

# Opioid Overdose Prevention

Training of Trainers



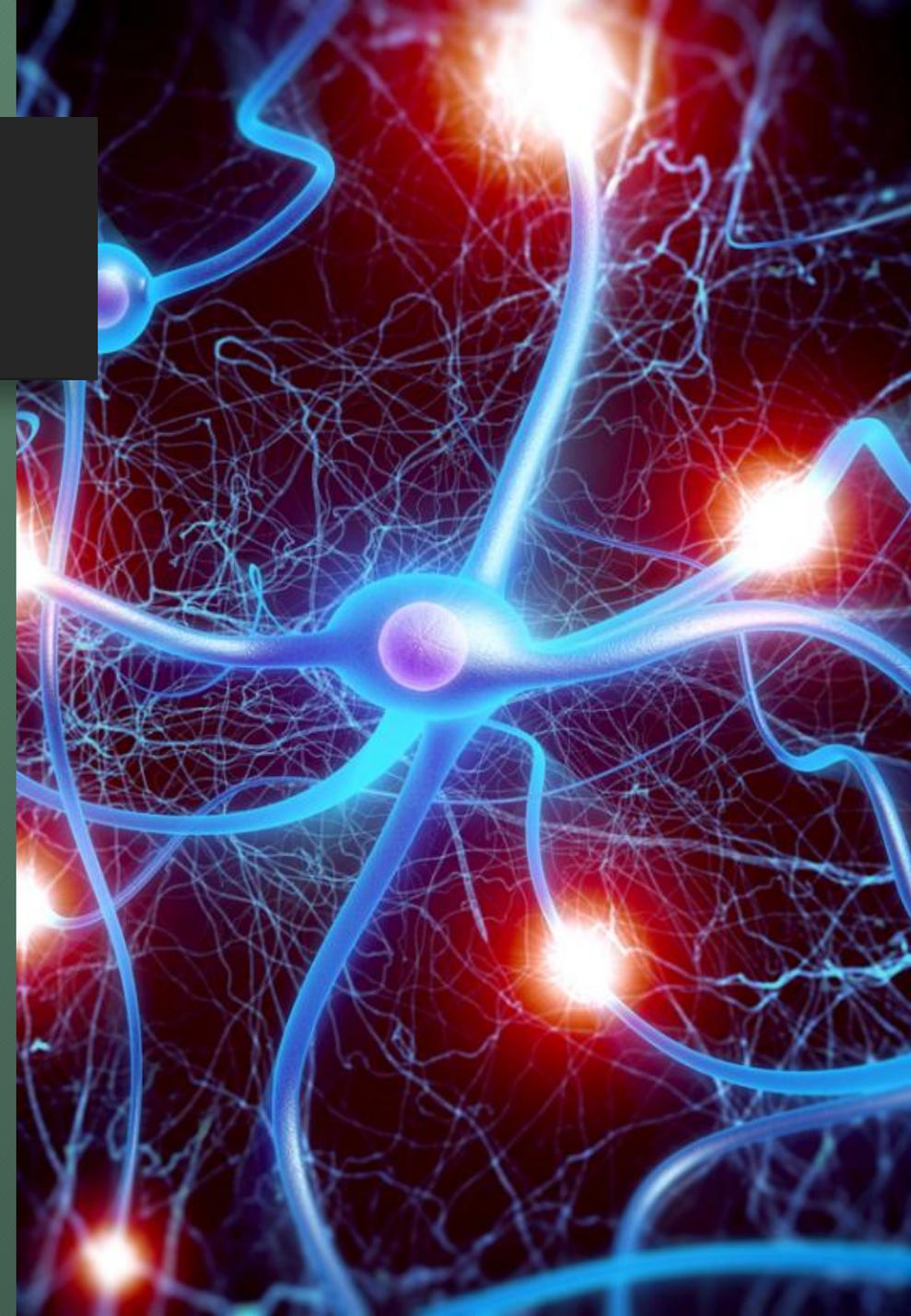
## Agenda

- General overview of opioids
- The development of opioid use disorder (OUD)
- Opioid overdose:
  - Risk factors
  - Signs and Symptoms
  - Responding to an Overdose
- Overdose prevention & harm reduction strategies



# What are Opioids?

- Opioids are a class of drugs that are typically prescribed to treat moderate to severe pain
- In addition to controlling pain, opioids can elicit feelings of euphoria and are highly addictive
- Opioids can be prescription medications, often referred to as painkillers, or street drugs, such as heroin



# Opioid Overview

## Opioid routes of administration:

- Orally- pills that are swallowed
- Snorted- heroin, fentanyl or crushed pills
- Smoked- opium, heroin
- Injected- heroin, fentanyl or crushed pills
- Others?



# Opioid Overview

## Where do opioids come from?

- The body produces its own opioids
  - Moderates pain and produces feelings of pleasure and well being
  - Known as endogenous opioids (endorphins)
- They are derived from the opium poppy
  - Travel the same pathways as endogenous opioids, but much more potent
- They are partially or completely synthesized
  - More efficiently target and alter brain chemical processes



# Opioid Overview



## Organic

Opium  
Morphine  
Codeine

## Semi-Synthetic

Heroin  
Hydrocodone  
Oxycodone  
Oxymorphone  
Buprenorphine

## Synthetic

Fentanyl  
Methadone  
Tramadol

# Opioid Use Disorder

- Opioid receptors are in the body because the brain releases endogenous (internal) opioids for pain management
- They keep us calm when the body is under extreme stress
  - Pain serves a purpose- it lets us know when something is wrong. However, it can start being counterproductive when it inhibits us from taking action needed for survival
  - In response, as a part of our evolution, the body developed the opioid system
  - Physical duress triggers the release of endogenous opioids to activate receptors which shut down the pain signals between the body and the brain and produces a calming effect

