Harm Reduction 2.0 | Unsafe Supply: Clinical Practice Implications & Future Directions

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Maine Access Points

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Disclosures

- No personal financial relationships with commercial interests relevant to this presentation.
- SAMHSA 6H79SP082941-01M003

Learning objectives

Review the epidemiology of overdoses and infectious complications of substance use in Maine

2) Recognize the significance of unsafe supply, with contaminants such as xylazine, and its clinical implications

3) Identify opportunities to advocate for safe supply, such as community drug checking programs

Substance use-associated infections in Maine

. From 8/30/21 – 7/29/22, 1,107 patients with opioid use disorder were hospitalized at MMC, with approximately 120 patients with IDU-associated infections hospitalized at MMC

HEALTH CARE > Posted **May 25** | Updated **May 26**

Maine has nation's highest rate of hepatitis C, 2nd-highest rate of hepatitis B

State health officials say the number of cases should serve as a reminder for people to get vaccinated.

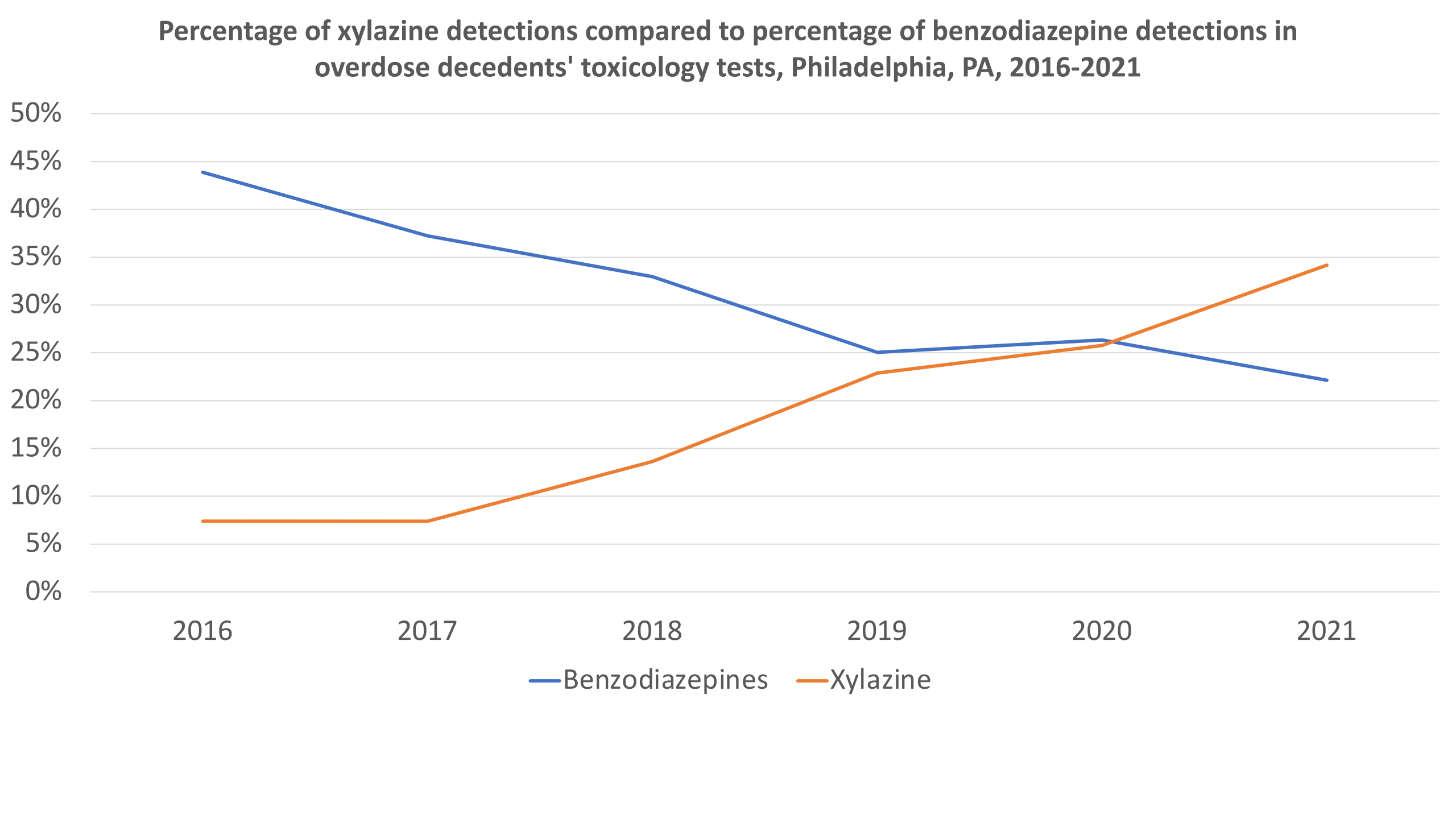
- 28% increase in injection drug use-associated infective endocarditis 2013-2015
- ~120 patients with injection drug use-associated infections hospitalized at Maine Medical Center 8/2021 – 7/29/2022

Russell, E. Portland Press Herald, 5/25/23
Thakarar et al, *PLOS One* 2019
Unpublished data

Combinations of substances from Maine drug overdose death data

	Jan-Dec 2022 N=715	Jan-Apr 2023 N=139
Fentanyl and heroin	18 (3%)	6 (4%)
Fentanyl and cocaine	171 (24%)	42 (30%)
Fentanyl and methamphetamine	189 (26%)	37 (27%)
Fentanyl and xylazine	**46 (6%)**	**13 (9%)**
Fentanyl and tramadol	10 (1%)	1 (1%)

https://mainedrugdata.org/april-2023-monthly-overdose-report/


Percentage of xylazine detections compared to percentage of benzodiazepine detections in overdose decedents' toxicology tests, Philadelphia, PA, 2016-2021
50%
45%
40%
35%
30%
25%
20%
15%
10%
5%
0%
2016
2017
2018
2019
2020
2021
Benzodiazepines
Xylazine

