



# Naloxone: Saving Lives

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Each day, more than  
**1,000**  
PEOPLE

are treated in  
**emergency**  
**departments** for  
not using prescription  
opioids as directed.

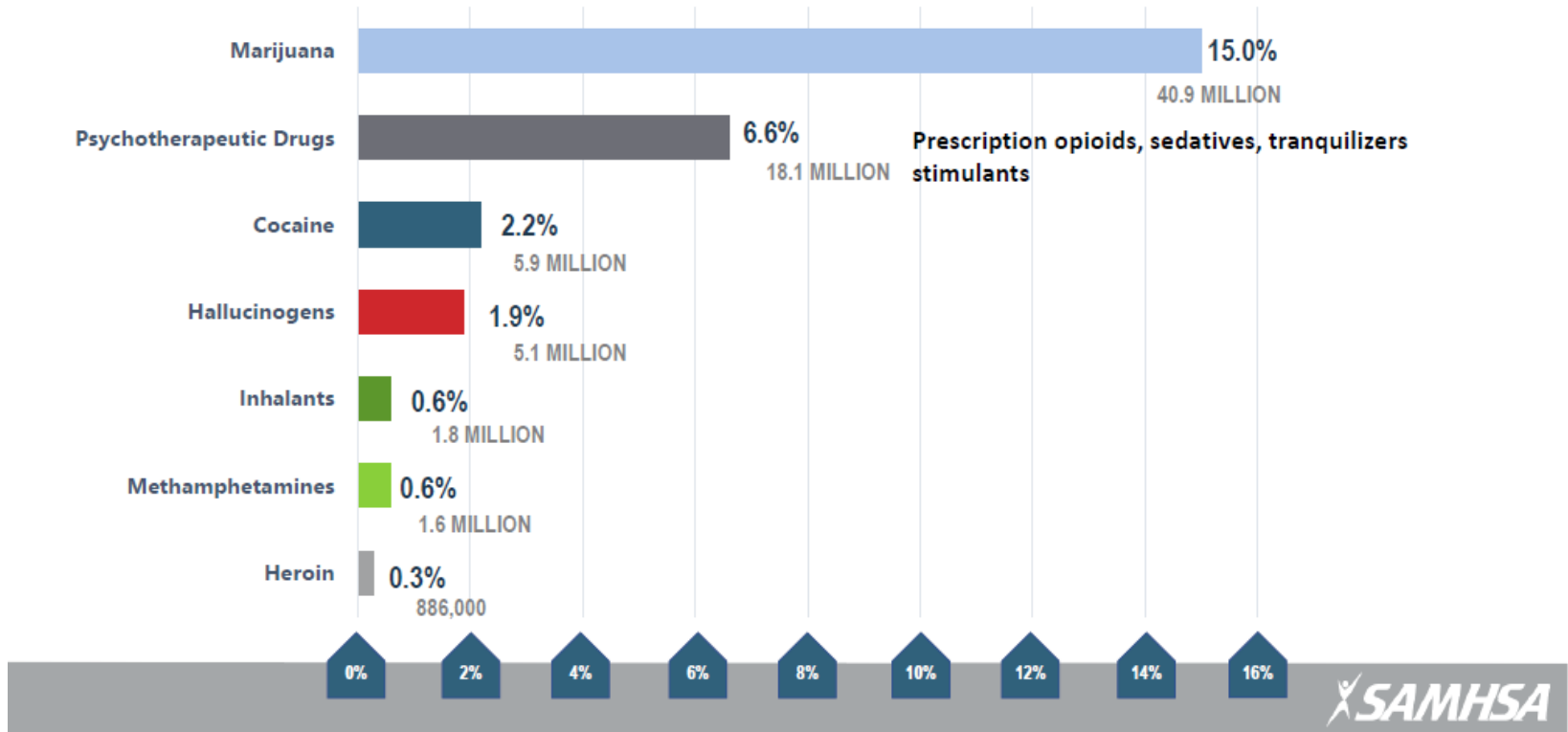


# Objectives

- Describe the opioid epidemic
- Discuss the role of naloxone for out of hospital use
- Identify patient populations at risk for opioid/heroin overdoses
- Explain how to administer intranasal and intramuscular preparations of naloxone