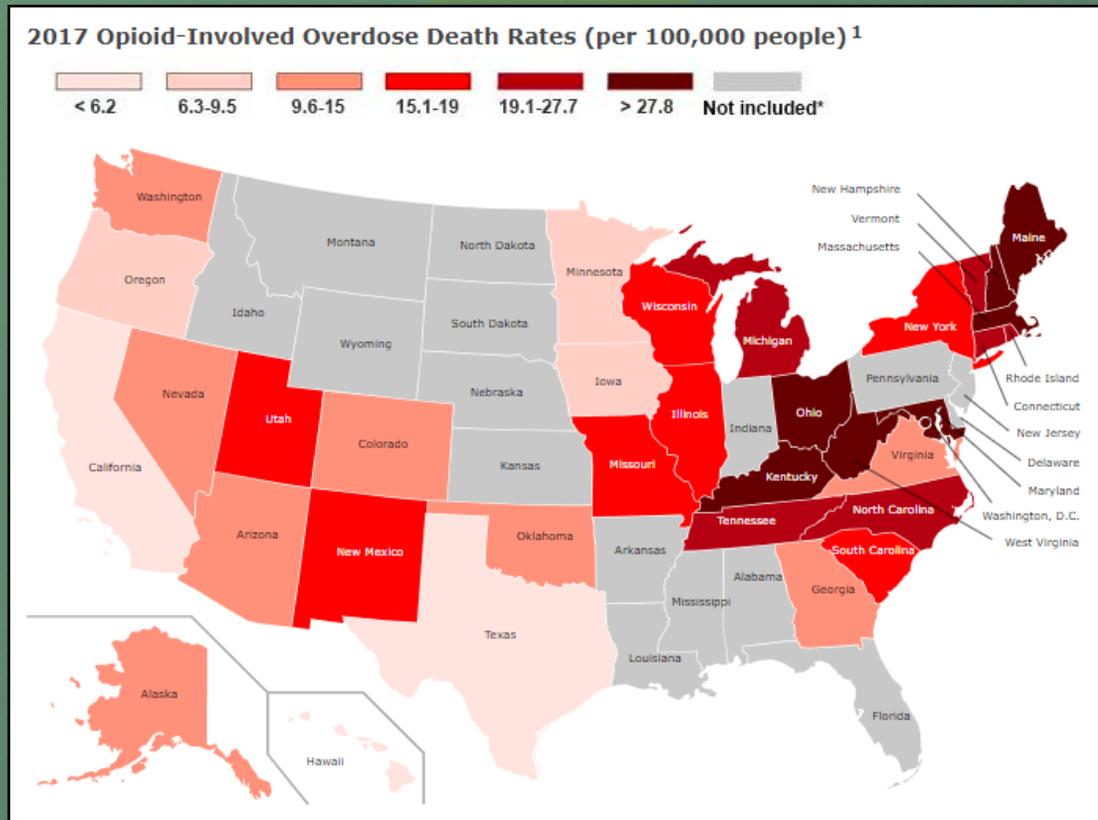


# Opioid Use Disorder

- Exogenous (external) opioids travel the same pathway but are much more potent, creating an artificial flood of endorphins and dopamine
- After repeated use, the brain stops creating dopamine & endorphins naturally and becomes dependent on the medication. When the opioids stop, the brain has a volatile reaction
- Feelings of euphoria and the threat of severe withdrawal symptoms create a compulsion to use the drug even at great personal consequence

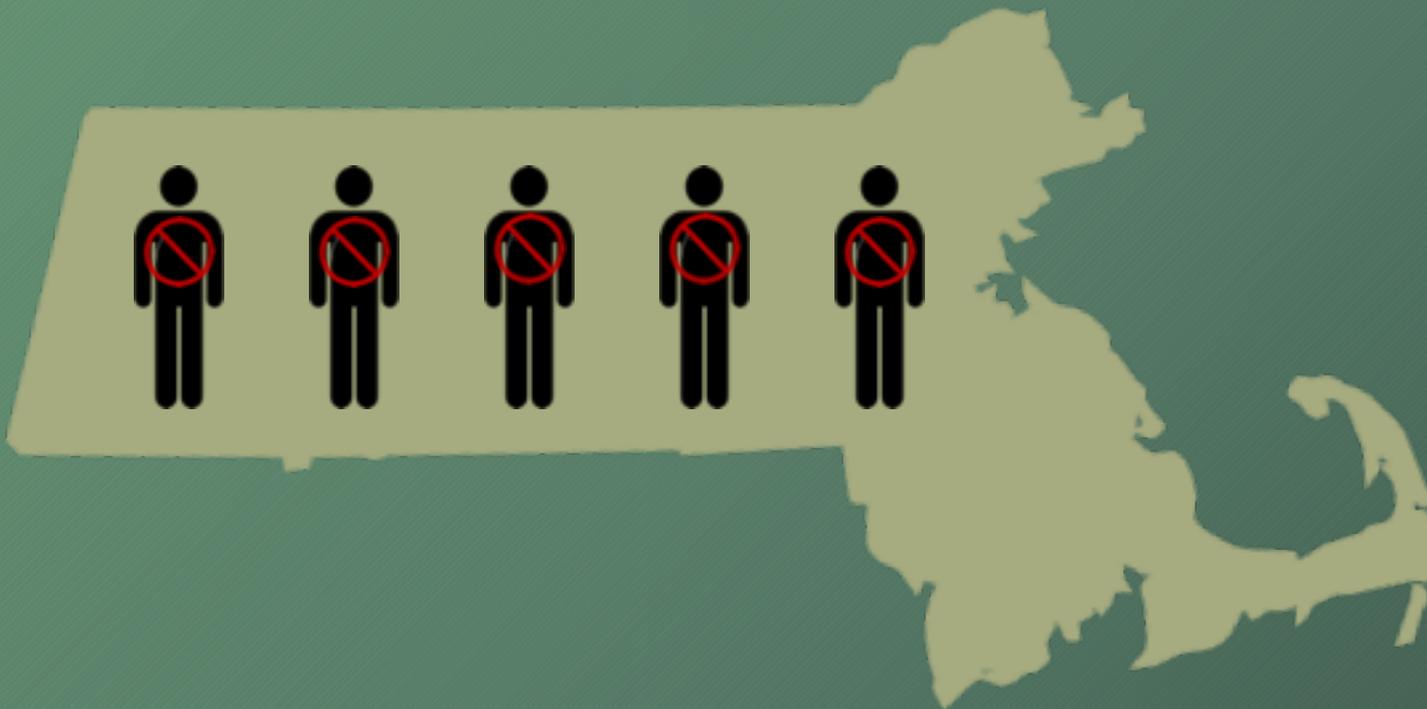


# Opioid Use Disorder



- An estimated 2.1 million people in the U.S. have opioid use disorder
- Opioid overdoses are:
  - The number one cause of accidental death in MA and the U.S.
  - The leading cause of death of people under 45
- On average, 190 Americans die every day from an opioid overdose

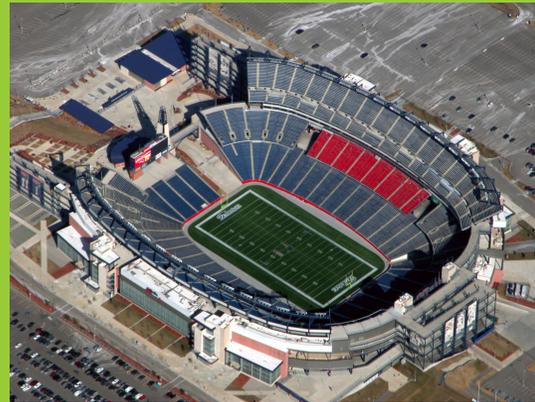
# Opioid Use Disorder



- Massachusetts on average loses 5 people each day
- 4.6% or 275,000 of people in Massachusetts meet criteria for OUD

*(American Journal for Public Health, 2018)*

In New England terms....