Department of Public Health
CITY OF PHILADELPHIA

Philadelphia Department of Public Health

Division of Disease Control

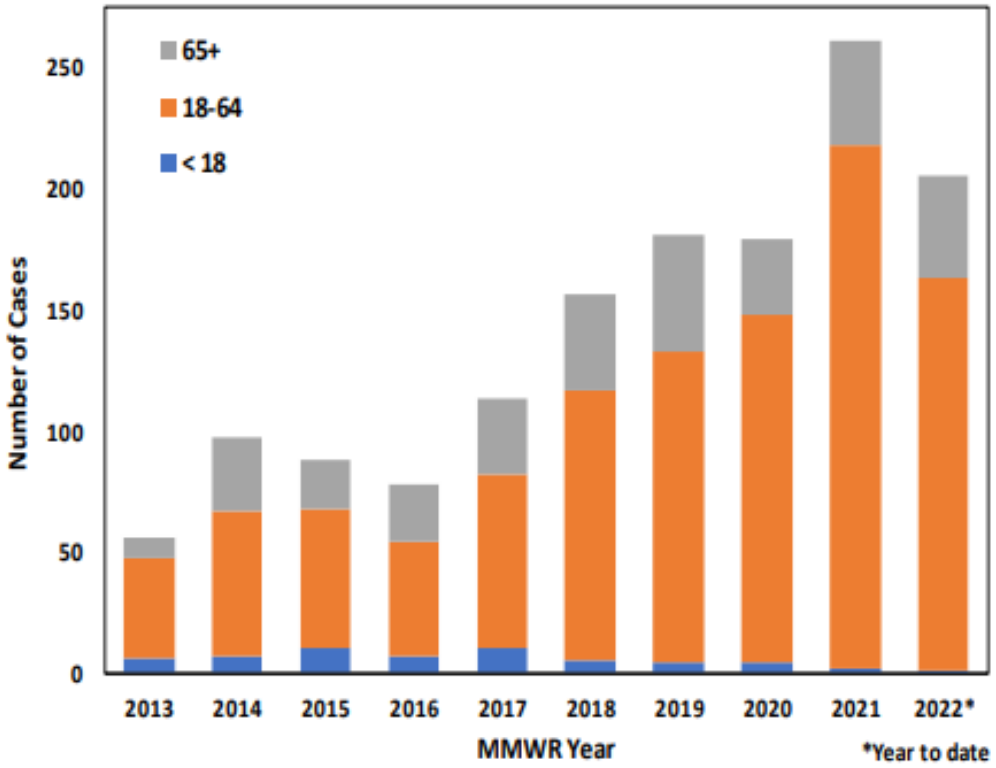
CHERYL BETTIGOLE, MD, MPH	SHARA EPSTEIN, MD	SARA ENES
Health Commissioner	*Medical Director, Division of Disease Control*	*Acting Director, Division of Disease Control*

Health Advisory

Increase in Invasive Group A Streptococcal (iGAS) Infections

January 4, 2023

Invasive Group A Streptococcal Infections, by Age Group and MMWR Year - Philadelphia 2013 - 2022* (N=1,415)



Slide content courtesy Dr. Daniel de Teixeira Silva

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Case

- 42 yo woman presents with bilateral ulcers on her lower extremities. There is evidence of necrosis of subcutaneous tissues, abscesses, and she is found to have osteomyelitis on imaging. She injects drugs (usually fentanyl). During her hospitalization, she is treated for polymicrobial bacteremia (*MSSA, E coli, Proteus, E faecalis)* and undergoes surgical debridement. What substance is likely the source of these wounds?
  - Fentanyl
  - Methamphetamine
  - Xylazine
  - Heroin
  - Cocaine

Kate Mowrey, a volunteer working the wound care table at Savage Sisters Recovery, assessing one person's wounds from injecting substances in Kensington, Philadelphia, PA on 8/9/22 (Capital-Star photo by Daniella Heminghaus).

Malayala et al, Cureus 2022

Xylazine

~Important Notice~
XYLAZINE Overdoses

XYLAZINE has arrived here in Maine as a Cut with Fentanyl/Heroin.

Xylazine is a drug used in Veterinary Offices to treat/sedate Cattle.

Xylazine in Humans can cause breathing to Slow or Stop,Heavy Sedation, & Irregular Heartbeat. These risks increase when mixed with Fentanyl and other Opioids.

What is Xylazine?

- **IT IS**
- A veterinary tranquilizer
- Alpha-2-adrenergic agonist
- Also called "tranq"

- **IT IS NOT**
- FDA approved
- A controlled substance
- An opioid

Slide content courtesy Dr. Daniel de Teixeira Silva

What does xylazine do?

Toxidrome

- Strong sedative
  - Decreased pain perception
- Muscle relaxation
- Hypotension
- Bradycardia
- Blood sugar abnormalities

Effect

- Quick onset (1-2min)
- Duration of up to 4-6 hours
- Quickly metabolized (~25 minutes)

