

Sharp Points on a Map: Understanding the Impact of Urban Needle Debris Using GIS Mapping



Alexandra Ewanyshyn; *Faculty of Arts, Research Assistant*

Twyla Ens; *MN RN CCNE, Associate Professor (Teaching)*

Jennifer Jackson; *PhD RN, Assistant Professor*

Faculty of Nursing, University of Calgary

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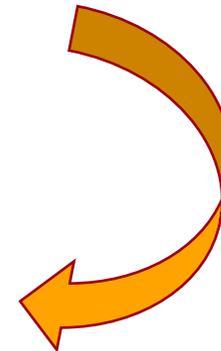
Presentation Objectives

1. Understand how innovative research methods can inform interdisciplinary collaboration in a healthcare context



2. Discuss 'needle debris' as a nursing assessment case study

3. Highlight the importance of 'local knowledge narrative' data to creating a holistic understanding of care for People Who Use Drugs (PWUD)





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Partnerships



What is 'Needle Debris'?

- Visible traces of un-supervised substance consumption

- A public health hazard that indicates a lack of disposal options for PWUD

- Discarded drug paraphernalia that accumulates in public spaces - not solely needles!



Needle Debris & the Criminalized Existence of PWUD

- Current responses to needle debris are **reactive** as opposed to **preventative**.

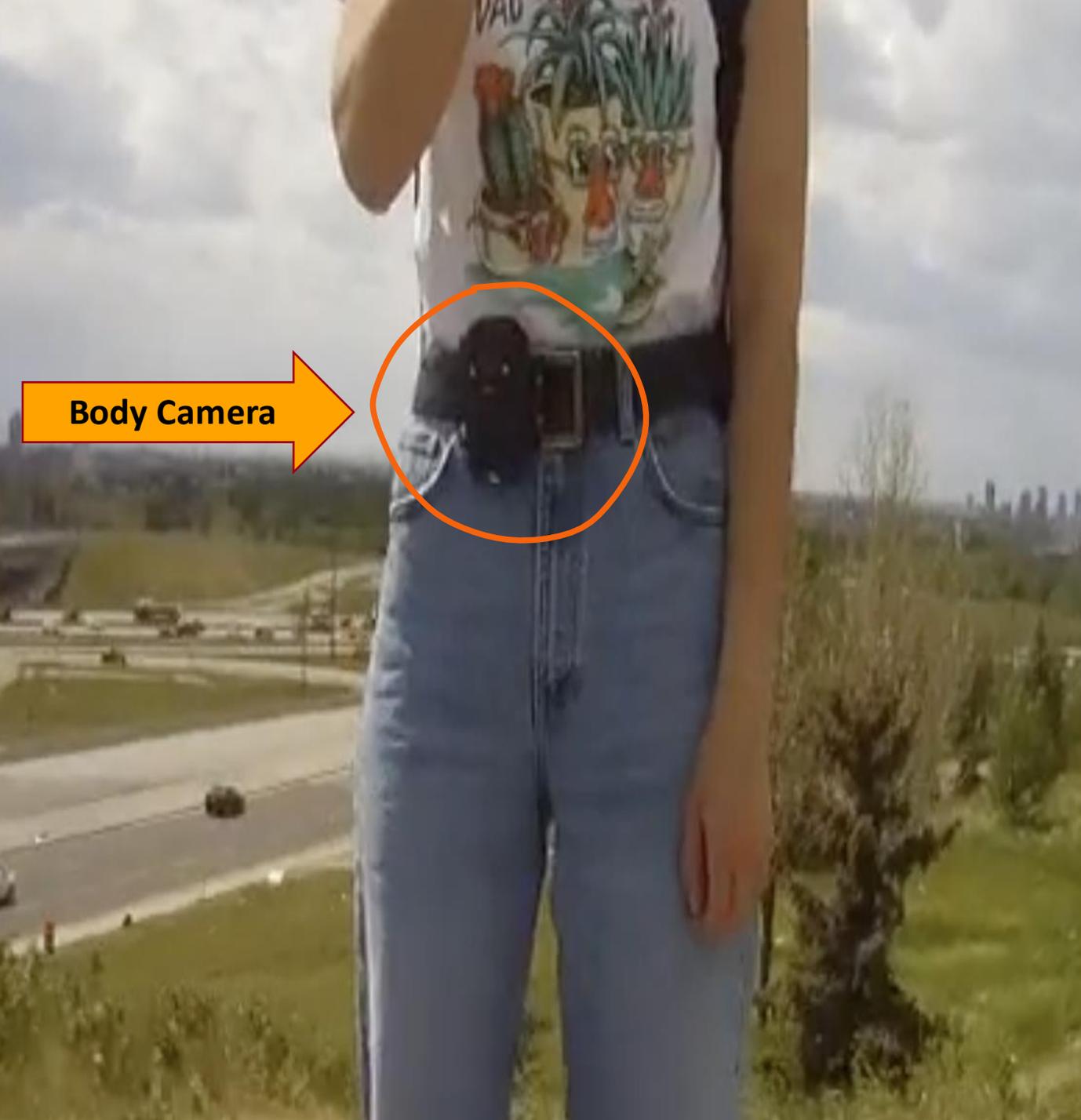
- **How** and **why** does needle debris end up where it does?