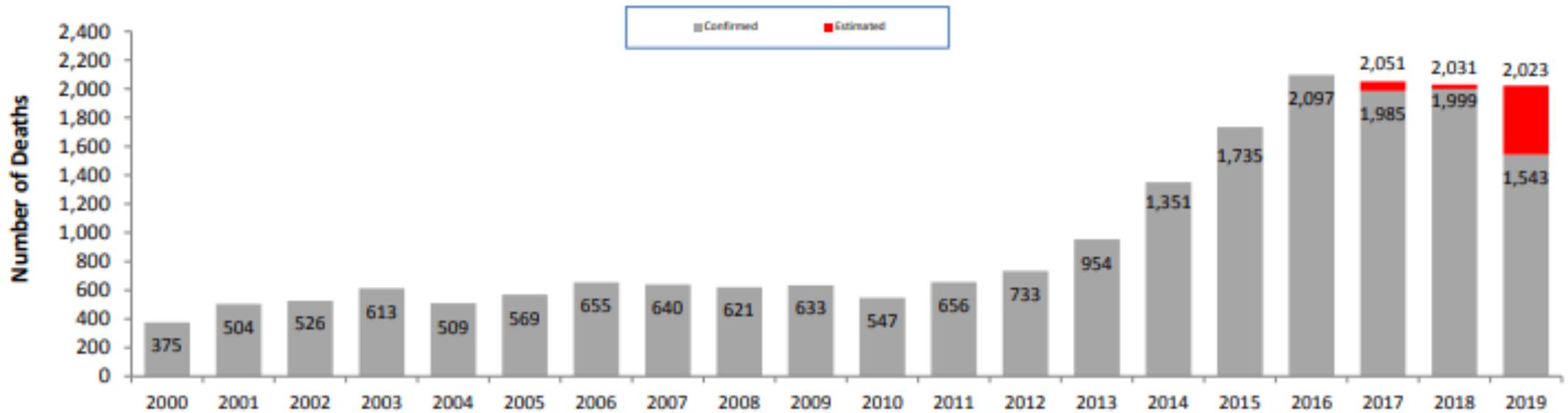


275,000 would fill more than four  
Gillette Stadiums at full capacity

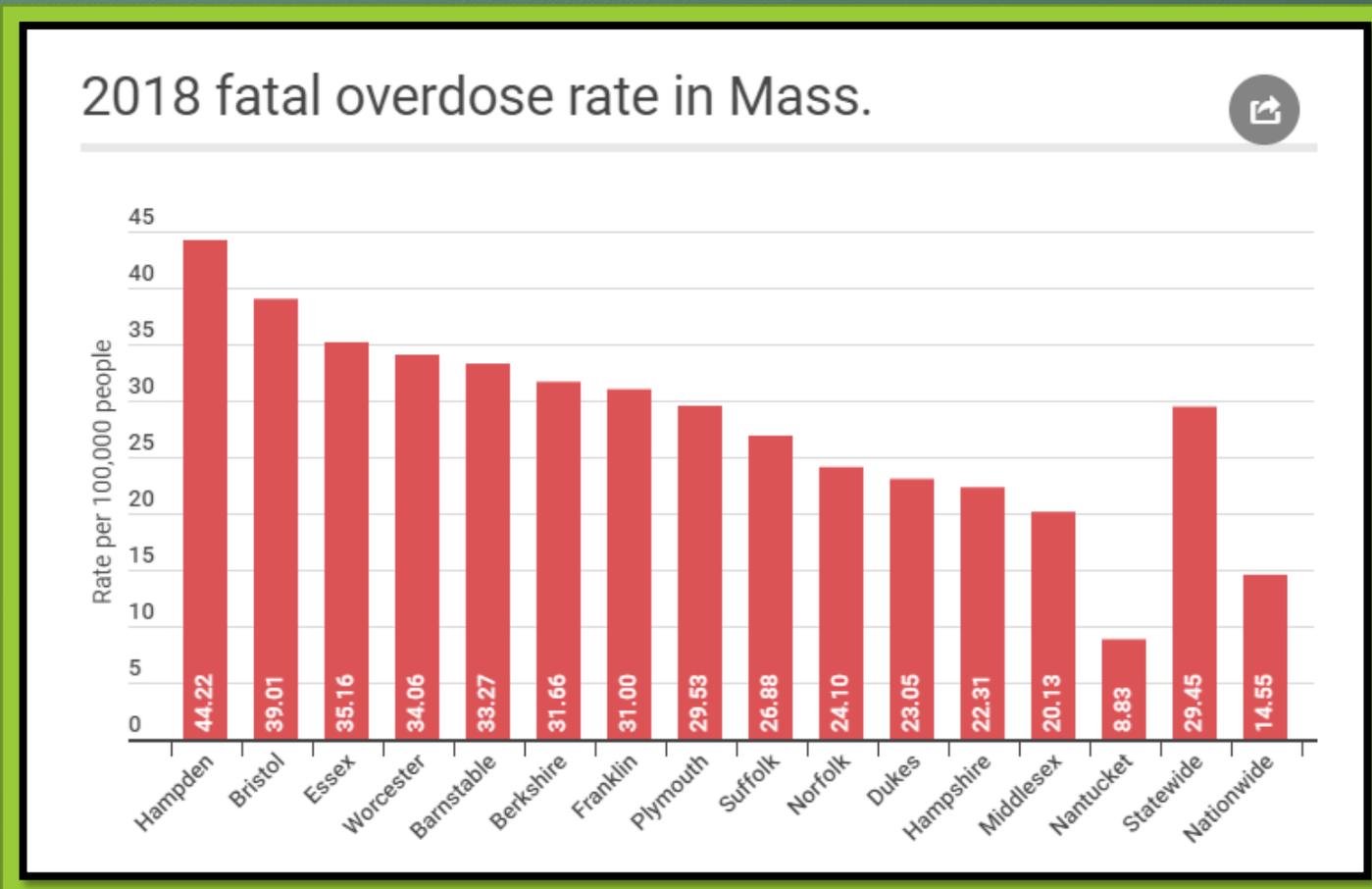
# Opioid Stats in Mass



Figure 2. Opioid-Related Overdose Deaths, All Intent  
Massachusetts Residents: 2000 - 2019



