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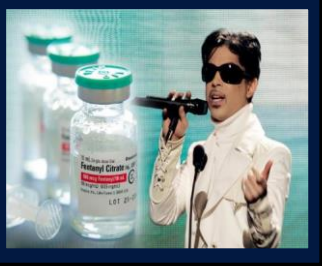
# Opioid Use Disorder: A Growing Problem

**Stephen M. Taylor, MD, MPH, FASAM**

General, Child/Adolescent and Addiction Psychiatrist
Medical Director
NBA/NBPA Player Assistance/Anti-Drug Program
Birmingham, AL

## The Opioid Crisis: An Epidemic in Three Stages…

## Stage One
## Prescription Opioids: Doctor as Drug Dealer

Physician Given Second Chance Gets 10 Years on Opioid Charges
medscape.com


Office of Public Affairs

FOR IMMEDIATE RELEASE Monday, January 30, 2017

**Ohio Doctor Pleads Guilty to Running South Side Medical Center as Drug Premises and Evading More Than $3.5 Million in Taxes**

**Government seizes more than $29 million in proceeds**

Today the government unsealed a plea agreement with the owner and operator of Columbus Southern Medical Center, which provided unlawful prescriptions of controlled substances to addicts throughout the Midwest and who engaged in a series of schemes to evade more than $3.5 million in taxes, announced Acting Deputy Assistant Attorney General Stuart M. Goldberg of the Justice Department's Tax Division and U.S. Attorney Benjamin C. Glassman for the Southern District of Ohio.

Kevin B. Lake, 50, of New Albany, Ohio, pleaded guilty to drug, tax and fraud charges and agreed to the forfeiture of what remains from the $29 million in seized funds earned from the clinic's illegal activities, after restitution is paid from the funds.

## Prescription Opioids

- Highly addictive
  - Kill pain
  - Incredible euphoria
  - Relieve anxiety
- Lethal in overdose

## Opioids Have Consequences

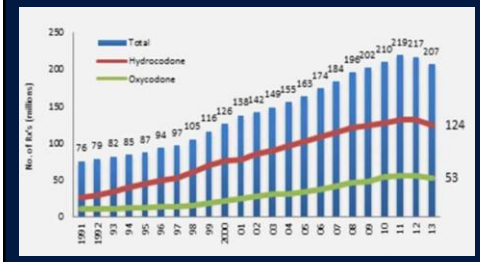
- Diversion
- Misuse
- Non-medical use
- Addiction
- Overdose
- Overdose death
- Psychomotor (small effects)
- Hypogonadism in men
- Drowsiness
- Falls/Fractures
- Depression
- Opioid Bowel Dysfunction

## Opioid Efficacy: Overrated?

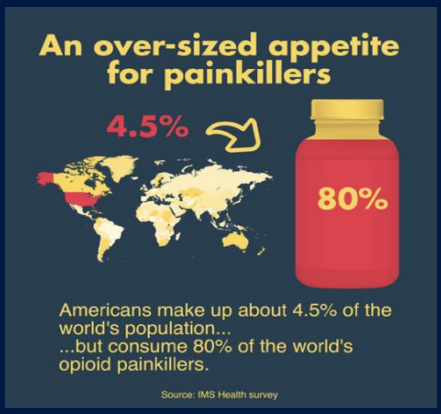
- Acute/postop pain: Well established for short-term use
  - Analgesic and functional improvement[1-3]
  - Non-opioids sometimes as good or better[4,5]
  - Amounts prescribed often more than what is needed[6]
- Long-term use for chronic pain: Uncertain[7]
  - Evidence is weak, mixed
  - Evidence is insufficient
  - Disconnect between guidelines and actual practice

1. Deyo RA, et al. *BMJ*. 2015;350:g6380.
2. American Society of Anesthesiologists. *Anesthesiology*. 2012;116:248-273.
3. American College of Emergency Physicians. Prescribing opioids in the Emergency Department. 2012. Available at: https://www.acep.org/MobileArticle.aspx?id=88136&coll_id=618&parentid=740. Accessed 9/8/17.
4. Moore PA, et al. *J Am Dent Assoc*. 2013;144(8):898-908.
5. Derry S, et al. *Cochrane Database Syst Rev*. 2013;6:CD010289.
6. Maughan BC, et al. *Drug Alcohol Depend*. 2016;168:328-334.
7. Chou R, et al. *J Pain*. 2009;10(2):147-159.

# Epidemiology of The Growing Opioid Epidemic




**Opioid Prescriptions Dispensed by US Retail Pharmacies** IMS Health, Vector One: National, years 1991-1996, Data Extracted 2011. IMS Health, National Prescription Audit, years 1997-2013, Data Extracted 2014.

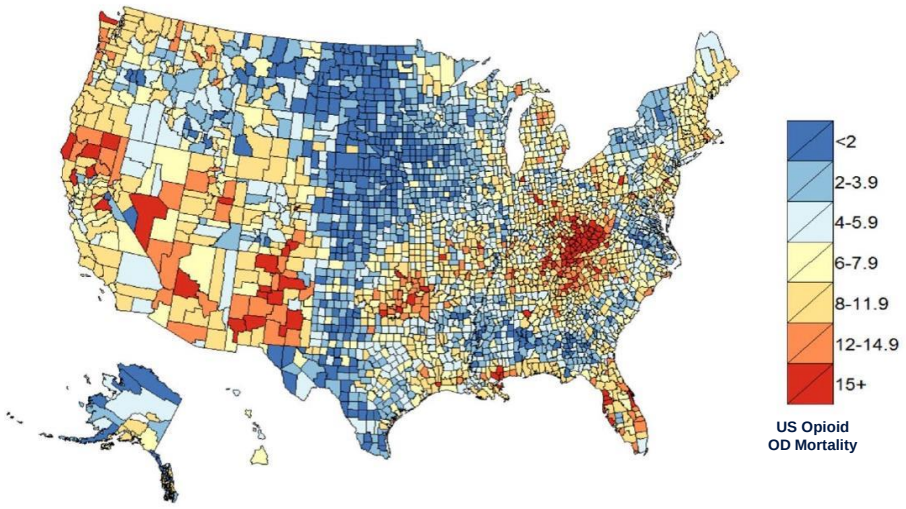



# Epidemiology of The Growing Opioid Epidemic

- US — 5% of world population
  80% of world's opioids, 99% of world's hydrocodone[1]
- Shopping — 0.7% patients prescribed opioids are doctor shoppers[2]
- Diversion — Strong association with OD deaths[3]
- Misuse — 20% of those prescribed[4,5] ↓ from 2003-2013[6]
  Health care costs ↑ close to 9x > general population[5]
  33% ↑ misuse if opioid started before 12th grade[7]
- Addiction — Prescription opioids: ↑ to 2 million  Heroin: ↑ to 0.5 million[6,8]
  Societal costs: $56 billion  Health care costs: $25 billion[9]

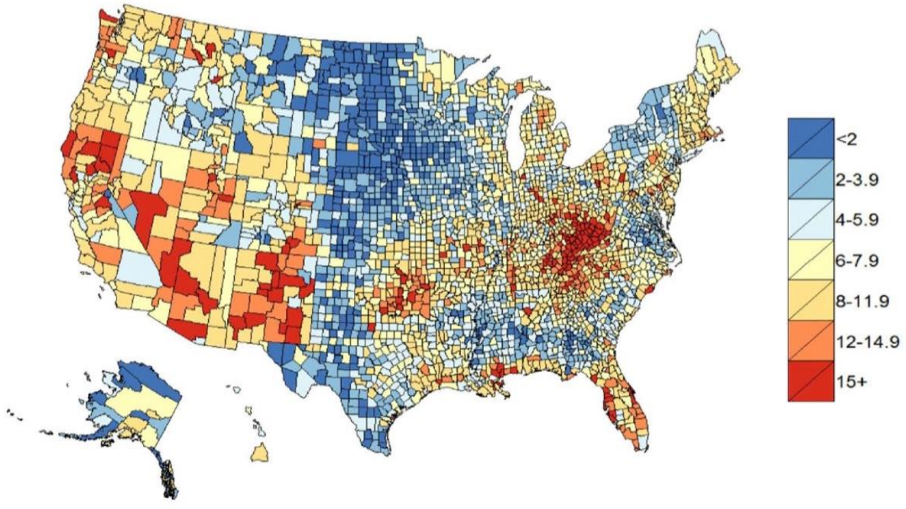
1. Manchkanti L, et al. *Pain Physician*. 2010;13:401-435.
2. McDonald DC, et al. *PLoS One*. 2013;8:e69241.
3. Hall AJ, et al. *JAMA*. 2008;300:2613-2620.
4. Sullivan MD, et al. *Pain*. 2010;150:332-339.
5. Ruetsch C. *J Manag Care Pharm*. 2010;16(1 Suppl B):S9-13.
6. Han B, et al. *JAMA*. 2015;314:1468-1478.
7. Miech R, et al. *Pediatrics*. 2015;136(5):e1169-e1177.
8. SAMHSA. Results from the 2013 National Survey on Drug Use and Health. Available at: https://www.samhsa.gov/data/sites/default/files/NSDUHresultsPDFWHTML2013/Web/NSDUHresults2013.pdf. Accessed 4/3/26.
9. Birnbaum HG, et al. *Pain Med*. 2011;12(4):657-667.

## 2002



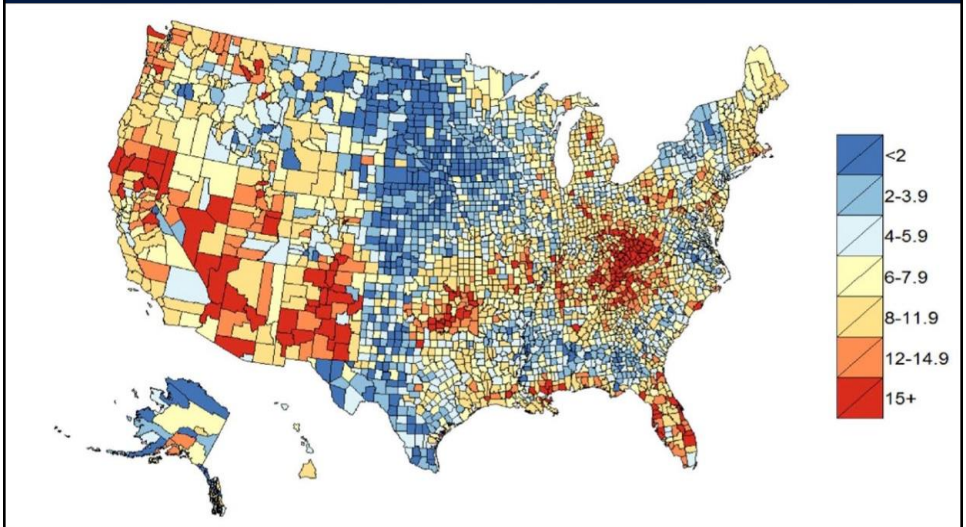

CDC. National Vital Statistics System. Mortality Data. Available at: https://www.cdc.gov/nchs/nvss/deaths.htm. Accessed 4/17/16.