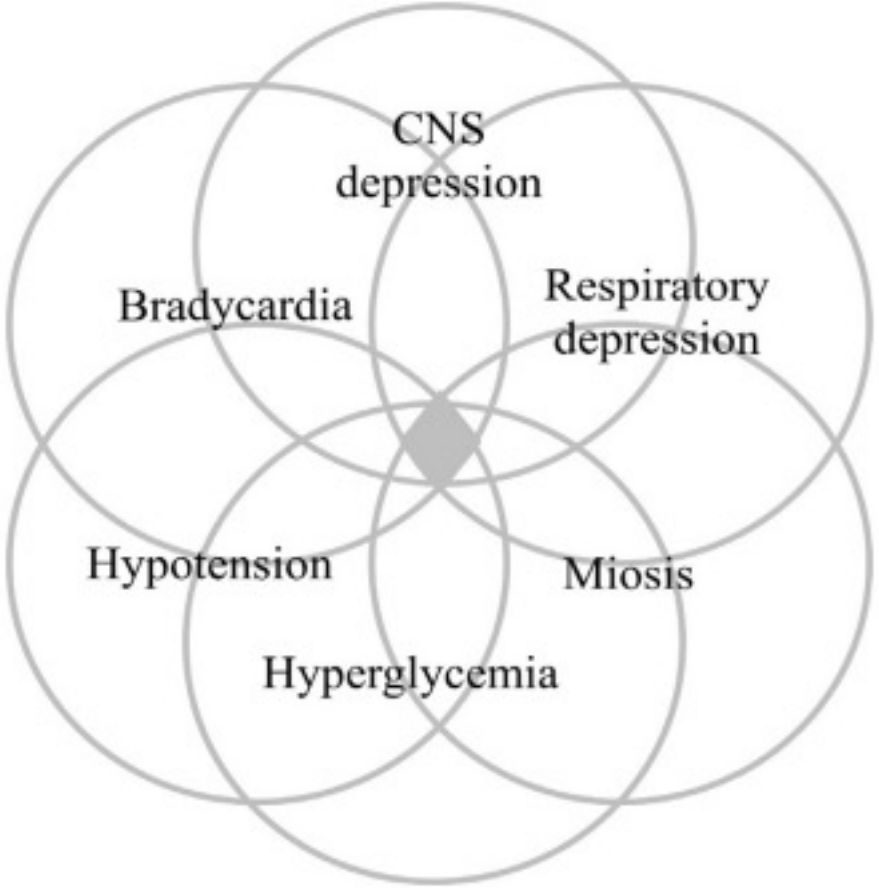


Fig. 2. General toxidrome for xylazine.

Slide content courtesy Dr. Daniel de Teixeira Silva

Ruiz-Colon K, et al. Forensic Science International (2014)

Withdrawal management: emerging strategies

- Replacement therapy with alpha-2-adrenergic agonists:
  - **Clonidine**
  - **Dexmedetomidine**
  - Tizanidine
  - Guanfacine

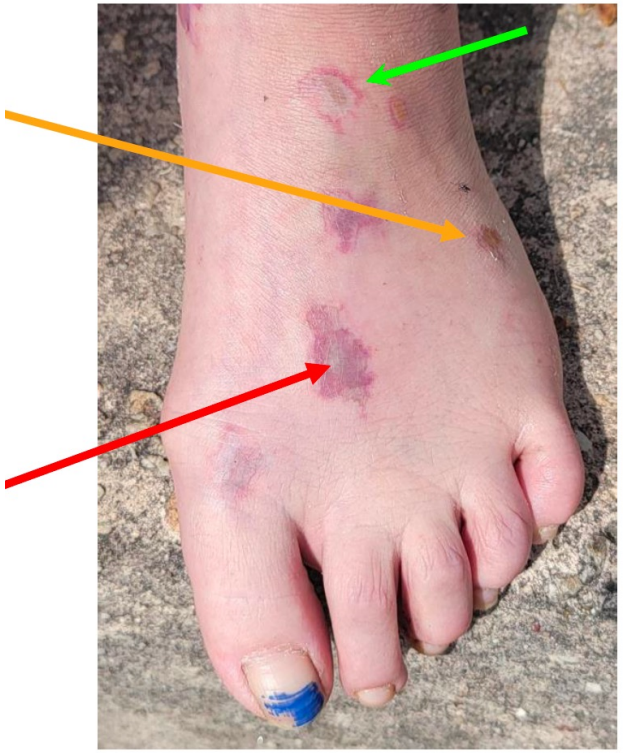
- Treat opioid use disorder and opioid withdrawal:
  - **Split dosing** can increase analgesic effect and improve pain control.
  - **Low dose buprenorphine dosing** allows for concurrent use of short acting opioids that can improve pain control.

- Symptom management:
  - Pain: **short acting full agonist opioids, Ketamine, Gabapentin**, Ketorolac, Acetaminophen, NSAIDs
  - Insomnia: Trazadone, Quetiapine, Mirtazapine
  - Anxiety: Hydroxyzine, **Benzodiazepines**
  - Agitation: **Olanzapine**

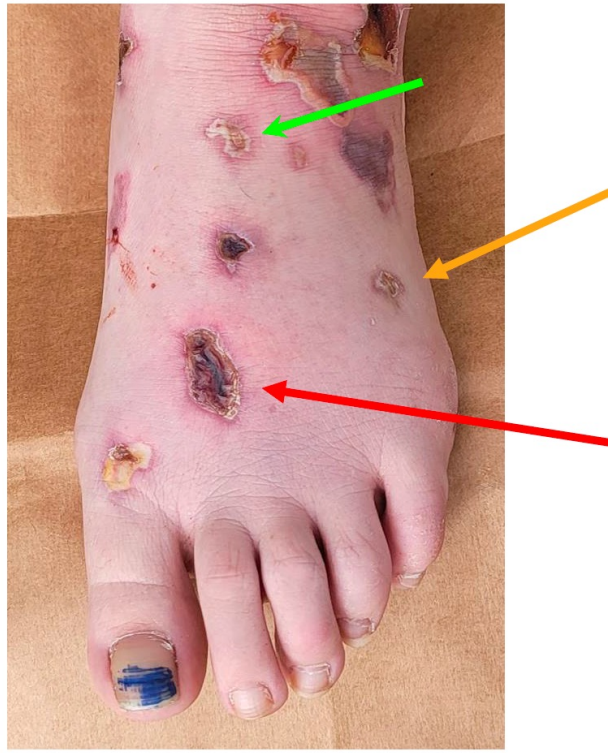
Slide content courtesy Dr. Daniel de Teixeira Silva