# ILLICIT DRUG USE IMPACTS MILLIONS: MARIJUANA MOST WIDELY USED DRUG

PAST YEAR, 2017, 12+

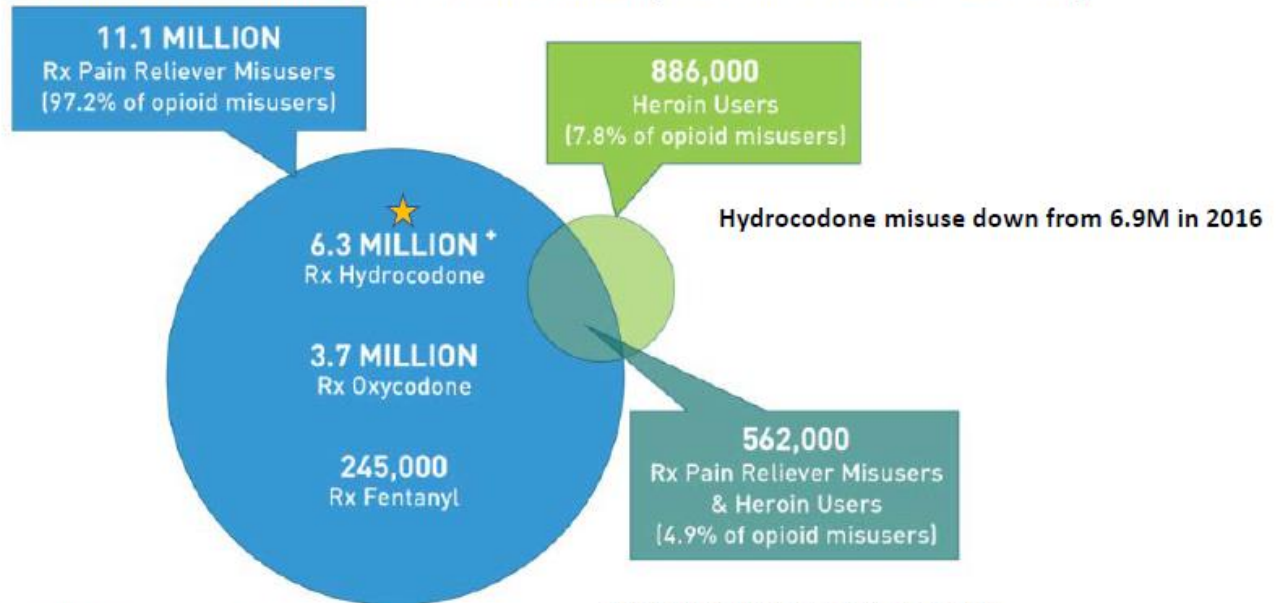


# Opioid's Grip: Millions Continue to Misuse Prescription Pain Relievers

PAST YEAR, 2017, 12+

★  
Significant decrease  
from 12.7 M misusers  
in 2015

11.4 MILLION PEOPLE WITH OPIOID MISUSE (4.2% OF TOTAL POPULATION)



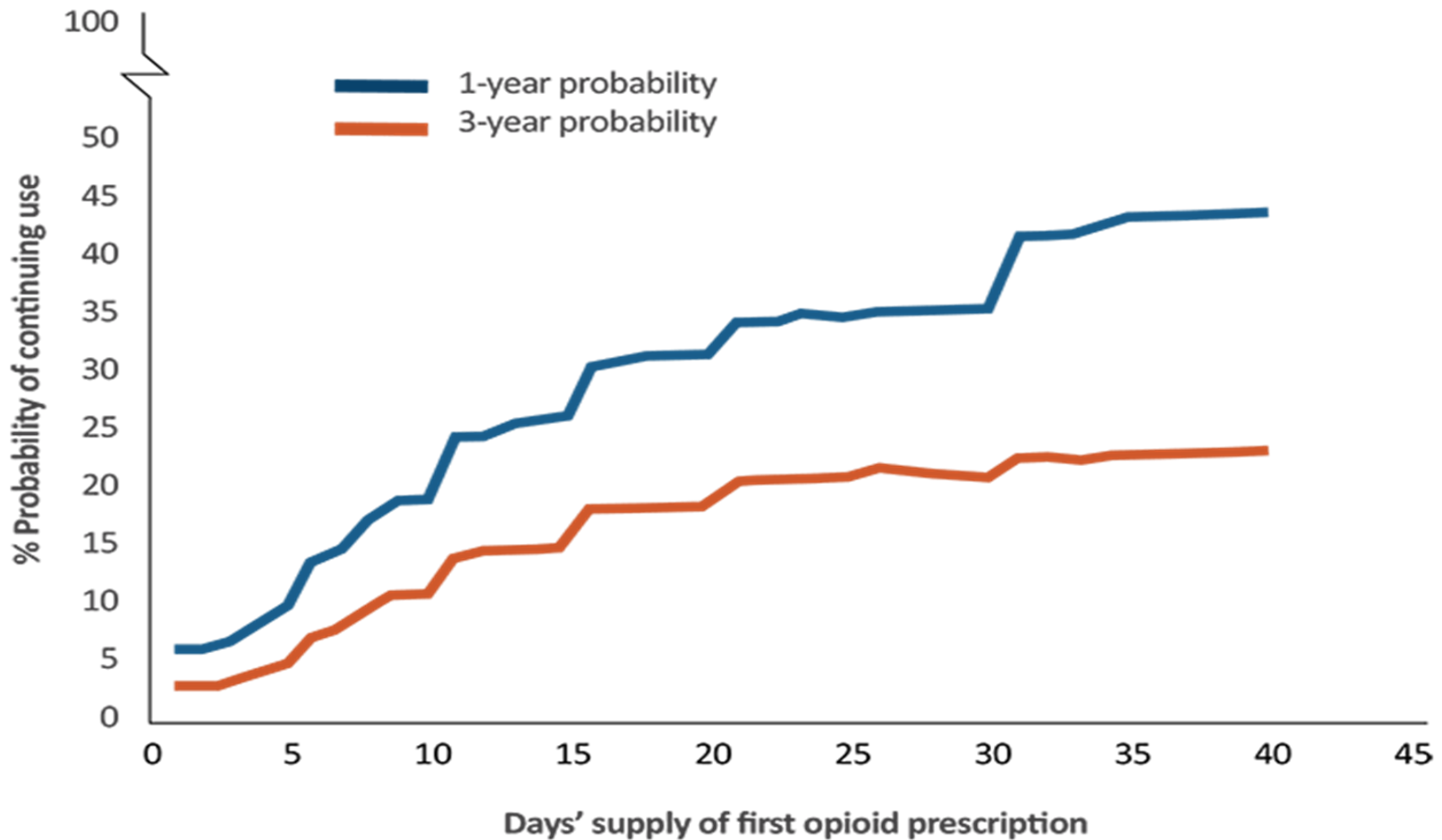
See figures 20 and 24 in the 2017 NSDUH Report for additional information.

\* Difference between this estimate and the 2016 estimate is statistically significant at the .05 level.

Note: Opioid misuse is defined as heroin use or prescription pain reliever misuse.  
Note: The percentages do not add to 100 percent due to rounding.



# Likelihood of Long-Term Use Based on Initial RX



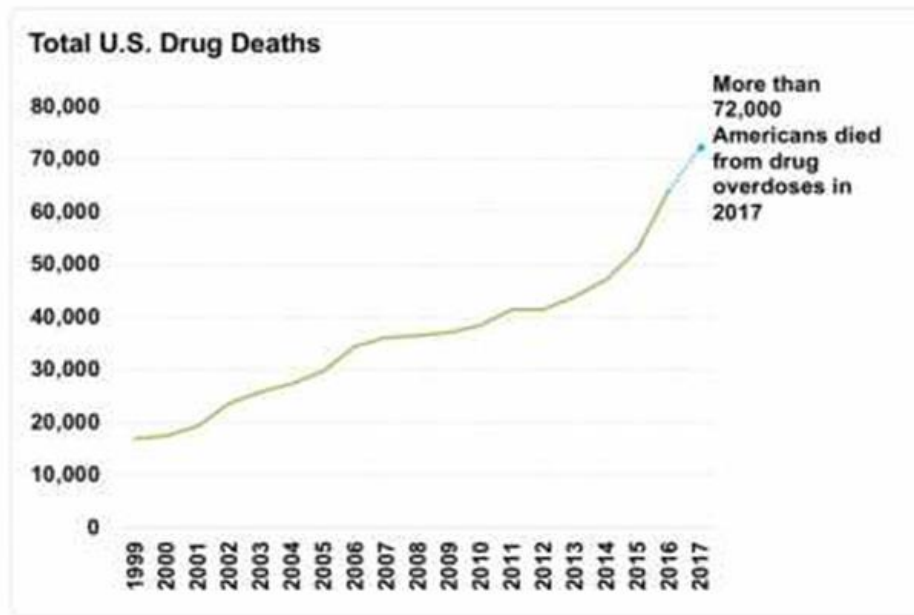
Source: Centers for Disease Control and Prevention, 2017

