

Opioids: The Problem, the Patient, and the Reversal Agent

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My Background

- ❑ Graduated from ULM pharmacy school in 2008
- ❑ Completed a one year post graduate residency at UMMC
- ❑ Worked as a clinical pharmacist for 5 years at MDMC in Dallas, TX
- ❑ Clinical assistant professor with ULM since August 2014
- ❑ Financial Disclosures- None

Objectives

- ❑ Define opioids and addiction and discuss their effects on the human body
- ❑ Review the current opioid epidemic
- ❑ Outline the current steps being made to curb the epidemic and discuss some of the unintended consequences
- ❑ Examine the opioid use disorder patient

Objectives (cont.)

- ❑ Provide strategies to prevent the diversion or misuse of opioids
- ❑ Introduce the reversal agent naloxone and the role it can play in the opioid epidemic
 - ❑ Discuss barriers to naloxone prescribing



<https://aphainstitute.pharmacist.com/>

Is addiction a chronic disease or a choice?

- A. Chronic disease
- B. Choice
- C. I don't know

Opioids 101

- ❑ Derived from the opium poppy
 - ❑ Natural (opiates)
 - ❑ Semisynthetic opioids
 - ❑ Synthetic opioids
- ❑ Illegal vs. legal
- ❑ Used to treat acute pain
- ❑ Used to treat chronic pain?
- ❑ Available in tabs, capsules, liquids, gels, injections, patches



www.deamuseum.org/ccp/opium/history.html

Opioids 101

Natural

- ❑ Opium
- ❑ Codeine
- ❑ Morphine

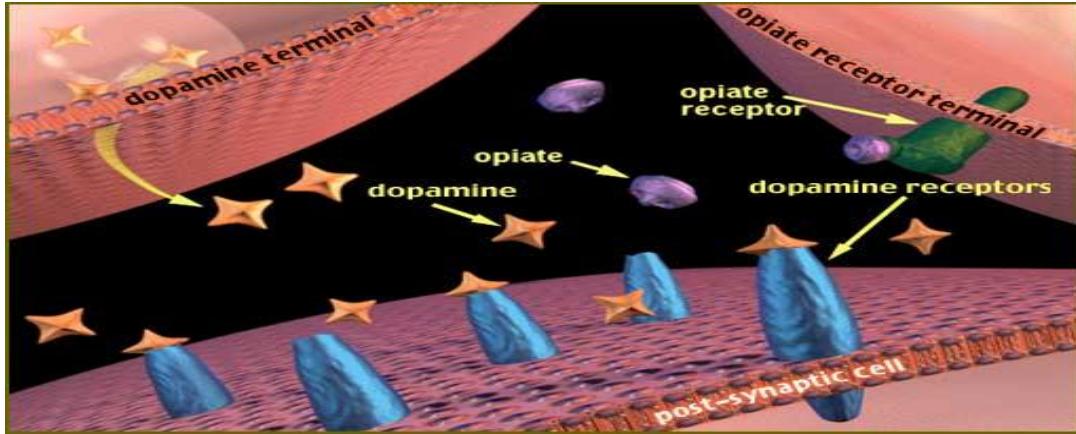
Semi-synthetic

- ❑ Hydrocodone, oxycodone, and hydromorphone
- ❑ Heroin

Synthetic

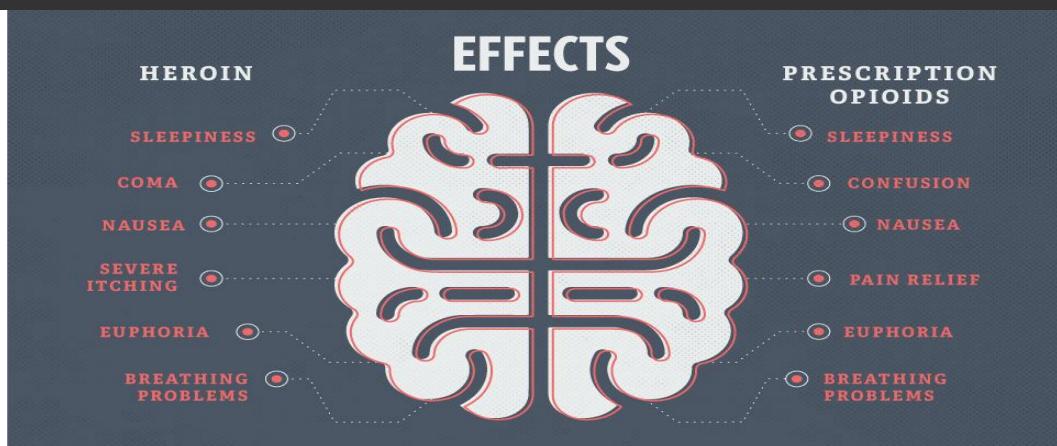
- ❑ Tramadol
- ❑ Fentanyl
 - ❑ Carfentanil
 - ❑ 3-methylfentanyl
 - ❑ Acetylentanyl
- ❑ Methadone
- ❑ Meperidine

Opioids 101



<http://h-of-d.blogspot.com/2013/10/how-drugs-affect-neurotransmitters.html>

Opioid Effects



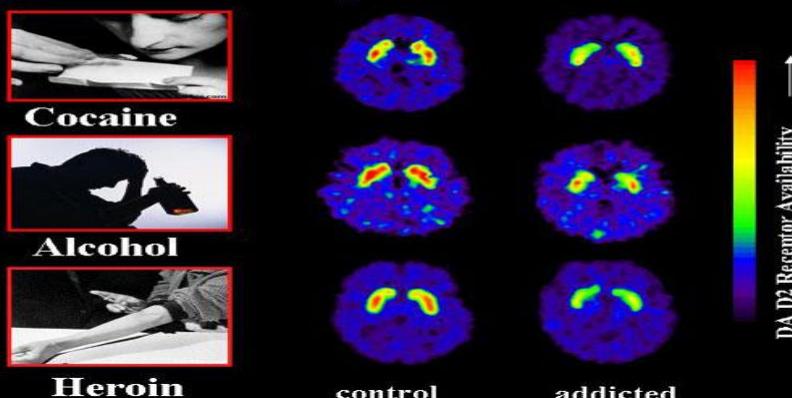
<http://worldpsychiatrists.blogspot.com/2018/04/effect-of-opioids-on-brain-close.html>