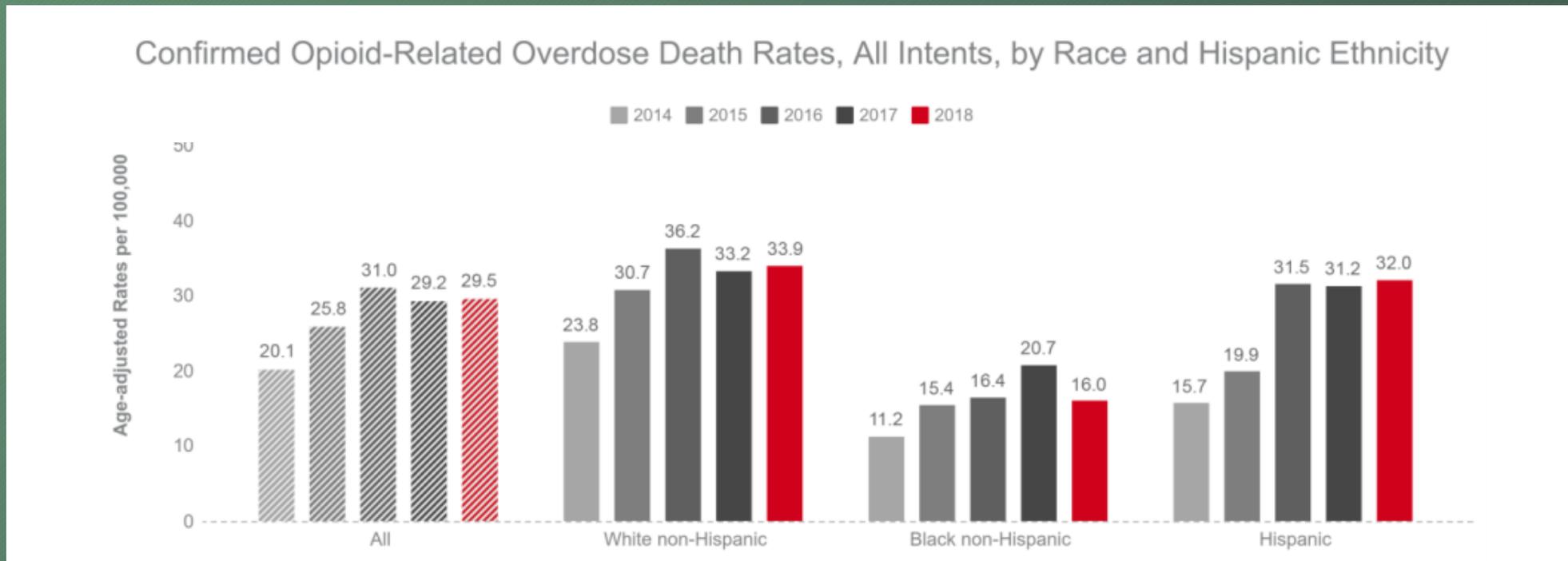
# Opioid Stats in Mass



# Opioids & Racial Disparities



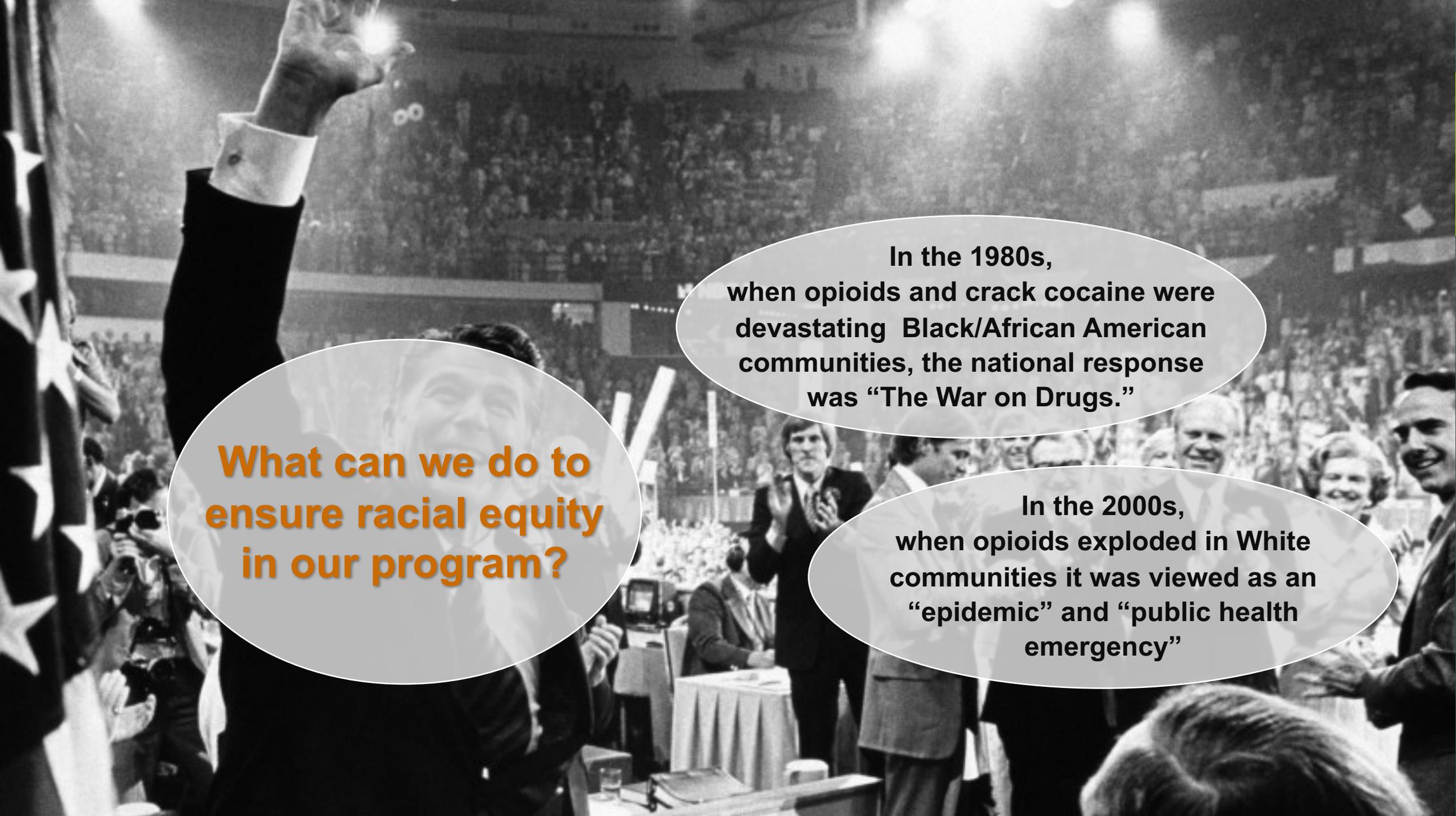
Though white Americans comprise approximately 80% of opioid overdose deaths in the U.S., people of color are seeing the largest increase in overdose deaths



# Opioids & Racial Disparities



- Implicit and racial biases may have initially insulated POC ([NIH, 2018](#))
  - POC are prescribed opioids at half the rate of their white counterparts
  - Research shows physicians may harbor false beliefs that POC are more likely to abuse substances and have a higher threshold for pain, leading to fewer opioid prescriptions
  - At the start of the epidemic, big pharma focused on suburban and rural areas
- However, synthetic opioids are increasing fatalities among POC
  - Fentanyl is increasingly being found in supplies of cocaine, methamphetamine, and counterfeit pills, which increases the number of populations at risk for overdose
  - Access is no longer dependent on prescriptions as they are readily available on the streets
- Disparities in treatment access also contribute to overdoses
  - Limited access to MAT due to income, insurance, and logistical barriers
  - Past discrimination and distrust of the medical community due to medical racism
  - Fear of legal consequences if misuse is revealed



**What can we do to ensure racial equity in our program?**

**In the 1980s, when opioids and crack cocaine were devastating Black/African American communities, the national response was “The War on Drugs.”**

**In the 2000s, when opioids exploded in White communities it was viewed as an “epidemic” and “public health emergency”**

# Most Widely Used Opioids in the U.S.



## Vicodin

A powerful pain killer prescribed for acute episodes of pain (injury, post surgery) and chronic pain. Most abused prescription in the U.S. (Hydrocodone and Acetaminophen)

## OxyContin

Originally formulated to time-release its effects- easily overridden and abused. New formulations have made it less desirable on the streets, contributing to an increase in heroin and fentanyl

## Heroin

The most widely used non-prescription opioid. It is estimated that more than half of people currently using heroin began opiate use from a prescription

## Fentanyl

Developed in the 1960s, an intravenous anesthetic used in hospitals; also used to treat severe pain, typically associated with advanced cancer

# Fentanyl

- The first documented presence of fentanyl on the streets was in Los Angeles 1979 under the name of “*China White.*”
  - To distinguish it from heroin, known as “Mexican Brown”
- Known for its intense high, it’s up to 50x stronger than heroin and 100x stronger than morphine
- Far cheaper and easier to manufacture and transport than other drugs





Potentially fatal dose of heroin

vs.