Soft and soft tissue complications associated with xylazine

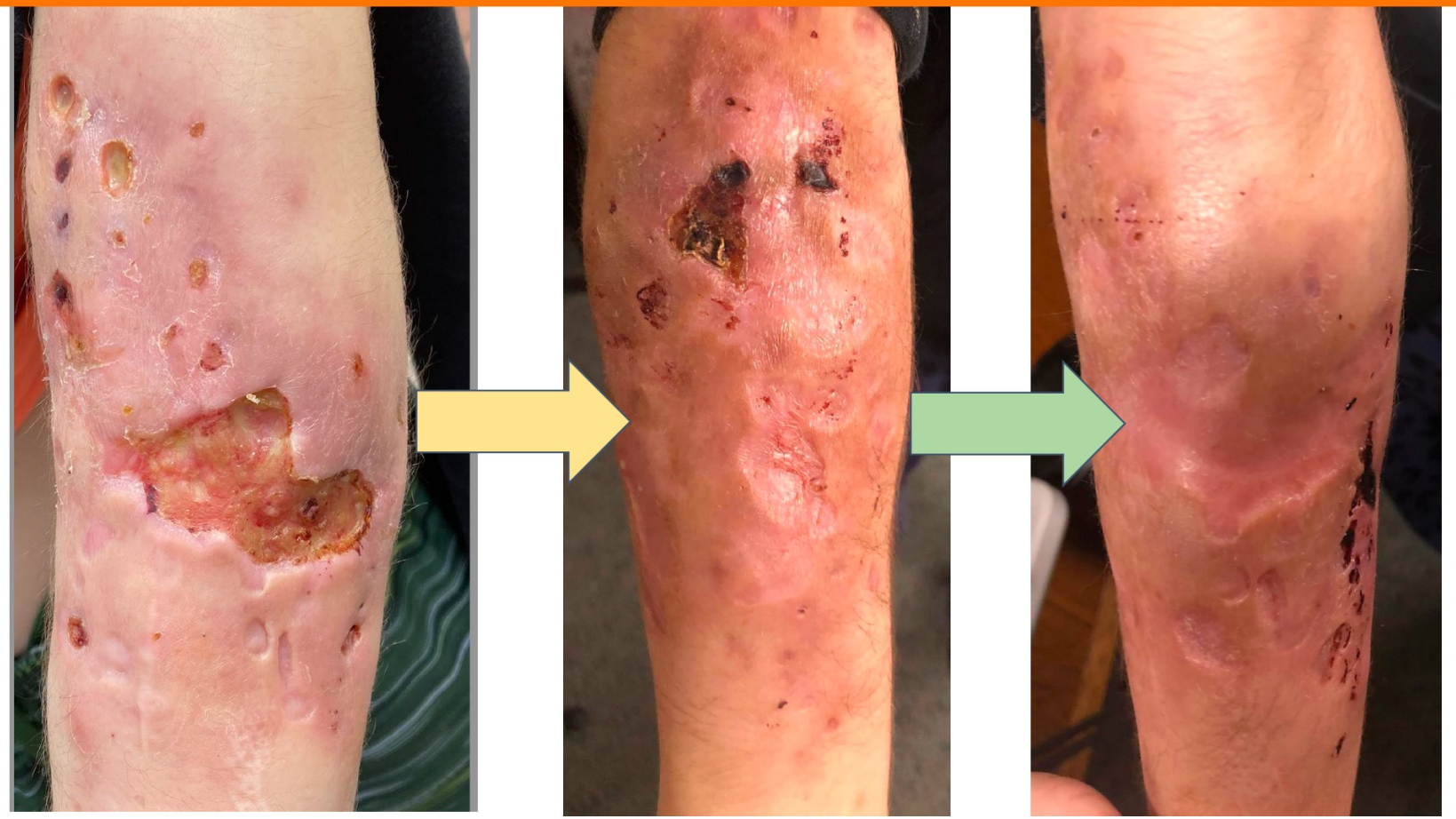
+- One Day



+- Five Days



Xylazine associated wounds can heal over time



Wei JJ, et al. JAAD Case Reports. 2023. In Press

Shared with patient permission Healthy Streets Outreach Program

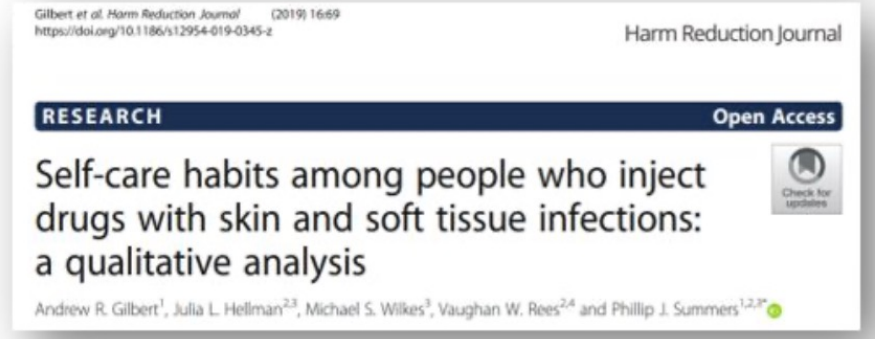
Wound care for people who use drugs in the fentanyl/xylazine era

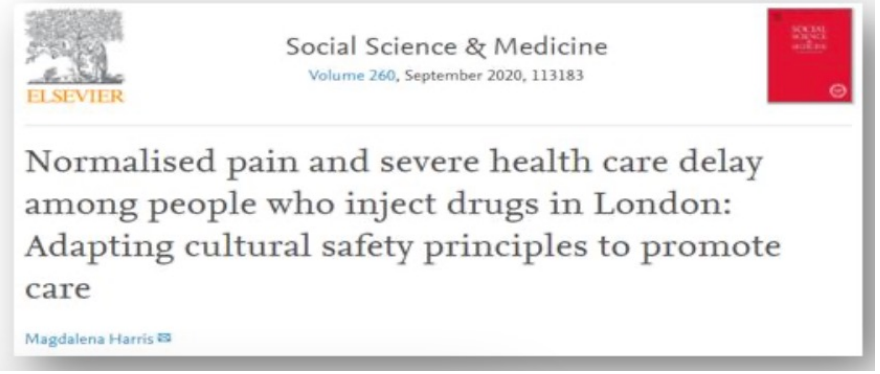
Delayed care and self care is very common

In published literature...