## 2003



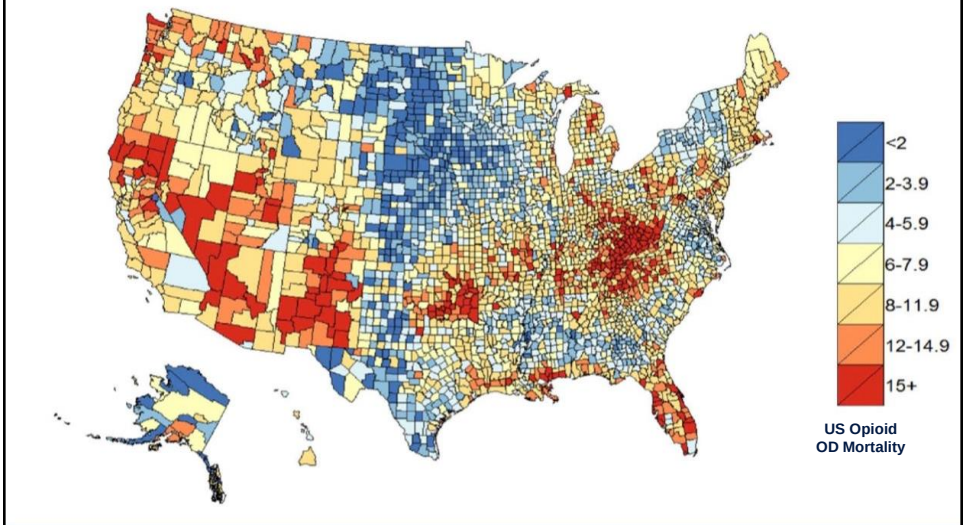

CDC. National Vital Statistics System. Mortality Data. Available at: https://www.cdc.gov/nchs/nvss/deaths.htm. Accessed 4/17/16.

## 2004



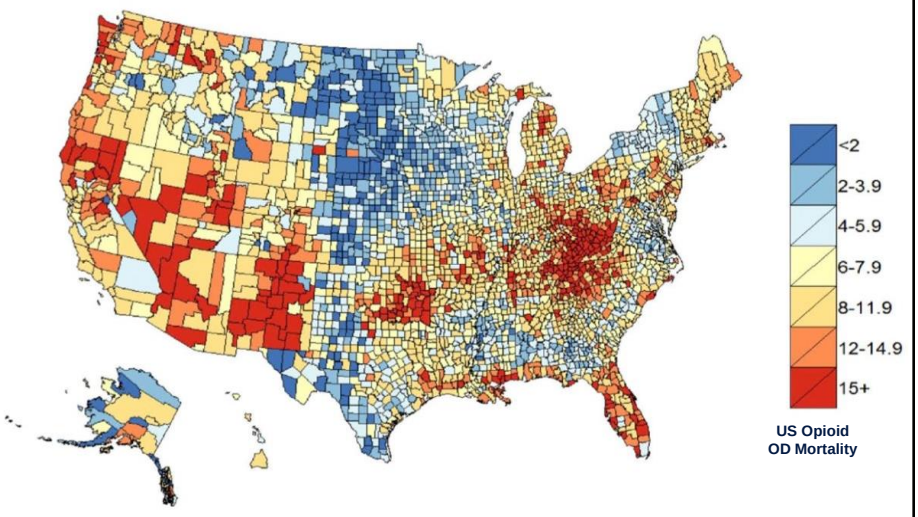

CDC. National Vital Statistics System. Mortality Data. Available at: https://www.cdc.gov/nchs/nvss/deaths.htm. Accessed 4/17/16.

## 2005



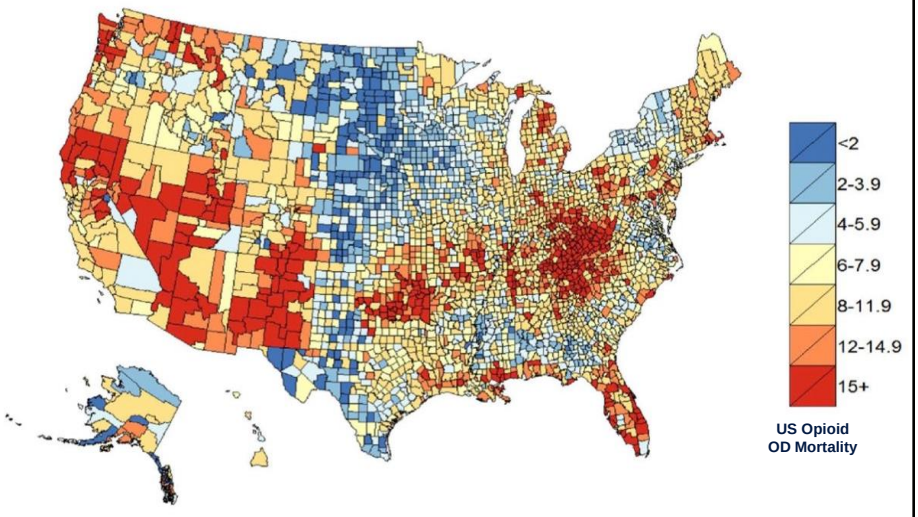

CDC. National Vital Statistics System. Mortality Data. Available at: https://www.cdc.gov/nchs/nvss/deaths.htm. Accessed 4/17/16.

## 2006



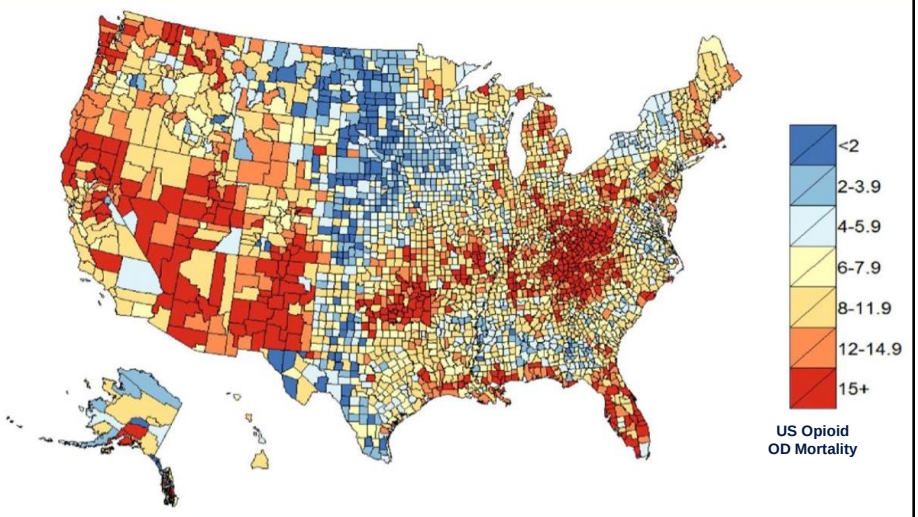

CDC. National Vital Statistics System. Mortality Data. Available at: https://www.cdc.gov/nchs/nvss/deaths.htm. Accessed 4/17/16.

## 2007



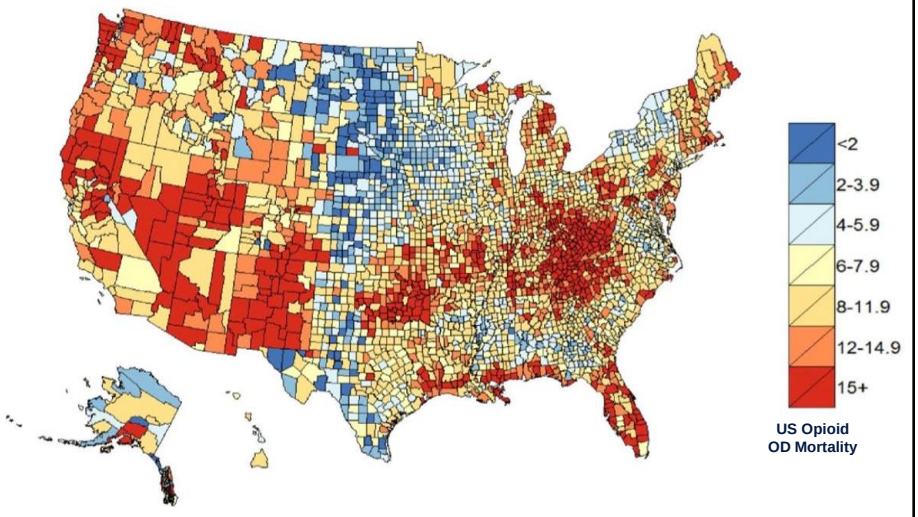

CDC. National Vital Statistics System. Mortality Data. Available at: https://www.cdc.gov/nchs/nvss/deaths.htm. Accessed 4/17/16.

## 2008



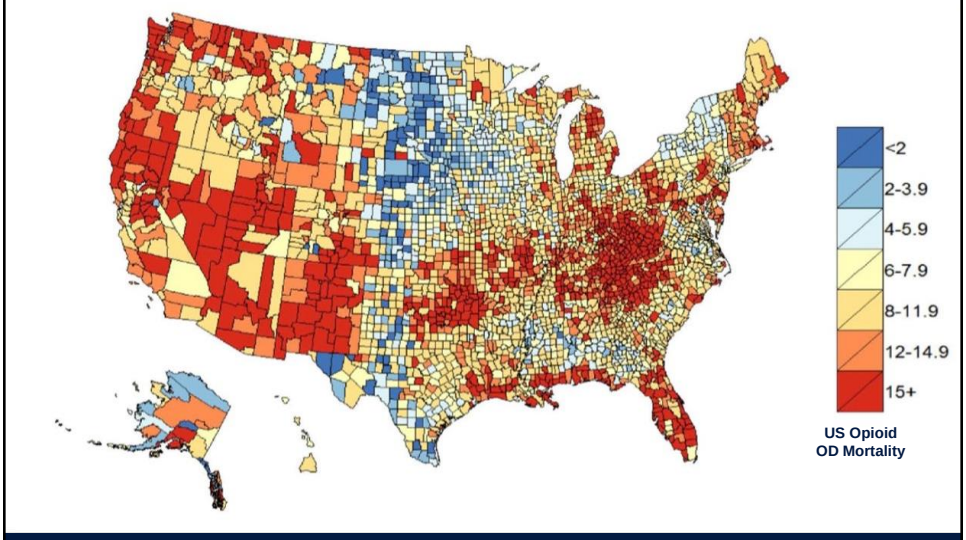

CDC. National Vital Statistics System. Mortality Data. Available at: https://www.cdc.gov/nchs/nvss/deaths.htm. Accessed 4/17/16.

