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Barriers and facilitators to implementing status-neutral HIV care in an urban jail system

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Abstract

Background People who use drugs face barriers to accessing HIV prevention tools. The status-neutral model for HIV care starts with the HIV test and offers linkage to HIV treatment if the person tests positive and linkage to pre-exposure prophylaxis (PrEP) if the person tests negative. The goal of this study was to evaluate barriers and facilitators impacting the implementation of a status-neutral HIV model of care in the jail setting.

Methods Between June and August 2024, we recruited people working in and incarcerated in the jails operated by the Suffolk County Sheriff's Department (Jail and House of Correction) for in-depth interviews. The Consolidated Framework for Implementation Research (CFIR) 2.0 guided interview development. Interviews were recorded, transcribed, coded, and analyzed using rapid thematic analysis (RTA) methods. Relevant themes were mapped onto CFIR domains.

Results We conducted 28 interviews: 13 with correctional and clinical staff and 15 with incarcerated people. Clinical and administrative staff members indicated that strong relationships with state and local agencies and the state's proactive approach to preventative carceral healthcare helped facilitate HIV treatment and prevention pathways. Incarcerated individuals identified issues in the system used to report health needs and unreliable test result delivery mechanisms as major barriers. Staff also identified barriers, including understaffing, but overwhelmingly endorsed the jails' existing systems of accessing and delivering care.

Conclusions Findings identified multiple potential intervention targets to enhance a status-neutral approach to HIV testing and treatment in jail settings, including leveraging existing partnerships, and educational opportunities for staff. Strategies that reinforce a patient-centered institutional culture (with a focus on incarcerated individuals' health), improve care continuity for transitions into and out of jail, and highlight gaps in healthcare delivery are critical for successful implementation of status-neutral HIV care in jails.

Keywords HIV, PrEP, Carceral healthcare, Qualitative, Implementation

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Introduction

Criminal-legal involved populations experience disparate rates of HIV (Bayani et al., 2020). Advances in the science of HIV prevention have led to effective and well-tolerated pharmacological options for HIV prevention (also known pre-exposure prophylaxis or PrEP). However, criminal-legal involved populations, and people who use drugs (PWUD) in particular, face barriers to accessing these medications (Socias et al., 2016). Still, the criminal-legal system has historically served as a touchpoint for offering medical and behavioral health services (Feld et al., 2023; Levano et al., 2023; McDonnell et al., 2014). Improving access to HIV-prevention tools for people detained in the carceral system is necessary to bring the United States closer to ending the HIV epidemic (National Institute on Drug Abuse, 2024).

An innovative public health strategy aimed at increasing access to PrEP is the “status-neutral” approach. This approach—first introduced by public health experts in New York City in 2018 (Myers et al., 2018)—supports the idea of care being provided to individuals at risk for HIV regardless of their HIV test result. If the test is “positive,” then the provider refers the individual to HIV treatment, with the goal of viral suppression. If the test is “negative,” the provider refers the individual to PrEP and other health protection services to support the person in staying HIV negative. The idea behind the status-neutral approach is that care will be provided regardless of the HIV test result (Allen et al., 2020; Beckwith et al., 2012; Burt et al., 2017; Murchu et al., 2022). The operationalization of status-neutral care in carceral settings has been identified as a goal, yet there is limited evidence of application (Shah & Wurcel, 2024).

In the last decade, Massachusetts has faced three major HIV outbreaks that have been, at least in part, attributed to injection drug use (Randall et al., 2022) and the increased use of fentanyl in the New England area (Alpren et al., 2020; Barocas et al., 2018; Centers for Disease Control and Prevention (U.S.), 2020). Suffolk County, Massachusetts—a county comprised of four cities including Boston—is designated as an area at high risk for HIV outbreaks. To address this public health issue, there has been a long history of partnership between state public health services (such as the Massachusetts Department of Public Health) and the Suffolk County Sheriff’s Department aimed at improving access to HIV testing (Epstein, 1998).