Definitions

- **Tolerance:** higher and higher doses of drug are needed to achieve the same level of initial response
- **Dependence:** physical condition in which the body has adapted to a drug and needs it for normal function
- **Addiction:** chronic disease characterized by drug seeking and use that is compulsive, or difficult to control, **despite** harmful consequences
- **Withdrawal:** group of symptoms that occur upon the abrupt discontinuation of a drug
- **Substance use disorder:** Recurrent use of alcohol and/or drugs that cause clinically and functionally significant impairment, such as health problems, disability, and failure to meet major responsibilities at work, school, or home

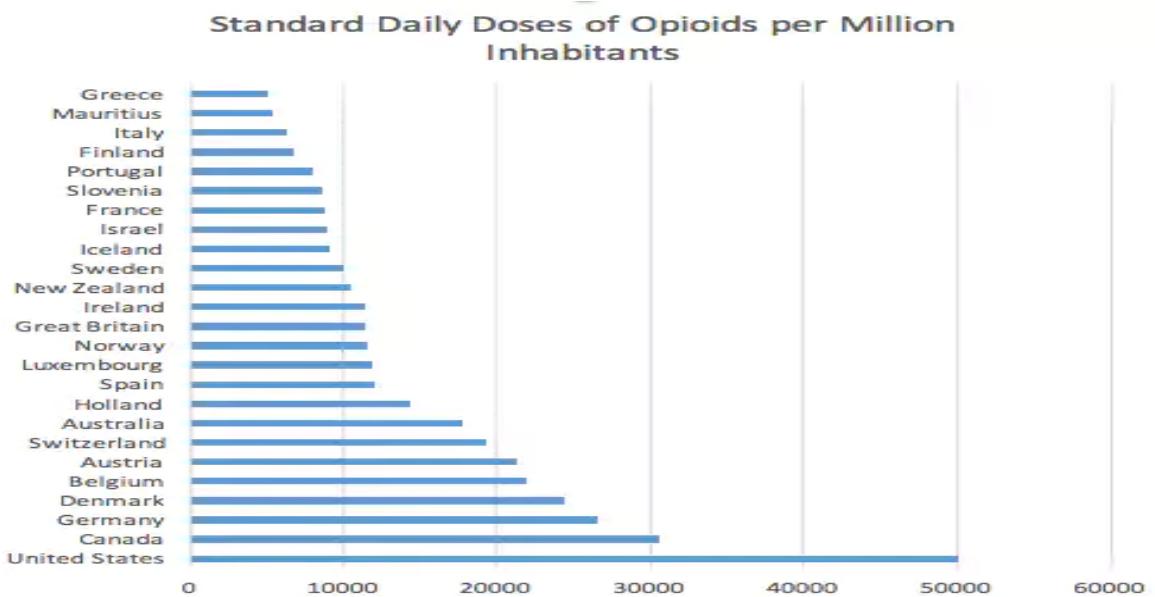
Long-term Opioid Effects

Dopamine D2 Receptors are Lower in Addiction



<https://www.deamuseum.org/ccp/opium/effects.html>

The US and the Opioid Epidemic



www.washingtonpost.com/news/wonk/wp/2017/03/15/americans-use-far-more-opioids-than-anyone-else-in-the-world/?utm_term=.7f0cc82d3c6a

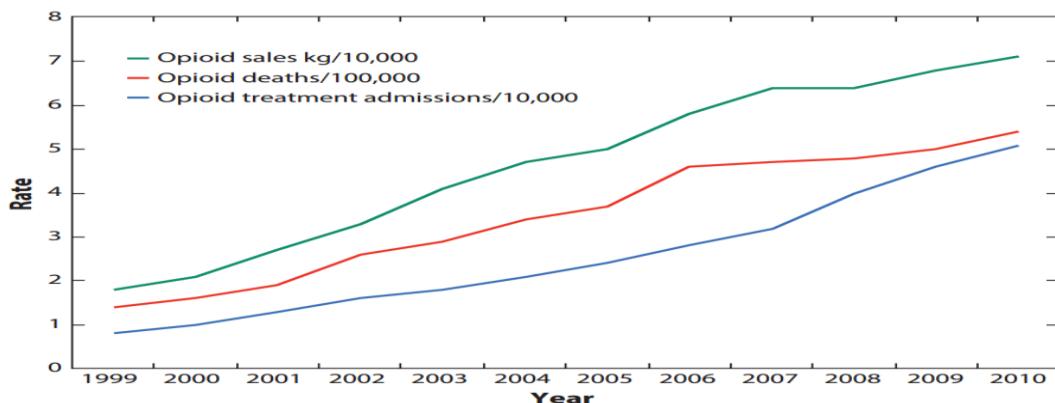
United States Opioid Use

- ❑ Consume about 30% of the world's opioid supply
 - ❑ 99% of hydrocodone
 - ❑ 75% of oxycodone
- ❑ Account for 27% of the world's drug overdose deaths