- Stigma is a social force that criminalizes PWUD.

Needle debris is a physical remnant of a criminalized existence.



Calgary Fire Department's Needle Box Response Truck



What is a 'Spatial Video Geo-Narrative'?



- "Spatial Video Geo-Narratives are videos synced with audio commentary that use GIS-mapping to create a holistic visual heatmap of an area." (*Curtis et al., 2018*)

- GIS = Geographic Information Systems

- 'Built Environment' (*Ezell, Ompad, and Walters, 2021*).

Aims of Our Research

- Use interdisciplinary methods to understand patterns of drug use.
- Develop targeted interventions in collaboration with other sectors to support people experiencing vulnerability.
- Decrease public stigma of harm reduction services, therefore increasing access and stability of care for PWUD.
- Manage community concerns around Supervised Consumption Sites, as needle debris is often cited in policy as reasoning for closing SCS services.



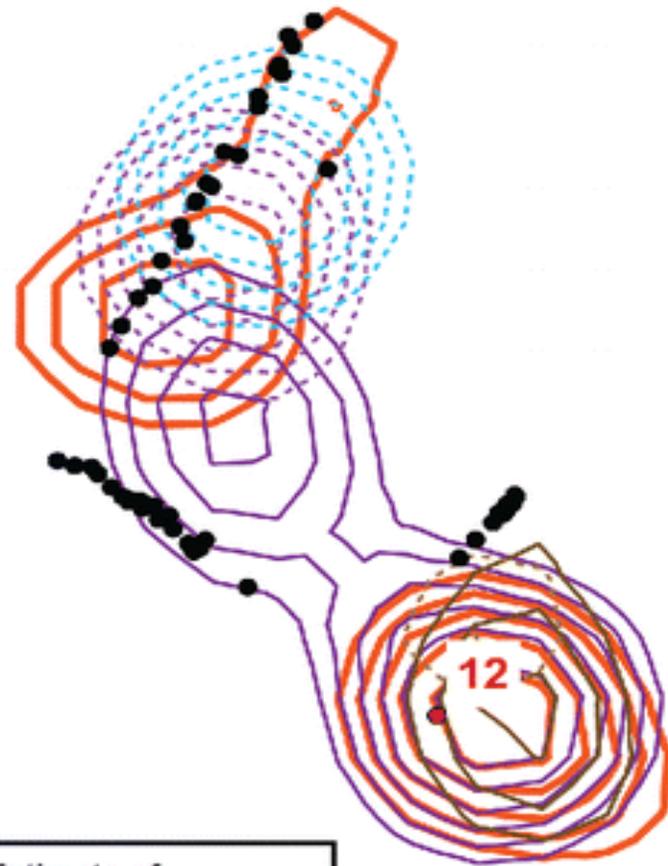
Methods

- 'Local-knowledge Narrative'

