Diagnosis and Management of Substance Use Disorders

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Learning Objectives

- Upon completion, participants will be able to:

- Understand the epidemiology of Substance Use Disorders (SUDs) and utilize appropriate screening protocols to identify patients with SUDs.
- Discuss diagnosis, management and treatment approaches and of several SUDs including alcohol and opioids.
- Integrate evidence based measures to safely manage patients treated with controlled substances including urine drug testing, controlled substance agreement and Prescription Drug Monitoring Programs (PDMPs)
- Discuss the diagnosis and treatment of intoxication syndromes caused by synthetic drugs including cannabinoids and cathinones..
- Describe the application of clinical practice guidelines for the prevention and treatment of opioid overdose

Disclosures

- Speaker, Consultant and Treatment Advocate for Indivior
- Will not endorse any of the products marketed and sold by Indivior

Why are we talking about Substance Use Disorders?

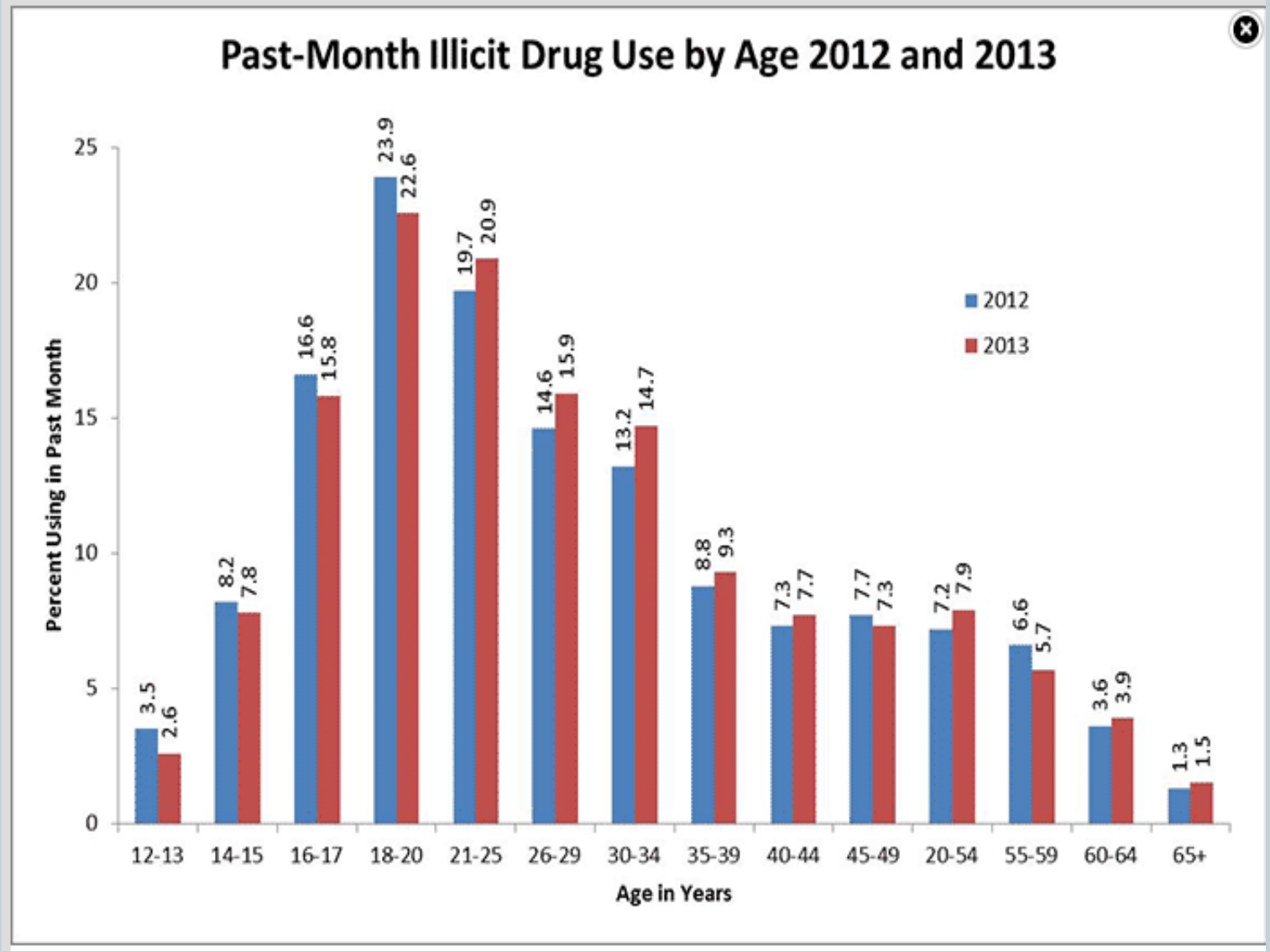
THE PROBLEM

SAMSHA Survey

- The Substance Abuse and Mental Health Services Administration (SAMHSA) conducts the annual National Survey on Drug Use and Health (NSDUH).
- It's a major source of information on substance use, abuse, and dependence among Americans 12 years and older.
- Last update June 2015
- Source: http://www.drugabuse.gov/publications/drugfacts/nationwide-trends

Important Key Points

- Illicit drug use in the United States has been increasing.
- In 2013, an estimated 24.6 million Americans aged 12 or older—9.4 percent of the population—had used an illicit drug in the past month.
- This number is up from 8.3 percent in 2002.
- The increase mostly reflects a recent rise in use of marijuana, the most commonly used illicit drug.


Past-Month Illicit Drug Use by Age 2012 and 2013
Percent Using in Past Month
Age in Years
2012
2013
0
5
10
15
20
25
12-13
14-15
16-17
18-20
21-25
26-29
30-34
35-39
40-44
45-49
20-54
55-59
60-64
65+
3.5
2.6
8.2
7.8
16.6
15.8
23.9
22.6
19.7
20.9
14.6
15.9
13.2
14.7
8.8
9.3
7.3
7.7
7.7
7.3
7.2
7.9
6.6
5.7
3.6
3.9
1.3
1.5

Important Key Points

- More than half of new illicit drug users begin with marijuana. Next most common are prescription pain relievers, followed by inhalants.
- Most people use drugs for the first time when they are teenagers.
- Drug use is highest among people in their late teens and twenties.
- Drug use is increasing among people in their fifties and early sixties.

Important Key Points

- Drinking by underage persons (ages 12 to 20) has declined.
- Binge and heavy drinking are more widespread among men than women.
- Fewer Americans are smoking.
- In 2013, an estimated 55.8 million Americans aged 12 or older, or 21.3 percent (26 % in 2002) of the population, were current cigarette smokers.
- There continues to be a large "treatment gap" in this country.

JUNE 15, 2015

TIME

They're the most **powerful painkillers** ever invented.

And they're creating the worst addiction crisis America has ever seen.

By Massimo Calabresi

time.com

Prescription Opioid Painkillers and the Epidemic of Drug Abuse and Overdose

- Drug overdose was the leading cause of injury death in 2013. Among people 25 to 64 years old, drug overdose caused more deaths than motor vehicle traffic crashes.
- There were 43,982 drug overdose deaths in the United States in 2013. Of these, 22,767 (51.8%) were related to prescription drugs.
- Of the 22,767 deaths relating to prescription drug overdose in 2013, 16,235 (71.3%) involved opioid painkillers, and 6,973 (30.6%) involved benzodiazepines.
- People who died of drug overdoses often had a combination of benzodiazepines and opioid painkillers in their bodies.
- Drug misuse and abuse caused about 2.5 million emergency department (ED) visits in 2011. Of these, more than 1.4 million ED visits were related to prescription drugs.

Epidemic

- Deaths from prescription painkillers have quadrupled since 1999, killing more than 16,000 people in the U.S. in 2013.
- Nearly two million Americans, aged 12 or older, either abused or were dependent on opioids in 2013.
- Overdose rate for adults aged 55–64 increased more than seven-fold during this same time period.

Epidemic Continues ….

- More persons died from drug overdoses in the United States in 2014 than during any previous year on record.
- From 2000 to 2014 nearly half a million persons in the United States have died from drug overdoses.
- In 2014, there were approximately one and a half times more drug overdose deaths in the United States than deaths from motor vehicle crashes
- Opioids, primarily prescription pain relievers and heroin, are the main drugs associated with overdose deaths.
- In 2014, opioids were involved in 28,647 deaths, or 61% of all drug overdose deaths; the rate of opioid overdoses has tripled since 2000.
- The 2014 data demonstrate that the United States' opioid overdose epidemic includes two distinct but interrelated trends:
  - a 15-year increase in overdose deaths involving prescription opioid pain relievers
  - and a recent surge in illicit opioid overdose deaths, driven largely by heroin.

CDC Raises Alarm

- Morbidity and Mortality Weekly Report (MMWR)
  - Increases in Drug and Opioid Overdose Deaths — United States, 2000–2014
  - January 1, 2016 / 64(50);1378-82
  - Rose A. Rudd, MSPH1; Noah Aleshire, JD1; Jon E. Zibbell, PhD1; R. Matthew Gladden, PhD

Morbidity and Mortality Weekly Report 07/07/2015

- **Background:** Heroin use and overdose deaths have increased significantly in the United States. Assessing trends in heroin use among demographic and particular substance-using groups can inform prevention efforts.
- **Methods:** FDA and CDC analyzed data from the National Survey on Drug Use and Health and National Vital Statistics System reported during 2002–2013. Trends in heroin use among demographic and substance using groups were compared for 2002–2004, 2005–2007, 2008–2010, and 2011–2013. A multivariable logistic regression model was used to identify characteristics associated with heroin abuse or dependence.
- **Results:** Annual average rates of past-year heroin use increased from 1.6 per 1,000 persons aged ≥12 years in 2002–2004 to 2.6 per 1,000 in 2011–2013. Rates of heroin abuse or dependence were strongly positively correlated with rates of heroin-related overdose deaths over time. For the combined data years 2011–2013, the odds of past-year heroin abuse or dependence were highest among those with past-year cocaine or opioid pain reliever abuse or dependence.
- **Conclusions:** Heroin use has increased significantly across most demographic groups. The increase in heroin abuse or dependence parallels the increase in heroin-related overdose deaths. Heroin use is occurring in the context of broader poly-substance use.

MMWR Key Points

- Heroin use in the United States increased 63% from 2002 through 2013. This increase occurred among a broad range of demographics, including men and women, most age groups, and all income levels.
- As heroin use, abuse, and dependence have increased, so have heroin-related overdose deaths. From 2002 through 2013, the rate of heroin-related overdose deaths nearly quadrupled.
- Persons often use heroin with other substances, including marijuana, cocaine, alcohol, and opioid pain relievers. This practice is especially dangerous.
- Groups with an increased risk for heroin abuse or dependence include men, persons aged 18–25 years, non-Hispanic whites, persons with annual household income less than $20,000, Medicaid recipients, and the uninsured.
- States play a key role in addressing heroin use, abuse, dependence, and overdose. States can implement strategies to reduce the abuse of opioid pain relievers, the strongest risk factor for heroin abuse or dependence. They can also improve access and insurance coverage for medication-assisted treatment for opioid use disorders and expand access and training for naloxone administration to reverse overdoses.

Figure 2. Number of drug-poisoning deaths involving heroin, by sex: United States, 2000–2013

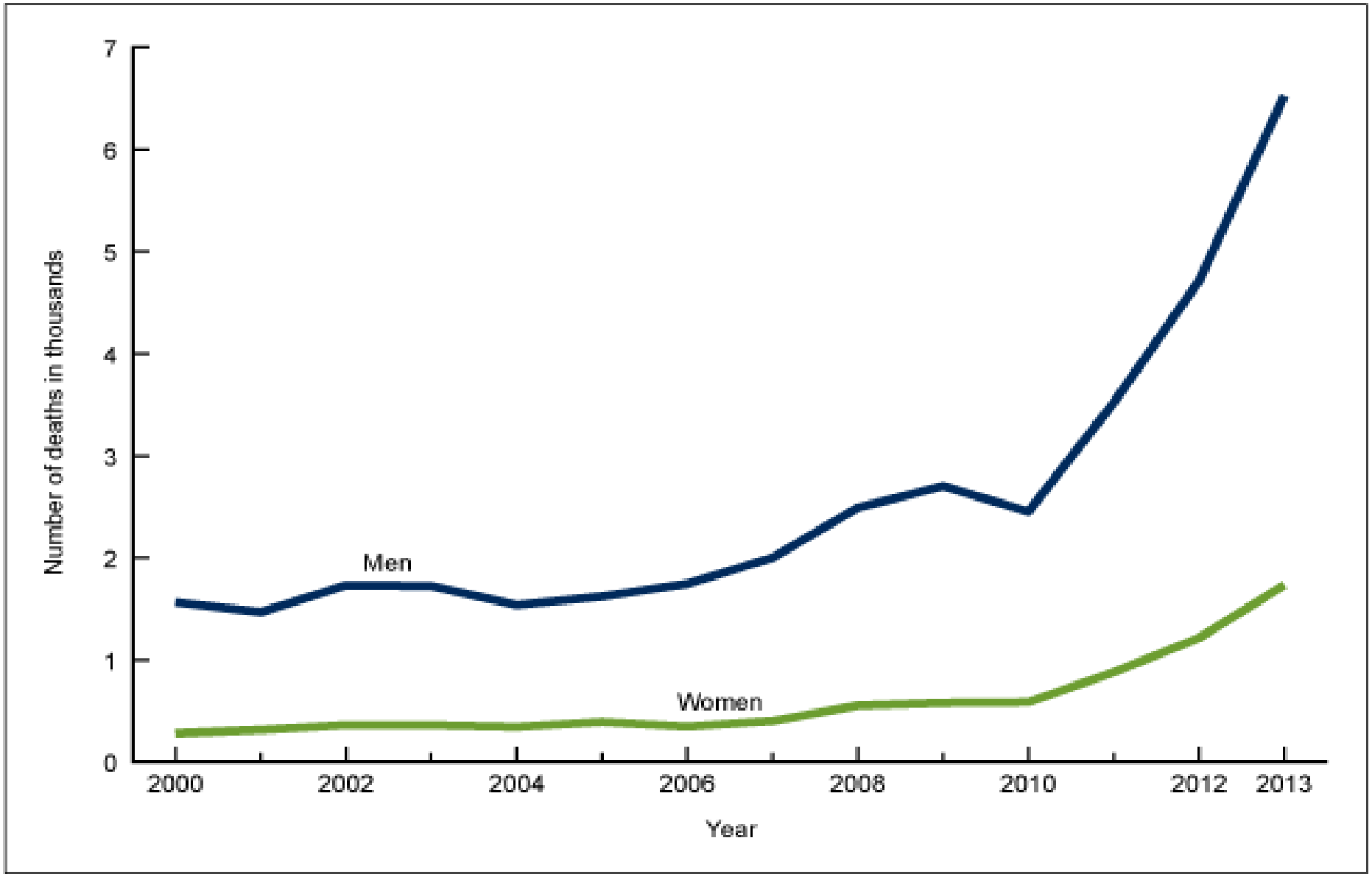
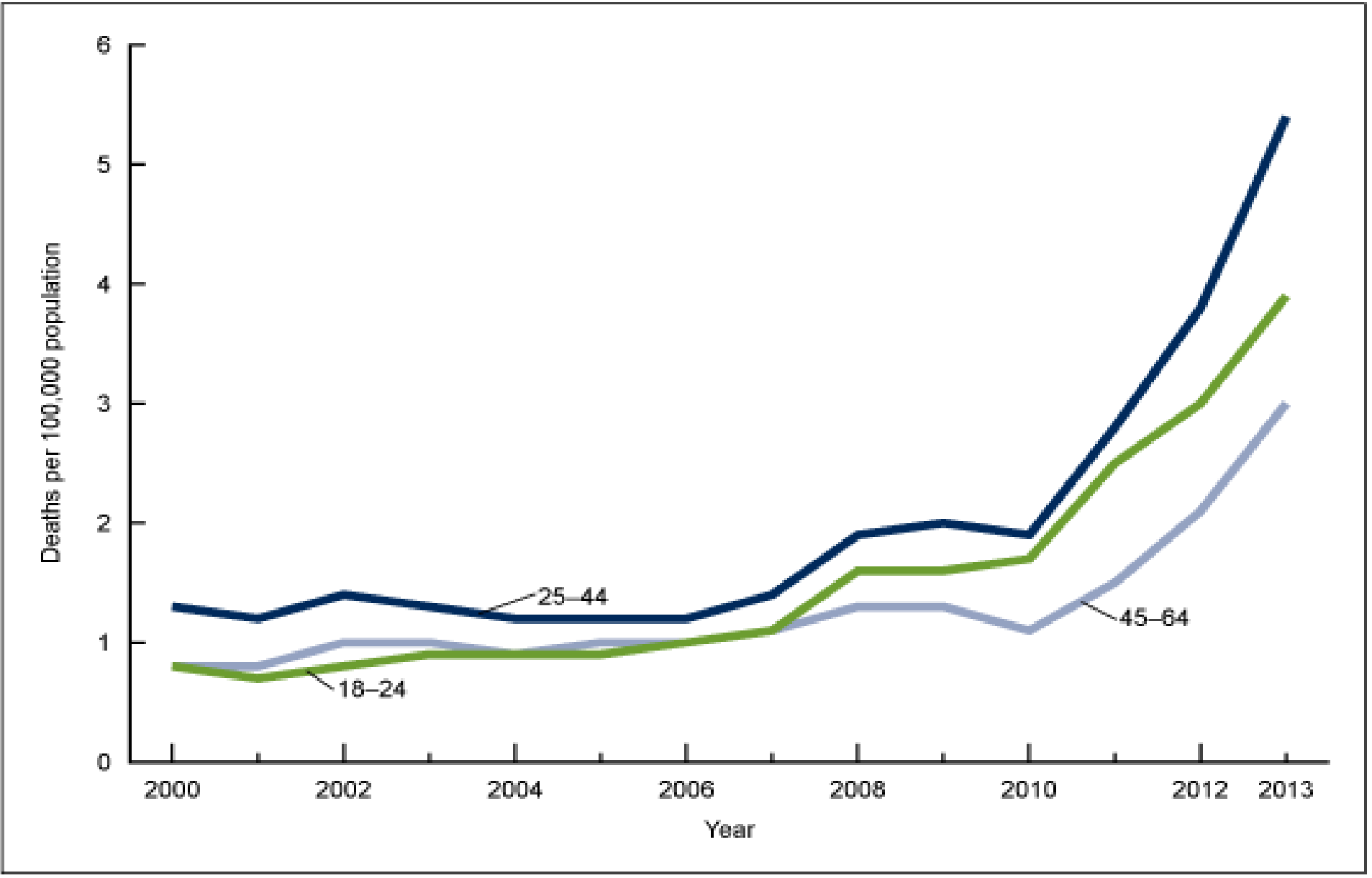


