Welcome! Follow along!

"I'm so glad you're here:"

Harm reduction wound care for xylazine and injection related wounds in low-barrier and street-based settings

AMERSA Workshop Session
November 3, 2023

Presenters

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Follow along!

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- **Disclaimer**: We do not endorse any specific products or brands or receive financial support from any of the brands or products mentioned. We often use least expensive options available, or donated goods.

Workshop Outline

Intro: Brief introduction to xylazine and current U.S. epidemiology

Part 1: Review assessment & treatment strategies for xylazine-associated wounds

Part 2: Identify barriers & solutions to continuity of care for wounds

Part 3: Discuss important features of low-barrier, harm reduction wound care

Intro to Xylazine

Hosey, McFadden, AMERSA, 2023

What is Xylazine?

- Alpha-2 adrenergic agonist
- Animal sedative
- Human trials halted due to bradycardia, hypotension, sedation
- Distinct wound/soft tissue injury from chronic exposure
- Scheduled at state-level, *not* by DEA

The Philadelphia Inquirer

HEALTH

Pennsylvania will classify xylazine as a schedule III drug, Gov. Shapiro announces

Xylazine, also known as tranq, is legal for veterinary use to sedate large animals. But in recent years, the drug has spread into fentanyl supplies across the country, including Philadelphia.

by Gillian McGoldrick and Ximena Conde
Published Apr. 18, 2023, 11:58 a.m. ET | Updated 2:31 p.m. ET

Where is Xylazine?

Early 2000s, Puerto Rico

- 40% of collected syringes
- Diverted from rural areas

2020, Philadelphia

- Oversedation & distinct wounds reported by people who use drugs
- Medical examiner testing in overdose cases
- City commences testing of illicit supply
- **>90% illicit fentanyl containing xylazine**
- Ratio highly variable

Hosey, McFadden, AMERSA, 2023

> Inj Prev. 2021 Aug;27(4):395-398.
doi: 10.1136/injuryprev-2020-043968. Epub 2021 Feb 3.

Increasing presence of xylazine in heroin and/or fentanyl deaths, Philadelphia, Pennsylvania, 2010-2019

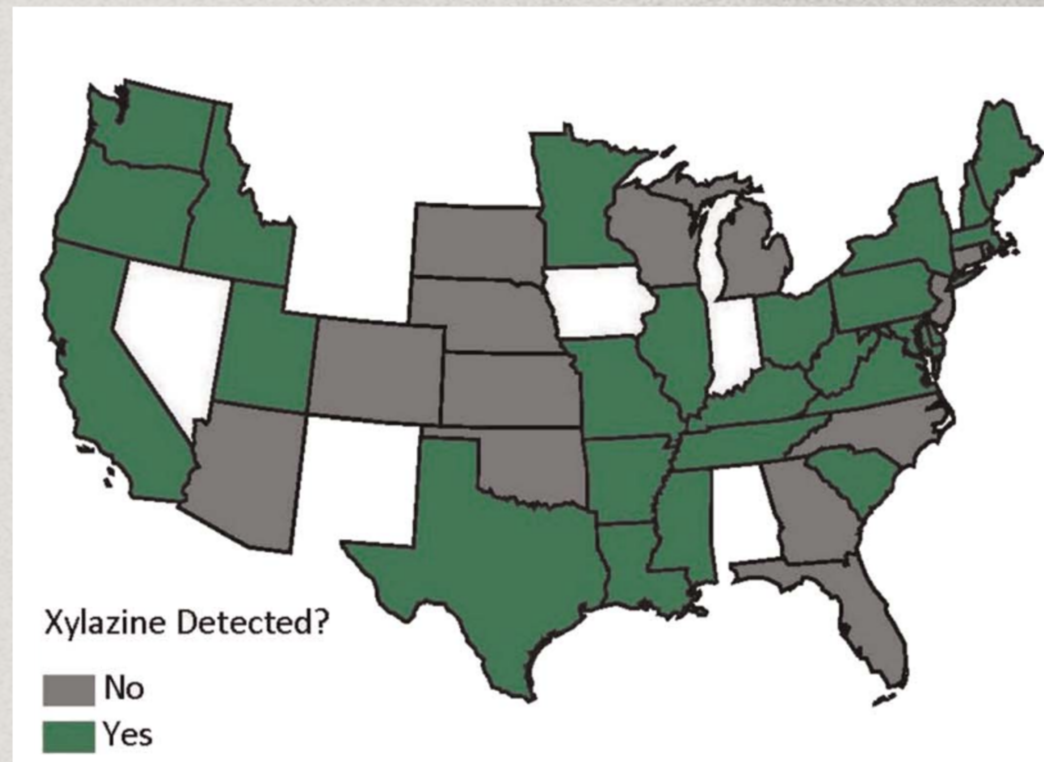
Jewell Johnson [1], Lia Pizzicato [2], Caroline Johnson [2], Kendra Viner [2]

"Dope" samples containing Xylazine, Philly	
2021 Q1	**100%**
2021 Q2	**95%**
2021 Q3	**89%**
2021 Q4	**94%**
2022 Q1	**97%**
2022 Q2	**98%**
2022 Q3	**91%**

Johnson, J, 2021
npsdiscovery.org/category/drug-checking/

Hosey, McFadden, AMERSA, 2023

2023: Xylazine Across the U.S.



