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Intersecting Structural and Psychosocial Conditions: Investigating Injection Drug Use and HIV Among Transgender Women

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Abstract

Background: Transgender women continue to face a significant burden of health disparities with HIV infection as a critical public health concern. Substance use is higher among transgender women than among cisgender women. However, little is known about transgender women who inject drugs and risk for HIV in the United States. The objectives were to explore HIV prevalence, injection-related behaviors, and HIV prevention and care outcomes among transgender women who inject drugs and to compare transgender women with a general sample of persons who inject drugs.

Methods: Participants from the National HIV Behavioral Surveillance were recruited through respondent-driven sampling, interviewed, and tested for HIV infection in 2019–2020. Log-linked Poisson regression models were used to test for associations between injection drug use and selected characteristics.

Results: Among 1561 transgender women, 7% injected drugs in the past 12 months. HIV prevalence was higher among transgender women who inject (adjusted prevalence ratio = 1.5, 95% confidence interval: 1.2 to 1.8) than among those who do not. Multiple psychosocial conditions were associated with injection drug use. Among transgender women with HIV, those who inject were less likely to take antiretroviral therapy (adjusted prevalence ratio = 0.8, 95% confidence interval: 0.7 to 1.0) than those who do not. Methamphetamine was the most commonly injected drug (67%); most accessed a syringe services program (66%).

Conclusions: Transgender women who inject have substantial challenges related to health outcomes including high HIV prevalence and exposure to psychosocial conditions, such as homelessness, incarceration, and exchange sex, that may exacerbate risks associated with injection drug use. This population may benefit from increased access to nonjudgmental and culturally competent harm reduction services.

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Keywords

HIV prevalence; transgender women; persons who inject drugs

INTRODUCTION

In the United States, transgender women continue to face a significant burden of health disparities with HIV infection as a critical public health concern within this population. In a systematic review within the United States, transgender women had an estimated HIV prevalence of 14.1%.¹ In comparison, the estimated HIV prevalence in the general US population is <0.5%.^{2,3} Transgender women in the United States navigate a complex landscape of social, economic, and health care disparities, often magnified by the persistent stigmatization of transgender identity and diverse gender expression.⁴ High HIV prevalence among transgender women is a reflection of the systemic challenges they face in accessing inclusive and culturally competent health care services.⁵

Among the myriad of challenges faced by transgender women, substance use is a pressing concern. Transgender women report high prevalence of drug use^{6,7}; several studies have shown elevated use of methamphetamine.^{8–11} There are limited studies comparing drug use among transgender women with that among cisgender persons. However, 1 analysis in the United States showed that transgender adults reported higher levels of substance use disorders for the use of cocaine (0.5% vs. 0.1%) and opioids (1.3% vs. 0.4%).^{12–14} There is even more limited data on transgender women who inject drugs in the United States. Substance use, particularly injection drug use, is a well-established risk factor for HIV transmission among persons who inject drugs (PWID). A systematic review from the United States estimated that 12% of transgender women had a history of injection drug use¹⁵ and another literature review estimated approximately 0.4% of people who inject identify as transgender.¹⁶ Although syringe sharing has been observed to be rare among transgender women,¹⁵ sharing of syringes during injection drug use and/or hormone use could potentially represent substance-related HIV risk factors in this population.^{17,18} There are limited data on sharing of needles used for hormone use, but hormone injection syringes are longer than those used for injection drug use, and potentially increases the likelihood that syringes could be shared.¹⁹ A systematic review reported approximately 2% of transgender women sharing syringes for injecting hormones, and 6% sharing syringes for injecting silicone.¹⁵

The minority stress model suggests that sexual minorities are chronically exposed to unique stress related to stigma-induced experiences.²⁰ Conceptual frameworks developed from minority stress theories posit that engaging in substance use and experiencing negative mental health outcomes result from stigmatizing attitudes and behaviors expressed toward transgender individuals.^{13,20} Findings show that substance use may be used as a coping mechanism for the stressors related to stigma and discrimination, gender dysphoria, and social rejection and marginalization.^{21–24} Transgender women report rates of depression and suicidality at levels much higher than the general population.^{25–27} Mental health challenges are further exacerbated by gender-based abuse and violence.^{13,28} In a systematic

review, approximately half of participants reported prior mental or physical abuse.¹ Both mental health challenges and experiences of violence correlate with substance use—particularly with the use of illicit drugs among transgender women.^{29–31} Transgender women often experience social rejection, marginalization, and familial estrangement because of their gender identity and expression,³² often resulting in high rates of homelessness, incarceration, and survival sex in this population.^{9,33,34} To date, very little has been researched on how these negative health and social marginalization outcomes are associated with injection drug use among transgender women.

Widespread stigma and discrimination contribute to a reluctance among transgender women to seek health care services—including HIV care and treatment.^{35–39} Transgender women who use and inject drugs may face additional challenges in accessing services. They may be reluctant to disclose their drug use and be hesitant to access health services, including substance use treatment, for fear of further stigmatization and discrimination.^{40,41} Although the extent to which transgender women are hindered from accessing substance use treatment or harm reduction services is largely unknown, a study found that transgender people are more likely than cisgender people to want help reducing their substance use.⁴² Existing research supports a need for tailored services and interventions to address substance use, such as cultural sensitivity training for providers and staff to be prepared to address the unique experiences and needs of transgender people.^{40,41,43–45}

Transgender women who inject drugs grapple not only with the challenges posed by pervasive stigma and discrimination of their gender identity but also with navigating the complex intersections of substance use and HIV transmission. This analysis seeks to explore the multifaceted relationship between injection drug use and HIV-associated risks among transgender women, shedding light on the factors that contribute to increased vulnerability and the potential impact on overall health outcomes. Because there is so little research on transgender women who inject drugs, our second objective is to compare injection-related characteristics of transgender women who inject drugs with persons of any gender who inject drugs to understand unique needs among transgender women who inject drugs. By examining the intersecting issues of injection drug use, social determinants, stigma/discrimination, and mental health, this study aims to provide a more nuanced understanding of the challenges faced by transgender women who inject drugs.