Figure 3. Rates for drug-poisoning deaths involving heroin, by selected age groups: United States, 2000–2013



gure 4. Rates for drug-poisoning deaths involving heroin, by selected age and ce and ethnicity groups: United States, 2000 and 2013

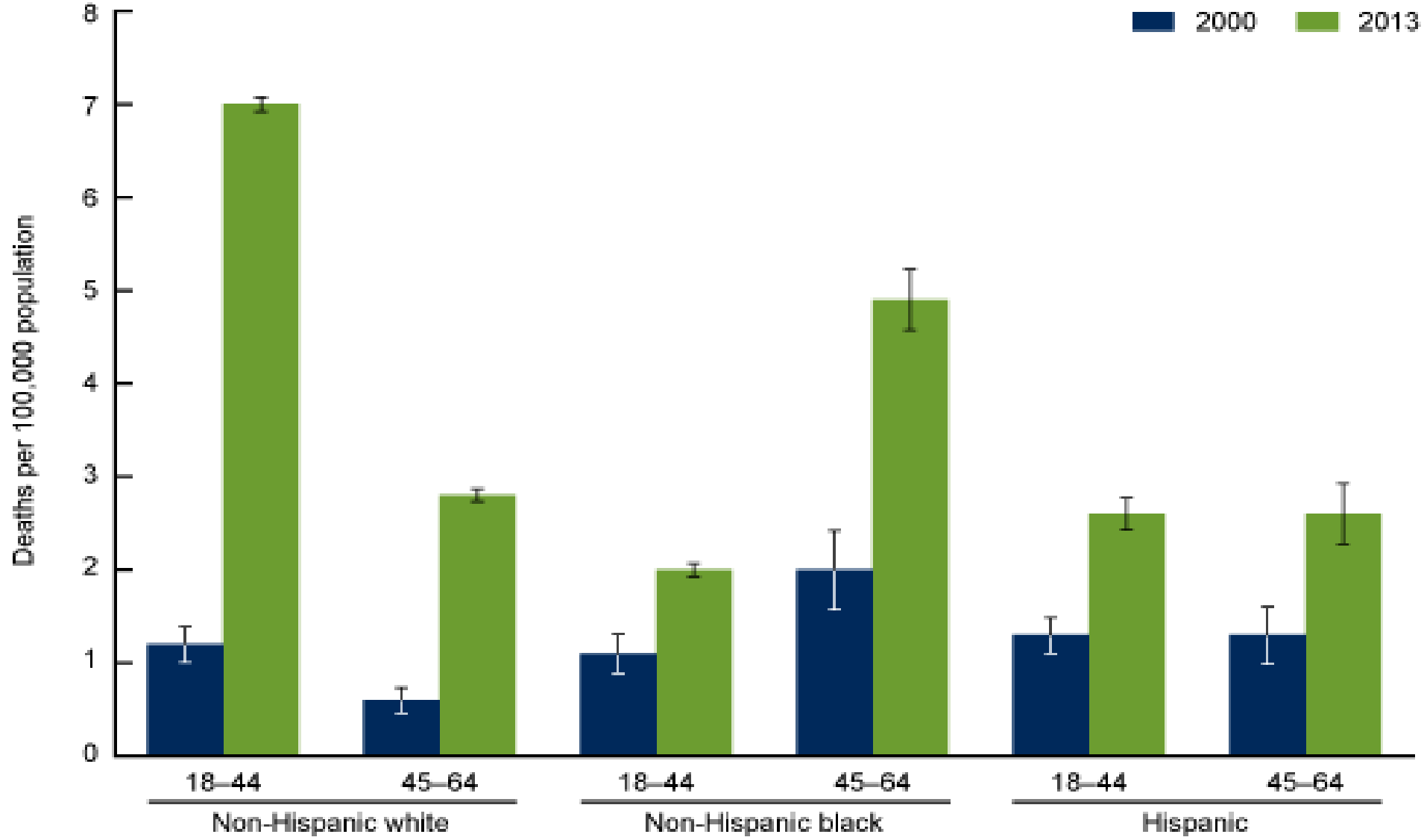
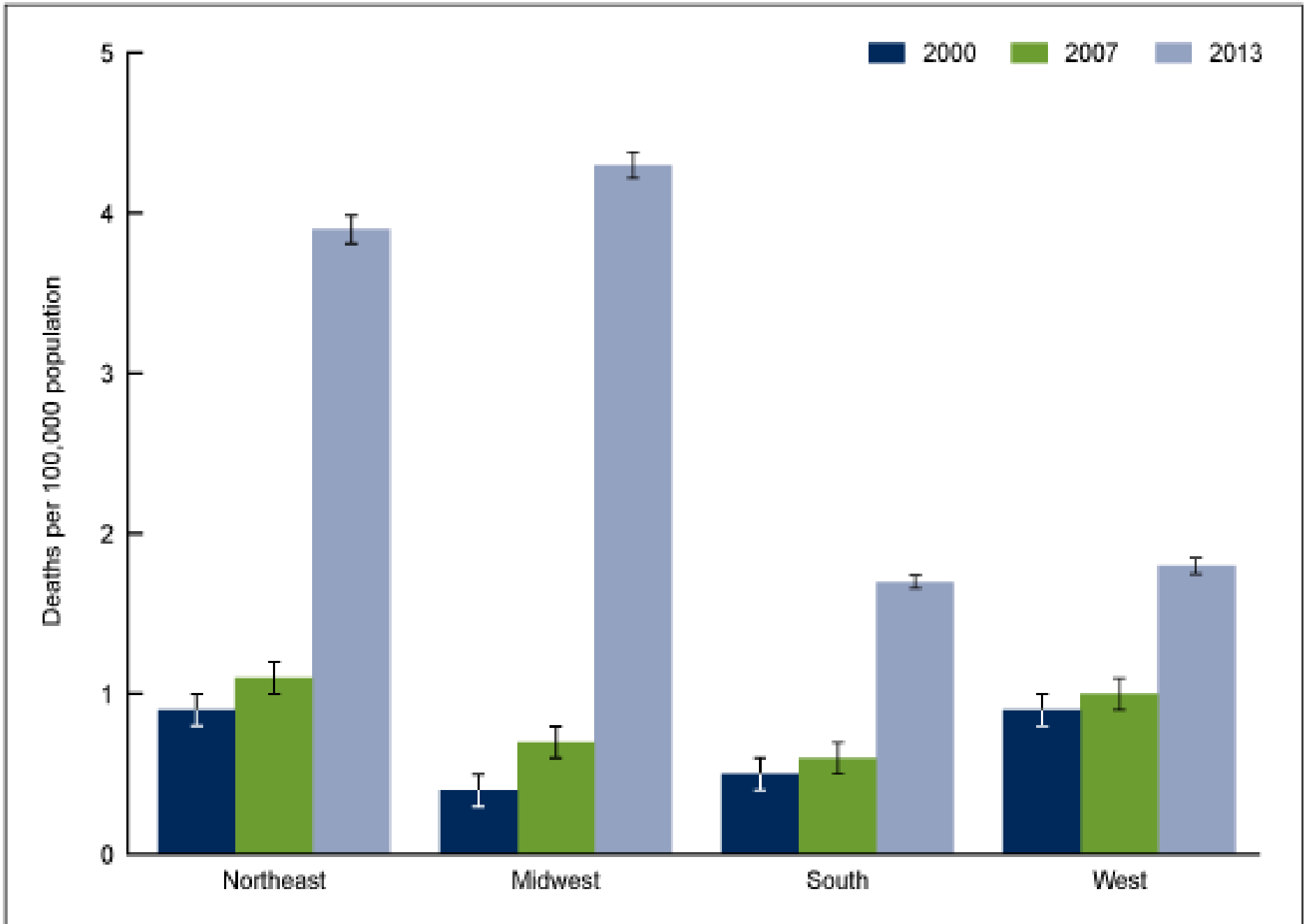
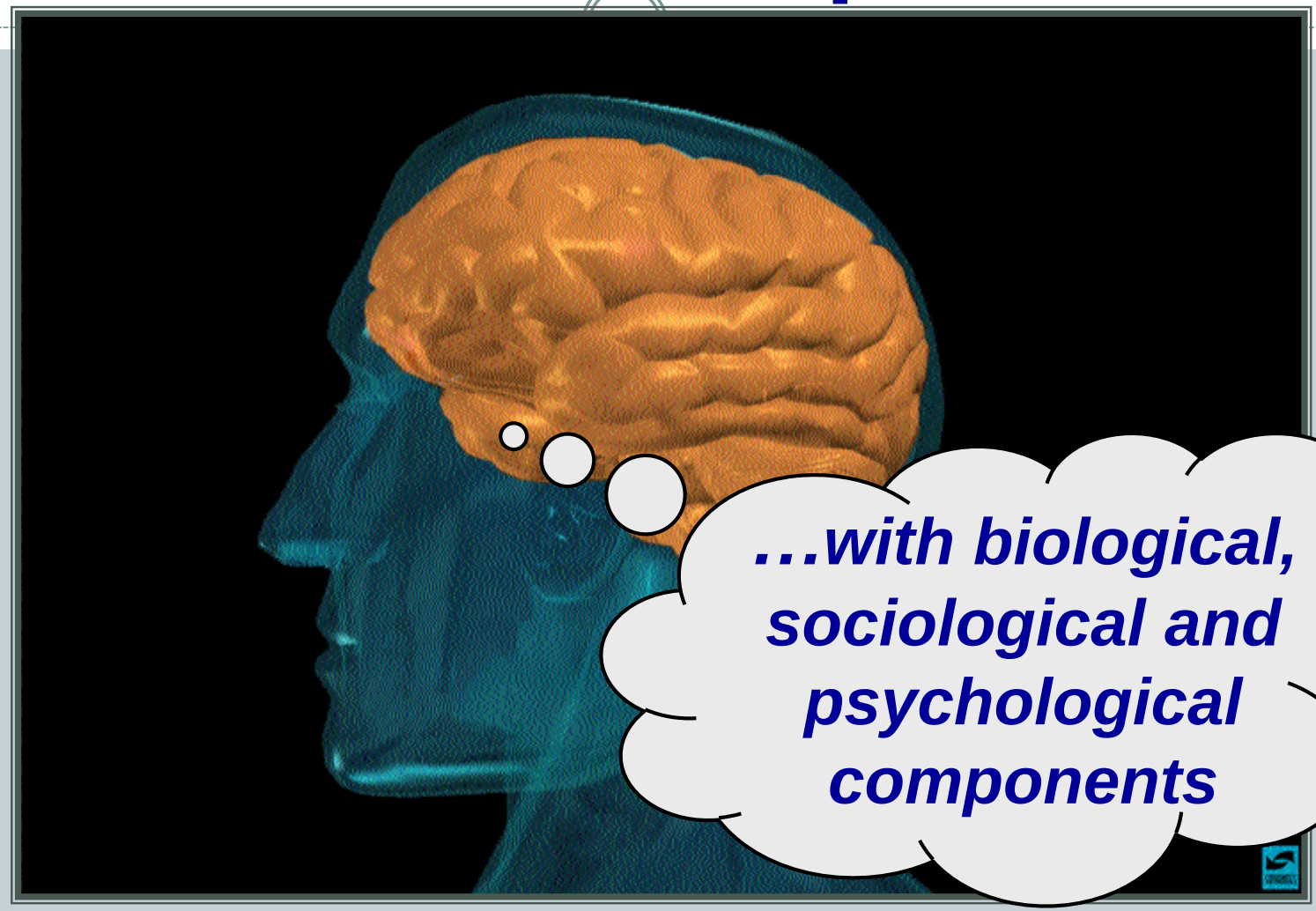


Figure 5. Age-adjusted rates for drug-poisoning deaths involving heroin, by census region: United States, 2000, 2007, and 2013