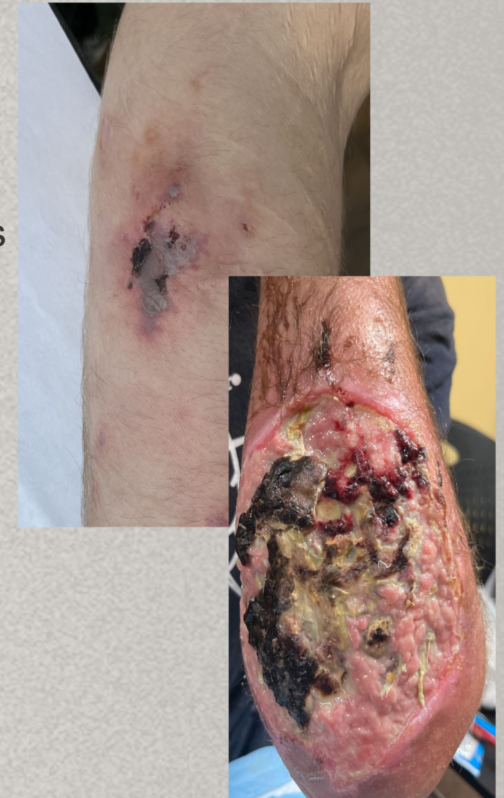
Holt et al. J Addict Med. 2023 17(4)

Photos used with patients' written consent.

Wound Typology

Necrotic vs infectious in nature

- Unlike traditional injection-related wounds are infectious – cellulitis, abscess
- Xylazine wounds start with soft tissue ***necrosis***
- Progress to full-thickness ***ulcerations,*** may reach deeper structures (bone, tendon)
- **=PAIN**



May develop AT *or* AWAY FROM sites of injection

1. **AT** (*photos*)**:** Start as purple irregularly shaped blisters
    - Develop adherent eschar
    - Expansion of necrosis & ulceration
2. **AWAY** FROM: Coin-size ulcerations, friable "cap" of devitalized tissue

May develop in the setting other modes of drug consumption (e.g. smoking, snorting)

Hosey, McFadden, AMERSA, 2023

Wound Assessment & Treatment

McFadden, Hosey, AMERSA, 2023

DIME: Keys to Healing

D: Debridement | Remove necrotic tissue

I: Infection | Assess for & treat

M: Moisture | Balanced moisture

E: Edges | Protect intact peri-wound tissue

DIME | Debridement

Non-viable or necrotic tissue is bad

Prevents epithelialization, revascularization

Increases bioburden, risk of superimposed infection

- **Eschar:** Hard, dark, adherent
- **Slough:** Softer, yellow, adherent or mucinous

Get rid of it! Help "reset" natural healing

1. **Autolytic**: Topicals to encourages body's natural capacity
   - *Medical grade honey, Hydrogel, PHMB*
2. **Enzymatic**: Collagenase topical, dissolves necrotic tissue
   - *Santyl*
3. **Surgical/Sharps:** Physical removal
   - Secondary care setting (hospital, wound clinic)

McFadden, Hosey, AMERSA, 2023

Eschar

Slough

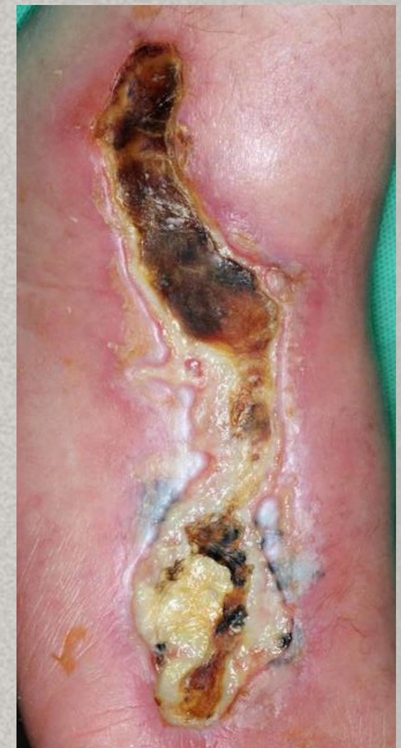


Photo credit: Vazeille et al. Cureus. 2020 12(6)

DIME | Infection

Classic signs

- Periwound erythema, swelling, increased pain
- Malodorous, purulent drainage

Biofilm "Gloss"

- Colonization of pathogenic or non-pathogenic bacteria; reproduce & disperse
- Pro-inflammatory state inhibits healing

MRSA + Strep A

- ~24% cases of infective endocarditis linked to IDU
- Implications for topical & systemic abx choice