METHODS

The Centers for Disease Control and Prevention's National HIV Behavioral Surveillance among Transgender Women (NHBS-Trans) monitors sexual and drug behaviors, access to prevention services, and HIV prevalence in the United States in metropolitan statistical areas (MSAs) with high HIV prevalence. Cross-sectional data reported in this analysis were collected among transgender women from NHBS-Trans from June 2019 to February 2020. Participating MSAs included Atlanta, GA; Los Angeles, CA; New Orleans, LA; New York City, NY; Philadelphia, PA; San Francisco, CA; and Seattle, WA.

Survey participants were recruited using respondent-driven sampling,⁴⁶ a peer-referral recruitment strategy. Eligible persons were aged ≥ 18 years, lived in a participating MSA,

were able to complete the interview in English or Spanish, and provided informed consent. In addition, participation was limited to persons who reported a gender identity of woman or transgender woman and were assigned male or intersex at birth. Participants completed a standardized questionnaire administered face-to-face by trained interviewers and were offered anonymous HIV testing. Incentives were offered for completing the interview, HIV testing, and peer recruitment (up to 5 coupons). Because HIV prevalence is a primary outcome in this analysis, the analysis sample is limited to those who had a valid HIV test result. Detailed sampling and data collection procedures has been published elsewhere.^{47,48}

To meet the second objective comparing injection-related characteristics of transgender women who inject drugs with persons of any gender who inject, estimates were used from the NHBS-PWID 2018 cycle. Participants from NHBS-PWID 2018 were also recruited using respondent-driven sampling. Eligible participants were aged ≥ 18 years, lived in a participating MSA, were able to complete the interview in English and Spanish, provided informed consent, and had injected unprescribed drugs in the past 12 months. Only NHBS-PWID 2018 participants who lived in the same 7 participating MSAs as NHBS-Trans participants were included. Injection-related behavioral questions were the same in NHBS-PWID 2018 and NHBS-Trans. More detailed information on NHBS-PWID 2018 is published elsewhere.⁴⁹

NHBS activities were deemed nonresearch by CDC and approved by local institutional review boards in each of the participating MSAs.

Measures

Injection drug use was defined as having injected any drugs other than those prescribed in the past 12 months (eg, drugs such as heroin or methamphetamine). Injection drug use did not include drugs used for gender transition or affirmation, such as hormones or silicone. This population will be referred to hereafter as “transgender women who inject drugs.”

Eligible participants could select >1 response for current gender identity: woman, man, transgender woman, transgender man, and a gender not listed, as long as either the response woman or transgender woman was selected.

The recall period for all outcomes is in the 12 months before the interview unless otherwise noted.

Social Determinants of Health

Poverty was defined as income at or below the 2019 Department of Health and Human Services poverty guidelines.⁵⁰ Food insecurity was defined as cutting the size of meals or skipping meals or not eating for a whole day because of not having enough money for food. Physical violence included being physically abused or harassed because of gender identity or presentation or being physically abused or harassed by a sexual partner. Forced sex was defined as being physically forced or verbally threatened to have sex.

Discrimination Measures

Discrimination because of being transgender or gender nonconforming included having trouble getting a job, being denied access to bathrooms that were appropriate to the participant's gender identity, being denied housing or evicted, being denied or given lower quality health care, and receiving poorer services than other people in restaurants, stores, or other businesses.

Psychosocial Functioning Measures

Disability was defined as having serious difficulty hearing, seeing, doing cognitive tasks, walking, or climbing stairs, dressing or bathing, or doing errands alone. Social support was measured using the Multidimensional Scale of Perceived Social Support, dichotomized as low-moderate (mean < 3.57) and high social support (mean $\geq$ 3.57).⁵¹ The Kessler-6 scale was used to determine psychological distress in the past 30 days that was dichotomized and defined as a score of 13 or higher.⁵²

Drug Use Measures

For the measures comparing NHBS-Trans and NHBS-PWID, frequency of injection was asked for any drug and the responses "once a day" and "more than once a day" were combined to "at least once a day." Receptive sharing of syringes was defined as responding at least "rarely" when asked about using needles that someone else had already injected with. Accessing drug treatment was defined as participating in a program to treat drug use.

Analysis

Descriptive, unweighted data of the sample are presented to describe sociodemographic characteristics, behaviors, access to care and prevention services, and HIV prevalence. Bivariate analyses, using log-linked Poisson regression models with generalized estimating equations clustering on recruitment chain, were conducted to assess associations with injection drug use in the past 12 months. Owing to complexities associated with respondent-driven sampling, all models controlled for the participant's personal network size and MSA. Injection drug use was conceptualized as an outcome with demographics, social determinants, mental health and safety outcomes, and stigma and discrimination as predictors. For HIV prevalence, care, and prevention outcomes, injection drug use was conceptualized as a predictor. For the latter models, selected variables were included to control for potential confounding: age, race/ethnicity, current health insurance, MSA, and network size. Referent groups were selected a priori or by lowest prevalence.

To compare drug use and drug use-related behaviors between NHBS-PWID participants and NHBS-Trans PWID participants, we presented descriptive, unweighted data from the NHBS-PWID 2018 cycle alongside NHBS-Trans 2019–2020. NHBS-Trans data were limited to those who reported injecting drugs in the past 12 months. Statistical comparisons were not possible because of differences in the sample populations. However, a priori, we determined a difference in 10 or more percentage points as a meaningful comparison of estimates between NHBS-Trans and NHBS-PWID.

All analyses were conducted in SAS 9.4.

RESULTS

Overall Sample of Transgender Women

This analysis included 1561 transgender women. Approximately 40% of the participants reported being Hispanic/Latina, 35% Black or African American, and 11% White (Table 1). More than half identified as a transgender woman (64%) and 60% were younger than 40 years. Most participants reported currently having health insurance (83%) and seeing a health care provider in the past 12 months (94%). Approximately half reported having at least 1 disability (53%). An estimated 63% reported an income below the poverty level and 59% reported food insecurity. Overall, 16% had ever injected drugs and 7% had injected drugs in the past 12 months.

