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Local Service Category:	Early Intervention Services – Incarcerated
Amount Available:	To be determined
Unit Cost	
Budget Requirements or Restrictions (TRG Only) :	Maximum 10% of budget for Administrative Cost. No direct medical costs may be billed to this grant.
DSHS Service Category Definition:	Support of Early Intervention Services (EIS) that include identification of individuals at points of entry and access to services and provision of: • HIV Testing and Targeted counseling • Referral services • Linkage to care • Health education and literacy training that enable clients to navigate the HIV system of care These services must focus on expanding key points of entry and documented tracking of referrals. Counseling, testing, and referral activities are designed to bring people living with HIV into Outpatient Ambulatory Medical Care. The goal of EIS is to decrease the number of underserved individuals with HIV/AIDS by increasing access to care. EIS also provides the added benefit of educating and motivating clients on the importance and benefits of getting into care. Limitations: Funds can only be used for HIV testing where existing federal, state, and local funds are not adequate <i>and</i> funds will supplement, not supplant, existing funds for testing. Funds cannot be used to purchase at-home testing kits.
Local Service Category Definition:	This service includes the connection of incarcerated in the Harris County Jail into medical care, the coordination of their medical care while incarcerated, and the transition of their care from Harris County Jail to the community. Services must include: assessment of the client, provision of client education regarding disease and treatment, education and skills building to increase client's health literacy, completion of THMP/ADAP application and submission via ARIES upload process, care coordination with medical resources within the jail, care coordination with service providers outside the jail, and discharge planning.
Target Population (age, gender, geographic, race, ethnicity, etc.):	People living with HIV (PLWHs) incarcerated in The Harris County Jail.
Services to be Provided:	Services include but are not limited to CPCDMS registration/update, assessment, provision of client education, coordination of medical care services provided while incarcerated, medication regimen transition, multidisciplinary team review, discharge planning, and referral to community resources. EIS for the Incarcerated is provided at Harris County Jail. HCJ's population includes both individuals who are actively progressing through the criminal justice system (toward a determination of guilt or innocence), individuals who are serving that sentence in HCJ, and individuals who are awaiting transfer to Texas Department of Criminal Justice (TDCJ). The complexity of this population has proven a challenge in service delivery. Some individuals in HCJ have a firm release date. Others may attend and be released directly from court. Therefore, EIS for the Incarcerated has been designed to consider the uncertain nature of length of stay in the service delivery. Three tiers of

	service provision haven been designated. They are: • Tier 0: The individuals in this tier do not stay in HCJ long enough to receive a clinical appointment while incarcerated. The use of zero for this tier's designation reinforces the understanding that the interaction with funded staff will be minimal. The length of stay in this tier is traditionally less than 14 days. • Tier 1: The individuals in this tier stay in HCJ long enough to receive a clinical appointment while incarcerated. This clinical appointment triggers the ability of staff to conduct multiple interactions to assure that certain benchmarks of service provision should be met. The length of stay in this tier is traditionally 15-30 days. • Tier 2: The individuals in this tier remain in HCJ long enough to get additional interactions and potentially multiple clinical appointments. The length of stay in this tier is traditionally 30 or more days. Service provision builds on the activities of the previous tier if the individual remains in HCJ. Each tier helps the staff to focus interactions to address the highest priority needs of the individual. Each interaction is conducted as if it is the only opportunity to conduct the intervention with the individual.
Service Unit Definition(s) (TRG Only):	One unit of service is defined as 15 minutes of direct client services or coordination of care on behalf of client.
Financial Eligibility:	Due to incarceration, no income or residency documentation is required.
Client Eligibility:	People living with HIV incarcerated in the Harris County Jail.
Agency Requirements (TRG Only):	As applicable, the agency's facility(s) shall be appropriately licensed or certified as required by Texas Department of State Health Services, for the provision of HIV Early Intervention Services, including phlebotomy services. Agency/staff will establish memoranda of understanding (MOUs) with key points of entry into care to facilitate access to care for those who are identified by testing in HCJ. Agency must execute Memoranda of Understanding with Ryan White funded Outpatient Ambulatory Medical Care providers. The Administrative Agency must be notified in writing if any OAMC providers refuse to execute an MOU.
Staff Requirements:	Not Applicable.
Special Requirements (TRG Only):	Must comply with the Houston EMA/HSDA Standards of Care. The agency must comply with the DSHS Early Intervention Services Standards of Care and the Houston HSDA Early Intervention Services for the Incarcerated Standards of Care . The agency must have policies and procedures in place that comply with the standards prior to delivery of the service.

FY 2021 RWPC “How to Best Meet the Need” Decision Process

Step in Process: Council		Date:
Recommendations:	Approved: Y_____ No: _____ Approved With Changes:_____	If approved with changes list changes below:
1.		
2.		
3.		
Step in Process: Steering Committee		Date:
Recommendations:	Approved: Y_____ No: _____ Approved With Changes:_____	If approved with changes list changes below:
1.		
2.		
3.		
Step in Process: Quality Assurance Committee		Date:
Recommendations:	Approved: Y_____ No: _____ Approved With Changes:_____	If approved with changes list changes below:
1.		
2.		
3.		
Step in Process: HTBMTN Workgroup		Date:
Recommendations:	Financial Eligibility:	
1.		
2.		
3.		



EARLY INTERVENTION SERVICES - INCARCERATED
2019 CHART REVIEW REPORT

PREFACE

DSHS Monitoring Requirements

The Texas Department of State Health Services (DSHS) contracts with The Houston Regional HIV/AIDS Resource Group, Inc. (TRG) to ensure that Ryan White Part B and State of Texas HIV Services funding is utilized to provide in accordance to negotiated Priorities and Allocations for the designated Health Service Delivery Area (HSDA). In Houston, the HSDA is a ten-county area including the following counties: Austin, Chambers, Colorado, Fort Bend, Harris, Liberty, Montgomery, Walker, Waller, and Wharton. As part of its General Provisions for Grant Agreements, DSHS also requires that TRG ensures that all Subgrantees comply with statutes and rules, perform client financial assessments, and delivery service in a manner consistent with established protocols and standards.

As part of those requirements, TRG is required to perform annual quality compliance reviews on all Subgrantees. Quality Compliance Reviews focus on issues of administrative, clinical, data management, fiscal, programmatic, and quality management nature. Administrative review examines Subgrantee operating systems including, but not limited to, non-discrimination, personnel management and Board of Directors. Clinical review includes review of clinical service provision in the framework of established protocols, procedures, standards and guidelines. Data management review examines the Subgrantee's collection of required data elements, service encounter data, and supporting documentation. Fiscal review examines the documentation to support billed units as well as the Subgrantee's fiscal management and control systems. Programmatic review examines non-clinical service provision in the framework of established protocols, procedures, standards and guidelines. Quality management review ensures that each Subgrantee has systems in place to address the mandate for a continuous quality management program.

QM Component of Monitoring

As a result of quality compliance reviews, the Subgrantee receives a list of findings that must be address. The Subgrantee is required to submit an improvement plan to bring each finding into compliance. This plan is monitored as part of the Subgrantee's overall quality management monitoring. Additional follow-up reviews may occur (depending on the nature of the finding) to ensure that the improvement plan is being effectively implemented.

Scope of Funding

TRG contracts with one Subgrantee to provide Early Intervention Services in the Houston HSDA.

INTRODUCTION

Description of Service

Early Intervention Services-Incarceration (EIS) includes the connection of incarcerated in the Harris County Jail into medical care, the coordination of their medical care while incarcerated, and the transition of their care from Harris County Jail to the community. Services must include: assessment of the client, provision of client education regarding disease and treatment, education and skills building to increase client's health literacy, establishment of THMP/ADAP post-release eligibility (as applicable), care coordination with medical resources within the jail, care coordination with service providers outside the jail, and discharge planning.

Tool Development

The Early Intervention Services review tool is based upon the established local standards of care.

Chart Review Process

The collected data for each site was recorded directly into a preformatted computerized database. The data collected during this process is to be used for service improvement.

File Sample Selection Process

Using the ARIES database, a file sample was created from a provider population of 677 who accessed Early Intervention Services in the measurement year. The records of 40 clients were reviewed (representing 5.9% of the unduplicated population). The demographic makeup of the provider was used as a key to file sample pull.

Demographics-Early Intervention Services

2018 Annual

Total UDC: 789

Age	Number of Clients	% of Total
Client's age as of the end of the reporting period		
Less than 2 years	0	0.00%
02 - 12 years	0	0.00%
13 - 24 years	56	7.10%
25 - 44 years	449	56.90%
45 - 64 years	274	34.72%
65 years or older	10	1.27%
Unknown	0	0.00%
	789	100%
Gender	Number of Clients	% of Total
"Other" and "Refused" are counted as "Unknown"		
Female	122	15.46%
Male	651	82.50%
Transgender FTM	0	0.00%
Transgender MTF	16	2.03%
Unknown	0	0.00%
	789	100%
Race/ Ethnicity	Number of Clients	% of Total
Includes Multi-Racial Clients		
White	223	28.26%
Black	557	70.60%
Hispanic	103*	13.05%
Asian	1	0.1%
Hawaiian/Pacific Islander	0	0.00%
Indian/Alaskan Native	2	0.25%
Unknown	7	0.89%
	760	100%

From 01/01/18 - 12/31/18

2019 Annual

Total UDC: 672

Age	Number of Clients	% of Total
Client's age as of the end of the reporting period		
Less than 2 years	0	0.00%
02 - 12 years	0	0.00%
13 - 24 years	41	6.10%
25 - 44 years	386	57.4%
45 - 64 years	237	35.2%
65 years or older	8	1.1%
Unknown	0	0.00%
	672	100%
Gender	Number of Clients	% of Total
"Other" and "Refused" are counted as "Unknown"		
Female	100	15%
Male	572	85%
Transgender FTM	0	0.00%
Transgender MTF	13	2%
Unknown	0	0.00%
	672	100%
Race/ Ethnicity	Number of Clients	% of Total
Includes Multi-Racial Clients		
White	190	28%
Black	476	70%
Hispanic	93*	14%
Asian	0	0.0%
Hawaiian/Pacific Islander	0	0.0%
Indian/Alaskan Native	5	0.74%
Multi-Race	6	0.90%
	677	100%

From 01/01/19 - 12/31/19



RESULTS OF REVIEW

Intake Assessment

Percentage of clients who had a completed intake assessment present in the client record.

