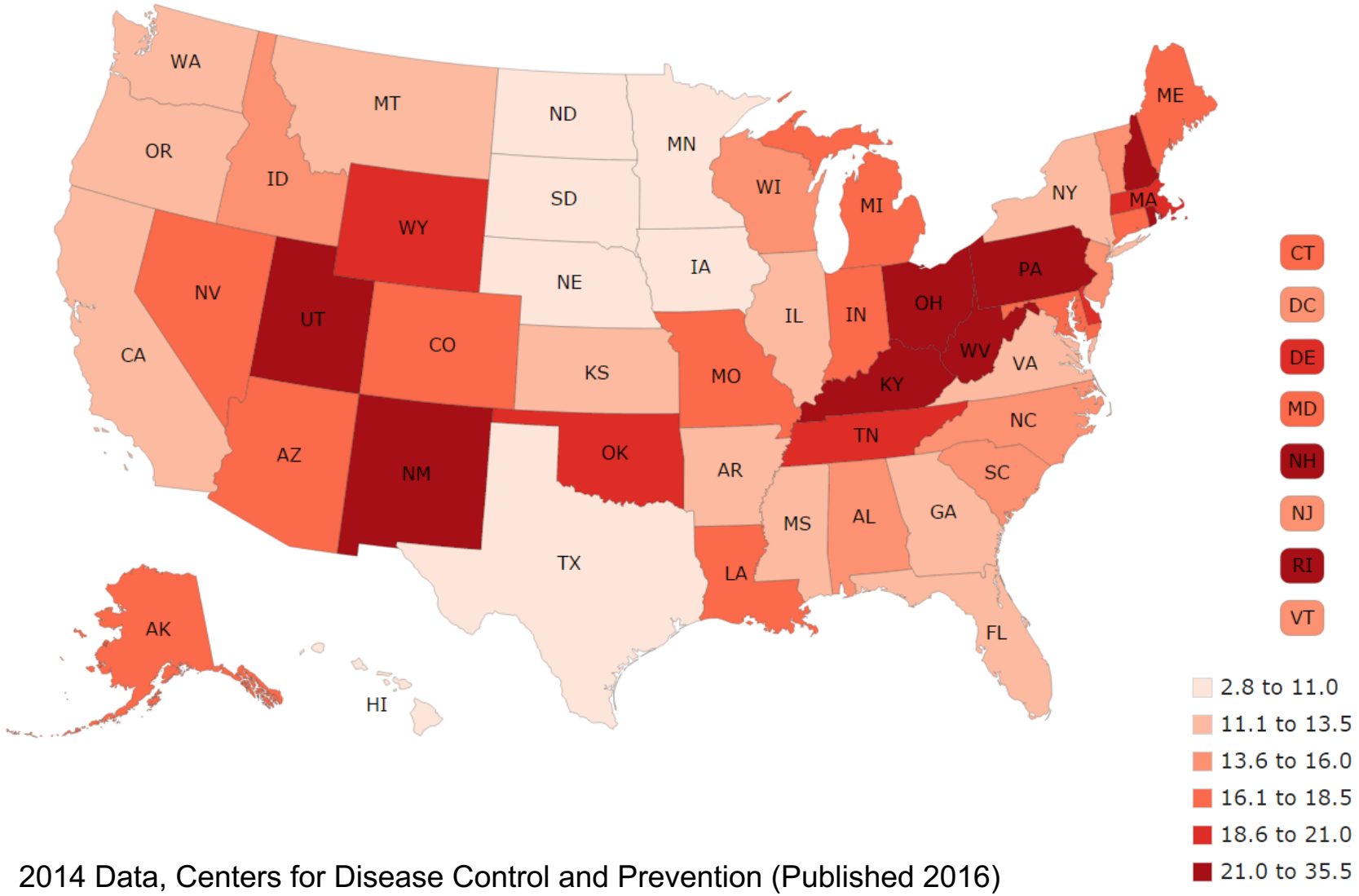
- **Medical complications:**
  - Infectious disease risk: HIV, Hepatitis C
  - Comorbid depression, anxiety
  - Infection-related harm: soft tissue infections, endocarditis
- **Enormous economic cost:**
  - >11% men aged 25-44 yrs not seeking work; 52% experience chronic pain



Centers for Disease Control and Prevention, 2014 and 2016

AB Krueger, Working Paper, Princeton University, 2016

Drug Overdose Deaths, 2014



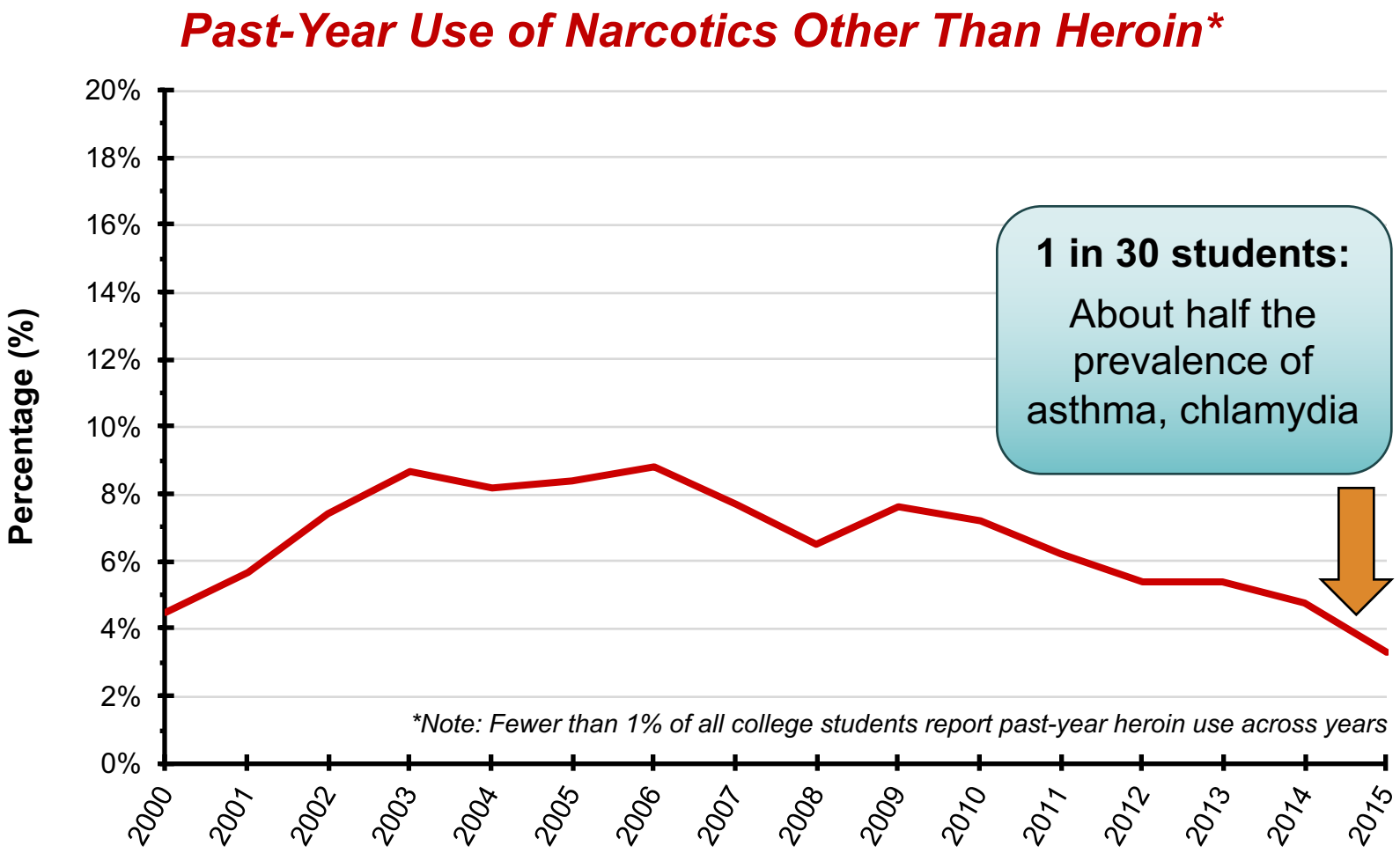
2014 Data, Centers for Disease Control and Prevention (Published 2016)