Transgender Women Who Inject Drugs

Approximately 12% of White transgender women and 8% of transgender women aged 30–39 year reported injecting drugs in the past 12 months (Table 2). An estimated 9% of participants who reported food insecurity, 9% of participants who had a disability, 16% of participants who reported being currently homeless, and 15% of participants who had recently been incarcerated reported injecting drugs. In the adjusted models, no differences were found in injection drug use by demographic characteristics such as gender identity, age, or education. Reporting White race, food insecurity, disability, current homelessness, recent incarceration, noninjection drug use, psychological distress, verbal abuse or physical violence, forced sex, receiving money or drugs for sex, being denied access to an appropriate bathroom, being denied housing or being evicted, and receiving poorer services than other people were associated with injection drug use (Table 2).

Among transgender women who injected drugs, 84% had received an HIV test in the past 12 months (Table 3), >90% were aware of preexposure prophylaxis (PrEP), and a little >30% reported using PrEP. In the adjusted models, there were no significant differences in HIV testing, PrEP awareness or use, or having had a recent HIV care visit within the past 6 months by injection drug use. However, among transgender women who had self-reported being HIV positive, those who injected were less likely to be currently on antiretroviral therapy (ART) (aPR = 0.8; 95% CI: 0.7 to 1.0). In addition, when adjusted for age, race, MSA, and network size, transgender women who injected had a significantly higher HIV prevalence than those who did not inject (aPR = 1.5; 95% CI: 1.2 to 1.8).

Comparison of Transgender Women Who Inject Drugs with PWID From NHBS-PWID

For the second objective, injection behaviors among transgender women were different from a general PWID population. Injection of methamphetamine was more common among NHBS-Trans PWID participants who injected drugs compared with NHBS-PWID participants (78% vs. 48%) as was noninjection use of methamphetamine (68% vs. 48%) (Table 4). Methamphetamine was reported as the drug most injected by NHBS-Trans PWID participants (67%), while heroin was reported as the drug most injected by NHBS-PWID participants (51%). More than half of NHBS-Trans PWID participants reported always using sterile syringes (62%), while approximately a third of NHBS-PWID participants (37%) reported the same. An estimated 47% of NHBS-Trans PWID participants compared with

88% of NHBS-PWID participants reported injecting at least daily. Accessing drug treatment for both populations was approximately 43%. Approximately 66% of NHBS-Trans PWID and 78% of NHBS-PWID participants reported accessing syringe services programs (SSPs). HIV prevalence was 57% among NHBS-Trans PWID participants compared with 7% among NHBS-PWID participants.

DISCUSSION

There are very limited data on prevalence of injection drug use and factors associated with injection drug use among transgender women. However, a pooled analysis approximated 7% of transgender persons in the United States currently inject drugs.¹⁶ We found similarly that approximately 7% of transgender women reported injecting drugs in the past 12 months, while 16% had ever injected. Stigma, rejection, and discrimination contribute to a range of negative health outcomes including substance use.^{4,53–56}

In this analysis, increased injection drug use was associated with food insecurity, psychological distress, experiences of stigma and discrimination, verbal, physical, and sexual violence, current homelessness, incarceration, and engaging in exchange sex. The intersection of these conditions among transgender women is a complex and multifaceted issue that often involves significant societal, economic, and structural challenges. Individually, these factors have been associated with HIV infection among transgender women and access to HIV care and treatment.^{11,32,37,57–59} However, a syndemic framework⁶⁰ can be used to better understand HIV among transgender women by examining how these structural (eg, experiencing homelessness and incarceration) and psychosocial issues (eg, sexual violence and drug use) cooccur, often mutually reinforcing interaction and sometimes acting multiplicatively to predict risk of HIV.^{6,28,59} For example, Brennan et al³² found that among young transgender women, the syndemic factors of low self-esteem, lifetime polysubstance use, intimate partner violence, and victimization were additively associated with HIV prevalence. It is crucial to consider the context in how these factors, including injection drug use, syndemically contribute to HIV—especially when designing interventions that may otherwise focus on only 1 of many interrelated factors. Syndemic analyses reveal that more complex HIV prevention approaches are needed among transgender women. Research has suggested combining HIV prevention services with other health and social services for meaningful improvements in public health.^{59,61,62}

HIV prevalence was high among transgender women who inject drugs (>50%). In addition, HIV prevalence was significantly higher among transgender women who injected than among transgender women who did not inject. There are very limited data examining HIV among transgender women who inject drugs. However, in a targeted sample of transgender persons, transgender women who injected drugs were 2.6 times more likely to have HIV than those who did not inject.⁶³ Furthermore, among transgender women who self-reported having HIV, those who injected drugs were less likely to currently be on ART. This finding suggests that injection drug use may amplify challenges faced by transgender women, necessitating a focused examination of the factors that impede or facilitate their access to critical services such as HIV prevention, care, and treatment. It is encouraging that awareness of PrEP is high and there were no differences in PrEP use by injection drug use.

However, given that transgender women who inject could potentially be exposed to multiple factors that increase their HIV risk, purposeful efforts are needed to link transgender women who inject to PrEP.

Systemic barriers, such as health care discrimination, lack of cultural competency, and economic disparities, can deter transgender women from seeking regular health care, including HIV care.^{37,62} Transgender women who inject drugs may experience intersectional discrimination that may lead to unique structural barriers when trying to access basic needs, such as housing, employment, public bathrooms, and public places of business.^{24,33,64–66} In this analysis, discrimination was not always higher among transgender women who inject; however, this is likely, in part, because of transphobic discrimination already being so high. With stigma and discrimination potentially compounded because of injection drug use,^{67–69} transgender women who inject drugs need to seek services where they feel safe, comfortable, and accepted.