	Yes	No	N/A
Number of client records that showed evidence of the measure	40	0	-
Number of client records that were reviewed.	40	40	-
Rate	100%	0%	-

Health Literacy and Education: Risk Assessment

Percentage of clients that had documentation of the client being assessed for risk and provided targeted health literacy and education in the client record (including receipt of a blue book).

	Yes	No	N/A
Number of client records that showed evidence of the measure	40	0	-
Number of client records that were reviewed.	40	30	-
Rate	100%	7%	-

Linkage: Newly Diagnosed

Percentage of newly diagnosed clients that initiate care through the EIS program

	Yes	No	N/A
Number of client records that showed evidence of the measure	3	0	37
Number of client records that were reviewed.	3	40	40
Rate	100%	0%	92.5%

Referral: Medical Care

Percentage of clients that accessed a referral to a primary care provider and/or essential service in the client record.

	Yes	No	N/A
Number of client records that showed evidence of the measure	39	1	-
Number of client records that were reviewed.	40	40	-
Rate	97.5%	2.5%	-

Percentage of clients that had referral follow-up in the client record

	Yes	No	N/A
Number of client records that showed evidence of the measure	3	29	8
Number of client records that were reviewed.	32	32	40
Rate	9%	91%	20%

Discharge Planning

Percentage of clients who had a discharge plan present in the client record.

	Yes	No	N/A
Number of client records that showed evidence of the measure	36	1	3
Number of client records that were reviewed.	37	37	40
Rate	97%	3%	7.5%

Percentage of clients who had documentation of access to medical care upon release in the client record.

	Yes	No	N/A
Number of client records that showed evidence of the measure	0	39	1
Number of client records that were reviewed.	39	39	40
Rate	0%	100%	2.5%

CONCLUSIONS

Overall, quality of services is met. Through the chart review: 100% (40) of clients completed an intake assessment and 97% (36 of 37) developed a discharge plan, an increase of 14% from last year. Of the clients enrolled into the EIS program 100% of the newly diagnosed clients accessing care. Of the files reviewed 97.5% (39 of 40) documented an appropriate referral to medical care upon release and/or other appropriate referrals, however there was limited documentation of follow-up at 9% (3 of 32).

Study Shows Care for HIV-Positive Prisoners Poor after Release, Worse for Those Re-Incarcerated

Loaded on JUNE 5, 2019 by Scott Grammer (/news/author/scott-grammer/) published in Prison Legal News June, 2019 (/news/issue/30/6/), page 52

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by *Scott Grammer*

A study published by the Public Library of Science on October 18, 2018 found that prisoners with HIV tend not to retain their level of care after being released, and that those who are re-incarcerated fare even worse. The study reported that during a three-year post-release evaluation period, retention in care “diminished significantly over time, but was associated with HIV care during incarceration, health insurance, case management services, and early linkage to care post-release.”

The report “merged statewide databases from the Connecticut Department of Correction and Connecticut Department of Public Health on all people living with HIV who were released from prisons or jails in Connecticut ... between 2007 and 2011.” Each individual in this group was followed for three years after release to track retention in care and viral suppression (an indicator that the HIV infection has been so weakened through treatment that it cannot be detected in the blood).

Most participants in the study were unmarried men who were either black or Hispanic, who had acquired HIV through intravenous drug use. The report found that those who retained care following their release from prison or jail did well, but only 67.2% maintained their level of care for one year, 51.3% for two years and 42.5% for three years after release. Those who were re-incarcerated were more likely to retain medical care, but less likely to show viral suppression.

Dr. Frederick Altice, director of Yale’s HIV and Prisons program and the study’s co-author, said that in some states, prisoners are re-enrolled in Medicaid before release, but in other states it can take longer. Altice, who has been treating HIV patients since the early ‘80’s, said, “[HIV] is a chronic disease. People don’t need services six weeks after release. They need them immediately.”

Dr. Cato T. Laurencin, a professor at the University of Connecticut and founding editor of the *Journal of Racial and Ethnic Health Disparities*, noted the post-release period may be key in the fight to eliminate new transmissions of HIV. “We are now talking about the fact that we believe that we can end new cases of HIV in our lifetime,” he said. “We need to see changes in this setting. And if we’re not, that tells us we’re not on course.”

The study found that former prisoners who had health insurance were more than twice as likely to reach viral suppression, and those who received intensive case management were twice as likely to

show viral suppression at the end of the three-year study period.

A 2009 report by the Public Library of Science revealed that at any given time, 1/6 of all HIV patients are incarcerated.

Sources: *npr.org*, *journals.plos.org*



Improving Health Outcomes

Moving Patients Along the HIV Care Continuum and Beyond

JUNE 2017

INTERVENTION OVERVIEW & REPLICATION TIPS

Enhancing Linkages to Care for Women Leaving Jail University of Illinois at Chicago

This intervention document is part of a training manual, “**Improving Health Outcomes: Moving Patients Along the HIV Care Continuum and Beyond**” and is published by the Special Projects of National Significance (SPNS), under the HIV/AIDS Bureau (HAB) of the Health and Human Service’s (HHS), Health Resources and Services Administration (HRSA).

The full manual highlights 10 interventions along the HIV Care Continuum. Individual intervention chapters as well as the full manual are available.



Diagnosing HIV



Linkage to Care



Retention in Care



Prescription of ART & Medication Access



Beyond the Care Continuum: Addressing HCV Comorbidity and Coinfection



HRSA
Health Resources & Services Administration

U.S. Department of Health and Human Services
Health Resources and Services Administration
HIV/AIDS Bureau



Linkage to Care

Linkage to care, as it relates to the Care Continuum, refers to linking individuals who are HIV-positive to HIV primary care. This may include newly diagnosed individuals, persons previously diagnosed who have never been linked to care, or persons who have fallen out of care and are being re-linked. The standard of care for linkage is that persons who are diagnosed with HIV be linked to HIV medical care as soon as possible and no later than 30 days following diagnosis.³⁴

Underserved populations, including many racial, ethnic, and sexual minorities, face numerous structural, financial, and cultural barriers that impede their linkage to and engagement in care.³⁵ Of those newly diagnosed, 74.5% of persons age 13 and older are linked to care within one month of diagnosis though just 56.5% are retained in HIV care.³⁶ Delaying HIV care and treatment can lead to poorer health outcomes and earlier death, instead of better health.³⁷ Delaying initiation of HIV care and treatment also creates the opportunity for HIV transmission to occur.³⁸

Addressing several key areas has been found to improve linkage and re-engagement in care, including

- removal of structural barriers;
- increased social support services;
- use of peers, client navigation, and care coordination;
- a culturally responsive approach;
- appointment scheduling and follow up;
- timely and active referrals post-diagnosis;
- integrated one-stop-shop care delivery (e.g., co-located substance use, mental health, and other service offerings);

³⁴ CDC. Monitoring selected national HIV prevention and care objectives by using HIV surveillance data—United States and 6 dependent areas, 2014. *HIV Surveillance Supplemental Report* 2016;21(No.4). www.cdc.gov/hiv/pdf/library/reports/surveillance/cdc-hiv-surveillance-supplemental-report-vol-21-4.pdf Accessed September 16, 2016.

³⁵ CDC. Monitoring selected national HIV prevention and care objectives by using HIV surveillance data—United States and 6 dependent areas, 2014. *HIV Surveillance Supplemental Report* 2016;21(No.4), Table 5a. www.cdc.gov/hiv/pdf/library/reports/surveillance/cdc-hiv-surveillance-supplemental-report-vol-21-4.pdf Accessed September 16, 2016.

³⁶ CDC. Monitoring selected national HIV prevention and care objectives by using HIV surveillance data—United States and 6 dependent areas, 2014. *HIV Surveillance Supplemental Report* 2016;21(No.4). www.cdc.gov/hiv/pdf/library/reports/surveillance/cdc-hiv-surveillance-supplemental-report-vol-21-4.pdf Accessed September 16, 2016.

³⁷ Horstmann E, Brown J, Islam F, et al. Retaining HIV-infected Clients in Care: Where are We? Where Do We Go From Here? *Clin Infect Dis*. 2010;50:752–61.

³⁸ AIDSInfo. *Guidelines for the Use of Antiretroviral Agents in HIV-1-Infected Adults and Adolescents*. Clinical Guidelines Portal. Available at: <https://aidsinfo.nih.gov/guidelines>

- active approaches to reach and re-engage individuals who are out of care—for instance, using the Internet and mobile devices (e.g., for social networking, texting); and
- assistance with entitlements/benefits paperwork to secure additional financial, insurance, identification, and social support services.

A warm transition is also critical. This is the act of “applying social work tenets to public health activities for those with chronic health conditions, including HIV-infection.”³⁹ Often the HIV tester is linking a client to another provider and possibly even to another facility. What this linkage looks like, how active it is, how comfortable the client is made to feel in establishing yet another new relationship shortly after receipt of their diagnosis can either help increase the likelihood of linkage to care or add to challenges that complicate it. Without a caring, supportive, and warm transition approach, pre-existing barriers to care and other stressors will continue to take priority.⁴⁰

SPNS has tested and identified interventions that have proven effective in linking, re-engaging, and retaining clients in care, even for some of the hardest-to-reach and most vulnerable populations.