## 2009



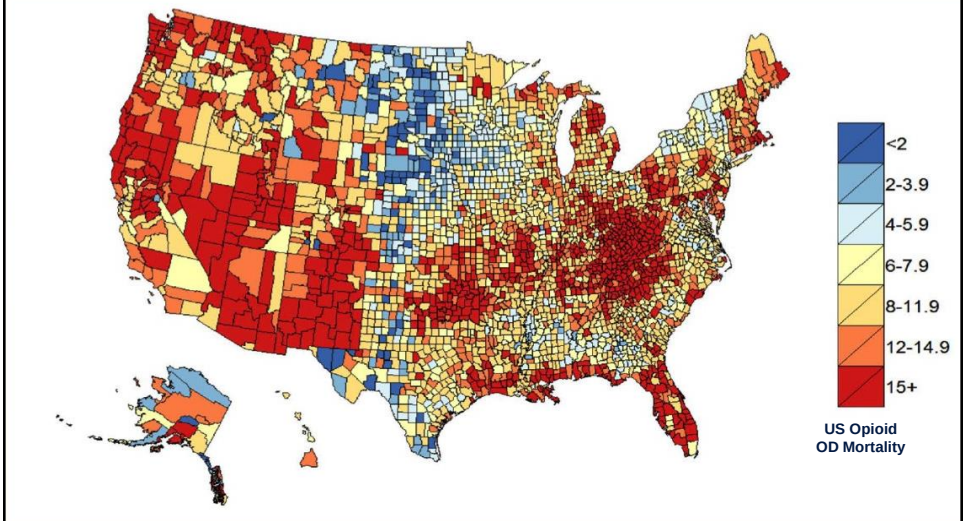

CDC. National Vital Statistics System. Mortality Data. Available at: https://www.cdc.gov/nchs/nvss/deaths.htm. Accessed 4/17/16.

## 2010



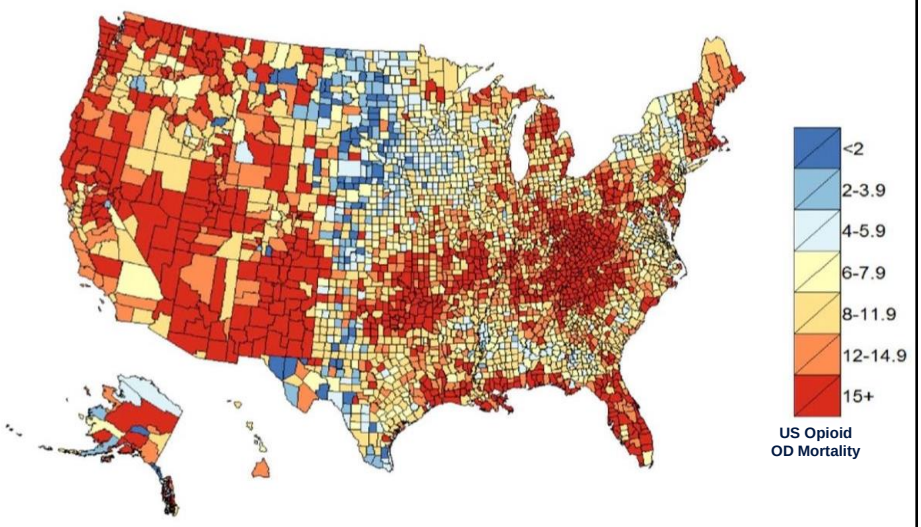

CDC. National Vital Statistics System. Mortality Data. Available at: https://www.cdc.gov/nchs/nvss/deaths.htm. Accessed 4/17/16.

## 2011



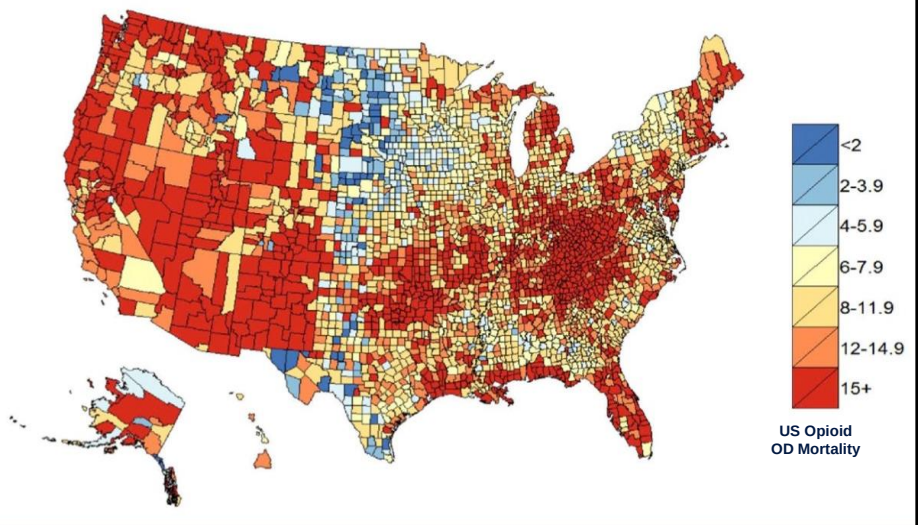

CDC. National Vital Statistics System. Mortality Data. Available at: https://www.cdc.gov/nchs/nvss/deaths.htm. Accessed 4/17/16.

## 2012




CDC. National Vital Statistics System. Mortality Data. Available at: https://www.cdc.gov/nchs/nvss/deaths.htm. Accessed 4/17/16.

## 2013




CDC. National Vital Statistics System. Mortality Data. Available at: https://www.cdc.gov/nchs/nvss/deaths.htm. Accessed 4/17/16.

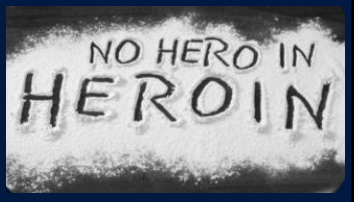
# Opioid Overdose Risk Factors Provider-Related

- Prescribing opioids after non-fatal OD
- 91% patients represcribed opioids → 17% repeat OD[1]
- Prescribing long-acting opioids[2,3]
- Co-prescribing respiratory depressants notably benzodiazepines[2-6]
- Related to absence of risk monitoring?
  - Not studied

1. Larochelle MR, et al. *Ann Intern Med*. 2016;164:1-9.
2. Manchikanti L, et al. *Pain Physician*. 2012;15(3 Suppl):S1-S65.
3. Zedler B, et al. *Pain Med*. 2014;15:1911-1929.
4. Jann M, et al. *J Pharm Pract*. 2014;27:5-16.
5. Shah NA, et al. *Am J Addict*. 2012;21 Suppl 1:S27-S34.
6. Park TW, et al. *BMJ*. 2015;350:h2698.

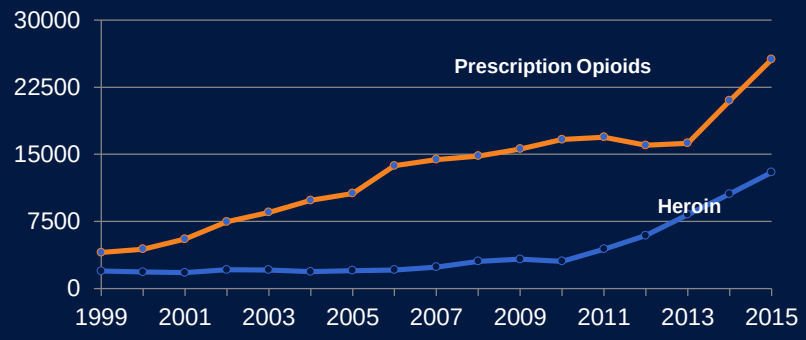
# Stage Two
# Heroin: An "Unintended Consequence?"

- Nationwide, drug overdoses overall are killing more people than car accidents
- In 2013, ~44,000 people died from drug overdoses — including ~25,000 from opioid painkillers and heroin — while ~30,000 people died in car crashes
- The Centers for Disease Control and Prevention counted 8,257 heroin overdose deaths in 2013, which represents nearly a quadrupling of the heroin death rate from 2000 to 2013, with most of the increase occurring after 2010

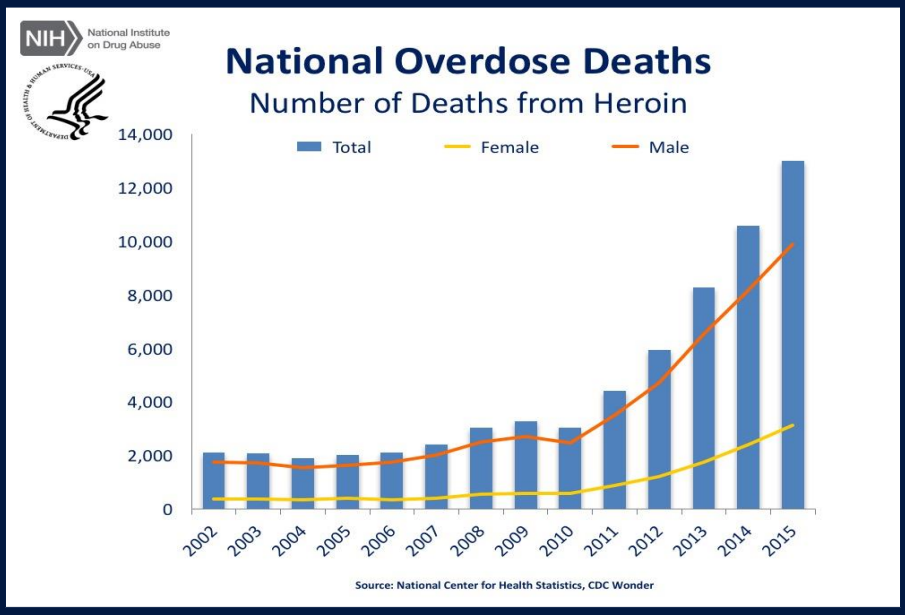



https://www.cdc.gov/nchs/data/databriefs/db190.pdf
https://www-fars.nhtsa.dot.gov/Main/index.aspx

# US Opioid Overdose Death




1. Adapted from CDC: Deaths Involving Opioid Analgesics, Heroin. Available at: https://www.cdc.gov/drugoverdose/data/analysis.html. Accessed 7/12/16.
2. Rudd RA, et al. *MMWR Morb Mortal Wkly Rep*. 2016;64:1378-1382.




Available at: https://www.drugabuse.gov/related-topics/trends-statistics/overdose-death-rates. Accessed 9/10/17

## Stage Three
## Fentanyl and Its Analogues: Unprecedented Devastation


# Fentanyl Abuse

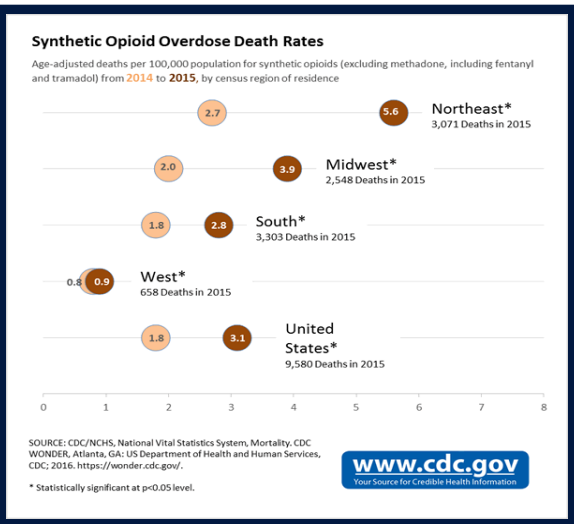
- Fentanyl is a synthetic (man-made) opioid that is 50x more potent than heroin and 100x more potent than morphine.
- The death rate of synthetic opioids other than methadone, which includes drugs such as tramadol and fentanyl, increased by 72.2% from 2014 to 2015.[1]
  - Deaths increased across all demographics, regions, and numerous states.
  - Deaths are being driven by increases in fentanyl-involved overdose deaths, which are likely due to illicitly-manufactured fentanyl.[2,3]

1. Rudd RA, et al. *MMWR Morb Mortal Wkly Rep*. 2016;65(50-51):1445–1452.
2. Gladden RM, et al. *MMWR Morb Mortal Wkly Rep*. 2016;65(33):837-43.
3. Peterson AB, et al. *MMWR Morb Mortal Wkly Rep*. 2016;65(33):844-9.