SSPs have historically been safe places with nonjudgmental staff and increasingly provide comprehensive services to people who use drugs. SSPs are a critical tool in the plan to reduce new HIV infections for the Ending the HIV Epidemic initiative⁷⁰ through the provision of sterile syringes and services related to HIV care and treatment.^{71–74} In this analysis, most transgender women who injected accessed an SSP for sterile syringes. However, the needs of transgender women who inject differ from other persons who inject drugs. Transgender women who injected had a higher preference for injection or use of methamphetamine (rather than heroin), injected less frequently, and reported always using sterile syringes compared with nontransgender persons who inject drugs. The starkest difference between NHBS-Trans transgender women who injected and NHBS-PWID participants was in HIV prevalence—transgender women had a substantially higher HIV prevalence. Although the comparisons are limited because of differences in sampling, there are clearly different needs from this population. Given that transgender women are indeed accessing SSPs, it is vital to support SSPs in tailoring services needed by this population: for example, supplies for specific substances (eg, methamphetamine), supplies for persons who may be exchanging sex, safer hormone injection supplies, knowledge of local underground economy and supply of hormones, silicone, and other transition supplies, and trans-specific resources and referrals/linkage to gender-affirming care. Transgender women who inject were more likely to experience homelessness and engage in exchange sex; resources should be available that would be considered safe for this population.

Furthermore, culturally sensitive principles should be prioritized when providing substance use treatment for transgender women. There is limited information on transgender women who have sought substance use treatment.^{24,40} Despite higher rates of substance use among transgender women, there is an alarming scarcity of studies focusing on developing interventions related to care for substance use designed specifically for transgender women.⁴⁴ Transgender women are more likely to need additional help for substance use when compared with cisgender persons who use drugs,⁴² and researchers have requested more transgender-specific support systems, including treatment for substance use.^{44,75} Despite these calls for transgender-specific services, only 5% of substance use service providers report formal education surrounding the needs of transgender clients.⁷⁶ To date,

there are no studies on transgender women who inject and their access and use of substance use treatment. In the comparison with NHBS-PWID, we found that transgender women who injected in NHBS-Trans had similar percentages in treatment for substance use.

Although efforts, overall, should be made to promote equitable health care access and improve health outcomes for this population, culturally competent substance use interventions, such as SSPs and treatment for substance use, could fill a gap that traditional health care services are not currently addressing.⁴⁴ At the least, staff should receive formal training on cultural humility and ongoing education to support a safe environment for transgender women. Stigma, harassment, poor treatment, and cultural incompetence from staff because of gender identity have led to deterring some from seeking treatment.⁷⁷ In contrast, in the same study, transgender patients report feeling more positive about their substance use treatment when staff respected their gender identity, including room and group placement. Other examples to provide a supportive environment for transgender women could include access to gender-affirming bathrooms within SSPs or treatment facilities; having staff or counselors use preferred names and pronouns; or providing housing and employment support tailored to the needs of transgender women. Further investigation is needed to explore factors that facilitate transgender women's engagement with harm reduction or substance use interventions and to enhance or tailor culturally competent services, peer support, and outreach initiatives geared toward transgender women who inject drugs.

This analysis is subjected to several limitations. First, the data are self-reported and may be subject to social desirability and recall biases. Second, because NHBS-Trans is a cross-sectional study, it is not possible to infer causality. Associations with injection drug use may be related to other structural or behavioral characteristics not covered in this analysis. Third, NHBS-Trans data are not nationally representative and may not be generalizable to the United States or all transgender women. Lastly, owing to the limited sample size of transgender women who inject drugs, further statistical comparisons could not be performed to investigate, for example, factors associated with HIV prevalence among transgender women who inject drugs.

CONCLUSIONS

Transgender women who inject drugs face unique challenges that call for a comprehensive understanding and targeted interventions by the harm reduction community. In addition, addressing injection drug use in this population requires culturally competent approaches that address the root causes of structural and psychosocial conditions. The disproportionate burden of HIV among transgender women who inject drugs requires multifaceted interventions, including destigmatizing health care, improving access to mental health and harm reduction services, and addressing the social determinants that contribute to vulnerability. Culturally competent and inclusive approaches are crucial to reducing HIV prevalence and promoting the overall well-being of transgender women who inject. Efforts must be collaborative, involving the transgender community, health care providers, policymakers, and community organizations to create inclusive and supportive environments for transgender women.

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APPENDIX

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REFERENCES

1. Becasen JS, Denard CL, Mullins MM, et al. Estimating the prevalence of HIV and sexual behaviors among the US transgender population: a systematic review and meta-analysis, 2006–2017. *Am J Public Health*. 2019;109:e1–e8.
2. Centers for Disease Control and Prevention. Estimated HIV Incidence and Prevalence in the United States, 2010–2016. IV Surveillance Supplemental Report 2019. Vol 24. 2019. Available at: <https://stacks.cdc.gov/view/cdc/106349>. Accessed January 21, 2024.
3. U.S. Census Bureau Population Division. Annual Estimates of the Resident Population: April 1, 2010 to July 1, 2018. Available at: <https://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?src=bkmk#externalicon>. Accessed January 21, 2024.
4. White Hughto JM, Reisner SL, Pachankis JE. Transgender stigma and health: a critical review of stigma determinants, mechanisms, and interventions. *Soc Sci Med*. 2015;147:222–231. [PubMed: 26599625]
5. Loeb TA, Murray SM, Cooney EE, et al. Access to healthcare among transgender women living with and without HIV in the United States: associations with gender minority stress and resilience factors. *BMC Public Health*. 2024;24:243. [PubMed: 38245684]
6. Reback CJ, Fletcher JB. HIV prevalence, substance use, and sexual risk behaviors among transgender women recruited through outreach. *AIDS Behav*. 2014;18:1359–1367. [PubMed: 24287786]
7. Zimmerman RS, Benotsch EG, Shoemaker S, et al. Mediation models linking psychosocial context, mental health problems, substance use, and HIV risk behaviors in transgender women. *Health Psychol Behav Med*. 2015;3:379–390.
8. Anderson-Carpenter KD, Fletcher JB, Reback CJ. Associations between methamphetamine use, housing status, and incarceration rates among men who have sex with men and transgender women. *J Drug Issues*. 2017;47:383–395. [PubMed: 28670005]
9. Wilson EC, Garofalo R, Harris RD, et al. Transgender female youth and sex work: HIV risk and a comparison of life factors related to engagement in sex work. *AIDS Behav*. 2009;13:902–913. [PubMed: 19199022]
10. Flentje A, Heck NC, Sorensen JL. Characteristics of transgender individuals entering substance abuse treatment. *Addict Behav*. 2014;39: 969–975. [PubMed: 24561017]
11. Hsiang E, Gyamerah A, Baguso G, et al. Prevalence and correlates of substance use and associations with HIV-related outcomes among trans women in the San Francisco Bay Area. *BMC Infect Dis*. 2022;22:886. [PubMed: 36435761]