³⁹ Jordan AO, Cohen LR, Harriman G, et al. Transitional Care Coordination in New York City Jails: Facilitating Linkages to Care for People with HIV Returning Home from Rikers Island. *JAIDS (Suppl)*. 2013;(2); S212–219.

⁴⁰ Jordan AO, Cohen LR, Harriman G, et al. Transitional Care Coordination in New York City Jails: Facilitating Linkages to Care for People with HIV Returning Home from Rikers Island. *JAIDS (Suppl)*. 2013;(2); S212–219.

Improving Health Outcomes

Moving Patients Along the HIV Care Continuum and Beyond

INTERVENTIONS AT-A-GLANCE | INTERVENTION SUMMARY TABLE



Diagnosing HIV

INTERVENTION OVERVIEW & REPLICATION TIPS

Social Networks Testing

Wisconsin Department of Health Services



Linkage to Care

INTERVENTION OVERVIEW & REPLICATION TIPS

Assess, Test, Link: Achieve Success (ATLAS) Program

Care Alliance Health Center (OH)

► Enhancing Linkages to Care for Women Leaving Jail

University of Illinois at Chicago

Video Conferencing Intervention

Louisiana Department of Health and Hospitals

Active Referral Intervention

Virginia Department of Health

Louisiana Public Health Information Exchange (LaPHIE)

Louisiana State University, Health Science Center and Louisiana Department of Health Hospitals, Office of Public Health



Retention in Care

INTERVENTION OVERVIEW & REPLICATION TIPS

My Health Profile

New York-Presbyterian Hospital



Prescription of ART & Medication Access

INTERVENTION OVERVIEW & REPLICATION TIPS

Care Coordination Intervention

Virginia Department of Health



Beyond the Care Continuum: Addressing HCV Comorbidity and Coinfection

INTERVENTION OVERVIEW & REPLICATION TIPS

Hepatitis Treatment Expansion Initiative

University of California, San Francisco, San Francisco General Hospital HIV Clinic

Hepatitis Treatment Expansion Initiative

Washington University School of Medicine (MO)

Enhancing Linkages to Care for Women Leaving Jail

University of Illinois at Chicago



Diagnosing HIV

Linkage to Care

Retention in Care

Prescription of ART & Medication

Access

Beyond the Care Continuum

The table below provides a general overview of the Enhancing Linkages to Care for Women Leaving Jail intervention so readers can assess the necessary steps required for replication. This intervention integrates jail-based case managers to work with jail-based discharge planners and peers to support HIV-positive women as they transition from jail to the community.

Intervention at-a-Glance	
Step 1 	Provide HIV Testing in the Jail Offer expanded HIV testing services marketed to women incarcerated in the jail facility.
Step 2 	Conduct Needs Assessment Meet with clients to identify needs and identify community services to reduce barriers to linking to HIV primary care and supportive services.
Step 3 	Enroll Interested Women into Intervention Conduct pre-intervention survey and enroll interested and eligible women into the intervention.
Step 4 	Create Discharge Plans Develop discharge plans based on client needs, and review plans with client.
Step 5 	Jail-based Discharge Planner Provides “Warm Transition” to Transitional Case Manager Jail-based discharge planner introduces clients to the intervention’s transitional case manager who will assist clients in exercising their discharge plan on the “outside.” Transitional case manager outlines what the “jail-to-community linkage” component looks like and what clients can expect.
Step 6 	Provide Clients HIV Medical Care During Jail Stay HIV-positive women visit the jail medical facility and receive necessary services.
Step 7 	Provide Health Education Sessions When possible, provide additional educational support to women around HIV and risk reduction.
Step 8 	Release Clients from Jail Clients are offered transportation services to housing and actively connected to community-based Ryan White case managers.

Step 9 	Case Management Services Begin Community-based case managers help facilitate medical care and social service appointments and coverage.
Step 10 	Provide Transportation and Peer Accompaniment to Appointments Peers provide additional support around transportation and patient navigation-related services to help ensure clients attend appointments.
Step 11 	Follow-up with Clients Follow-up is conducted to ensure clients are accessing services and, if they've fallen out of care, community outreach is conducted.

Source: University of Illinois at Chicago, School of Public Health. *Enhancing Linkages to Care for Women Leaving Jail*. Final Report. August 31, 2012.

- Diagnosing HIV
-  **Linkage to Care**
- Retention in Care
- Prescription of ART & Medication
- Access
- Beyond the Care Continuum

Resource Assessment Checklist

Organizations should walk through a Resource Assessment (or Readiness) Checklist to assess their ability to conduct this work. If organizations do not have these components in place, they are encouraged to develop their capacity so that they can successfully conduct the Enhancing Linkages to Care for Women Leaving Jail intervention. Questions to consider include:

- ☐ Does your organization offer case management services? If so, is there a case manager who passes jail clearance requirements?
- ☐ Does your organization have access to a jail within your service area with whom you can partner?
- ☐ Is HIV testing already taking place within the jail? If not, is your organization able to provide it?
- ☐ Does your organization offer HIV primary care and social support services, or are there relationships in place with agencies that do? If not, are you able to establish and maintain such relationships?
- ☐ Is your organization filling an unmet need for the jail, or is another organization already offering the services and intervention you're hoping to replicate?
- ☐ Do you have staff interested in providing compassionate, transitional "jail-to-community linkage" services to incarcerated women?

Source: University of Illinois at Chicago, School of Public Health. *Enhancing Linkages to Care for Women Leaving Jail*. Final Report. August 31, 2012.

Setting the Stage: Grantee Intervention Background

The University of Illinois at Chicago (UIC), Community Outreach Intervention Projects, School of Public Health was funded as part of the SPNS Enhancing Linkages to HIV Primary Care & Services in Jail Setting (EnhanceLink) initiative. Prior to the SPNS grant, UIC had not worked in the jail; however, it had extensive experience conducting community work, treating populations that were frequently incarcerated, and employing a large service staff, including those reflective of the community.

In this project, the UIC intervention team worked with the Cook County Jail—one of the largest jail facilities in the country. Cook County Jail represents the sole jail for the city of Chicago (which has approximately 2.8 million residents). At the jail, there are approximately 100,000 intakes annually and an average daily population of 10,158. Of these, the women's division has a capacity of 704 beds.⁵⁷

UIC chose to focus its intervention specifically on women and sought to better understand the associations between HIV infection, incarceration, primary care, and vulnerabilities related to gender inequality, and how best to remove barriers, actively link these women to myriad health and social support services, and assist them in obtaining the maximum benefit from entitlements and social services.⁵⁸

Description of Intervention Model



CHALLENGE ACCEPTED

THE CHALLENGE: linking HIV-positive, highly disadvantaged women during the brief jail stay window to extensive community services upon release.

Intervention Model

Transitional Jail Care Coordination with a Prevention Case Management

The UIC intervention sought to improve the following:⁵⁹

- HIV counseling and testing within the jail
- Access to and use of primary care for HIV-positive women (beginning with needs assessment and discharge planning in the jail and continuing into the community)
- Post-release follow-up for 6 months
- Understanding among intervention participants about HIV, risk reduction, and the importance of accessing services.

Critical components of the intervention include the integration of jail-based transitional case managers, active linkage to Ryan White case managers, assistance in securing identification (IDs), and use of peers as outreach workers/patient navigators to accompany clients to medical and social service appointments and who have shared life experiences.

⁵⁷ Draine J, Ahuja D, Altice FL, et al. Strategies to Enhance Linkages Between Care for HIV/AIDS in Jail and Community Settings. *AIDS Care*. 2011;23(3):366-77

⁵⁸ University of Illinois at Chicago, School of Public Health. *Enhancing Linkages to Care for Women Leaving Jail*. Final Report. August 31, 2012.

⁵⁹ University of Illinois at Chicago, School of Public Health. *Enhancing Linkages to Care for Women Leaving Jail*. Final Report. August 31, 2012.

The UIC intervention is based on the Centers for Disease Control and Prevention's (CDC's) Prevention Case Management Model. This model was designed to address complex needs for persons likely to have difficulty practicing HIV risk reduction behaviors.⁶⁰ The model has been evaluated in prisons but, prior to the SPNS initiative, had rarely been evaluated in jails.⁶¹

At large, Prevention Case Management includes the following seven essential components,^{62, 63} pictured at right.

More specifically, within the UIC intervention, these seven steps played out as follows:



Table: University of Illinois Prevention Case Management Model in Action

COMPONENTS	DETAILS
Client Recruitment and Engagement	Protocols to recruit and engage clients, staff training
Screening and Assessment	Demographic information, STI/HIV risks, substance use, sexual history, mental health, social support, skills to reduce risks, barriers to safer behavior, protective factors and strengths
Client-Centered Discharge Plan	Primary care and treatments, adherence to treatment, secondary prevention, social services, education and information, mental health services
HIV Risk-Reduction Counseling	Perceived risk and susceptibility, intentions to change, knowledge, self-efficacy, barriers, social support
Active Coordination and Follow-up of Services	Collaboration, written referral process protocols, referral tracking system, annual assessment, mechanism for emergency psychological or medical services
Monitoring and Reassessment of Needs	Ongoing assessment of needs, risks, and progress, revision of plans
Discharge and Maintenance	Timeline, attainment of goals, evaluation

⁶⁰ U.S. Centers for Disease Control and Prevention. HIV prevention case management—guidance. September 1997. Available at: <http://stacks.cdc.gov/view/cdc/13299>

⁶¹ University of Illinois at Chicago, School of Public Health. *Enhancing Linkages to Care for Women Leaving Jail*. Final Report. August 31, 2012.