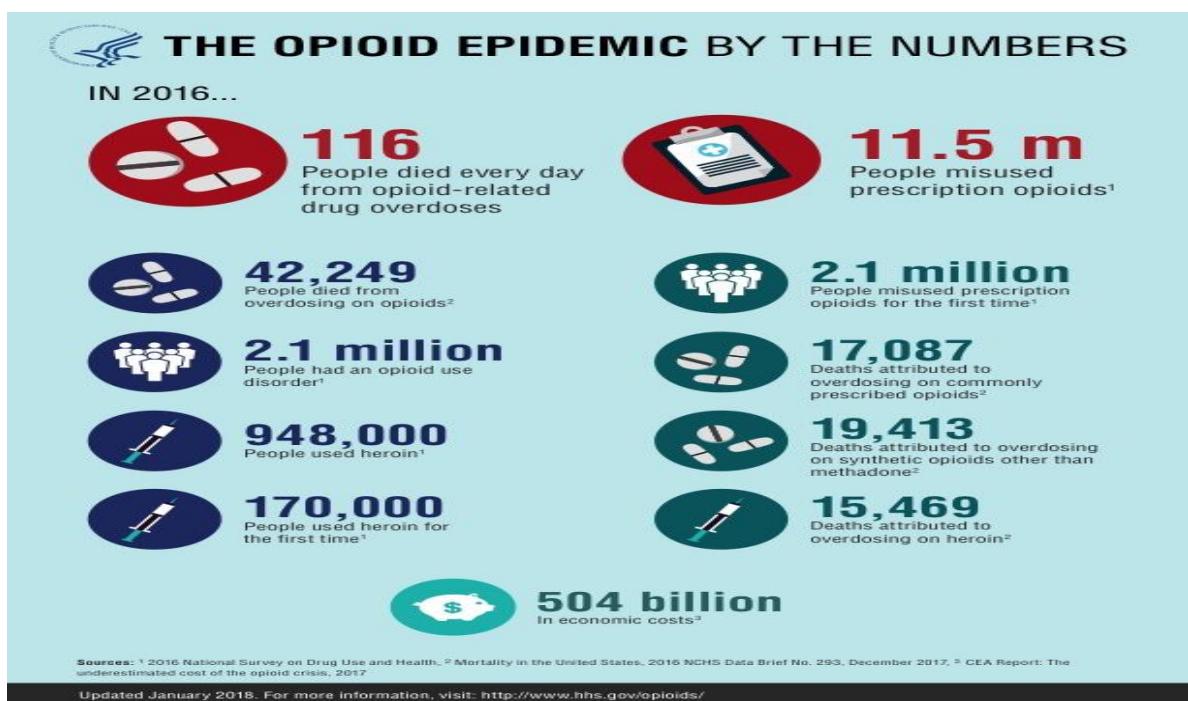
Prescription Opioid Prescribing-US

- ❑ Number of opioids prescribed quadrupled from 1999 to 2010
 - ❑ 2010 there were ~80 RXs per 100 people
- ❑ Overdose deaths have also quadrupled
 - ❑ 500,000 Deaths from 2000-2015

Opioid Epidemic

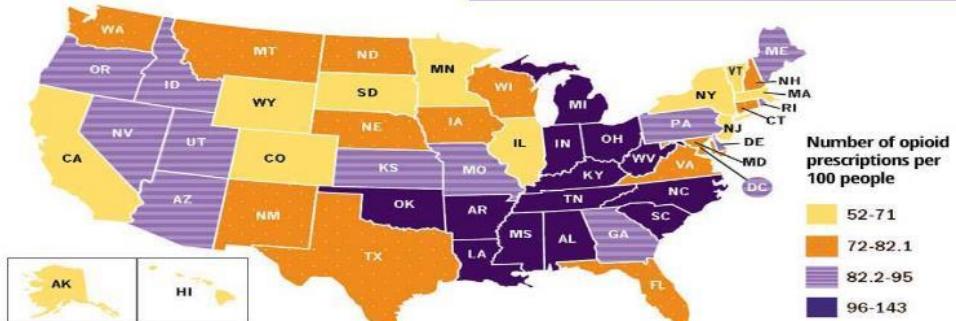


www.annualreviews.org/doi/pdf/10.1146/annurev-publhealth-031914-122957

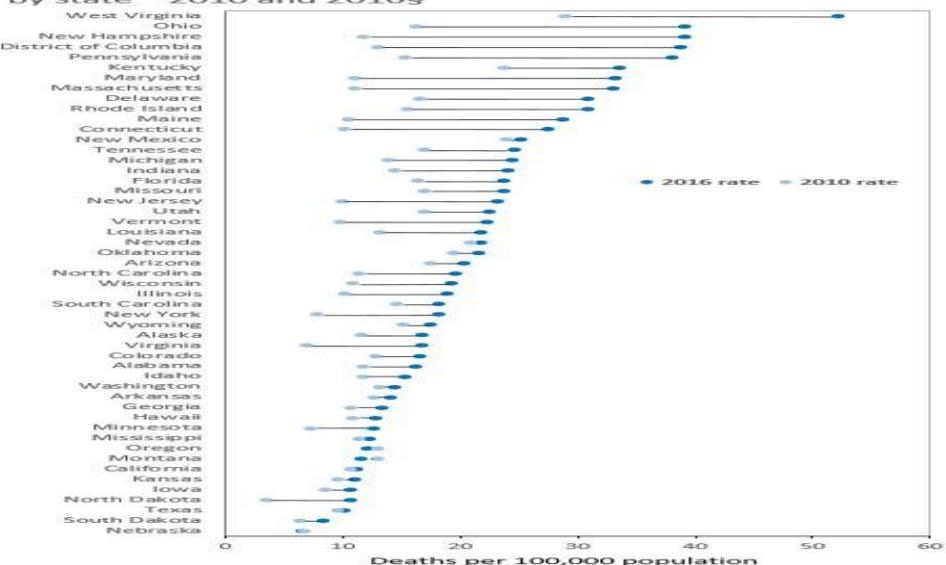


Opioids per state

Some states have more opioid prescriptions per person than others.



Age-adjusted rate* of drug overdose deaths†, by state—2010 and 2016§



https://www.cdc.gov/drugoverdose/images/data/2010_2016DrugOverdose-Deaths-Graphic.JPG

Prescription Opioids

- ❑ Account for 40% of opioid overdoses in 2016
 - ❑ Methadone, oxycodone, hydrocodone
- ❑ 46 deaths per day
- ❑ Rates higher among men
- ❑ 25- 54 year olds have the highest rates

Is There a National/Local Problem?

- A. Yes
- B. No
- C. Maybe



www.recoveryinmotion.com/guide-opioid-epidemic-arizona

What Was the Cause/Who's Responsible?