Addiction is a Complex Disease

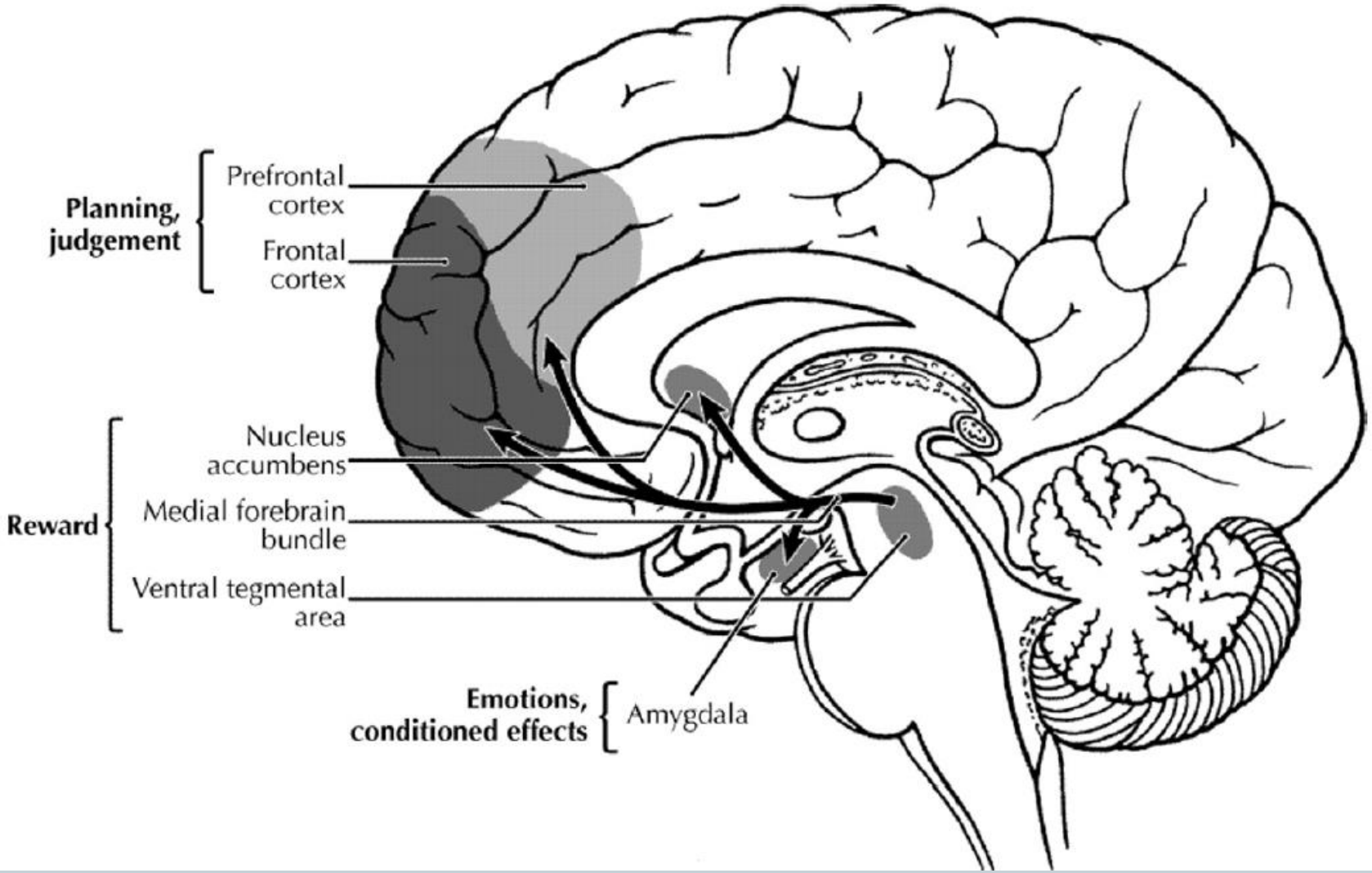


What is Addiction?

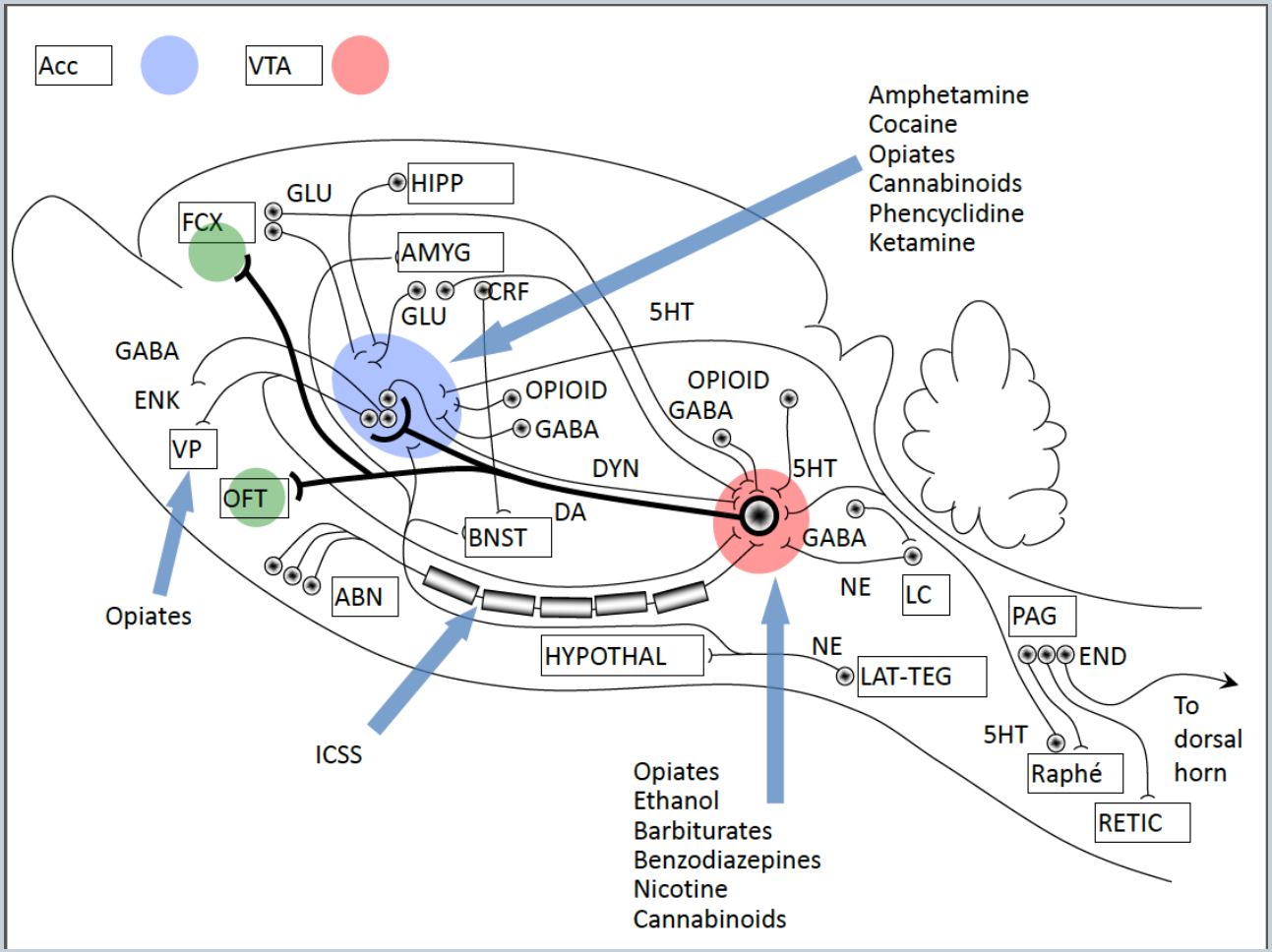
- Addiction is a primary, chronic disease of brain reward, motivation, memory and related circuitry.
- Dysfunction in these circuits leads to characteristic biological, psychological, social and spiritual manifestations.
- This is reflected in an individual pathologically pursuing reward and/or relief by substance use and other behaviors.

Source: American Society of Addiction Medicine (ASAM) 2011

The Pleasure/Reward Circuitry of the Brain



Addiction is a Brain Disease

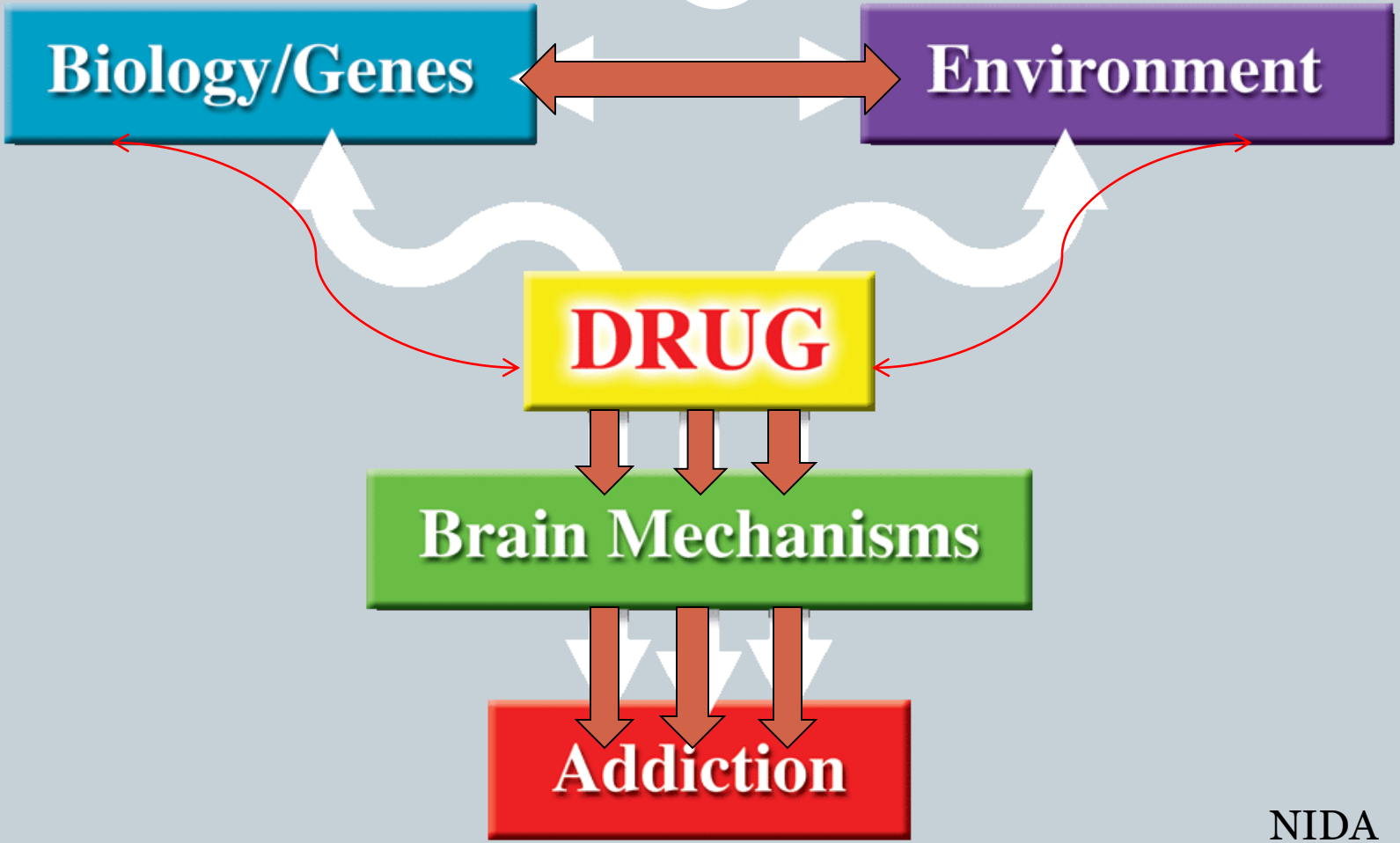


What is Addiction?

- Addiction is characterized by inability to consistently abstain, impairment in behavioral control, craving, diminished recognition of significant problems with one's behaviors and interpersonal relationships, and a dysfunctional emotional response.
- Like other chronic diseases, addiction often involves cycles of relapse and remission.
- Without treatment or engagement in recovery activities, addiction is progressive and can result in disability or premature death.

Source: American Society of Addiction Medicine (ASAM) 2011

Addiction Involves Multiple Factors



NIDA

Categorization of Substance Use Disorders

Diagnostic Criteria for Opioid Addiction Have Evolved[1-3]

DSM-IV[1,2,a]

Substance Abuse

- Failure to fulfill major role obligations
- Recurrent use in hazardous situations
- Recurrent legal problems
- Continued use in spite of social problems

Substance Dependence

- Tolerance
- Withdrawal
- More use than intended
- Unsuccessful efforts to cut down
- Excessive time spent in acquisition
- Activities given up because of use
- Use despite negative effects

DSM-5[2]

Since the release of *DSM-IV*, knowledge relating to substance use disorders has advanced and is incorporated into *DSM-5*[2]

Substance Use Disorders
(Continuum of Severity)

Mild — Moderate — Severe

- Criteria changes in *DSM-5* compared with *DSM-IV*[2,3]
  - Added "Craving or a strong desire or urge to use opioids"
  - Removed "Recurrent legal problems"

DSM-IV=Diagnostic and Statistical Manual of Mental Disorders Version IV.
[a]Permission to adapt DSM criteria was received from The American Psychiatric Association.
1. American Psychiatric Association. *Diagnostic and Statistical Manual of Mental Disorders*. Fourth Edition, Text Revision. Washington, DC: American Psychiatric Press; 2000; 2. Hasin DS et al. *Am J Psychiatry*. 2013;170(8):834-851; 3. American Psychiatric Association. *Diagnostic and Statistical Manual of Mental Disorders*. 5th ed. Arlington, VA: American Psychiatric Publishing; 2013.

DSM-5 Diagnostic Criteria for Opioid Use Disorder

According to the *DSM-5*, opioid use disorders are:

A problematic pattern of opioid use leading to clinically significant impairment or distress as manifested by at least two of the following, occurring within a 12-month period:

1. Opioids are often taken in larger amounts or over a longer period than was intended.
2. There is a persistent desire or unsuccessful efforts to cut down or control opioid use.
3. A great deal of time is spent in activities necessary to obtain the opioid, use the opioid, or recover from its effects.
4. Craving, or a strong desire or urge to use opioids.
5. Recurrent opioid use resulting in a failure to fulfill major role obligations at work, school, or home.
6. Continued opioid use despite having persistent or recurrent social or interpersonal problems caused or exacerbated by the effects of opioids.
7. Important social, occupational, or recreational activities are given up or reduced because of opioid use.

American Psychiatric Association. *Diagnostic and Statistical Manual of Mental Disorders*. 5th ed. Arlington, VA: American Psychiatric Publishing; 2013.

DSM-5 Diagnostic Criteria for Opioid Use Disorder (cont'd)

8. Recurrent opioid use in situations in which it is physically hazardous.
9. Continued opioid use despite knowledge of having a persistent or recurrent physical or psychological problem that is likely to have been caused or exacerbated by the substance.
10. Tolerance, as defined by either of the following:
    a. A need for markedly increased amounts of opioids to achieve intoxication or desired effect.
    b. A markedly diminished effect with continued use of the same amount of an opioid.

    Note: This criterion is not considered to be met for those taking opioids solely under appropriate medical supervision.
11. Withdrawal, as manifested by either of the following:
    a. The characteristic opioid withdrawal syndrome (refer to Criteria A and B of the criteria set for opioid withdrawal)
    b. Opioids (or a closely related substance) are taken to relieve or avoid withdrawal symptoms

    Note: This criterion is not considered to be met for those individuals taking opioids solely under appropriate medical supervision.

American Psychiatric Association. *Diagnostic and Statistical Manual of Mental Disorders*. 5th ed. Arlington, VA: American Psychiatric Publishing; 2013.

Assessment of Substance Use Disorders

LARGE DISCREPANCY BETWEEN THOSE SUFFERING FROM THE DISEASE OF ADDICTION AND THOSE WHO ARE BEING PROPERELY DIAGNOSED AND TREATED!

Incorporate SUD Screening Into Your Routine

- Nationally, an estimated **60%** of those needing treatment for severe addiction do not receive it.

- Without implementing screening, brief intervention and referral (SBI) protocols, **94%** of primary care physicians miss or misdiagnose alcohol abusing patients.

SUD Screening

- Primary Care Physicians are the first line of defence
- Stigma avoided
- Intervention possible at “teachable moments”
- Intervention in context of on-going relationship with patient and family
- Advice from primary care physicians likely to be taken serious

Who Should Be Screened?