Why Colleges Matter

- 2 in 3 individuals in opioid treatment report first use before age 25
  - 1 in 3 report first use before age 18
  - May already be using when they start college
- Nearly 1 in 3 individuals in treatment for opioids (including heroin) is college-educated
  - Those in opioid treatment are the most likely to have a college degree (compared to all other illicit drugs)

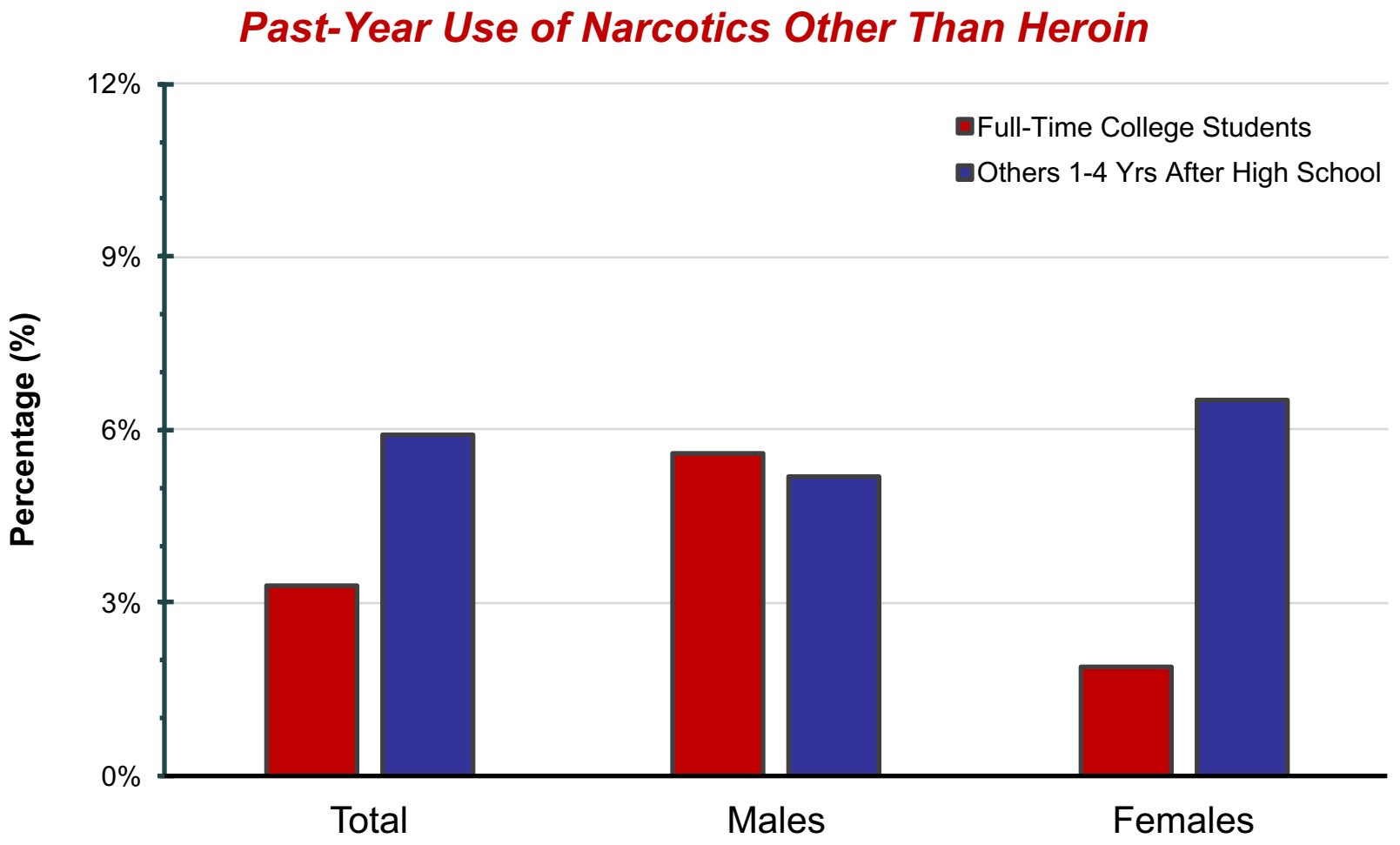
Treatment Episode Data Set (TEDS): 2013. SAMHSA, 2015

Prevalence: College Students



Monitoring the Future, 2016

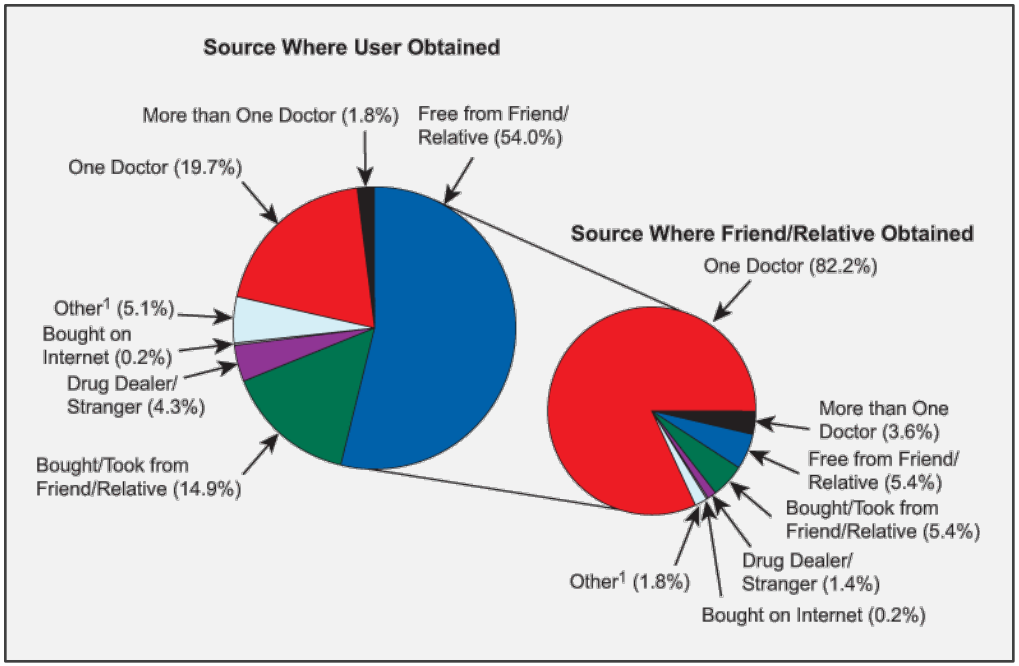
College Gender Differences



Monitoring the Future, 2016

The Basics: Prescription Opioids

- Most commonly misused are oxycodone, hydrocodone, methadone, morphine, hydromorphone, fentanyl
- Can be:
  - Ingested
  - Inhaled (snorted)
  - Injected
- Multiple sources for pills (most are from a friend or relative)