# Synthetic Opioid Death Rates

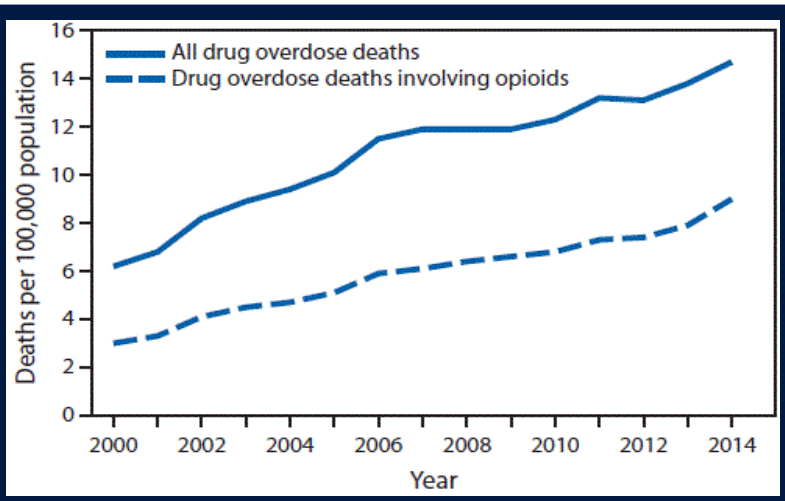
Synthetic opioid death rates increased in all US regions from 2014 to 2015[1] —

- 107.4% in Northeast
- 95% in Midwest
- 55.6% in South
- 12.5% in West



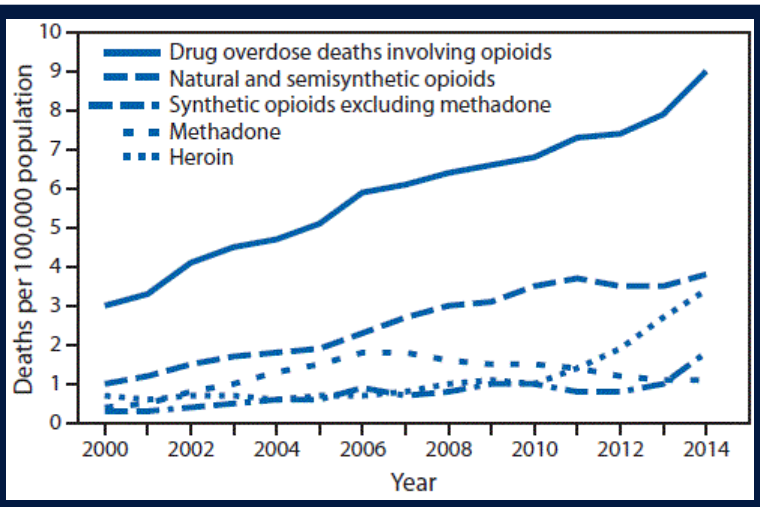

1. Rudd RA, et al. *MMWR Morb Mortal Wkly Rep*. 2016;65(50-51):1445–1452.

# Age-adjusted US Drug Overdose Deaths and Drug Overdose Deaths Involving Opioids — 2000–2014



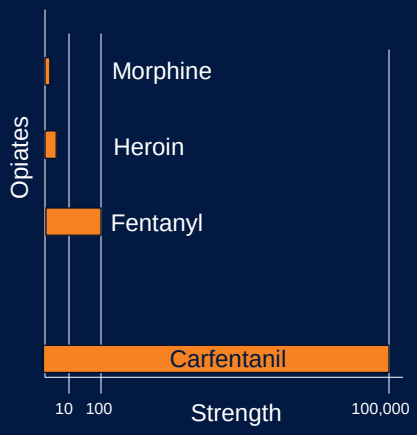

National Vital Statistics System, Mortality File, CDC, MMWR, January 1, 2016 / 64(50);1378-82, https://www.cdc.gov/mmwr/preview/mmwrhtml/mm6450a3.htm

## Drug Overdose Deaths Involving Opioids, By Type of Opioid, in the United States During 2000-2014

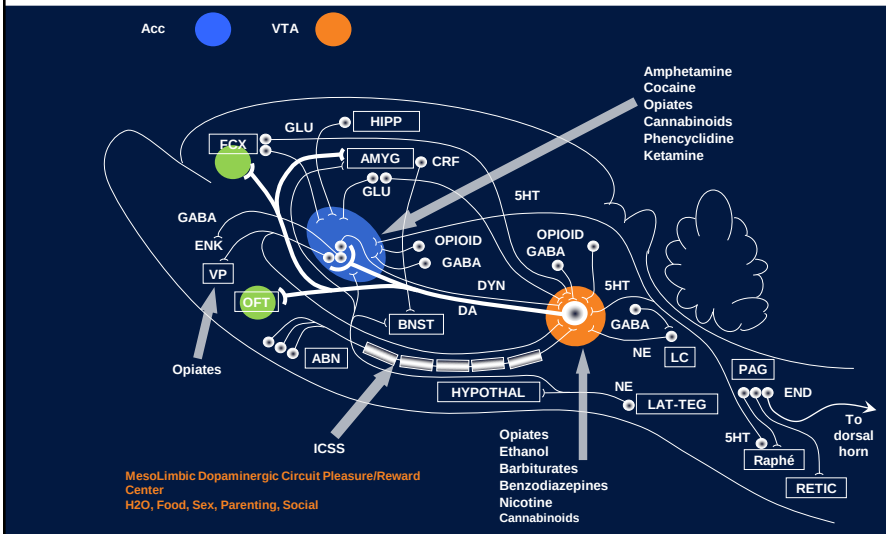



National Vital Statistics System, Mortality File, CDC, MMWR, January 1, 2016 / 64(50);1378-82, https://www.cdc.gov/mmwr/preview/mmwrhtml/mm6450a3.htm

## Fentanyl Analogues: It's Still Getting Worse

# Neurobiology of Addiction: Brain Reward Circuitry




Gardner EL. *Adv Psychosom Med*. 2011;30:22-60.

# 2011 ASAM Definition of Addiction

- Short Definition of 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.
  - 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.

Adopted by the ASAM Board of Directors April 19, 2011

Available at: https://www.asam.org/docs/pressreleases/asam-definition-of-addiction-2011-08-15.pdf?sfvrsn=6. Accessed 9/8/17.

## A "User-Friendly" Definition of Addiction

- Addiction is a primary, chronic, relapsing brain disease characterized by:
  - Loss of control over one's use of a drug
  - Continued use of the drug despite adverse consequences of that drug use
  - Obsessive desire and/or compulsive seeking for the drug
- Its onset is usually in adolescence
- It is treatable and controllable but not usually curable

## Risk Factors for Adolescent Addiction Disorders

1. Family History (Genetics and Environment)
   - #1 risk factor → addiction in parent
2. Early Initiation
   - Youths who initiated alcohol use before age 15 → 4x more likely to develop alcohol dependence than those who started after age 20
   - Early patterns more likely to reflect environment; later patterns more likely to reflect genetics[1]
3. Spectrum of Externalizing Disorders
   - Genetic risk for youth alcohol and drug problems may be related to the entire spectrum of "externalizing" disorders (e.g., ADHD, "Conduct Disorder," etc.)
4. Gene-Environment Interaction
   - Childhood stressors (emotional, physical, sexual abuse)
   - Availability and access
   - Peer-group behavior
   - Parental attitudes/monitoring
   - Religiosity (alcohol use among females)

1. Kendler KS, et al. *Arch Gen Psychiatry*. 2008;65(6):674–682.

# Warning Signs of Teen Drug Use

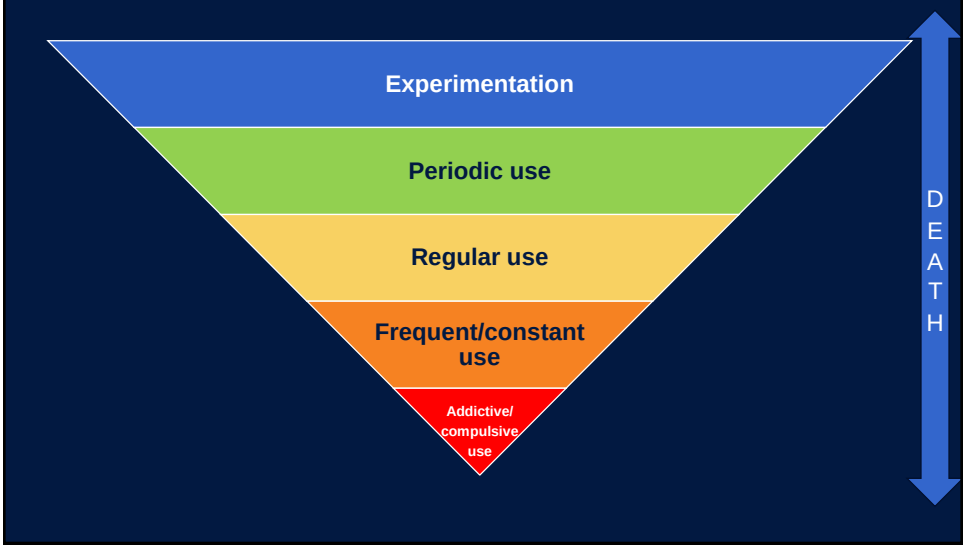
- Physical
  - Fatigue, repeated health complaints, red and glazed eyes, lasting cough
- Emotional
  - Personality change, sudden mood changes, irritability, irresponsible behavior, low self-esteem, poor judgment, depression, general lack of interest
- Family
  - Starting arguments, breaking rules, withdrawing from the family
- School
  - Decreased interest, negative attitude, drop in grades, many absences, truancy, discipline problems
- Social
  - New friends, less interested in “preppie” activities, problems with law, change in style

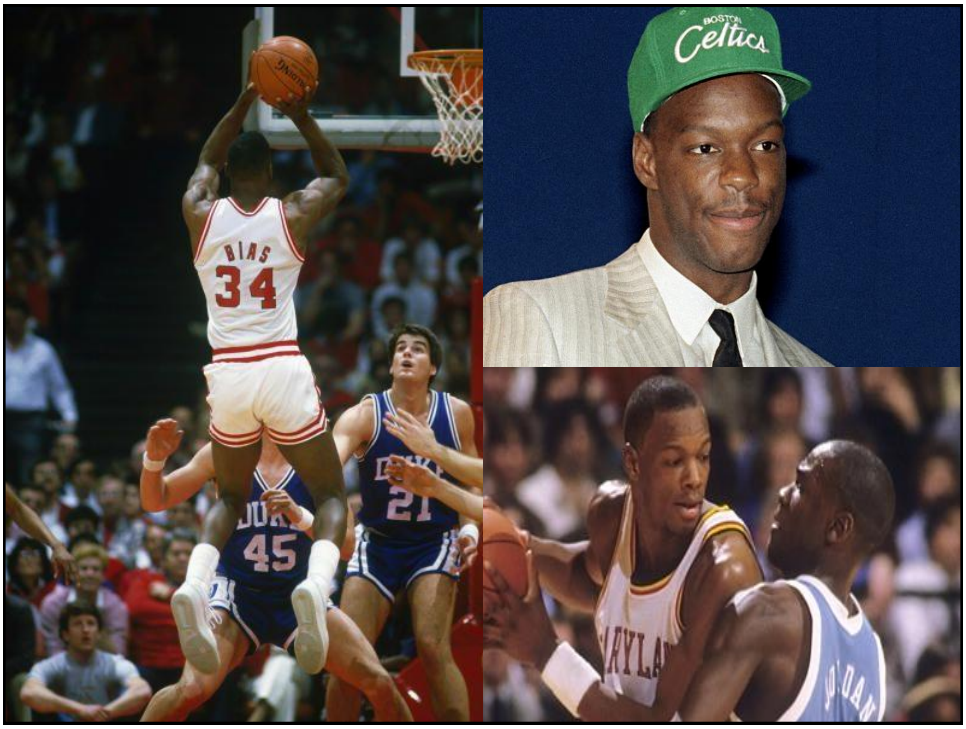
# Chart of Evidence-based Screening Tools for Adults and Adolescents