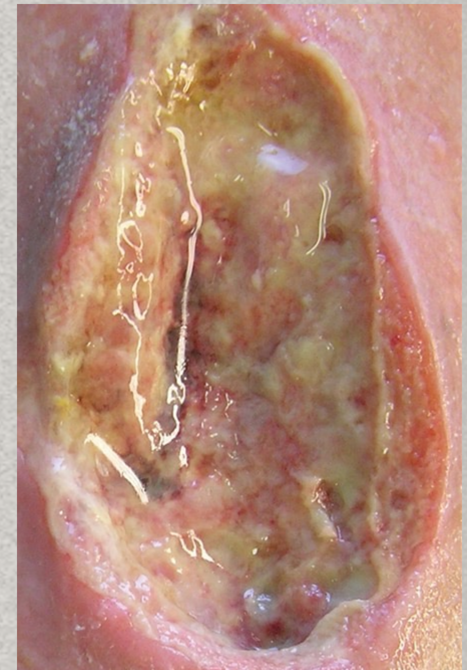
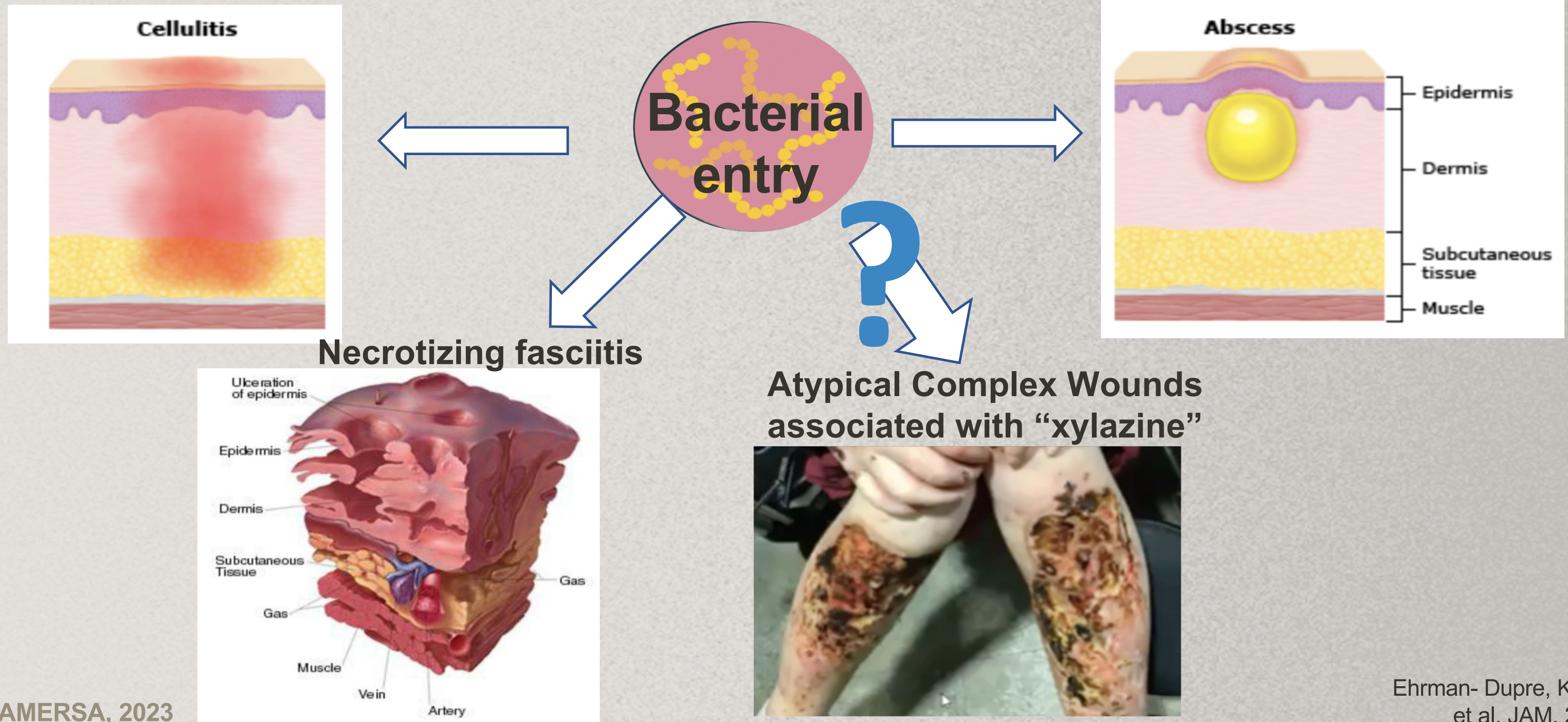


Photo credit: Coloplast

alenciano et al. Clin Infec Dis. 2021 73(11)
McCarthy et al. Clin Infect Dis. 2020 71(7)
Jackson et al. MMWR Weekly. 2018 67(22)

Spectrum of Injection-related Infections



Jawa, AMERSA, 2023

Ehrman- Dupre, Kaigh, et al, JAM, 2022.

Antibiotic Treatment Consideration

Signs and Symptoms	Non-purulent	Purulent	Necrotizing Fasciitis
Mild	Cephalexin 500mg q6h **OR** Cefadroxil 500mg q12 Bactrim 2DS BID (beta-lactam allergy)	Doxycycline 100mg BID **OR** Bactrim 2DS BID	Inpatient Surgical Eval **AND** IV ANTIBIOTICS!

Jawa, AMERSA, 2023

DIME | Moisture & Edges

Moisture Balance

- Add to dry wounds (e.g. hydrogel)
- Absorb from wet wounds (e.g. alginate dressings absorb 15-20x their weight)

Edges & Environment

- Protect the peri-wound tissue
  - Petroleum-based ointment (e.g. A&D), barrier cream
  - Discuss injection site alternatives
  - Review safer infection practices
  - Address picking - less is best, hand sani or gloves
- Protective dressing, especially if rough sleeping

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Photo credit: Shutterstock

McFadden, Hosey, AMERSA, 2023

Basic Dressing Change

1 Prep materials

Minimize wound exposure time

2 Remove old

Patient can do this!

3 Cleanse

Spot test new products

4 Topicals & Ointments

Wound & edges

5 Primary dressing

Non-stick

6 Secondary dressing

Absorbent

7 Securement

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3 | Cleansers

Potable Water

Bottled or tap

Normal Saline

Well-tolerated
“Bullets” for take-home kits

Mild soap

Vashe

Hypochlorous acid: Weak acid, strong antimicrobial

Supports debridement

Di-Dak-Sol 0.125%

Diluted Dakins/hypochlorite solution
Non-cytotoxic, broad-spectrum antimicrobial
CAUTION: Much stronger formulations also exist!

NO alcohol or peroxide!!

4 | Ointments & Topicals

A+D *$*

Protective **barrier**
Apply to & around wound
Petrolatum & lanolin

Zinc-based *$*

Anti-inflammatory
Apply to & around wound
Thicker than A&D

Antibiotic *$-$$*

Reduce bioburden
OTC Bacitracin
RX Mupirocin
Be judicious!