What's the Plan

- ❑ Decrease the amount of opioids prescribed
 - ❑ Awareness
 - ❑ Prescribers
 - ❑ Other healthcare workers
 - ❑ Public
 - ❑ Guidelines
 - ❑ CDC guideline for prescribing opioids for chronic pain
 - ❑ Limitations on prescribing

CDC Guidelines

GUIDELINE FOR PRESCRIBING OPIOIDS FOR CHRONIC PAIN

IMPROVING PRACTICE THROUGH RECOMMENDATIONS

CDC's *Guideline for Prescribing Opioids for Chronic Pain* is intended to improve communication between providers and patients about the risks and benefits of opioid therapy for chronic pain, improve the safety and effectiveness of pain treatment, and reduce the risks associated with long-term opioid therapy, including abuse, diversion, and overdose. The Guideline is not intended for patients who are in active cancer treatment, palliative care, or end-of-life care.

DETERMINING WHEN TO INITIATE OR CONTINUE OPIOIDS FOR CHRONIC PAIN

1 Nonpharmacologic therapy and nonopioid pharmacologic therapy are preferred for chronic pain. Clinicians should consider opioid therapy only if expected benefits for both pain and function are anticipated to outweigh risks to the patient. If opioids are used, they should be used in addition to, not as a replacement for, nonpharmacologic therapy and nonopioid pharmacologic therapy, as appropriate.

2 Before starting opioid therapy for chronic pain, clinicians should establish treatment goals with all patients, including realistic goals for pain and function, and should consider how opioid therapy might affect these goals in relation to known risks. Clinicians should continue opioid therapy only if there is clinically meaningful improvement in pain and function that outweighs risks to the patient's safety.

3 Before starting and periodically during opioid therapy, clinicians should discuss with patients known risks and realistic benefits of opioid therapy and patient and clinician responsibilities for managing therapy.

CLINICAL REMINDERS

- Opioids are not first-line or routine therapy for chronic pain
- Establish and measure goals for pain and function
- Discuss benefits and risks and availability of nonopioid therapies with patient



**U.S. Department of Health and Human Services
Centers for Disease Control and Prevention**

LEARN MORE | www.cdc.gov/drugoverdose/prescribing/guideline.html

Louisiana Specific Law Changes

❑ HB 192

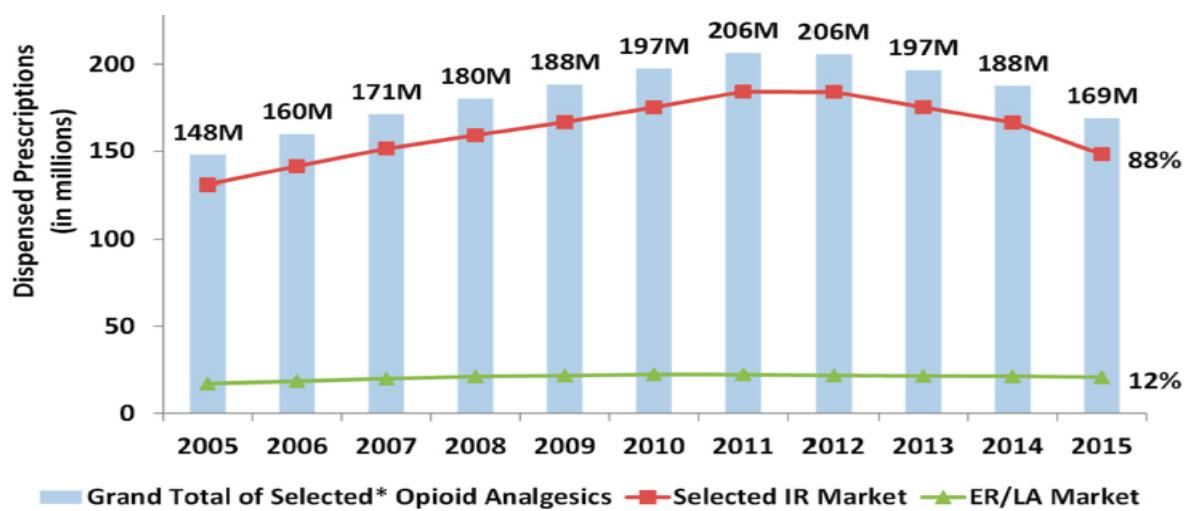
- ❑ 1st Time Rx only up to 7-day supply
- ❑ Requires counseling; Risks & Need of the Rx
- ❑ Promotes the patient to opt for lesser quantity
- ❑ Requires a notation in EHR within 7 days
- ❑ Exempts Rx needed to tx the acute condition
- ❑ Exempts Rx for cancer pain; palliative care

Louisiana Specific Law Changes

SB 55

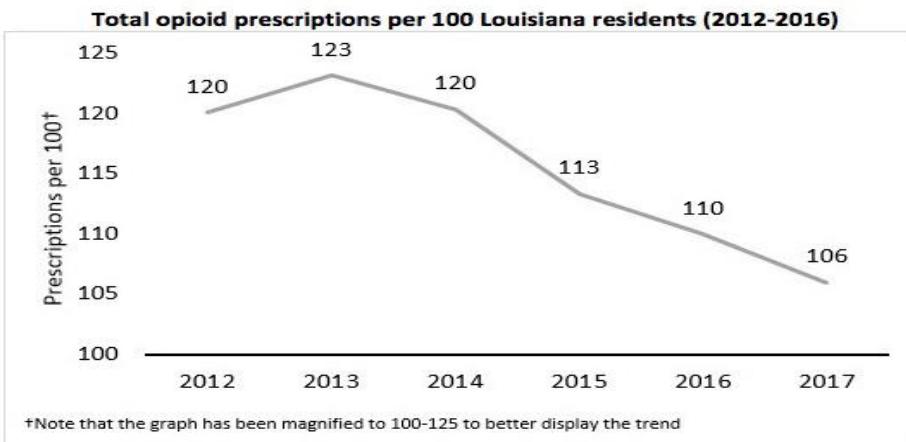
- ❑ Must Check PMP:
 - ❑ Prior to **1st** Rx & Q **90** days
- ❑ Excluding
 - ❑ Hospitalized patients, hospice patients, terminally ill patients, cancer patients, PMP is unavailable **&**
 - ❑ Rx \leq **7** day supply
 - ❑ Veterinarians