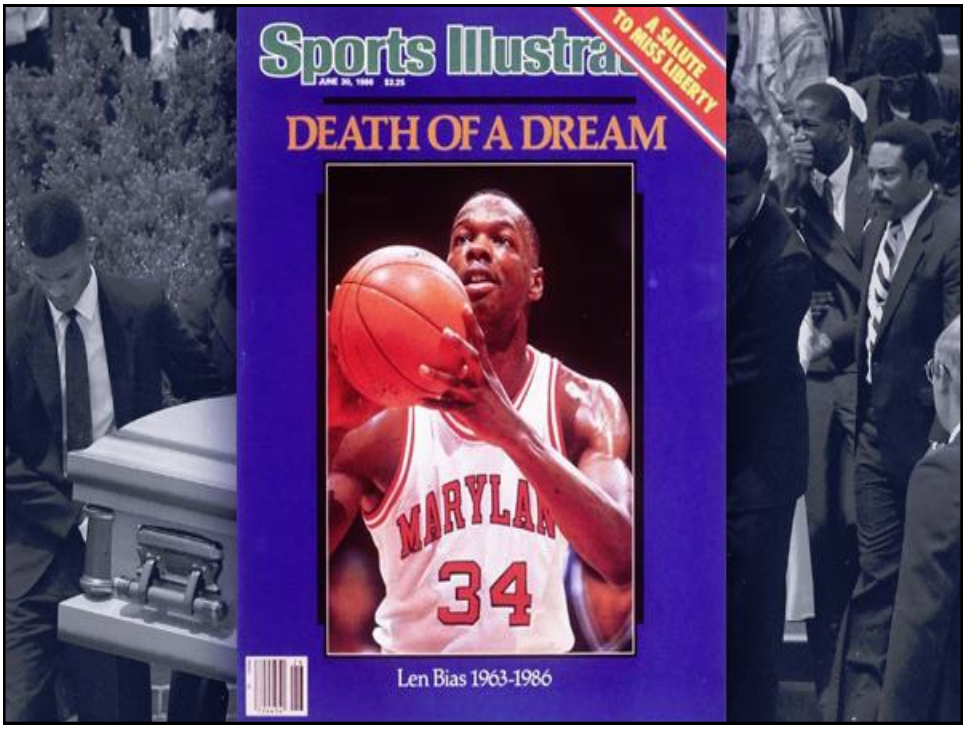
| Screening Tool | Substance Type | | Patient Age | | How Tool Is Administered | |
|---|---|---|---|---|---|---|
| | Alcohol | Drugs | Adults | Adolescents | Self-administered | Clinician-Administered |
| **PreScreen** | | | | | | |
| NIDA Drug Use Screening Tool: Quick Screen | X | X | X | See APA Adapted NM ASSIST tools | See APA Adapted NM ASSIST tools | X |
| CRAFFT (Part A) | X | X | | X | X | X |
| Alcohol Use Disorders Identification Test – C (AUDIT-C) | X | | X | | X | X |
| Opioid Risk Tool | | X | X | | X | |
| **Full Screens** | | | | | | |
| NIDA Drug Use Screening Tool | X | X | X | | | X |
| Alcohol Use Disorders Identification Test (AUDIT) | X | | X | | | X |
| CAGE-AID | X | X | X | | | X |
| CAGE | X | | X | | | X |
| Drug Abuse Screening Test (DAST-10) | | X | X | | X | X |
| CRAFFT | X | X | | X | X | X |
| DAST-20: Adolescent Version | | X | | X | X | X |

https://www.drugabuse.gov/nidamed-medical-health-professionals/tool-resources-your-practice/screening-assessment-drug-testing-resources/chart-evidence-based-screening-tools-adults

## How Does Drug Use Start? The Drug Use Spectrum






## A High Index of Suspicion, A Low Threshold for Action

Making a difference

Reply all
Fri 9/16, 8:46 PM

+7 more

... we have received great feedback on the panel presentation at the high school this week. And, wow, what a nice-sized crowd!

Today I spoke to a mother who attended. About a year ago, they became aware of some alcohol & pot use by their teenage son. Since, she said, they have been concerned, but had no evidence of ongoing problems. As a result of attending the panel, she and her husband decided to search his backpack. They found evidence of ongoing and more serious drug use. They spoke to him, he admitted to it, and he's going to get treatment.

# Language Matters

- "Abuse" pejorative[1] → Prefer "Nonmedical use"
- "Dependence" ambiguous[2] → Prefer "Addiction"
- Physical dependence = Tolerance / Withdrawal[3]
- Person-first language[4]
  - Person with pain … Not pain patient
  - Person with addiction … Not addiction patient / addict

1. Saitz R. *J Addict Med*. 2016;10:1-2.
2. Savage SR, et al. *J Pain Symptom Manage*. 2003;26:655-667.
3. WHO. Lexicon of alcohol and drug terms. Available at: http://www.who.int/substance_abuse/terminology/who_ladt/en/. Accessed 4/2/16.
4. CDC. Communicating with and about people with disabilities. Available at: https://www.cdc.gov/ncbddd/disabilityandhealth/pdf/disabilityposter_photos.pdf. Accessed 5/7/16.

# Addiction, Pseudoaddiction, or Physical Dependence?

**Brent Boyett, DMD, DO, FAAFP, ABAM**
Founder and Owner
Boyett Health Services
Hamilton, AL
Chief Medical Officer
Pathway Healthcare
Dallas, TX

## Case Discussion 1

- 53-year-old male
- 4 years hx of back pain: degenerative disc disease
- 4 years hx of hydrocodone/acetaminophen 7.5/325 mg TID
- Currently on oxycodone/acetaminophen 10/325 mg every 6 hours
  - States “medication just does not work like it used to”
  - Frequently takes 2 at a time for last few months and runs out of meds early
- Tried to convince family doctor to “prescribe something stronger”
- Recently, his doctor sent him a letter of dismissal because of repeated requests for early refills

## Case Discussion 1 (cont.)

- Married and owns his own construction company
- Smokes a pack of cigarettes per day
- History of heavy alcohol use in his twenties with one DUI which resulted in the loss of his job
  - No longer uses alcohol
- Does not buy drugs from the street, crush and snort, or inject his opioids
- PDMP Web Search reveals that he has received prescriptions for alprazolam and oxycodone from two separate providers within past six months
- Drug tests positive for opioids and benzodiazepines

# Breaking the Barriers to Effective Treatment of OUD

**Steven L. Wright, MD, FAAFP, FASAM**
Consultant, Addiction Medicine and Medical Pain Management
Wright Medical, LLC
Littleton, CO
Medical Director
Mountain Medical Care
Denver, CO

## Objectives

- Assess the barriers to treatment of patients with Opioid Use Disorder (OUD) and strategies to improve patients' ability to receive Medication Assisted Treatment (MAT)
- Evaluate current and emerging therapies for OUD based on evidence of safety and efficacy

## Types of Barriers

- Treatment system barriers
- Medical provider barriers
- Patient barriers

## Treatment System/ Medical Provider Barriers

- Stigma/bias
- Legal/regulatory
- Limited addiction therapy access
  - Workforce adequacy
  - Available service array
  - Lack of parity
  - Cost/coverage
- Limited evidence-based knowledge/application of knowledge
  - Reflecting chronic disease model, outcomes, collaboration, integration, mutual respect
  - Reflecting person-centered, recovery-oriented, cultural, trauma-informed principles
  - Addressing current ethnic/socioeconomic/gender/geographic disparities
  - Role of MAT
  - Focus on safety

## Patient Barriers to Treatment

- Stigma/bias
- Feeling or fear of being stigmatized
- Fear of job, relationship losses, or discrimination
- Denial/shame
- Limited understanding of
  - Chronic disease model
  - Recovery-oriented approach
  - Multimodal approach, including the role of MAT
- Access to treatment
  - Availability
  - Cost/coverage

## The Physician's Role

- *Not* as sole authorities
- *Part* of multimodal, multidisciplinary treatment
  - Coordination - Collaboration - Communication
  - As a team or coordinated network
  - Preferably integrated with behavioral health
- Active involvement of patients
  - Person-centered treatment
  - Participation and empowerment, not compliance
  - Focused on recovery, safety, quality of life
- Prescriber role is unique

## Opioid Use Disorder Treatment

- Mutual help programs
- Addiction therapy
- Medication management

**Patient Oriented NOT Program Oriented**

## Opioid Use Disorder Treatment

- Mutual Help Programs
- Addiction therapy*
- Medication management*

**Patient Oriented NOT Program Oriented**

* Addiction treatment services are those provided professionally

American Society of Addiction Medicine. Public Policy Statement on Treatment for Alcohol and Other Drug Addiction. 2010. Available at: https://www.asam.org/docs/default-source/public-policy-statements/1treatment-4-aod-1-10.pdf. Accessed 7/16/16.

# Mutual Help Programs

- Not *self* help but rather *mutual* help
- 12-step or other formats
- Peer recovery coaching[1]
  - Narcotics Anonymous
  - Pills Anonymous or Prescriptions Anonymous
  - Alcoholics Anonymous
    - Effective[2-13]
    - Minimum dose: Weekly[9-11]
    - Accessible
    - Inexpensive

**Professional Role:**
**12-step Facilitation**

1. SAMHSA. What are peer recovery support services? 2009. Available at: https://store.samhsa.gov/shin/content/SMA09-4454/SMA09-4454.pdf. Accessed 7/19/16.
2. Gossop NA. *Addiction*. 2008;103:119-125.
3. Humphreys K, et al. *Alcohol Clin Exp Res*. 2007;31:64-68.
4. Kelly JF, et al. *Drug Alcohol Depend*. 2013;129:151-157.
5. Kelly JF, et al. *Drug Alcohol Depend*. 2010;110:117-125.
6. Vederhus JK, et al. *BMC Psychiatry*. 2006;6:35.
7. Kaskutas LA. *J Addict Dis*. 2009;28:145-157.
8. Krentzman AR, et al. *Alcohol Treat Q*. 2010;29:75-84.
9. Hoffman NG, et al. *Psychiatr Clin North Am*. 1993;16:127-140.
10. Witbrodt J, et al. *J Sub Abuse Treat*. 2012;43:30-43.
11. Humphreys K, et al. *J Subst Abuse Treat*. 2004;26:151-158.
12. Cloud RN, et al. *Recent Dev Alcohol*. 2008;18:283-301.
13. Monterosso J, et al. *Drug Alcohol Depend*. 2007;90 Suppl 1:S100-S111.