12. Hughto JMW, Quinn EK, Dunbar MS, et al. Prevalence and co-occurrence of alcohol, nicotine, and other substance use disorder diagnoses among US transgender and cisgender adults. *JAMA Netw Open*. 2021;4:e2036512. [PubMed: 33538824]
13. Connolly D, Gilchrist G. Prevalence and correlates of substance use among transgender adults: a systematic review. *Addict Behav*. 2020;111: 106544. [PubMed: 32717497]
14. Wilson EC, Santos GM, Raymond HF. Sexual mixing and the risk environment of sexually active transgender women: data from a respondent-driven sampling study of HIV risk among transwomen in San Francisco, 2010. *BMC Infect Dis*. 2014;14:430. [PubMed: 25100405]
15. Herbst JH, Jacobs ED, Finlayson TJ, et al. Estimating HIV prevalence and risk behaviors of transgender persons in the United States: a systematic review. *AIDS Behav*. 2008;12:1–17. [PubMed: 17694429]
16. Degenhardt L, Webb P, Colledge-Frisby S, et al. Epidemiology of injecting drug use, prevalence of injecting-related harm, and exposure to behavioural and environmental risks among people who inject drugs: a systematic review. *Lancet Glob Health*. 2023;11:e659–e672. [PubMed: 36996857]
17. Edwards JW, Fisher DG, Reynolds GL. Male-to-female transgender and transsexual clients of HIV service programs in Los Angeles County, California. *Am J Public Health*. 2007;97:1030–1033. [PubMed: 17463365]
18. Sanchez T, Finlayson T, Murrill C, et al. Risk behaviors and psychosocial stressors in the new york city house ball community: a comparison of men and transgender women who have sex with men. *AIDS Behav*. 2010;14:351–358. [PubMed: 19763812]
19. Nemoto T, Luke D, Mamo L, et al. HIV risk behaviours among male-to-female transgenders in comparison with homosexual or bisexual males and heterosexual females. *AIDS Care*. 1999;11:297–312. [PubMed: 10474629]
20. Meyer IH. Prejudice, social stress, and mental health in lesbian, gay, and bisexual populations: conceptual issues and research evidence. *Psychol Bull*. 2003;129:674–697. [PubMed: 12956539]
21. Kidd SA, Veltman A, Gately C, et al. Lesbian, gay, and transgender persons with severe mental illness: negotiating wellness in the context of multiple sources of stigma. *Am J Psychiatr Rehabil*. 2011;14:13–39.
22. Link BG, Phelan JC. Stigma and its public health implications. *Lancet*. 2006;367:528–529. [PubMed: 16473129]
23. Staples JM, Neilson EC, George WH, et al. A descriptive analysis of alcohol behaviors across gender subgroups within a sample of transgender adults. *Addict Behav*. 2018;76:355–362. [PubMed: 28903090]
24. Wolfe HL, Biello KB, Reisner SL, et al. Transgender-related discrimination and substance use, substance use disorder diagnosis and treatment history among transgender adults. *Drug Alcohol Depend*. 2021;223: 108711. [PubMed: 33866073]
25. Eustaquio PC, Olansky E, Lee K, et al. Social support and the association between certain forms of violence and harassment and suicidal ideation among transgender women—National HIV behavioral surveillance among transgender women, seven Urban areas, United States, 2019–2020. *MMWR Suppl*. 2024;73:61–70. [PubMed: 38261633]
26. Mustanski BS, Garofalo R, Emerson EM. Mental health disorders, psychological distress, and suicidality in a diverse sample of lesbian, gay, bisexual, and transgender youths. *Am J Public Health*. 2010;100:2426–2432. [PubMed: 20966378]
27. Nuttbrock L, Hwahng S, Bockting W, et al. Psychiatric impact of gender-related abuse across the life course of male-to-female transgender persons. *J Sex Res*. 2010;47:12–23. [PubMed: 19568976]
28. Hershov RB, Trujillo L, Olansky E, et al. Structural and psychosocial syndemic conditions and condomless anal intercourse among transgender women—National HIV behavioral surveillance among transgender women, seven Urban areas, United States, 2019–2020. *MMWR Suppl*. 2024;73:21–33. [PubMed: 38261572]
29. Arayasirikul S, Wilson EC, Raymond HF. Examining the effects of transphobic discrimination and race on HIV risk among transwomen in San Francisco. *AIDS Behav*. 2017;21:2628–2633. [PubMed: 28220311]