⁶² Centers for Disease Control and Prevention. HIV prevention case management—guidance. September 1997. Available at: <http://stacks.cdc.gov/view/cdc/13299>.

⁶³ Myers J, Zack B, Kramer K, et al. Get Connected: An HIV Prevention Case Management Program for Men and Women Leaving California Prisons. *Am J Public Health*. 2005;95(10):1682–84.

* Prevention case management model is no longer readily used by CDC.

These activities are particularly critical because women represent a significant and growing segment of jail detainees and persons living with HIV.⁶⁴ Compared to men, more women report homelessness, reduced adherence to prescribed antiretroviral therapy (ART), worse health, more severe substance use disorders, more chronic health conditions, and more chronic mental and psychiatric disorders.⁶⁵ Additionally, as the number of expressed needs increase, women are more likely to drop out of care than men.⁶⁶

Women often report different needs upon release than men. As such, gender-responsive intervention strategies are recommended in order to link and, ultimately, retain women in HIV programs post-release and move them along the HIV Care Continuum.⁶⁷

Women in the Cook County Jail are highly disadvantaged (for example, evidence of poverty, substance use, mental health problems, lack of adequate housing, hunger, limited social support, and high HIV risk behavior) and require extensive services on the outside in order to successfully link into HIV care. Most of the women enrolled in the SPNS project had been on ART, but less than one-half reported taking medication the week before incarceration, and one-half of the women had CD4 counts below 350, a level associated with greater likelihood of opportunistic infections and cancers.⁶⁸

The time period immediately following correctional release is a critical juncture for engagement as it represents a time of increased vulnerability. Moreover, during this time, engagement into medical care is often a lower priority, particularly if basic needs have not been addressed. The UIC intervention model includes transportation to a safe destination at discharge; assistance in securing safe housing, mental health support, and harm reduction services; a 1-800 emergency contact number; and expedited linkage—and peer accompaniment to—medical care.⁶⁹

⁶⁴ Williams CT, Kim S, Meyer J, et al. Gender Differences in Baseline Health, Needs at Release, and Predictors of Care Engagement Among HIV-positive Clients Leaving Jail. *AIDS Behav.* 2013;17(Suppl 2):S195-202.

⁶⁵ Binswanger IA, Merrill JO, Krueger PM, et al. Gender Differences in Chronic Medical, Psychiatric, and Substance-Dependence Disorders Among Jail Inmates. *Am J Public Health.* 2010;100(3):476-82.

⁶⁶ Williams CT, Kim S, Meyer J, et al. Gender Differences in Baseline Health, Needs at Release, and Predictors of Care Engagement Among HIV-positive Clients Leaving Jail. *AIDS Behav.* 2013;17(Suppl 2):S195-202.

⁶⁷ Williams CT, Kim S, Meyer J, et al. Gender Differences in Baseline Health, Needs at Release, and Predictors of Care Engagement Among HIV-positive Clients Leaving Jail. *AIDS Behav.* 2013;17(Suppl 2):S195-202.

⁶⁸ University of Illinois at Chicago, School of Public Health. *Enhancing Linkages to Care for Women Leaving Jail.* Final Report. August 31, 2012

⁶⁹ University of Illinois at Chicago, School of Public Health. *Special Projects of National Significance (SPNS) Program, Enhancing Linkages to HIV Primary Care in Jail Settings Initiative, EnhanceLink Program Description Form.* 2012.

Staffing Requirements & Considerations for Replication

Staffing Capacity



Based on the UIC work, here are the types of staff necessary to replicate this intervention.

HIV tester: Because the UIC intervention includes expanded HIV rapid testing over the weekend, an HIV tester is necessary to provide HIV testing and counseling.

Jail-based discharge planner: The discharge planner meets with HIV-positive women and works with them to create a plan that addresses their specific medical care and barriers. In most instances, this plan includes linkage to HIV primary care and other medical services. (UIC links clients to the Ruth. M. Rothstein CORE Center in Cook County—a comprehensive, “one-stop-shop” medical center.) Following the meeting the discharge planner introduces the women to one of the intervention’s “transitional” case managers.

Transitional case manager: These case managers work with women inside the jail and after they reenter the community. During the course of the SPNS study, there were two female transitional case managers; however, depending on the size of the jail and an organization’s proposed intervention, one individual or even a part-time individual may suffice. Transitional case managers review the discharge plan with the women; they explain what the transition into the community will look like and how they’ll provide support to the women during this time. For those interested, transitional case managers will provide transportation to housing services upon the client’s release from jail. The transitional case manager also provides a “warm transition” to a community-based Ryan White case manager and follows up to ensure the client has successfully connected to the services and appointments identified in the discharge plan.

Peers: Peers provide outreach, transportation, and patient navigation support services. They are reflective of the clients being served and are able to help women overcome barriers and remain engaged in care.

Community-based Ryan White case manager: The transitional case manager connects clients to a community-based Ryan White case manager. This Ryan White case manager serves as the key point of contact for the client post-release. Communication and coordination between the transitional case manager and the Ryan White case manager is critical.

Optional positions:

Research and data assistant: This position filled evaluation requirements for UIC during the SPNS funding period; however, agencies without a more formal evaluation component will not necessarily require this.

	<i>Health educators:</i> The health educator provides health education sessions on HIV, risk reduction, general health, and emotional stressors. It is highly recommended, if possible, to incorporate a health educator into the intervention. After SPNS funding, UIC was not able to sustain this position. If this position cannot be filled, organizations replicating this work should consider weaving educational topics into clients' broader risk and needs assessment discussions, during discharge planning, and with reinforcement from the community-based Ryan White case manager.
Staff Characteristics 	Jail-based staff need to be • flexible to the unique challenges of working with people who are in jail and those soon-to-be released; • able to meet jail security clearance criteria; • genuinely interested in working with incarcerated individuals; and • willing to follow jail policies and guidelines while in the jail. All staff should • have an extensive awareness of community resources; • be able to foster cooperation and communication with jail staff and community-based Ryan White case managers; • be able to deliver culturally appropriate services; • offer non-judgmental services; and • ideally be reflective of racial and ethnic backgrounds of clients.
Sources: University of Illinois at Chicago, School of Public Health. <i>Enhancing Linkages to Care for Women Leaving Jail</i>. Final Report. August 31, 2012. University of Illinois at Chicago, School of Public Health. <i>Special Projects of National Significance (SPNS) Program, Enhancing Linkages to HIV Primary Care in Jail Settings Initiative, EnhanceLink Program Description Form</i>. 2012.	

Replication Tips for Intervention Procedures and Client Engagement

This section provides tips for readers interested in replicating the intervention and, where applicable, includes grantee examples for further context.

The intervention includes the following key steps:^{70, 71}

1. **Expand HIV testing.** The UIC team created a weekend testing program for women. In this intervention model, counselors visit the women's housing areas and market this service. Women who wish to be tested ask to go to the medical clinic, where testing is conducted in private with rapid HIV tests.

Those identified as HIV-positive are given appointments for in-jail medical care.
2. **Assess baseline needs and assets.** A discharge planner meets with all HIV-positive women to discuss medical care and social support needs, as well as barriers that may prohibit clients from accessing services post-release.
3. **Enroll clients.** Interested and eligible women are enrolled in the intervention. If replicating agencies are including a data collection component, then a pre-intervention survey will also be completed in this step.
4. **Develop service discharge plan.** Unless the client has existing care elsewhere, is moving beyond Chicago post-release, or has other preferences, the discharge plan includes a post-release medical appointment at a comprehensive, one-stop-shop medical facility. (For UIC, this is the Ruth M. Rothstein CORE Center, which is part of the Cook County hospital system.)
5. **Connect to transitional case management.** The jail discharge planner introduces women to one of the two transitional case managers, both of whom are women. The discharge planner explains that the transitional case manager's role is to help them carry out the discharge plan in the community, as well as to add or amend it as needs evolve. The transitional case manager provides the women with her contact information for post-release follow-up and offers to transport clients back to the community upon release. Additionally, the transitional case manager obtains client contact information to support follow-up efforts.
6. **Initiate HIV clinic visit in jail.** While incarcerated, HIV-positive women visit the medical facility to review any existing ART prescriptions (of known positives) and to review or update baseline labs. This visit also includes medical chart review and data abstraction.
7. **Connect women to health education sessions.** At the time of the intervention, the University of Illinois was able to conduct a client education program. Educational topics included HIV treatment; HIV transmission; the HIV service system safety net; dealing with emotions; and family, faith, and social concerns.
8. **Release from jail.** Clients are actively connected with community-based Ryan White case managers upon release from jail.

⁷⁰ University of Illinois at Chicago, School of Public Health. *Enhancing Linkages to Care for Women Leaving Jail*. Final Report. August 31, 2012.

⁷¹ University of Illinois at Chicago, School of Public Health. *Special Projects of National Significance (SPNS) Program, Enhancing Linkages to HIV Primary Care in Jail Settings Initiative, EnhanceLink Program Description Form*. 2012.

9. **Begin case management activities.**

Immediately upon release, case management activities began. These include HIV primary care visits, additional housing assistance, childcare (if applicable), employment support, psychosocial health referrals, and referral to any other previously identified but unmet needs.

An important component of these case management activities is assisting women in accessing identification. Of the women who participated in the UIC SPNS project, 80% did not have IDs. Lack of identification impedes access to social support services and impedes women's ability to maximize the entitlements for which they qualify. UIC has been able to secure payment of IDs from community groups funded for this purpose. Intervention staff assist clients in the process and manage expectations about what the process looks like (e.g., lots of forms and waiting in lines).