# Addiction Therapy

- Motivational Enhancement Therapy (MET)
- Cognitive Behavioral Therapy (CBT)
- Supportive-Expressive Therapy
- Contingency Management
- Trigger Management
- Network Therapy
- Peer Coaching
- Social Support
- Drug Court

# Addiction Therapy Efficacy

- 2 RCTs for OUD: Beneficial results[1,2]
- RCTs for "substance" or "drug" abuse: Beneficial results[3-10]
- Meta-analyses: Effect size varies
  - Very strong[4] Meaningful[5] Small[6,7]
  - Benefit tends to ↓ over time[5]
  - Moderators of benefit uncertain[7]
- Guideline supported with reservation[11,12]


1. McAuliffe WE. *J Psychoactive Drugs*. 1990;22:197-209.
2. Bickel WK, et al. *J Consult Clin Psychol.* 1997;65:803-810.
3. Azrin NH, et al. *Behav Res Ther*. 1994;32(8):857-866.
4. Windsor LC, et al. *Cultur Divers Ethnic Minor Psych*. 2015;21(2):300-313.
5. Waldron HB, et al. *Addiction*. 2004;99 Suppl 2:93-105.
6. Magill M, et al. *J Stud Alcohol Drugs*. 2009;70(4):516-527.
7. Blodgett JC, et al. *J Sub Abuse Treat*. 2014;46(2):87-97.
8. Schumacher JE. *J Ment Health Policy Econ*. 2002;5(1):33-42.
9. Woody GE. *Arch Gen Psychiatry*. 1983;40(6):639-645.
10. Kaminer Y. *Curr Psychiatry Rep*. 2002;4(5):397-401.
11. National Institute for Health Care and Excellence (NICE). Drug misuse in over 16s: psychosocial interventions. 2007. Available at: https://www.nice.org.uk/guidance/cg51. Accessed 7/16/16.
12. VA / DoD. Clinical practice guideline for the management of substance abuse disorders. 2015.Available at: https://www.healthquality.va.gov/guidelines/MH/sud/VADoDSUDCPGRevised22216.pdf. Accessed 7/16/16.


# Medication Management

- Withdrawal meds: Preparation for treatment
- Adjunctive symptom meds: Post-acute withdrawal
- Anti-craving meds: Primary medication management

  Medication Assisted Treatment (MAT)

# Medication Management Opioid Withdrawal

- Opioid withdrawal (WD) symptoms[1,2]
  - Yawning, shakes, sweats, rhinorrhea
  - Pain: Generalized, abdomen, back
  - GI: Nausea, vomiting, diarrhea
  - Restlessness, anxiety, insomnia
  - ↑ pupils, HR, BP
- Opioid WD using opioids
  Opioid initiated → tapered off
  - Methadone[5-9]
  - Buprenorphine[7-13]
  - Tramadol[6,9,13]
- Adults: Feels life-threatening, almost never is
- Neonates: Can be life-threatening, death rare[3,4]

1. Ahmed N, et al. Opioid withdrawal: A new look at medication options. 2015. Available at: http://paindr.com/wp-content/uploads/2015/11/1002-Opioid-Fudin-1.pdf. Accessed 9/9/17.
2. McNicholas L. Clinical guidelines for the use of buprenorphine in the treatment of opioid addiction. 2004. Available at: http://lib.adai.washington.edu/clearinghouse/downloads/TIP-40-Clinical-Guidelines-for-the-Use-of-Buprenorphine-in-the-Treatment-of-Opioid-Addiction-54.pdf. Accessed 7/16/16.
3. Lam SK, et al. *Aust NZ J Obstet Gynaecol*. 1992;32(3):216-221.
4. Finnegan LP. *Fed Proc*. 1985;44(7):2314-2317.
5. Amato L, et al. *Cochrane Database Syst Rev*. 2013;2:CD003409.
6. Zarghami M, et al. *J Addict Dis*. 2012;31(2):112-117.
7. Seifert J, et al. *Pharmacopsychiatry*. 2002;35(5):159-164.
8. National Institute for Health Care and Excellence (NICE). Opioid detox guideline. 2008. Available at: https://www.nice.org.uk/guidance/cg52/evidence/drug-misuse-opioid-detoxification-full-guideline-196515037. Accessed 7/17/16.
9. Diaper AM, et al. *Br J Clin Pharm*. 2014;77(2):302-314.
10. Assadi SM, et al. *J Subst Abuse Treat*. 2004;27(1):75-82.
11. Gowing L, et al. *Cochrane Database Syst Rev*. 2006;2:CD002025.
12. Ziedonis DM, et al. *Drug Alcohol Depend*. 2009;99:28-36.
13. Chawla JM, et al. *J Opioid Manag*. 2013;9(1):35-41.

# Medication Management Opioid Withdrawal

- Supported abrupt withdrawal - Tapering unlikely to work if addicted
- Monitor severity with Clinical Opioid Withdrawal Scale (COWS)[1,2]
- Withdrawal meds given PRN; symptoms expected over 5 days[3-5]
  - Up to 3 weeks for buprenorphine and methadone
  - Avoid benzodiazepines

| | | | | |
|---|---|---|---|---|
| Pain | Naproxen | 220 mg | PO | #20 |
| Back spasm | Cyclobenzaprine | 10 mg | PO | #20 |
| Abdominal cramps | Hyoscyamine | 0.0125 mg | SL | #20 |
| Shakes/sweats | Clonidine[5-8] | 0.1 mg | PO | #20 |

1. MedCalc. COWS calculator. Available at: https://www.mdcalc.com/cows-score-opiate-withdrawal. Accessed 7/17/16.
2. Wesson DR, et al. *J Psychoactive Drugs*. 2003;35(2):253-259.
3. Ahmed N, et al. Opioid withdrawal: A new look at medication options. 2015. Available at: http://paindr.com/wp-content/uploads/2015/11/1002-Opioid-Fudin-1.pdf. Accessed 9/9/17.
4. Diaper AM, et al. *Br J Clin Pharm*. 2014;77(2):302-314.
5. Donahe PA, et al. *Am Fam Physician*. 2006;73(9):1573-1578.
6. Gowing L, et al. *Cochrane Database Syst Rev*. 2016;5:CD002024.
7. Albertson TE, et al. *J Med Toxicol*. 2014;10(4):369-381.
8. Ziedonis DM, et al. *Drug Alcohol Depend*. 2009;99:28-36.

## FDA-Approved Medications for MAT

- Methadone — Full mu-opioid agonist
- Buprenorphine — Partial mu-opioid agonist
- Naltrexone — Mu-opioid antagonist
- Buprenorphine/naloxone combination

## Methadone

- Schedule II
- Full mu-opioid agonist[1]
- Long duration of clinical action for opioid addiction
- Approved for opioid addiction[2]
  - Supervised oral administration[2]
- Requires SAMHSA certification as Opioid Treatment Program (OTP)[2,3]
  - Cannot prescribe for opioid addiction unless from within OTP
- Locate Methadone Opioid Treatment Program

1. Center for Substance Abuse Treatment. Clinical Guidelines for the Use of Buprenorphine in the Treatment of Opioid Addiction. Rockville (MD): SAMSHA; 2004. Available at: https://www.ncbi.nlm.nih.gov/books/NBK64245/. Accessed 7/16/16.
2. SAMHSA. OTP federal guidelines. 2015. https://store.samhsa.gov/shin/content/PEP15-FEDGUIDEOTP/PEP15-FEDGUIDEOTP.pdf. Accessed 7/17/16.
3. SAMHSA. Application for OTP certification. https://www.samhsa.gov/medication-assisted-treatment/opioid-treatment-programs/apply. Accessed 7/22/16.

# Methadone for Opioid Addiction

- Effective[1-9] and guideline supported[10-15]
- Initiation: Progressively increased supervised PO QD dosing[13-16]
- Maintenance: 60 mg to 100 mg PO QD, sometimes higher[15-19]
- Duration of use: Indefinite individualized[20]
- Discontinuation: By tapering over months[20,21]
  - Abrupt withdrawal: WD symptoms last 3 to 4 weeks


1. Dole VP, et al. *JAMA*. 1965;193(8):646-650.
2. Mattick RP, et al. *Cochrane Database Syst Rev*. 2014;2:CD002207.
3. Fullerton CA, et al. *Psychiatr Serv*. 2014;65(2):146-157.
4. Nosyk B, et al. *Drug Alcohol Depend*. 2015;157:121-128.
5. Mattick RP, et al. *Cochrane Database Syst Rev*. 2009;3:CD002209.
6. Minozzi S, et al. *Cochrane Database Syst Rev*. 2013;12:CD006318.
7. Sees KL, et al. *JAMA*. 2000;283:1303-1310.
8. Potter JS, et al. *J Stud Alcohol Drug*. 2013;74(4):605-613.
9. Barnett PG, et al. *Mt Sinai J Med*. 2000;67(5-6):365-374.
10. US Department of Veterans Affairs. Management of SUD. 2015.Available at: https://www.healthquality.va.gov/guidelines/mh/sud/. Accessed 7/16/16.
11. Wong S, et al. *J Obstet Gynaecol Can*. 2011;33:367-384.
12. World Health Organization. Guidelines for the identification and management of substance use and substance use disorders in pregnancy. 2014. Available at: http://apps.who.int/iris/bitstream/10665/107130/1/9789241548731_eng.pdf. Accessed 7/18/16.
13. Chou R, et al. *J Pain*. 2014;15(4):321-337.
14. SAMHSA. OTP federal guidelines. 2015. Available at: https://store.samhsa.gov/shin/content/PEP15-FEDGUIDEOTP. Accessed 7/16/16.
15 SAMHSA. Med-assisted Rx for opioid addiction in OTPs: TIP 43. 2005.Available at: https://store.samhsa.gov/shin/content//SMA12-4214/SMA12-4214.pdf. Accessed 7/22/16.
16. Baxter LE Sr, et al. *J Addict Med*. 2013;7(6):377-386.
17. Eap CB, et al. *Clin Pharmacokinet*. 2002;41(14):1153-1193.
18. Fareed A, et al. *J Addict Dis*. 2010;29(1):1-14.
19. Farré M, et al. *Drug Alcohol Depend*. 2002;65(3):283-290.
20. Winstock AR, et al. *Int J Drug Policy*. 2011;22(1):77-81.
21. Senay EC, et al. *Arch Gen Psych*. 1977;34:361-367.


