EVOLVING OVERDOSE RESPONSE

ADAPTING TO SEDATIVES IN THE DRUG SUPPLY

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Learning Objectives

1. Understand the effects of sedatives on overdose presentation and recognition.
2. Evaluate the effects and limitations of naloxone in sedative-involved overdoses.
3. Identify gaps in current opioid overdose training and provide guidelines for responding to sedative-involved overdoses.

Today's training was adapted from the Philadelphia Department of Public Health.

Today's Presenters

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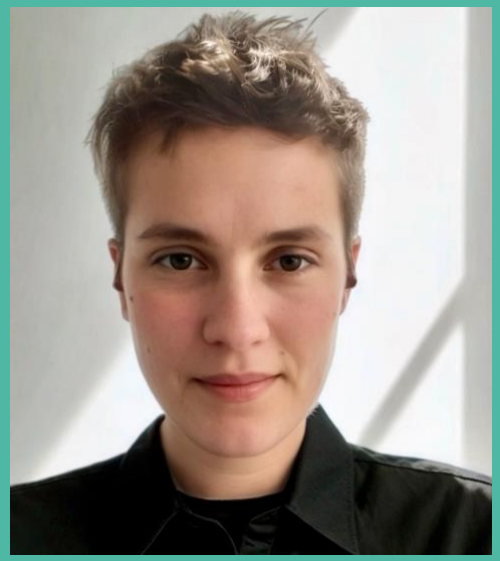

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Community-informed approaches to the escalating presence of xylazine in opioids

NIDA-funded study (R21DA058582)
Thomas Jefferson University (PI Reed) | Brandeis University (Co-I Green)

Step 1: Interviewed people using xylazine and other content experts in Philadelphia, PA, a xylazine-saturated market.

Step 2: Presented results to people using xylazine and other content experts. Used co-design to develop three interventions.

Step 3: Piloted interventions in urban, suburban, and rural communities with emerging xylazine markets in Massachusetts

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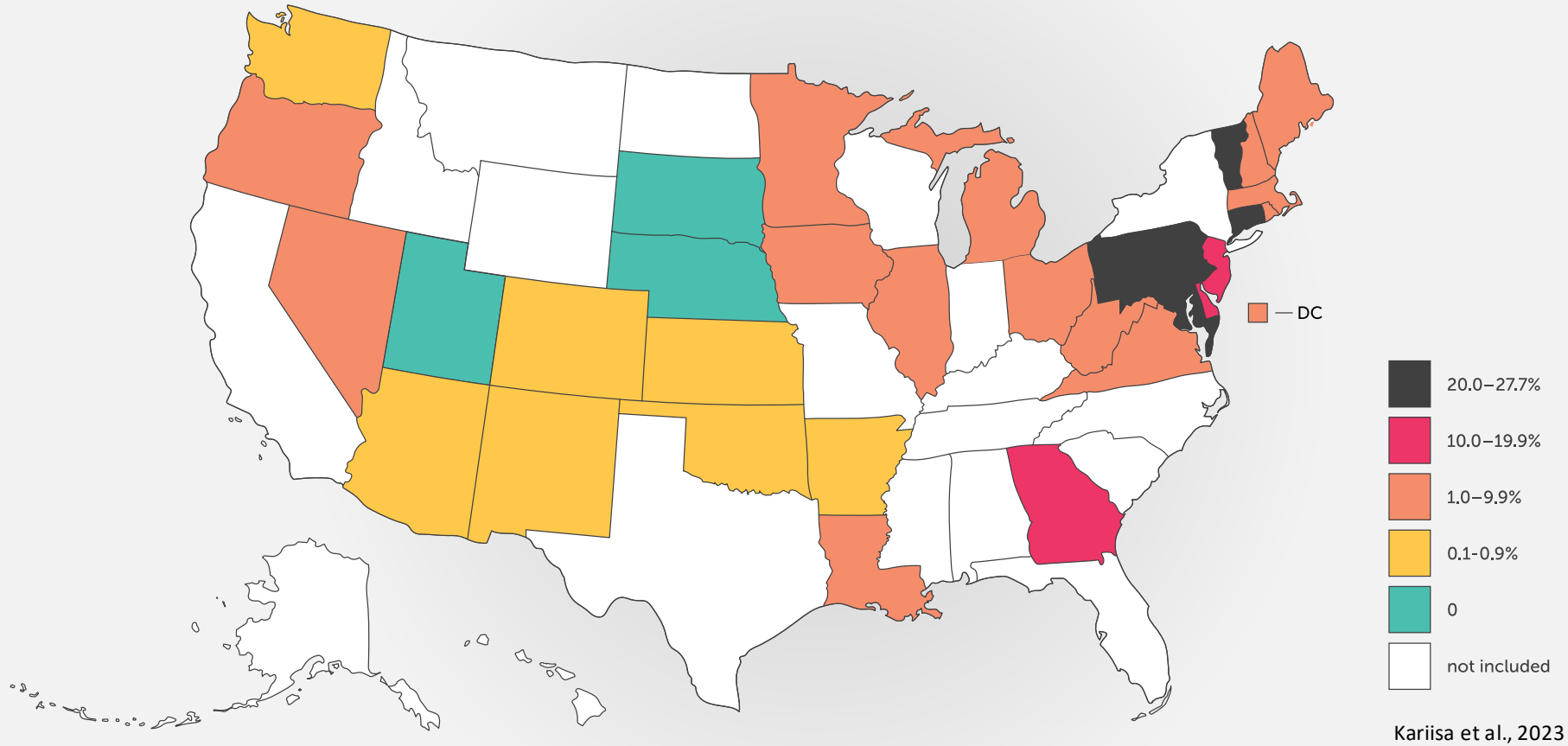
XYLAZINE & OTHER SEDATIVES