10. **Transportation and accompaniment at clinic site visits.** As needed, intervention staff provides

additional transportation assistance to HIV primary care and social support visits. Peer outreach workers/patient navigators who share similar life experiences and are reflective of the intervention's target population typically conduct this activity.

11. **Conduct follow-up.** Intervention staff stays in continuous contact with clients through telephone calls, letters, and home visits. Transitional case managers maintain a record of client appointments with physicians, call participants prior to the visit, ask if transportation assistance is required, and provide transportation if it is needed.

If clients appear lost to follow-up, then the intervention team will review publicly available corrections databases (which include "inmate locators" at the state and county levels) and court dockets. The team also searches in shelters, hospitals, and inpatient mental health and drug and alcohol facilities. With prior client consent, the intervention team reaches out to family and loved ones, as needed.

Figure: Project Model⁷²

SPNS ACTIVITIES AT JAIL

- Expand HIV testing
- Screen for eligible HIV-positive women
- Baseline needs & assets assessment
- Describe program
- Invite enrollment
- Administer consent
- Complete survey
- Develop service plan (discharge plan)
- Introduce participant to transition case manager
 - ▶ Plan post-release meeting
 - ▶ Obtain locator information
 - ▶ Identify appropriate referrals
 - ▶ Ascertain availability
- Initiate HIV clinic visit in jail
- Treatment and follow-up plan
- Baseline lab
- Medical chart review / data abstraction
- Provide health education.

ACTIVITIES ON DAY OF RELEASE IF ABLE TO MEET WITH PARTICIPANT

- Transport to University of Illinois Community Outreach Intervention Projects or South Side Help Centers service site
- Transport to location to stay
- Review immediate needs and service plan.

ACTIVITIES IN COMMUNITY

- Begin case management activities
 - ▶ HIV primary care visits, housing, ID, childcare, employment, psychosocial health referrals.
- Provide transportation to service/clinic sites
- Re-assess service needs and revise plans
- Data collection and reporting
- Process and outcome evaluation
- Link to Ryan White case management and assist the case manager when possible.

⁷² University of Illinois at Chicago, School of Public Health. *Enhancing Linkages to Care for Women Leaving Jail*. Final Report. August 31, 2012.

Intervention Preparation

Some important considerations when conducting a transitional jail linkage-to-community intervention include the following:

Find out who is in the jail. In order to initiate this work, it is important to first assess who is already in the jail and what they are doing. At the time of the SPNS project launch, a separate unit of the County was providing medical care in the jail and a University of Illinois staffer was conducting research in that unit. This researcher was able to provide introductions to key administrators in the health care unit, which became critical to securing buy-in, as the intervention requires both clearance from the jail and the sharing of medical records from the healthcare provider.

Meet with key community players. Community-based Ryan White case managers need to know about the intervention so confusion and “turf wars” can be avoided and clients can better connect to these case managers on the outside.

Consider organizing a meeting with community partners to discuss the project, seek input on how best to coordinate activities, and placate any fears that you are stealing clients. Explain that the intervention helps clients find their way to the community-based organizations. Community partners often see more clients, not fewer, because clients are being proactively linked to HIV care and services.

Understand how the jail is organized and how it works. “Jail is such an unusual place to come into that you really need to spend some time going into the setting and getting acclimated with the environment and doing background work,” says Dr. Lawrence J. Ouellet, UIC SPNS intervention principal investigator. This includes assessing the physical space where meetings with clients take place and deciding how the needs of the jail staff can be accounted for in project planning.

Remember you are a visitor in the jail. It is critical to abide by jail rules when doing a jail-based intervention. This includes the processes required to work within the jail, such as background checks, fingerprints, a jail ID, and accounting for the time it takes to get through this process before intervention work can begin. Some intervention staff may have histories of incarceration, which can impede their ability to enter the jail; this possibility should be researched ahead of time. Talk to jail representatives and see if the infrastructure and materials needed for your work can be accessed or brought into the jail.

Flexibility is key. Jails have much higher turnover rates than prisons, which makes jails comparatively chaotic. Discharge windows are short and often unpredictable. Follow client court dates, review data systems, and talk to the jail-based discharge planner to assess when a person is likely to be released. This should likely happen every week to week-and-a-half. For clients released from jail with little advance notice, staff should begin contact attempts upon learning of this change.

Securing Buy-in

Establish partnerships through meetings with key community and jail members, invite these stakeholders to the table during preliminary intervention planning discussions, and take their recommendations in

earnest. Be careful not to duplicate efforts, alleviate any concerns around “turf wars” or “patient poaching,” and create memoranda of understanding with formal partners.

Overcoming Implementation Challenges

In working with this population, the major challenges revolve around difficulty accepting HIV status; shame of being HIV-positive; mental illness; substance use, withdrawal, or entering a drug treatment program; extreme deprivation that makes HIV a secondary issue; waiting until HIV medications run out to schedule appointments; and habits of using the ER to obtain medical care. To address these issues, provide education early on, proactively seek to engage women into services to meet their unmet needs, encourage and aid women in advocating for themselves as they seek services, help them enroll them in benefits programs, and provide continuous support, follow-up, and patient navigation.

Promoting Sustainability

Ryan White Part A funds may be able to be used to support transitional case management, such as transitional jail-to-community care coordination services. Components of the intervention are also sustained through additional grant funding, typically for both men and women living with HIV.

Conclusion

Each year, about 14% of people with HIV experience incarceration.⁷³ More incarcerated people pass through jails than prisons.⁷⁴⁻⁷⁵ Given the number of people living with HIV passing through these facilities and the need to reach them, jail interventions afford a unique window with which to do so. Participation in the intervention has shown an increase in linkage to post-release medical care. As Dr. Ouellet explains, “We see the jail linkage work as an extension of our community work so it makes sense to be there.”

Other Available Resources

- SPNS. **Creating a Jail Linkage Program: Tools from the Integrating HIV Innovative Practices Program.**
- **Enhancing Linkages to HIV Primary Care & Services in Jail Settings Initiative.**
- Williams CT, Kim S, Meyer J, et al. **Gender Differences in Baseline Health, Needs at Release, and Predictors of Care Engagement Among HIV-positive Clients Leaving Jail.** *AIDS Behav.* 2013;17(Suppl 2): S195-202.

⁷³ Spaulding AC, Seals RM, Page MJ, et al. HIV/AIDS among inmates of and releasees from US correctional facilities, 2006: declining share of epidemic but persistent public health opportunity. *PLoS One.* 2009;4(11): e7558.

⁷⁴ Zack B, Hane L. *At the Nexus of Correctional Health and Public Health: Policies and Practice.* American Public Health Association Annual Meeting. 2015 [Presentation]

⁷⁵ Draine J, Ahuja D, Altice FL, et al. Strategies to Enhance Linkages Between Care for HIV/AIDS in Jail and Community Settings. *AIDS Care.* 2011;23(3):366–77.



PUBLIC HEALTH

After Prison, Many People Living With HIV Go Without Treatment

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HEATHER BOERNER



On re-entering society, formerly incarcerated people struggle to get health care and treatment for HIV.

Kenyon Ellsworth for NPR

When people living with HIV walk out of prison, they leave with up to a month's worth of HIV medication in their pockets. What they don't necessarily leave with is access to health care or the services that will keep them healthy in the long term.

That is one of the findings of a study published Tuesday in PLoS Medicine. The study was among the first to follow people with HIV from jail or prison back into the community. What they found was that most people — more than half — fell out of care within three years of leaving prison.

But those who did stay in care did well — better than those who returned to prison. They were more likely to have access to health insurance and intensive case management that connected them to support groups, housing, medical care and other services.

The fact that so few had that experience points out how the health care system fails this population, says Dr. Frederick Altice, director of Yale's HIV and Prisons program and the study's co-author. In some states, prisoners are re-enrolled in Medicaid before they're released. In others, it can take weeks or longer.

"[HIV] is a chronic disease," says Altice, who has been treating people with HIV since the early 1980s. "People don't need services six weeks after release. They need them immediately."

Indeed, the study suggests that the post-prison-release period may be key in the fight to eliminate new transmissions of HIV, says Dr. Cato T. Laurencin, a professor at the University of Connecticut and founding editor of the *Journal of Racial and Ethnic Health Disparities*, who was not involved in the study.

"We are now talking about the fact that we believe that we can end new cases of HIV in our lifetime," Laurencin says. "We need to see changes in this setting. And if we're not, that tells us we're not on course."

Connecting data to care

One in 6 people living with HIV is incarcerated at any one time, according to a 2009 study. The good news is that these people often get treatment behind bars. Some studies show 71 percent of people leave prison with HIV that is so well-controlled, it is undetectable with current tests.

The bad news is that once people leave prison, engagement in care and associated HIV viral control drops precipitously, as the study shows.

Indeed, one year after leaving prison, among the 1,094 study participants, only 67.2 percent were still in care. The following year, that number dropped to 51.3 percent. By the end of the third year, only 42.5 percent were still in care.

That's for everyone in the study. When researchers teased out people who were re-incarcerated from those who weren't, retention was higher; 48 percent of the re-incarcerated had care, while 34 percent of those living outside did.

But fully controlled HIV was more common in the people on the outside, the study showed.

"This is the paradox," says Altice. "People who are re-incarcerated didn't have good viral suppression. It's much better for health [to stay out of prison]."

Upping the odds of good health

So what made the difference? When the researchers looked at what differentiated the people who stayed in care from those who didn't, a few things stood out. People with health insurance were more than twice as likely to achieve viral suppression as those without.