# Methadone Adverse Reactions

- GI: Nausea, vomiting, abdominal pain, constipation[1]
- Overdose death high, ↑ with CNS depressants[2-8]
- Respiratory depression[9-11]
  - ↑ with CNS depressants
  - Resuscitate with naloxone by bolus
- QT ↑ → Torsades de Pointes, raised with other meds[12-14]


1. Pergolizzi JV Jr. *Pain Med News*. August 27, 2015.
2. CDC. *MMWR Morb Mortal Wkly Rep*. 2012;61:493-497.
3. Rudd RA, et al. *MMWR Morb Mortal Wkly Rep*. 2016;64:1378-1382.
4. Paulozzi LJ, et al. *Addiction*. 2009;104:1541-1548.
5. Hall AJ, et al. *JAMA*. 2008;300:2613-2620.
6. Baxter LE Sr, et al. *J Addict Med*. 2013;7:377-386.
7. Srivastava A, et al. *J Addict Dis*. 2006;25:5-13.
8. Hendrikson H, et al. *NCSL Legisbrief*. 2014;22(45):1-2.
9. Lee SC, et al. *Drug Alcohol Depend*. 2014;138:118-123.
10. Nielsen S, et al. *Addiction*. 2007;102:616-622.
11. Wang D, et al. *Chest*. 2005;128:1348-1356.
12. Chou R, et al. *J Pain*. 2014;15(4):338-365.
13. Peles E, et al. *J Addict Med*. 2013;7:428-434.
14. Bunten H, et al. *Addict Biol*. 2011;16:142-144.

# Methadone Adverse Reactions

- CNS: HA, dizziness, confusion, dyscognition, psychomotor[1-4]
- More than 50 drug-to-drug interactions[5,6] in part related to:
  - Concurrent sedating meds like benzodiazepines
  - 90% protein binding
  - P450 metabolism: 8 enzymatic sites

**Partial List**

- Nonmedical use: Addiction, diversion[7-9]
- Neonatal abstinence syndrome[10-12]
- Accidental childhood ingestion[13]

1. Soyka M. *Pharmacopsychiatry*. 2014;47(1):7-17.
2. Loeber S, et al. *Am J Drug Alc Abuse*. 2008;34(5):584-593.
3. Soyka M, et al. *J Clin Psychopharmacol*. 2008;28(6):699-703.
4. Strand MC, et al. *Traffic Inj Prev*. 2013;14(1):26-38.
5. Kapur BM, et al. *Crit Rev Clin Lab Sci*. 2011;48(4):171-195.
6. McCance-Katz EF, et al. *Am J Addict*. 2010;19(1):4-16.
7. Coplan P. Buprenorphine patch v other ER opioids. Pain Week Abstracts. 2014. Available at: https://www.painweek.org/assets/documents/painweek-page/724-painweek2014acceptedabstracts.pdf. Accessed 9/8/17.
8. Surrat H, et al. Street prices of Rx opioids. Pain Week Abstracts. 2012. Available at: https://www.painweek.org/assets/documents/general/572-painweek2012abstracts.pdf.
9. Maxwell JC, et al. *Am J Addict*. 2010;19(1):73-88.
10. Minozzi S, et al. *Cochrane Database Syst Rev*. 2013;12:CD006318.
11. Lund IO, et al. *Subst Abuse*. 2013;7:61-74.
12. Bagley SM, et al. *Addict Sci Clin Pract*. 2014;9(1):19.
13. Martin TC, et al. *Curr Drug Saf*. 2011;6(1):12-16.

# Buprenorphine

- Schedule III[1]
- Partial mu agonist: High affinity, slow dissociation, low intrinsic activity[2,3]
- Long duration of clinical action for addiction[2,4-7]
- Approved for opioid addiction as:
  - Single agent: Sublingual "mono" tablet or implant
  - Combination (4:1 buprenorphine/naloxone): Oral mucosal tablet or film [2,7]
    - Induction and maintenance treatment
- Requires FDA waiver to prescribe[8]
- Locate physicians waived to prescribe or waived + providing implant

1. Drug Enforcement Administration (DEA). *Fed Regist*. 2002;67(194):62354-62370.
2. Ling W. *Pain Manag*. 2012;2(4):345-350.
3. Walsh SL, et al. *J Pharmacol Exp Ther*. 1995;274(1):361-372.
4. Boas RA, et al. *Br J Anaesth*. 1985;57(2):192-196.
5. Greenwald M, et al. *Biol Psychiatry*. 2007;61(1):101-110.
6. Kuhlman JJ Jr, et al. *J Anal Toxicol*. 1996;20(6):369-378.
7. Orman JS, et al. *Drugs*. 2009;69(5):577-607.
8. SAMHSA: Buprenorphine Waiver Management. Available at: https://www.samhsa.gov/medication-assisted-treatment/buprenorphine-waiver-management. Accessed 7/15/16.

# Buprenorphine for Opioid Addiction

- Effective[1-9] and guideline supported[10-14]
- Initiation: Induction of the patient in withdrawal [12,15-17]
- Maintenance: Transmucosal 2 to 24 mg QD[12,15,16] or implant[18-20]
- Duration of use: Individualized, indefinite[15,21,22]
- Discontinuation: By taper over months[22-24]
  - Abrupt withdrawal: WD symptoms over 3 to 4 weeks


1. Jasinski DR, et al. *Arch Gen Psychiatry*. 1978;35(4):501-516.
2. Mattick RP, et al. *Cochrane Database Syst Rev*. 2014;2:CD002207.
3. Minozzi S, et al. *Cochrane Database Syst Rev*. 2013;12:CD006318.
4. Nielsen S, et al. *Cochrane Database Syst Rev*. 2016;5:CD011117.
5. Colson J, et al. *Pain Physician*. 2012;15(3 Suppl):ES231-6.
6. Thomas CP, et al. *Psychiatr Serv*. 2014;65(2):158-170.
7. Clay E, et al. *J Med Econ*. 2014;17(9):626-636.
8. Orman JS, et al. *Drugs*. 2009;69(5):577-607.
9. Potter JS, et al. *J Stud Alcohol Drugs*. 2013;74:605-613.
10. VA / DoD. Clinical practice guideline for the management of substance abuse disorders. 2015. Available at: https://www.healthquality.va.gov/guidelines/MH/sud/VADoDSUDCPGRevised22216.pdf. Accessed 7/16/16.
11. WHO. Guidelines for the identification and management of substance use and substance use disorders in pregnancy. 2014. Available at: http://apps.who.int/iris/bitstream/10665/107130/1/9789241548731_eng.pdf. Accessed 7/18/16.
12. SAMHSA. Buprenorphine. 2004. Available at: https://www.samhsa.gov/medication-assisted-treatment/treatment/buprenorphine. Accessed 7/16/16.
13. Farmer CM, et al. *Subst Abus*. 2015;36:209-216.
14. Donaher PA, et al. *Am Fam Physician*. 2006;73:1573-1578.
15. Ling W. *Pain Manag*. 2012;2:345-350.
16. Nielsen S. *J Subst Abuse Treat*. 2015;48:70-76.
17. Khemiri A, et al. *Postgrad Med*. 2014;126:113-120.
18. Rosenthal RN, et al. *JAMA*. 2016;316:282-290.
19. Ling W, et al. *JAMA*. 2010;304:1576-1583.
20. Weiss RD. *Drug Alcohol Depend*. 2014;140:118-122.
21. Bentzley BS, et al. *J Sub Abuse Treat*. 2015;52:49-57.
22. Sigmon SC, et al. *JAMA Psychiatry*. 2013;70:1347-1354.
23. Dunn KE, et al. *Drug Alcohol Depend*. 2011;119:1-9.
24. Mannelli P, et al. *Drug Alcohol Depend*. 2014;138:83-88.


# Buprenorphine: Transmucosal

- Buprenorphine
  - 30% to 60% bioavailable[1]
  - Reduces opioid withdrawal and craving[2]
  - Blocks effects of other opioids used while on buprenorphine[3,4]
  - Precipitates withdrawal if on other opioids when started[5]
  - Produces physical dependence[6]
- Naloxone in combination product
  - 7% bioavailable[7]
    - Without altering buprenorphine effect[2,4,7,8]
  - 100% bioavailable if injected[7]
    - To deter abuse - <u>not</u> FDA-labeled as abuse deterrent[2,4,7,8]


1. Kuhlman JJ Jr, et al. *J Anal Toxicol*. 1996;20:369-378.
2. Ling W. *Pain Manag*. 2012;2:345-350.
3. Walsh SL, et al. *J Pharm Exp Ther*. 1995;274:361-372.
4. Strain EC, et al. *Psychopharmacology (Berlin)*. 2002;159:161-166.
5. Rosado J, et al. *Drug Alcohol Depend*. 2007;90:261-269.
6. Eissenberg T. *J Pharmacol Exp Ther*. 1996;276(2):449-459.
7. Orman JS, et al. *Drugs*. 2009;69(5):577-607.
8. Harris DS, et al. *Clin Pharmacokinet*. 2004;43:329-340.

# Buprenorphine Adverse Reactions

- GI: Nausea, vomiting, abdominal pain, constipation[1]
- Overdose death rare: ↑ with CNS depressants[2,4]
- Respiratory: ↓ despite ceiling effect[5-11]
  - ↑ with CNS depressants
  - Resuscitate by naloxone by continuous infusion[5]
- QT ↑ not clinically significant[1,12]


1. Ling W. *Pain Manag*. 2012;2:345-350.
2. Tracqui A, et al. *J Anal Toxicol*. 1998;22:430-434.
3. Selden T, et al. *Forensic Sci Int*. 2012;220:284-290.
4. Hakkinen M, et al. *Eur J Clin Pharmacol*. 2012;68:301-309.
5. Dahan A, et al. *Br J Anaesth*. 2006;96:627-632.
6. Walsh SL, et al. *Clin Pharmacol Ther*. 1994;55:569-580.
7. Ciraulo DA, et al. *J Clin Pharm*. 2006;46:179-192.
8. Boyd J, et al. *Acta Anaesthesiol Scand*. 2003;47:1031-1033.
9. Farney RJ, et al. *Eur Respir J*. 2013;42:394-403.
10. DeVido J, et al. *J Opioid Manag*. 2015;11:363-366.
11. Lee SC, et al. *Drug Alcohol Depend*. 2014;138:118-123.
12. Poole SA, et al. *J Addict Med*. 2016;10:26-33.


# Buprenorphine Adverse Reactions

- CNS: Headache, dizziness, confusion, dyscognition, psychomotor[1-5]
- Drug-to-drug interactions[1,6] in part related to:
  - Concurrent sedating meds
  - 90% protein binding
  - P450 metabolism: 3A4
- Nonmedical use - Addiction, diversion[7-12]
- Neonatal abstinence program[13,15]
- Accidental childhood ingestion[16-18]

Partial List


1. Ling W. *Pain Manag*. 2012;2:345-350.
2. Loeber S, et al. *Am J Drug Alc* Abuse. 2008;34(5):584-593.
3. Soyka M, et al. *J Clin Psychopharmacol*. 2008;28(6):699-703.
4. Strand MC, et al. *Traffic Inj Prev*. 2013;14:26-38.
5. Soyka M. *Pharmacopsychiatry*. 2014;47(1):7-17.
6. McCance-Katz EF, et al. *Am J Addict*. 2010;19:4-16.
7. Lofwall MR, et al. *J Addict Med*. 2014;5:315-326.
8. Middleton LS, et al. *Addiction*. 2011;106:1460-1473.
9. Larance B, et al. *Drug Alcohol Depend*. 2014;136:21-27.
10. Larance B, et al. *Drug Alcohol Dep*. 2011;118:265-273.
11. Johanson CE, et al. *Drug Alcohol Dep*. 2012;120:190-195.
12. Maxwell JC, et al. *Am J Addict*. 2010;19:73-88.
13. Minozzi S, et al. *Cochrane Database Syst Rev*. 2013;12:CD006318.
14. Lund IO, et al. *Subst Abuse*. 2013;7:61-74.
15. Bagley SM. *Addict Sci Clin Pract*. 2014;9:19.
16. Martin TC, et al. *Curr Drug Saf*. 2011;6:12-16.
17. Lavonas EJ, et al. *J Pediatr*. 2013;163:1377-1383.
18. Hayes BD, et al. *Pediatrics*. 2008;121(4):e782-e786.

