NEW YORK STATE | Office of Addiction Services and Supports

OASAS. Every Step of the Way.

PROJECT COPE | Community Overdose Prevention Education

Understanding Substance Use and Overdose Prevention

Overdose Rates



During 2023 in the United States…

105,007

People died of an overdose.

*a decrease of 3%from the 111,029 estimated deaths in 2022.
The first annual decrease in overdose deaths since 2018.

288

People died of an overdose everyday, nationally.



In New York State…

5,983

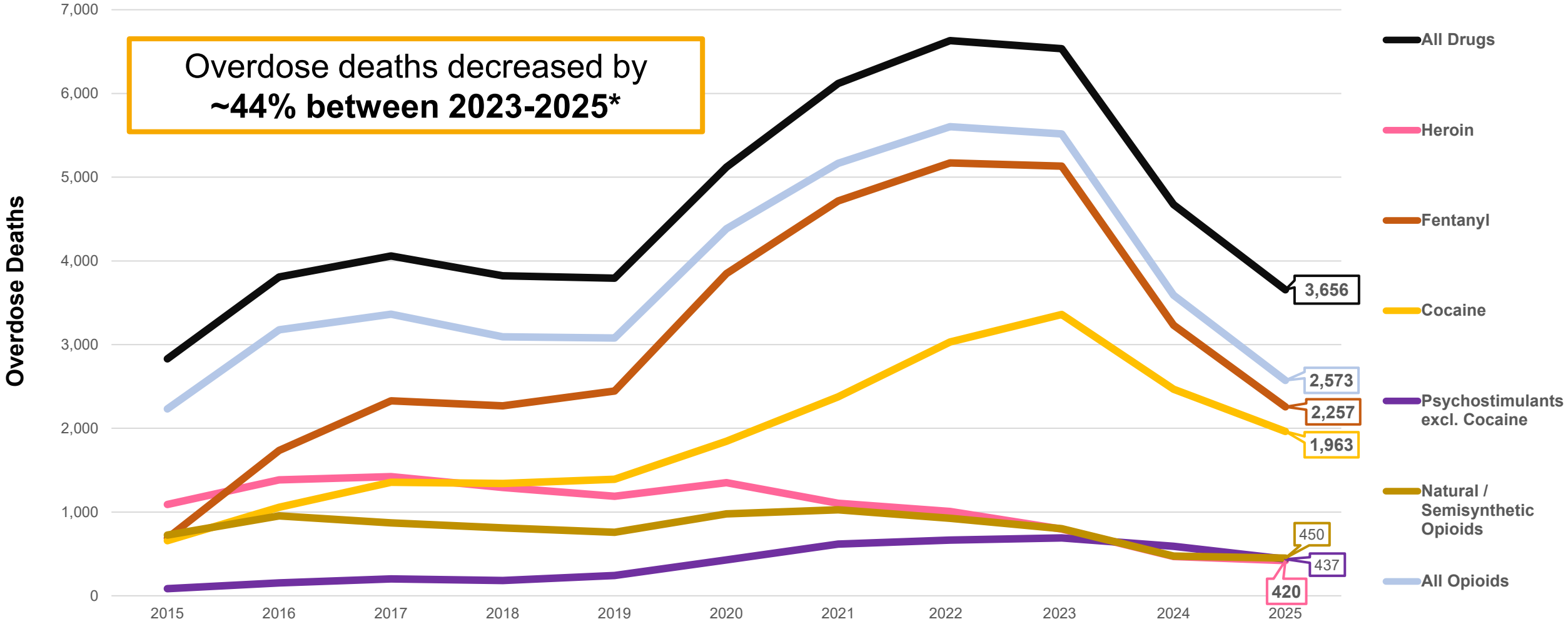
People died of an overdose.

16

People died of an overdose everyday.