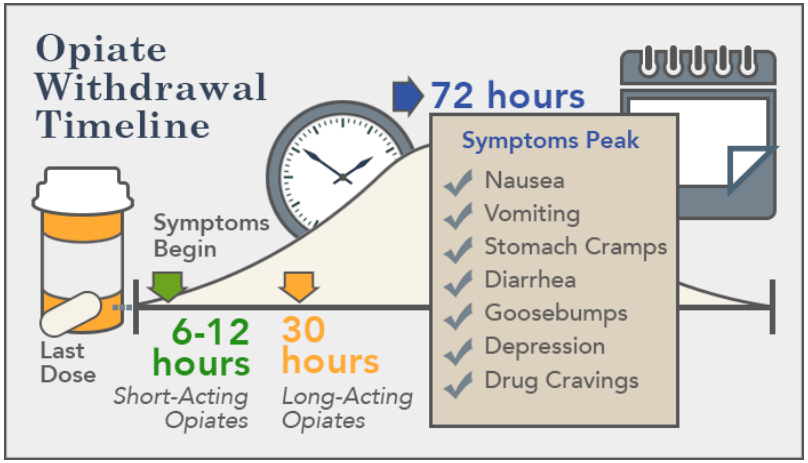
NSDUH, 2013

Physiologic Effects & Withdrawal

Positive Psychologic Effects:
- Euphoria
- Reduced anxiety
- Decreased pain perception

Negative Psychologic Effects:
- Decreased mental status, including drowsiness (“nodding”), sedation
- Feelings of detachment

Physiologic Effects (of the ‘high’):
- Respiratory suppression
- Pinpoint pupils
- Constipation
- Cough suppression
- Flushing of face and neck



ASAM, Principles of Addiction Medicine, 2015
National Institute on Drug Abuse, 2016

Diagnosis: Opioid 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 symptoms

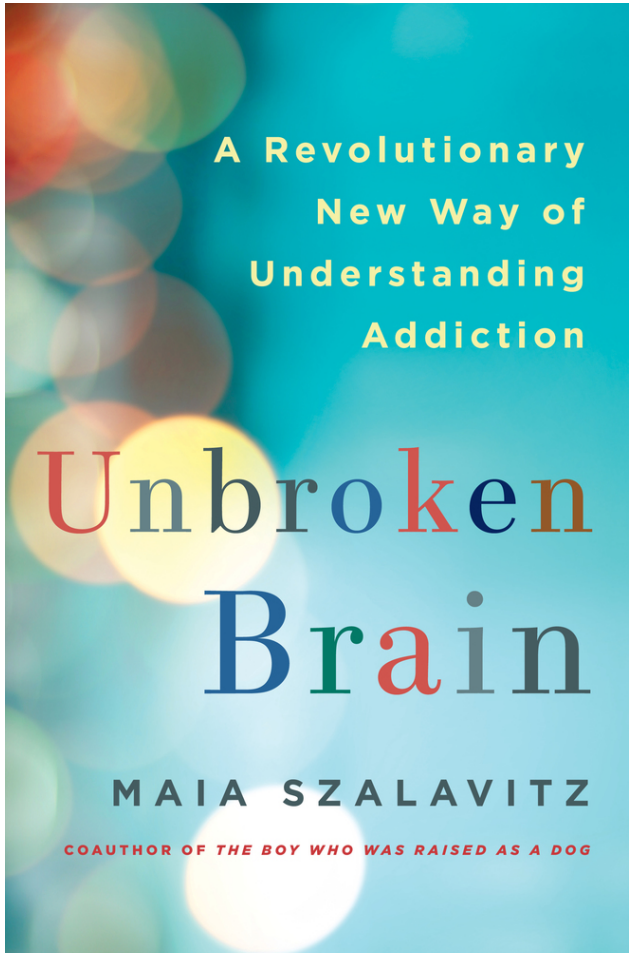
Severe:
≥6 symptoms

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

Why Use Opioids?

1. Sensation-Seeking
3. Anxiety Sensitivity
2. Impulsiveness
4. Hopelessness

Dysregulation addressed with opioid use

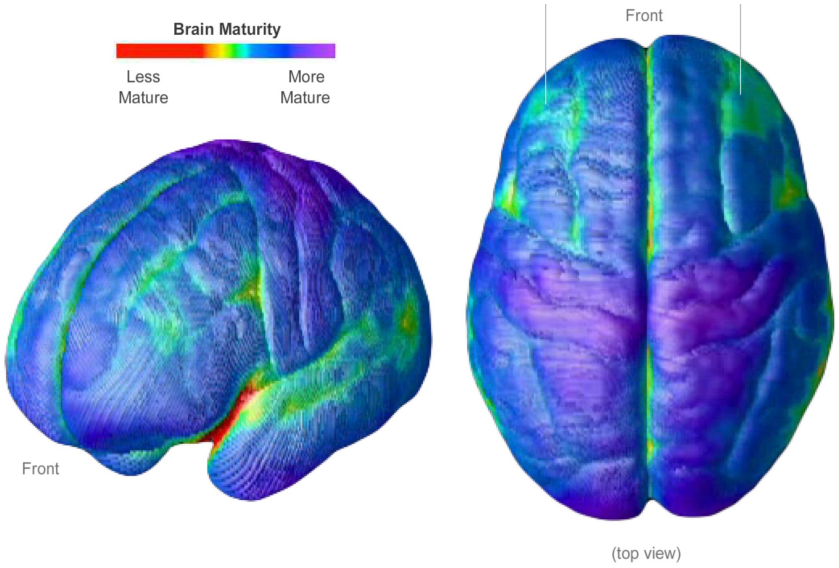


Conrod PJ, et al. *JAMA Psychiatry*, 2013;70(3):334-42

Addiction: A Brain Disease

- Normal development during young adulthood:
  - **Brain development** (white matter)
    - Impulse control and decision-making
  - **Social development**
    - Coping skills, interpersonal relationships

1. The fact that this development is not yet complete means college students are ***at risk***
2. Substance use during this critical time permanently alters the processes



http://www.nytimes.com, 2008

Pathway from Pills to Heroin

- A common story:

  "It was all in between the age of 17 and 18 that I got introduced to pain pills and heroin. I traded a few Percocets for Oxy and the dude was like, "Instead of snorting two, shoot one." So I started shooting Oxy like once or twice a week.'

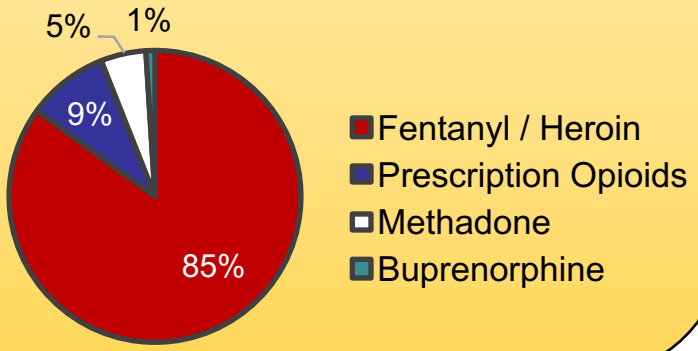
  Then, a friend told me you can get a bundle [a gram of heroin] for $75 instead of buying two eighties [80 milligram of OxyContin] which is $150. You can get high for two days off the bundle."