30. Benotsch EG, Zimmerman RS, Cathers L, et al. Non-medical use of prescription drugs and HIV risk behaviour in transgender women in the mid-Atlantic region of the United States. *Int J STD AIDS*. 2016;27:776–782. [PubMed: 26185044]
31. Scheim AI, Bauer GR, Shokoohi M. Drug use among transgender people in Ontario, Canada: disparities and associations with social exclusion. *Addict Behav*. 2017;72:151–158. [PubMed: 28411424]
32. Brennan J, Kuhns LM, Johnson AK, et al. Syndemic theory and HIV-related risk among young transgender women: the role of multiple, co-occurring health problems and social marginalization. *Am J Public Health*. 2012;102:1751–1757. [PubMed: 22873480]
33. Marcus R, Trujillo L, Olansky E, et al. Transgender women experiencing homelessness - national HIV behavioral surveillance among transgender women, seven Urban areas, United States, 2019–2020. *MMWR Suppl*. 2024;73:40–50. [PubMed: 38261599]
34. Poteat TC, Humes E, Althoff KN, et al. Characterizing arrest and incarceration in a prospective cohort of transgender women. *J Correct Health Care*. 2023;29:60–70. [PubMed: 36037064]
35. Ackerley CG, Poteat T, Kelley CF. Human immunodeficiency virus in transgender persons. *Endocrinol Metab Clin North Am*. 2019;48:453–464. [PubMed: 31027552]
36. Bockting W, MacCrate C, Israel H, et al. Engagement and retention in HIV care for transgender women: perspectives of medical and social service providers in New York City. *AIDS Patient Care STDS*. 2020;34: 16–26. [PubMed: 31846348]
37. Bukowski LA, Chandler CJ, Creasy SL, et al. Characterizing the HIV care continuum and identifying barriers and facilitators to HIV diagnosis and viral suppression among Black transgender women in the United States. *J Acquir Immune Defic Syndr*. 2018;79:413–420. [PubMed: 30080750]
38. Goldenberg T, Kahle EM, Stephenson R. Stigma, resilience, and health care use among transgender and other gender diverse youth in the United States. *Transgend Health*. 2020;5:173–181. [PubMed: 32923667]
39. Sevelius JM, Xavier J, Chakravarty D, et al. Correlates of engagement in HIV care among transgender women of color in the United States of America. *AIDS Behav*. 2021;25(suppl 1):3–12. [PubMed: 34037930]
40. Cochran BN, Cauce AM. Characteristics of lesbian, gay, bisexual, and transgender individuals entering substance abuse treatment. *J Subst Abuse Treat*. 2006;30:135–146. [PubMed: 16490677]
41. Lombardi EL, van Servellen G. Building culturally sensitive substance use prevention and treatment programs for transgendered populations. *J Subst Abuse Treat*. 2000;19:291–296. [PubMed: 11027900]
42. Connolly D, Davies E, Lynskey M, et al. Comparing intentions to reduce substance use and willingness to seek help among transgender and cisgender participants from the Global Drug Survey. *J Subst Abuse Treat*. 2020;112:86–91. [PubMed: 32199550]
43. Eliason MJ. Substance abuse counsellor's attitudes regarding lesbian, gay, bisexual, and transgendered clients. *J Subst Abuse*. 2000;12:311–328. [PubMed: 11452836]
44. Glynn TR, van den Berg JJ. A systematic review of interventions to reduce problematic substance use among transgender individuals: a call to action. *Transgend Health*. 2017;2:45–59. [PubMed: 28861547]
45. Nuttbrock LA. Culturally competent substance abuse treatment with transgender persons. *J Addict Dis*. 2012;31:236–241. [PubMed: 22873185]
46. Heckathorn DD. Respondent-driven sampling: a new approach to the study of hidden populations. *Soc Probl*. 1997;44:174–199.
47. Centers for Disease Control and Prevention. HIV Infection, Risk, Prevention, and Testing Behaviors Among Transgender Women—National HIV Behavioral Surveillance, 7 US Cities, 2019–2020; HIV Surveillance Special Report. Vol 27. 2021. Available at: <https://stacks.cdc.gov/view/cdc/105223>. Accessed December 6, 2023.
48. Kanny D, Lee K, Olansky E, et al. Overview and methodology of the national HIV behavioral surveillance among transgender women—seven Urban areas, United States, 2019–2020. *MMWR Suppl*. 2024;73:1–8.

49. Centers for Disease Control and Prevention. HIV Infection Risk, Prevention, and Testing Behaviors Among Persons Who Inject Drugs —National Behavioral Surveillance: Injection Drug Use, 23 US Cities, 2018. HIV Surveillance Special Report 24. 2020. Available at: <http://www.cdc.gov/hiv/library/reports/hiv-surveillance.html>. Accessed April 11, 2024.
50. The U.S. Department of Health and Human Services. Annual Update of the HHS Poverty Guidelines 2019:1167–1168.
51. Zimet GD, Powell SS, Farley GK, et al. Psychometric characteristics of the multidimensional scale of perceived social support. *J Pers Assess*. 1990;55:610–617. [PubMed: 2280326]
52. Kessler RC, Barker PR, Colpe LJ, et al. Screening for serious mental illness in the general population. *Arch Gen Psychiatry*. 2003;60:184–189. [PubMed: 12578436]
53. Bockting WO, Miner MH, Swinburne Romine RE, et al. Stigma, mental health, and resilience in an online sample of the US transgender population. *Am J Public Health*. 2013;103:943–951. [PubMed: 23488522]
54. Hughto JMW, Reisner SL, Kershaw TS, et al. A multisite, longitudinal study of risk factors for incarceration and impact on mental health and substance use among young transgender women in the USA. *J Public Health (Oxf)*. 2019;41:100–109. [PubMed: 29474682]
55. Jackson A, Hernandez C, Scheer S, et al. Prevalence and correlates of violence experienced by trans women. *J Womens Health (Larchmt)*. 2022;31:648–655. [PubMed: 35576131]
56. Reisner SL, Bailey Z, Sevelius J. Racial/ethnic disparities in history of incarceration, experiences of victimization, and associated health indicators among transgender women in the United States. *Women Health*. 2014;54:750–767. [PubMed: 25190135]
57. Eastwood EA, Nace AJ, Hirshfield S, et al. Young transgender women of color: homelessness, poverty, childhood sexual abuse and implications for HIV care. *AIDS Behav*. 2021;25(suppl 1):96–106. [PubMed: 31865517]
58. Hoffman BR. The interaction of drug use, sex work, and HIV among transgender women. *Subst Use Misuse*. 2014;49:1049–1053. [PubMed: 24779504]
59. Parsons JT, Antebi-Gruszka N, Millar BM, et al. Syndemic conditions, HIV transmission risk behavior, and transactional sex among transgender women. *AIDS Behav*. 2018;22:2056–2067. [PubMed: 29589136]
60. Singer M, Clair S. Syndemics and public health: reconceptualizing disease in bio-social context. *Med Anthropol Q*. 2003;17:423–441. [PubMed: 14716917]
61. Mimiaga MJ, Hughto JM, Biello KB, et al. Longitudinal analysis of syndemic psychosocial problems predicting HIV risk behavior among a multicity prospective cohort of sexually active young transgender women in the United States. *J Acquir Immune Defic Syndr*. 2019;81:184–192. [PubMed: 30839380]
62. Operario D, Nemoto T. HIV in transgender communities: syndemic dynamics and a need for multicomponent interventions. *J Acquir Immune Defic Syndr*. 2010;55(suppl 2):S91–S93. [PubMed: 21406995]
63. Clements-Nolle K, Marx R, Guzman R, et al. HIV prevalence, risk behaviors, health care use, and mental health status of transgender persons: implications for public health intervention. *Am J Public Health*. 2001;91:915–921. [PubMed: 11392934]
64. Baugher AR, Olansky E, Sutter L, et al. Prevalence of discrimination and the association between employment discrimination and health care access and use—national HIV behavioral surveillance among transgender women, seven Urban areas, United States, 2019–2020. *MMWR Suppl*. 2024;73:51–60. [PubMed: 38261571]
65. Price-Feeney M, Green AE, Dorison SH. Impact of bathroom discrimination on mental health among transgender and nonbinary youth. *J Adolesc Health*. 2021;68:1142–1147. [PubMed: 33288457]
66. Reisner SL, Hughto JM, Dunham EE, et al. Legal protections in public accommodations settings: a critical public health issue for transgender and gender-nonconforming people. *Milbank Q*. 2015;93:484–515. [PubMed: 26219197]
67. Agnew ER, McAloney-Kocaman K, Wiseman-Gregg K. Variations in stigma by sexual orientation and substance use: an investigation of double stigma. *J Gay Lesbian Soc Serv*. 2023;35:1–12.