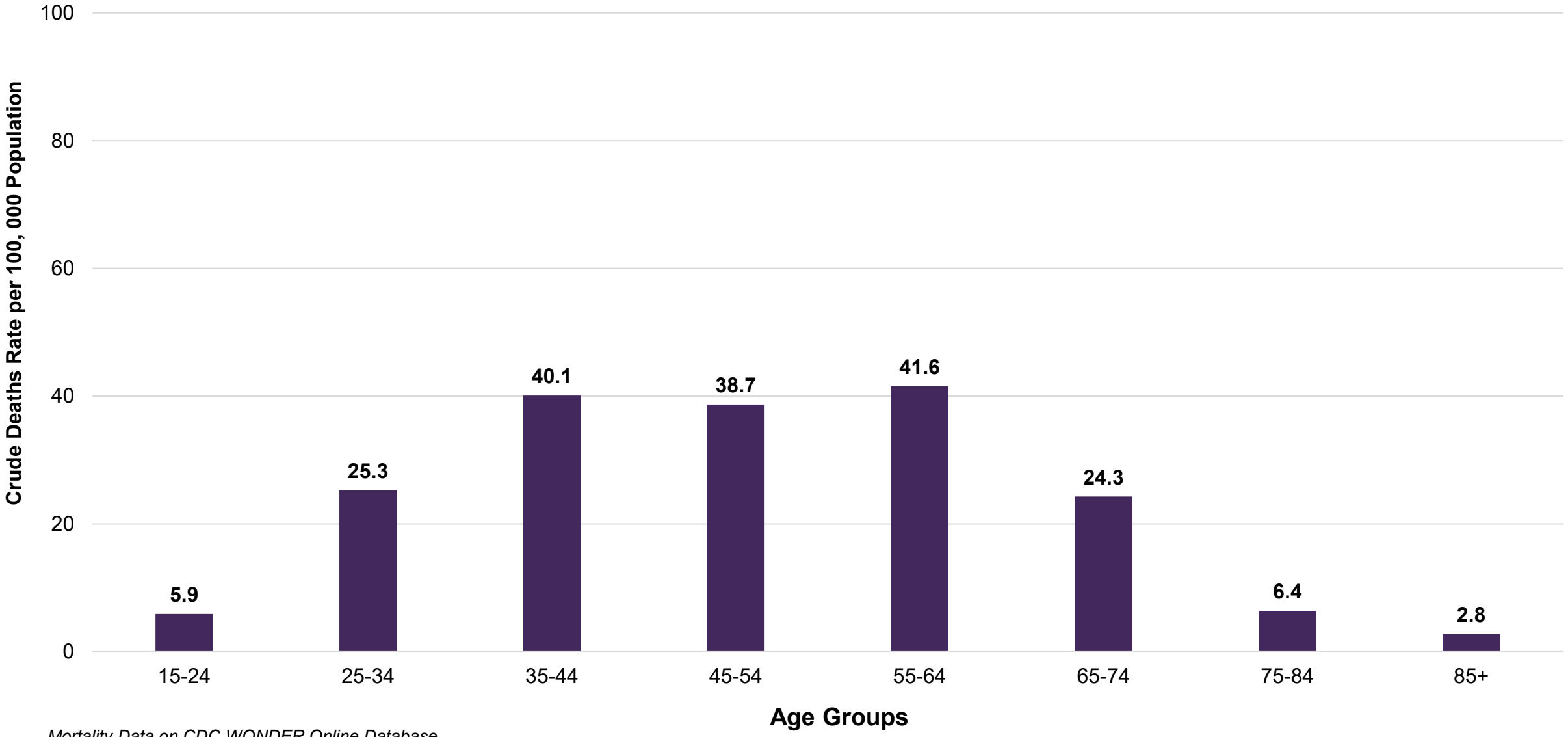
CDC SUDORS https://www.cdc.gov/overdose-prevention/data-research/facts-stats/sudors-dashboard-fatal-overdose-data.html
CDC Data Brief: Drug Overdose Deaths in the United States, 2003-2023 https://www.cdc.gov/nchs/products/databriefs/db522.htm

NYS Drug Overdose Deaths by Substance
(CDC 12-Month Rolling Estimate: 2015-2025)