SE Lankenau et al. *Int J Drug Policy*. 2012;23:37-44

Why Overdose Risk Is Increasing

Reason 1 – Fentanyl (and other analogs):

- *Higher potency* than heroin
- Heroin and illicitly made pills are *contaminated* with fentanyl
- Also recently detected in *cocaine* supply chain
- MA fatal overdoses, 2013-14:



Reason 2 – Polypharmacy

- Concurrent *benzodiazepine* use increases risk of respiratory depression (alprazolam most common)
- Also commonly seeing use of *gabapentin, prochlorperazine*
- Large street market for all of the above; sometimes also legitimately prescribed

MA Chapter 55 Data, Massachusetts Dept. of Public Health, 2016

Part 2 of 3: Prevention / Treatment

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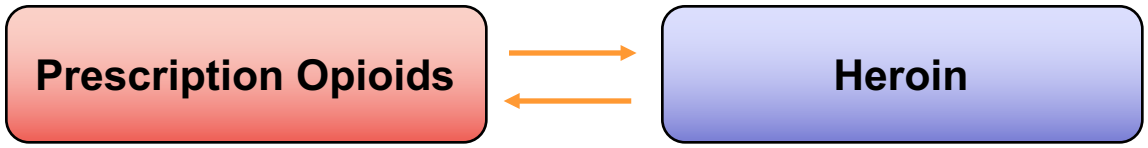
Prevention of Opioid Misuse



- Traditional focus of 'prevention': **supply side strategies**
  - Rationale: Reducing the availability of drugs will make fewer people use them
- Inadvertent effect has been to shift people from pills to heroin
- What is needed is **reduced demand** for drugs (treatment!)
- Unclear what effect prescription monitoring programs will have on college opioid use (shift from pills to heroin…?)

NSDUH, 2016

What Does Treatment Look Like?

- It varies (…and it probably shouldn't!)
- Possibilities:
  - **Drug treatment program**
    - Evidence-based (e.g., residential program)
    - Non-evidence-based (e.g., 'wilderness programs')
  - **Physician, NP or PA giving medication**
  - **Counsellor / behavioral therapist**
  - **Narcotics Anonymous (NA)**
  - **Therapeutic communities**

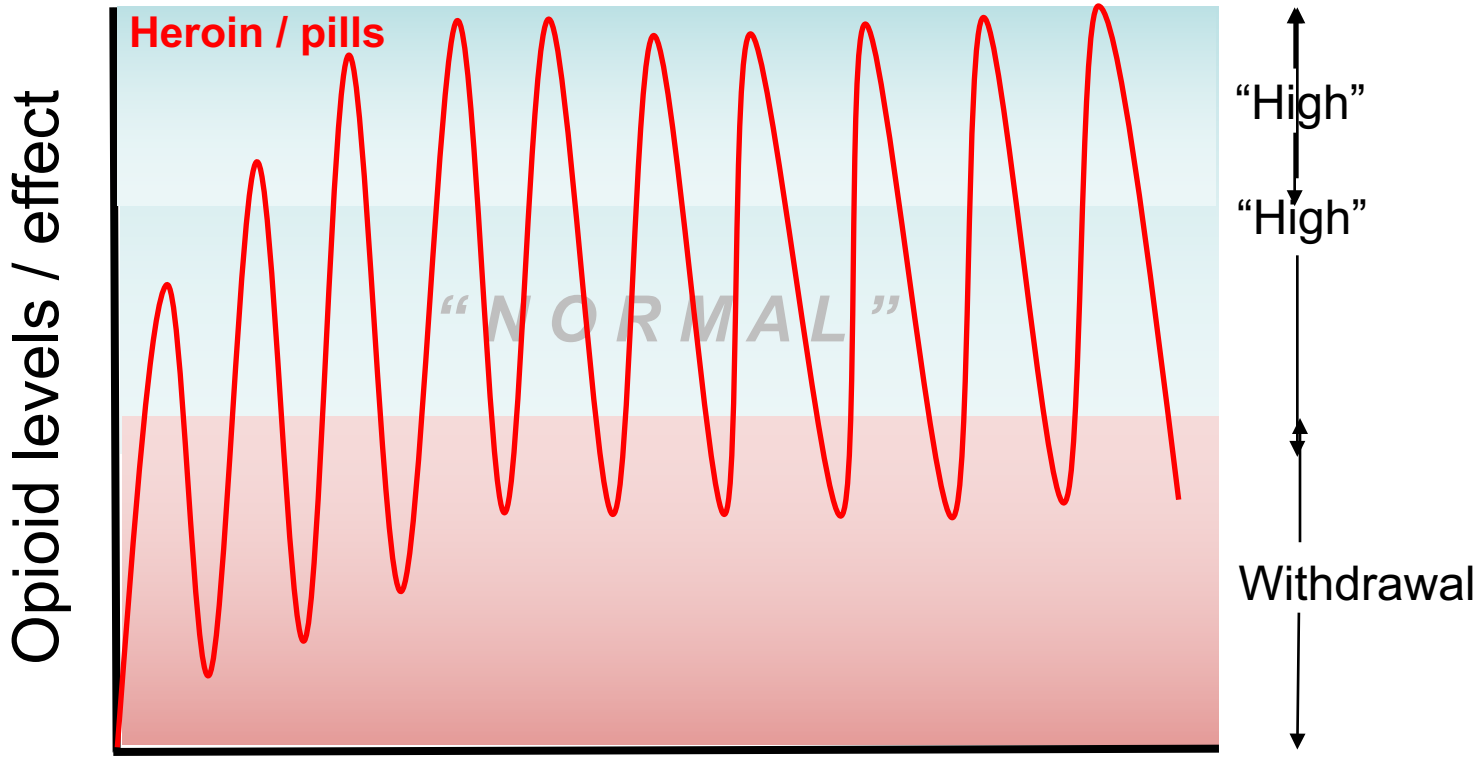
ASAM, Principles of Addiction Medicine, 2015

Available Medications

Methadone	Buprenorphine	Naltrexone
Full opioid agonist	Partial opioid agonist	Opioid antagonist
Reduces withdrawal and cravings	Reduces withdrawal and cravings	Reduces cravings only (used incorrectly, causes withdrawal)
Daily dose	Daily dose	Injectable: monthly dose
Only administered in person at qualified methadone center	Can be provided by primary care clinician (after special training)	Can be provided by primary care clinician (no special training)
Follow-up every day	Follow-up weekly, then monthly	Follow-up quickly spaced to monthly