- Walking vs Driving

- Differences in frontline perspectives

- Usage of body camera



Kernel Density Estimate of Marginalized and Provider Keywords

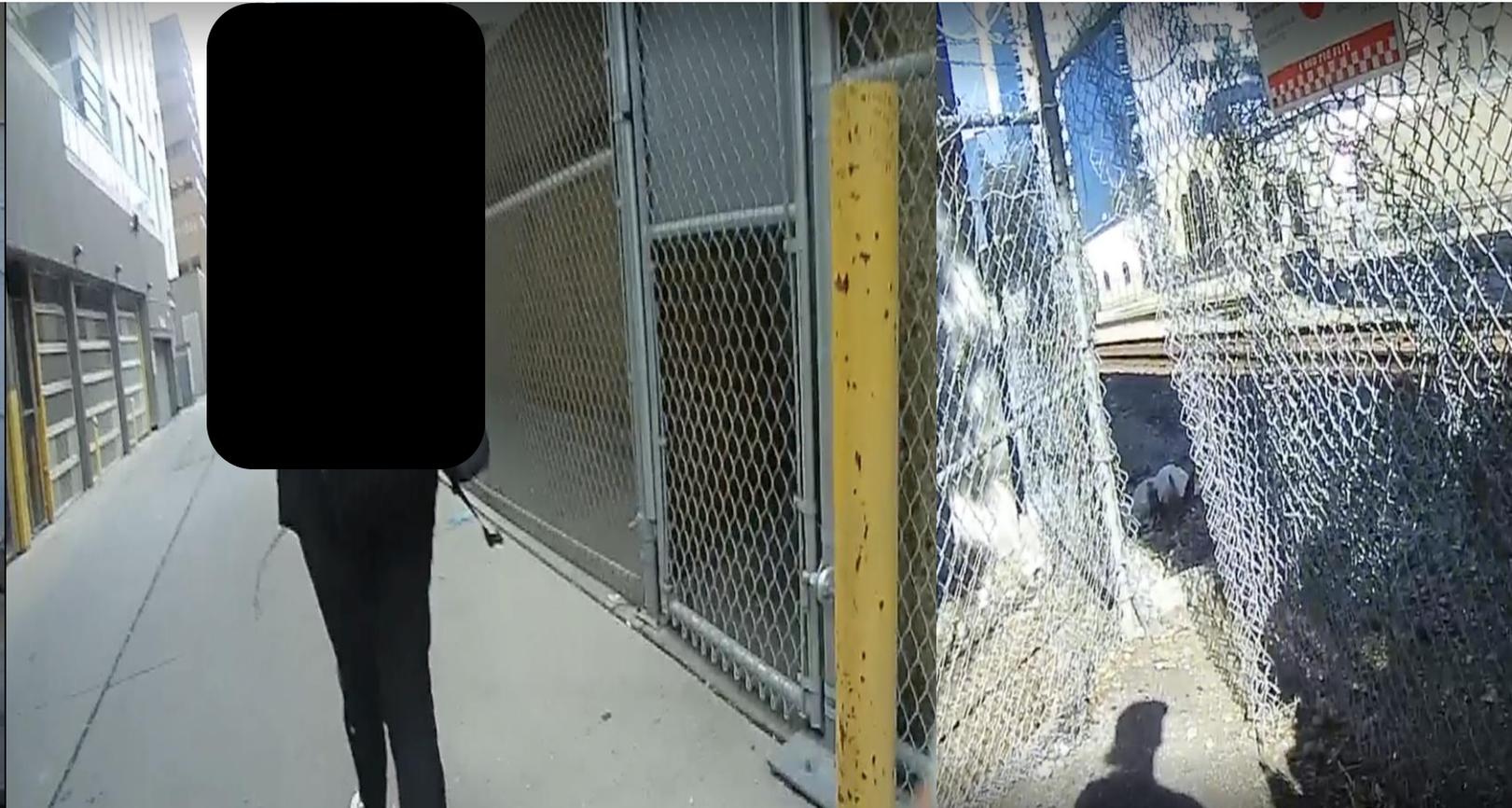
- Crack
 - Heroin
 - Deal
 - Drug
 - - - Provider Crack
 - - - Provider Heroin
 - Visible Homeless Camps
- 12 is a Robust Location meaning this place is named in the narratives as where drug activity occurs

0 10 20 30 40 Meters

Example of 'hotspot' map combining GIS-data with narrative key words (Curtis et al., 2018)