Overdose crisis in Philadelphia and the changing drug supply

TIMELINE

Xylazine's spread across the US, January 2019–June 2022

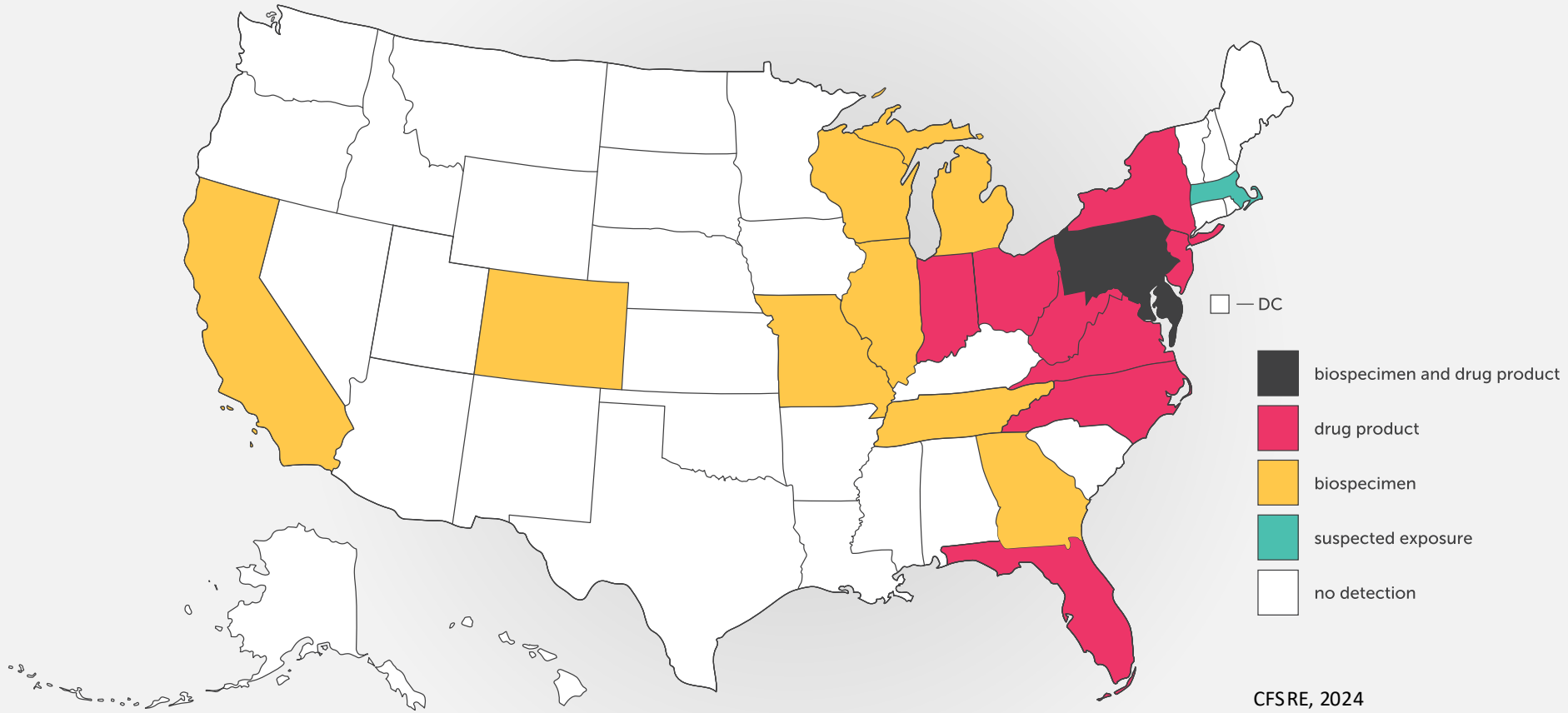
PERCENTAGE OF IMF-INVOLVED OVERDOSE DEATHS WITH XYLAZINE DETECTED



Kariisa et al., 2023

Medetomidine’s spread across the US, late 2022–May 2024

GEOGRAPHICAL DISTRIBUTION OF MEDETOMIDINE EMERGENCE



CFSRE, 2024

What is dope in most places?