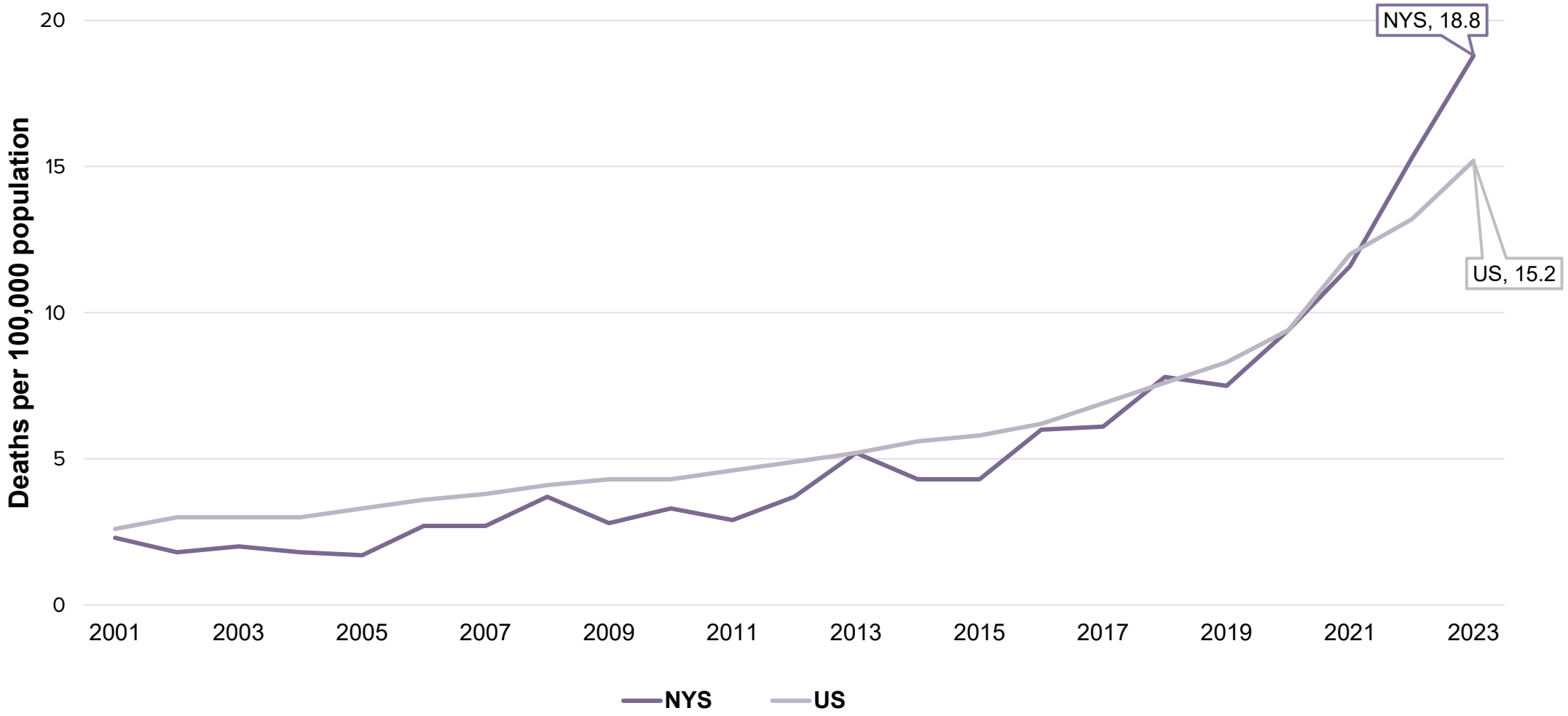
*2025 data are provisional
Source: NVSS Data and Dashboard (https://www.cdc.gov/nchs/nvss/vsrr/drug-overdose-data.htm)

Crude Rate of Overdose Deaths by Age in NYS (2024)



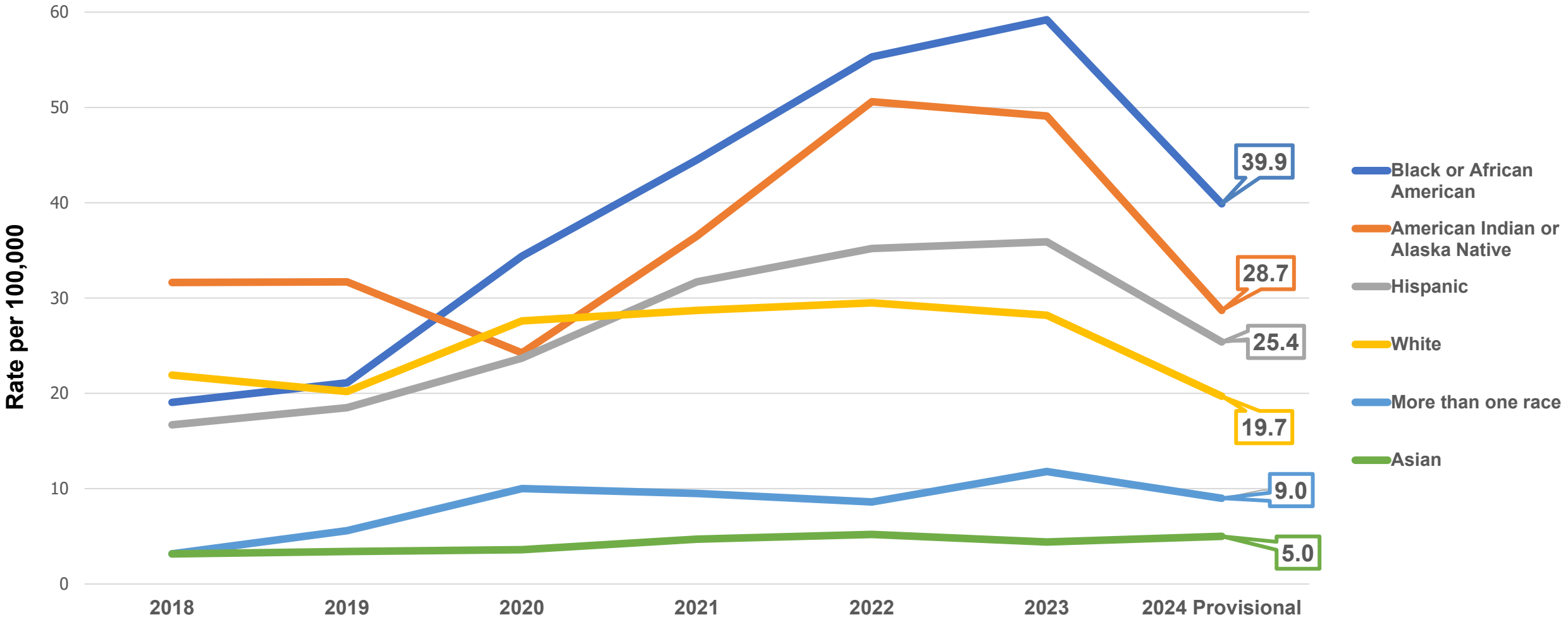
Mortality Data on CDC WONDER Online Database