ASAM, Principles of Addiction Medicine, 2015

Rationale for Buprenorphine



Adapted from: ASAM, Principles of Addiction Medicine, 2015

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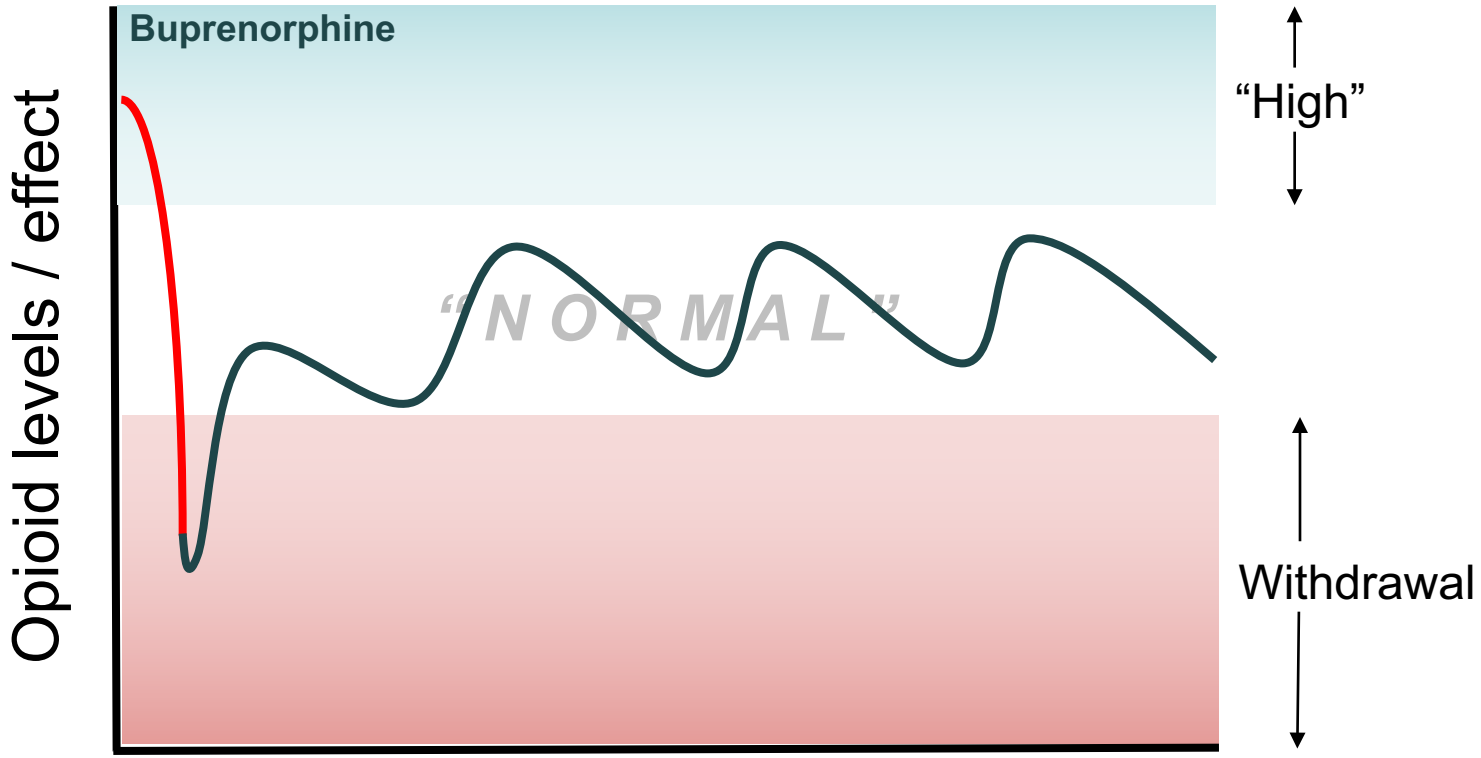
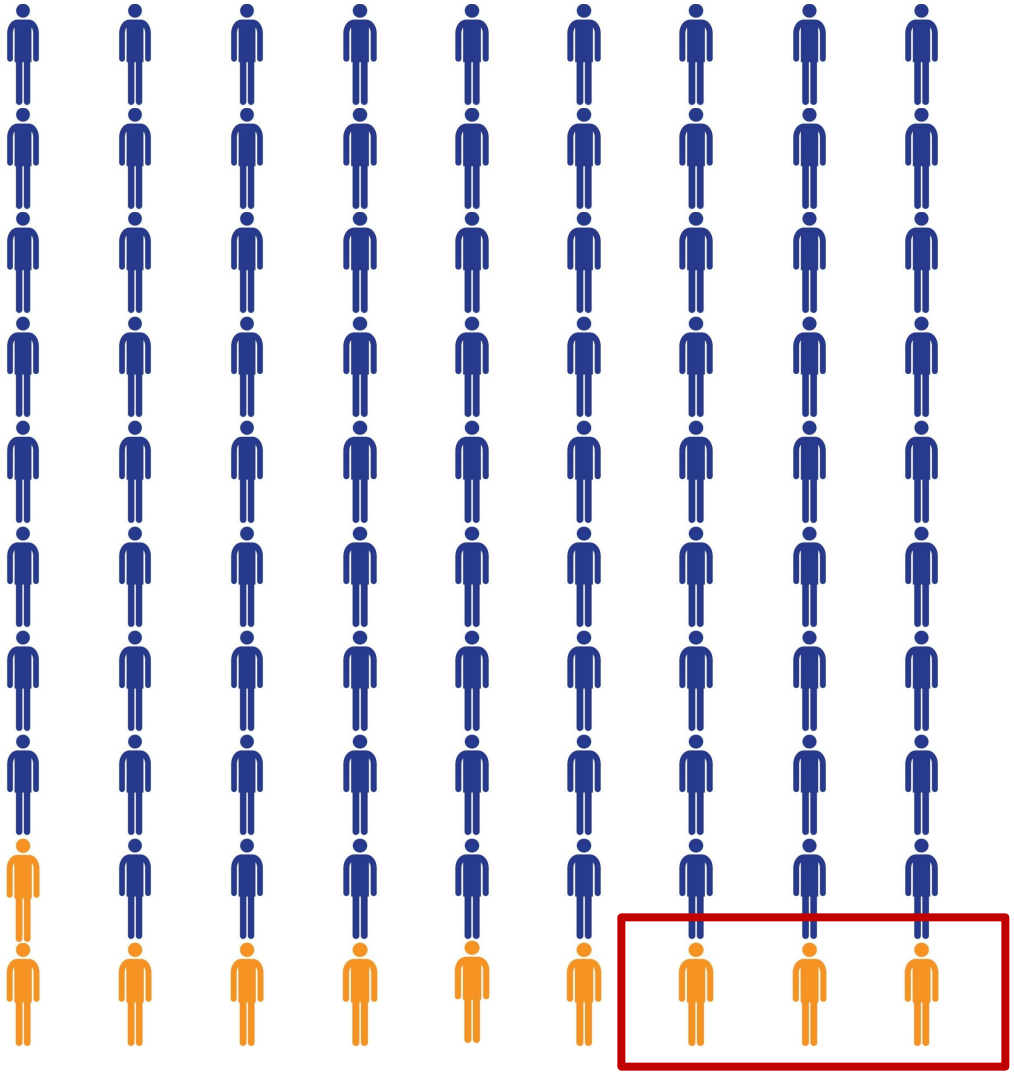


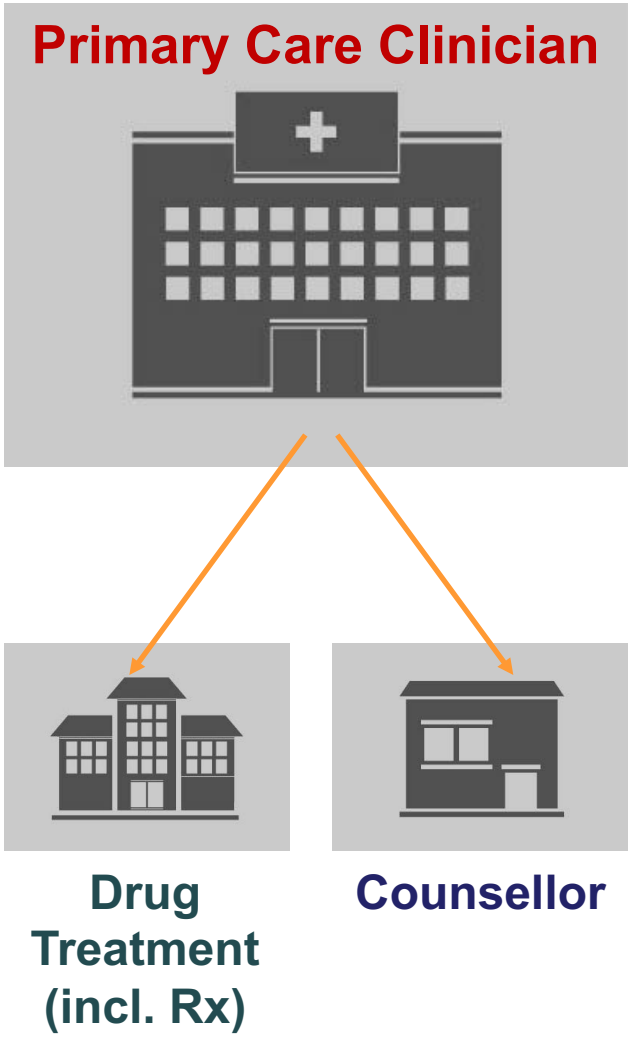
Adapted from: ASAM, Principles of Addiction Medicine, 2015

Who Receives Treatment?