US Opioid Prescriptions



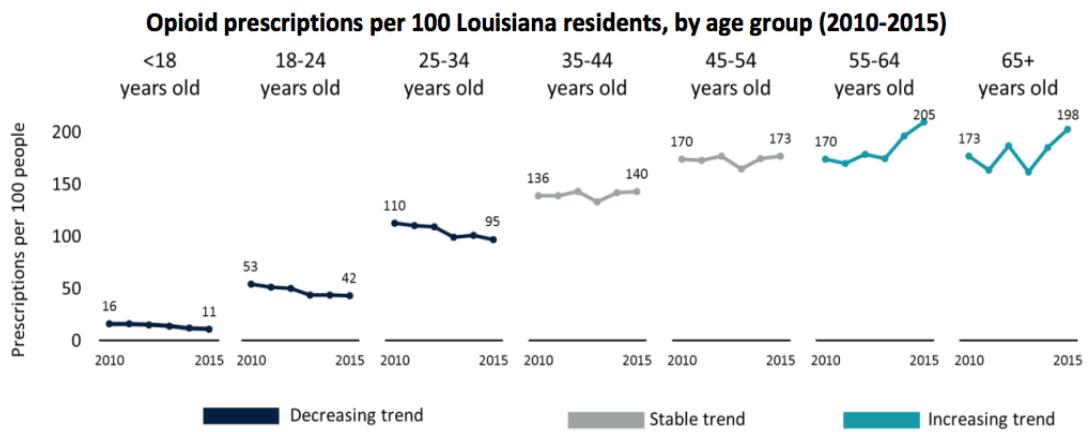
<https://www.fda.gov/downloads/AboutFDA/CentersOffices/OfficeofMedicalProductsandTobacco/CDER/UCM533535.pdf>

Louisiana and Opioids



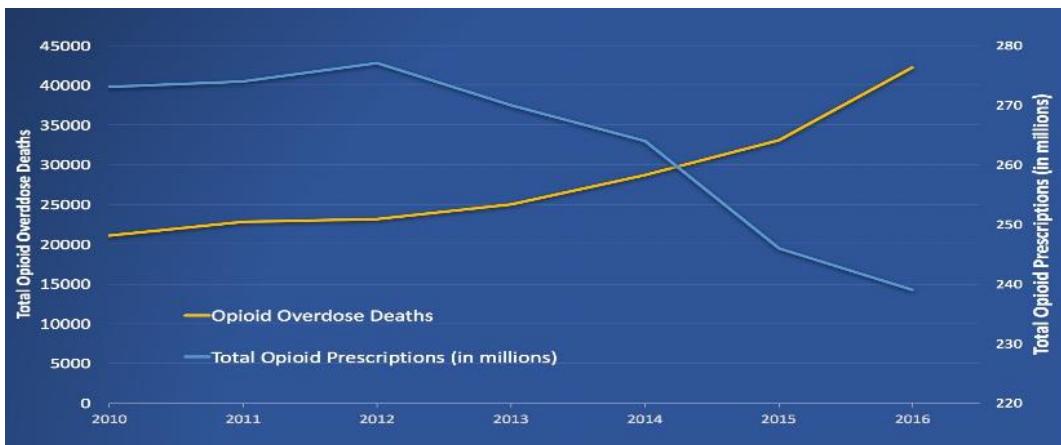
http://ldh.la.gov/assets/opioid/Opioid_Prescriptions_Fact_Sheet_2017.pdf

Louisiana and Opioids



http://ldh.la.gov/assets/opioid/Opioid_Prescriptions_Fact_Sheet_2017.pdf

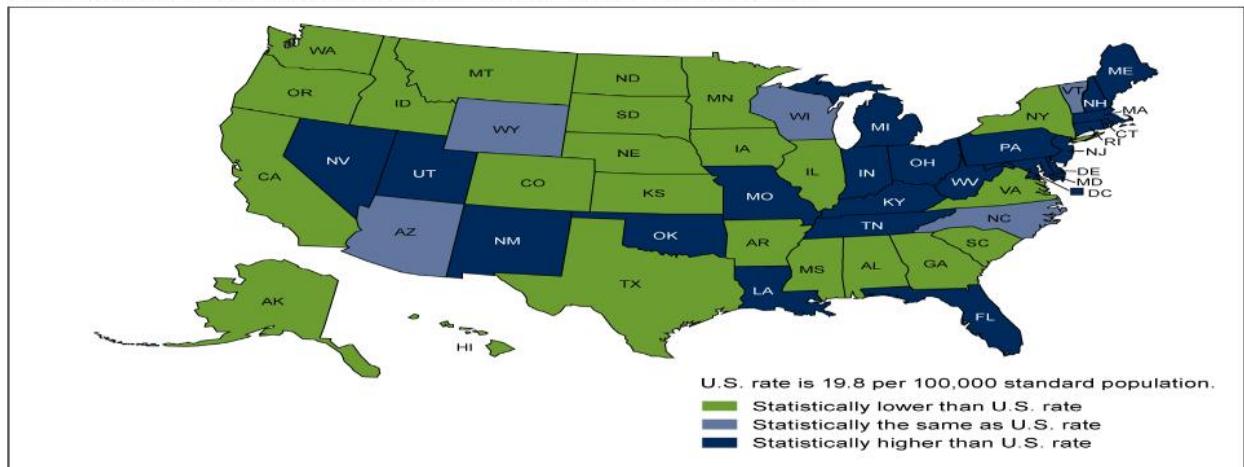
Opioid Epidemic



<http://www.appwell.net/opioid-prescription-control-corrective-goes-far/>

2016 Overdose Death Rates by State

Figure 3. Age-adjusted drug overdose death rates, by state: United States, 2016



NOTES: Deaths are classified using the *International Classification of Diseases, Tenth Revision*. Drug-poisoning (overdose) deaths are identified using underlying cause-of-death codes X40–X44, X60–X64, X85, and Y10–Y14. Access data table for Figure 3 at: https://www.cdc.gov/nchs/data/databriefs/db294_table.pdf#3.

SOURCE: NCHS, National Vital Statistics System, Mortality.