SYNTHETIC OPIOID
fentanyl
nitazines
carfentanil

DOES respond to naloxone

+

SEDATIVE
xylazine
medetomidine
benzodiazepines

DOES NOT respond to naloxone

+

ADULTERANT
benzocaine
caffeine
lidocaine
quinine

DOES NOT respond to naloxone

Xylazine and Medetomidine

THE SAME…

Veterinary medication

Alpha-2-agonist

Not responsive to naloxone

Rapid onset

Causes prolonged sedation

Almost always found with fentanyl

Involved in fatal overdose

Causes withdrawal

Not federally scheduled

BUT DIFFERENT

XYLAZINE

Clear association with wounds

Scheduled in PA

MEDETOMIDINE

100-200x more potent than xylazine

Longer sedation

More pronounced lower heart rate

Anecdotal reports of association with hallucinations and worse withdrawal symptoms

How do xylazine and medetomidine affect overdose?

Cause prolonged sedation

People need positioning to maintain open airway

Sedatives are not responsive to naloxone

Response needs to place great emphasis on breathing

People may remain non-responsive

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ADAPTING OVERDOSE RESPONSE

Reminder: responding to an overdose

1. Call out for help.
2. Administer naloxone.
3. Call 911.
4. Start rescue breathing.
5. After three minutes if not breathing, give 2nd dose of naloxone.
6. Continue rescue breathing until breathing is restored.
7. Stay with them until help arrives.
8. Provide a compassionate comeback.

Sedative-involved overdose recognition

FOCUS ON RESPONSE

SYNTHETIC OPIOID OVERDOSE

1. **Check for responsiveness**
2. Check for breathing
3. Administer naloxone
4. Call 911
5. Administer rescue breathing

FOCUS ON BREATHING

SYNTHETIC OPIOID OVERDOSE + SEDATIVE OVERDOSE

1. **Check for breathing**
2. Check for responsiveness
3. Administer naloxone
4. Call 911
5. Administer rescue breathing

Recognizing the emergency

The emergency is that they are not breathing,
not that they aren't answering you.

Change your approach.

Focus on respiration instead of responsiveness.

Methods to assess breathing

LOOK. Watch for breathing. Look for chest movement OR watch shoulders (rise & fall). Count to make sure it's at least 1 breath every 5 seconds.

LISTEN. Can you hear them breathing? Does it sound strained or choked?

CHECK. Hold a piece of glass (like a small mirror), or metal object (like a key), or piece of plastic (rescue breathing mask)—or any other item that collects condensation—in front of their mouth.

Guidelines for responding to sedative-involved overdoses

Don’t just ask if they’re okay.
Check to see if they’re blue or gray.

Train responders to look for color changes and respiration.

Confirm that at least 1 breath is taken every 5 seconds.
Check “lips & tips” for blue or gray.

Gaps in current standard overdose response training

The priority must shift from eliciting a response to assessing, and supporting, breathing/oxygenation.

Assessing for responsiveness with painful stimuli can cause unnecessary harm.

Responsiveness is no longer the goal of overdose response.

There IS such a thing as too much naloxone.

Photo credit: The Everywhere Project

Naloxone works!

MYTH

Naloxone doesn't work on sedative-involved overdoses.

TRUTH

Naloxone is working to restore breathing from the opioid overdose **AND** the person may still be sedated on xylazine or another sedative.

Naloxone will not resolve sedation, but it will help people breathe during overdose situations.

Naloxone works, but... make a plan for monitoring to keep the person safe

Naloxone takes time to work and should be supported by rescue breathing.

Naloxone wears off in 45 min–2 hours, but the person may still be sedated.

Sedation resolves with time, which may be up to 2–3 hours, possibly more with medetomodine.

PRO TIP: have a plan ready for monitoring or transition.

Too much naloxone can be harmful

A 2023 study comparing 4 mg to 8 mg of an initial intranasal (IN) dose found that people who received the higher dose were 2.5 times more likely to experience withdrawal symptoms, with no difference in survival. (Payne et al., 2024)

The ideal dose of naloxone is one that restores breathing without inducing withdrawal. (Russell et al., 2024)

Naloxone is totally safe for people who are not physically dependent on opioids, but over-administration can cause precipitated withdrawal among PWUO.

