Data Science Linkage of Public Jail Registries and Surveillance Data for Public Health Action

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Introduction

- Jail bookings represent an important opportunity for diagnosis and care linkage for people living with HIV (PLWH), but jurisdictional data protections and decentralization of facilities can make connecting public health resources to correctional programs challenging.
- The purpose of this study was to evaluate the use of publicly available jail inmate data to develop a real-time dataset of public jail rosters and to estimate the number of PLWH who have regular interactions with jails in Washington state (WA).

Methods

- We developed R scripts to collect public-facing jail rosters from local and tribal facilities in WA. We ran these scripts daily from 11/14/2022 to 8/13/2023, to create a longitudinal database of the Washington state incarcerated population.
- We used a deterministic matching algorithm to link this database to the state HIV registry and identified how many PLWH pass through jail. We used demographic information from the state surveillance system to describe this population by gender, transmission risk, race, and care status.

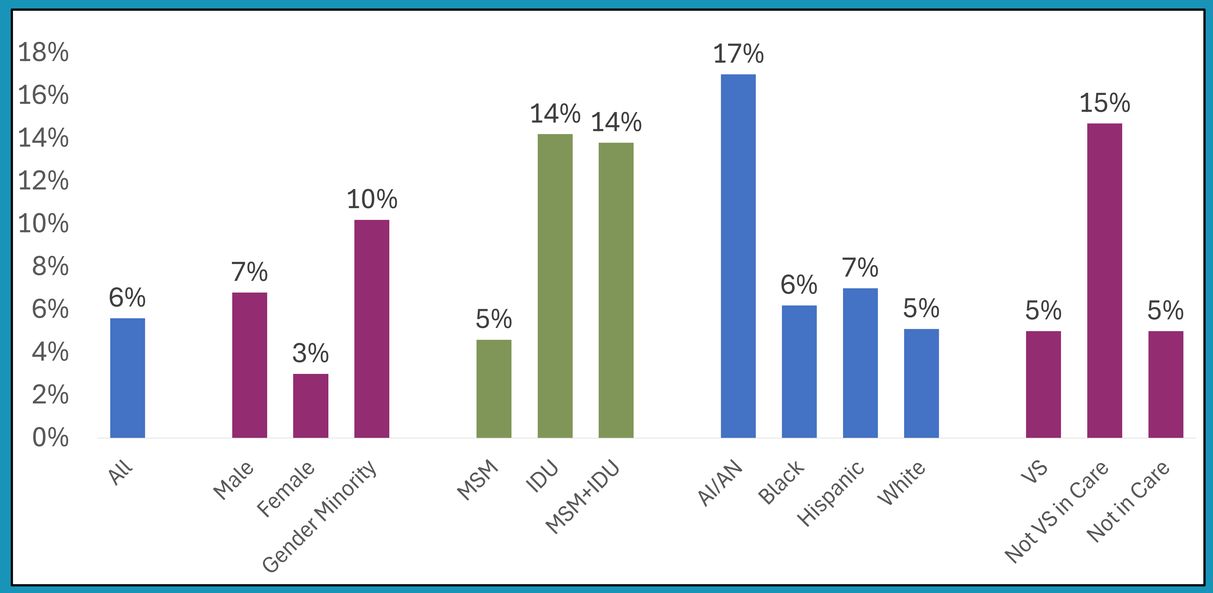
Public-facing jail rosters can be used to connect people living with HIV to care

15% of PLWH who are not virally suppressed will be jailed in the next 3 years (among those in care)

Table 1: PLWH Jailed Between 11/14/2022-8/13/2023, Washington State

Population	Observed Jailed PLWH	Estimated 3-Year Total (95% CI)
All	419	841 (754-929)
Male	373	751 (668-834)
Female	35	71 (45-97)
Other Gender Minority	11	20 (9-30)
MSM	197	419 (350-488)
IDU	57	116 (83-150)
MSM+IDU	84	175 (132-217)
Hispanic	92	174 (139-210)
AI/AN	8	21 (NE-43)
Black	92	162 (133-192)
White	181	409 (334-485)
Virally Suppressed	279	582 (504-661)
Not VS but In Care	79	161 (122-201)
Not In Care	61	105 (82-127)

Figure 1: Estimated Proportion of PLWH Who Will be Jailed in the Next 3 Years, Washington state



Acronyms: PLWH=People Living with HIV, AI/AN=American Indian or Alaska Native, VS=Virally Suppressed, MSM=Male-male sexual contact

Methods (cont.)

- We used a zero-truncated Poisson model to estimate the total population of PLWH who are jailed on a regular basis and the subset of this population who would be jailed in the next 3 years.

Conclusions

- Public facing jail registries can be used to describe the intersection of PLWH and the criminal legal system and to identify the location of PLWH who are not virally suppressed.
- There are large disparities in the rate of incarceration. In particular, people who identify as gender minorities, people who inject drugs, and people who identify as American Indian or Alaska Native are more likely to be jailed.
- Public health programs looking to increase their ability to reach justice-involved populations may consider whether public-facing jail rosters could be a useful data source.

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