Our research team partnered with public health experts and the jail administration to collaborate on systems to improve access to status-neutral HIV care. This research was part of a larger implementation study called ID-TOUCH: Infectious Diseases Testing and Outreach in Carceral Hubs (National Institutes of Health, n.d.), a research project aimed to identify feasible systems

of improving HIV testing and PrEP access. The current research aimed to characterize facilitators and barriers in these jail settings to accessing HIV testing, PrEP, and continuity of care upon release for individuals who are currently incarcerated.

Methods

Setting and participants

There are two county correctional facilities in Suffolk County: Suffolk County Jail (jail) and House of Correction (HOC). The jail holds those that identify as male awaiting trial (i.e., pretrial population) and has a lower daily population than the HOC, which holds pretrial and sentenced men and women (Massachusetts Suffolk County Sheriff’s Department, n.d.). Hereafter, we refer to both facilities as “jails.” A contracted, privatized medical vendor provides healthcare at both sites. We recruited two populations for interviews: (1) staff who work at the jails and (2) people incarcerated at the jails. The first group included physicians, nurses, pharmacists and others responsible for providing healthcare, including contracted vendors, employees directly employed by the jail, as well as carceral administrators most knowledgeable about HIV-related programming. To recruit clinical staff participants, we asked jail administrators to recommend key staff involved in decision-making and provision of treatment around HIV. Incarcerated participants were identified by jail staff as having a documented history of opioid or other substance use disorder. Participation was entirely voluntary and all participants provided written informed consent prior to enrollment. The study was approved by the Tufts Health Sciences Institutional Review Board. Interviewees employed by the state or city government (i.e., jail administrative staff) were not allowed to receive compensation in accordance with policies and state ethics laws. All other participants – participants employed by medical vendors and incarcerated individuals – received a \$50 pre-paid gift card. For incarcerated individuals, the cards were placed in their property to be returned on release.

Interview guide development

We developed two interview guides. The interview guide for staff was developed based on constructs from both the inner and outer setting domains of the updated Consolidated Framework for Implementation Research (CFIR) 2.0 (Damschroder et al., 2022) (see *Appendix A* for more information) and was informed by the teams’ prior research (see *Supplemental Materials*). We defined the *outer setting* domain as the bureaucratic, legal, and external sociocultural structures that influence the delivery of healthcare in these carceral settings. We defined the *inner setting* to be the two facilities where we conducted our research and the inner workings of

the systems that supported healthcare delivery in these facilities. We asked people working in jails first about the current systems of healthcare delivery broadly and then focused specifically on HIV-related testing and access to PrEP. The interview guide for incarcerated individuals asked about the process of getting healthcare in the jail, their experiences with HIV testing, knowledge and use of preventative care in the form of PrEP, and connections to post-release healthcare services. To prepare for interviews with Spanish-speaking participants, study materials (interview guides, consent forms) were translated into Spanish.

Data collection

All interviews were conducted in a semi-private space inside the facilities at which the individual was employed or incarcerated and lasted between 45 and 60 min. Spanish-speaking incarcerated participants were interviewed by a native Spanish-speaking member of the research team. Whenever possible, we conducted interviews in teams of two, with one study-team member taking written notes. Interviews were audio recorded with permission from study participants, with the exception of four interviews in which the recorder malfunctioned and we relied on the hand-written notes.

Table 1 Participant Demographics

Participant Type		Staff (n = 13)	Incar- cerated Individuals(n=15)
		n (%)	n (%)
Ethnicity	Not Hispanic or Latino	13 (100%)	9 (60%)
	Hispanic or Latino	0 (0%)	4 (27%)
	Unknown/Not Reported	0 (0%)	2 (13%)
Race	White	10 (77%)	8 (53%)
	Black or African American	2 (15%)	2 (14%)
	Asian	1 (8%)	0 (0%)
	Other	0 (0%)	5 (86%)
	Gender	Female	9 (69%)
Identity	Male	4 (31%)	7 (47%)
	Other	0	1 (6%)
	Highest Education	No High School Diploma or Equivalent	0
	High School Diploma or Some College, but no Degree	3 (22%)	9 (60%)
	Associate's, Bachelor's, or Master's degree	5 (39%)	2 (13%)
	Doctoral Degree or Equivalent	5 (39%)	0
	Age	25–34	1 (8%)
34–44		4 (31%)	9 (60%)
45–54		2 (16%)	1 (7%)
55+		6 (46%)	2 (13%)