The biggest identified risk factors for substance abuse are:

- Personal or family history of aberrant alcohol and drug-related behaviors
- History of physical or sexual abuse
- Co-occurring psychiatric conditions

Chou R, et al. *J Pain*. 2009;10:147-159.

Evidence-Based Screening Tools

- **SBIRT** is a comprehensive, integrated, public health approach to the delivery of early intervention and treatment services for persons with substance use disorders, as well as those who are at risk of developing these disorders for use in community settings
- **AUDIT** (Alcohol Use Disorders Identification Test) is a 10-item questionnaire that screens for hazardous or harmful alcohol consumption
- **CAGE AID** is a commonly used, 5- question tool used to screen for drug and alcohol use.The CAGE Assessment is a quick questionnaire to help determine if an alcohol assessment is needed. If a person answers yes to two or more questions, a complete assessment is advised.

SAMHSA-HRSA Screening Tools: http://www.integration.samhsa.gov/clinical-practice/screening-tools#drugs

CAGE-AID

- Have you ever felt you ought to **c**ut down on your drinking or drug use?
- Have people **a**nnoyed you by criticizing your drinking or drug use?
- Have you felt bad or **g**uilty about your drinking or drug use?
- Have you ever had a drink or used drugs first thing in the morning to steady your nerves or to get rid of a hangover (**e**ye-opener)?

CAGE Source: Ewing 1984.
CAGE-AID Source. Reprinted with permission from the Wisconsin Medial Journal Brown, R.L. and Rounds, LA Conjoint screening questionnaires for alcohol and drug abuse. Wisconsin Medical Journal 94: 135-140, 1995.

MAST

Client Name _____

Date _____

Score _____

Points yes	Points no		
2	-		1. Do you feel you are a normal drinker?
2	-		2. Have you ever awakened the morning after some drinking the night before and found that you could not remember part of the evening before?
1	-		3. Does your wife, husband or parents ever worry or complain about your drinking?
-	2	*	4. Can you stop drinking without a struggle after one or two drinks?
1	-		5. Do you ever feel bad about your drinking?
2	-	*	6. Do friends or relatives think you are a normal drinker?
1	-		7. Do you ever try to limit your drinking to certain times of the day or to certain places?
-	2	*	8. Are you always able to stop drinking when you want to?
5	-		9. Have you ever attended a meeting of Alcoholics Anonymous AA?
1	-		10. Have you gotten into fights when drinking?
2	-		11. Has drinking ever created problems with you and your wife, husband?
2	-		12. Has your wife, husband or other family member ever gone to anyone for help about your drinking?
2	-		13. Have you ever lost friends or girlfriends/boyfriends because of your drinking?
2	-		14. Have you ever gotten into trouble at work because of drinking?
2	-		15. Have you ever lost a job because of drinking?
2	-		16. Have you ever neglected your obligations, your family, or your work for 2 or more days in a row because you were drinking?
1	-		17. Do you ever drink before noon?
2	-		18. Have you ever been told you have liver trouble? Cirrhosis?
2	-		19. Have you ever had delirium tremens DTs, severe shaking, after heavy drinking?
5	-		20. Have you ever gone to anyone for help about your drinking?
5	-		21. Have you ever been in a hospital because of your drinking?
2	-		22. Have you ever been a patient in a psychiatric hospital or on a psychiatric ward of a general hospital where drinking was part of the problem?
2	-		23. Have you ever been seen at a psychiatric or mental health clinic, or gone to a doctor, social worker, or clergyman for help with an emotional problem in which drinking has played a part?
2	-		24. Have you ever been arrested, even for a few hours, because of drunk behavior?
2	-		25. Have you ever been arrested for drunk driving or driving after drinking?

*Negative responses are alcoholic responses..

The Alcohol Use Disorders Identification Test: Interview Version

Read questions as written. Record answers carefully. Begin the AUDIT by saying "Now I am going to ask you some questions about your use of alcoholic beverages during this past year." Explain what is meant by "alcoholic beverages" by using local examples of beer, wine, vodka, etc. Code answers in terms of "standard drinks". Place the correct answer number in the box at the right.

1. How often do you have a drink containing alcohol?

(0) Never [Skip to Qs 9-10]
(1) Monthly or less
(2) 2 to 4 times a month
(3) 2 to 3 times a week
(4) 4 or more times a week

2. How many drinks containing alcohol do you have on a typical day when you are drinking?

(0) 1 or 2
(1) 3 or 4
(2) 5 or 6
(3) 7, 8, or 9
(4) 10 or more

3. How often do you have six or more drinks on one occasion?

(0) Never
(1) Less than monthly
(2) Monthly
(3) Weekly
(4) Daily or almost daily

Skip to Questions 9 and 10 if Total Score for Questions 2 and 3 = 0

4. How often during the last year have you found that you were not able to stop drinking once you had started?

(0) Never
(1) Less than monthly
(2) Monthly
(3) Weekly
(4) Daily or almost daily

5. How often during the last year have you failed to do what was normally expected from you because of drinking?

(0) Never
(1) Less than monthly
(2) Monthly
(3) Weekly
(4) Daily or almost daily

6. How often during the last year have you needed a first drink in the morning to get yourself going after a heavy drinking session?

(0) Never
(1) Less than monthly
(2) Monthly
(3) Weekly
(4) Daily or almost daily

7. How often during the last year have you had a feeling of guilt or remorse after drinking?

(0) Never
(1) Less than monthly
(2) Monthly
(3) Weekly
(4) Daily or almost daily

8. How often during the last year have you been unable to remember what happened the night before because you had been drinking?

(0) Never
(1) Less than monthly
(2) Monthly
(3) Weekly
(4) Daily or almost daily

9. Have you or someone else been injured as a result of your drinking?

(0) No
(2) Yes, but not in the last year
(4) Yes, during the last year

10. Has a relative or friend or a doctor or another health worker been concerned about your drinking or suggested you cut down?

(0) No
(2) Yes, but not in the last year
(4) Yes, during the last year

Record total of specific items here

If total is greater than recommended cut-off, consult User's Manual.

Substance Abuse Screening Instrument (O4/05)

The Drug Abuse Screening Test (DAST) was developed in 1982 and is still an excellent screening tool. It is a 28-item self-report scale that consists of items that parallel those of the Michigan Alcoholism Screening Test (MAST). The DAST has "exhibited valid psychometric properties" and has been found to be "a sensitive screening instrument for the abuse of drugs other than alcohol.

The Drug Abuse Screening Test (DAST)

Directions: The following questions concern information about your involvement with drugs. Drug abuse refers to (1) the use of prescribed or "over-the-counter" drugs in excess of the directions, and (2) any non-medical use of drugs. Consider the past year (12 months) and carefully read each statement. Then decide whether your answer is YES or NO and check the appropriate space. Please be sure to answer every question.

		YES	NO
1.	Have you used drugs other than those required for medical reasons?	___	___
2.	Have you abused prescription drugs?	___	___
3.	Do you abuse more than one drug at a time?	___	___
4.	Can you get through the week without using drugs (other than those required for medical reasons)?	___	___
5.	Are you always able to stop using drugs when you want to?	___	___
6.	Do you abuse drugs on a continuous basis?	___	___
7.	Do you try to limit your drug use to certain situations?	___	___
8.	Have you had "blackouts" or "flashbacks" as a result of drug use?	___	___
9.	Do you ever feel bad about your drug abuse?	___	___
10.	Does your spouse (or parents) ever complain about your involvement with drugs?	___	___
11.	Do your friends or relatives know or suspect you abuse drugs?	___	___
12.	Has drug abuse ever created problems between you and your spouse?	___	___
13.	Has any family member ever sought help for problems related to your drug use?	___	___
14.	Have you ever lost friends because of your use of drugs?	___	___
15.	Have you ever neglected your family or missed work because of your use of drugs?	___	___
16.	Have you ever been in trouble at work because of drug abuse?	___	___
17.	Have you ever lost a job because of drug abuse?	___	___
18.	Have you gotten into fights when under the influence of drugs?	___	___
19.	Have you ever been arrested because of unusual behavior while under the influence of drugs?	___	___
20.	Have you ever been arrested for driving while under the influence of drugs?	___	___
21.	Have you engaged in illegal activities in order to obtain drug?	___	___
22.	Have you ever been arrested for possession of illegal drugs?	___	___
23.	Have you ever experienced withdrawal symptoms as a result of heavy drug intake?	___	___
24.	Have you had medical problems as a result of your drug use (e.g., memory loss, hepatitis, convulsions, bleeding, etc.)?	___	___
25.	Have you ever gone to anyone for help for a drug problem?	___	___
26.	Have you ever been in a hospital for medical problems related to your drug use?	___	___
27.	Have you ever been involved in a treatment program specifically related to drug use?	___	___
28.	Have you been treated as an outpatient for problems related to drug abuse?	___	___

Scoring and interpretation: A score of "1" is given for each YES response, except for items 4,5, and 7, for which a NO response is given a score of "1." Based on data from a heterogeneous psychiatric patient population, cutoff scores of 6 through 11 are considered to be optimal for screening for substance use disorders. Using a cutoff score of 6 has been found to provide excellent sensitivity for identifying patients with substance use disorders as well as satisfactory specificity (i.e., identification of patients who do not have substance use disorders). Using a cutoff score of <11 somewhat reduces the sensitivity for identifying patients with substance use disorders, but more accurately identifies the patients who do not have a substance use disorders. Over 12 is definitely a substance abuse problem. In a heterogeneous psychiatric patient population, most items have been shown to correlate at least moderately well with the total scale scores. The items that correlate poorly with the total scale scores appear to be items 4,7,16,20, and 22.

SBIRT Reimbursement

Payer	Code	Description
Commercial Insurance	CPT 99408	Alcohol and/or substance abuse structured screening and brief intervention services; 15 to 30 minutes
	CPT 99409	Alcohol and/or substance abuse structured screening and brief intervention services; greater than 30 minutes
Medicare	G0396	Alcohol and/or substance abuse structured screening and brief intervention services; 15 to 30 minutes
	G0397	Alcohol and/or substance abuse structured screening and brief intervention services; greater than 30 minutes
Medicaid	H0049	Alcohol and/or drug screening
	H0050	Alcohol and/or drug service, brief intervention, per 15 minutes

Management of Opioid Use Disorders

Documentation and Compliance

Informed Consent

- Prescribed controlled substances require informed consent
  - Risk-benefit issues
  - Precautions
    - Driving and work safety
    - Use of opioids during pregnancy/nursing
    - Security and safe-keeping of the drugs within the home
  - Compliance issues
    - Patient
    - Prescriber

Treatment Agreement

- Details and requirements of treatment
- Consequences of noncompliance
- Disclosure of factors that will lead to discontinued treatment
  - Exit plan
  - In patients diverting their medication or in those engaging in serious aberrant behaviors

Chou R, et al. *J Pain*. 2009;10:147-159.
FSMB. Model Policy for the Use of Controlled Substances for the Treatment of Pain. Accessed March 9, 2009 at: www.fsmb.org/pdf/2004_grpol_Controlled_Substances.pdf

URINE DRUG TESTING

- Urine - current specimen of choice
  - generally readily available - large quantities
  - contains high concentrations of drugs
  - good analytical specimen
  - provides both recent and past usage
- Alternative specimens
  - breath
  - hair
  - sweat - patch test
  - saliva - oral fluids

URINE DRUG TESTING

- Cocaine testing has a low degree of cross reactivity and is generally a true positive
- A negative test for benzodiazepines may not be accurate because it sometimes does not detect recent use
- Certain opioids often do not show up on testing (oxycodone, methadone, fentanyl, meperidine, propoxyphene).
- Tests for amphetamine/methamphetamine have a high degree of cross reactivity to other sympathomimetics like ephedrine or pseudoephedrin.
- Immunoassay/screen vs GCMS ($$$$)

Utilize Prescription Drug Monitoring Program (PDMP)

- Support access to legitimate medical use of controlled substances
- Help identify and deter or prevent drug abuse and diversion
- Facilitate and encourage the identification, intervention with and treatment of persons addicted to prescription drugs by health care practitioners
- Help inform public health and safety initiatives through the outlining of use and abuse trends of controlled prescription drugs
- Help educate individuals about PDMPs and the use, abuse and diversion of and addiction to controlled prescription drugs

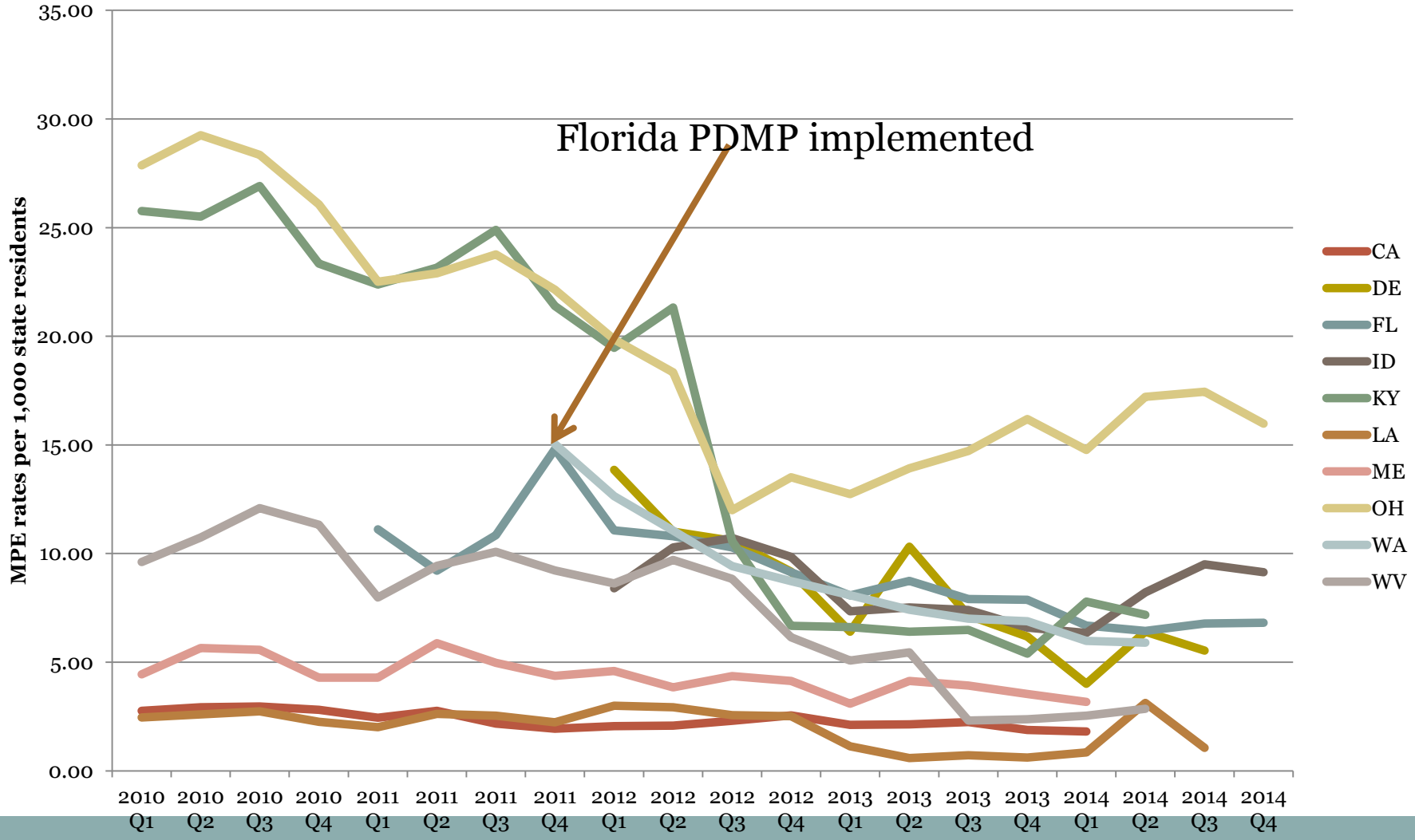
Using Opioids in the Management of Chronic Pain Patients: Challenges and Future Options, An *American Family Physician* Outsert/Special Booklet, Dawn A.Marcus M.D., **Penny Tenzer M.D.,** 2010

E-FORCSE

Electronic-Florida Online Reporting of Controlled Substance Evaluation Program

- REGISTER as a physician
- Database for prescribed & dispensed schedule II-IV medications
- Online reporting of controlled substances
- **Section 893.055, Florida Statutes required reporting of dispensing within 7 days**
- Pharmacies required to report into data base within 7 days

Multiple Provider Episodes by State and Quarter
Rates per 1,000 Residents



Abrupt decline in oxycodone-caused mortality after implementation of Florida's Prescription Drug Monitoring Program.