- **32%** report purchasing antibiotics from friends, corner stores
- **54%** report I&D performed by friend or other non-medical professional
- **38%** reported delaying care for infection by ***>2 weeks***

Slide content courtesy Rachel McFadden, RN



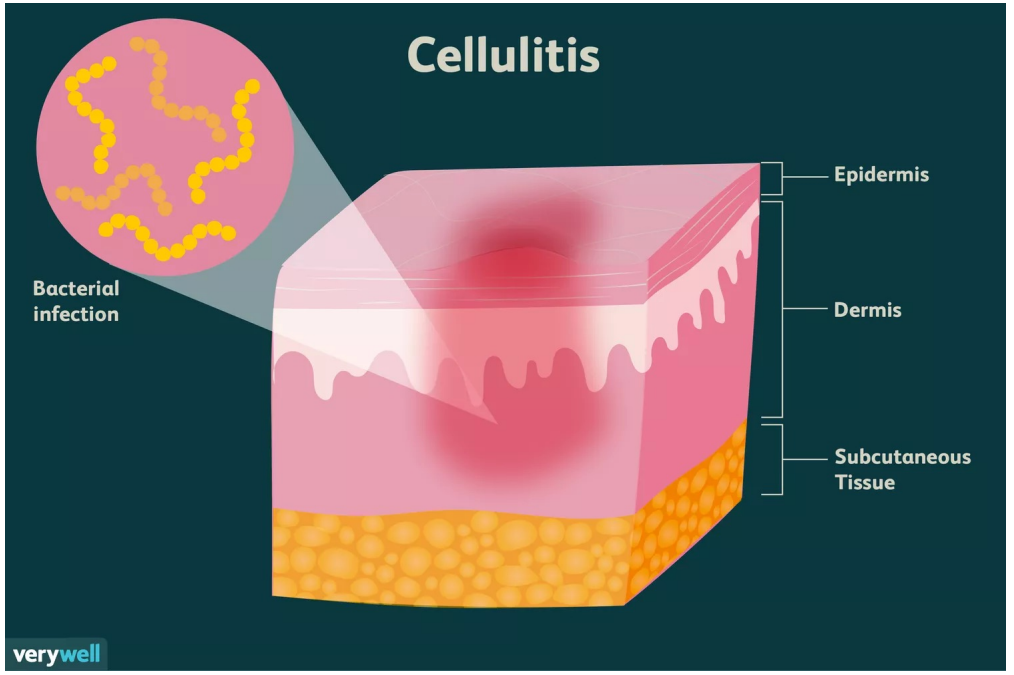


Wound care services in harm reduction programs

- Harm reduction programs, primarily syringe service programs, are a place where PWUD already feel comfortable accessing services and are willing to get support with wound care
- PWUD have extensive lived experience assessing and treating wounds
- Education on the tenets of basic wound care
  - Keeping the wound covered
  - Moisture balance
  - Cleaning wound
  - Mark borders for monitoring
  - Nutrition and hydration
  - Durable dressings
- For PWID – avoid injecting into the wound and periwound area, assistance with finding other places to inject or utilizing injection alternatives

Identifying common wounds PWUD encounter

Injection-related abscess

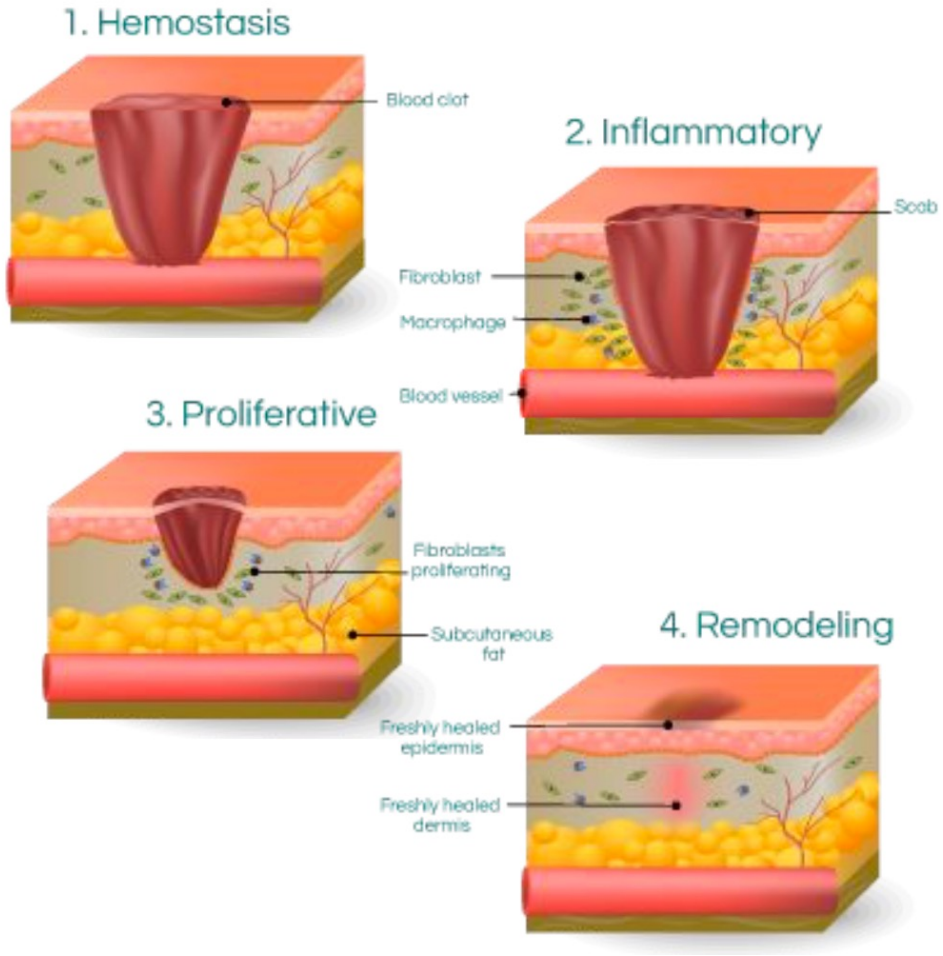


Cellulitis

Complicated skin ulceration

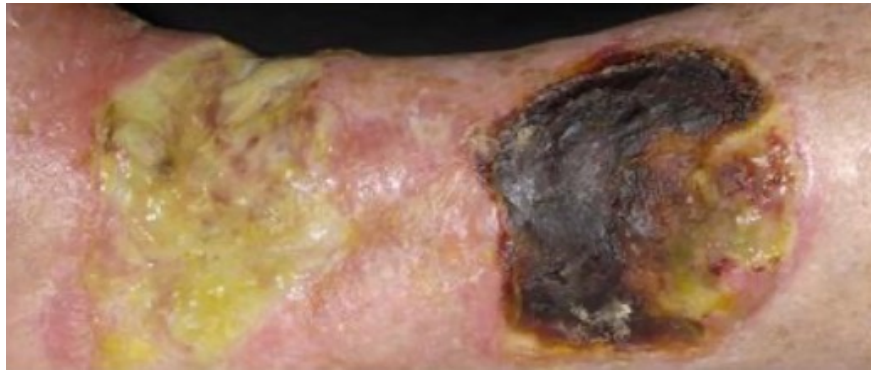
Images courtesy Rachel McFadden, RN and Verywell