Overdose Deaths Among Americans >65 Years Old (NYS & US, 2001-2023)



Mortality Data on CDC WONDER Online Database
**2023 data are provisional*

Overdose Deaths Crude Rate by Race/Ethnicity in NYS (2018-2024*)



*Source: Mortality Data on CDC WONDER Online Database; *2024 data is provisional.*
Prior to 2018, mortality data for Asian and Pacific Islander populations were combined. Persons identified as categories other than ""Hispanic" are not of Hispanic ethnicity. Being of Hispanic ethnicity may also include being of any race.

Fentanyl and Synthetic Opioids

Fentanyl is involved in the majority of opioid overdose deaths.



Illicitly manufactured fentanyl or its analogues are the most common substance involved in overdose deaths.

75%

In 2023, 75% of overdose deaths involved opioids. [1]

[1] *NIDA https://nida.nih.gov/research-topics/trends-statistics/overdose-death-rates*

Medetomidine and Xylazine

Veterinary medicines not approved for human use.



Medetomidine is more potent than xylazine and is most often found combined with fentanyl and other opioid substances.



Like xylazine, medetomidine is a non-opioid sedative and its effects cannot be reversed by naloxone.

Naloxone should still be administered.

NYS DOH 2025 https://www.health.ny.gov/press/releases/2025/2025-12-19_synthetic_sedative.htm

Introduction to the Science of Substance Use

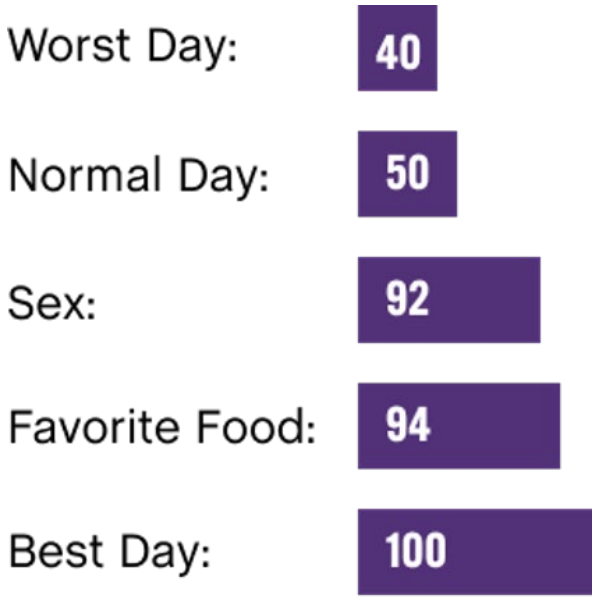
The Science of Substance Use

Dopamine is the main factor in addiction.

Dopamine is essential for survival, along with other items like food and water.

Dopamine levels normally range from 40 nanograms per deciliter on a horrible day to 100 on our best day.

Dopamine Levels (nanograms per deciliter)



Dr. R. Corey Waller, HMA Institute on Addiction; https://www.youtube.com/watch?v=bwZcPwlRRcc&t=840s

The Science of Substance Use

When substances such as methamphetamine or alcohol are ingested, they push dopamine levels 10x the amount our brain normally produces.

When these substances drive the dopamine up, it starts to take over the brain, and things that previously made us happy begin to pale in comparison.

Dopamine Levels (nanograms per deciliter)



Dr. R. Corey Waller, HMA Institute on Addiction; https://www.youtube.com/watch?v=bwZcPwlRRcc&t=840s

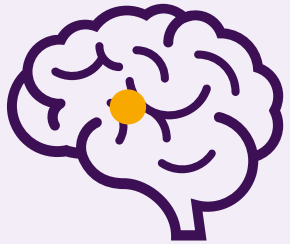
The Science of Substance Use

There are major brain differences between those with and without a substance use disorder, specifically in the reward and dopamine centers.

Dopamine receptors stop working as well in those with substance use disorder (SUD) due to the substance boosting the dopamine in the brain and body.