Too much naloxone can be harmful

The more naloxone administered, the worse the withdrawal.

Studies have shown that people who experience severe precipitated withdrawal are more at risk for fatal overdose:

- People may try to immediately use more to relieve their symptoms, causing them to overdose again when the naloxone wears off.
- People may try to use in secluded places/away from people out of a concern that they will receive too much naloxone.

Don’t be afraid to give someone naloxone if they are not breathing!
But try and use as little as possible.

What is Compassionate Comeback?

When responding, administer the least amount of naloxone possible.

Be kind

Talk people through the process, even if they can't verbally respond

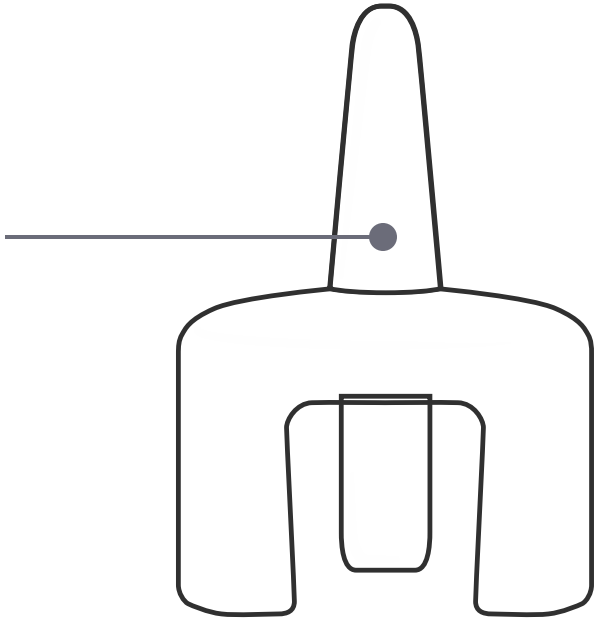
Supportive aftercare:

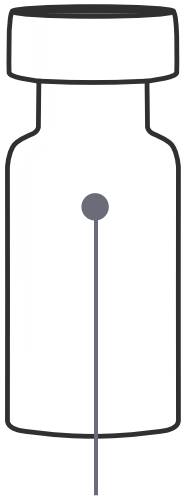
- Create a calm environment to the extent possible.
- Reduce the number of people nearby, especially those in uniform.
- Give them space and welcome them back.
- Explain what happened.
- Respect their wishes—don't make them stay.
- Take care of yourself and your needs.

National Harm Reduction Coalition, The Dope Project, Stephen Murray

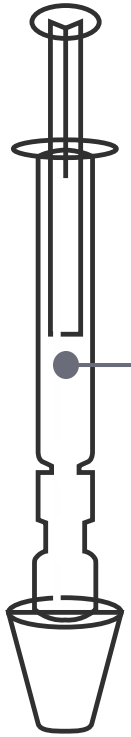
Different forms of naloxone—Best

3mg nasal spray (brand)





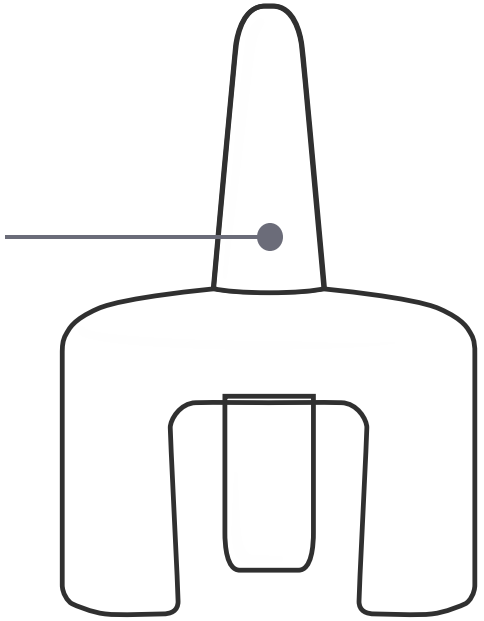
0.4mg intramuscular (IM) (generic)



1mg & 2mg nasal atomizer (generic)