# Opioid Epidemic

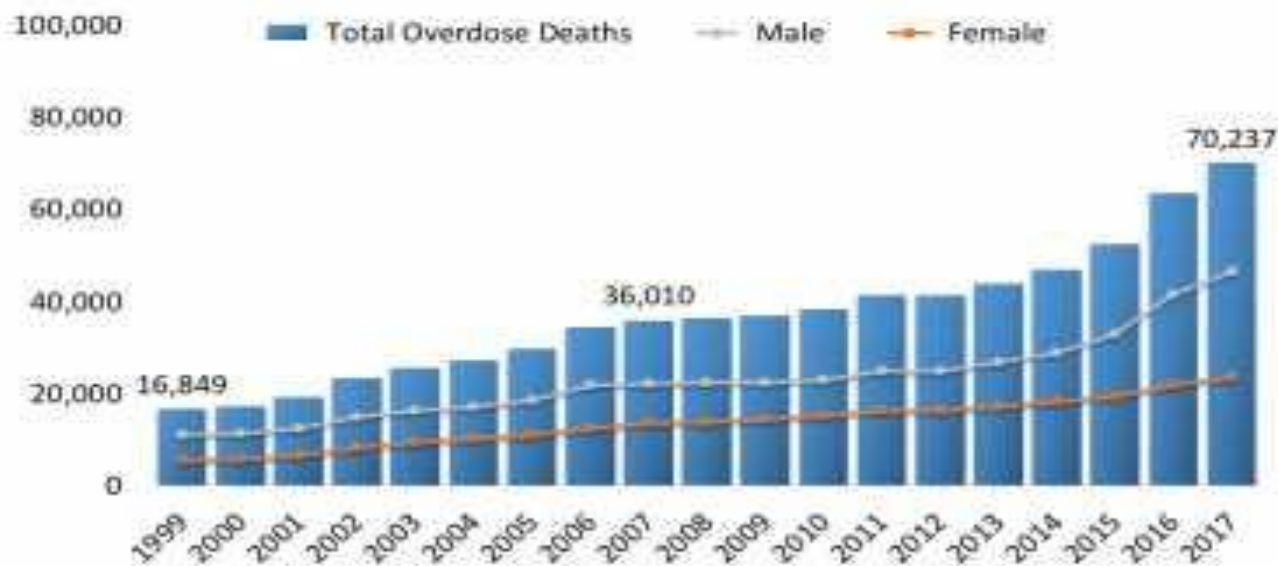
- Approximately 700,000 persons in the US have died from drug overdoses between 2000 and 2017
  - The majority of drug overdose deaths involve an opioid
- In 2017, there were ~ 72,000 drug overdose deaths
  - 243 in Idaho (2016)
- Opioids were involved in ~48,000 deaths in 2017
- ~130 people die everyday in the US from an opioid overdose

<https://www.cdc.gov/drugoverdose/data/statedeaths.html>

# US Drug Overdose Deaths



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

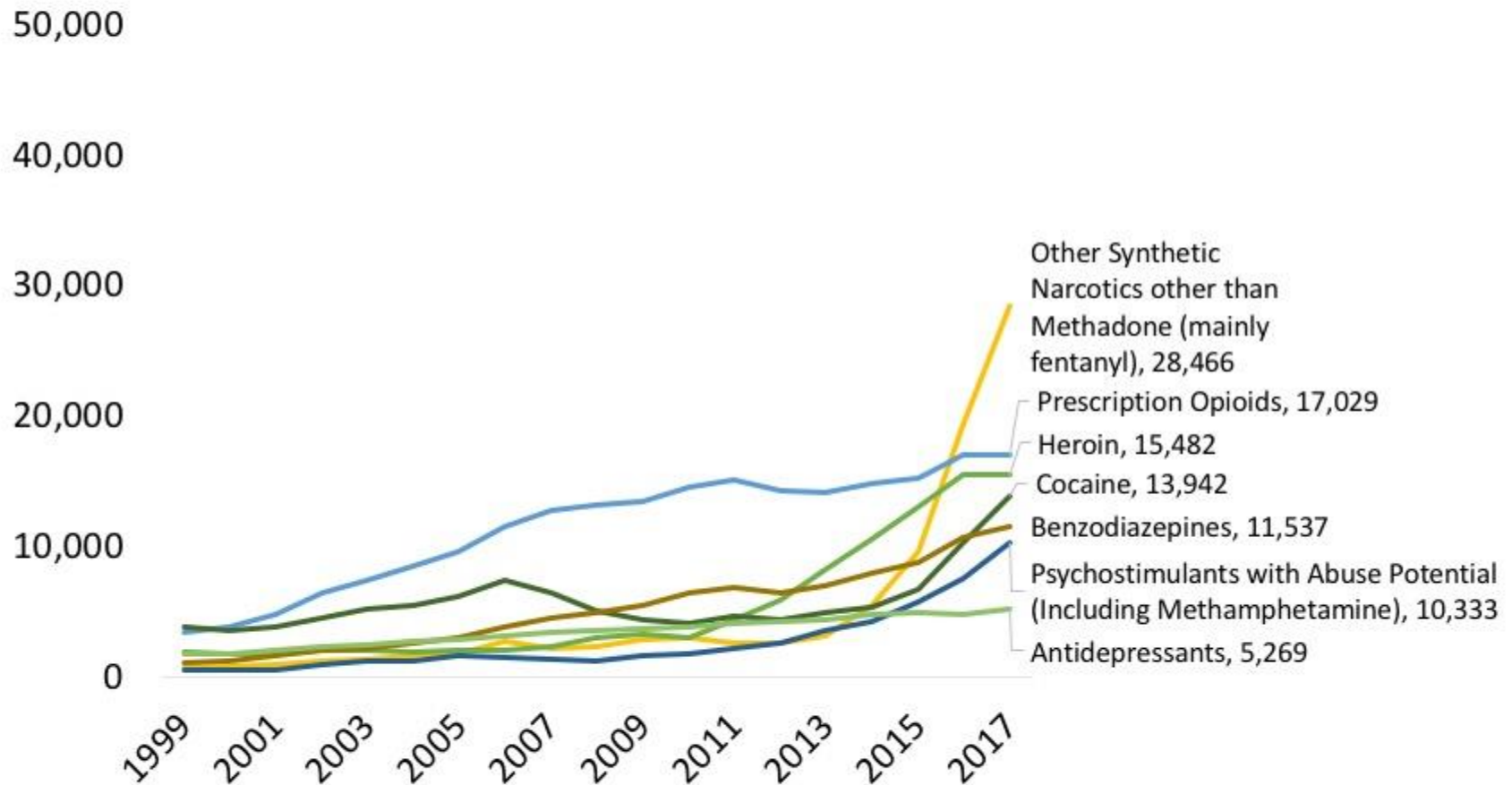


Source: Centers for Disease Control and Prevention, National Center for Health Statistics, Multiple Cause of Death, 1999-2017 on CDC WONDER Online Database, released December, 2018.