Comparison of **lit up pleasure centers** using F-MRIs:

Dehydration



Starvation



Craving



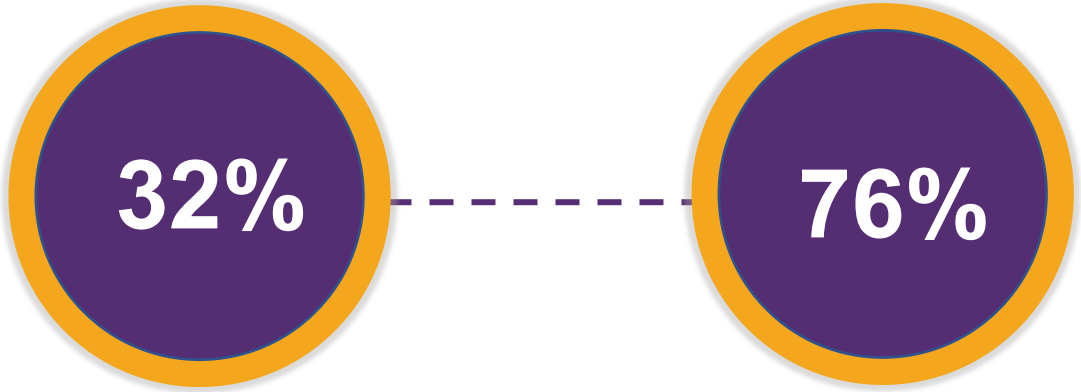
30, 60, 90 days and up to a year in recovery all had the same effect. Drop off is after 2+ years.

Dr. R. Corey Waller, HMA Institute on Addiction; https://www.youtube.com/watch?v=bwZcPwlRRcc&t=840s

The Science of Substance Use

Allowing access to medications for opioid use disorder (MOUD) can **reduce an individual's risk of opioid overdose or serious opioid-related hospitalization or treatment.**

- People with low dopamine may not retain the information in therapy.
- MOUD raises dopamine, especially those with opioid use disorder.



Methadone and Buprenorphine are up to 32% effective for reducing *serious* opioid-related hospitalization or treatment.

Methadone and Buprenorphine are up to 76% effective for reducing overdose risk at 3-months of use.

Comparative Effectiveness of Different Treatment Pathways for Opioid Use Disorder. (2020)
https://jamanetwork.com/journals/jamanetworkopen/fullarticle/2760032

The Science of Substance Use

Management vs. Cure: How we treat for substance use disorder is like how we treat some life-long diseases like diabetes, depression, hypertension, or arthritis.

Not cured, but **managed** by medications to support their health:
Enough to make changes, form meaningful relationships, and live healthier lives.

Diabetes	Insulin
Depression	SSRIs
Hypertension	Beta blockers, ARBs, ACE Inhibitors
Arthritis	Acetaminophen, NSAIDs, Corticosteroids
Substance Use Disorder	**MOUD, MAT**

Introduction to Harm Reduction

What is Harm Reduction
and Why Do We Need to Understand It?

Harm reduction incorporates a spectrum of strategies that includes safer use, managed use, abstinence, meeting people who use drugs (PWUD) "where they are at."

- Move people to their most realized, healthy, and safest self.
- Provide effective policies and services (pragmatism).
- Respect the human rights of PWUD.
- Creates opportunities for engagement in a non-judgmental space.



Examples: vaccines, unused syringe access, seat belts, sunscreen.

Harm Reduction Misconceptions

MYTH

Harm reduction encourages substance use.

Harm reduction sees that people who choose to use have a non-judgmental point of contact to access services that reduce potential harms.

There is no evidence of a connection between programs (e.g. SSPs) and increased substance use.

MYTH

Harm reduction does not include abstinence.

Harm reduction's main goal is to keep people alive and as healthy as possible. It supports people where they are and their individual goals.

Harm reduction recognizes multiple pathways to recovery, which may include abstinence.

MYTH

Harm reduction services make neighborhoods less safe.

Harm reduction services do not increase crime in surrounding areas. In fact, they often improve community safety and cleanliness.

For example, SSPs decrease improper needle disposal, which helps prevent accidental needle sticks.

https://harmreduction.org/about-us/principles-of-harm-reduction/
https://www.rstreet.org/2021/10/26/harm-reduction-101-five-harm-reduction-myths/

Medicine Safety

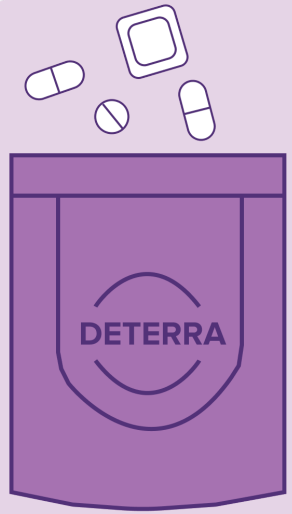
Medication safety is for everyone.