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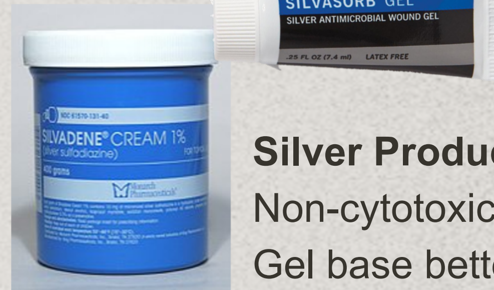
4 | Ointments & Topicals

Autolytic Debridement $$

Medihoney
Medical grade
Anti-inflammatory
Prevents bacteria growth
Consider: Hot weather & insects

Hydrogel
Add moisture

PHMB
Non-cytotoxic
Base determines debridement (gel >> petroleum)
Broad-spectrum antimicrobial



Silver Products
Non-cytotoxic in short/med term
Gel base better for debridement
Broad-spectrum antimicrobial

Enzymatic Debridement $$$

Collagenase (Santyl)
Will not penetrate thick eschar (1st soften with autolytic agent)
Do not mix with silver products

NON-antimicrobial ⟷ *Strong antimicrobial*

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5|Primary

Non-stick is key

Closest to wound

Oil-Emulsion: Wet wound

Petroleum-based: Dry wounds

6|Secondary

Absorptive

If saturated, can change while leaving Primary dressing intact

Non-adherent pads, ABD pads, Woven gauze, Roll gauze

7|Secure

Consider environment

When will the next dressing change be?

Coban, ACE bandage, Tubigrip

Socks, shoes, gloves!

Breakout:

Applying DIME

Each person has a different supply at their seat.

Work with your group and leader to apply the DIME method to the photo of the wound provided.

Feel free to practice on a groupmate.

Continuity of Care

Thakrar, McFadden, Jawa, AMERSA, 2023

Need for Higher Level of Care

When does a xylazine-associated wound require treatment escalation?

- Signs of systemic infection: Fever, nausea, confusion that *not* explained by withdrawal/intoxication

- Local infection in high-risk area: Hand, joint, groin, neck
- Local infection *not* improving with oral antibiotics

- Large area of non-viable tissue requiring evaluation for surgical debridement
- Exposure of deeper structures: Bone, tendon, muscle
- Loss of function: Weakness, decreased sensation

May be a series of conversations!

Person may initially decline – but continue to discuss

- *Explain rationale, concerns*
- *Get to know their fears & barriers*
- *Explore solutions*

Thakrar, McFadden, Jawa, AMERSA, 2023

Warm Hand-off

Wound Care Clinic

Partnership between community-based & higher level of care

Protocolize a referral system

- Who's involved, responsibilities, expectations
- Creates accountability

Bi-directional! Don't miss hand-off back to community

- Secure chat groups
- Patient registry
- Shared repository of resources

Make a Plan

Talk through EACH step

- Secure belongings
- "Get well" before leaving
- Transportation
- Which hospital?
- Best time of day/night?
- "Buddy system" or escort
- **Goals**: Interested in MOUD?

Emergency Dept

Thakrar, McFadden, Jawa, AMERSA, 2023

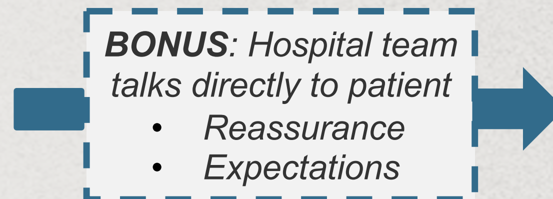
Community Team

Hospital Team

In-referral

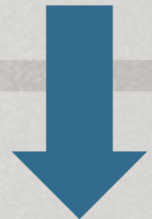
Initiate Referral
- Treatment course
- Current use
- Patient concerns

Patient travel logistics



Designated Point of Contact
- "Champion"
- Department/service

"Red Carpet"
- Pre-arrival note
- Treatment recommendations



Out-referral

Support Continuity
- "Landing" place for patient
- Gaps can inform capacity-building

Discharge Summary
- Culture results
- Antibiotic recs
- Wound care recs
- Specialty follow-up (e.g. surgery)

Inpatient Addiction Care

Delivers evidence-based SUD care during hospitalization

Guides withdrawal management, initiation of medications to stabilize SUD

MANY potential benefits!

- Improve quality of care experienced by people who use drugs (PWUD)
- Decreasing self-directed discharges and utilization costs
- Culture change to reduce stigma towards people with SUD in health institutions by improving staff education/sensitivity

Weinstein et al. Med Clin North Am. 2018 102(4)

Thakrar, McFadden, AMERSA, 2023

Benefits of Inpatient Addiction Care

Opioid Withdrawal & Pain Management

- Illicit fentanyl = HIGH opioid tolerance, hyperalgesia
- Novel Approach: Short + Long-acting full-agonists
    - Scheduled, not PRN
    - Cross-taper with MOUD
    - Maintain tolerance/reduce overdose risk if no MOUD

Polysubstance use

- **Common & can be complicated!** Xylazine, cocaine, benzodiazepines, alcohol, methamphetamine, etc.

Wrap-around Services

- Peer Recovery Specialists: Peer support, engagement
- Social Workers: Placement, social determinants

Safety and preliminary outcomes of short-acting opioid agonist treatment (sOAT) for hospitalized patients with opioid use disorder

Ashish P. Thakrar, Tanya J. Uritsky, Cara Christopher, Anna Winston, Kaitlin Ronning, Anna Lee Sigueza, Anne Caputo, Rachel McFadden, Jennifer M. Olenik, Jeanmarie Perrone, M. Kit Delgado, Margaret Lowenstein & Peggy Compton

Addiction Science & Clinical Practice **18**, Article number: 13 (2023) | Cite this article

Initial Management of Withdrawal and Pain in Hospitalized Patients with Opioid Use Disorder (OUD) Using Fentanyl

- *Patients using ≥3 bags of fentanyl daily: use this approach with these doses, even if patient received higher doses during a recent hospitalization.*
- *Patients using ≤2 bags fentanyl or who have critical illness, older age, frailty, or significant renal/hepatic impairment: reduce doses by 50%.*

1. Assess & Diagnose OUD

- Diagnose OUD using DSM-5 criteria & document current substance us
- Ask patient about goals and history of treatment: medications, psych
- Obtain urine drug test when feasible; do not wait for results to initiat

2. Stabilize & Engage *Many patients have overlapping withdrawal and pain. Partne regimen that aligns patient goals for comfort with our respon*

Continue outpatient OUD treatment: if stable on methadone/buprenorp call opioid treatment program for methadone) and continue home dose i

Start a long-acting opioid (methadone or buprenorphine preferred) whi

Center *for* Addiction Medicine *and* Policy

Penn Medicine

What Makes Inpatient Addiction Care Work?

