Taking a Syndemic Lens to Criminal Justice: The Impact of Imprisonment on Risk of HIV, Syphilis, and Fatal Overdose in Washington State, 2023

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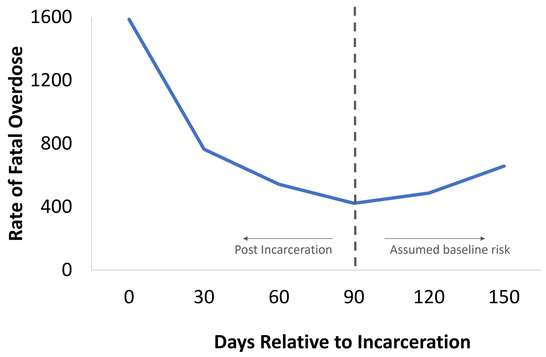
Introduction

- HIV transmission is a product of complex biological and social factors that intersect with viral hepatitis, sexually transmitted infections (STIs), substance use, and behavioral health issues.
- Incarceration may play a role in perpetuating these cycles, while also serving as a key opportunity for healthcare access
- The purpose of this study was to
  - Quantify the baseline incidence of HIV, syphilis, and fatal overdose among individuals experiencing incarceration in jails
  - Estimate the acute impact of jail on the incidence of these conditions
  - Identify demographic determinants that may be relevant to prevent disease in this population

Methods

- We linked 2023 Washington state HIV, STI, and fatal overdose surveillance data to a 2023 corrections registry built from public jail rosters

Figure 2. Rate of Fatal Overdose Relative to Incarceration



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4% of Fatal Overdose, 2% of syphilis transmissions, and 1% of HIV transmission are attributable to the immediate disruption caused by arrest and incarceration

Table 1: Number of Cases of Syndemic Conditions Attributable to Incarceration, Washington State 2023

Condition	Time Period	Number of Events	Person-Years	Rate Per 100,000 PY	Attributable Cases
Syphilis	Before Incarceration	156	35,536	439.0	-
	180 Days After Incarceration	280	44,877	623.9	-
	Difference	**-**	**-**	***185 (85-285)***	***82.9 (37.9-128.0)***
Fatal Overdose	≤90 Days Aftter Release	234	22,741	1029.0	-
	>90 Days After Release	102	21,997	463.7	-
	Difference	**-**	**-**	***565 (406-725)***	***128.5 (92.3-14.9)***
HIV	Before Incarceration	5	35,583	14.1	-
	180 Days After Incarceration	9	44,872	20.1	-
	Difference	**-**	**-**	***6.0 (-1.1-23)***	***2.7 (-0.5-10.3)***

This compounds on a population with existing high risk and contributes to **racial and socioeconomic disparities**

Figure 1: Demographics of Individuals experiencing HIV acquisition, syphilis acquisition, or fatal overdose after release from jail



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Methods (cont)

- We calculated the incidence of each condition at a baseline (pre-incarceration for syphilis and HIV, and >90 days post-incarceration for fatal overdose) and post incarceration (180 days following release for HIV and syphilis, and 90 days for fatal overdose) and calculated the number of cases attributable to the disruption due to arrest.
- We described the inferred route of transmission, gender, race, and census-tract level socioeconomic characteristics among those experiencing one or more conditions.

Table 2. Rate of Syndemic Conditions Per 100,000 PY

Condition	Individuals Jailed [1]	General Washington Population	Rate Ratio
HIV	14	5	2.6
Syphilis	453	51	8.9
Fatal Overdose	464	44	10.5

1. Describes the baseline time period (pre-incarceration for syphilis and HIV, and >90 days post-incarceration for fatal overdose).

Discussion

- Arrest has a measurable impact on disease transmission and fatal overdose, even for diseases like syphilis which don't have a direct link to criminalized behavior
- As public opinion shifts towards a more punitive approach to criminal justice, communities that are considering policies that increase arrests and incarceration should understand that this may increase the community burden of these conditions
  - This is particularly relevant in light of the Supreme Court's nullification of *Martin v. Boise* and protection of unhoused populations.
- This analysis examined only a short time frame in a single jurisdiction. The long time to diagnosis of HIV makes it difficult to quantify acute effects.
- The majority of cases we observed had some connection to substance use. Targeted interventions in and after jail for individuals who use substances could have a significant impact on the incidence of these conditions communitywide.