Misuse

Among people aged 12 or older in 2024 who misused prescription pain relievers in the past year, 42.3 percent obtained the pain relievers the last time from a friend or relative. (SAMHSA, 2025)

Practice Safe Storage or Disposal

To properly dispose of unused or expired medications, dispose of medications in a community drop box site or safely deactivate medications using a Deterra bag.



A Deterra bag is **a safe medication disposal pouch** used to destroy and properly dispose of unused, unwanted, and expired medications with the simple addition of tap water.

https://www.samhsa.gov/data/sites/default/files/reports/rpt39443/2021_NNR_figure_slides.pdf

How does Harm Reduction apply to your work?

- Narcan and wall mounted boxes
- Narcan available for all
- Deterra bags and discussing medication safety
- Safe storage of medications, alcohol, and all substances



How to have the conversation:

- ‘We have these kits/bags that we are providing to all clients/families/individuals’
- ‘Whatever you don’t need feel free to pass on’
- What is your planned response when a client expresses a plan to use substances or active use?
- What are your biases or judgements to be aware of going into these conversations?

Vignette

MEET SALLY

Sally works a few part-time jobs and one full-time job to support her daughter.

Sally has had a productive cough for around 3 weeks. She mentions that she “smokes pot to relax” on the weekends with friends and “sometimes on the weekdays between shifts”. She admits to drinking occasionally but assures you that she’s substituted it often with small doses of marijuana.

How would you make suggestions for best harm reduction practices for Sally and her situation?

Vignette

MEET CARL

Carl has post-operative knee pain and would like to refill his prescription. He has been in physical therapy for 6 weeks and has been prescribed oral opioids to manage his pain.

Carl admits he is trying not to take his medications as much and that the pain has decreased but has not returned to work since the pain “is not going away”. He says his wife has leftover pain medications from a previous dental procedure and describes her as being “pain-free” after taking her medications.

How would you make suggestions for best harm reduction practices for Carl and his situation?

Understanding Stigma

Stigma



Stigma is a set of attitudes, beliefs, behaviors, and structures that can lead to prejudice or discrimination against people with mental health diagnoses and people who use substances, as well as other diagnoses such as HIV and HCV.

87.7%

- In 2024, **87.7%** of people with substance use disorders do not receive treatment in the past year.[1]
- In 2024, only 17% of people with opioid use disorder received medications to treat it.[1]

[1]*SAMHSA https://www.samhsa.gov/data/data-we-collect/nsduh-national-surveydrug-use-and-health/national-releases*

Stigma

Stigma is a set of attitudes, beliefs, behaviors, and structures that can lead to prejudice or discrimination against people with mental health diagnoses and substance use disorders, as well as other diagnoses such as HIV and HCV.

It can make people feel like they are not deserving of being treated with dignity and respect.

In 2023, among people who did not receive SUD treatment and had a perceived unmet need for treatment in the past year[1]:

43.2% were "worried about what people would think or say if they got treatment."

34.4% thought that "if people knew they were in treatment, bad things would happen, like losing their job, home, or children."

17% thought "no one would care if they got better."

[1]NSDUH 2023, Table 5.35B Detailed Responses for Not Receiving Substance Use Treatment in the Past Year; Among People Aged 18 or Older Who Did Not Receive Substance Use Treatment and Had a Perceived Unmet Need for Substance Use Treatment in the Past Year

Words to Avoid	Words to Use
• Addict • User • Dirty • Abuser • Junkie	• Person currently/actively using • Person who uses drugs • Person with an opioid/substance use disorder
• Drug Habit • Abuse • Problem	• Opioid/substance use disorder • Use, misuse, harmful use • Regular, risky, unhealthy, or heavy use
• Clean • Former/Reformed addict	• Person in recovery • Abstinent • Not actively using
• Relapse	• Resumed use • Recurrence of symptoms
• Dirty Drug Screen	• Tests positive for substances
• Substitution or replacement therapy • Medication assisted treatment (MAT)	• Medication for opioid use disorder (MOUD)

Knowledge Check

Revise each sentence to reflect non-stigmatizing language when talking about substance use and overdose prevention.

Morgan is an **addict** who has **abused** oxycodone since she was 12 years old.

Knowledge Check

Revise each sentence to reflect non-stigmatizing language when talking about substance use and overdose prevention.

Jeff has been **clean** for 10 years.

Introduction to Opioids and Naloxone

How Opioids Work

Opioids bind to and activate specific receptors in the body – including in the brain, brainstem, and spinal cord.

Different opioids have a different bond for the opioid receptors and activate the receptors differently.

When these receptors are activated:

- Pain signals sent from the rest of the body to the brain are blocked.
- Dopamine is released.
- The body's wakefulness, breathing, digestion, and blood pressure are suppressed.