Data analysis

Professionally transcribed audio recordings and interview notes were uploaded to a secure file sharing system. We used the interview guides and CFIR 2.0 constructs to develop a coding matrix (see *Supplemental Materials*) and employed a rapid thematic analysis (RTA) technique to code the interviews (Nevedal et al., 2021). The RTA method allows for rapid turnaround of data analysis by coding answers to key responses that will directly inform an intervention. This approach was selected to prioritize rapid feedback for the intervention design and for its comparability to traditional qualitative analysis methods (See *Appendix A* for more information). Each interviewer completed the matrix within one week of conducting the interview, and a second member of the research team used the transcript (or notes) to review the coding. The goal of the analysis was to focus on outer setting and inner setting domains. Specifically, we wanted to better understand how external (state and county level infrastructure, funding, and culture) and internal (local clinical or administrative culture, relational infrastructure, and communications) would contribute to the implementation of a status-neutral HIV care system.

Results

We interviewed a total of 28 participants (13 staff, 15 incarcerated individuals). Five incarcerated people who we approached declined participation (75% acceptance rate). Participant demographics are presented in Table 1. The results of the rapid analysis are shown in Table 2.

Inner setting

Focusing first on the *Inner Setting*, a major area of divergence emerged between the views of people who worked in the jails and the people incarcerated on the barriers to accessing HIV testing. Staff described two systems of HIV testing: HIV testing at intake and asking for HIV testing through a “sick slip.” A “sick slip” is a common practice in jails and prisons through which incarcerated individuals write down a medical issue on a “slip” of paper and place it in a box in the housing unit. These boxes are then emptied by nursing staff twice daily and triaged to the appropriate provider. At the time of interview, HIV testing was not offered at intake but could be requested through the sick slip system.

Of the 15 incarcerated interviewees, only 2 explicitly remembered being offered HIV testing at nursing intake, most could not remember, and some said it was not offered. Staff reports were mixed, with half saying it was routinely offered at nursing intake and half stating that it was not (responses between administrative staff and healthcare staff did not differ). Staff described standard processes for access to HIV care embedded within the “sick slip process” and shared that HIV testing and

Table 2 Barriers and facilitators of implementing status-neutral HIV care in an urban jail system

Domain	Construct	Incarcerated Individuals	Jail Staff
Inner Setting (the inner workings of the systems that supported healthcare delivery in these facilities)	Work Infrastructure	Staff do not accommodate complex healthcare needs due to narrowly defined clinical and administrative roles in the organizational structure of the jails.	High level of division of labor within the jail's healthcare system. Individual healthcare workers performed specialized tasks and do not engage in tasks outside of their direct responsibilities.
	Communications	Sick slips are not effective means of communicating illness. They lead to decreased engagement, invoke privacy concerns, and cause delays in care.	Sick slips are an effective method of communication and that healthcare decisions and HIV testing results are communicated efficiently.
	Relational Connections	Within the system of incarceration, there is a need to network with other incarcerated peers to access healthcare needs.	Relationship between the healthcare system and jail administration is "hands off" as healthcare delivery is outsourced to an independent contractor.
	Culture	Healthcare received in jail is inadequate, poorly communicated, and unreliable. Privacy concerns and stigma act as contributors to hesitancy to access HIV healthcare. Availability of HIV care is limited purposefully because of views of deservingness.	Stigma and fear both play roles in individuals who avoid accessing care. Most people reported a high level of HIV care being delivered to people who are incarcerated. There is a feeling of entitlement that people who are incarcerated have towards healthcare.
	Tension for Change	Individuals felt that the healthcare they receive is less than adequate and some felt was potentially dangerous.	Staff reported that the quality of healthcare is adequate. There is not much tension for change in these key decision-making groups.
Human Equality – Centeredness	Felt that all incarcerated individuals were deserving of adequate healthcare.	Also agreed that all incarcerated individuals were deserving of a baseline level of healthcare.	
Domain	Construct	Jail Staff	
Outer Setting (bureaucratic, legal, and external sociocultural structures that influence the delivery of healthcare in these carceral settings)	Local Attitudes	The current systems of partnership and financing are sufficient for supporting HIV care	
	Local Conditions	Rapid staff turnover and understaffing can be issues, but staff believe that the quality of HIV care remains high.	
	Partnerships & Connections	Partnerships with MDPH identified as optimal and no clear need for further engagement.	
	Policies & Laws	Guidelines about sharing HIV information is a barrier to tracking HIV testing results.	
	Financing	No limitations in terms of funding to conduct existing activities, but adding services is not feasible due to funding constraints.	