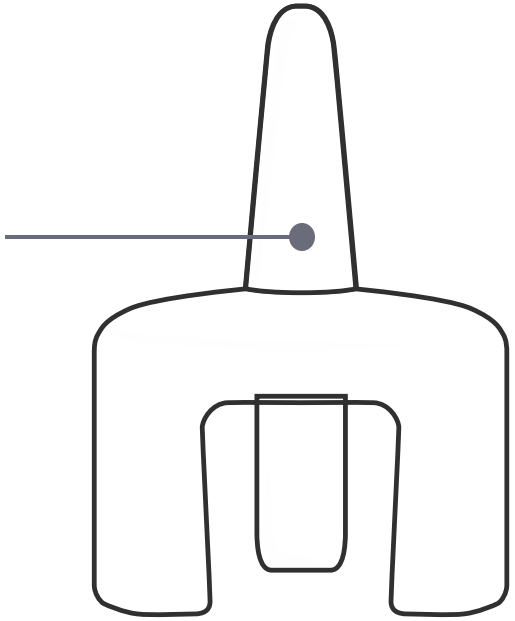
Different forms of naloxone—Good

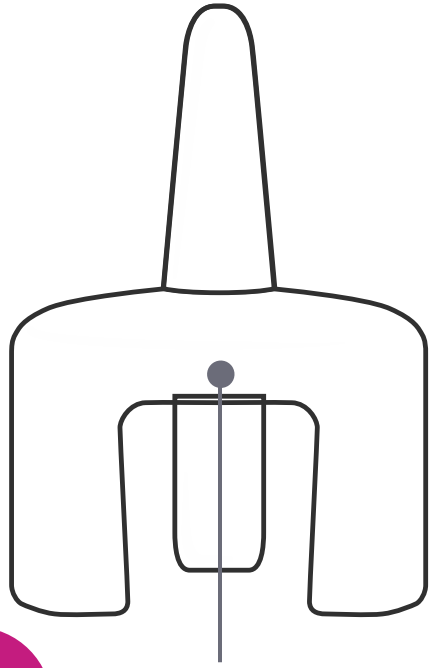
4mg nasal spray (brand or generic)



Different forms of naloxone — Not recommended

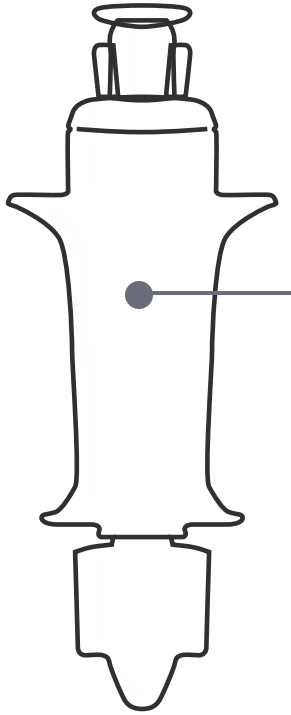
nalmafene





8mg

nasal applicator (brand)



5mg auto injector intramuscular (IM) (brand)

3

EXPANDING YOUR TOOLBOX

Look at your toolbox: two scenarios

**MY TOOLBOX IS BASIC.
I CAN'T CHANGE TOO MUCH.**

Budget limitations

Training limitations

Capacity limitations

WE'RE LOOKING TO EXPAND OUR OPTIONS!

Available funding

Training capabilities

Invested stakeholders

Limited in changing your standard kit?

STANDARD KIT

Barrier/CPR mask

Naloxone

Gloves

WHAT TO ADD:

Emphasis on breathing support and assessment

Patience! Let the naloxone work

Positioning (head tilt, rescue position)

Methods to reduce the harms of sedation

Methods to reduce the harms of sedation

1. If laying, utilize the recovery position.
2. If sitting, head reposition (decompress windpipe).
3. Check that limbs aren't "pinned”.
4. Massage limbs during prolonged sedation.
5. Move them to a safe place (e.g., away from/out of street, away from train tracks, not in the middle of the sidewalk).
6. If possible, ask someone to keep an eye on them.

Comfortable in the grey zone

More uncertainty than there used to be—get comfortable there.

The person was not overdosing but is severely sedated.

You can still reduce the harm!

After reversing an overdose:

Naloxone can wear off and the person is still sedated.

Have a couple of ready-to-go transition plans.

Can you get them to a community hub/nearby resource?

Are there any bystanders you can ask to check on them?

+/- Call 911/EMS

Can you find a safe place for them to sit?

Comfortable in the grey zone

YOU DO THE BEST YOU CAN FOR THE SITUATION YOU ARE IN

+

AND THAT DOESN'T ALWAYS MEAN MORE NALOXONE

Able to adapt your standard kit?