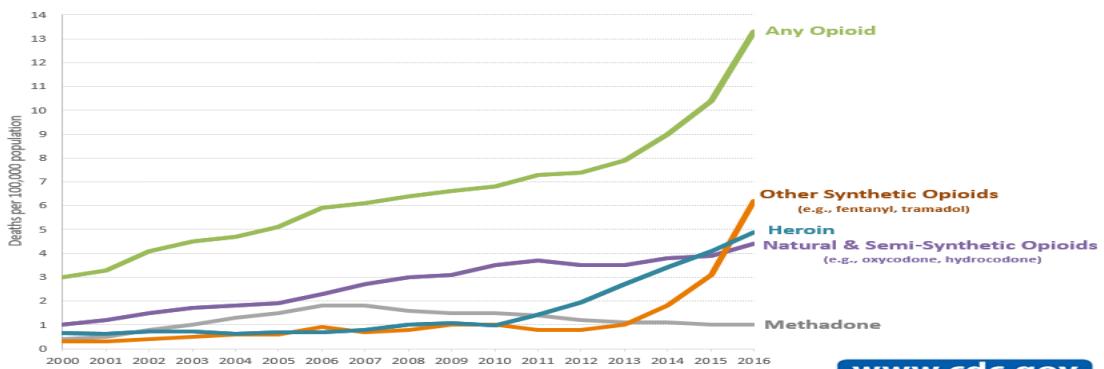
Why Just Decreasing Opioid Prescriptions Didn't Work



<https://www.imdb.com/title/tt0903747/>

Opioid Epidemic

Overdose Deaths Involving Opioids, by Type of Opioid, United States, 2000 -2016



SOURCE: CDC/NCHS, National Vital Statistics System, Mortality. CDC WONDER, Atlanta, GA: US Department of Health and Human Services, CDC; 2017.
<https://wonder.cdc.gov/>.

www.cdc.gov

Synthetic Opioids

- ❑ 42,249 deaths due to opioids
 - ❑ 19,413 involved synthetic opioids
 - ❑ 45.9% of deaths (up from 14.3% in 2010)
 - ❑ 79.7% involved another drug/alcohol
 - ❑ 17,087 involved prescription opioids
 - ❑ 15,469 involved heroin

The Addicted Patient



rawpixel.com

<https://www.rawpixel.com/image/97684/large-group-diverse-people>

Why Some People Become Addicted

- ❑ Biological factors
 - ❑ Genetics
 - ❑ Mental health disorder
- ❑ Environmental factors
 - ❑ Home and school life
- ❑ Early use and method of admin

Just a Knee Operation (2012)

- ❑ J.B. is a 45 year old female who comes to your pharmacy to fill her prescriptions 2 days after her knee operation. She has cyclobenzaprine 10 mg PO TID #90 and hydrocodone 5/325 PO Q6hrs prn pain #90. She is a regular customer of yours and plays tennis with your wife. You discuss with her about taking the medication before the pain gets too bad for better efficacy and to follow the Drs. instructions with regard to her medication and rehab.

Just a Knee Operation (cont.)

- ❑ J.B.'s past medical history consists of 2 successful full-term pregnancies (L.B is her 14 y/o son and K.B. is 12 y/o daughter) and a history of post-partum depression after her daughter was born. She didn't disclose this until after trying to self medicate with alcohol for almost a year before finally breaking down and telling her OBGYN when she started having suicidal ideations. Since then she has avoided alcohol almost entirely.

Just a Knee Operation (cont.)

- ❑ J.B.'s has a past family history of breast cancer in a few of her female relatives, and heart disease and alcoholism in many members of her dad's side of the family including her own father who used to verbally abuse J.B. and her mother.

Case Question #1

- ❑ What risk factors does J.B have that make her more likely to develop a substance use disorder?
 - A. Genetics
 - B. Use in early age
 - C. Unstable home environment (at a young age)
 - D. Mental health disorder
 - E. All of the above

Real Cases

Devin Harper



Gretchen Ford



Dr. Bob



Is addiction a chronic disease or a choice?

- A. Chronic disease
- B. Choice
- C. I don't know

Opioid Use Disorder

- ❑ 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

Opioid Use Disorder

- 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
- 8. Recurrent opioid use in situations in which it is physically hazardous

Opioid Use Disorder

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
11. Withdrawal, as manifested by either of the following:*
 - a. The characteristic opioid withdrawal syndrome (refer to Criteria A/B of the criteria for opioid withdrawal).
 - b. Opioids (or closely related substance) are taken to relieve or avoid withdrawal symptoms

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

Chronic Pain Patient

Opioid Use Disorder Patient

| | |
|---------------------------------------|---|
| Opioid use facilitates ADL | Opioid use is Controlling ADL |
| Opioid use Improves QoL | Opioid use Impairs QoL |
| Opioid use Improves Function | Opioid use has NO Impact on Function |
| ADR: Wants ↓ dose or D/c drug | ADR: Wants NO Change or ↑ dose |
| Complains of Constipation | Constipation? |
| Expresses concern about underlying Dx | Unconcerned or unaware of Dx |
| Wants to Dispose of Meds | Never has Meds to Dispose |
| | Regularly "loses" Prescription |

Webster LR, Dove B. Avoiding opiate abuse while managing pain. Sunrise Press, MN, 2007.

The Plan Continued

- Decrease the amount of opioids prescribed
- Gradual decrease of opioid medications for chronic users
 - Use of non-pharmacologic and non-opioid pharmacologic treatment for chronic pain
- Combo of behavioral and medication assisted help for patients who have opioid use disorder
- Proper storage and disposal of unused medications
- Naloxone for high risk patients or situations

Opioid Misuse Prevention for the Pharmacist

PMP Review

Search the Client's History

- ❑ Prior “Drugs of Concern” up to 48 hrs.
- ❑ Multiple Prescribers/Pharmacists
- ❑ Odd fill or refill patterns
- ❑ Agonists with Antagonists

Patient's Storage Options

- ❑ 70% of people addicted to opioids began by using others prescriptions
 - ❑ #1 way source for teens is pilfering
- ❑ An elevated cool, dry place is not enough
- ❑ Drug lock box
- ❑ Safe Rx vial

Patient's Disposal Options

- ❑ Flush meds (no really)- least preferred
- ❑ Mixing meds w/ other substances
- ❑ Medication disposal take home systems
 - ❑ Dispose RX, etc.
- ❑ National drug take back days
- ❑ Drug disposal boxes (where is yours?)