- BACKGROUND:
  - In Florida, oxycodone-caused deaths declined substantially in 2012. Multiple important law enforcement, pharmaceutical, policy, and public health actions occurred concurrently, including implementation of a statewide Prescription Drug Monitoring Program (PDMP). The effects of the PDMP on oxycodone-caused mortality in Florida were evaluated.
- METHODS:
  - A time-series, quasi-experimental research design with autoregressive integrated moving average (ARIMA) statistical models, including internal and external covariates. Data included 120 repeated monthly observations. Monthly counts of oxycodone-caused deaths, obtained from the Florida Medical Examiners Commission (MEC) was the outcome variable. Models included market-entry of tamper-resistant oxycodone HC1 controlled release tablets (OxyContin(®)), enforcement crackdowns (Operation Pill Nation), and regulation by FL House Bill 7095, measured by the monthly count of Florida pain management clinics closed. Two approaches were used to test the PDMP's hypothesized effect: (1) a binary indicator variable (0=pre-implementation, 1=post-implementation), and (2) a continuous indicator consisting of the number of PDMP queries by health care providers.

Abrupt decline in oxycodone-caused mortality after implementation of Florida's Prescription Drug Monitoring Program.

- RESULTS:

  Oxycodone-caused mortality abruptly declined 25% the month after implementation of Florida's PDMP (p=0.008). The effect remained after integrating other related historical events into the model. Results indicate that for a system-wide increase of one PDMP query per health care provider, oxycodone-caused deaths declined by 0.229 persons per month (p=0.002).

- CONCLUSIONS:

  This is the first study to demonstrate that the PDMP had a significant effect in reducing oxycodone-caused mortality in Florida. Results have implications for national efforts to address the prescription drug epidemic

Drug Alcohol Depend. 2015 May 1;150:63-8.
Abrupt decline in oxycodone-caused mortality after implementation of Florida's Prescription Drug Monitoring Program.
Delcher C Wagenaar AC, Goldberger BA, Cook RL, Maldonado-Molina MM

Fill Date	Product, Str, Form	Qty	Days	Pt ID	Prescriber
01/20/2015	TRAMADOL HCL 50 MG TABLET	30.00	7	00809116	BS7352571
01/20/2015	ALPRAZOLAM 2 MG TABLET	60.00	30	00809116	BS7352571
12/11/2014	ALPRAZOLAM 1 MG TABLET	60.00	30	00809116	BS7352571
11/12/2014	ALPRAZOLAM 1 MG TABLET	60.00	30	00809116	BS7352571
10/14/2014	ALPRAZOLAM 1 MG TABLET	60.00	30	00809116	BS7352571
09/17/2014	ALPRAZOLAM 1 MG TABLET	60.00	30	00809116	BS7352571
09/17/2014	SUBOXONE 8 MG-2 MG SL FILM	30.00	30	00809116	XW5180106
08/13/2014	SUBOXONE 8 MG-2 MG SL FILM	30.00	30	00809116	BW5180106
08/13/2014	CLONAZEPAM 0.5 MG TABLET	30.00	30	00809116	BW5180106
08/04/2014	SUBOXONE 8 MG-2 MG SL FILM	11.00	11	00809116	BW5180106
07/15/2014	SUBOXONE 8 MG-2 MG SL FILM	30.00	30	00809116	BW5180106
06/30/2014	DIAZEPAM 10 MG TABLET	60.00	30	00809116	BV1978571
06/30/2014	ALPRAZOLAM 0.25 MG TABLET	15.00	15	00809116	BV1978571
06/19/2014	SUBOXONE 8 MG-2 MG SL FILM	30.00	30	00809116	XW5180106
06/10/2014	ALPRAZOLAM 0.25 MG TABLET	30.00	15	00809116	BV1978571
06/10/2014	SUBOXONE 8 MG-2 MG SL FILM	10.00	10	00809116	BW5180106
05/28/2014	DIAZEPAM 10 MG TABLET	60.00	30	00809116	BV1978571
05/28/2014	ALPRAZOLAM 0.25 MG TABLET	45.00	15	00809116	BV1978571
05/22/2014	SUBOXONE 8 MG-2 MG SL FILM	30.00	30	00809116	XW5180106
05/14/2014	ALPRAZOLAM 0.25 MG TABLET	60.00	15	00809116	BV1978571
05/14/2014	DIAZEPAM 10 MG TABLET	30.00	15	00809116	BV1978571
04/30/2014	ALPRAZOLAM 0.25 MG TABLET	60.00	15	00809116	BV1978571
04/25/2014	DIAZEPAM 10 MG TABLET	30.00	15	00809116	BV1978571
04/24/2014	SUBOXONE 8 MG-2 MG SL FILM	30.00	30	00809116	XW5180106
04/18/2014	ALPRAZOLAM 0.25 MG TABLET	60.00	15	00809116	BV1978571
03/28/2014	DIAZEPAM 10 MG TABLET	60.00	30	00809116	BV1978571
03/28/2014	ALPRAZOLAM 0.5 MG TABLET	60.00	30	00809116	BV1978571
03/26/2014	SUBOXONE 8 MG-2 MG SL FILM	30.00	30	00809116	XW5180106
03/04/2014	ALPRAZOLAM 1 MG TABLET	60.00	30	00809116	BV1978571
03/01/2014	SUBOXONE 8 MG-2 MG SL FILM	30.00	30	00809116	XW5180106
02/19/2014	SUBOXONE 8 MG-2 MG SL FILM	7.00	7	00809116	BW5180106
02/14/2014	SUBOXONE 8 MG-2 MG SL FILM	7.00	7	00809116	BW5180106
02/06/2014	ALPRAZOLAM 1 MG TABLET	60.00	30	00809116	BV1978571
02/04/2014	SUBOXONE 8 MG-2 MG SL FILM	16.00	16	00809116	XW5180106
01/21/2014	SUBOXONE 8 MG-2 MG SL FILM	14.00	14	00809116	BW5180106

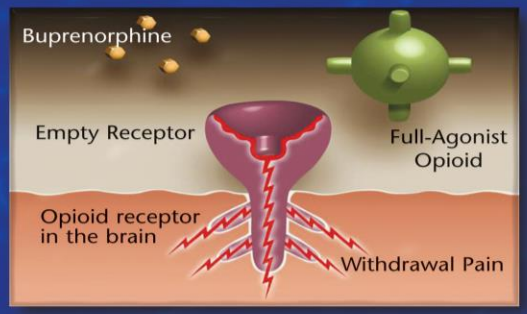
Adherence Monitoring

- Written documentation for each refill
- Frequent visits and small quantities (month's supply-your choice) every 1-2 months at minimum
- One pharmacy-One prescriber; pill counts; no replacements or early scripts
- Urine drug screen
- Complete medical records (informed consent & treatment plan)
- Communication with other treating clinicians
- Consider consultation with other specialists if needed
- PDMP

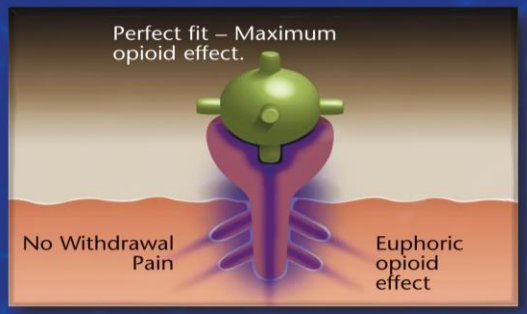
Medication Assisted Treatment of Opioid Use Disorder

- Buprenorphine/Naloxone
  - Suboxone
  - Zubsolv
  - Bunavail
- Methadone
- Naltrexone

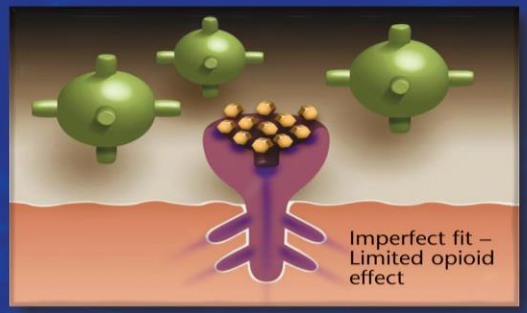
How Buprenorphine Works



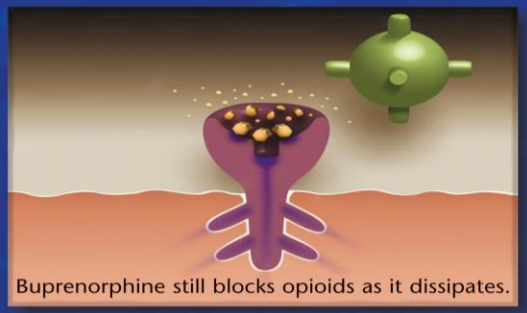
Opioid receptor is empty. As someone becomes ***tolerant*** to opioids, they become less sensitive and require more opioids to produce the same effect. Whenever there is an insufficient amount of opioid receptors activated, the patient feels discomfort. This happens in withdrawal.



Opioid receptor filled with a full-agonist. The strong opioid effect of heroin and painkillers can cause euphoria and stop the withdrawal for a period of time (4-24 hours). The brain begins to crave opioids, sometimes to the point of an uncontrollable compulsion (addiction), and the cycle repeats and escalates.



Opioids replaced and blocked by buprenorphine. Buprenorphine competes with the full agonist opioids for the receptor. Since buprenorphine has a higher affinity (stronger binding ability) it expels existing opioids and blocks others from attaching. As a partial agonist, the buprenorphine has a limited opioid effect, enough to stop withdrawal but not enough to cause intense euphoria.



Over time (24-72 hours) buprenorphine dissipates, but still creates a limited opioid effect (enough to prevent withdrawal) and continues to block other opioids from attaching to the opioid receptors.

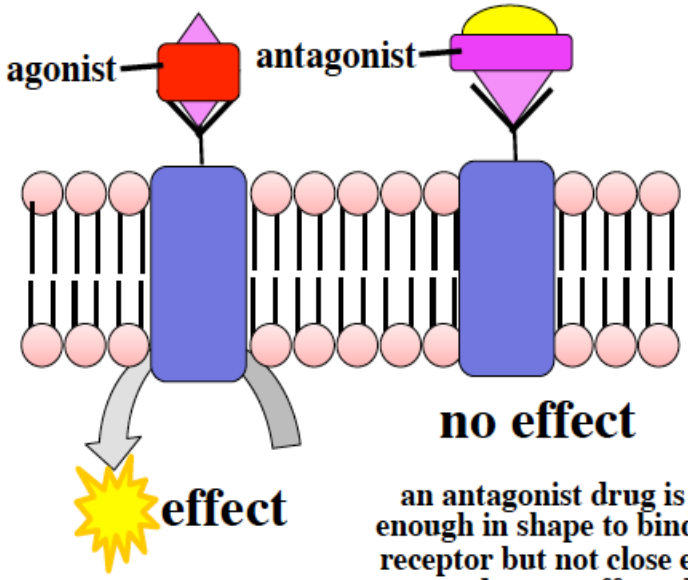
The above illustrations are for educational purposes and do not accurately represent the true appearance.

The National Alliance of Advocates for Buprenorphine Treatment

naabt.org

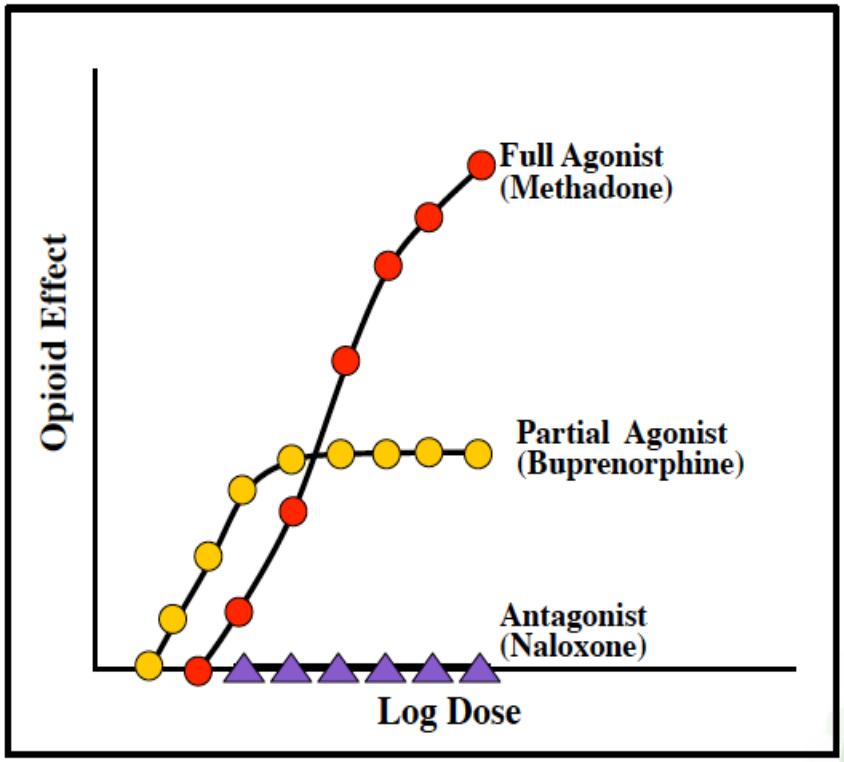
#RxSummit

Medications for Opioid Addiction



an agonist drug has an active site of similar shape to the endogenous ligand so binds to the receptor and produces the same effect

an antagonist drug is close enough in shape to bind to the receptor but not close enough to produce an effect. It also takes up receptor space and so prevents the endogenous ligand from binding



Source: SAMHSA, 2012 National Survey on Drug Use and Health, 2013.

Medication-assisted Treatment Has 4 Phases

Intake

- Establish suitability
- Patient history
- Treatment plan
- Set expectations

Induction

- Day 1
- In-office induction
- Patient departs with prescription for additional dose and instructions
- Day 2
- Evaluation
- Departure with prescription to last until next visit
- Discuss counseling

Stabilization/ Maintenance

- While stabilizing
- Beginning stage of maintenance
- Can take days to weeks
- Initiate counseling
- While maintaining
- Continue counseling
- Relapse prevention
- Trigger/stressor management
- Length varies by patient

Continued Maintenance

- With counseling

Medical Taper

- Decision by entire therapeutic team
- Slow taper
- With counseling

What Is an Opioid Overdose?

- **Opioid overdose** happens when a **toxic amount** of an opioid—alone or mixed with other opioid(s), drugs and/or substances—**overwhelms the body's** ability to handle it.

- Many opioid-related overdoses result from **mixing** prescription painkillers or heroin with benzodiazepines (benzos), cocaine and/or alcohol.