NSDUH, 2016

Treatment Systems



In an ideal system…

Primary Clinician (gives Rx)
Counsellor
Nurse Care Manager
Peer Recovery Coach

Collaborative Care: Advantages

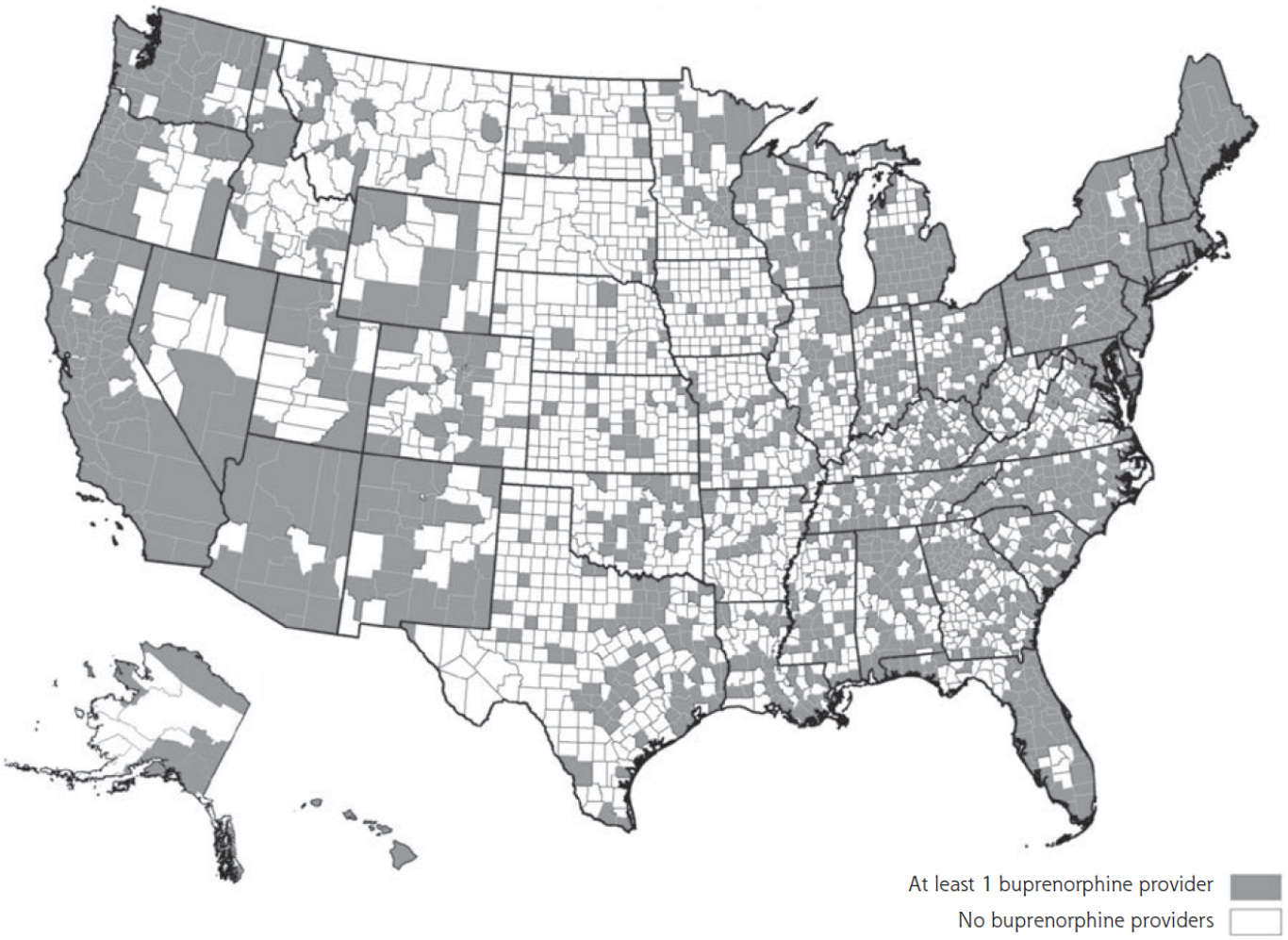
1. **Convenience, avoidance of stigma**
   - Patient goes to same place they receive their usual medical care (mirrors management for depression)

2. **Trust, familiarity**
   - Patient receives care from trusted provided in familiar setting

3. **Addresses the critical shortage of available providers**

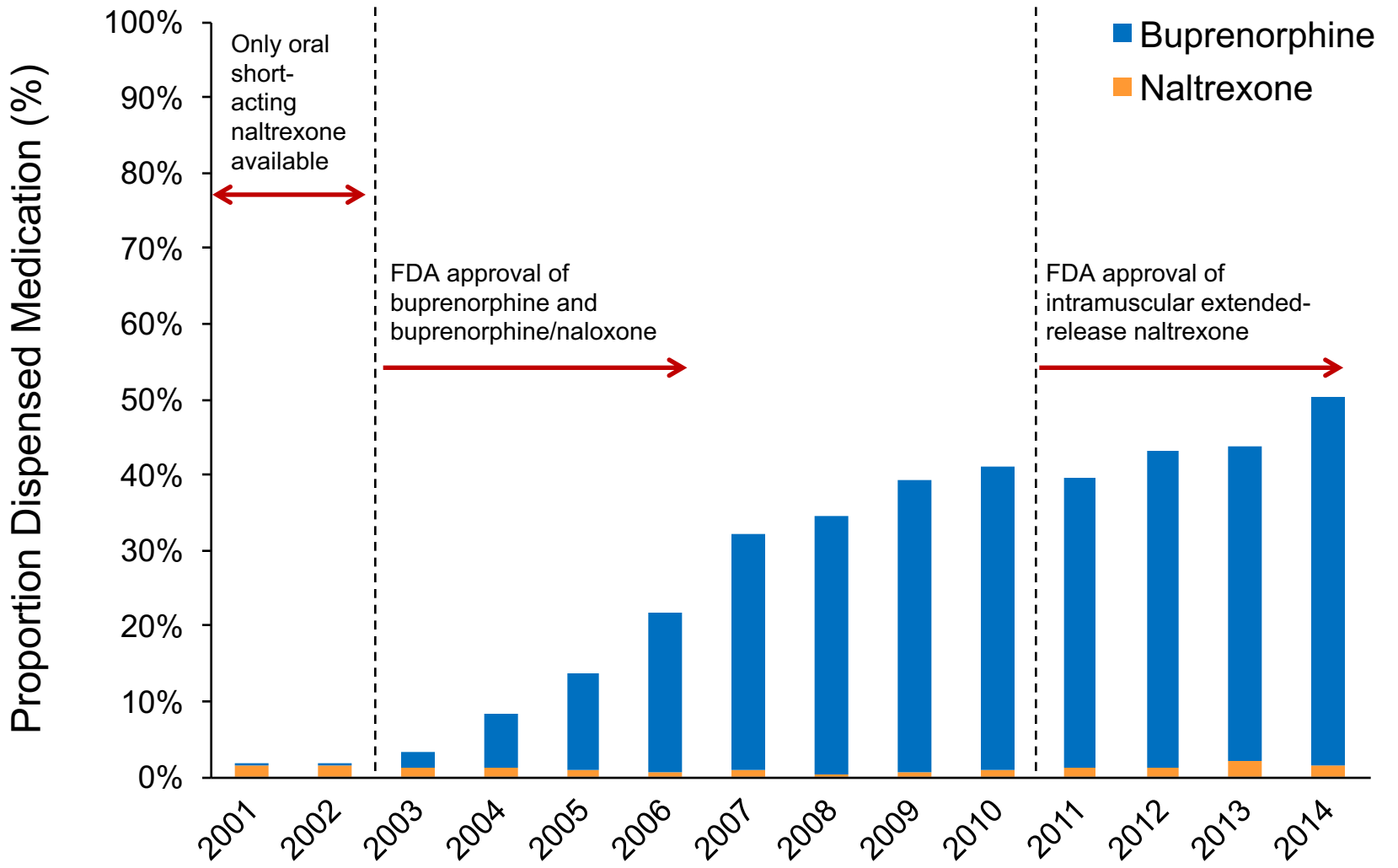
Hadland SE, et al. *Lancet*, 2016; 2016;388(10051):1260-1