PrEP could be accessed through this system. Although the staff reported some issues such as understaffing and a high volume of sick slips, many staff members stated that the sick slip process was smooth and that healthcare concerns, particularly HIV testing, were acknowledged and addressed in a timely manner.

Access to counseling for HIV testing was a point of convergence among the stakeholder groups, but accessing HIV testing results remained a point of divergence. Both staff and incarcerated participants reported that counseling for individuals experiencing HIV testing was not provided consistently due to staff workload constraints and scheduling limitations. However, staff members reported that HIV testing results were returned to individuals within one week, but incarcerated participants stated that testing results were returned anywhere between two weeks to one month after the test, and in some cases not returned at all. One incarcerated individual stated,

"I put it in, and I got my test results a month later, so, I got it. Everything takes time, and then you put it off. Then they'll call you on a medical, but you don't know what you're going down to medical for. Some-

times you say, 'Oh. I don't wanna go.' It'd just be easier to have a setup thing, and you know it's coming."

Stigma emerged in interviews as a barrier to HIV testing. Incarcerated individuals generally referenced stigma as a cause for privacy concerns, disincentivizing accessing testing in carceral settings. This included concerns for lack of privacy during several encounters while living in jail: the discussion of healthcare status with clinical staff, the distribution of medications in the jail's housing units, and engagement in medical appointments due to the proximity of correctional officers. When asked why HIV testing or diagnoses are not discussed by their peers, one incarcerated individual said, "...cause they make it.[a] stereotype. The embarrassment... judgmental". When asked whether they would be comfortable talking about their HIV status with their peers, an incarcerated participant stated, "No. No, my healthcare is my healthcare." Staff reported that more patient education, facilitated through both group and individual settings, would be valuable in reducing stigma and increasing uptake of HIV testing.

Staff members occasionally referenced feeling that incarcerated participants often came off as "entitled" to healthcare that was not within the scope of the carceral healthcare system, with one staff member stating,

“...overall, just with the nature of where they are, there is an overall sense of distrust, but there’s also an overall sense of this weird entitlement that if they snap their fingers, they can get everything they need done, and so sometimes we have to set realistic expectations or set boundaries.”

Largely, staff members believed that healthcare delivery was adequate as is, and that change was neither necessary nor feasible. However, among incarcerated individuals, there was a strong desire and, they felt, a demonstrated need for systemic change. Indeed, incarcerated individuals believed that their healthcare was not a priority for these institutions (jails) and that the status quo was unsatisfactory.

Outer setting

Staff reported a major facilitator to HIV care delivery was the proactive attitude towards identifying financial support and relationships with external organizations like the Massachusetts Department of Public Health (MDPH). In particular, there was funding specifically for an infectious diseases coordinator to provide HIV education and counseling in the jails, and this was heralded as a success. Many staff felt that the jail currently had adequate funding for providing HIV testing, with one staff member stating,

“[The Department of Health and State Lab] also provide educational materials that we can provide the population. They help us create videos to advertise the STI and HIV programs here in the facility. They help with funding, grant funding. We’re currently receiving grant funds from them so that we can—so that we were able to hire an HIV/STI coordinator. Those are the big ones.”

Some staff reported that the current implementation of HIV treatment and preventative care were the most effective systems given the current resources. Staff also noted, however, that there are significant data protections limiting the sharing of HIV information at the state level which hinder HIV care. Notably, we did not identify quotes from incarcerated participants that mapped to the outer setting, an absence in the data that we interpret in the discussion.