FDA's - Flush List

| | |
|-----------------|-----------------------------|
| ❑ Buprenorphine | ❑ Methadone |
| ❑ Fentanyl | ❑ Morphine |
| ❑ Hydrocodone | ❑ Oxycodone hydrochloride |
| ❑ Hydromorphone | ❑ Oxymorphone hydrochloride |

Follow these simple steps to dispose of medicines in the household trash

MIX
Mix medicines (do not crush tablets or capsules) with an unpalatable substance such as dirt, cat litter, or used coffee grounds;

PLACE
Place the mixture in a container such as a sealed plastic bag;

THROW
Throw the container in your household trash;

SCRATCH OUT
Scratch out all personal information on the prescription label of your empty pill bottle or empty medicine packaging to make it unreadable, then dispose of the container.

<https://www.fda.gov/drugs/resourcesforyou/consumers/buyingusingmedicinesafely/ensuringsafeuseofmedicine/safedisposalofmedicines/ucm186187.htm>

Home medication Disposal Systems

- ❑ Dispose Rx- Wal-Mart product
- ❑ Medication disposal system- Mallinckrodt

NATIONAL PRESCRIPTION TAKE-BACK DAY

- ❑ Turn in your unused or expired medication for safe disposal
- ❑ Next on October 27, 2018
- ❑ April 28, 2018
 - ❑ Brookshire's and Super 1 stores in Farmerville, Ruston, Bastrop, and select stores in Monroe and West Monroe
 - ❑ Louisiana State Police, Troop F Headquarters, Monroe, LA
 - ❑ 440 lbs. collected
 - ❑ 475 tons of medicine collected nationwide

Drug Disposal Boxes

- ❑ DEA: diversion control division
 - ❑ <https://apps.deadiversion.usdoj.gov/pubdispsearch/spring/main?execution=e3s1>
- ❑ Louisiana Attorney General's website:
 - ❑ www.endtheepidemicla.org/get-support/

The Reversal Agent



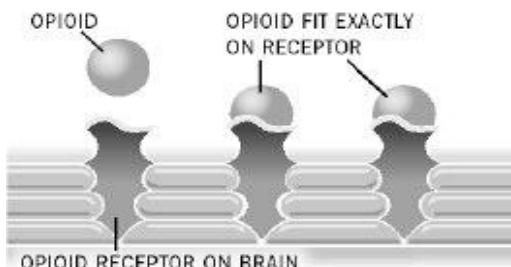
<https://www.drugabuse.gov/related-topics/opioid-overdose-reversal-naloxone-narcan-evzio>

Naloxone



OPiOD OVERDOSE

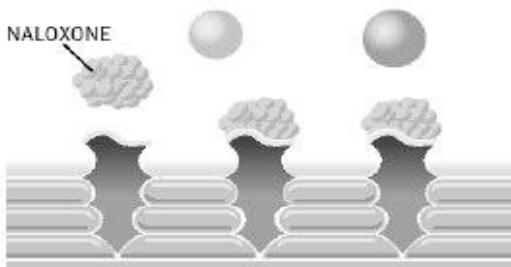
The brain has many receptors for opioids. An overdose occurs when too much of an opioid, such as heroin or Oxycodone, fits in too many receptors, slowing and then stopping breathing.



Source: Harm Reduction Coalition

NALOXONE REVERSING AN OVERDOSE

Naloxone has a stronger affinity to the opioid receptors, so it knocks the opioids off the receptors for a short time. This allows the person to breathe again and reverses the overdose.



THE COLUMBUS DISPATCH

Administration of Naloxone

- Intramuscular



- 1 Remove cap from naloxone vial and uncover the needle



- 2 Insert needle through rubber plug with vial upside down
Pull back on plunger and take up 1 mL

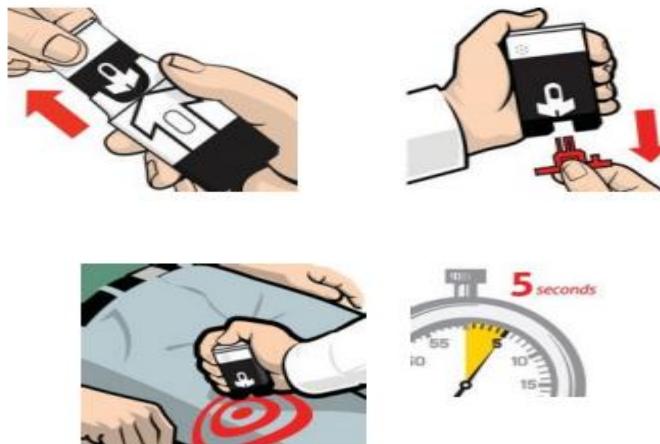


- 3 Inject 1 mL of naloxone at a 90 degree angle into a large muscle (upper arm/thigh, outer buttocks)

Images in Public Domain. San Francisco Department of Public Health. Naloxone for opioid safety: a provider's guide to prescribing naloxone to patients who use opioids. January 2015.