Shortage of Providers



RA Rosenblatt et al., *Ann Fam Med*, 2015; 13(1):23-26

Receipt of Medication



Results: Receipt of Any Medication

Characteristic	Adjusted* OR (95% CI)
Sex	
Male	*Reference*
Female	**0.82 (0.81 – 0.83)**
Age of diagnosis	
21-25 years	*Reference*
18-20 years	**0.63 (0.62 – 0.64)**
16-17 years	**0.17 (0.16 – 0.18)**
Race / ethnicity	
Non-Hispanic white	*Reference*
Non-Hispanic black	**0.57 (0.52 – 0.63)**
Hispanic	**0.83 (0.81 – 0.86)**
Asian	**0.88 (0.83 – 0.93)**
Mixed / Other	1.01 (0.99 – 1.03)

** Multivariable model adjusts for all covariates listed and year of diagnosis*

Part 3 of 3: Adapting for Colleges

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A Reframing of Addiction

- Although some college students who struggle with opioids may need to take a leave of absence (*e.g.,* to pursue residential treatment), *many can and should remain in school*

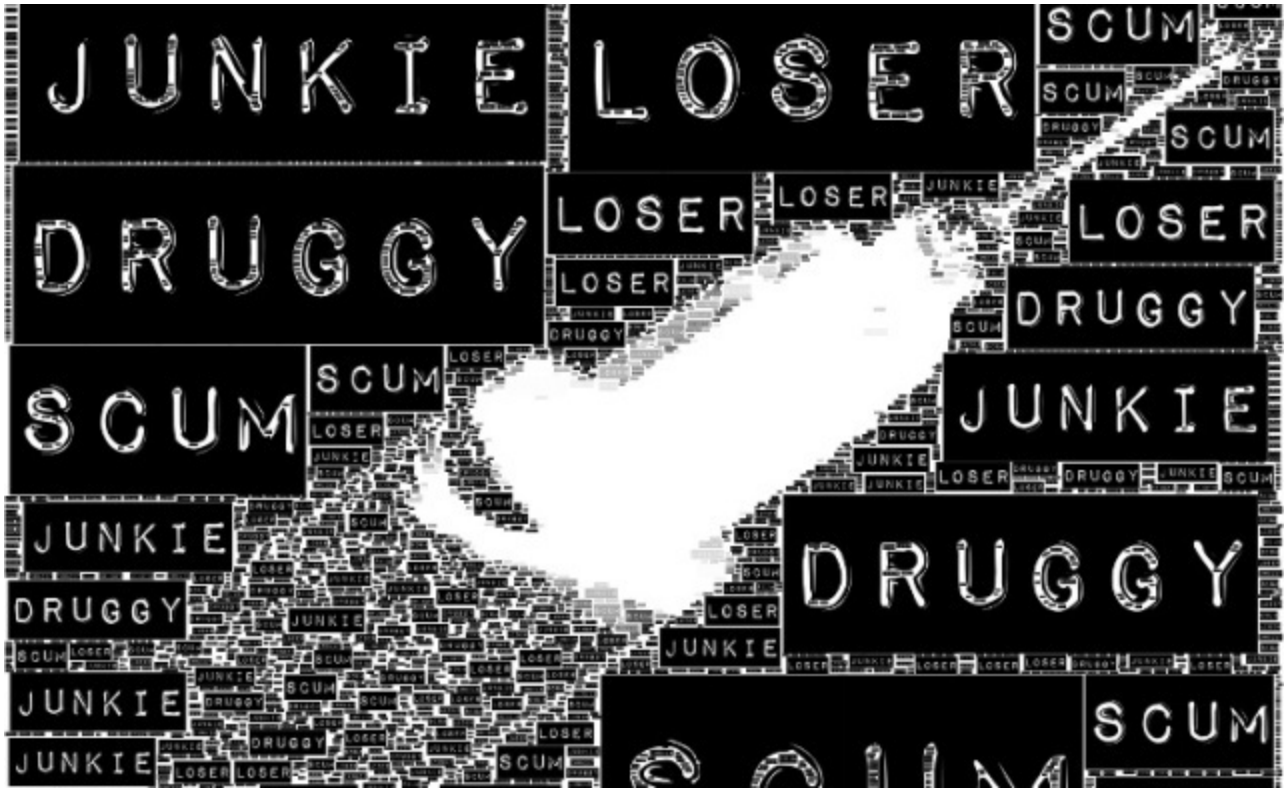
- Individuals receiving opioid treatment (including methadone, buprenorphine, naltrexone) can and do live normal lives – working, raising families, and *attending school*