STANDARD KIT

Barrier/CPR mask

Naloxone

Gloves

ADDITIONAL TOOLS

Pulse oximeter

Ambu-bag

Oropharyngeal & nasopharyngeal airways*

Recreational oxygen cans

Oxygen tanks*

* *These tools require extensive and Specialized training. Talk to a clinician about the best way to access this.*

Pulse oximeters

PROS

Provides ongoing data to refer to during overdose response

Can help assess oxygen levels if you're unsure

Assists with monitoring breathing when in a gray zone

CONS

Requires training to use

Has higher supply costs

Unreliable

Skin color

Nail polish

Injury/Callouses

AMBU Bag

PROS

Better respiration

Alternative for those who won't do rescue breathing

CONS

Training: seal and frequency

One vs. two people

Single use

Expensive ($15-$30)

Oropharyngeal & nasopharyngeal airways

PROS

Keeps airways free of obstruction

Facilitates ventilation (works well with masks and bags)

Quick to insert

Cost effective ($1-$10)

CONS

Can trigger a gag reflex

Specialized training/expertise required

Incorrect placement can cause trauma/obstruct airway

Not suitable for all people

Recreational oxygen cans

PROS

Uses beyond opioid overdose response

More accessible and affordable than oxygen tanks

Less bulky than oxygen tanks

Good complement to rescue breathing and airway management

CONS

Supplemental oxygen only

Bulky for unhoused people

Should not be used near open flame

Moderately expensive for widespread distribution ($18-$20)

Tips from Remedy Alliance

Oxygen tanks

PROS

Best respiration

Alternative for those who won't do rescue breathing*

Reduces the need for naloxone

CONS

Specialized training

Potential dangers (flammable)

Difficult to transport

Very expensive ($400-$4,000)

**Only for people with depressed respiration—i.e., breathing but not enough. If someone is not breathing, this will not help.*

What to remember…

Naloxone works!

Breathing > responsiveness.

Sedation is not the emergency.

The grey zone is bigger.

Naloxone dose matters (there is such a thing as too much).
Remember: compassionate comeback

More tools doesn't mean better tools.