Potentially fatal dose of  
fentanyl

*For an average adult male*

# Fentanyl



- Because of its potency, portability, and price, fentanyl is often used to “cut” other drugs, such as cocaine, meth, and MDMA (or replace them entirely)
  - [MDPH Stimulant Advisory](#)
- Techniques for identifying counterfeit substances:
  - [Fentanyl testing strips](#)
  - Compare to known legitimate medication (inspect color, texture, smell of the pill)
  - [Drugs.com Pill Identifier](#)



# Fentanyl



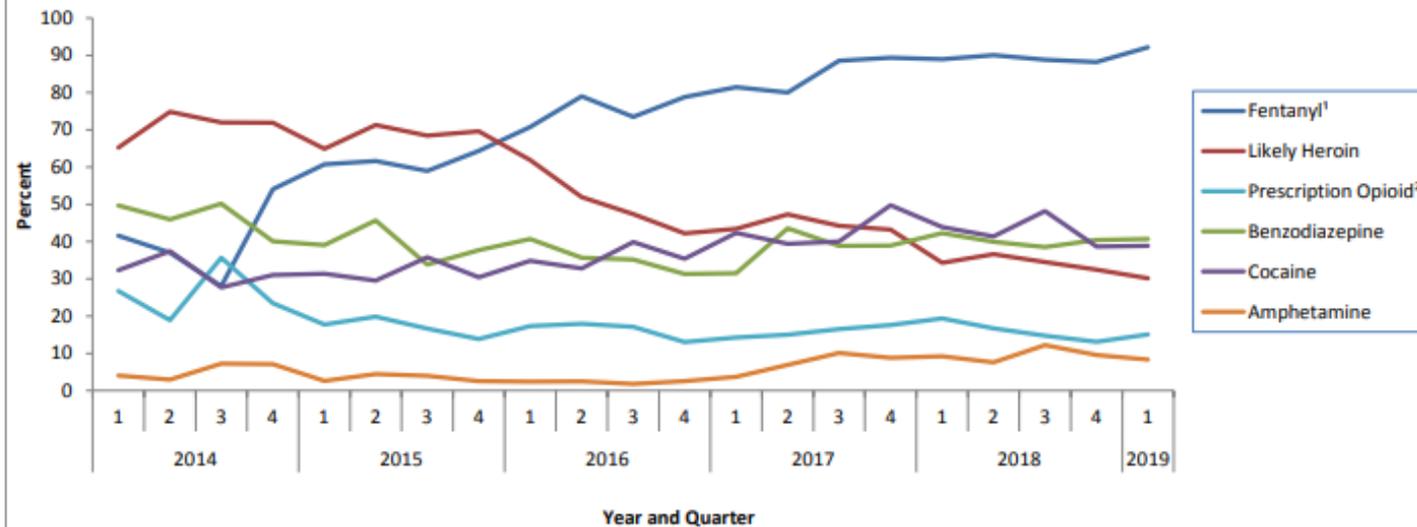
Fentanyl binds significantly faster to receptors which produces elevated feelings of euphoria, rapid onset overdose, and increased risk of infectious disease.

<u>Drug</u>	<u>Duration</u>	<u>Potency</u>
Methadone	24-32 hours	****
Heroin	6-8 hours	*****
Oxycontin	3-6 hours	*****
Codeine	3-4 hours	*
Morphine	3-6 hours	***
Fentanyl	2-4 hours	*****

# Fentanyl



Figure 4. Percent of Opioid-Related Overdose Deaths with Specific Drugs Present  
Massachusetts Residents: 2014 - Q1 2019



1. This is most likely illicitly produced and sold, **not** prescription fentanyl

2. Prescription opioids include: hydrocodone, hydromorphone, oxycodone, oxymorphone, and tramadol

Please note that previous estimates may change slightly as DPH routinely receives updated toxicology data from the Office of the Chief Medical Examiner and the Massachusetts State Police.

## In Mass:

- A drop in death rates involving heroin have decreased at approximately the same rate that fentanyl-related deaths have increased
- 90% of deaths in 2019 had a toxicology screen showing a positive result for fentanyl

# Opioid Overdose



Due to their effect on the part of the brain which regulates breathing, opioids in high doses can cause respiratory depression and death

This is known as opioid overdose



# Opioid Overdose: Risk Factors



- Not knowing the purity or exact content of the drug
  - New city/residential location or new dealer/source
- Mixing other drugs and alcohol with opioids
  - Using an opioid with other depressants such as alcohol or benzodiazepines
  - Stimulants can also contribute to overdose risk
- After periods of abstinence-misjudging body tolerance (relapse, after treatment stay, hospitalization, incarceration)
- New route of administration
- Poor physical health (advance liver damage, respiratory issues)
- Having a previous overdose

# Opioid Overdose



## Intoxicated

- Drowsy, but arousable
  - Responds to sternal rub
- Drowsy, but breathing
  - 8 or more times per minute
  - Average is 16x/min
- Normal coloring
- Slowed muscle function

## Overdosed

- Not arousable
  - No response to sternal rub
- Breathing slow or stopped
  - < 8 times per minute
  - May hear gurgling/snoring noise
- Blue/gray lips and fingertips
- Limp body

# Responding to an Overdose



➤ **Call 911**

➤ **ADMINISTER NARCAN**

➤ **Rescue breathing/Chest Compressions**

➤ Chest compressions should only be done if there is no sign of a pulse

➤ Stay with the person until help arrives

➤ Recovery position as needed



# Naloxone (Narcan)



# Naloxone (Narcan) Nasal Spray



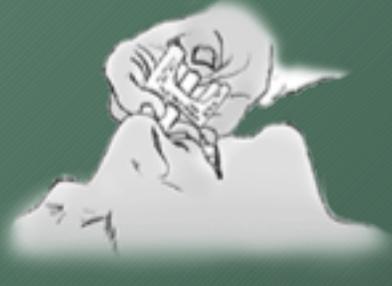
## Single-step Administration:

- Comes with two pre-assembled applicators with Narcan built in
- Requires no assembly, just insert in nostril and push the button
- Spring-action button delivers full 4mg dose in one nostril
- If person is not revived within 2 to 3 minutes, deliver second applicator

PEEL



PLACE



PRESS



# Naloxone (Narcan)

- Lasts 30-90 minutes
  - Afterwards any opioids in the body will return to the receptors so overdoses can happen again
  - Advise against using more opioids as any opioids will not be felt for the next 30 to 90 minutes
- No intoxication, no adverse reactions, no potential for abuse, no potential for overdose
- *Must be stored at room temperature*
- Check expiration dates
- Reverses Wooden Chest Syndrome
  - A seizing of the chest muscles which makes rescue breathing ineffective



# Naloxone Formulations



Nasal with separate atomizer  
“Multi-step”

Amphastar Pharmaceuticals



Narcan Nasal Spray  
“Single-Step”

Adapt Pharma



Auto-injector

Kaleo Inc.