Overdose Risk Factors

Demographics

- Men
- 35-54 year olds
- Whites
- American Indians/Alaska Natives

Socioeconomics and Geography

- Medicaid
- Rural

Clinical Characteristics

- Chronic pain
- Substance abuse
- Mental health
- Nonmedical use
- Multiple prescriptions
- Multiple prescribers
- High daily dosage

Overdose Prevention Guidelines

- Follow best practices for responsible painkiller prescribing, including:
- Prescribing the lowest effective dose and only the quantity needed for the expected duration of pain.
- Planning with your patients on how to stop opioids when their treatment is done.
- Providing your patients with information on how to use, store, and dispose of opioids.
- Avoiding combinations of prescription opioids and sedatives unless there is a specific medical indication.

Prescription Habits Die Hard

Fill Date	Product, Str, Form	Qty	Days	Pt ID
05/12/2015	OXYCONTIN 80 MG TABLET	60.00	30	19157836
05/08/2015	OXYCODONE-ACETAMINOPHEN 10-325	180.00	30	19157836
04/08/2015	OXYCODONE-ACETAMINOPHEN 10-325	180.00	30	19157836
04/08/2015	OXYCONTIN 80 MG TABLET	60.00	30	19157836
03/16/2015	CLONAZEPAM 0.5 MG TABLET	60.00	30	19157836
03/05/2015	OXYCODONE-ACETAMINOPHEN 10-325	180.00	30	00910078
03/05/2015	OXYCONTIN 80 MG TABLET	60.00	30	00910078
02/18/2015	OXYCONTIN 20 MG TABLET	60.00	30	00910078
01/30/2015	OXYCODONE-ACETAMINOPHEN 10-325	180.00	30	00910078
01/30/2015	OXYCONTIN 80 MG TABLET	60.00	30	00910078
01/02/2015	OXYCONTIN 80 MG TABLET	60.00	30	00910078
01/02/2015	OXYCODONE-ACETAMINOPHEN 10-325	180.00	30	00910078
12/24/2014	OXYCONTIN 20 MG TABLET	20.00	10	00910078
12/24/2014	OXYCODONE-ACETAMINOPHEN 10-325	60.00	10	00910078
12/05/2014	OXYCONTIN 80 MG TABLET	60.00	30	00910078
11/25/2014	OXYCODONE-ACETAMINOPHEN 10-325	180.00	30	00910078
11/24/2014	OXYCONTIN 20 MG TABLET	60.00	30	00910078
10/28/2014	OXYCODONE-ACETAMINOPHEN 10-325	180.00	30	00910078
10/28/2014	OXYCONTIN 80 MG TABLET	60.00	30	00910078
10/28/2014	OXYCONTIN 20 MG TABLET	60.00	30	00910078
09/30/2014	OXYCONTIN 80 MG TABLET	60.00	30	00910078
09/30/2014	OXYCODONE-ACETAMINOPHEN 10-325	180.00	30	00910078
09/30/2014	OXYCONTIN 20 MG TABLET	60.00	30	00910078
09/04/2014	OXYCODONE-ACETAMINOPHEN 10-325	180.00	30	00910078
09/04/2014	OXYCONTIN 80 MG TABLET	60.00	30	00910078
09/03/2014	OXYCONTIN 20 MG TABLET	60.00	30	00910078
08/12/2014	OXYCONTIN 80 MG TABLET	60.00	30	00910078
08/07/2014	OXYCONTIN 20 MG TABLET	60.00	30	00910078
08/05/2014	OXYCODONE-ACETAMINOPHEN 10-325	180.00	30	00910078
07/15/2014	OXYCONTIN 80 MG TABLET	60.00	30	00910078
07/10/2014	OXYCODONE-ACETAMINOPHEN 10-325	180.00	30	00910078
06/12/2014	OXYCONTIN 80 MG TABLET	60.00	30	00910078
06/11/2014	ANDROGEL 1.62%(2.5G) GEL PCKT	75.00	30	00910078
06/10/2014	OXYCODONE-ACETAMINOPHEN 10-325	180.00	30	00910078

Opioid Prescription and Overdose

ACCORDING TO A RECENT STUDY OF PHARMACY CLAIMS 91% OF PATIENTS CONTINUED TO RECEIVE OPIOID PRESCRIPTIONS AFTER THEIR OVERDOSE.

Ann Intern Med. 2016;164(1):1-9. doi:10.7326/M15-0038

Responding to an Opioid Overdose

1. Rouse and Stimulate
2. Call 9-1-1
3. Give Naloxone
4. Further Resuscitation
5. Care for the Person

Step 1: Rouse & Stimulate

Noise: Shake person's shoulders a

"[Name!] Are you all right? Wake up!"

Pain: If no answer, do a **sternal rub**

Make a fist, rub your knuckles firmly up and down the breast bone.

Step 2: Call 9-1-1: Why?

*Get **emergency medical help***
for someone experiencing an overdose!

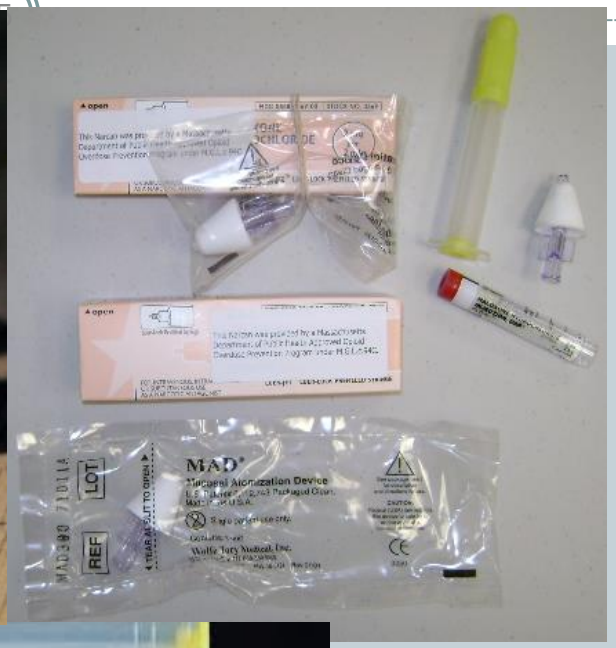
1. May have **complications** or **other health problems**.

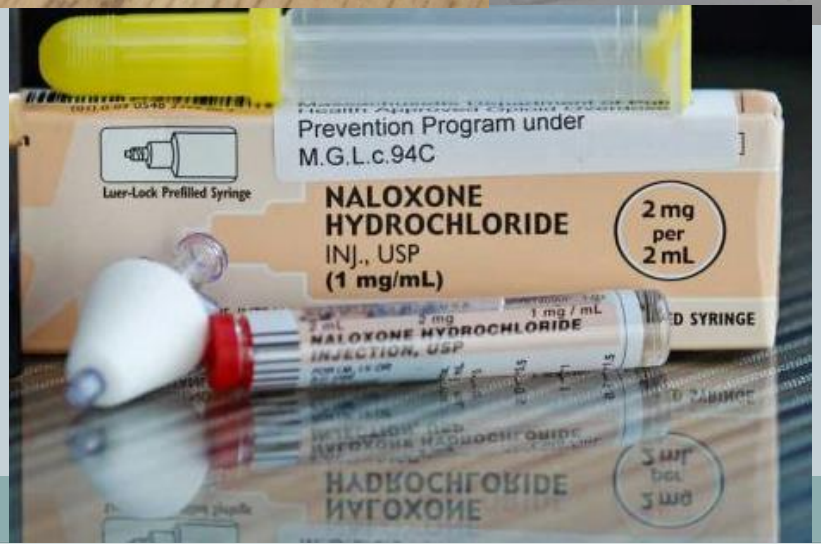
2. **Naloxone** is only **temporary**.

3. May need to give **additional doses of naloxone**.

4. May be a **non-opioid overdose** situation.

Step 3: Give Naloxone



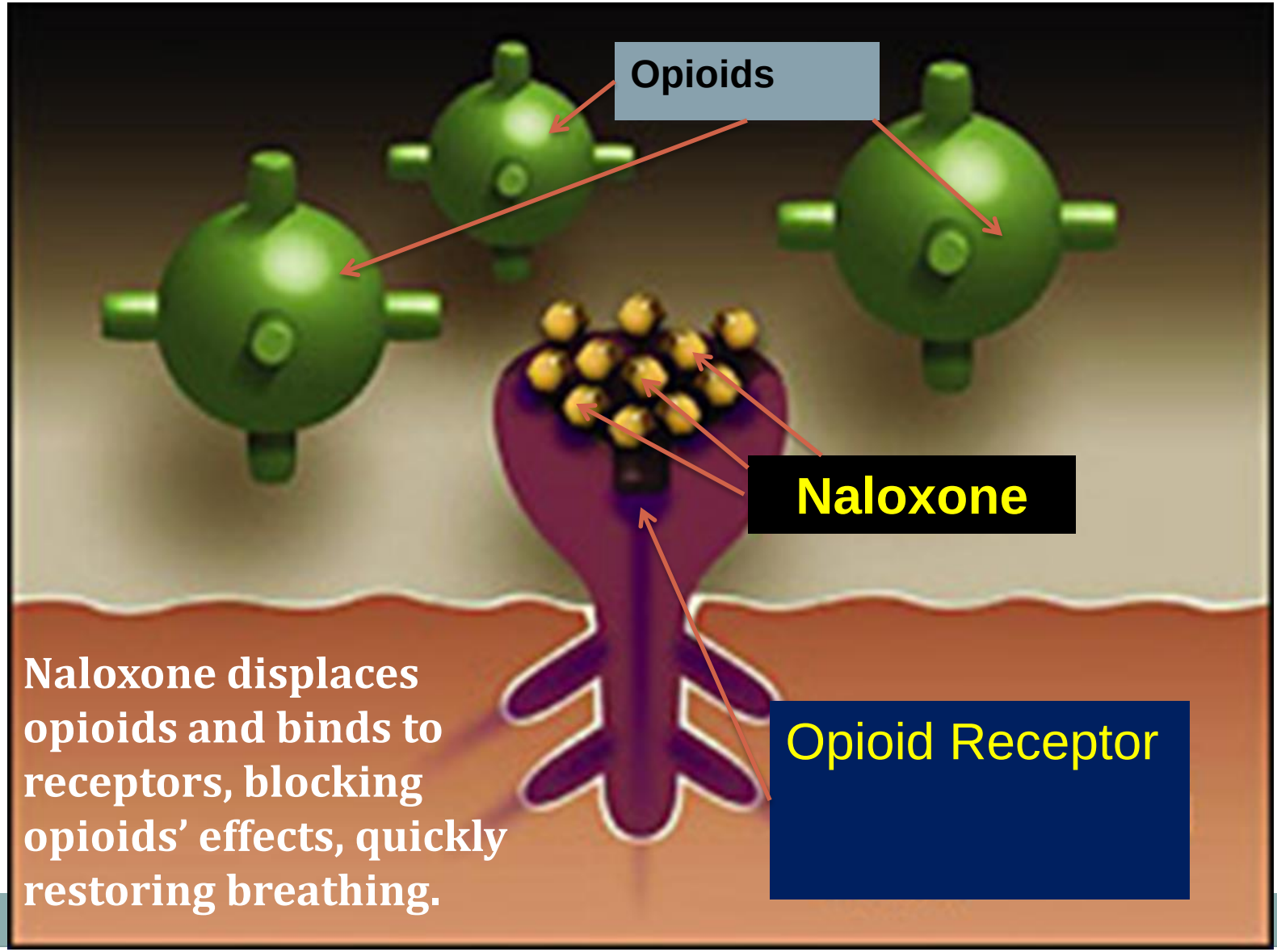


What is Naloxone? (Narcan®)

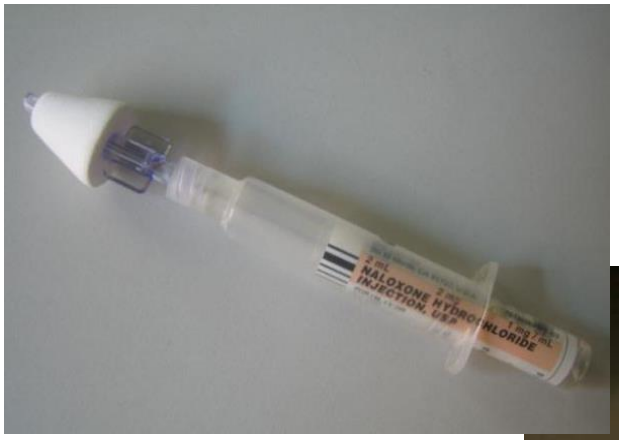
- Reverses opioid overdose by **restoring breathing**
- No potential for abuse or getting high
- No effect on someone who hasn't taken opioids
- Side effects are minimal and rare
- Safe for children and pregnant women
- Intramuscular, intranasal or intravenous
- Wears off in 30 - 90 minutes

Naloxone is only effective in reversing opioid overdoses

How Does Naloxone Work?



Intranasal (Nasal) Naloxone



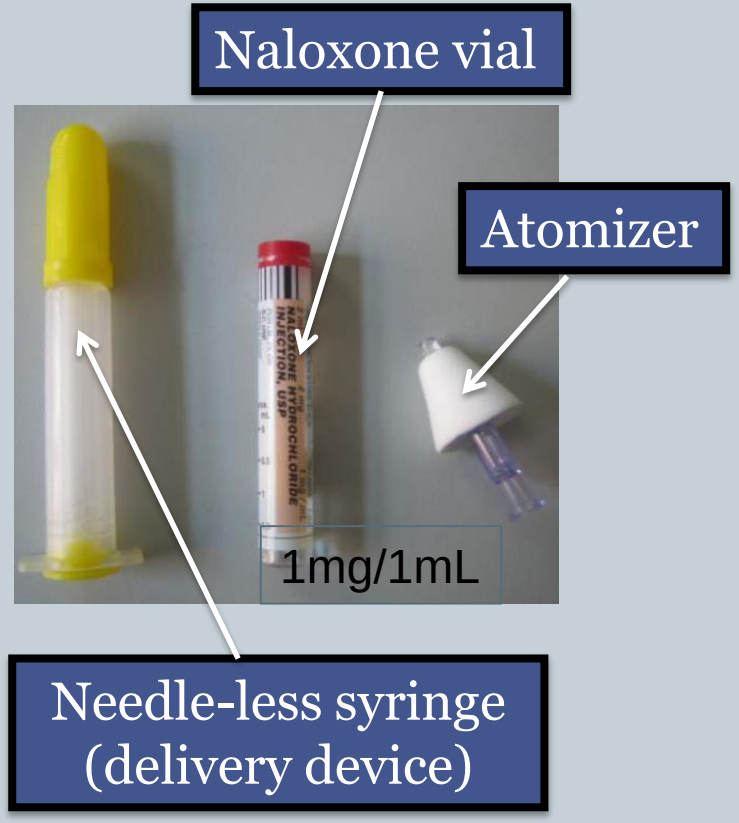
Administering Nasal Naloxone – Step by Step

Step 1: Remove caps from needle-less syringe.

Step 2: Screw nasal atomizer into top of syringe.

Step 3: Remove cap from prefilled vial of naloxone.

Step 3: Gently twist naloxone vial into delivery device until you feel it "catch."



Administering Nasal Naloxone – Step by Step

Step 5:

Tilt back the head

so the naloxone will not run out of the person's nose.

Step 6: Spray **one-half** (1cc) of the naloxone up <u>each</u> nostril.