# Naltrexone

- Not scheduled
- Competitive mu-opioid antagonist
- Long duration of clinical action for addiction
- Approved for addiction
  - Oral naltrexone for alcohol addiction[1,2]
  - Depot IM naltrexone for alcohol[3,4] and opioid addiction[5,6]
- Locate physicians who can provide

1. Oslin DW, et al. *JAMA Psychiatry*. 2015;72:430-437.
2. Rösner S, et al. *Cochrane Database Syst Rev*. 2010;12:CD001867.
3. Lee JD, et al. *J Subst Abuse Treat*. 2010;39:14-21.
4. Pettinati HM, et al. *Alcohol Clin Exp Res*. 2011;35:1804-1811.
5. Comer SD, et al. *Arch Gen Psychiatry*. 2006;63:210-218.
6. Krupitsky E, et al. *Addiction*. 2013;108:1628-1637.

# Naltrexone for Opioid Addiction

- Oral form: Mixed results[1,2] Meta-analysis: Ineffective[3]
- IM depot form effective[4-9] Guideline supported[10]
- Initiation: Only after opioid withdrawal complete
- Maintenance: Monthly IM depot injection
- Dose: Deep IM gluteal injection 380 mg
- Duration of use: Individualized, indefinite
- Abrupt discontinuation: Not associated with WD

1. Mannelli P, et al. *J Clin Psychopharmacol.* 2007;27(5):468-474.
2. Azatian A, et al. *J Addict Dis*. 1994;13:35-52.
3. Minozzi S, et al. *Cochrane Database Syst Rev*. 2011;4:CD001333.
4. Comer SD. *Arch Gen Psychiatry*. 2006;63:210-218.
5. Krupitsky E, et al. *Lancet*. 2011; 377:1506-1513.
6. Krupitsky E, et al. *Addiction*. 2013;108:1628-1637.
7. Syed YY, et al. *CNS Drugs*. 2013;27:851-861.
8. Gastfriend DR. *Ann N Y Acad Sci*. 2011;1216:144-166.
9. Mannelli P, et al. *Drug Alcohol Depend*. 2014;138:83-88.
10. VA / DoD. Clinical practice guideline for the management of substance abuse disorders. 2015. Available at: https://www.healthquality.va.gov/guidelines/MH/sud/VADoDSUDCPGRevised22216.pdf. Accessed 7/16/16.

# Naltrexone Adverse Events

- Not associated with euphoria, nonmedical use, addiction, OD death, respiratory depression, or accidental childhood exposure
- Precipitates withdrawal if on opioids
- GI: Nausea, vomiting, abdominal pain, constipation, hepatic impairment
- Fatigue, somnolence, sedation, dizziness
- Depression, anxiety, suicidality
- Injection site reactions
- Headaches, myalgias

Partial List

Comer SD. *Arch Gen Psychiatry*. 2006;63:210-218.
Krupitsky E, et al. *Addiction*. 2013;108:1628-1637
Krupitsky E, et al. *Lancet*. 2011; 377:1506-1513.
Syed YY, et al. *CNS Drugs*. 2013;27:851-861.
Gastfriend DR. *Ann N Y Acad Sci*. 2011;1216:144-166.

# OUD Treatment Med Comparisons

- OUD efficacy
  - Methadone = buprenorphine overall[1-6]
  - No studies: Naltrexone versus methadone or buprenorphine
- Adverse events: Methadone > buprenorphine
  - Respiratory depression/overdose[7]
  - Neonatal Abstinence Syndrome[3,4,8]
  - Cognitive, psychomotor dysfunction[9-11]
  - Nonmedical use

Naltrexone without these adverse events

1. Connock M, et al. *Health Technol Assess*. 2007;11:1-171, iii-iv
2. Nielsen S, et al. *Cochrane Database Syst Rev*. 2016;5:CD011117.
3. Minozzi S, et al. *Cochrane Database Syst Rev*. 2013;12:CD006318.
4. Lund IO, et al. *Subst Abuse*. 2013;7:61-74.
5. Mattick RP, et al. *Cochrane Database Syst Rev*. 2014;2:CD002207.
6. Potter JS, et al. *J Stud Alcohol Drugs*. 2013;74:605-613.
7. Lee SC, et al. *Drug Alcohol Depend*. 2014;138:118-123.
8. Jones HE, et al. *N Engl J Med*. 2010;363:2320-2331.
9. Soyka M. *Pharmacopsychiatry*. 2014;47:7-17.
10. Soyka M, et al. *J Clin Psychopharmacol*. 2005;25:490-493.
11. Mintzer MZ. *Heroin Addict Relat Clin Probl*. 2007;9:5-24.

# OUD Initial Medication Selection

- Consider access, coverage, cost, preference, prior success
- If QTc > 450 → avoid methadone
- If CV instability in WD → consider methadone
- If unable to be abstinent 7 to 10 days → avoid naltrexone
- If severe xerostomia → avoid buprenorphine
- If another SUD co-occurs with OUD → consider naltrexone
  - *Amphetamines[1,2] *Gambling[1,3] *Nicotine[1] Alcohol[1,4]

* Not FDA approved

1. Aboujaoude E, et al. *CNS Drugs*. 2016;30:719-733.
2. Jayaram-Lindström N, et al. *Am J Psychiatry*. 2008;165:1442-1448.
3. Piquet-Pessôa M, et al. *Expert Opin Pharmacother*. 2016;17:835-844.
4. Srisurapanont M, et al. *Cochrane Database Syst Rev*. 2002;2:CD001867.

# OUD Medication Prescribing Requirements

- Methadone – Patient education
  - DEA registration for Schedule II
  - Federally qualified opioid treatment program
- Naltrexone – Patient education
  - Refrigerator
  - Capacity to inject
- Buprenorphine – Patient education
  - DEA registration for Schedule III
  - FDA waiver for MAT
  - Certification to perform implants, if providing

# Buprenorphine: FDA Waiver

- Required to prescribe approved Schedule III, IV, V opioids for addiction[1-3]
- Requirements[4]
  - State medical license
  - DEA certification to prescribe Schedule III substances
  - Capacity to refer for counseling
  - Record keeping
- Training requirements
  - Physician: 8 hours approved training[5-7]
  - OR addiction board certification
  - NP/PA: 24 hours approved training
- Patient number limitations
  - 1st year: 30 patients[1]
  - 2nd year: 100 patients[1,8]
  - Thereafter: 275 patients[1,8]

1. Dept HHS. 42 CFR Part 8: *Med Assisted Treatment for OUD*. Fed Regist. 2016;81(131)
2. SAMHSA. Waiver Notification Form SMA-167. Available at: https://www.samhsa.gov/medication-assisted-treatment/buprenorphine-waiver-management/apply-for-physician-waiver. Accessed 7/22/16.
3. SAMHSA. Buprenorphine Waiver Management. Available at: https://www.samhsa.gov/medication-assisted-treatment/buprenorphine-waiver-management. Accessed 7/15/16.
4. SAMHSA. Buprenorphine Qualification Requirements. Available at: https://www.samhsa.gov/medication-assisted-treatment/buprenorphine-waiver-management/qualify-for-physician-waiver. Accessed 7/15/16.
5. SAMHSA. Buprenorphine Training Links. Available at: https://www.samhsa.gov/medication-assisted-treatment/training-resources/buprenorphine-physician-training. Accessed 7/15/16.
6. PCSS-MAT. Buprenorphine waiver training. Available at: http://pcssmat.org/education-training/mat-waiver-training/. Accessed 9/8/17.
7. American Society of Addiction Medicine (ASAM). Buprenorphine Course. Available at: https://www.asam.org/education/live-online-cme/buprenorphine-course. Accessed 7/22/16.
8. SAMHSA Online Notification Form to Increase Patient Limit. Available at: https://www.samhsa.gov/medication-assisted-treatment/buprenorphine-waiver-management/increase-patient-limits. Accessed 9/8/17.
9. SAMHSA. Medication Assisted Treatment for Opioid Use Disorders. Final rule. *Fed Regist*. 2016;81:44711-44739.

# Practice Recommendations: OUD Treatment

- Recommend patient involvement in mutual help programs (SORT A)
- Recommend professional addiction therapy (SORT A)
- Treat with methadone, naltrexone, or buprenorphine (SORT A)
- Provide overdose rescue education and naloxone[1-8] (SORT A)
- Collaborate, co-locate, and integrate with addiction therapy team[9-11] (SORT A)
- Monitor for and respond to continued opioid use (SORT A)

1. Clark AK, et al. *J Addict Med*. 2014;8:153-163.
2. Green TC, et al. *Addiction*. 2008;103:979-989.
3. Walley AY, et al. *J Subst Abuse Treat*. 2013;44:241-247.
4. Coffin PO, et al. *Ann Intern Med*. 2013;158:1-9.
5. Strang J, et al. *Addiction*. 2008;103:1648-1657.
6. Dwyer K, et al. *West J Emerg Med*. 2015;16:381-384.
7. SAMHSA. Opioid Overdose Toolkit. Available at: https://store.samhsa.gov/shin/content/SMA13-4742/Overdose_Toolkit_2014_Jan.pdf. Accessed 7/22/16.
8. NASADAD. 2015. Available at: http://nasadad.org/2015/09/overview-of-state-legislation-to-increase-access-to-treatment-for-opioid-overdose-3/. Accessed 7/22/16.
9. Barry DT, et al. *J Gen Intern Med*. 2009;24:218-225.
10. DeFlavio JR, et al. *Rural Remote Health*. 2015;15:3019.
11. Pating DR, et al. *Psychiatr Clin North Am*. 2012;35:327-356.


The Time Has Come:
**Identification and Treatment of**
# OPIOID USE DISORDER

# CASE PRESENTATION

# Treatment of OUD

**Brent Boyett, DMD, DO, FAAFP, ABAM**
Founder and Owner
Boyett Health Services
Hamilton, AL
Chief Medical Officer
Pathway Healthcare
Dallas, TX

## Case Discussion 2

- 28-year-old female
- Presents with her friend after being rescued from a drug overdose in the ED 3 days ago
- Started using methamphetamine in her early twenties then added prescription pain pills
  - Stopped methamphetamine use after 1 year
  - Continued to use opioid pain medication with increasing dose
  - Began injecting heroin 3 months ago
- When she runs out of opioids, she experiences severe cravings and withdrawal symptoms

## Case Discussion 2 (cont.)

- Smokes marijuana frequently to help control cravings when heroin is not available
- Smokes 1 pack per day
  - Smoked her first cigarette at age 13
- No activity on the PDMP
- History of binge drinking as a teenager
  - Now drinks infrequently
  - Has not had more than 3 drinks at a time in over a year
- Physical exam:
  - HR 105
  - BP 132/84
  - Fresh needle tracks in the antecubital area of the left arm
  - Oral exam reveals multiple dental caries and poor oral hygiene
  - Evidence of nicotine stomatitis in the area of her hard palate