Essential Program Elements	
Clinical Champions	Enthusiastic, “early adopters” who serve as local resources
Education & Culture	Leverage education, communication, & events to promote a visible commitment to high-quality addiction care
Policies	Build interprofessional support for harm reduction-oriented policies (e.g. response to in-hospital illicit substance use)
Incentives & Metrics	Align metrics & financial incentives with SUD best practices to sustain high quality care

Englander, et al. (*Under Review*)

Jawa, McFadden, AMERSA, 2023

What Makes Inpatient Addiction Care Work?

Essential Patient Care Elements	
Reachability	Centralized contact method for teams to seek support
Contingency Plans	Acknowledge the reality of care plan changes, and develop harm reduction-oriented responses
Social Supports System	Engage family, friends, community case/social workers as much as possible, with consent
Community Resources	Coordinated, timely referrals to relevant community programs

Effective addiction care can be delivered via many models

Be creative with the resources & champions you have in place!

Breakout:

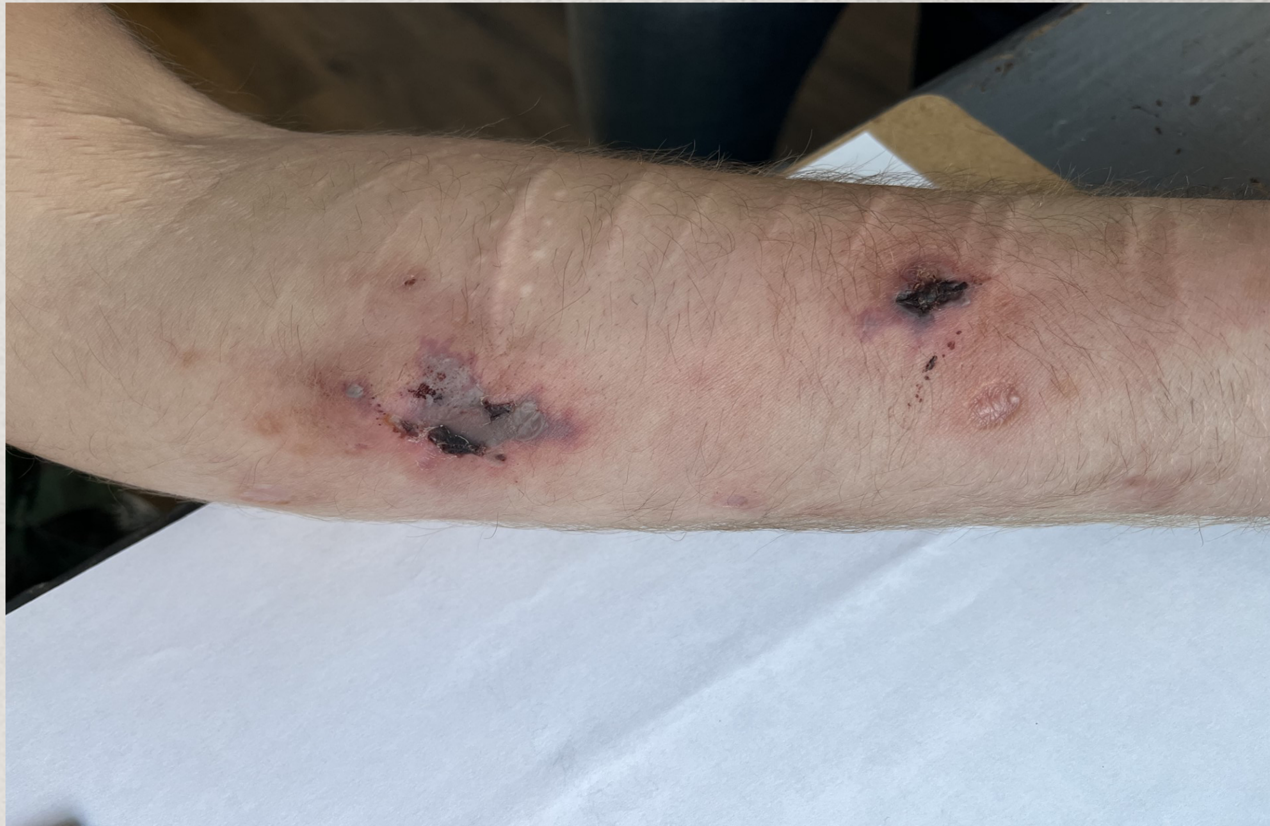
Put it all together with your group.

Discuss what care and supplies you would provide, barriers to care, person-centered needs, etc.

Write down 2-3 stand out pearls or challenges to share with the entire group

Sam

Photos used with patients' written consent.