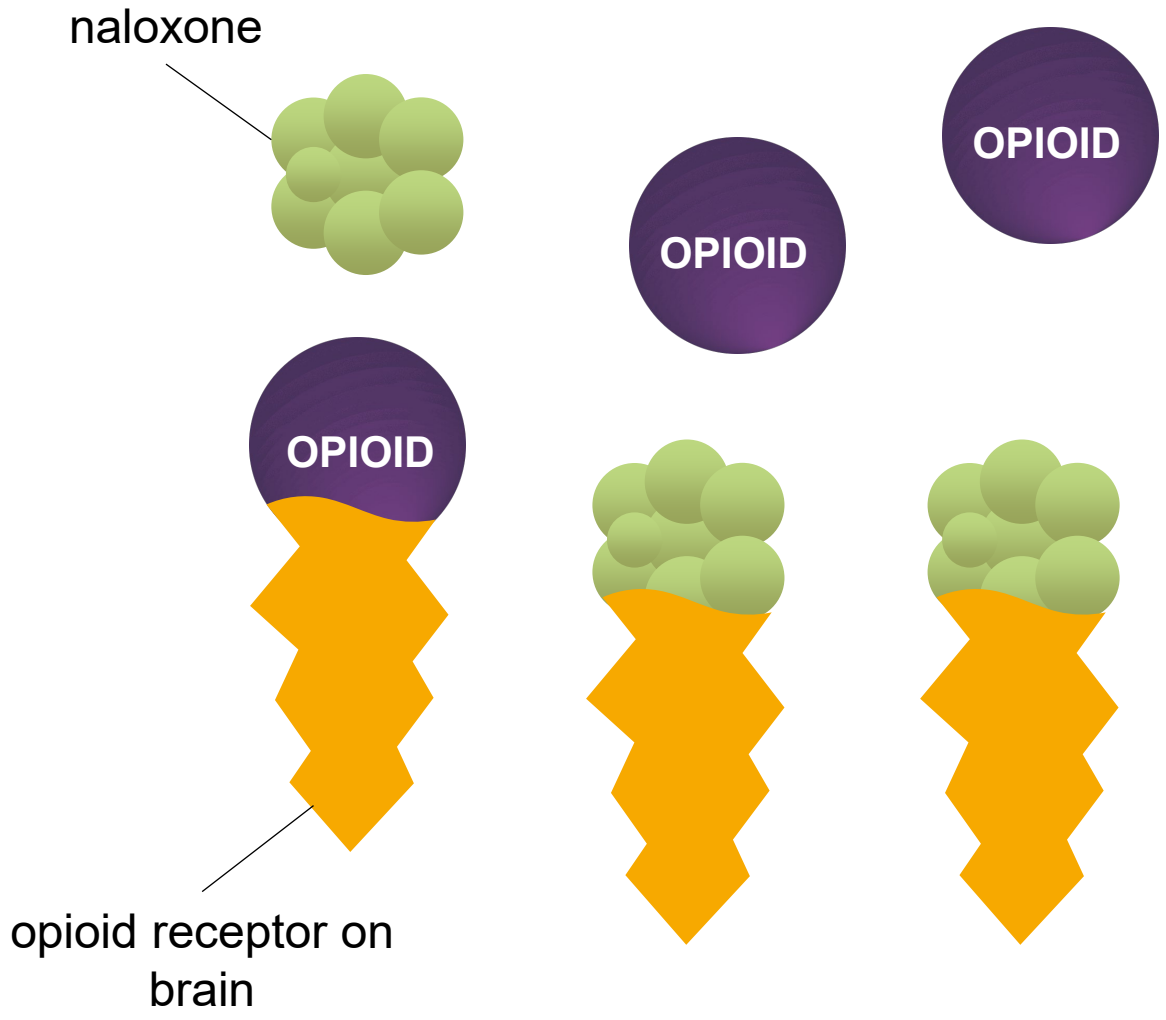


How Naloxone Works

Naloxone has a stronger bond for the opioid receptors than prescription opioids, heroin, or fentanyl.

Naloxone removes opioids from the receptors and temporarily reverses or blocks their effects, which restores breathing.

- Available to the public as a nasal spray (most common) or an intramuscular injection.
- It should be noted that administering naloxone can cause acute opioid withdrawal if the person has opioids in their body.



Risk Factors for Overdose

Polysubstance use (use of more than one substance at a time):

Mixing substances can amplify effects, and people can find it hard to predict how they will be affected.

- Opioid-involved overdose often occurs in combination with exposure to other substances.
- Fentanyl or its analogues may be added to any substance purchased on the street.

Changes in tolerance

- Tolerance can change depending on weight, size, illness, stress, and age.
- A change in tolerance may occur if someone is not using temporarily due to inpatient SUD treatment (detox or rehab), hospitalization, or incarceration (jail or prison).