- **This is what recovery looks like.**

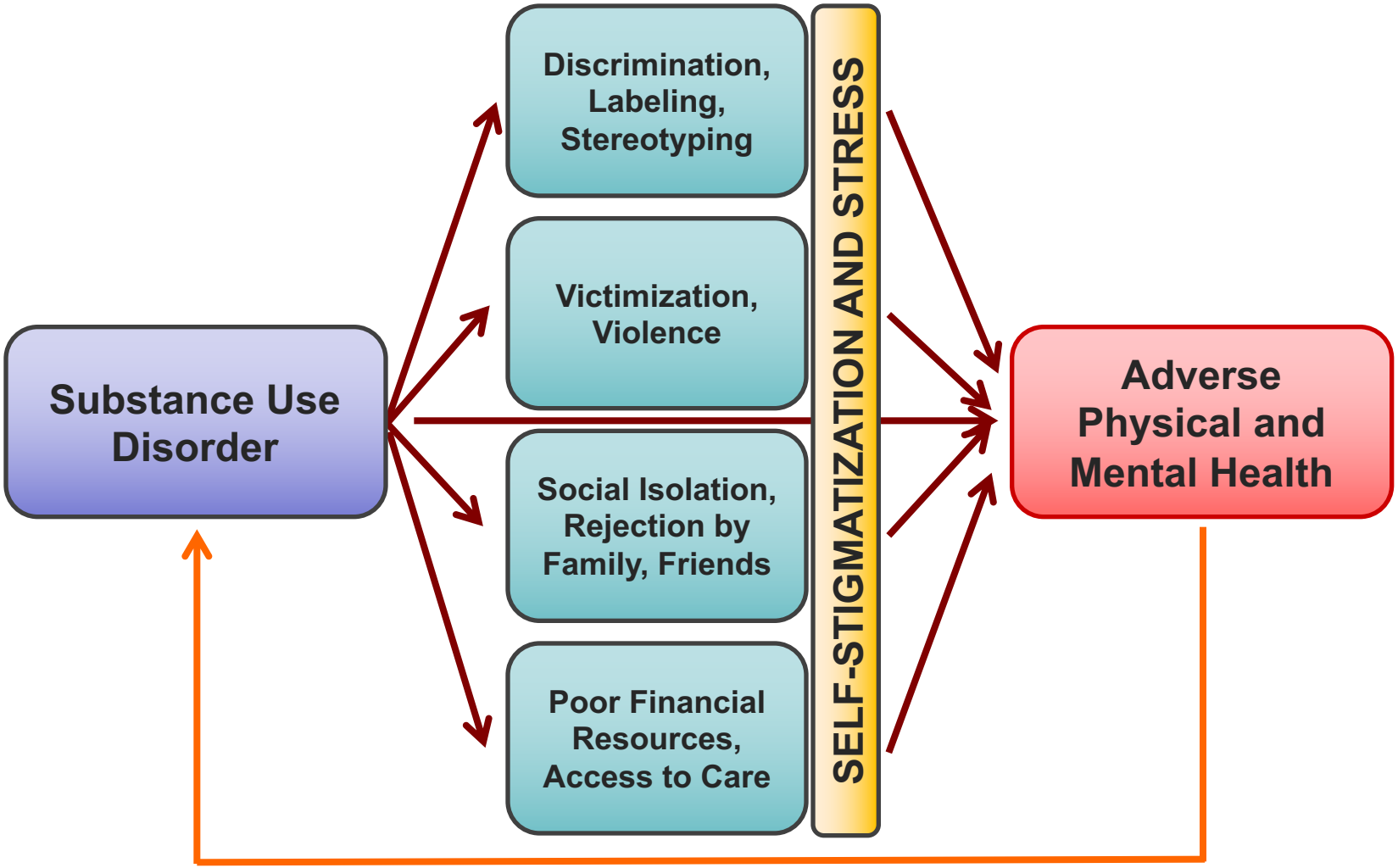
An Outline for Colleges

1. Things *we all* should do as a society
   - **Change the language of addiction**
2. Things *all college health providers* can do
   - **Screen, provide brief advice, refer**
   - **Discuss naloxone, make it available**
3. Things *some college physicians, NPs and PAs* can do
   - **Offer buprenorphine and naltrexone**
4. Things *some college health systems* can do
   - **Build systems of care for students with opioid use disorder**

Stigma & Language of Addiction



Stigma



Hatzenbuehler ML, Phelan JC, Link BG. *Am J Public Health*, 2013;103(5):813-21.

What Words Should We Use?

Problematic Terms	Preferable Terms
“Junkie”	“Person with addiction”
“Druggie”	“Person with addiction”
“Crackhead”	“Person with addiction”
“Addict”	“Person with addiction”
“Substance abuser”	“Person with addiction”
“Abuse”	“Use” or “Misuse”
“Clean”	“In recovery” (“sober” OK)
“Dependence”	“Substance use disorder” or “Addiction”
“Legal heroin”	“Treatment” (buprenorphine)
“Crisis”, “Epidemic”	…It’s complicated.

Botticelli MP & Koh HK. *JAMA,* 2016;316(13):1361-2

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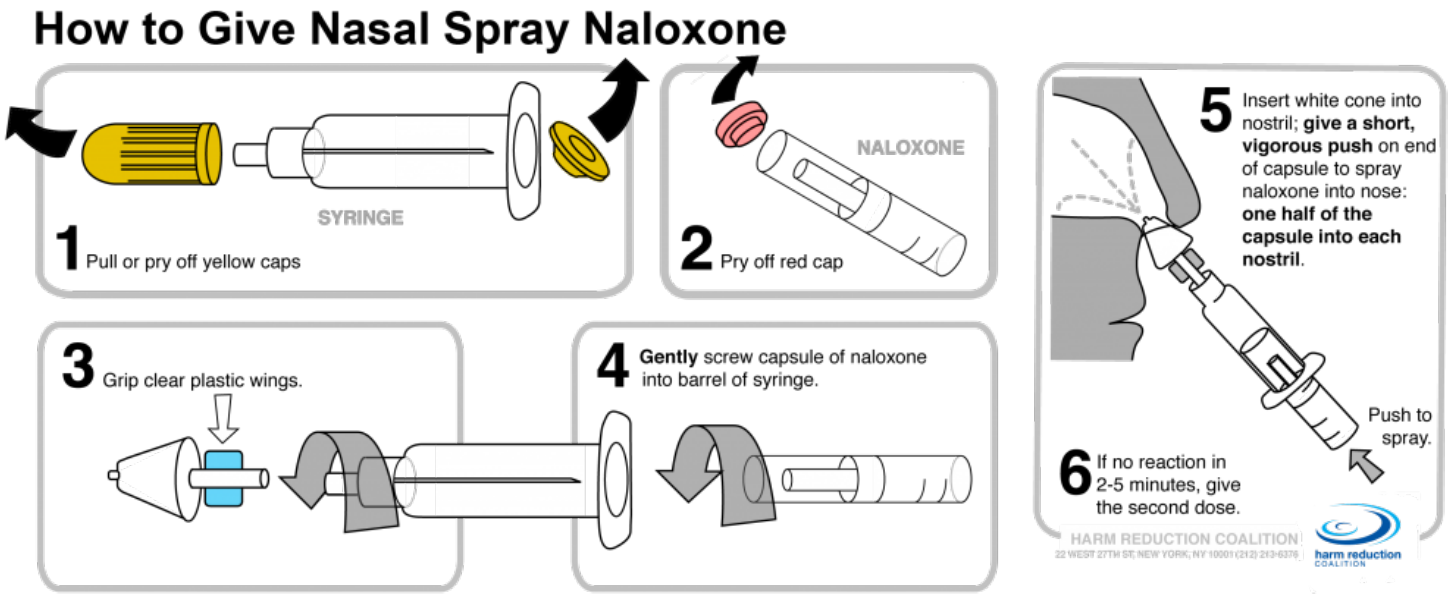
SBIRT: Every Provider, Every Time

- **Alcohol – AUDIT-C widely used:**
  1. How often do you have a drink containing alcohol?
  2. How many standard drinks containing alcohol do you have on a typical day?
  3. How often do you have six or more drinks on one occasion?
- **Opioids – No standard measure yet:**
  - ASSIST: Alcohol, Smoking and Substance Involvement Screening Test (World Health Organization)
  - **In the past three months, how often have you used ____?**
  - Need to specify that you want to know about *non-medical use*

Humeniuk R, et al. *Addiction*. 2008;103(6):1039-1047.
SAMHSA, 2016.

Make Naloxone Available

- Overdose reversal agent that has saved tens of thousands of lives
- Availability is standard at some colleges (*e.g.,* Pitt, UW, U of T, U of Albany), as well as training



http://www.harmreduction.org, Accessed Oct. 31, 2016.

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Offer Buprenorphine, Naltrexone

- Some students may arrive at college stable on medication-assisted treatment with buprenorphine or naltrexone
  - They need a place to go!
- Naltrexone can be offered by any prescriber
- Buprenorphine requires special training and DEA licensure
  - As of 2016, NPs and PAs can prescribe buprenorphine
  - Providers' Clinical Support System (pcssmat.org) offers online courses and mentorship
  - In May 2016, first implant approved

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Build Better Systems of Care

Make your college health center look more like this!

Priorities:

1. Get a buprenorphine prescriber, then…
2. Offer on-site mental health, then…
3. Assign a nurse care manager for support, then…
4. Consider other supports (*e.g.,* peer recovery coach)

In an ideal system…

Primary Clinician (gives Rx)
Counsellor
Nurse Care Manager
Peer Recovery Coach

College Campus Innovations

- Naloxone overdose intervention training:
  - University of Albany, University of Pittsburgh
  - University of Texas: available 24/7 at front desk residence halls
  - University of Washington: available alongside defibrillators and fire extinguishers at Seattle campuses
- Rutgers has an on-site recovery house for students who have been in recovery for ≥3 months
- Temple has offered buprenorphine since 2004

Demaria PA. *J Am Coll Health*, 2008;56(4):391-3.

Questions & Thank You!

- Sarah Cavicchi & Jessica Greher Traue and NECHA
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- Prior support from Harvard-Wide Pediatric Health Services Fellowship and Division of Adolescent / Young Adult Medicine at Boston Children's Hospital