<https://www.drugabuse.gov/related-topics/trends-statistics/overdose-death-rates>

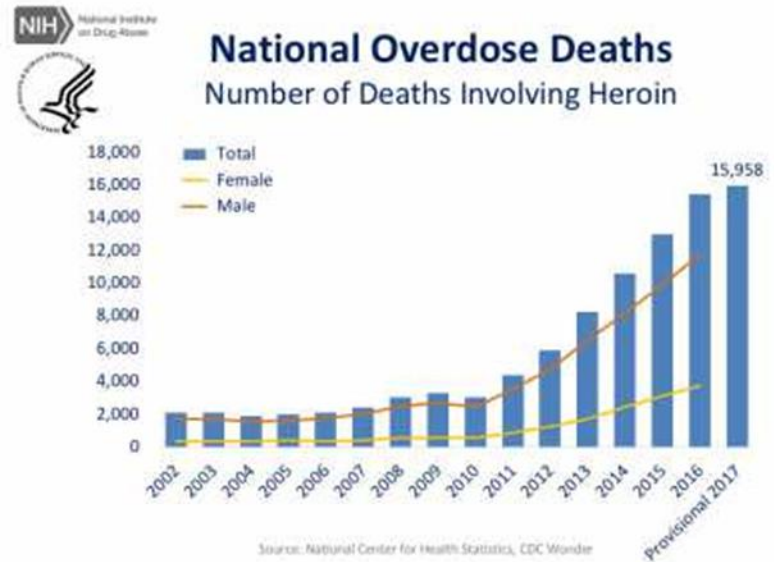
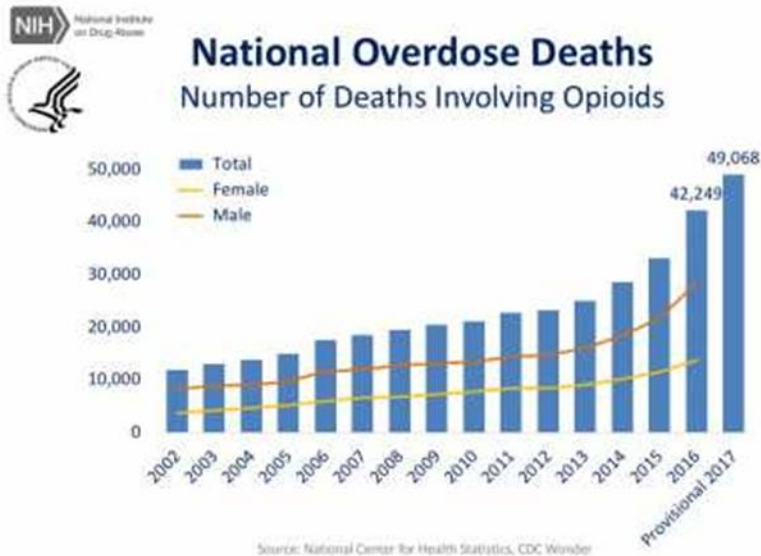


# Figure 2. National Drug Overdose Deaths Number Among All Ages, 1999-2017



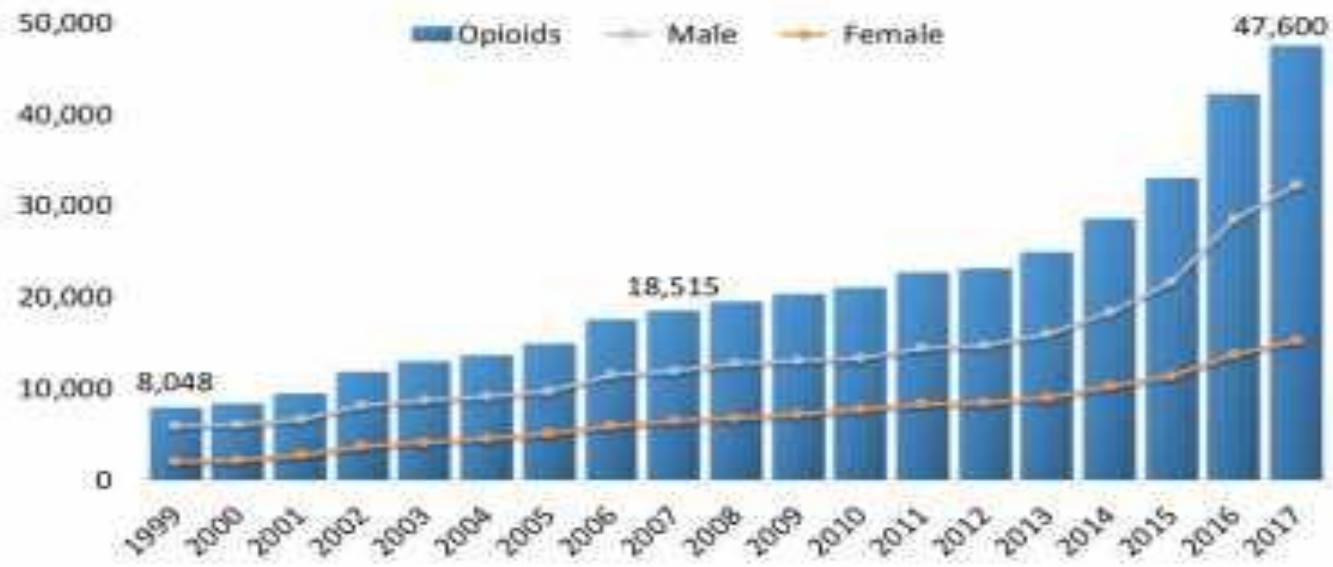
Source: : Centers for Disease Control and Prevention, National Center for Health Statistics. Multiple Cause of Death 1999-2017 on CDC WONDER Online Database, released December, 2018

# US Overdose Deaths



<https://www.drugabuse.gov/related-topics/trends-statistics/overdose-death-rates>