Stages of healing



Images courtesy Rachel McFadden, RN

Barriers to healing

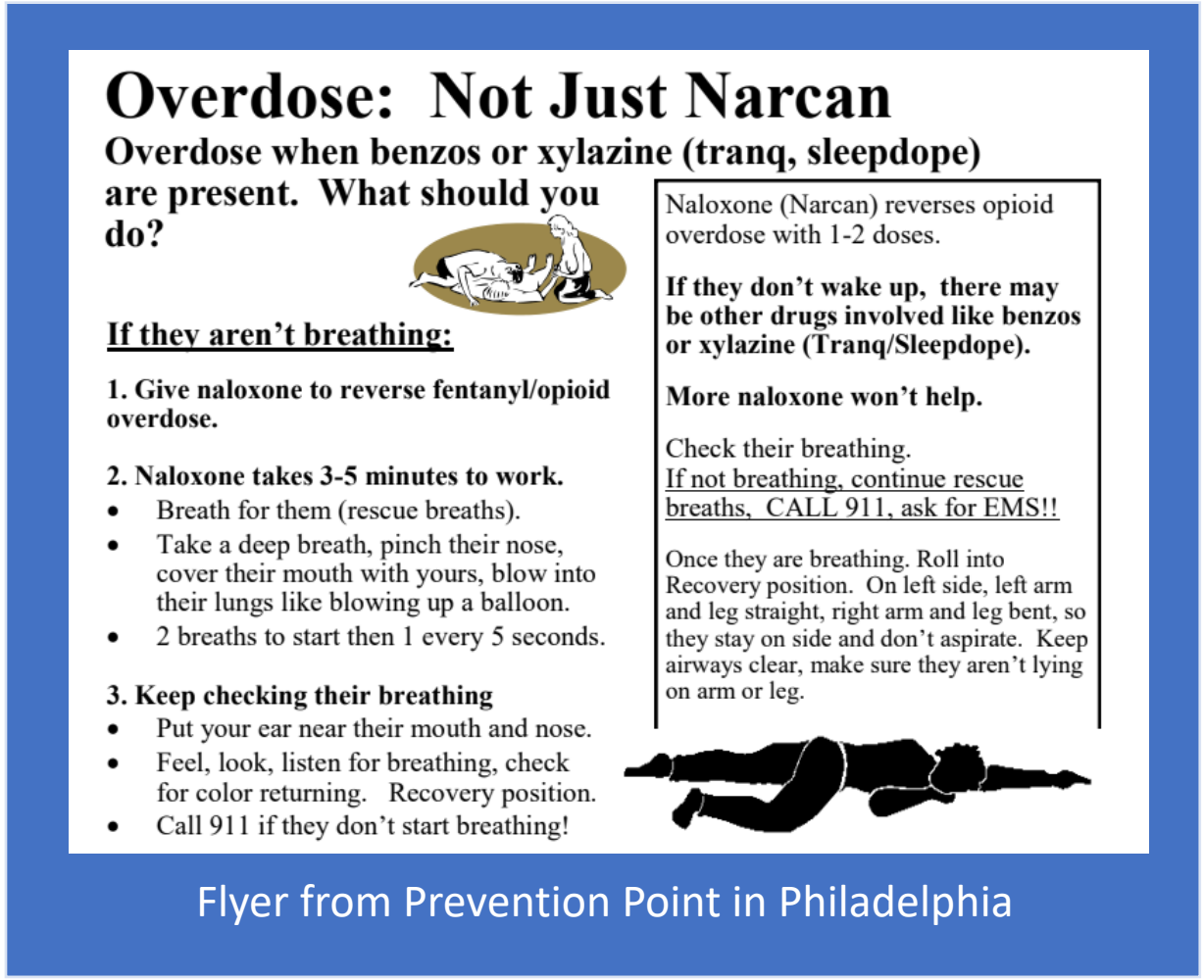


1) Non-viable tissue
   - Eschar – hard, dark
   - Slough – soft, yellow
   - Tx: debridement

2) Bacterial colonization and infection
   - Tx: antimicrobials (topical, systemic)

Overdose response

- Importance of rescue breathing and oxygenation in overdose response
- More reports of prolonged sedation and unresponsiveness after respiratory rate has returned to normal
- Educate on giving one dose of naloxone every 2-3 minutes
- Educate on how to perform rescue breathing and provide breathing barriers alongside naloxone to increase safety and comfort



Overdose: Not Just Narcan

Overdose when benzos or xylazine (tranq, sleepdope) are present. What should you do?

If they aren't breathing:

1. Give naloxone to reverse fentanyl/opioid overdose.

2. Naloxone takes 3-5 minutes to work.

- Breath for them (rescue breaths).
- Take a deep breath, pinch their nose, cover their mouth with yours, blow into their lungs like blowing up a balloon.
- 2 breaths to start then 1 every 5 seconds.

3. Keep checking their breathing

- Put your ear near their mouth and nose.
- Feel, look, listen for breathing, check for color returning. Recovery position.
- Call 911 if they don't start breathing!

Naloxone (Narcan) reverses opioid overdose with 1-2 doses.

If they don't wake up, there may be other drugs involved like benzos or xylazine (Tranq/Sleepdope).

More naloxone won't help.

Check their breathing.
If not breathing, continue rescue breaths, CALL 911, ask for EMS!!

Once they are breathing. Roll into Recovery position. On left side, left arm and leg straight, right arm and leg bent, so they stay on side and don't aspirate. Keep airways clear, make sure they aren't lying on arm or leg.