Second, those with access to intensive case management — services that can connect people to support groups, drug treatment programs, housing and other services — were twice as likely to still be virally suppressed at the end of three years as those without it. Even those who received only five case management visits were still 69 percent more likely to be virally suppressed at the end of the study.

One limitation of the study, says Dr. David Wohl, co-director of HIV services at the North Carolina Department of Corrections and professor of medicine at the University of North Carolina, is that it's hard to generalize the findings in one state, an urban one like Connecticut, nationally.

"This is a best-case scenario," says Wohl. "The services described in this paper don't exist in North Carolina."

Indeed, like many Northern states, Connecticut expanded Medicaid. And it is among 16 states that have changed their rules to suspend rather than cancel Medicaid when people enter prison. Many states cancel Medicaid enrollment, requiring recently incarcerated people to navigate reapplying. Other states have extremely limited eligibility for Medicaid that might exclude adults without disabilities.

"This also tells me something else," says Altice. "This should be a group targeted for Medicaid expansion."

For the University of Connecticut's Laurencin, those interventions could start to ameliorate the impact of HIV on communities of color. Seventy-eight percent of the people in the study were black or Latino. Only 1 in 3 of them stayed in care. As HIV becomes more concentrated in communities of color while effective treatment and prevention more often go to white, middle-class Americans, this study should signal an "all hands on deck" approach to helping this group of people, says Laurencin.

Kelsey B. Loeliger, Ph.D., a medical student at Yale School of Medicine and lead investigator of the Yale study, concurred. And all the study authors, as well as Wohl, made some variation of this statement as well: Maybe we should look at locking up fewer people.

"Prison reform is needed in so many ways," Loeliger says. "So much is needed across the board for this population. If you come at it from a strict medication-adherence standpoint, that's such a small piece of the puzzle."

Getting treatment

When Bryan C. Jones walked out of an Ohio penitentiary in 2008, he did so with two weeks of HIV medications, a virus that had grown resistant to those drugs, and an immune system that was shutting down.

He was sick and he knew his meds weren't working. So when he boarded the Greyhound back to Cleveland, he left the pills in a trash can in the one-room storefront bus station.

"I knew I was resistant to those meds they gave me," Jones, now 58, says. "And I knew that prison didn't give me anything to further my acceptance of living with HIV. No one [knew] my status. [And] I [wasn't going to] walk around with meds. It just didn't make sense to me."

But Jones was one of the lucky ones. A few weeks after his release, he returned to his old HIV doctor, paid for with Ryan White Care Act funds while he waited for his Medicaid to be approved. His doctor put him back on a regimen that worked a little better. Jones started educating himself on the virus and his options. He started telling people he had HIV.

A case manager connected him to permanent housing.

That "made all the difference," Jones recalls. "It was a place I could freely take my meds and not have to worry about people seeing it in the fridge or having to dig it out of a drawer."

He also stayed in substance abuse treatment. Then a new medication came out that his virus wasn't resistant to. Now, a decade later, Jones is still a regular at his doctor's office. He started bringing HIV support groups to the penitentiary where he had been housed. He runs another support group and advocates for himself and his friends. His HIV is so well-controlled on a newer drug combination that his doctor hasn't been able to detect it in his blood for six years.

In the process, he found a greater purpose.

"See, care can't keep you in care," he says. "You've got to have something else. That's the tie that binds."

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RESEARCH ARTICLE

Risk behaviors and HIV care continuum outcomes among criminal justice-involved HIV-infected transgender women and cisgender men: Data from the Seek, Test, Treat, and Retain Harmonization Initiative

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Data Availability Statement: Due to the sensitive nature of data collected from participants, some participants of these studies were prisoners at the time of data collection, and individual data use agreements that exist between study sites and the Data Coordinating Center, data used in this study are not publicly available at this time. These restrictions on data access have been imposed by the University of Washington STTR Data

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Abstract

Background

Transgender persons are highly victimized, marginalized, disproportionately experience incarceration, and have alarmingly increased rates of HIV infection compared to cis-gender persons. Few studies have examined the HIV care continuum outcomes among transgender women (TW), particularly TW who are involved with the criminal justice (CJ) system.

Methods

To improve our understanding of HIV care continuum outcomes and risk behaviors among HIV-infected TW who are involved with the CJ system, we analyzed data from the National Institute on Drug Abuse-supported Seek, Test, Treat, Retain (STTR) Data Harmonization Initiative. Baseline data were pooled and analyzed from three U.S. STTR studies to examine HIV risk and care continuum indicators among CJ-involved HIV-infected TW compared to cisgender men (CM), matched on age (within 5 years) and study at a ratio of 1:5.

Coordinating Center. However, data will be made available to qualified persons and data requests may be sent to the University of Washington STTR Data Coordinating Center (contact Erika Enright, email eenright@uw.edu).

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Competing interests: The authors have declared that no competing interests exist.

Results

Eighty-eight TW and 440 CM were included in the study. Among matched participants, TW were more likely to report crack and cocaine use compared to CM (40%, 16% respectively, $p < 0.001$); both TW and CM reported high rates of condomless sex (58%, 64%, respectively); TW were more likely than CM to have more than one sexual partner (OR = 2.9, 95% CI: 1.6, 5.2; $p < 0.001$) and have engaged in exchange sex (OR = 3.9, 95% CI: 2.3, 6.6; $p < 0.001$). There were no significant differences between TW and CM in the percentage currently taking ART (52%, 49%, respectively), the mean percent adherence to ART (77% for both groups), and the proportion who achieved viral suppression (61%, 58%, respectively).

Conclusions

HIV-infected CJ-involved TW and CM had similar use of ART and viral suppression but TW were more likely than matched CM to engage in exchange sex, have multiple sexual partners, and use crack/cocaine. TW and CM had similarly high rates of condomless sex and use of other drugs. TW require tailored risk reduction interventions, however both CJ-involved TW and CM require focused attention to reduce HIV risk and improve HIV continuum of care outcomes.

Introduction

Transgender persons, defined as those whose current gender identity or expression differs from their assigned sex at birth [1], are a highly victimized, stigmatized, and socio-economically marginalized population [2–9]. They experience significant housing instability and twice the rates of poverty and unemployment compared to the general population of the United States (US) [8]. Transgender persons disproportionately experience incarceration compared to cis-gender persons (persons whose gender identity or expression is consistent with their assigned sex at birth), with 1 in 5 transgender women (TW) reporting at least one previous incarceration [10, 11]. Transgender individuals are also at extreme risk of HIV infection, with 28% of TW testing positive [12]; a rate 34 times higher than the general US adult population [13], with alarmingly high rates of infection among Black TW [13, 14].

In general, there is relatively limited data describing HIV-related risk behaviors among TW. Estimates from one study conducted in Los Angeles County suggested that TW had high rates of substance use (alcohol, marijuana, and methamphetamines), lifetime injection drug use, and recent commercial sex work [14]. Another recent study in the San Francisco, CA area suggested that nearly 32% of TW participants had engaged in condomless receptive anal sex with a casual partner and 23% with commercial sex partners; and condomless receptive anal sex with commercial sex partners was more common among HIV-positive participants compared to HIV-negative participants [15].

Despite their marked vulnerability, relatively few studies have examined indicators of engagement in the HIV care continuum among TW, such as access to antiretroviral treatment (ART), ART adherence, and HIV viral suppression, and no studies have specifically looked at these HIV care indicators among TW who are involved in the criminal justice (CJ) system. This lack of data represents an important knowledge gap given TW are overrepresented in the criminal justice system, despite comprising a small percentage of the adult U.S. population

[16]. In addition, while involved in CJ system, TW are often met with unsafe placement, harassment, assault, and lack of access to health care services [16].

Among studies that have examined HIV care continuum outcomes among TW, results have been varied and sometimes contradictory [9, 17–21], which may be in part due to heterogeneity between study populations and relatively small sample sizes. One study conducted in Florida suggested that TW enter HIV care later than cisgender women and with more advanced disease (i.e., diagnosed with AIDS within 3 months of their HIV diagnosis) [17]. Conversely, two multi-site studies conducted in the U.S. found TW had similar levels of HIV viral suppression when compared to cisgender HIV-infected persons [18, 19]. However, other studies including both multi-site [9] and single site studies conducted in California [20, 21] have found that TW are less likely to achieve viral suppression. Beyond the HIV care continuum, there appear to be disparities related to the quality of HIV care; a large US study found HIV-infected TW reported significantly fewer positive interactions with their healthcare providers compared to cisgender persons [22].

There is a clear and consistent link between social and economic marginalization, violent and sexual victimization, and HIV treatment outcomes among TW [23]. A recent study found housing instability to be associated with poor HIV treatment outcomes among TW [21]. Structural barriers, such as lack of employment and decreased access to food or housing, have also been associated with condomless anal sex and increased victimization among HIV-negative TW [24]. A global meta-analysis found that TW required more intensive supportive services and higher percentages of TW needed basic services such as food and housing assistance compared to HIV-infected cisgender persons [8].

To improve our understanding of HIV care continuum outcomes and risk behaviors among HIV-infected TW who are involved with the CJ system, we analyzed data from the multi-study National Institute on Drug Abuse-supported Seek, Test, Treat, Retain (STTR) Data Harmonization Initiative. HIV risk and care continuum indicators among CJ-involved HIV-infected TW were compared to CJ-involved HIV-infected CM.