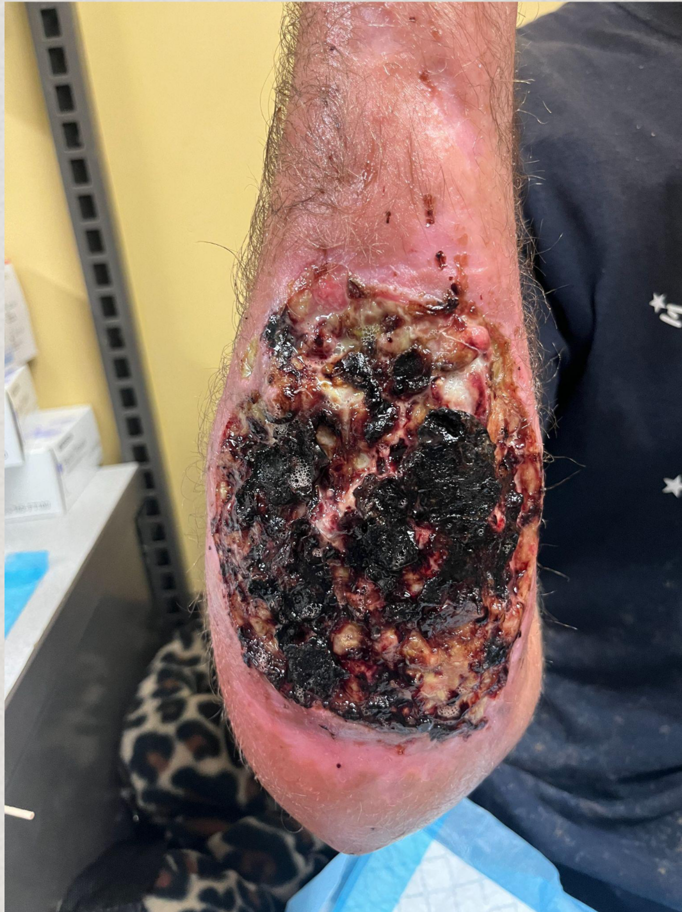


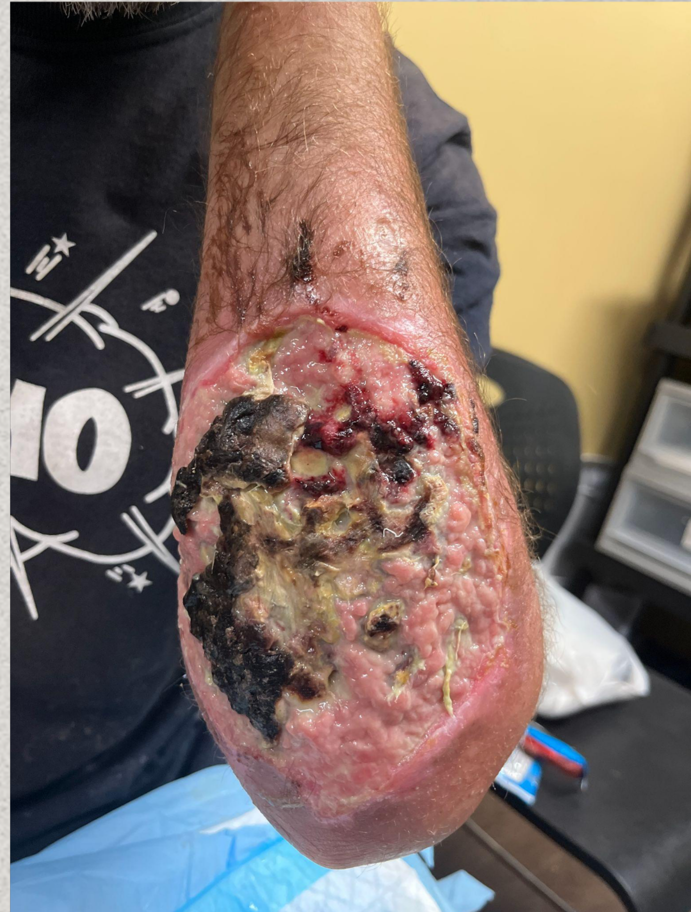
Lee

Ehrman- Dupre, Kaigh, et al, JAM, 2022.

Carlos

Photos used with patients' written consent.





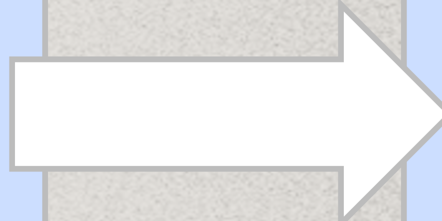
Photos used with patients' written consent.

Low-to-No Barrier Care Provision

Harm Reduction in Clinical Care

Related frameworks:

Trauma-informed
Person-centered
Informed consent
Strengths-based



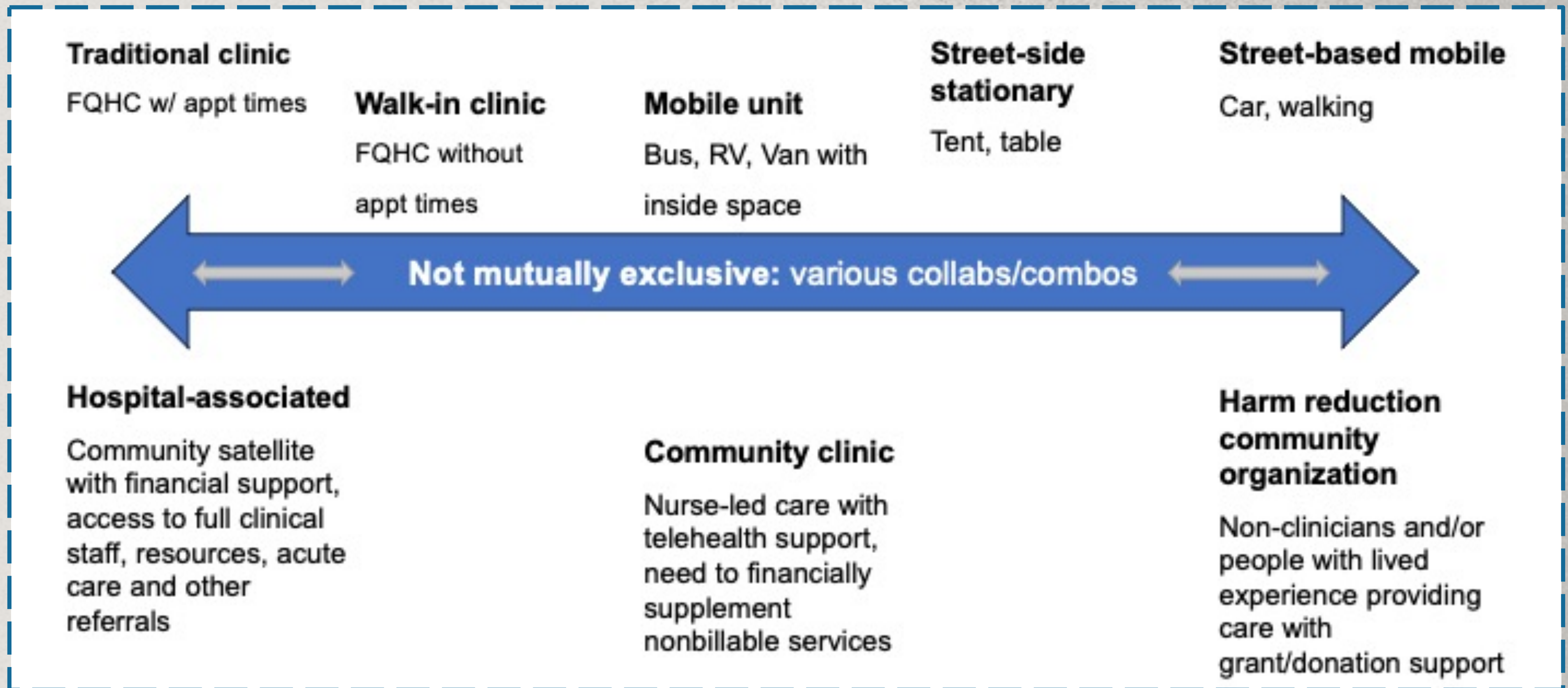
Relationships > Results
Mutual respect
Nonjudgmental curiosity
"In your corner"

Neuschatz, Hosey, AMERSA, 2023

Reduce Barriers, Reduce Harm: Street Medicine

- **Street Medicine Movement to bring health care to the unhoused, since the 1990s**
    - Programs expanding nationally and globally, responding to need
    - Upstream care—reach people before they show up in the ED
- **Continue trajectory of increasing community- and home-based services**
    - Increased focus on patient factors and impact of environment
    - Less is within clinician (and sometimes also patient) control
- **High co-occurrence of substance use disorder and housing instability**

Neuschatz, Hosey, AMERSA, 2023


Spectrum of Low Barrier Community Services
Traditional clinic
FQHC w/ appt times
Walk-in clinic
FQHC without appt times
Mobile unit
Bus, RV, Van with inside space
Street-side stationary
Tent, table
Street-based mobile
Car, walking
Not mutually exclusive: various collabs/combos
Hospital-associated
Community satellite with financial support, access to full clinical staff, resources, acute care and other referrals
Community clinic
Nurse-led care with telehealth support, need to financially supplement nonbillable services
Harm reduction community organization
Non-clinicians and/or people with lived experience providing care with grant/donation support
Neuschatz, Hosey, AMERSA, 2023

Example

THURSDAY

- Mother of Mercy 930am-1130am @ 720 E Allegheny
- Courage Medicine Mobile 10am-1pm @ 3025 Kensington
- Savage Sisters Storefront 11am-3pm
- Prevention Point Wound Care Clinic 11am-3pm
- Kensington Hospital Wound care van 8am-4pm
- Catholic Workers Clinic 4:30-6:30pm
- Men's* Night at Prevention Point 5pm-8pm * All genders welcome
- OPIMBY@ Ruth and Somerset 6-8pm

FRIDAY

- Prevention Point Wound Care Clinic 11am-3pm
- Catholic Workers Clinic 11:30am-1:30pm
- Kensington Hospital Wound care van 8am-4pm

SATURDAY

- The Everywhere Project Outreach 1pm-4pm @ 1901 E Clearfield
- Savage Sisters every 3rd Sat @ McPherson Square

SUNDAY

- CARP (supplies only) 1pm-3pm @ Kensington & Lehigh: 1801 Lehigh

For more info:

https://www.substanceusephilly.com/

Treating People on Their Own Terms

- **Care without an exam room: evolving comfort zones**
  - Minimize assumptions—maximize individualized care
    - Privacy vs. accessibility with open-air care
- **Ask preferences**
- **Accommodate, when possible**
- **Informed consents, apologies, and alternatives if possible**
- **Consideration of both patient and provider: finding overlap of safety**

