Advancing Wound Care in Harm Reduction Clinics: A Follow-Up to the 2002 Casa Segura Study

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Introduction

Soft tissue infections are a frequent complication among individuals who inject drugs, often progressing to cellulitis, abscesses, or necrotizing infections. The Casa Segura Wound and Abscess Clinic study demonstrated that syringe exchange programs offering wound care could successfully provide low-cost, accessible treatment to injection drug users. Since then, the illicit drug supply has evolved, with substances like xylazine contributing to more complex wounds that require advanced interventions. This study builds upon Casa Segura's findings by documenting our harm reduction clinic's wound care services, comparing them with past models, and proposing innovations to address emerging challenges. The Oakland County Health Division's harm reduction program provides additional data supporting integrated wound care strategies and improved clinical outcomes.

Methods

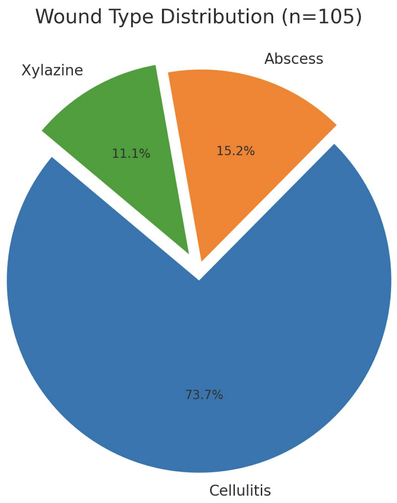
This study took place at a harm reduction clinic in Oakland County, MI, serving people who use drugs, many facing housing instability and barriers to traditional care. Building on the Casa Segura model, the clinic expanded services to address emerging wound types, including xylazine-related wounds, through advanced treatments (e.g., debridement, targeted antibiotics) and integration of point-of-care drug testing. Nurse practitioners are being considered for expanded wound care roles.

Mild Wounds	Cleaned with soap and water or chlorhexidine, occlusive dressing applied, and oral antibiotics prescribed when needed.
Mild Cellulitis	Managed by nursing staff with standing orders following IDSA antibiotic guidelines (e.g., cephalexin, penicillin VK).
Mild–Moderate Purulent	Treated with empirical Staph aureus coverage (TMP/SMX or doxycycline) when systemic inflammatory response signs were present.
Moderate–Severe Purulent	Referred to emergency departments for further care, including incision and drainage.

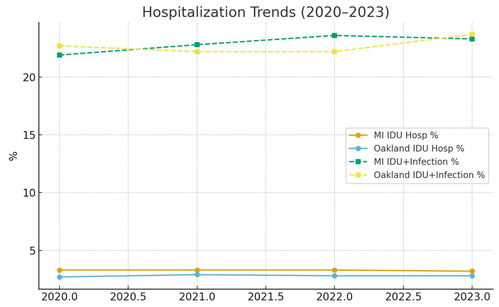
Harm Reduction Clinic Outcomes

Over 14 months, the program assessed 105 individuals with wounds. Key outcomes include:
High Return Rate: 97% of clients returned for follow-up care.
Infection Resolution: 98% of infections were resolved.
Low Hospitalization Rate: Less than 1% of cases required hospitalization.
Xylazine Wounds: Identified 10 clients with probable xylazine-related wounds, preventing emergency department visits and surgical interventions.

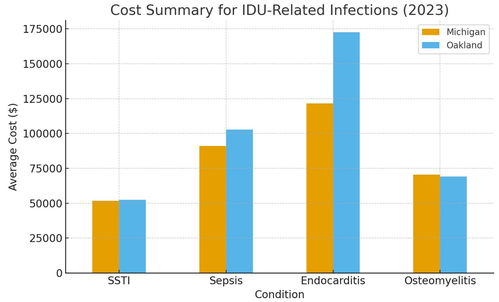
Xylazine-Associated Necrotic Wound



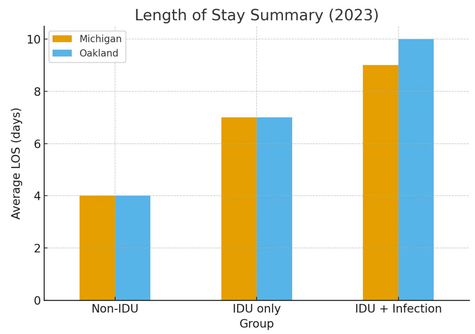
System-Level Burden (Michigan vs. Oakland County)



Michigan showed stable or slightly declining IDU-related hospitalizations, while Oakland County saw a modest increase in IDU infections in 2023, highlighting localized burden.



Endocarditis and sepsis were the most expensive IDU-related infections, with Oakland County charges exceeding statewide averages — particularly for endocarditis ($172K vs $121K).



Hospital stays for IDU-related infections were 2–3x longer than non-IDU admissions. Oakland County had slightly longer IDU+infection stays (10 vs 9 days).

Discussion

The Casa Segura study showed that integrating wound care into syringe exchange programs improved healthcare access while reducing costs. Our findings build on this model, demonstrating the need for advanced protocols as the drug supply changes. Xylazine-associated wounds, unlike traditional abscesses, require ongoing wound care, debridement, and infection management. Incorporating nurse practitioners into harm reduction clinics can expand treatment capacity and continuity of care. Proactive drug testing for adulterants such as xylazine can further guide treatment and inform patient counseling, allowing clinics to respond more effectively to emerging threats. The Oakland County Health Division's program supports these adaptations, showing that structured wound care protocols reduce ED visits and improve outcomes. Together, these findings underscore the importance of continuous adaptation, sustainable funding, and the integration of specialized wound care into harm reduction initiatives.

Discussion

The integration of wound care into harm reduction clinics is a critical intervention for people who inject drugs. Adapting services with increased staffing, advanced care protocols, and drug testing can further reduce the burden of injection-related infections. Building on the Casa Segura model, our study highlights how harm reduction clinics can evolve to meet emerging challenges. Findings from Oakland County demonstrate that structured wound care protocols reduce emergency department visits and improve outcomes. Future research should focus on refining best practices and securing sustainable funding to support harm reduction–based wound care. Strengthening partnerships between public health systems and community-based programs will also be essential for long-term sustainability.