Naloxone Injection

*Can be injected intravenously, intramuscularly, or subcutaneously*

Various Companies

# Naloxone (Narcan) Access



- Naloxone rescue kits are available at pharmacies across the state, with or without prescriptions
  - The Department of Public Health (DPH) has issued a statewide standing order that allows pharmacies to dispense naloxone without a prescription
- Covered by most insurance companies, including as MassHealth
  - 76% have a copay of \$10 or less
- For information on naloxone programs visit the Massachusetts Substance Use Helpline at [www.helplineMA.org](http://www.helplineMA.org) or call 1-800-327-5050



## Overdose Education and Naloxone Distribution (OEND) Programs in Massachusetts



<b>Boston</b>	<b>ACCESS, Drug User Health Program</b> <b>Fenway Health</b> <b>617-599-0246</b> Serving Boston, Cambridge, Somerville, and surrounding towns		<b>AHOPE</b> <b>Boston Public Health Commission</b> <b>617-534-3976</b> Serving Boston		<b>Drug User Health Project</b> <b>Victory Programs</b> <b>617-927-0836</b> Serving Boston		
<b>Central</b>	<b>AIDS Project Worcester</b> <b>508-755-3773</b> Serving Worcester County			<b>Program RISE</b> <b>Justice Resource Institute</b> Call <b>508-935-2960</b> or text <b>978-447-4735</b> Online requests during COVID-19 may be made using the following link: <a href="https://tiny.cc/RISE-GLASS_Supplies">tiny.cc/RISE-GLASS_Supplies</a> Serving Ashland, Framingham, Natick, Westborough and surrounding towns			
<b>Northeast</b>	<b>Greater Lawrence Family Health Center</b> <b>978-989-4533</b> Serving Lawrence and Essex County	<b>Healthy Streets Health Innovations</b> <b>339-440-5633</b> Serving Beverly, Chelsea, Lowell, Lynn, Peabody, Salem, and Saugus	<b>Life Connection Center</b> <b>978-935-1801</b> Serving Lowell	<b>Lowell Community Health Center</b> <b>978-221-6767</b> Serving Lowell	<b>Lowell House</b> <b>978-459-8656</b> Serving Lowell	<b>Lynn Community Health Center</b> <b>781-691-9441</b> Serving Lynn	<b>ONESTOP North Shore Health Project</b> <b>978-381-3170</b> Serving Gloucester and Cape Ann
<b>Southeast</b>	<b>AIDS Support Group of Cape Cod</b> Falmouth: <b>774-763-6656</b> Hyannis: <b>508-778-1954</b> Martha's Vineyard: <b>774-994-7935</b> Provincetown: <b>508-487-8311</b> Serving the Cape and the Islands		<b>The COPE Center</b> <b>Brockton Area Multi-Services, Inc.</b> <b>508-583-3405</b> Serving Brockton and Plymouth	<b>Manet Community Health Center</b> <b>857-939-4108</b> Serving Braintree, Hull, Quincy, and Weymouth	<b>Project Aware SSTAR</b> <b>508-324-3561</b> Serving Fall River	<b>Seven Hills Behavioral Health</b> New Bedford: <b>508-996-0546</b> Fall River: <b>508-235-1012</b> Taunton: <b>508-967-7170</b> Serving the South Coast	
<b>Western</b>	<b>Healthy Steps</b> <b>Berkshire Medical Center</b> <b>413-447-2654</b> Serving Berkshire County		<b>Holyoke Community Health Center</b> <b>413-420-2255</b> Serving Holyoke	<b>New North Citizen's Council</b> <b>413-747-5755</b> Serving Springfield	<b>Tapestry Health</b> Chicopee: <b>413-270-3277</b> Greenfield: <b>413-475-3377</b> Holyoke: <b>413-315-3732</b> North Adams: <b>413-398-5603</b> Northampton: <b>413-586-0310</b> Springfield: <b>413-363-9472</b> Serving Western MA		

# Responding to an Overdose



✓ ➤ *Call 911*

✓ ➤ **ADMINISTER NARCAN**

➤ **Rescue breathing/Chest Compressions**

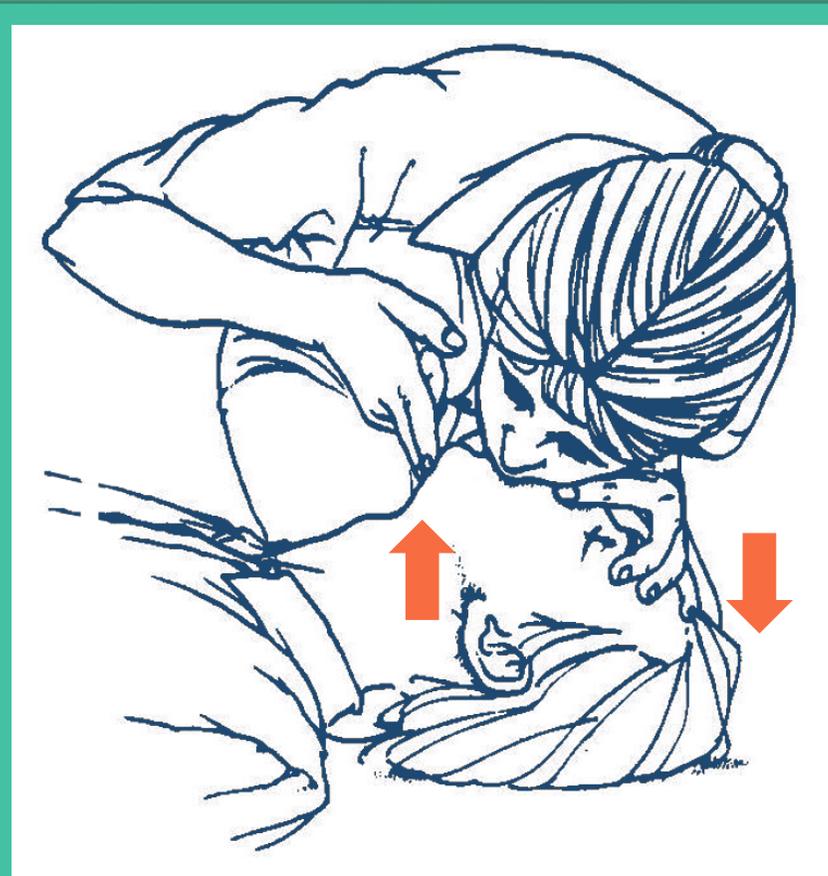
➤ Chest compressions should only be done if there is no sign of a pulse

➤ Stay with the person until help arrives

➤ Recovery position as needed



# Rescue Breathing



Make sure there is nothing in the mouth

Tilt head back, lift chin, and pinch nose

Give a breath every 5 seconds

- Essential for getting oxygen into the lungs
- The air we exhale has 17% oxygen which is more than enough to sustain someone
- Helps a person get enough oxygen until the naloxone reverses the overdose and the person starts breathing on their own
- Can help keep someone alive and prevent brain damage

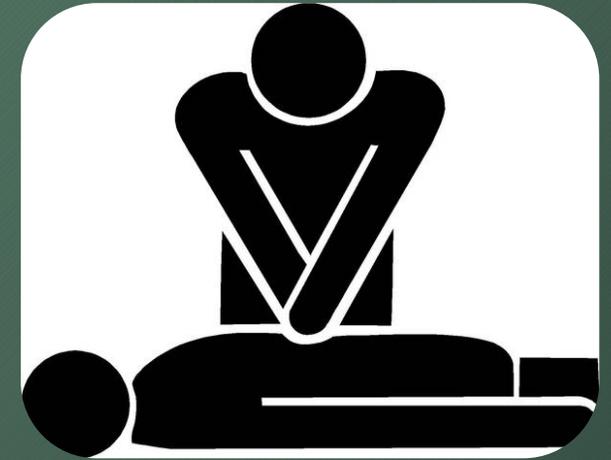
# Rescue Breathing During COVID



Bag Valve Mask



Mouth barrier  
(or a t-shirt!)