Materials and methods

Data for these analyses were collected from three separate studies within the STTR consortium (<https://sttr-hiv.org/>). The consortium's goal is to integrate data from multiple studies to address research questions related to HIV care continuum outcomes among vulnerable populations that require larger sample sizes than the individual studies provided [25]. The consortium has harmonized data from numerous independent STTR research studies on multiple domains including: demographic information, substance use, criminal justice (CJ) status, ART adherence, HIV risk behaviors (e.g., condomless sex, injection drug use), and HIV care continuum outcomes including HIV viral suppression defined as an HIV viral load (VL) of ≤ 200 copies/ml. To conduct these analyses, data were pooled from three STTR studies (Table 1) that met the following criteria: 1) enrolled a minimum of five HIV-infected TW; 2) enrolled HIV-infected CM; 3) collected data on the majority of the domains of interest at the study baseline assessment, and 4) were conducted in the US. All three of the studies focused specifically on CJ-involved participants, including two studies that recruited participants in CJ-based settings (prisons, jails, detention centers, and persons under community supervision, e.g. probation or parole status), and one study that recruited participants after release from jail.

Herein, we briefly summarize the study populations and sites of recruitment. The LINK LA Study and CARE+ Corrections studies have been described in detail elsewhere [26, 27]. The LINK LA study recruited HIV-infected men and TW who were incarcerated in the LA County jail system and who were referred to the transitional case management program. Participants

Table 1. Participating studies, enrolled populations, study site, number of transgender women study participants.

Study	Enrolled Population	Study Site	Transgender women (#)	Transgender definition
LINK LA ¹	HIV-infected persons leaving correctional facilities	Los Angeles, CA	52	Self-report of TG or reported gender differed from reported sex assignment at birth.
CARE + Corrections ²	HIV-infected persons in jail or recently released from jail	Washington, D. C.	20	Self-report of TG or reported gender differed from reported sex assignment at birth.
STT Jail ³	HIV-infected persons leaving correctional facilities	Chicago, IL	16	Self-report of TG

¹ Effectiveness of Peer Navigation to Link Released HIV+ Jail Inmates to HIV Care (LINK LA).

² CARE+ Corrections: Technology for Jail HIV/HCV Testing, Linkage, and Care (CARE+ Corrections).

³ Seek, Test, Treat: An Integrated Jail-Prison-Community Model for Illinois (STT Jail).

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were 18 years of age or older, English or Spanish speaking, and eligible for ART. LINK LA enrolled 356 participants from 2012–2016. The CARE+ Corrections study recruited HIV-infected persons who were 18 years or age or older, English speaking, and who were incarcerated in Washington D.C. Department of Corrections facilities or recently incarcerated (within the previous six months). CARE+ Corrections enrolled 112 participants between 2013–2015. The STT Jail study recruited HIV-infected persons who were 18 years of age or older, English-speaking, and who were anticipated to be released from the Cook County Jail within six months. STT Jail enrolled 460 participants between 2013–2016.

Information on age, race and ethnicity, education, homelessness, health insurance, ART adherence measured through the Visual Analogue Scale (VAS) [28], and use of alcohol and illicit drugs was collected during the baseline assessments for each study. Except for age, race and ethnicity, and education, participants were asked to report risk behaviors and engagement in HIV treatment during a specific reference period which varied by study and in some cases by behavior within study (i.e., 30, 90, or 180 days prior to incarceration for current detainees or those recently released from incarceration). In studies where the baseline survey was administered in the community, CJ supervision status was collected by self-report or from CJ administrative records. Risk behavior questionnaires elicited information regarding participants' sexual and drug using risk behaviors during each study's reference period. Specifically, participants were asked about their engagement in vaginal or anal intercourse, condom use, number of sexual partners, and exchange sex (defined as having sex to receive money, alcohol, drugs, or other things). Participants were asked about any use of alcohol, binge alcohol, marijuana, crack/cocaine, opioids, stimulants, other substances, multiple substances; hazardous drinking was assessed using the AUDIT-C [29]. HIV VL was assessed through laboratory testing performed by the study or review of recent medical records.

Using a risk set sampling approach, all eligible TW from the three studies were selected and matched at a ratio of 1:5 to CM participants on age (within 5 years) and study. While each of the five CM participants matched to a TW participant were unique individuals, CM participants were eligible to be randomly sampled as controls for multiple TW for whom they met the matching criteria. A total of 88 TW and 440 CM were included in the study. Conditional logistic regression was used to test for differences between matched TW and CM participants in risk behaviors and HIV care outcomes represented as binary variables. Differences in characteristics represented as continuous variables were tested using generalized linear models with robust standard errors. *P*-values < 0.05 were considered statistically significant.

The studies were approved by the following institutional review boards: The University of California, Los Angeles (LINK LA), Los Angeles County Department of Public Health (LINK LA), George Washington University (CARE+ Corrections), The Miriam Hospital (CARE + Corrections), University of Illinois at Chicago (STT Jail), and the Cook County Health and Hospitals System (STT Jail). Additional protections were provided by the Office of Human Research Protections at the Department of Health and Human Services, and Certificates of Confidentiality were obtained.

Results

[Table 2](#) displays demographic characteristics of study participants, stratified by study and gender. Overall, the mean age across groups was 35 years (± 10), 53% were Black, and 23% were Hispanic. A slightly higher proportion of TW reported being homeless compared to CM (49% and 41% respectively), while similar proportions of TW (43%) and CM (39%) reported not having health insurance.

As outlined in [Table 3](#), any alcohol use and binge drinking were common across all studies and groups, with more than one-half of all respondents reporting any alcohol use. Across individual studies, between 25% and 69% reported binge drinking. From the two studies that measured hazardous drinking, the overall proportion of TW and CM participants classified as hazardous drinkers was 42% and 40%, respectively. Overall, marijuana and stimulant use was common, although the range of use of these substances varied greatly across studies. For crack and cocaine use, the proportion of use also varied across studies, but overall, TW were more likely to report crack and cocaine use compared to CM (40% and 16% respectively, $p < 0.001$). Opioid use across all studies and among TW and CM was relatively low compared to the other substances (13% and 15%, respectively). TW were more likely than CM to use multiple substances defined as using ≥ 2 substances (including alcohol) (74% and 62% respectively, $p = 0.04$).

[Table 4](#) displays sexual risk behaviors reported by study participants. Both TW and CM reported high rates of condomless sex (58% and 64%, respectively; $p = 0.37$). TW were significantly more likely than CM to have more than one sexual partner (OR = 2.9, 95% CI: 1.6, 5.2; $p < 0.001$) and have engaged in exchange sex (OR = 3.9, 95% CI: 2.3, 6.6; $p < 0.001$).

[Table 5](#) displays HIV care continuum outcomes reported by study participants. Overall, there was no significant difference between TW and CM in the percentage currently taking ART, with 52% of TW and 49% of CM on ART (OR = 1.1; 95% CI: 0.7–1.8, $p = 0.6$). Similarly, there were no significant differences between TW and CM in the mean percent adherence to ART (77% for both groups), the proportion who achieved viral suppression (61% and 58%, respectively), or the proportion who had CD4 counts ≤ 200 compared to CM (OR = 0.4; 95% CI: 0.1–2.1, $p = 0.30$).

Discussion

This study among HIV-infected persons in the CJ system found no significant difference between TW and CM in the use of ART, reported adherence to ART, or with achieving viral suppression. Approximately one-half of our study population reported being on ART at the time of baseline data collection and close to 60% were found to have viral suppression. The proportion receiving ART was similar to the results among jailed persons in a recent systematic review that indicated 51% of persons were on ART during incarceration which decreased to 29% after release, and 40% achieved viral suppression during incarceration which decreased to 21% after release [30]. One explanation for our findings may be that both TW and CM were better able to access HIV care and treatment during periods of incarceration compared to when residing in the community, thus attenuating any potential differences that may exist outside of

Table 2. Demographic characteristics of study participants, comparing transgender women and cisgender men.

	STTR Study							
	LINK LA		CARE + Corrections		STT Jail		Total	
	Los Angeles, CA		Washington D.C.		Chicago, IL			
	TW	CM	TW	CM	TW	CM	TW	CM
N	52	260	20	100	16	80	88	440
Age, years	36 ± 10	36 ± 10	35 ± 9	34 ± 10	32 ± 11	33 ± 11	35 ± 10	35 ± 10
Age, years	36 ± 10		34 ± 10		32 ± 11		35 ± 10	
Race/ Ethnicity (%)								
Black	38	30	85	91	94	75	59	52
Hispanic	35	35	0	1	6	14	22	23
White	4	25	5	3	0	9	3	17
Other ¹	23	10	10	5	0	2	16	8
Education (%)								
< High School	52	40	35	26	31	40	44	37
High school	13	16	45	56	38	33	25	28
>High school	35	43	20	18	31	27	31	34
Unknown	0	1	0	0	0	0	0	1
Homeless (%)								
No	31	45	—	—	56	50	37 ²	46 ²
Yes	69	55	—	—	44	50	63 ²	54 ²
Not collected	0	0	100	100	0	0	—	—
Health Insurance (%)								
Uninsured	60	50	20	10	19	37	43	39
Insured	38	48	80	90	69	58	54	59
Unknown	2	2	0	0	12	5	3	2

¹Includes participants reporting race as Asian, Native American/Alaskan Native, Pacific Islander, having 2 or more races.

²Percentages are calculated as percent of total individuals with data collected.

Abbreviations: TW-transgender women; CM-cisgender males.

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the correctional setting. We were not able to assess changes in ART use or viral suppression following release from correctional facilities in this study, but other studies have demonstrated decreased ART use and consequent viral rebound during community re-entry [30–33].

In our study, TW were more likely to engage in several HIV transmission behaviors compared to age-matched CM from the same studies. While both TW and CM reported high rates of condomless sex, TW were more likely than CM to have multiple sexual partners and to engage in exchange sex. Similarly, high rates of substance use were reported among both TW and CM, but the proportion of TW using crack/cocaine was more than twice as high as that of CM. Despite TW reporting higher rates of engagement in HIV transmission behaviors, both populations had similarly sub-optimal HIV continuum of care outcomes including ART use, ART adherence, and viral suppression. These findings suggest that interventions to improve HIV care engagement and viral suppression in both TW and CM are needed, but that TW would especially benefit from gender-tailored interventions that address their unique vulnerabilities and risk behaviors.