<https://evzio.com/patient/pdfs/Evzio-Patient-Information.pdf>



<https://evzio.com/patient/pdfs/Evzio-Patient-Information.pdf>



<http://harmreduction.org/issues/overdose-prevention/tools-best-practices/od-kit-materials/>



<https://www.narcan.com/>

SAMHSA Toolkit: Five Steps

- ❑ 1. Call for help (911)
- ❑ 2. Check for signs of an opioid overdose
- ❑ 3. Support person's breathing
- ❑ 4. Administer naloxone
- ❑ 5. Monitor person's response

Barriers to Naloxone

- ❑ Physicians and others
- ❑ Pharmacist
- ❑ Community

Naloxone Co-Prescribing

- ❑ AMA/AAFP created and endorsed
 - ❑ High opioid dose
 - ❑ Concomitant benzodiazepine
 - ❑ Pt. history of substance abuse disorder
 - ❑ Underlying mental health condition
 - ❑ Underlying respiratory disease
 - ❑ Patient in position to aid another person at risk for overdose

Barriers to Naloxone: Desert News Article from Utah

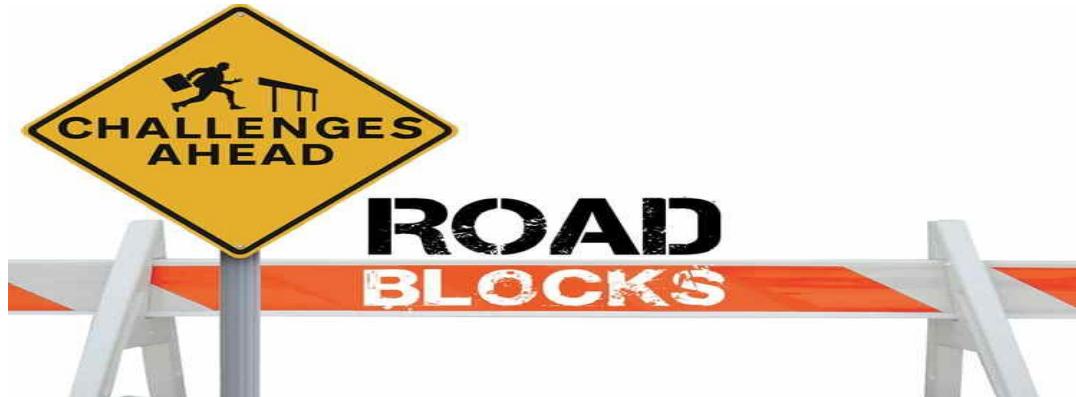
- ❑ Standing order for pharmacies to dispense naloxone (voluntary)
 - ❑ 4275 doses dispensed from 165 pharmacies in 2017
 - ❑ 99 reversals
- ❑ 17,200 naloxone kits distributed (34,400 doses)
 - ❑ 2056 reversals

<https://www.deseretnews.com/article/900012869/utah-pharmacies-dispensed-thousands-of-naloxone-kits-in-2017.html>

Comments to Naloxone Article

- ❑ "There's the problem of bringing them back so they can do it again....This fad can't pass to quickly if you ask me."
- ❑ "Spending your tax dollars to save drug-users so they can get high again. Wow! What a stupid use of your money. Let them suffer the consequences of their actions."
- ❑ "Failure to have serious consequences for drug abuse simply encourages more people to head down that path. The knowledge that "life saving" drugs may rescue them from an otherwise fatal overdose increases the chances they will do more drugs, not less."

What Are Our Barriers?



www.pulplup.com/business/industry/three-major-roadblocks-startups-face/6992/attachment/roadblock-for-challenges/

Just a Knee Operation (2016)

- J.B. continued using hydrocodone for months after her surgery and had a few small operations to clean up the knee in the first 12 months. Eventually the surgeon had no other options to offer her and he recommended her to her family physician for continued pain management. The family physician continued the hydrocodone, an average of #60 per month, since that was her usual dose her surgeon had been giving her. In these last 4 years J.B. has been extra stressed and anxious at home due to her son L.B. who she knows has been experimenting frequently with alcohol and maybe marijuana and has started to have changes in his personality and behavior over the last six months that remind her of her dad.

Just a Knee Operation (cont.)

- To deal with the extra stress J.B. would sometimes take extra hydrocodone and had to get the Dr to increase the strength to 10mg and quantity she received to #90 per month because she was running out earlier and earlier. She is in you pharmacy picking up a refill and she gets a phone call and is immediately frantic and crying. As she hangs up and you go to her she tells you she needs a ride to the E.D. Her son is there with a possible overdose and is unresponsive and being intubated.

Just a Knee Operation (cont.)

- What Happened?

Just a Knee Operation (cont.)

- ❑ What were D.B.'s risk factors?
- ❑ What could we as J.B.'s pharmacist have done?

Resources

SAMHSA
Opioid Overdose Prevention
TOOLKIT:

Facts for Community Members
Five Essential Steps for First Responders
Information for Prescribers
Safety Advice for Patients & Family Members
Recovering From Opioid Overdose



<https://store.samhsa.gov/product/Opioid-Overdose-Prevention-Toolkit/SMA18-4742>

EndtheEpidemicLA.ORG



Find information on:
Opioids,
Addiction,
Recovery and Treatment,
Drug Take Back Boxes,
and More



 LOUISIANA
DEPARTMENT OF HEALTH

Secretary
REBEKAH E. GEE, MD, MPH

[BACK TO LDH](#)

BEHAVIORAL HEALTH

Louisiana.gov > LDH > Office of Behavioral Health

FEEDBACK

ABOUT US

ADDICTIVE DISORDERS

BEHAVIORAL HEALTH MANAGED CARE

MENTAL HEALTH

CSOC

CRISIS SERVICES

Office of Behavioral Health – Addictive Disorders Services

Addictive disorders services are provided statewide by each human service district or authority. The districts and authorities provide treatment for people suffering from addictions to drugs, alcohol or gambling, as well as support for their families and friends.

As a legal condition of providing these services, priority admission is given for treatment of intravenous (IV) drug users, addicted pregnant women, and addicted women who have dependent children. For these groups, OBH aims to provide addictive disorders services with no or a minimal waiting period. If care is not available within 48 hours, the office will provide interim treatment services as appropriate.

Prevention and treatment services are available in each [region](#).

<http://www.dhh.louisiana.gov/index.cfm/page/95>

OUD & SUD Treatment

www.SAMHSA.gov/treatment



References

- ❑ Centers for Disease Control and Prevention:
 - ❑ cdc.gov
- ❑ National Institute on Drug Abuse:
 - ❑ drugabuse.gov
- ❑ U.S. Food & Drug Administration:
 - ❑ fda.gov
- ❑ Substance Abuse and Mental Health Services Administration:
 - ❑ samhsa.gov