68. Young M, Stuber J, Ahern J, et al. Interpersonal discrimination and the health of illicit drug users. *Am J Drug Alcohol Abuse*. 2005;31:371–391. [PubMed: 16161724]
69. Brener L, Cama E, Broady T, et al. Experiences of stigma and subsequent reduced access to health care among women who inject drugs. *Drug Alcohol Rev*. 2024;43:1071–1079. [PubMed: 38271084]
70. Giroir BP. The time is now to end the HIV epidemic. *Am J Public Health*. 2020;110:22–24. [PubMed: 31725312]
71. Burr CK, Storm DS, Hoyt MJ, et al. Integrating health and prevention services in syringe access programs: a strategy to address unmet needs in a high-risk population. *Public Health Rep*. 2014;129(suppl 1):26–32. [PubMed: 24385646]
72. Carry M, Bixler D, Weng MK, et al. Supporting syringe services programs in the initiation and scale-up of vaccine administration: findings from in-depth interviews. *Harm Reduct J*. 2022;19:100. [PubMed: 36050735]
73. Franz DJ, Cioffi CC. Client characteristics associated with desire for additional services at syringe exchange programs. *J Subst Use*. 2022;27:604–610. [PubMed: 36644655]
74. Haldane V, Cervero-Liceras F, Chuah FL, et al. Integrating HIV and substance use services: a systematic review. *J Int AIDS Soc*. 2017;20:21585. [PubMed: 28692211]
75. Bith-Melander P, Sheoran B, Sheth L, et al. Understanding sociocultural and psychological factors affecting transgender people of color in San Francisco. *J Assoc Nurses AIDS Care*. 2010;21:207–220. [PubMed: 20416495]
76. Rachlin K, Green J, Lombardi E. Utilization of health care among female-to-male transgender individuals in the United States. *J Homosex*. 2008;54:243–258. [PubMed: 18825862]
77. Lyons T, Shannon K, Pierre L, et al. A qualitative study of transgender individuals' experiences in residential addiction treatment settings: stigma and inclusivity. *Subst Abuse Treat Prev Policy*. 2015;10:17–26. [PubMed: 25948286]

TABLE 1.

Select Demographic Characteristics and Social Determinants of Health Among Transgender Women (N = 1561)—NHBS-Trans, 7 US Cities, 2019–2020

Characteristic	n*	Col %*
Race/ethnicity		
American Indian/Alaska native	17	1.1
Asian	30	1.9
Black/African American	548	35.2
Hispanic/Latina [†]	626	40.2
Native Hawaiian/other Pacific Islander	42	2.7
White	176	11.3
Multiple races/other race	119	7.6
Gender identity		
Transgender woman	1003	64.3
Woman	174	11.2
Multiple genders listed	384	24.6
Age group (yr)		
18–29	483	30.9
30–39	447	28.6
40–49	294	18.8
≥50	337	21.6
Education		
Less than high school	336	21.6
High school or equivalent	574	36.8
Some college or more	649	41.6
Currently insured		
No	263	16.9
Yes	1297	83.1
Saw a health care provider, past 12 mo		
No	100	6.4
Yes	1461	93.6
Has any disability		
No	725	46.7
Yes	828	53.3
Poverty level		
Above poverty level	569	36.8
Below poverty level	978	63.2
Food insecurity		
No	646	41.5
Yes	912	58.5
Ever injected drugs		
No	1308	83.9

Characteristic	n*	Col %*
Yes	251	16.1
Injected drugs, past 12 mo		
No	1454	93.3
Yes	104	6.7
Total	1561	100.0

* N's do not include missing values. Percentages may not add up to 100% because of rounding.

† Hispanic/Latina can be of any race.

TABLE 2.