In both TW and CM, rates of condom use and ART were low while rates of substance use were high. Substance use disorders have been linked to both high risk HIV transmission behaviors and poor retention in HIV care [34, 35], including among TW [36, 37]. The sub-optimal outcomes in this sample of CJ-involved TW and CM are particularly concerning

Table 3. Substance use during reference period¹, comparing transgender women and cisgender men.

	Los Angeles		Washington D.C.		Chicago		Total		p-value
	TW	CM	TW	CM	TW	CM	TW	CM	
N	52	260	20	100	16	80	88	440	
Any use (%)									
Alcohol	65	51	75	80	81	70	71	61	0.1
Binge Alcohol	31	25	55	58	69	41	43	35	0.1
Marijuana	46	62	40	32	81	53	51	53	0.7
Crack/ cocaine	33	10	45	22	56	31	40	16	<0.001
Opioids	14	12	5	16	19	25	13	15	0.5
Stimulants	58	67	20	4	31	16	44	44	0.9
Other Substance	4	9	25	13	25	15	13	11	0.7
Multiple Substances ²	77	68	55	46	88	64	74	62	0.04
No Substances	10	12	0	15	0	15	6	13	0.06
Hazardous Drinking									
AUDIT-C score	—	—	4.0 ± 4.1	5.0 ± 4.2	5.8 ± 4.4	3.6 ± 4.0	4.8 ± 4.3	4.4 ± 4.2	0.6
AUDIT-C category (%)									
Non-drinker	—	—	25	20	19	35	22 ³	27 ³	
Non-hazardous drinker	—	—	45	33	25	33	36 ³	33 ³	
Hazardous drinker	—	—	30	47	56	32	42 ³	40 ³	0.84

¹Alcohol reference periods differed across studies: 30 days: LINK LA; 180 days: STT Jail; 1 year: CARE+ Corrections.

Illicit substance reference periods differed across studies: 30 days: LINK LA; 90 days: CARE+ Corrections; 180 days: STT Illinois.

²Multiple substance use was defined as using ≥ 2 substances (including alcohol).

³Percentages are calculated as percent of total individuals with data collected.

Abbreviations: TW-transgender women; CM-cisgender males.

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given that incarceration is often viewed as an opportunity to re-engage people living with HIV in care [38, 39]. These findings speak to the need for innovative methods that support retention in HIV care and HIV prevention efforts, including the expansion of case management services, ART adherence counseling, and comprehensive substance abuse treatment services.

Table 4. HIV risk behaviors during reference period¹, comparing transgender women and cisgender men.

	Los Angeles		Washington D.C.		Chicago		Total		OR (95% CI)	p-value
	TW	CM	TW	CM	TW	CM	TW	CM		
N	52	260	20	100	16	80	88	440		
>1 sex partner (%)	45	24	—	—	67	36	48 ²	26 ²	2.9 (1.6–5.2)	<0.001
Condomless sex (%)	54	63	78	82	44	39	58 ³	64 ³	0.8 (0.5–1.3)	0.37
Exchange sex (%)	46	22	65	15	—	—	51 ⁴	20 ⁴	3.9 (2.3–6.6)	<0.001

¹Reference periods differed across studies: 90 days: CARE+ Corrections, STT Jail; 180 days: LINK LA.

²Refused and “Don’t know” responses were set to missing (LINK LA TW: n = 1; STT Jail TW: n = 1; STT Jail CM: n = 1); percentages are calculated as percent of total non-missing responses.

³Refused and “Don’t know” responses were set to missing (LINK LA TW: n = 2; LINK LA CM: n = 17; STT Jail TW: n = 1, STT Jail CM: n = 3); percentages are calculated as percent of total non-missing responses.

⁴Percentages are calculated as percent of total individuals with data collected.

Abbreviations: TW-transgender women; CM-cisgender males; OR-odds ratio; CI-confidence interval.

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Table 5. HIV care continuum outcomes during reference period¹, comparing transgender women and cisgender men.

	Los Angeles		Washington D.C.		Chicago		Total		OR/ β (95% CI)	p-value
	TW	CM	TW	CM	TW	CM	TW	CM		
N	52	260	20	100	16	80	88	440		
Current ART (%)	40	47	70	47	69	57	52	49	OR = 1.1 (0.7–1.8)	0.57
% ART adherence	67 $\pm$ 32	79 $\pm$ 27	90 $\pm$ 18	70 $\pm$ 25	—	—	77 $\pm$ 29	77 $\pm$ 27	β = 0.3 (-10.5–11.1)	0.96
VL ² $\leq$ 200 copies/ml (%)	56	62	80	57	50	39	61 ³	58 ³	OR = 1.1 (0.7–1.9)	0.61
CD4+ cell count ² $\leq$ 200 (%)	—	—	5	9	10	25	7	15	OR = 0.4 (0.1–2.1)	0.30

¹ART reference periods differed across studies: CARE+ Corrections, LINK LA: 30 days prior to incarceration; STT Jail (taking ART only): 7 days prior to arrest.

²VL and CD4 measurements were from within 30 days of baseline interview.

³Viral load measures were missing on some participants (CARE+ Corrections CM n = 3; LINK LA CM: n = 8; STT Jail TW: n = 6; STT Jail CM: n = 28); percentages are calculated as percent of total non-missing responses.

Abbreviations: TW-transgender women; CM-cisgender males; OR-odds ratio; β -beta; CI-confidence interval; ART-antiretroviral treatment; VL-viral load; ml-milliliter.

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The TW in this study were uniquely vulnerable due to higher rates of crack/cocaine use than CM. There are no approved pharmacotherapies for cocaine use disorders; cognitive behavioral therapy is currently the only approved management option and is often unavailable to socially disenfranchised populations such as TW. In addition, high rates of exchange sex and cocaine use in TW may be intertwined, where TW may be more likely to find themselves needing to engage in exchange sex to support their addiction. Approximately 40% of TW and CM in this study reported stimulant use. Previously published studies of female sex workers and men who have sex with men (MSM) have revealed patterns of stimulant use during sexual encounters were attributed to a number of factors, including sexual enhancement, increased energy levels, and as a coping mechanism during exchange sex [40, 41]. To reduce risk behaviors and improve HIV continuum of care outcomes among TW and CM, new approaches to treat cocaine and stimulant use disorders are needed and the development of new behavioral and pharmacological interventions must be a research priority. Importantly, TW require substance abuse treatment programs that are non-judgmental, inclusive of their gender and sexual orientation, and that address other co-occurring needs such as lack of social support, stigma, and frequent history of abuse and harassment [42].

The differences in sexual risk behaviors and substance use patterns between TW and CM suggest that there may be opportunities to reduce transmission of HIV and improve treatment outcomes through gender-tailored interventions [43]. While condom use was similar between populations (36–42%), TW were more likely to have multiple sexual partners, which creates a higher risk of HIV transmission when only 42% of HIV-infected TW reported consistently using condoms. Thus, it is particularly important to prioritize interventions that can improve condom use as well as optimize ART adherence and viral suppression in TW [44]. Relatedly, TW were almost 4 times more likely to engage in exchange sex. TW have historically been socially marginalized and stigmatized in ways that may increase their likelihood of engaging in commercial sex work [7, 23, 45]. While TW appear to be accessing HIV care at rates similar to CM, their engagement in exchange sex indicates a social vulnerability that can influence their continued access to care and ability to negotiate condom use [23, 46]. Future interventions targeting TW should acknowledge the contextual factors relevant to TW that can affect HIV risk behavior such as gender-based power imbalances, stigma, increased risk of interpersonal or

sexual violence, financial vulnerability, and the work environment (e.g. public vs. indoor) when engaging in exchange sex [47–52].

There were limitations to this study. Two of the three STTR studies included recruited persons inside correctional facilities, which may have influenced HIV treatment outcomes since these persons may have better access to HIV treatment than persons enrolled in the community. This study was a secondary analysis of cross-sectional data collected through the STTR consortium, hence, the three studies included were heterogeneous in terms of study design, eligibility criteria, geographic location, and the reference periods used for assessing baseline substance use and sexual risk behaviors. While this may limit the robustness of our findings, the geographic heterogeneity provided a more nationally representative sample than single-site studies. Furthermore, the use of matching in the analysis ensured that comparisons were made between TW and CM within the same study, thus between-study differences cannot account for the observed differences between TW and CM risk behaviors. Including cisgender women as a comparison group in the analysis would have enhanced the study, but not all of the studies included in this analysis recruited cisgender women. Similarly, not all of the studies collected information on sexual orientation, thus we were unable to identify MSM. If the majority of CM in this study were MSM, a group that also experiences high rates of stigma and substance use, this may have attenuated differences between the TW and CM than may have been observed if the TW were compared to non-MSM HIV-infected men.

In conclusion, we found that CJ-involved HIV-infected TW, as compared to CJ-involved HIV-infected CM, had similar HIV continuum of care outcomes but TW were more likely to engage in exchange sex, have multiple sexual partners, and use crack/cocaine or multiple substances. Nevertheless, TW and CM had similarly high rates of condomless sex and use of illicit drugs and other substances. These results indicate that TW require population-specific interventions that address specific HIV transmission behaviors and are also sensitive to the unique barriers to care and psychosocial vulnerabilities that many TW experience. In general, though, interventions are needed for both CM and TW that target condomless sex, substance use behaviors, and engagement in HIV care to improve HIV-related outcomes.

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