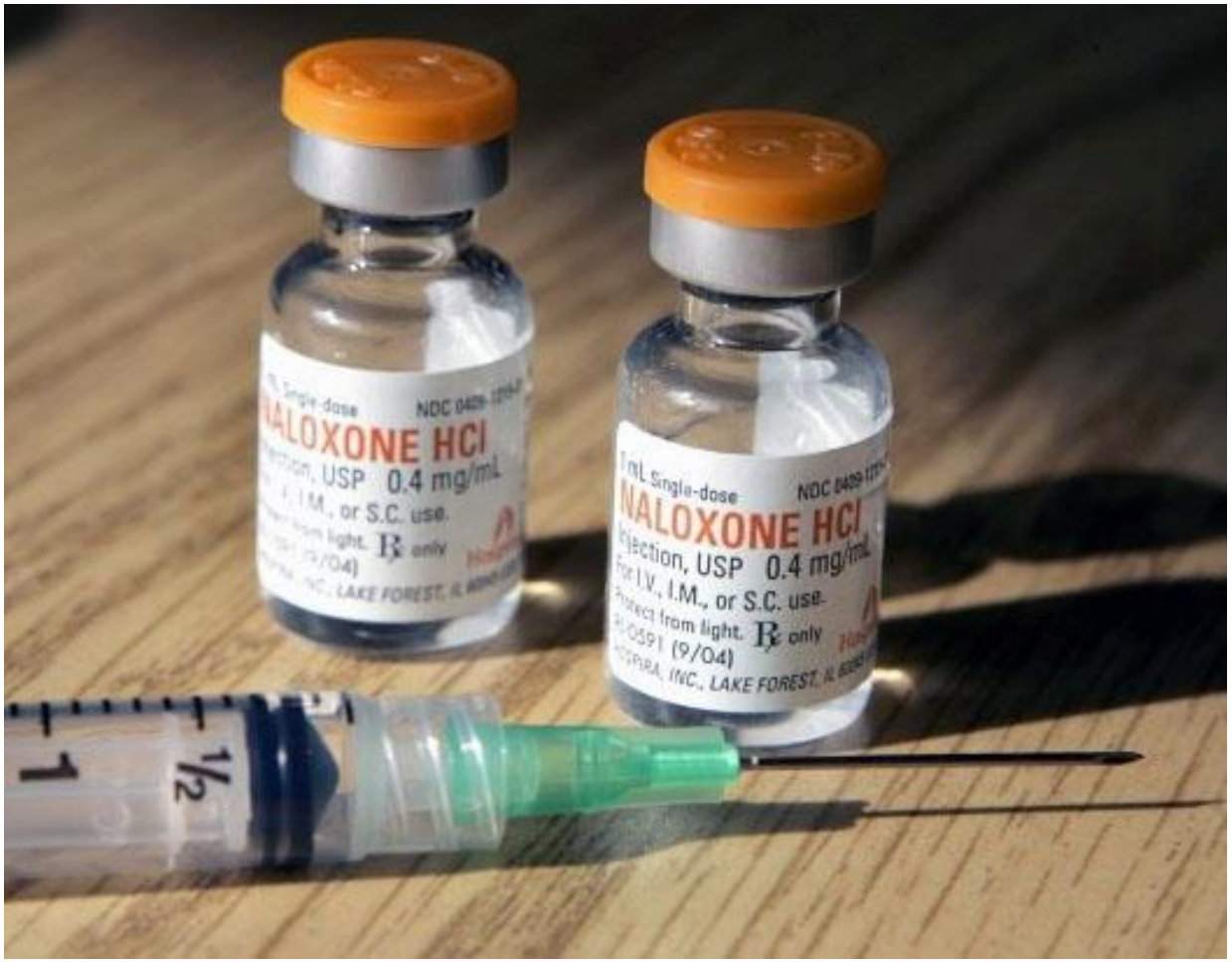
Administering Nasal Naloxone – Step by Step

Step 7: Allow 1-3 minutes for the naloxone to work. Continue resuscitation as necessary.

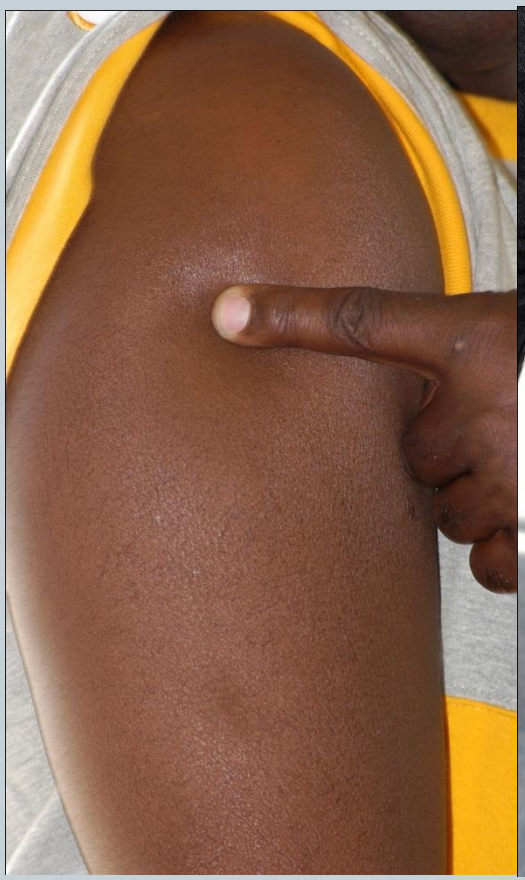
Step 8: If breathing is not restored after 2-3 minutes, ***give another dose*** of naloxone (see **Steps 5 & 6**). Continue resuscitation as necessary.

Step 9: Stay with the person and provide care as directed until medical help arrives.

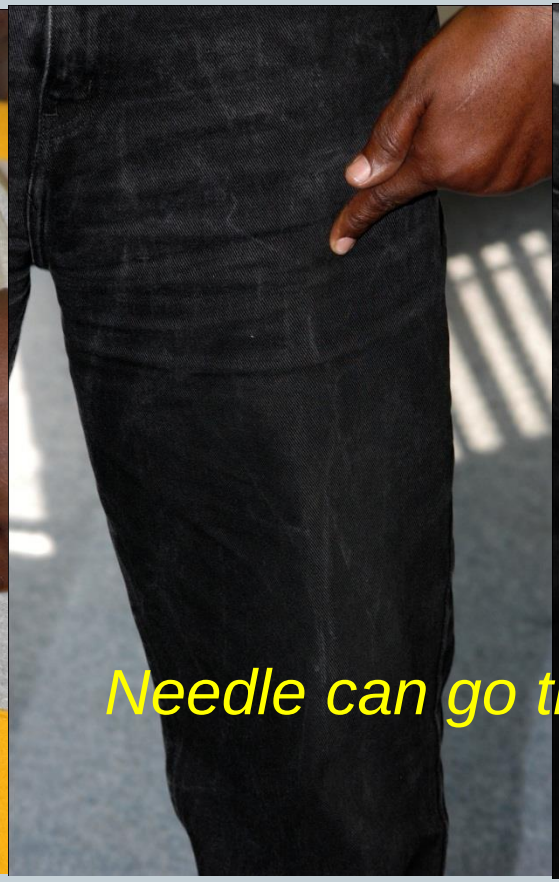
Intramuscular/Injectable Naloxone



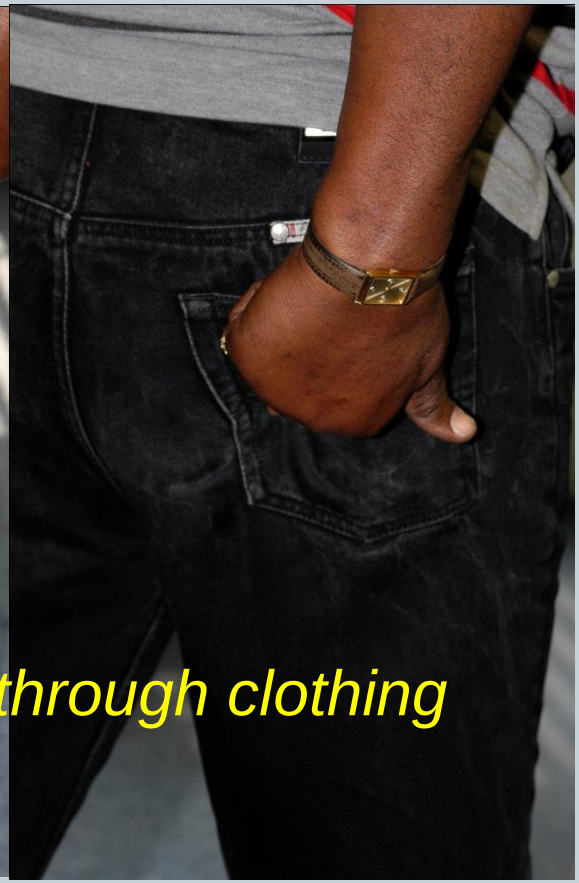
Naloxone Injection Sites



Shoulder



Thigh



Buttocks (upper, outer quadrant)

NEW PRODUCT!

Naloxone – Subcutaneous, Intramuscular

- Evizio® - naloxone 0.4 mg/0.4 mL
  - If symptoms reappear repeat every 2 – 3 minutes
- Kit
  - Naloxone syringe 0.4 mg/mL
  - Needles
  - Alcohol wipes
  - Gloves
  - Directions for use

Legal Protection

- Senate Bill 758/House Bill 751 — also known as the Emergency Treatment for Opioid Overdose Act — Florida lawmakers approved expanded access to the overdose-reversal medicine called naloxone.
- Signed into law and effective as of June 10th 2015.
- The critically important provisions contained within this bill permit all first responders to possess, store and administer naloxone.
- Additionally, it allows a person acting under "standing order" to store the medication under the guidance of a healthcare professional who is authorized to prescribe the opioid antagonist.

Alcohol

What is a Standard Drink?

12 oz. of beer or cooler	8-9 oz. of malt liquor	5 oz. of table wine	3-4 oz. of fortified wine	2-3 oz. of cordial, liqueur, or aperitif	1.5 oz. of brandy	1.5 oz. of spirits
	8.5 oz. shown in a 12-oz. glass that, if full, would hold about 1.5 standard drinks of malt liquor		(such as sherry or port) 3.5 oz. shown	2.5 oz. shown	(a single jigger)	(a single jigger of 80-proof gin, vodka, whiskey, etc.) Shown straight and in a highball glass with ice to show level before adding mixer
						
12 oz.	8.5 oz	5 oz.	3.5 oz.	2.5 oz.	1.5 oz.	1.5 oz.

Note: People buy many of these drinks in containers that hold multiple standard drinks. For example, malt liquor is often sold in 16-, 22-, or 40 oz. containers that hold between two and five standard drinks, and table wine is typically sold in 25 oz (750 ml.) bottles that hold five standard drinks.

Role of Biomarkers in the Management of Alcohol Use Disorder

- Provide objective outcome measures in alcohol research or evaluating an alcohol treatment program
- Screen for individuals unable/unwilling to accurately report drinking behavior.
- Evidence of abstinence in individuals prohibited from drinking
- Enhance patient motivation to stop/reduce drinking
- Diagnosis tool by assessing contribution of alcohol to the disease
- Identify relapse early
- Fear of detection by biomarkers may dissuade drinking

Biomarker Classification

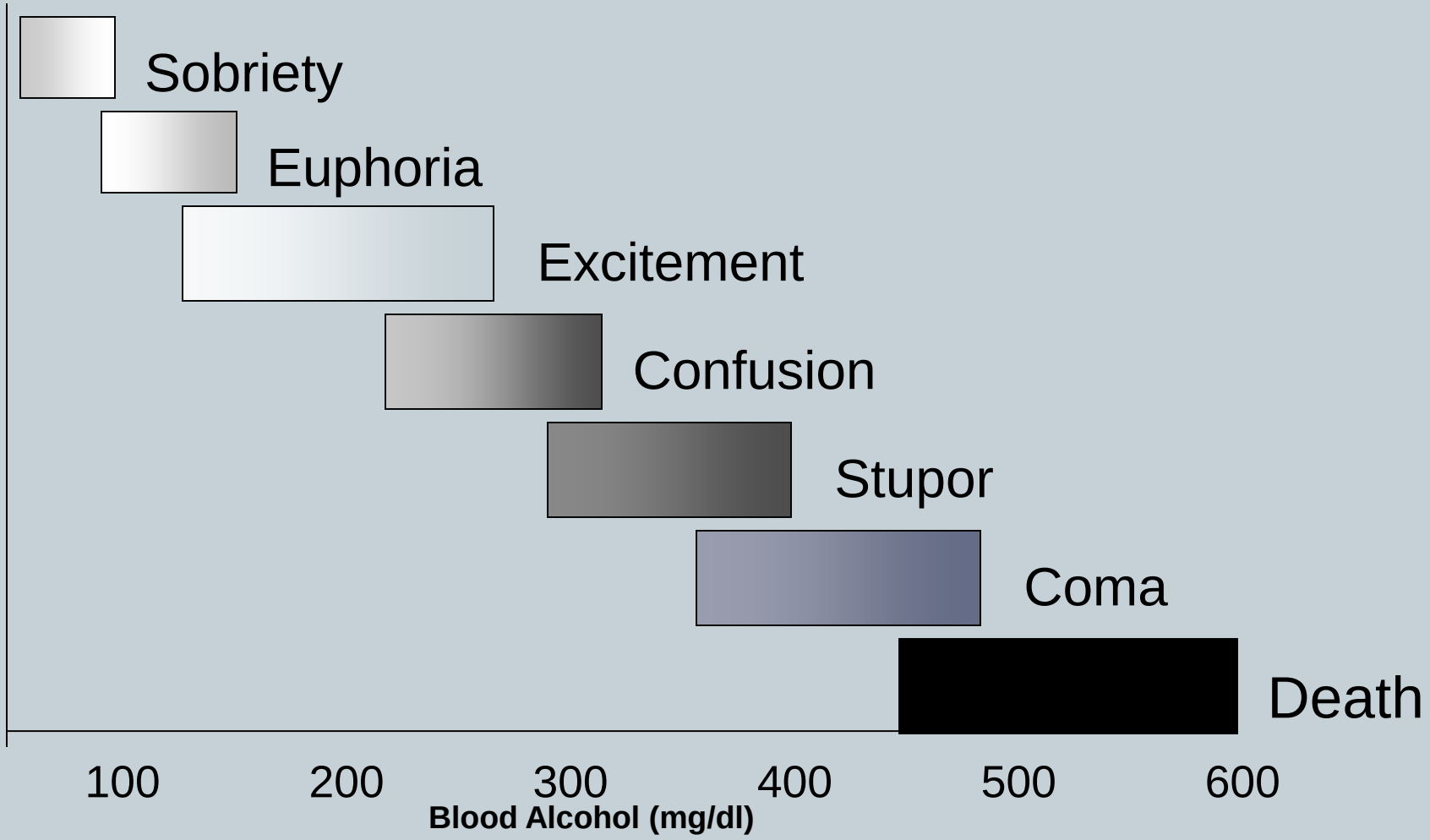
- Indirect Tests are manifestations of organ damage often due to drinking:
  - Gamma Glutamyltransferase (GGT)
  - Aspartate Amino transferase (AST, SGOT)
  - Alanine amino transferase (ALT, SGPT)
  - Macrocytic volume (MCV)
  - Reflections of alcohol's effects on other metabolic processes
  - Carbohydrate-deficient transferrin (CDT)
- Direct Tests indicate alcohol use:
  - Ethyl Glucuronide (EtG) and ethyl Sulfate (EtS)

Alcohol Biomarkers Overview

Marker	Time to Return to Normal with Abstinence	Level of Drinking	Comments	Blood test normal range
GGT	2-4 weeks of abstinence	~ 5 drinks (120 g/day) for several weeks	Many sources of false positives—liver disease, smoking, obesity, age, anticonvulsants, etc.	W: 0-45 U/L M: 0-53 U/L
SGOT/AST	2-4 weeks of abstinence	Unknown but heavy	Many sources of false positives (see GGT)	10 - 34 U/L
SGPT/ALT	2-4 weeks of abstinence	Unknown but heavy	Many sources of false positives (see GGT) Less sensitive than AST	8-37 U/L
MCV	Up to several months	Unknown but heavy	Slow return to normal limits even with abstinence renders it a poor independent indicator of relapse. More specific than GGT. Unlike other markers, no strong gender effect	80-100fL
CDT	2-3 weeks	>60g/day for 2 weeks	Few sources of false positives. Good marker of relapse	<60 mg/L