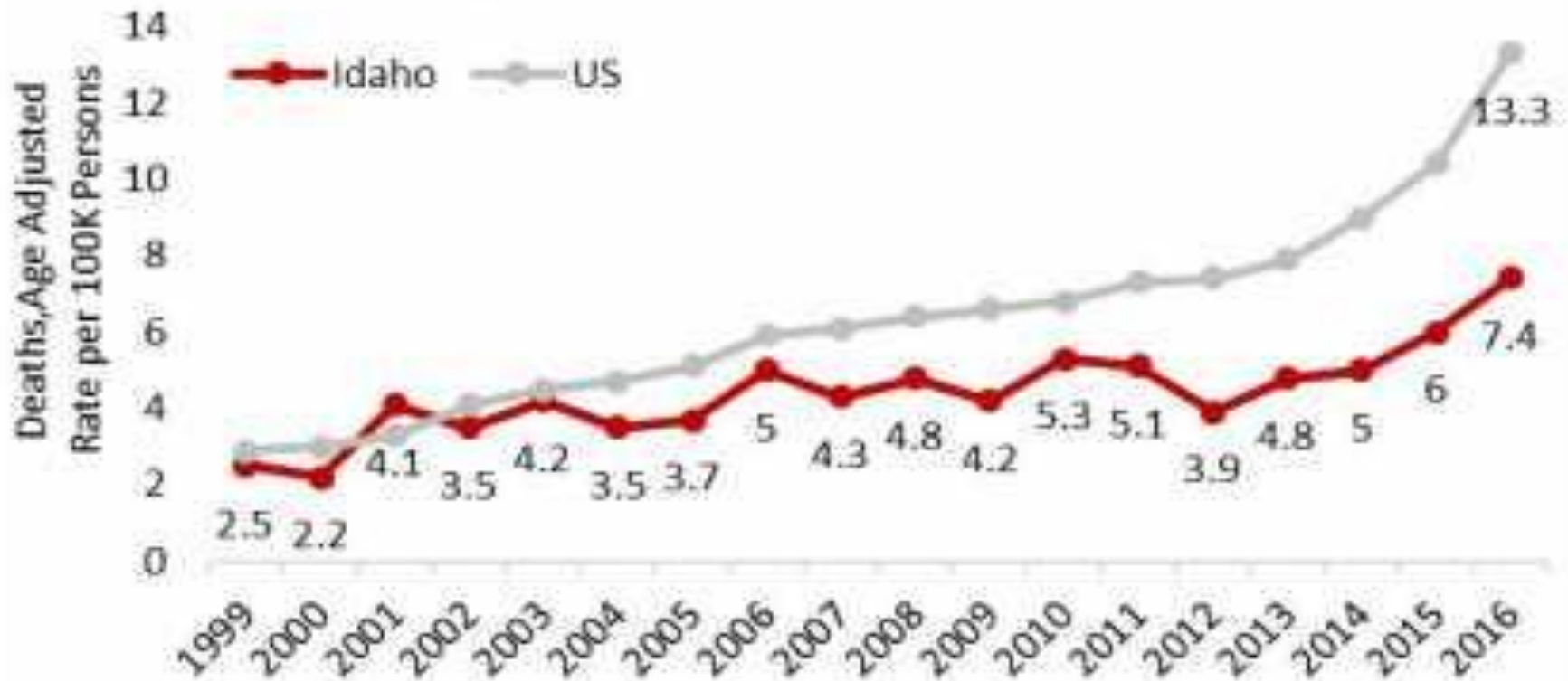
Figure 3. National Drug Overdose Deaths Involving Any Opioid, Number Among All Ages, by Gender, 1999-2017



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

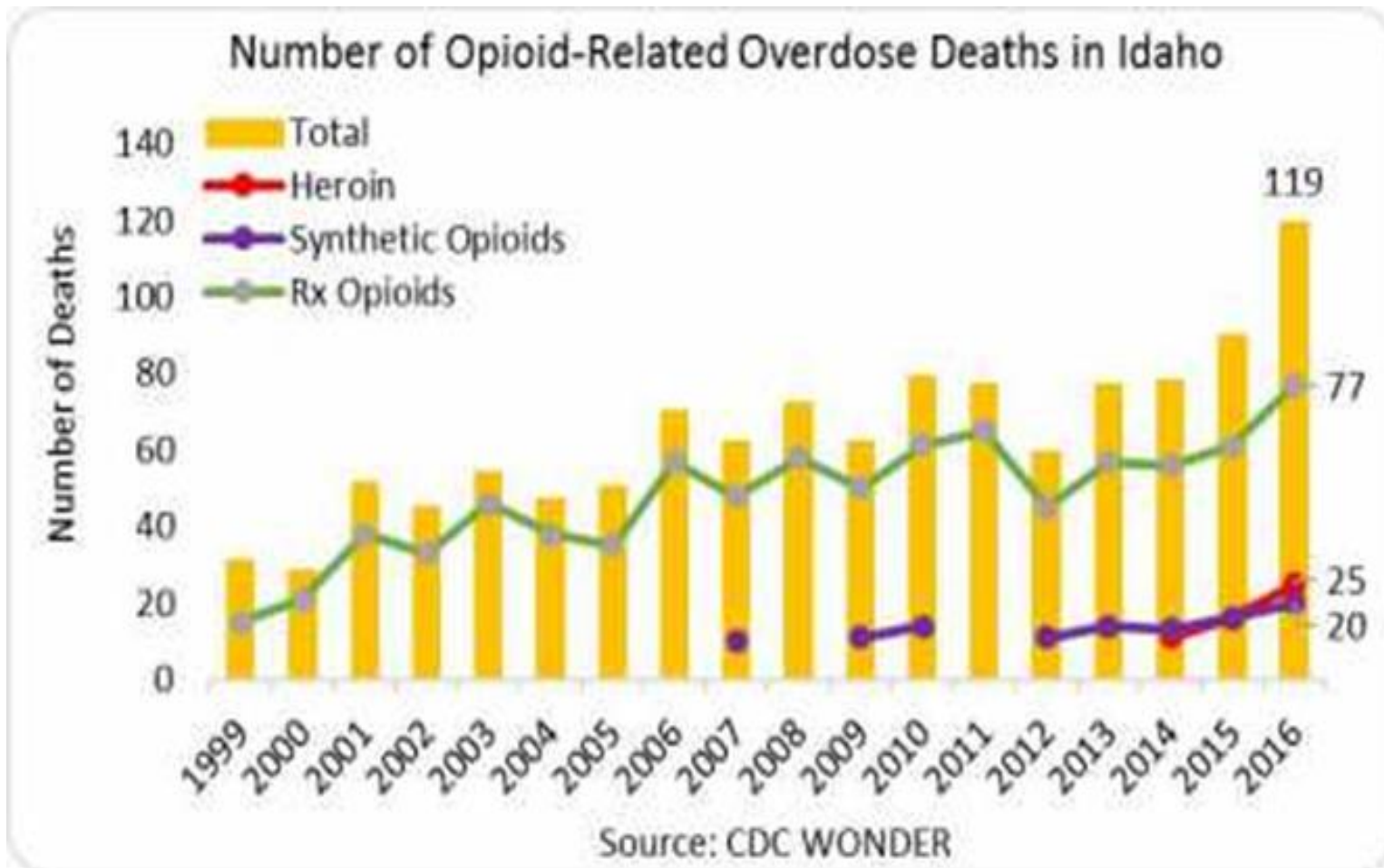
<https://www.drugabuse.gov/related-topics/trends-statistics/overdose-death-rates>