Discussion

This exploration of facilitators and barriers to implementing a status-neutral HIV care cascade revealed limiting structural and cultural factors that are unique to carceral healthcare settings. Local jail conditions can differ greatly between institutions and across county and state jurisdictions. The implementation of improved healthcare

in carceral settings requires engagement with relevant stakeholders – both those that make decisions (policy makers, jail staff) and those impacted by those decisions (mainly incarcerated individuals, but to some extent staff, too) – to contextualize these barriers and leverage facilitators (Van Deirse et al., 2023). Strong collaborative partnership with correctional partners permitted this study to build on the existing public health-carceral partnership.

We found a disconnect between the staff and incarcerated individuals’ perceptions of access to HIV testing. Most staff (both administrative and healthcare) said that HIV testing could be attained at several points during incarceration. People incarcerated reported limited access to HIV testing, however, noting that testing was not routinely offered and that communication of results was often delayed or missing altogether. Approaching both people incarcerated and people who work in jails about HIV testing provided us a unique ability to identify this disconnect. There was a consensus among all staff types that the existing systems were not only adequate, but comprehensive. This perspective was almost directly contradicted by the majority of incarcerated individuals’ experiences provided in the interviews. While some staff maintained that there was room for improvement, this remained contingent on strategies to ease the impacts of frequent staff-turnover and funding limitations.

Notably, context-appropriate systems to offer HIV testing in jails and prisons have been reported in the literature. The opt-out method of HIV testing is recommended by public health officials to increase normalization of HIV testing. The opt-out testing method informs patients that HIV testing is provided as routine care, but upon request can be omitted from the healthcare interaction. This framing aims to reduce stigma surrounding HIV testing and increase rates of testing. One study in California found that the implementation of an opt-out testing pathway for incarcerated individuals yielded high positivity rates and improved linkage to continuing care (Feld et al., 2023). Currently, opt-out testing is not widely employed in carceral settings, but increased prevalence of opt-out testing may allow for identification of late-stage infection and greater opportunities for linkages to care (Spaulding et al., 2015).

As noted, we did not capture information from incarcerated individuals regarding the outer setting - the bureaucratic, legal, and external sociocultural structures that influence the delivery of healthcare in these carceral settings. The outer setting primarily shaped the staff’s workflow, and staff were routinely required to interact with aspects of the outer setting to effectively maintain and produce systems of healthcare. Incarcerated individuals, on the other hand, did not explicitly discuss the ways in which their daily lives were shaped by the outer

setting constructs, perhaps due to limited access and visibility. In essence, incarcerated individuals have limited to no access to the outer setting structures that determine the quality of their healthcare while living in jail.

This study of the barriers and facilitators to implementing status-neutral HIV care in two jails identified a number of possible avenues for intervention. Systems are currently being created to uplift the voices of incarcerated individuals such that institutions are primed for interventions to better align their healthcare system with clinical best-practices (Adams et al., 2022). In the context of the present study, for example, if staff were to hear that incarcerated participants were distressed by not receiving HIV results promptly, particularly if they are set to be released, there might be greater effort to create more reliable feedback systems for delivering testing results and to dedicate more funding and staff to this identified gap in care.

Creating standardized systems of training for new staff that highlight the importance of touchpoint-centered opportunities to access testing and preventative medications for HIV could help curb the impact of frequent staff turnover. However, there must first be existing offers of HIV testing at touchpoints, better systems linking incarcerated participants to continued care for HIV treatment and prevention in the community, and clearer systems of returning test results to individuals who are incarcerated, prior to the potential development and implementation of training procedures. This requires a realignment of priorities to emphasize the importance of preventative care in carceral settings and its role in helping to mitigate future infectious diseases outbreaks in incarcerated populations and in their communities (Shah & Wurcel, 2024).