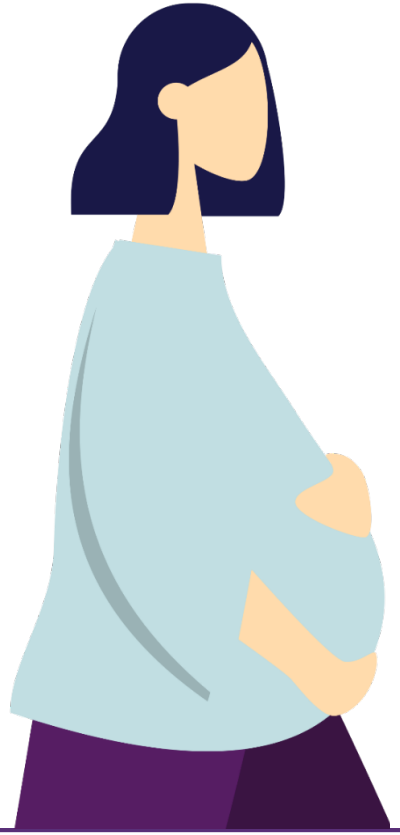
Risk Factors for Overdose may include:

- Substance potency
- Age
- Medical comorbidities (more than one medical condition)
- Using alone
- Previous nonfatal overdose
- Route of administration
- Mental health diagnosis in addition to substance use
- Unstable housing or being unhoused

Naloxone Considerations

It is recommended that you respond to an overdose in a pregnant person the same way as for anyone else.

If you think it is possible someone has overdosed, administer naloxone. **Giving naloxone to someone who has not overdosed on opioids will not hurt them, and it won't make them feel any different.**



- It is possible that both the overdose and the overdose reversal could cause physical stress to the pregnant person and increase one's risk of complications. However, the risks posed by oxygen deprivation or death from overdose outweigh the possible risk of fetal distress from overdose reversal. [1]
- Without intervention with naloxone in an overdose in a pregnant person, both the pregnant person and the fetus will die.

Harm Reduction Coalition; https://harmreduction.org/issues/pregnancy-and-substance-use-a-harm-reduction-toolkit/#section4

Naloxone Misconceptions

MYTH
Naloxone encourages substance use

Research has shown that naloxone does not lead to more frequent or more harmful substance use. Some studies have shown that naloxone results in decreased use of opioids.

MYTH
Naloxone prevents people who use substances from seeking treatment

There is no evidence that supports this, and the near-death experience of an overdose often encourages folks to explore options for treatment, or in general to better their overall health.

MYTH
Naloxone makes people violent

It is rare for someone to wake up from an overdose and become combative. Confusion and disorientation are normal, but violence is especially rare if naloxone is administered by someone they know and trust.

A study showed that only 1 individual out of 126 became combative after naloxone was administered.

https://www.in.gov/health/overdose-prevention/files/47_naloxone-myths-debunked.pdf

MYTH
Naloxone is taking too much public funding and attention

Every medical and emergency service has an associated cost. Substance use disorder and overdose are health conditions that deserve attention. Naloxone saves lives.

MYTH
First responders administer naloxone to the same people

Research has shown that most overdose patients do not have repeated overdose events. Even so, every life is worth saving, even if that requires repeated administration of naloxone to the same person.

How to Recognize and Respond to an Overdose

Understanding Opioids: Overdose

An opioid overdose occurs when **too much of an opioid**, such as heroin or fentanyl, fits in too many receptors, **slowing and potentially stopping breathing**.

SIGNS OF AN OPIOID OVERDOSE

- Unconscious (difficult to wake up)
- Slow or no breathing
- Snoring or gurgling sounds
- Blue or grey lips/nails



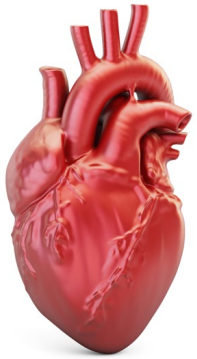
Understanding Opioids: Overdose



Opioid induced respiratory depression



Respiratory arrest



Cardiac arrest

FATAL OVERDOSE

How to Respond to an Overdose (ANCHOR)

- **A** — **Assess**
- **N** — **Naloxone Administration**
- **C** — **Call 911**
- **H** — **Have additional naloxone ready to administer as needed**
- **O** — **Observe and perform rescue breathing**
- **R** — **Review and monitor the individual's condition**

Overdose Prevention and ANCHOR



The Good Samaritan Law

What does it do?	Who does it protect?	What is protected?	What is NOT protected?
The law encourages people to call 911 without fear of prosecution if they are having an overdose that requires emergency medical care or if they witness someone else overdosing	• The individual calling 911, regardless of age (all others may leave the area) • The person experiencing an overdose	• Possession of a controlled substance (up to 8oz) • Sharing substances • Possession of cannabis for those under 21 • Possession of alcohol for underage individuals • Possession of substance paraphernalia	• Possession of a controlled substance (8oz or more) • Sales or intent to sell controlled substance • Open warrants for your arrest • Probation or parole violation

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