## Rate of Opioid-Related Overdose Deaths in Idaho



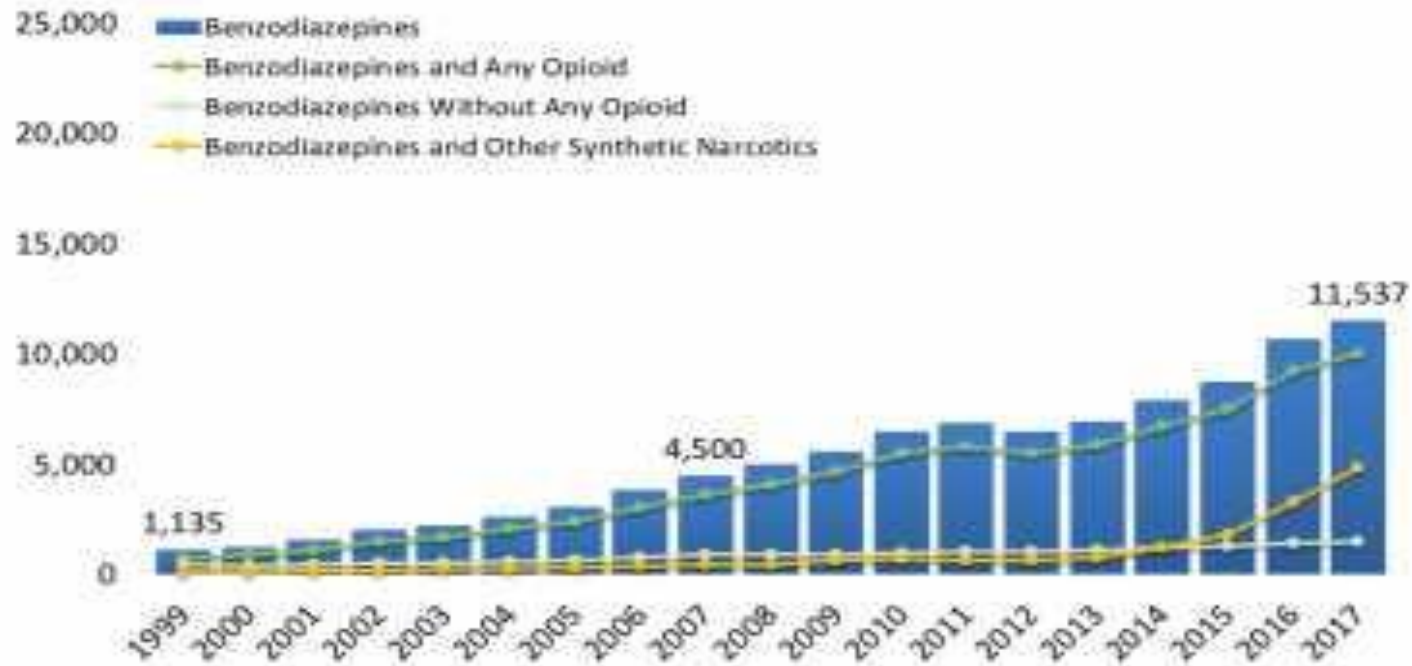
Source: CDC WONDER

<https://www.drugabuse.gov/drugs-abuse/opioids/opioid-summaries-by-state/idaho-opioid-summary>



<https://www.drugabuse.gov/drugs-abuse/opioids/opioid-summaries-by-state/idaho-opioid-summary>

Figure 8. National Drug Overdose Deaths Involving Benzodiazepines, by Opioid Involvement, Number Among All Ages, 1999-2017



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

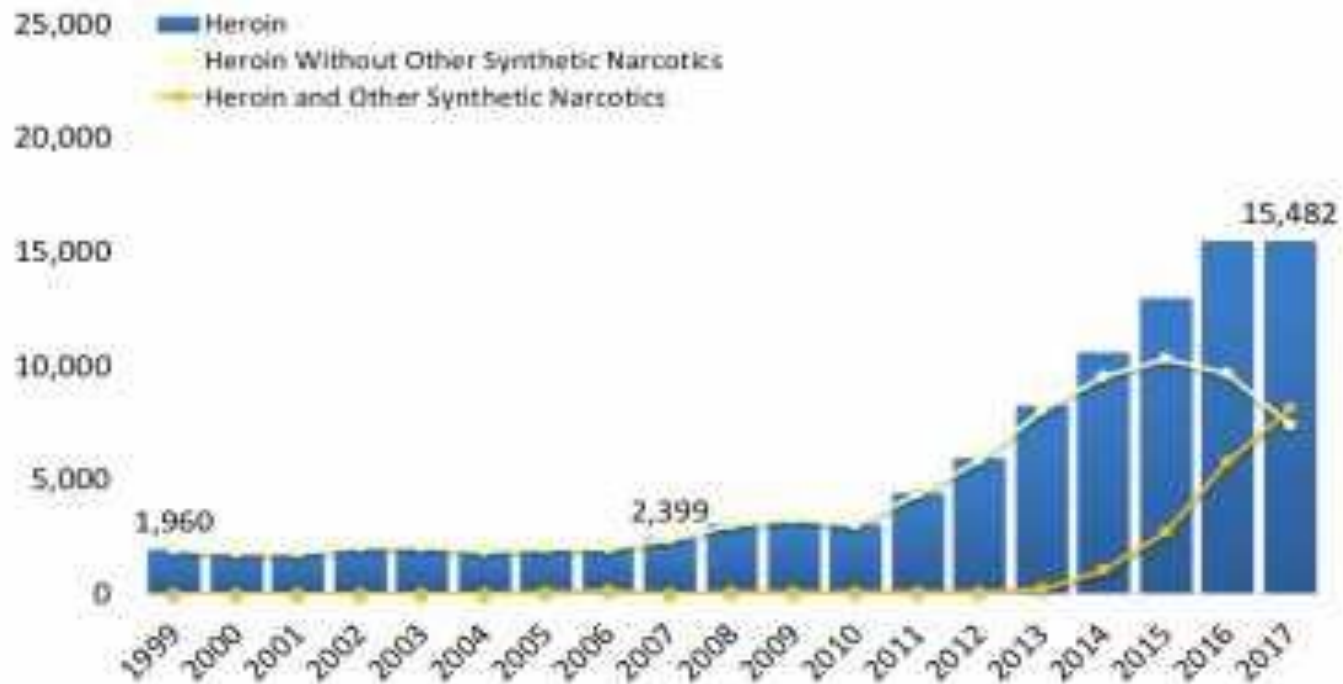


# Heroin: A Growing Epidemic

- An opioid that is synthesized from morphine (extracted from the seed pod of the Asian opium poppy plant)
- Converted to morphine when it enters the brain which then binds to mu receptors
- Cheaper and easier to obtain than opioids
- Evidence suggests a relationship between increased non-medical use of opioids and heroin abuse
- Opioid abuse often precedes heroin abuse
- ~50% of heroin users admit to opioid abuse prior to using heroin
- Heroin-related overdose deaths have more than quadrupled since 2010

<http://www.drugabuse.gov/publications/drugfacts/heroin>

Figure 5. National Drug Overdose Deaths Involving Heroin  
Number Among All Ages, 1999-2017



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

<https://www.drugabuse.gov/related-topics/trends-statistics/overdose-death-rates>



# Risk Factors for Opioid Overdose

## **Unintentional**

- Opioid naïve
- Opioid dose too high
- Switch to different opioid
- Polypharmacy
  - Opioids, benzodiazepines, other CNS depressants
- Acute illness
- Comorbidities
- Alcohol use
- Illicit drug use

## **Prescription drug abuse/overdose**

- Taking high doses of opioids
- Doctor shopping
- Obtaining opioid prescriptions from multiple providers and pharmacies
- History of mental illness or substance abuse

# Opioid Overdose vs Overmedication

## **S/S Overdose**

- Pinpoint pupils
- Not arousable
- Not breathing or very slow breathing
- Choking, snorting, gurgling
- Bradycardia or no heartbeat
- Cold/clammy skin
- Blue lips/nailbeds