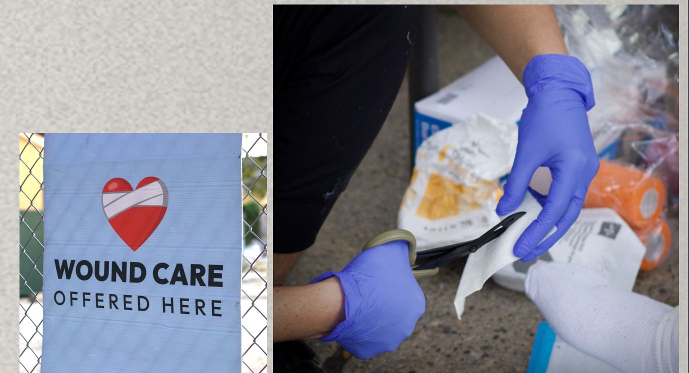


Photo credit: Galen Pugh

Neuschatz, Hosey, AMERSA, 2023

Neuschatz, Hosey, AMERSA, 2023

High Level View

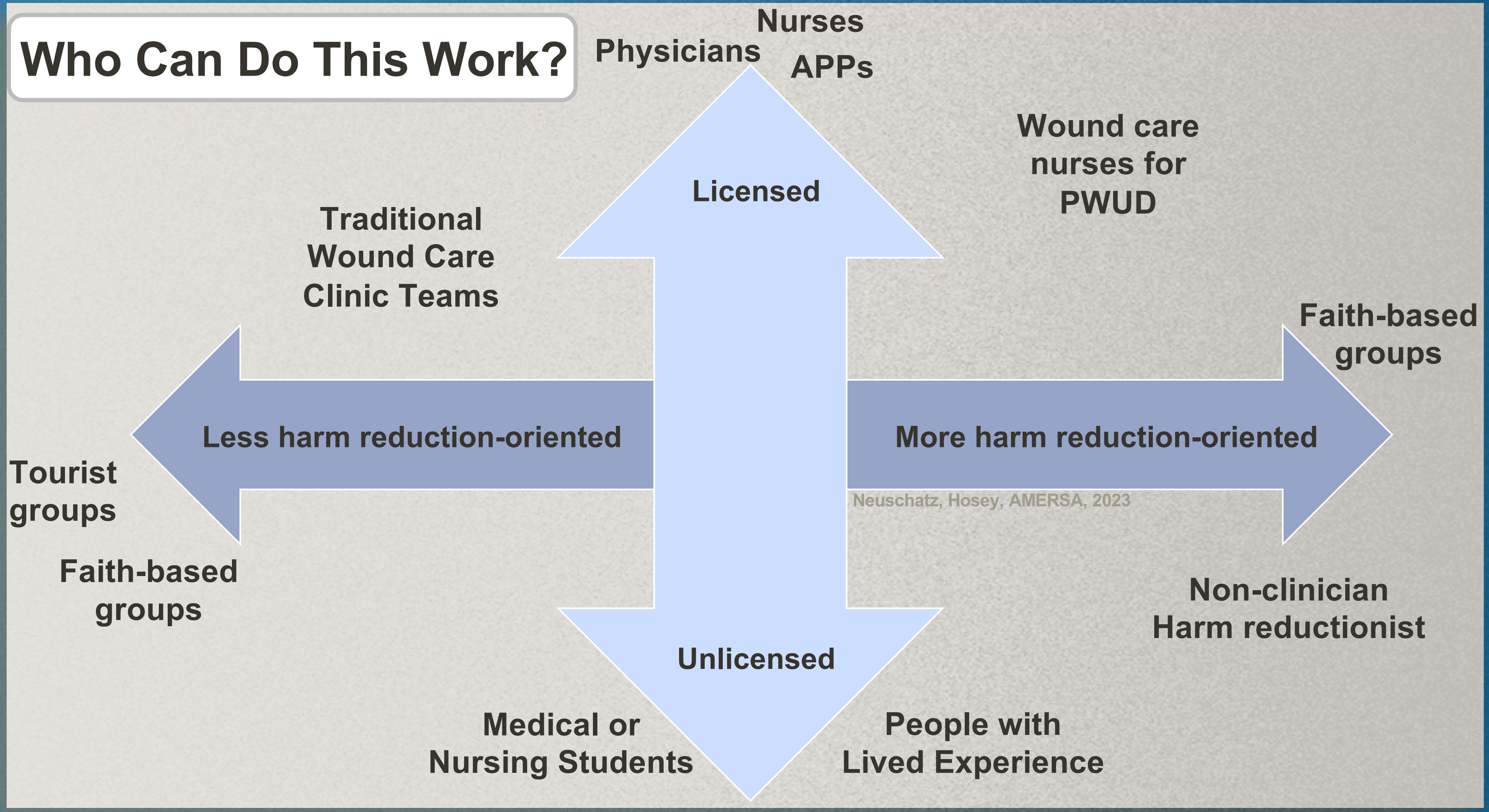
- Partnerships
  - Cultural humility and competency
  - Rapport/relationship, trust/buy-in, safety and longevity
- Same space, different perceived needs
  - Concerns from all neighbors
- Passers-by
  - Positives and negatives
  - Flexibility and responsiveness

https://penncamp.org/sun-team/

Street Level View

- Someone is significantly intoxicated
  - Does it impact informed consent?
  - Pain management in the field
- Overdose response
  - Appropriate response per level of training
  - Impact of xylazine: sometimes sedation > hypoxia
- Someone needs a higher level of care
  - Safety planning, informed consent, menu of options

https://www.mountainside-medical.com/products/manual-resuscitation-bag
https://www.health.com/fitness/best-pulse-oximeter


Who Can Do This Work?
Physicians
Nurses
APPs
Licensed
Wound care
nurses for
PWUD
Traditional
Wound Care
Clinic Teams
Faith-based
groups
Less harm reduction-oriented
More harm reduction-oriented
Tourist
groups
Neuschatz, Hosey, AMERSA, 2023
Faith-based
groups
Non-clinician
Harm reductionist
Unlicensed
Medical or
Nursing Students
People with
Lived Experience

Thank you.

We express our deep gratitude to the people we see in clinic, on the street, vans, cars, and by phone.

To our colleagues, lead nurses Kristi Petrillo-Straub, Sara Wallace-Keeshen, Keara McNulty, and fellow street nurse Stephanie Klipp; physicians Dr. Eyiah-Mensah, Dr. Healy, Dr. Romeo, Dr. Kaigh, Dr. Hart, Dr., Moore, and lead navigators, Rachel Winter, Neha Shetty, and the rest of the Wound Care Clinic team.

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Harm Reduction Applied: Maximizing Self Management

Establish Rapport

Many people have been treated disrespectfully by others in health care

Authenticity—as a person and provider—builds trust

Strengths Focused

Reflect what's positive about wound progression or self care, if at all possible

Acknowledge small steps, including presenting for wound care

Bodily Autonomy

Explain before doing, ask before touching

Be responsive in words and action to reports of pain, etc.

Offer Tools for Desired Outcome

Explain clinical assessment and decision making

Offer rationales so substitutes can be more effective

Provide supplies for dressing changes prior to next visit