Chest compressions

# Responding to an Overdose



- ✓ ➤ *Call 911*
  - ✓ ➤ **ADMINISTER NARCAN**
  - ✓ ➤ **Rescue breathing/Chest Compressions**
    - Chest compressions should only be done if there is no sign of a pulse
- Stay with the person until help arrives
- Recovery position as needed



# Recovery Position



If you must leave the person who is overdosing, put them into the recovery position so they will not choke on their own vomit



# Responding to an Overdose



*ACTIONS WILL DEPEND ON COMFORT LEVEL*

## Minimum

- ✓ Call 911
- ✓ Administer naloxone

## Best Practice

- ✓ Call 911
- ✓ Administer naloxone
- ✓ Perform rescue breathing
- ✓ Perform chest compressions (as needed)
- ✓ Stay with the person or put in recovery position

True or False?



If you help someone who is overdosing,  
you are at risk of overdosing yourself

**BUSTED**

# Facts on Fentanyl



- Drugs like fentanyl have minimal absorption through the skin
- Brief, incidental contact isn't going to cause somebody to absorb a therapeutic dose, let alone a toxic dose
- For that to happen, the drug would need to be absorbed by a mucous membrane, inhaled, ingested, or injected into the body
- What about Fentanyl patches, then?
  - Fentanyl patches require putting fentanyl into special liquid vehicles specifically designed for absorption through skin

# True or False?



If you are using your phone who  
overdresses you will be arrested for  
possession of a gun call 911 for help

**BUSTED**

# Good Samaritan Law

In case of an overdose, the Massachusetts Good Samaritan Law protects both victims and those who call 911 for help from charge, prosecution, and conviction for possession or use of controlled substances.

It does not protect people from arrest for other offenses, such as selling or trafficking drugs, or from existing warrants

*(warrants, weapons, or weight)*

[Title XV, Chapter 94C, Section 34A](#)



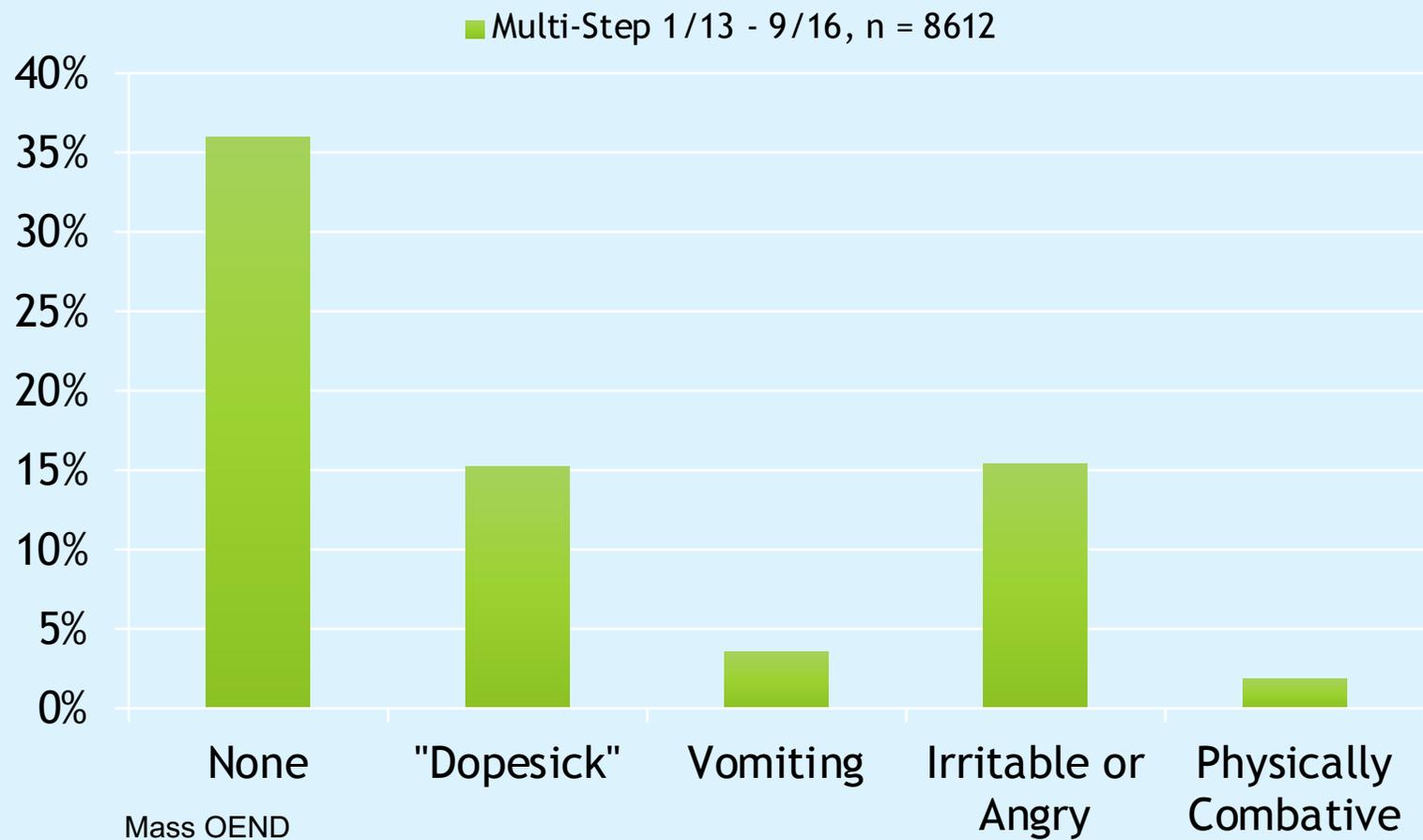
# True or False?



When you Na... some... you  
better... than... back... because they  
will... keep... swindling...



## Community Bystander Naloxone Rescue Reports: Post-Naloxone Withdrawal Symptoms.



# Narcan Overdose Response



# Overdose Prevention Harm Reduction



- Do not use drugs alone
  - If alone:
    - Facetime with a trusted person
    - NeverUseAlone.com
      - MA specific hotline: (800) 972-0590
    - Canary Overdose Prevention App
    - Brave.coop



# Overdose Prevention Harm Reduction



- Keep naloxone nearby and visible
- Go low and slow
- Use only one drug at a time
- Stay with same dealer
- Do your own mixing and fixing
- [Fentanyl testing strips](#)
- Make a plan!