Flyer from Prevention Point in Philadelphia

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Partner with the community

Project DHARMA

A collaborative and multi-disciplinary approach to harm reduction

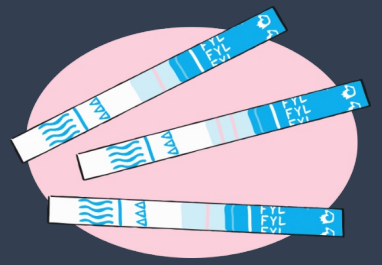
In honor of:

Jessi Gilbert, Kari Morissette

Drug checking

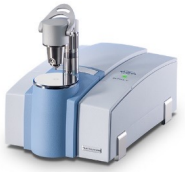
Fentanyl test strip analysis

- Immunoassay strip
- Identifies fentanyl +11 analogues
- Result in less than 5 min.
- Superior to FTIR for identifying low concentrations of fentanyl/analogues



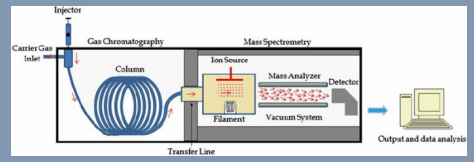
FTIR analysis

- Fourier Transform Infrared Spectroscopy
- Bombards sample with IR light and measures its unique absorption
- Highly accurate, does not destroy sample, and can detect multiple substances
- Poor at detecting novel substances and those in low concentration (less than 5%)
- 10 min.



GC-MS analysis

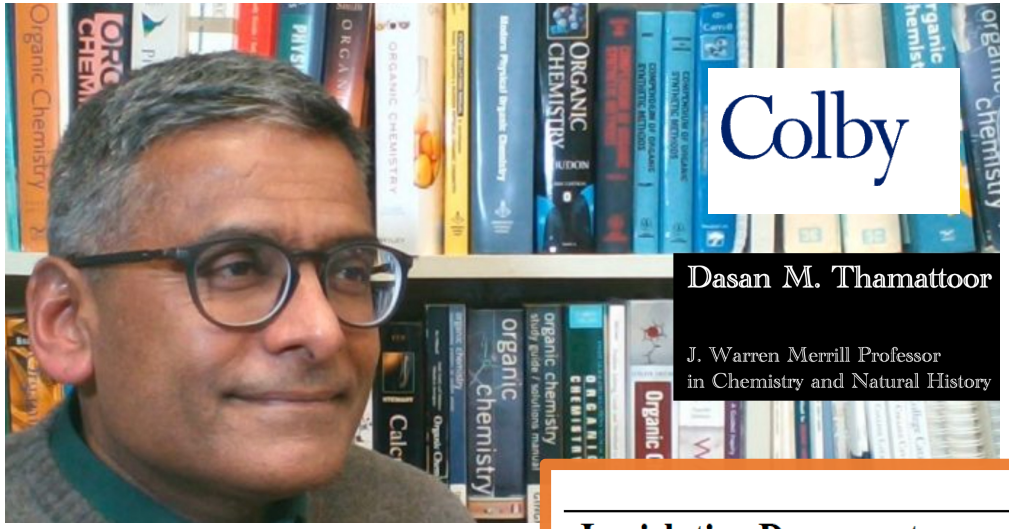
- Gas Chromatography Mass Spectrometry
- Superior at identifying novel substances and extremely accurate
- Low detection limit
- Slow turnaround (3+ weeks), most expensive

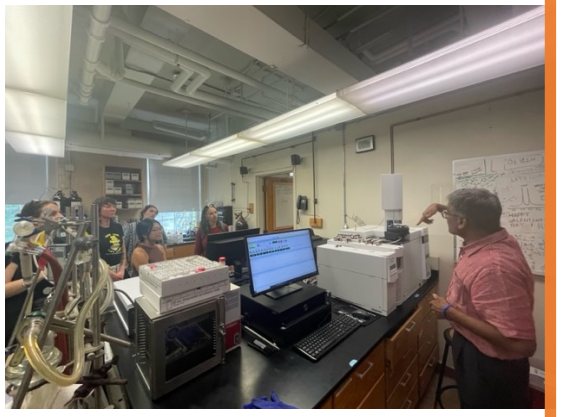


- Use the 3 methods in combination to reduce the limitations of each testing type

Brockton Neighborhood Health Center

Current status of drug checking in Maine





Legislative Document **No. 1745**

H.P. 1124 House of Representatives, April 20, 2023

An Act to Support Public Health by Protecting Certain Activities Conducted Under Comprehensive Community Drug Checking Initiatives

Why developing a local drug checking program is important

Potential to provide…

- ✓ Life-saving information to those at highest risk of overdose.
- ✓ Facilitate behavior change/reduce harm
- ✓ A gateway to accessing harm reduction services
- ✓ Public dissemination of trends in real time
- ✓ Findings that improve health and social services
- ✓ Services that empower clinicians and care
- ✓ Services that empower PWUD to advocate for & contribute to developing solutions
- ✓ Evidence to advocate for services for PWUD
- ✓ Foundation for other local organizations to establish drug checking programs
- ✓ Services valuable to PWUD

McDonald K, Thompson H, Werb D. 10 key findings related to the impact of Toronto's Drug Checking Service. Toronto: Centre on Drug Policy Evaluation. May 31, 2023
Green T, et al *J Public Health Manag Pract* 2022