## **S/S of Overmedication**

- Pinpoint pupils
- Arousable
- Breathing but sleepy or intoxicated appearing
- Slurred speech

# Naloxone: An Antidote

- Naloxone is an antidote for reversal of opioid induced respiratory and CNS depression
- Pure opioid antagonist that binds with high affinity to mu, kappa and delta receptors
  - Greatest affinity for mu receptors
- Naloxone then displaces opioid agonists
- Reverses clinical and toxic effects of opioids
  - May trigger sudden opioid withdrawal symptoms

# Naloxone: Reversal

- Opioids
- Heroin
- May not reverse buprenorphine
- No effect on non-opioid overdoses
  - Cocaine
  - Methamphetamine
  - Bath salts
  - Benzodiazepines
  - Alcohol

# Naloxone

- When given in an overdose:
  - Reverses respiratory and CNS depression
  - Restores breathing
  - Reverses pain control
  - May precipitate acute opioid withdrawal
    - Pain
    - Agitation, irritability
    - Diaphoresis
    - Tachycardia
    - Seizures
- Onset of action is ~ 3 minutes
- No potential for abuse
- No harm to patients who have not taken opioids

# Naloxone

- Half-life of 30-90 minutes
  - As naloxone wears off, opioids still circulating may bind to opioid receptors causing overdose symptoms to return



# Opioids: Duration of Action

<b>Drug</b>	<b>Duration of Action</b>
Codeine	3-4 hours
Hydrocodone	4-8 hours
Oxycodone	3-6 hours; extended release $\leq$ 12 hours
Morphine	3-6 hours
Hydromorphone	3-4 hours; extended release $\sim$ 13 hours
Meperidine	2-4 hours
Fentanyl	2-4 hours
Methadone	24 hours
Heroin	$\sim$ 3-5 hours (intense euphoria x several minutes; peak effect 1-2 hours; effects wear off in 3-5 hours)

# Naloxone: Available Products

- Intranasal
  - Naloxone
  - Narcan (approved 11/15)
- Intramuscular
  - Naloxone
  - Evzio (auto-injector) (approved 4/14)



# Intranasal Naloxone



# Narcan Nasal Spray



# Naloxone Intramuscular



**EVZIO**



**EVZIO  
Outer Case**

# Naloxone Intramuscular



# Naloxone: Storage

- Store between 59 and 77°F
  - May be exposed to temperatures of 39-104 °F for short periods of time
- Typically has a shelf-life of 12-18 months
  - Should be visually inspected occasionally to ensure that the fluid is clear/colorless
  - Monitor expiration date and replace as appropriate
- Naloxone use beyond the expiration date may not be as effective; however, in an emergency it may be used if no alternatives are available

# Naloxone Access Laws

- All states now have naloxone access laws
  - Laws vary by state:
    - Standing order
    - Collaborative pharmacy practice agreement
    - Prescription
    - Pharmacist prescribes
- Good Samaritan laws vary
  - Idaho – just passed this legislative session

# Idaho: Good Samaritan Law

- House Bill 649 encourages people to seek that help.
- “This will save lives. States that have introduced good Samaritan bills with opioids have seen a reduction in deaths up to 30 percent,” said Rep. Mike Kingsley, R-Lewiston.
- The hope is with limited immunity more people will call in an emergency instead of stand by.
- The legislation, now signed into law, provides limited immunity to people acting in good faith who seek medical assistance for either themselves or someone else because of a drug-related medical emergency.
  - “The immunity bill would only extend immunity to those that seek medical assistance for someone, including themselves, “due to the use of a controlled substance.” It stipulates that the person must remain on the scene until emergency personnel arrive and that they cooperate with them. The only legal immunities offered are from prosecution for illegal use, possession or being under the influence of a controlled substance.” (ID County Free Press)

# Idaho Law

- As of July 1, 2015, Idaho pharmacists may prescribe opioid antagonists
- Per Idaho law, any person who prescribes, dispenses or administers an opioid-antagonist will not be liable in a civil or administrative action or subject to criminal prosecution
- A layperson is immune from civil and criminal liability when administering naloxone
- July 1, 2019
  - Any health professional licensed and registered under this title, acting in good faith and exercising reasonable care, may prescribe and dispense an opioid antagonist



# Naloxone: Assistance

- Evzio
  - Patient assistance program
    - [www.evzio.com](http://www.evzio.com)
- Narcan (intranasal naloxone)
  - Adapt Pharma distributors may offer a reduced cost (public interest price) to qualified public interest groups (1<sup>st</sup> responders, law enforcement, community-based distribution programs)
- Referral to a community-based program or harm reduction program

# Consider Naloxone For:

- Anyone that has a prescription for opioids
- Anyone with a history of opioid or heroin abuse
- Family/friends of someone prescribed opioids, that has access to opioids or uses heroin
- Patients on other CNS acting meds, methadone or alcohol
- Patients with renal or hepatic dysfunction or respiratory disease
- Those who are recently released from incarceration or who were abstinent
- Programs and residential facilities that work with at-risk populations
- Anyone that requests it

# Naloxone: Kits

- It is recommended to dispense naloxone in kits that include 2 doses of naloxone in addition to supplies (2 of each) needed to give the naloxone by the prescribed route
  - Intranasal or intramuscular



# Naloxone Education

- The individual receiving the naloxone should be educated on:
  - How to recognize symptoms or indications of an opiate-related overdose
  - How to store, administer and dispose of naloxone
  - Emergency procedures in the event of an opiate-related overdose
  - Individual may become combative, aggressive after naloxone is administered

<http://lawatlas.org/query?dataset=laws-regulating-administration-of-naloxone;>

Idaho Law

# Naloxone: Administration

- Determine if an overdose
- Call 911
- Give naloxone
- Give rescue breaths
- Once breathing on own, turn person on side (rescue position)
- Stay with person until EMS arrives
- May administer a 2<sup>nd</sup> naloxone dose if no response after 2-3 minutes or symptoms return before EMS arrives

# Narcan Nasal Spray Administration

- Keep in original packaging until use
- Place patient lying on back
- Hold spray with thumb on bottom of plunger and 1st/middle fingers on either side of nozzle
- Tilt head back and insert tip of nozzle into one nostril until fingers holding nozzle are on either side of nose
- Firmly press plunger, spraying into nostril
- Patient does not need to inhale during spray
- If no response, repeat in other nostril

# 1 Identify Opioid Overdose and Check for Response

**Ask** person if he or she is okay and shout name.

**Shake** shoulders and firmly rub the middle of their chest.

**Check for signs of an opioid overdose:**

- Will not wake up or respond to your voice or touch
- Breathing is very slow, irregular, or has stopped
- Center part of their eye is very small, sometimes called "pinpoint pupils"

**Lay the person on their back to receive a dose of NARCAN Nasal Spray.**



# 2 Give NARCAN Nasal Spray

**REMOVE** NARCAN Nasal Spray from the box.

Peel back the tab with the circle to open the NARCAN Nasal Spray.