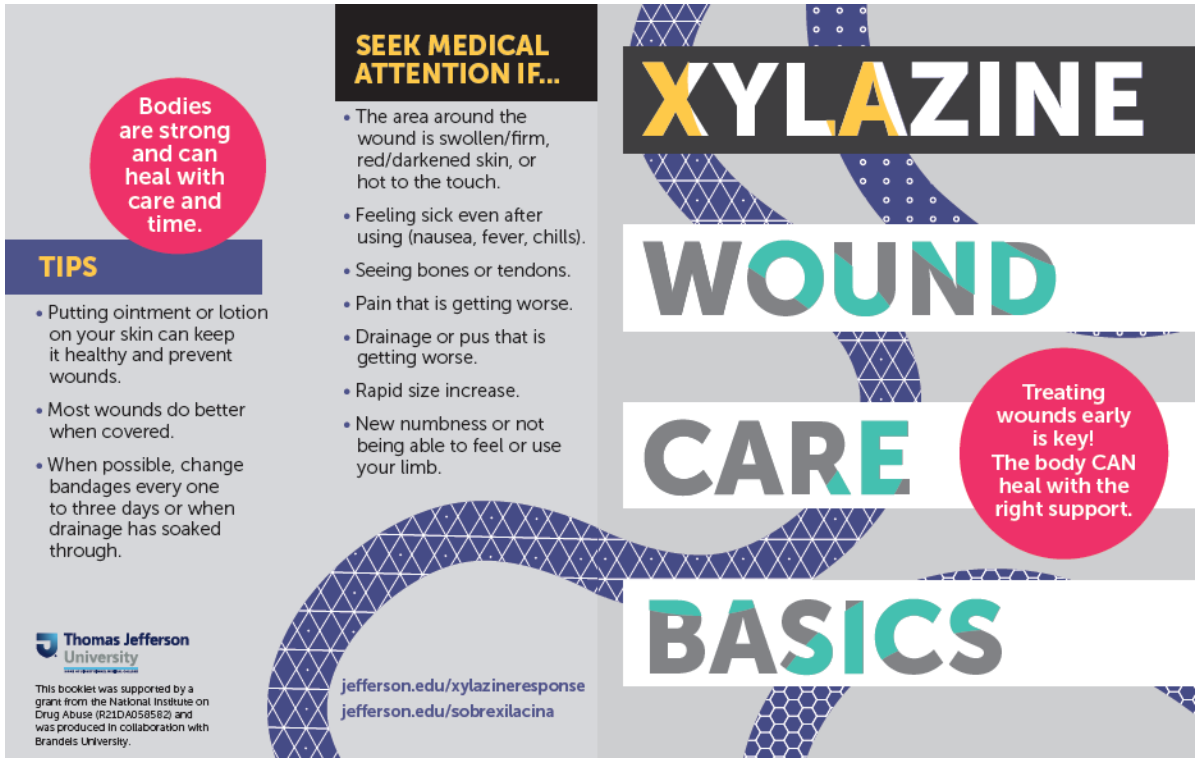
4

OTHER XYLAZINE INTERVENTIONS

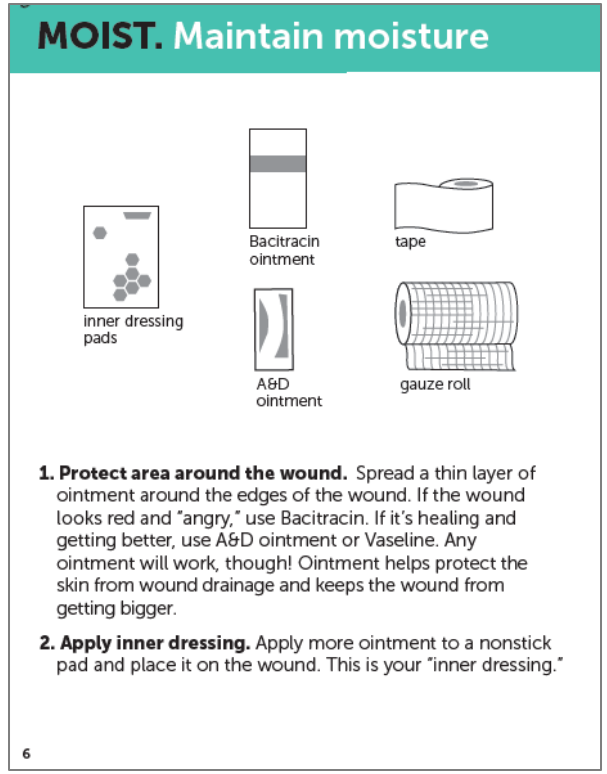
Daily Skin Check poster

Wound Care booklet

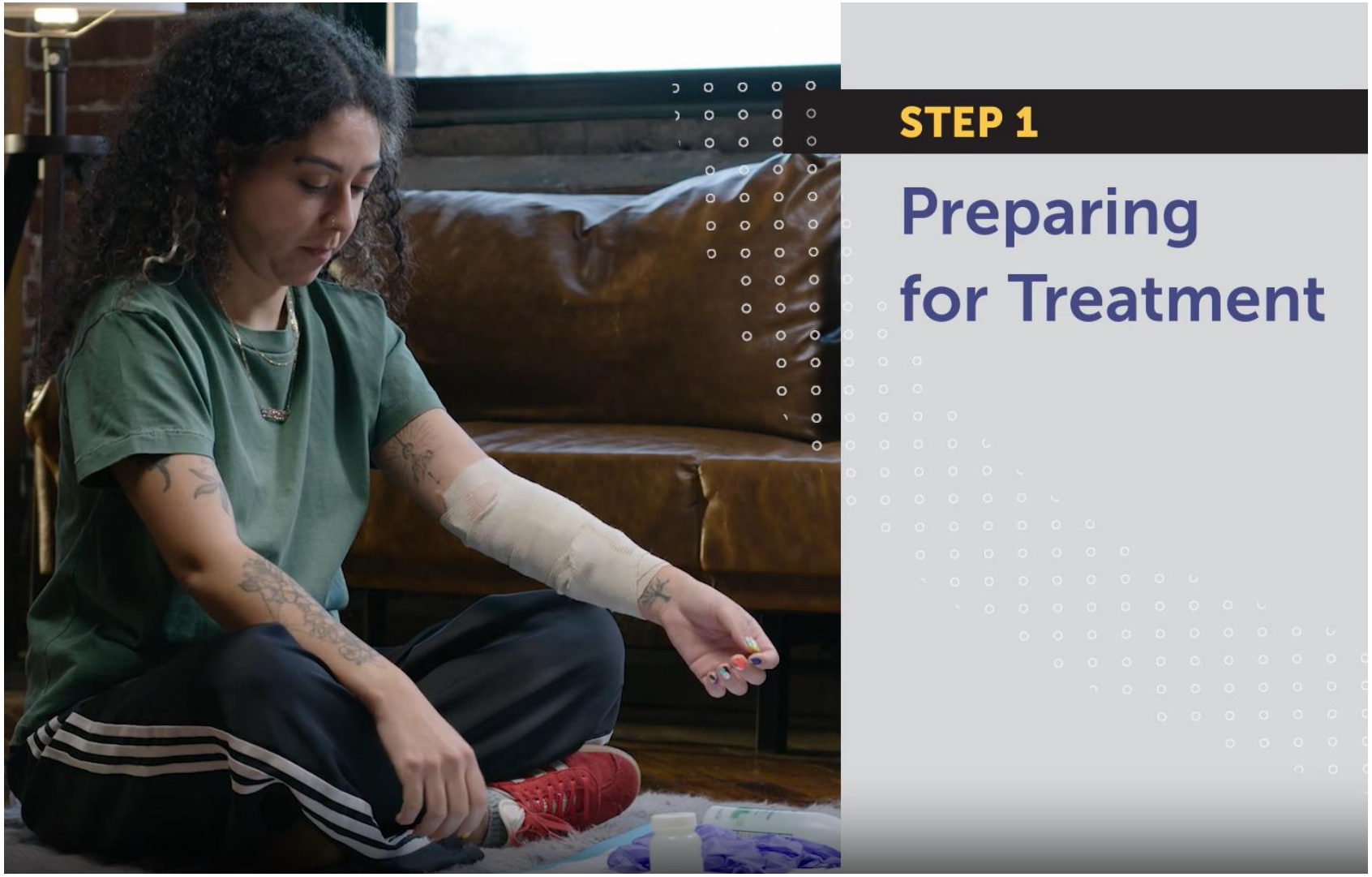
BACK/FRONT COVERS



INSIDE



Wound Care video



Downloadable materials