Xylazine test strips

One evaluation for drug checking with 34 drug samples

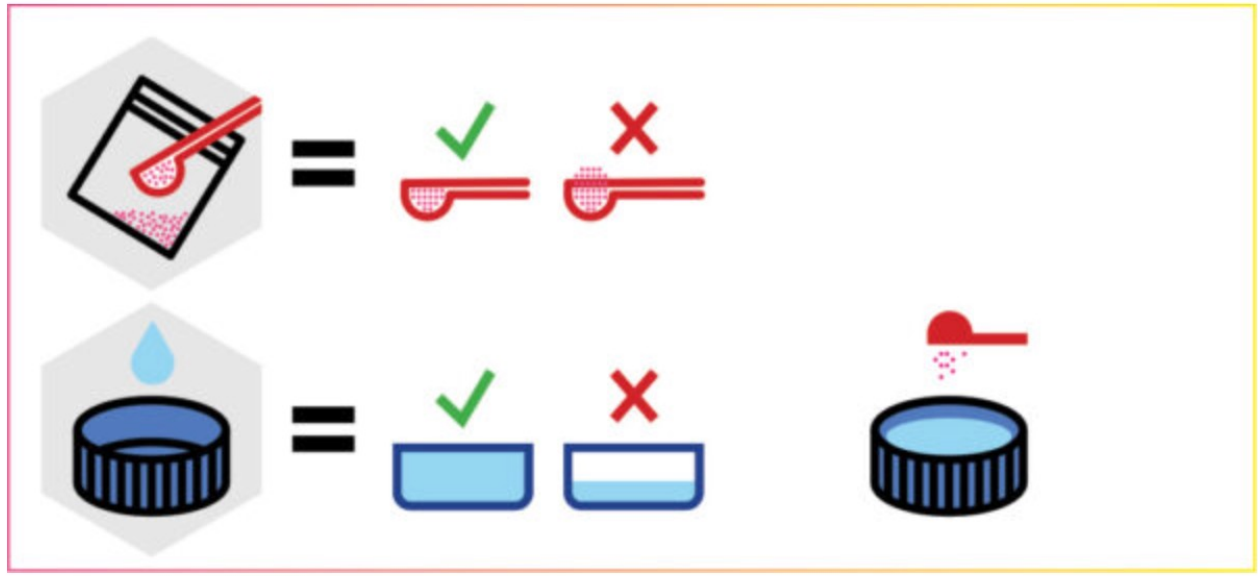
- 100% sensitivity
- 85% specificity
- Cut off = 1000ng/ml (~0.1-0.2% purity)
- Cross reactivity with lidocaine

WHPM/DanceSafe

- Validated by Notre Dame
- "both types of xylazine test strips can detect xylazine at concentrations at or above 2,000 nanograms/mL"
- Ketamine, levamisole, lidocaine can cause false positives

Xylazine test strip instructions

Use one teaspoon of water for every 10 mg of powder. This is 2 mg/mL.



2 mg/mL is the equivalent of one level micro scoop into one plastic bottle cap of water.

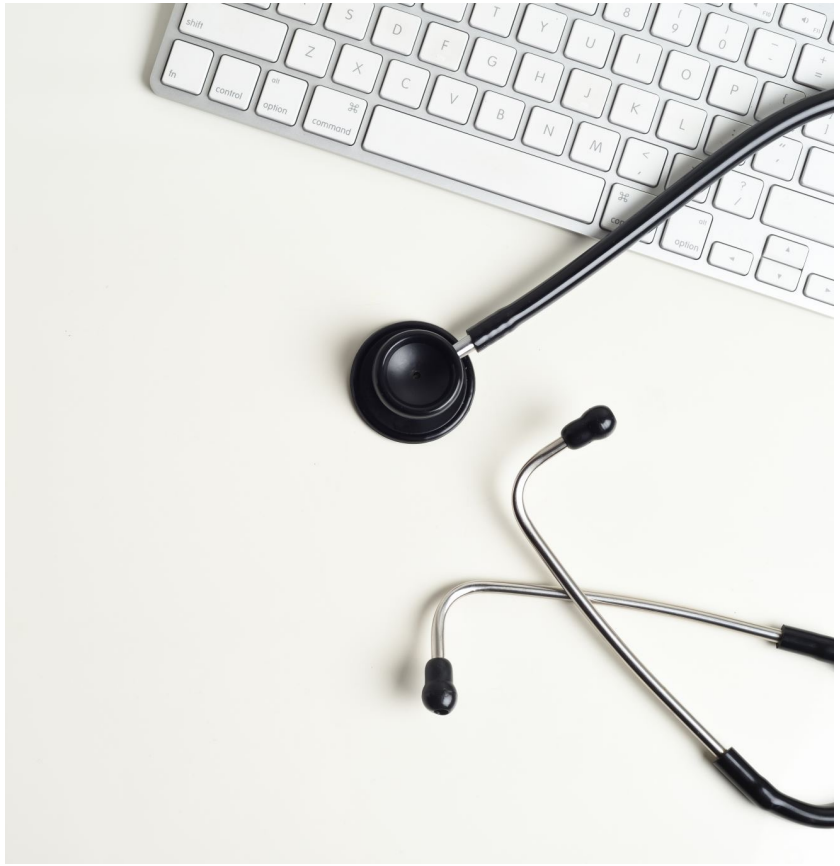
https://dancesafe.org/xylazine-test-strips/

Wound care kits for people who use drugs

- BASIC
  - Saline for irrigation/cleaning
  - Gauze (2x2, 4x4)
  - Bandaids (large and small)
  - Petroleum jelly and abx ointment
  - Surgical tape
  - Coban
- ABCESS
  - Idoform packing strips
  - Cotton tipped applicator
  - Iodine swabs
  - Abd pads
  - Rolled gauze
- ULCERS/xylazine-type wounds
  - Xeroform
  - Adaptic
  - Medihoney
  - Non-adherent pad
  - Rolled gauze
  - Lotion

How can clinicians help? Take Home Points

- Recognize that people who use drugs often have barriers to seeking medical care.
- Talk to patients about overdose prevention
- Encourage use of syringe service
- Have on hand and offer wound care supplies pertaining to Xylazine and skin infections
  - Wound care is a priority, and wounds may need debridement.
  - Not all xylazine-associated wounds will need antibiotic treatment
- Create specific paperwork on how to care for abscesses & xylazine specific wounds/infections



Resources

- NHRC - https://harmreduction.org/issues/xylazine/
- Nastad – Wound Care and Medical Triage for People Who Use Drugs https://nastad.org/sites/default/files/2023-04/PDF-Wound-Care-And-Triage.pdf
- CCSME: https://mesudlearningcommunity.org/document/what-is-xylazine/
- Maine Access Points – www.maineaccesspoints.org
- Syringe Service Programs in Maine - https://www.maine.gov/dhhs/mecdc/infectious-disease/hiv-std/services/syringe-service-programs.shtml
- NEXT Distro:

https://nextdistro.org/resources-collection/tag/xylazine

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- DanceSafe