**Hold** the NARCAN Nasal Spray with your thumb on the bottom of the plunger and your first and middle fingers on either side of the nozzle.

**Gently insert the tip of the nozzle into either nostril.**

• Tilt the person's head back and provide support under the neck with your hand. Gently insert the tip of the nozzle into **one nostril**, until your fingers on either side of the nozzle are against the bottom of the person's nose.

**Press the plunger firmly** to give the dose of NARCAN Nasal Spray.

• Remove the NARCAN Nasal Spray from the nostril after giving the dose.



# 3 Call for emergency medical help, Evaluate, and Support

**Get emergency medical help right away.**

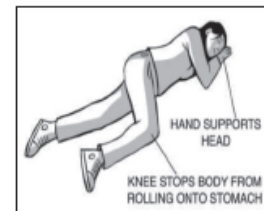
**Move the person on their side (recovery position)**

after giving NARCAN Nasal Spray.

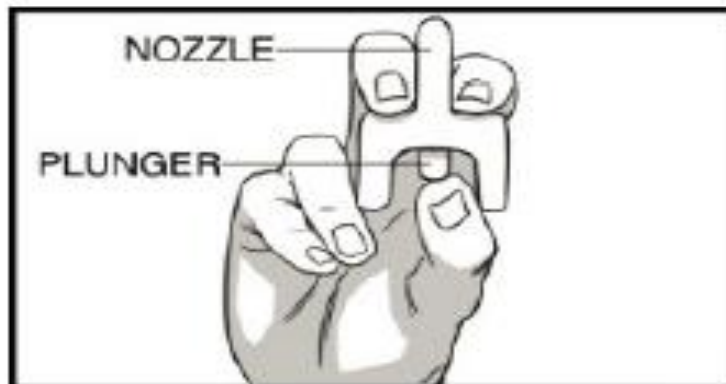
**Watch the person closely.**

**If the person does not respond** by waking up, to voice or touch, or breathing normally another dose may be given. NARCAN Nasal Spray may be dosed every 2 to 3 minutes, if available.

**Repeat Step 2 using a new NARCAN Nasal Spray to give another dose in the other nostril.** If additional NARCAN Nasal Sprays are available, repeat step 2 every 2 to 3 minutes until the person responds or emergency medical help is received.



# Narcan Nasal Spray Administration





# Evzio Administration



# Evzio Administration

- Automated device with voice instructions
- Pull off outer case and red safety guard
- Place black end of auto-injector against outer thigh
  - Can administer through clothing
- Press firmly and hold in place for 5 seconds
  - During injection you will hear a click and hiss noise
  - Needle retracts automatically
- Red light flashes when injection complete

## NASAL SPRAY NALOXONE

**1**

Remove yellow caps.



**2**

Twist on white cone (nasal atomizer).



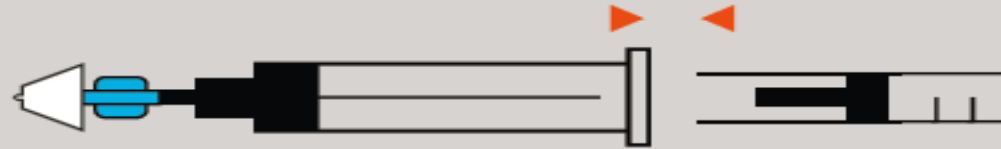
**3**

Remove cap (red or purple) off end of the naloxone ampule.

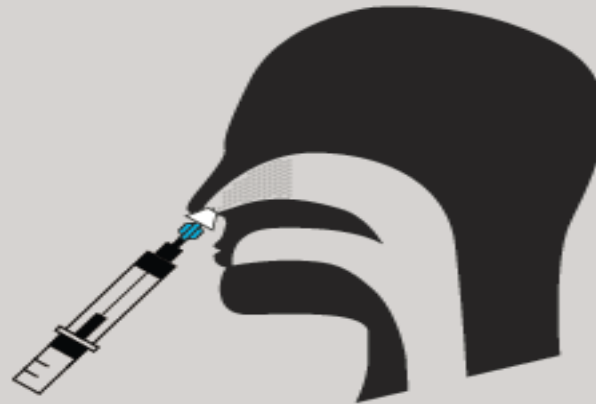


**4**

Gently twist the ampule of naloxone into syringe.



PUSH ON END OF  
AMPULE TO SPRAY. ▶



**5**

Insert white cone into nostril and aim slightly upwards; spray 1/2 of the naloxone ampule into each nostril with a quick, strong push on end of the ampule.

**6**

If no response in 2 to 3 minutes, administer second dose.

## INJECTABLE NALOXONE

**1**

Remove naloxone vial cap.

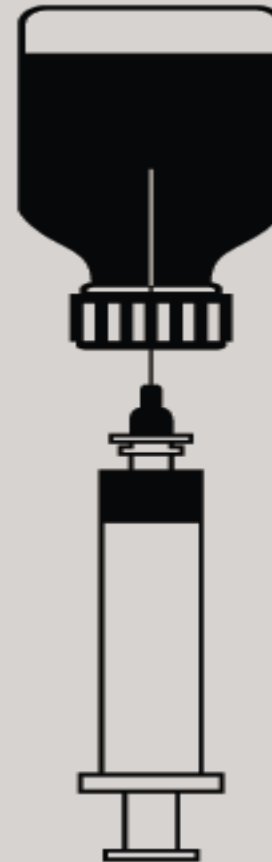


**2**

Remove cap from the needle.

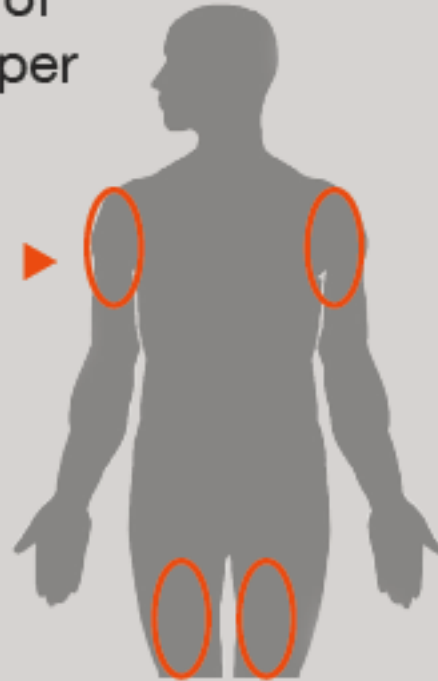
Turn vial upside down and insert needle through rubber stopper. Pull back on plunger and fill syringe to 1 ml.

Fill to 1 ml ▶



**3**

Inject entire syringe of naloxone into an upper arm or thigh muscle as shown.



**4**

If no response in 2 to 3 minutes, administer second dose.

# Opioid Overdose Prevention

- Prescription monitoring programs
- Drug take-back programs
- Lock boxes
- Naloxone access programs
- Education



**PRESCRIPTION DRUG  
MONITORING PROGRAMS**



Questions??