There is value in exploring mechanisms to leverage the tension for change expressed by incarcerated individuals in carceral settings to improve the process of accessing healthcare, especially as it relates to HIV testing and treatment. One avenue may be creating improved feedback systems for incarcerated participants to communicate and address grievances, opening a clear dialogue between change-makers (staff) and intervention recipients (incarcerated individuals), and communicating the positive impact carceral healthcare access can have in reducing recidivism (McDonnell et al., 2014; Wallace & Wang, 2020). For example, reframing the nursing intake and physical exam from baseline healthcare interactions that address acute healthcare needs to opportunities for preventative care and chronic disease management, could provide much-needed health stability for incarcerated populations. This requires creating established pathways for infectious diseases testing, communication of results with necessary counseling services, and follow-up

care with preventative medications or treatment for diseases.

This study reflects the first step in a collaboration aimed to improve access to HIV testing in carceral systems in Suffolk County, Massachusetts. These interviews were conducted with the intention of better understanding existing structural limitations to implementing the ID-TOUCH intervention, which aims to leverage touchpoints across the incarceration period to increase offers of HIV testing. The jails rolled out a new electronic medical record system in January 2025. This provided the opportunity to collaborate on the wording of a question offering HIV testing and a system of integrating questions into the nursing intake and physical exam. We are currently measuring the impact of the change through mixed methods analysis, and we plan to develop and apply adaptations supporting optimal implementation.

Our study had several limitations. We interviewed jail staff representing a diversity of roles, with sub-groups of administrative staff, medical administrative staff, and medical staff being small. Because we identified similarities in results across all staff roles, we did not perform a subanalysis. Additionally, because our study sites were named and given the small sample size, creating sub-groups could have led to identification of participants. However, future analysis of themes between sub-groups may yield interesting insights. Given our intent to learn from staff most knowledgeable about healthcare and HIV-related programming, we did not recruit correctional (security) officers. Other qualitative studies of carceral programs implemented to offer medications to treat opioid use disorder have documented the utility of including correctional staff perspectives, underscoring an area for future HIV-related research (Evans et al., 2022; Pivovarova et al., 2022). Our research was limited to two sites, and other jails, both within Massachusetts and elsewhere, may differ. Indeed, the importance of the outer setting, as identified by staff, will by definition differ in other counties and states with different regulations and relationships with public health organizations. Among incarcerated participants, the length of time from jail intake to interview varied and may have differentially impacted recall of offers of HIV testing and related healthcare. During interviews, we prioritized the privacy of participants, and interviews were conducted in semi-private spaces; however, due to power dynamics inherent in carceral settings, participants may not have felt that they could fully express their viewpoints. Interviews were conducted by researchers connected to a major healthcare system and to the jail sites, which may have influenced incarcerated individuals' and jail staff responses.

Conclusion

Incarcerated individuals and carceral staff provide critical insights into the multilevel barriers and facilitators to status-neutral HIV healthcare and inform recommendations to improve treatment. Working hand-in-hand with carceral facilities to better understand limitations imposed by county and state level organizations can inform how to co-create improved systems of healthcare delivery to improve long-term health outcomes. This may facilitate a baseline level of health stability for justice-involved populations that could yield improved quality of life and the satisfaction of other health related social needs for incarcerated populations.

Supplementary Information

The online version contains supplementary material available at <https://doi.org/10.1186/s40352-026-00402-7>.

Supplementary Material 1.
Supplementary Material 2.
Supplementary Material 3.
Supplementary Material 4.

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Authors' contributions

B.S., A.L.: Wrote the main manuscript text, Recruitment and Data Collection, Data Analysis, Study Design. K.J., L.E., E.M., D.D., W.I., Y.N., Y.M., J.L.: Recruitment and Data Collection, Writing, Editing. E.E., A.W.: Principle Investigators, Study Design, Writing, Editing. All authors reviewed the manuscript.

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Data availability

The datasets generated during the current study are not publicly available due participant confidentiality (the qualitative data cannot be deidentified in a way that guarantees confidentiality).

Declarations

Ethics approval and consent to participate

This study was approved by the Health Sciences IRB at Tufts Medical Center. All participants were consent by trained research staff and signed IRB approved Informed Consent Forms.

Consent for publication

Not applicable.

Competing interests

The authors declare no competing interests.

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