ALL MATERIALS ARE FREE AND AVAILABLE AT:

www.Jefferson.edu/xylazineresponse

www.Jefferson.edu/sobrexilacina

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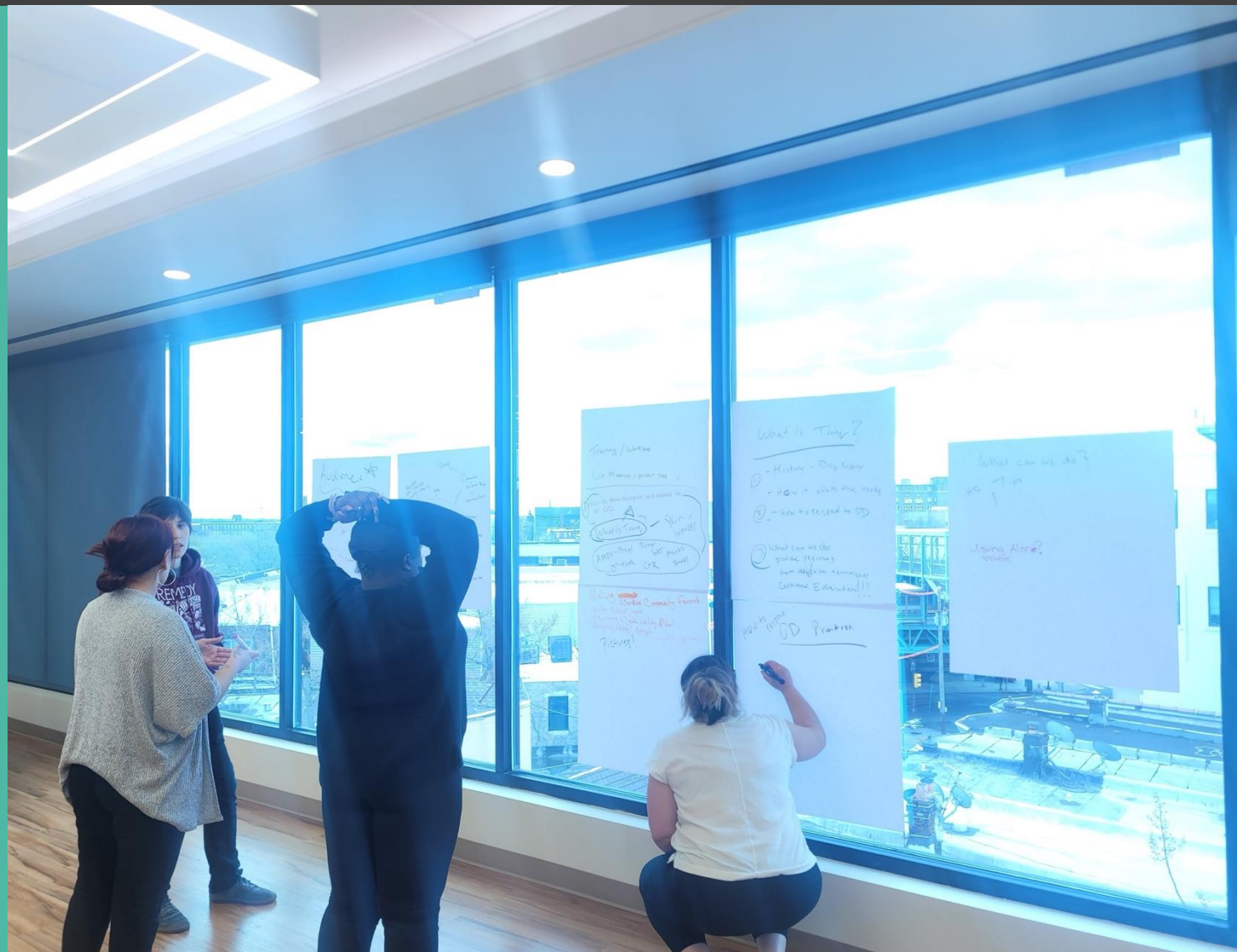

QUESTIONS?

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THANK YOU!