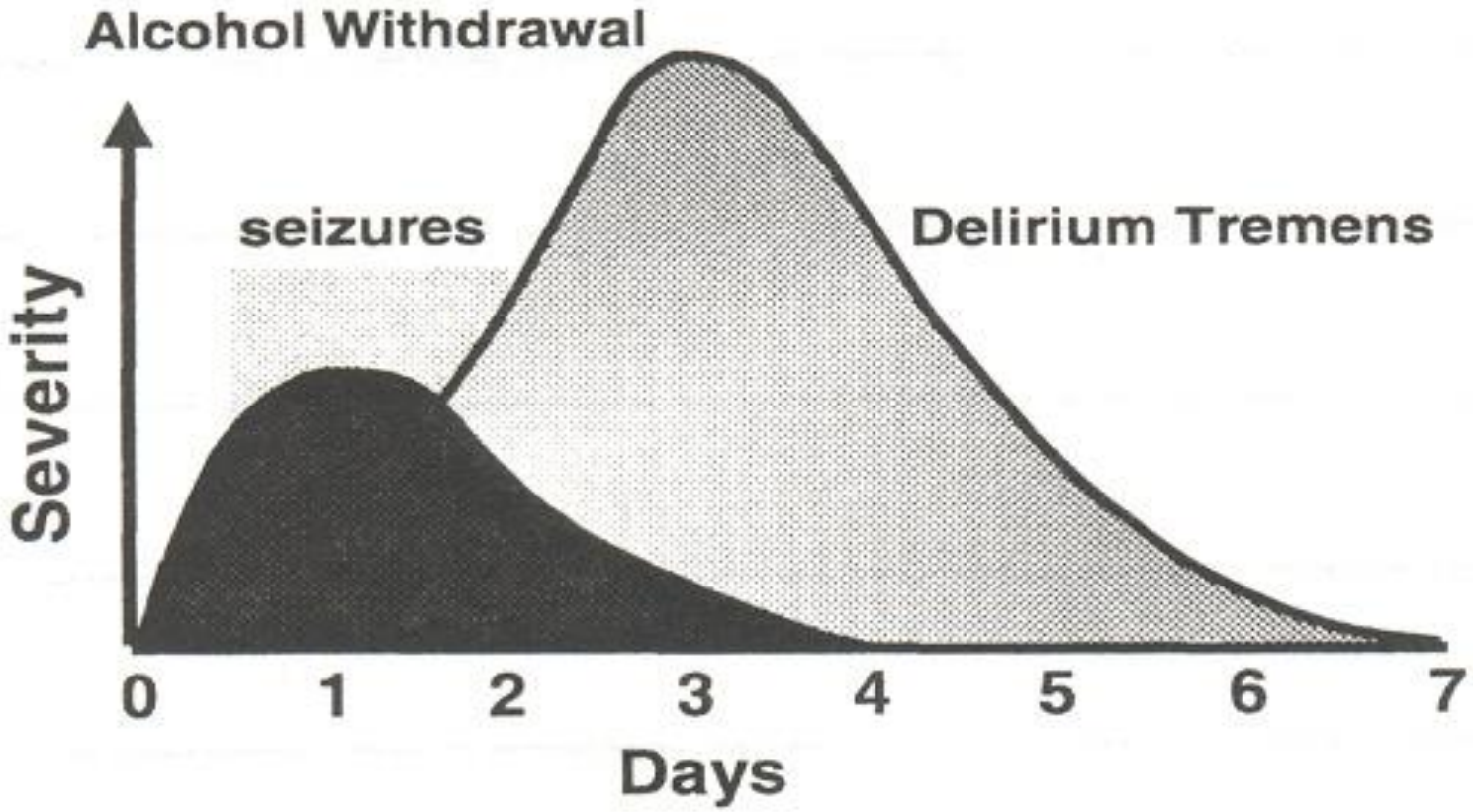
Alcohol: Clinical Effects

Stages of Intoxication and Blood Alcohol Concentration



Alcohol: Clinical Effects

Withdrawal



Alcohol Withdrawal

- Two categories:
  - Mild: sweating, anxiety, insomnia and tremor
  - Severe: Agitation, Seizures, Delirium tremens
- Occurs in up to 50% of all patients and mostly minor
- Typically begins 8-12 hours after last drink
- Severe withdrawal occurs in 5% to 15 %
  - Among them seizures in 10%
  - Delirium tremens in 5% to 15%

Outpatient Alcohol Withdrawal Management

- No history of alcohol withdrawal seizures
- No serious medical/surgical problems
- No serious psychiatric/drug history
- Stable social support system
- Supervision/housing available

Alcohol Treatment Principals

1. Alleviate symptoms
2. Prevent progression of symptoms
3. Treat underlying comorbidities

Phases of Alcoholism Management

- Detoxification:
  - Primary goal is to achieve an alcohol-free state
  - Wide spectrum of severity
- Relapse prevention:
  - Primary goal is to maintain an alcohol-free state
  - Possible chronic treatment

Mild-Moderate Alcohol Withdrawal Treatment

- LONG-ACTING BENZODIAZEPINES:
  - CHLORDIAZEPOXIDE (Librium) 50-100 mg po q 6-8 hrs.
  - DIAZEPAM (Valium) 10-20 mg po q 6-8 hrs.
- SHORT-ACTING BENZODIAZEPINES:
  - LORAZEPAM (Ativan) 2-4 mg po q 1-4 hrs.
  - OXAZEPAM (Serax) 15-30mg po 6-8 hrs.

Alcohol Withdrawal Treatment

- Gradually taper benzodiazepines
- Supplement vitamins and minerals
  - Thiamine 100mg PO QD
  - Folic acid not recommended anymore
  - Multivitamin does not harm
- Supportive treatment
- Increase fluid and caloric intake
- Consider Clonidine which may reduce the amount of benzodiazepine required

Naltrexone

- Initially FDA approved for opioid dependence
- Reduces cravings for alcohol
- Reduces alcohol induced euphoria
- Should NOT be used if patient taking opioids
- Contraindicated in acute hepatitis or liver failure
- Oral(50mg once daily) or monthly IM depot injection (380mg IM q 4weeks)

Acamprosate

- Reduces glutamate activity and enhances gamma-aminobutyric (GABA) activity in the brain
- Reduces cravings,jitteriness and improves sleep by balancing glutamate and GABA activity.
- Dosage: two 333-mg tablets x 3 daily
- Not recommended in advanced liver cirrhosis
- Reduce dosage in mild renal renal insufficiency

Disulfiram

- Disulfiram irreversibly binds to acetaldehydedehydrogenase inhibiting the metabolism of acetaldehyde to acetate.
- Acetaldehyde accumulates resulting in a violent reaction (nausea, vomiting, flushing).
- Lack of patient adherence limits usefulness
- Has been replaced by acamprosate and naltrexone because of improved adverse effect profile.
- Dosage: 250-500mg PO daily.

Benzodiazepines

TABLE 2. Signs of Symptoms of SEDATIVE-HYPNOTIC WITHDRAWAL

- Derealization
- Depersonalization
- Distortion of perception (sensory illusions)
- Hypersensitivity of the senses
- Muscle fasciculation
- Intention tremor
- Diaphoresis
- Hypertension or orthostatic hypotension
- Clouding of the sensorium

Alprazolam (Xanax)

An example of something to be avoided:

- T1/2 = 11-16 hrs
- Tolerance and dependence develop very rapidly
- Inter-dose withdrawal a significant complication
- Both withdrawal and inter-dose withdrawal will increase anxiety and muscle tension
- Enhances the euphorigenic effect of opioids

Office-Based Pharmacologic Strategies

- AVOID long-term tx with Alprazolam
- Use Clonazepam at approx. 1:1 dose
  - safe=reduce by 10% weekly
  - comfortable=take your time (30+ days)

Office-Based Pharmacologic Strategies

- Long t 1/2, i.e., Diazepam
  - use the same drug
  - safe=reduce by 10% weekly
  - comfortable=take your time (30+ days)

Emerging Drugs of Abuse

Synthetic Cannabinoids

- Herbs sprayed with synthetic cannabinoids first appeared in Europe in 2004.
- Marketed as herbal incense, labeled not for human consumption and producing euphoria, relaxation, and altered sensation.
- In 2008, the first reports of these substances, commonly sold under the names K2 and spice, began to appear in the United States and are classified as Schedule I substances.
- Synthetic cannabinoids typically do not cross-react with commercial THC screening tests and are not detected using routine tests. Many laboratories offer specialized screening but these tests typically are limited in the number of synthetic cannabinoids they can detect, and do not detect previously unidentified substances.

Synthetic Cannabinoids

- Commonly reported symptoms after overdose include intense anxiety, tachycardia, agitation, drowsiness, vomiting, and hallucinations.
- More serious reported complications include psychosis, respiratory depression, seizures, and death.
- Seizures are thought to occur due to inhibition of gamma-amino butyric acid neurotransmission, which does not occur to a significant degree with use of THC.
- In addition, in 2012, an outbreak of acute kidney injury associated with synthetic cannabinoid use was reported in six states.

Synthetic Cathinones

- Synthetic stimulant commonly referred to as bath salts or plant food. Marketed under a variety of names, such as Ivory Wave and Cloud
- Synthetic cathinones exert many of the same clinical effects as other amphetamine like compounds
- These substances are synthetic derivatives of cathinone, which is found in the leaves of the khat bush (Catha edulis).
- These leaves have been used for centuries as a stimulant in areas around the Horn of Africa and Yemen.
- First found in the United States in 2009.
- These substances, like the synthetic cannabinoids, are frequently labeled as not for human consumption to avoid regulation.
- Users typically insufflate (ie, snort or inhale without heating) or orally ingest these substances; intravenous use has also been reported.
- Synthetic cathinones are classified as Schedule I substances

Synthetic Cathinones

- Intoxication with synthetic cathinones results in a subjective feeling of increased energy, libido, and empathy.
- Patients presenting to the ED after use of synthetic cathinones typically show signs of sympathomimetic toxicity, including hyperthermia, tachycardia, hypertension, diaphoresis, and agitation.
- With higher doses, hallucinations may occur and lead to self-harm or actions that endanger others
- Synthetic cathinones and MDMA have been linked to hyponatremia resulting in seizures and death.97,105 With MDMA, this occurs because of increased vasopressin release.
- Combined with excessive hydration from increased water consumption, severe hyponatremia can occur.

WHAT IS FLAKKA AKA "GRAVEL"?

- It is a designer drug containing the chemical compound Alpha-pyrrolidinopentiophenone, a highly **ADDICTIVE** synthetic stimulant
- Crystalline rocks in white, blue or pink
- Sometimes a white or tan powder

- Flakka is made in labs overseas and sold to dealers over the internet
- A 'hit" from a dealer can be sold for $5 or less
- Flakka can be:
  - Snorted
  - Smoked in joints, pipes or e-cigarettes
  - Swallowed in capsules
  - Injected

What are the effects and side effects of FLAKKA?

- Enhanced concentration
- Mood elevation
- Increased energy
- Elevated libido and decreased inhibitions
- Euphoria

- Hallucinations
- Paranoia
- Psychosis
- Decreases inhibitions (unsafe sex)
- Anxiety
- Violence
- Self-destruction
- Insomnia
- High Temperature
- Excited Delirium
- Death (40 deaths in Broward County in 2015)

New Lethal But Legal Drug

- W-19: 1-(4-Nitrophenylethyl)piperidylidene-2-(4-chlorophenyl)sulfonamide (W-18) is a highly potent synthetic μ-opioid agonist.
- Distinctive chemical structure which is not closely related to older established families of opioid drugs.
- Invented in 1981 and detected in 2016 in street-sold Fentanyl tablets in Calgary by Canadian police.
- 100 times stronger than Fentanyl and 10,000 times more potent than morphine.
- Found in Broward county at the home of a street dealer.

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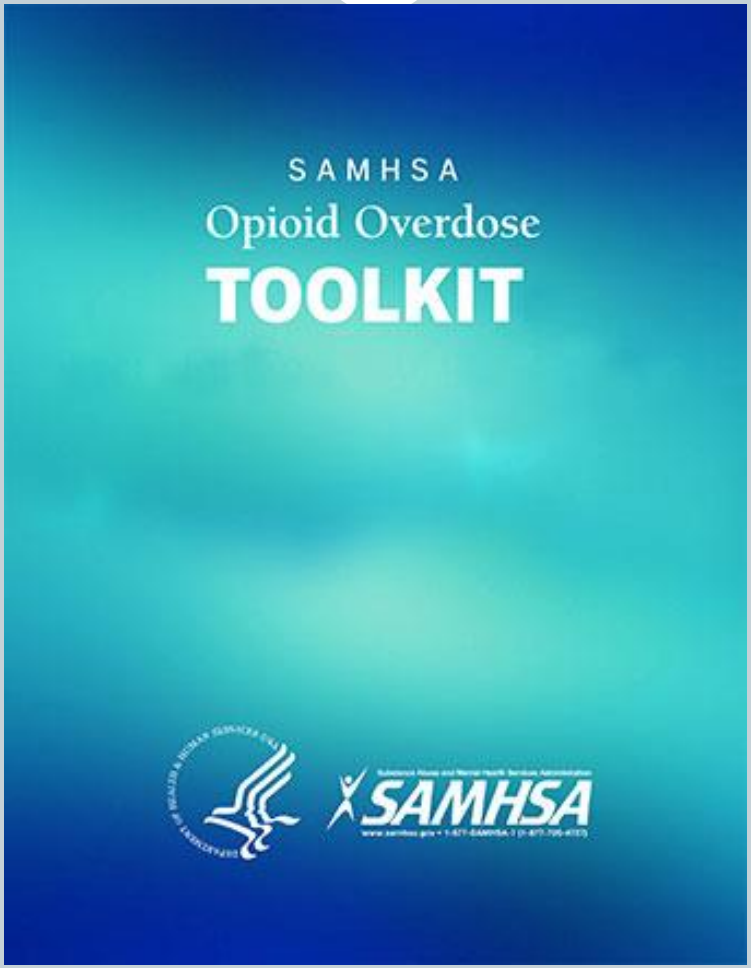

Opioid Overdose Prevention Toolkit - Updated 2014

http://store.samhsa.gov/product/Opioid-Overdose-Prevention-Toolkit-Updated-2014/SMA14-4742

Opioid Overdose Prevention Toolkit - Updated 2014

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Average Rating: 5 out of 59 ratings.

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Price: FREE (shipping charges may apply)

Equips communities and local governments with material to develop policies and practices to help prevent opioid-related overdoses and deaths. Addresses issues for first responders, treatment providers, and those recovering from opioid overdose. Updated in 2014.

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Pub id: SMA14-4742
Publication Date: 8/2014
Popularity: 347
Format: Kit
Audience: Community Coalitions, Law Enforcement, People in Recovery as Audience, Family & Advocates, Professional Care Providers, Prevention Professionals

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III. Safety Advice for Patients (PDF, 317 KB)

IV. Information for Prescribers (PDF, 1 MB)

V. Resources for Overdose Survivors and Family Members (PDF, 318 KB)

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Summary

- Addiction is a chronic brain disease.
- Utilize SUD screening tools to identify patients at risk.
- Recognize that we are facing an epidemic of opioid overdose deaths.
- Implement overdose prevention guidelines.
- PDMP implementation reduce opioid overdose.
- Utilize and deploy Naloxone preparations to treat overdose.
- Office based treatment options available.

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