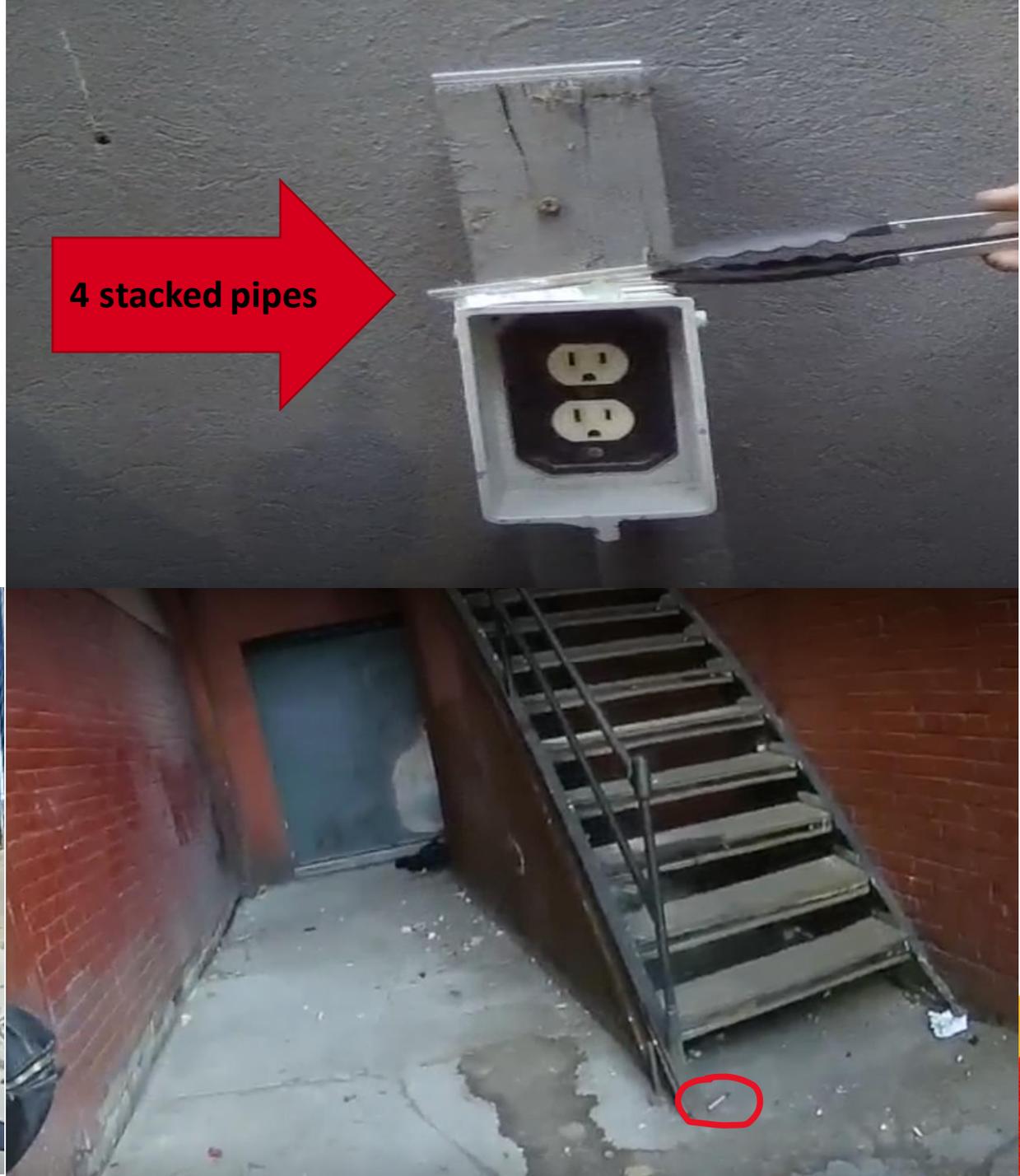
Preliminary Findings

- Need for 'privacy' is enforced by social & environmental hostility



Observations

- Disconnect between available resources and what community needs



The Story of Needle Debris



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- Stakeholder expertise in navigating the 'built environment'

- Privacy, Plug-ins, and Shelter



"Overdose Steps"



"Needle Park" Box



Implications & Future Directions

- Recognize that needle debris exists because of a lack of other options, not carelessness.



- Design health services that transcend traditional modes of care.

- Importance of 'meeting PWUD where they are at' in spaces comfortable to them.



- Create adaptable interventions that support people where they are.

- Work with community partners to contextualize better means of supporting PWUD.



- Incorporate and amplify the voices of people with lived & living experience.



Thank You!

- *To the IntNSA conference*
- *To our community partners*
 - *To my lab colleagues*
- *To my supervisor Dr. Jackson*

References:

- Ezell, Ompad, D. C., & Walters, S. (2021). How urban and rural built environments influence the health attitudes and behaviors of people who use drugs. *Health & Place*, 69, 102578–102578. <https://doi.org/10.1016/j.healthplace.2021.102578>
- Curtis, Felix, C., Mitchell, S., Ajayakumar, J., & Kerndt, P. R. (2018). Contextualizing Overdoses in Los Angeles’s Skid Row between 2014 and 2016 by Leveraging the Spatial Knowledge of the Marginalized as a Resource. *Annals of the American Association of Geographers*, 108(6), 1521–1536. <https://doi.org/10.1080/24694452.2018.1471386>