# Pop Quiz!



- Example of a synthetic opioid?
  - Fentanyl, Methadone, Tramadol
- Brand name of naloxone?
  - Narcan
- Number of people who die from overdoses everyday in Mass?
  - Five
- How long to wait between doses of Narcan?
  - 2 to 3 minutes
- How long Narcan lasts in the body?
  - 30 to 90 minutes

# Pop Quiz



- The amount of time an overdose can take when using fentanyl
  - 5 to 10 minutes
- These are the signs of an overdose
  - Not responsive, not breathing, blue/gray coloring, limp body
- How long to wait between rescue breaths
  - 5 seconds
- These are the 3 steps to take when someone is overdosing
  - Call 911, deliver Narcan, begin rescuing breathing
- These are the potential adverse reactions of using naloxone on someone who is not overdosing on opioids
  - None



Thank You!

*(Your contact info and logo here)*

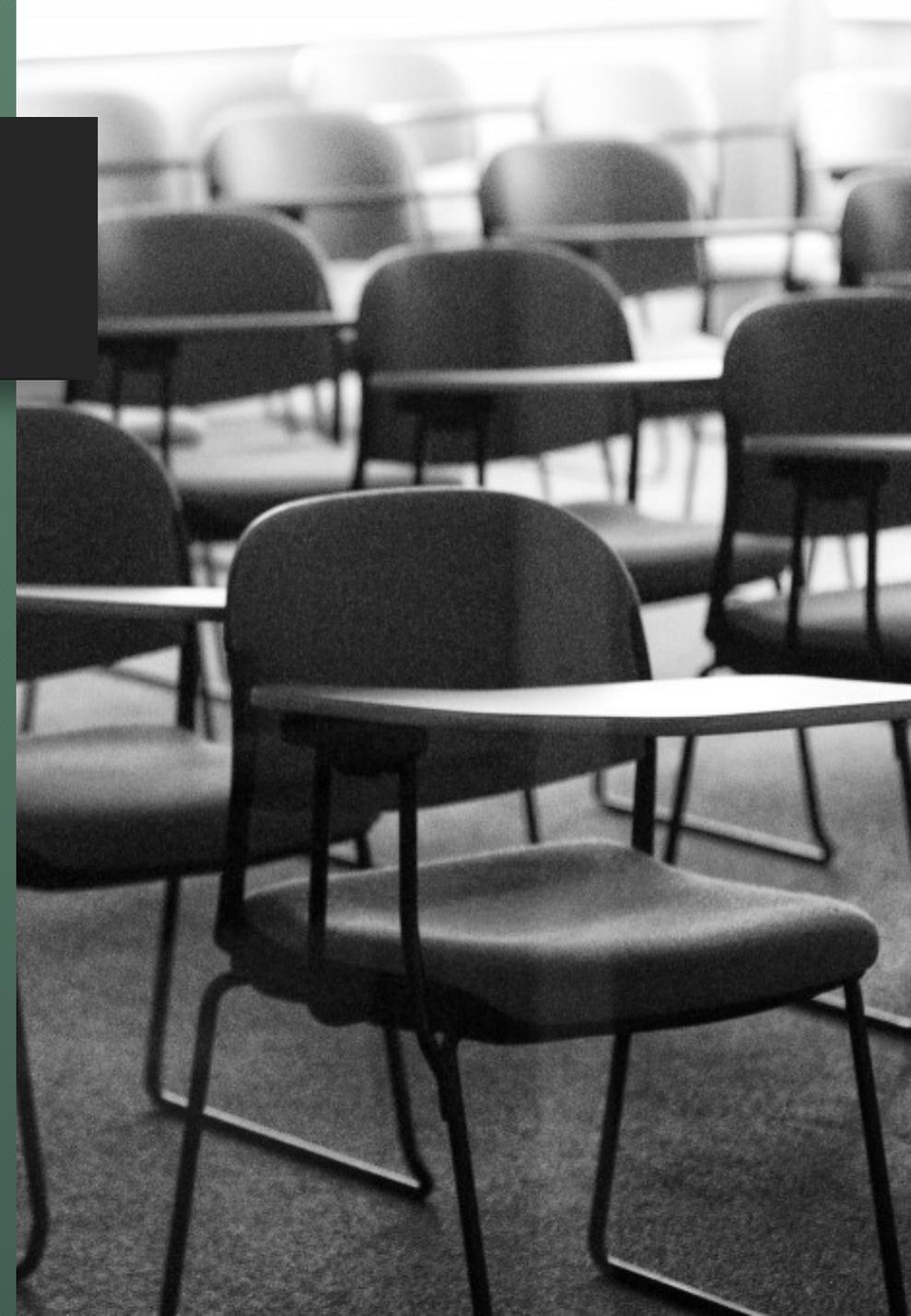
# Opioid Overdose Prevention

Train the Trainer



# Adult Learning Principles

1. Adults are internally motivated and self-directed
2. Adults need to draw upon their own knowledge and life experiences
3. Adults are goal oriented
4. Adults are relevancy oriented
5. Adults are practical
6. Adults need to be heard and shown respect



# Learning Styles



- Visual learners
  - Visual learners are those who rely most on sight. They respond best to pictures, videos, maps, charts, and other visual learning tools. They tend to prefer seeing things written down and highly value handouts



- Auditory
  - Auditory learners are those who generally learn by hearing and saying items out loud. They prefer demonstrations, lectures, discussions, and reading aloud



- Kinesthetic
  - Kinesthetic or tactile learners are those who learn best through touching, feeling, and experiencing that which they are trying to learn. They prefer role plays, experiments, simulations and other hands-on activities

# Tips for Facilitation



- **Be prepared.** Make sure you have the materials you need, that you know the agenda and content, and that all your technology is working if applicable
- **Have an agenda.** Agendas help you to ensure you cover all necessary material in a timely manner. Stick to the agenda as much as possible and be sure to include breaks (when needed)
- **Create group comfort rules.** Group comfort rules ensure a safe, respectful experience. Post them somewhere visible so they can be easily referred to as needed
- **Create a welcoming environment.** Learn the names of the participants as soon as possible and use their first name frequently to make them feel comfortable and included. Greet each person, smile, and let them know you are sincerely glad they came

# Tips for Facilitation



- **Make it fun and interactive.** Research has shown that what we learn in fun we tend to remember
- **Help everyone to get equal time.** Some people are natural talkers, some people are natural listeners. Encourage talkers to limit their sharing and prompt the listeners to participate
- **Allow for silences.** Though silences can be awkward, they allow everyone time to think and eventually someone who may not have originally spoke will take the opportunity to do so
- **Share your own personal journey.** Being open with your own experiences to the extent you are comfortable, may help other group members to open up to share. Also, providing real life examples may help make the connection between the information and application

# Tips for Facilitation



- **Facilitate, not dominate.** As the group facilitator, your job is to keep the group on task and to navigate the group through the material. With that being said, each group is unique and should be allowed to take its natural course (within reason)
- **Don't be afraid to redirect.** If someone is getting off topic, being disrespectful, or being distracting, your role as facilitator is to redirect them so that they don't disrupt the group
- **Don't bluff.** Recognize your strengths and weaknesses and don't pretend to know all the answers. No one does, and that's okay!
- **Use your sense of humor.** A sense of humor helps to keep people engaged and dispel any tension that might come up during a training. It also allows a trainer to take themselves less seriously, to stay loose and relaxed.

Remember...

*We are all  
students  
and  
we are all  
educators*



# Thank You!

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