Association Between Injection Drug Use and Select Demographic, Mental Health, Safety, and Discrimination Outcomes Among Transgender Women—
NHBS-Trans, 7 US Cities, 2019–2020

	Total		Injected Drugs, Past 12 mo		Adjusted Models*	
	N†		n‡	Row %	aPR (95% CI)	P
Overall	1558		104	6.7		
Race/ethnicity‡						
Hispanic/Latina§	624		37	5.9	Ref	
Black/African American	547		35	6.4	1.40 (0.94 to 2.08)	0.098
White	176		21	11.9	1.97 (1.34 to 1.40)	<0.001
Gender identity						
Transgender woman	1001		60	6.0	Ref	
Woman	174		12	6.9	1.19 (0.77 to 1.85)	0.431
Multiple genders listed	383		32	8.4	1.29 (0.92 to 1.82)	0.145
Age group (yr)						
18–29	483		27	5.6	Ref	
30–39	446		37	8.3	1.43 (0.74 to 2.74)	0.288
40–49	293		18	6.1	0.95 (0.51 to 1.74)	0.859
≥50	336		22	6.6	0.95 (0.53 to 1.69)	0.851
Education						
Less than high school	335		25	7.5	Ref	
High school or equivalent	573		48	8.4	1.19 (0.67 to 2.12)	0.560
Some college or more	648		31	4.8	0.63 (0.35 to 1.15)	0.134
Currently insured						
No	262		12	4.6	Ref	
Yes	1295		92	7.1	1.56 (0.76 to 3.17)	0.223
Saw a health care provider, past 12 mo						
No	100		5	5.0	Ref	
Yes	1458		99	6.8	1.37 (0.66 to 2.82)	0.397
Poverty level, past 12 mo						
Above poverty level	567		33	5.8	Ref	

	Total		Injected Drugs, Past 12 mo		Adjusted Models*	
	N†	n‡	Row%	aPR (95% CI)	P	
Below poverty level	977	71	7.3	1.25 (0.84 to 1.87)	0.270	
Food insecurity, past 12 mo						
No	646	22	3.4	Ref		
Yes	909	82	9.0	2.45 (1.50 to 4.01)	<0.001	
Has a disability						
No	725	30	4.1	Ref		
Yes	825	73	8.9	1.85 (1.18 to 2.89)	0.007	
Currently homeless						
No	1201	49	4.1	Ref		
Yes	356	55	15.5	3.59 (2.54 to 5.07)	<0.001	
Incarcerated, past 12 mo						
No	1285	62	4.8	Ref		
Yes	270	41	15.2	3.21 (2.32 to 4.44)	<0.001	
Social support						
Low/moderate	848	45	5.3	Ref		
High	706	58	8.2	1.35 (0.84 to 2.15)	0.214	
Noninjection drug use						
No	628	19	3.0	Ref		
Yes	929	85	9.2	3.07 (1.97 to 4.79)	<0.001	
Mental health and safety outcomes						
Psychological distress, past 30 d						
No	1151	66	5.7	Ref		
Yes	403	38	9.4	1.57 (1.06 to 2.32)	0.024	
Verbally abused or harassed, past 12 mo						
No	710	30	4.2	Ref		
Yes	846	74	8.8	1.96 (1.36 to 2.81)	<0.001	
Physical violence (including intimate partner violence), past 12 mo						
No	1045	51	4.9	Ref		
Yes	512	53	10.4	2.04 (1.51 to 2.76)	<0.001	
Forced sex, past 12 mo						

	Total	Injected Drugs, Past 12 mo		Adjusted Models*	
	N [†]	n [†]	Row%	aPR (95% CI)	P
No	1321	73	5.5	Ref	
Yes	233	31	13.3	2.30 (1.62 to 3.29)	<0.001
Received money or drugs for sex, past 12 mo					
No	1024	39	3.8	Ref	
Yes	534	65	12.2	3.23 (2.47 to 4.23)	<0.001
Discrimination because of gender identity or presentation					
Trouble getting a job, past 12 mo					
No	1032	61	5.9	Ref	
Yes	504	42	8.3	1.37 (0.96 to 1.98)	0.085
Denied access to appropriate bathroom, past 12 mo					
No	1203	70	5.8	Ref	
Yes	348	34	9.8	1.68 (1.22 to 2.30)	0.001
Denied housing or evicted, past 12 mo					
No	1333	75	5.6	Ref	
Yes	217	28	12.9	2.16 (1.65 to 2.82)	<0.001
Denied health care, past 12 mo					
No	1377	86	6.3	Ref	
Yes	169	17	10.1	1.49 (0.95 to 2.31)	0.079
Received poorer services, past 12 mo					
No	942	44	4.7	Ref	
Yes	608	59	9.7	2.06 (1.46 to 2.90)	<0.001

* Models adjusted for network size and MSA.

[†] N's do not include missing values.

[‡] The other race/ethnicity categories were too small to report.

[§] Hispanic/Latina can be of any race.

TABLE 3.

Associations Between HIV Prevention and Care Outcomes, HIV Prevalence, and Injection Drug Use Among Transgender Women—NHBS-Trans, 7 US Cities, 2019–2020

	Injected Drugs, p12m			
	No	Yes		
	n (col%) *	n (col %) *	Adjusted Models aPR (95% CI)	P
Self-reported HIV negative (N = 954) [†]				
Had an HIV test, past 12 mo				
No	156 (17.4)	8 (16.0)	NA	NA
Yes	743 (82.7)	42 (84.0)	0.99 (0.86 to 1.17)	0.993
Aware of PrEP				
No	71 (8.3)	3 (6.7)	NA	NA
Yes	784 (91.7)	42 (93.3)	1.00 (0.91 to 1.11)	0.931
Used PrEP, past 12 mo				
No	582 (68.1)	30 (66.7)	NA	NA
Yes	273 (31.9)	15 (33.3)	1.06 (0.72 to 1.55)	0.777
Self-reported HIV positive (N = 606) [†]				
Recent HIV care visit within past 6 mo				
No	47 (8.6)	6 (11.3)	NA	NA
Yes	497 (91.4)	47 (88.7)	0.99 (0.90 to 1.09)	0.867
Currently on ART				
No	37 (6.8)	13 (24.5)	NA	NA
Yes	507 (93.2)	40 (75.5)	0.82 (0.72 to 0.95)	0.007
NHBS test result (HIV prevalence, N = 1561) [‡]				
HIV negative	856 (58.9)	45 (43.3)	NA	NA
HIV positive	587 (41.1)	59 (56.7)	1.46 (1.22 to 1.75)	<0.001

^{*} N's do not include missing values. Percentages may not add up to 100% because of rounding.

[†] Models adjusted for age, race, current health insurance, MSA, and network size. aPRs compare the row outcome by column. The referent group in this table is “no injection drug use, p12m.”

[‡] Models adjusted for age, race, MSA, and network size. aPRs compare the row outcome by column. The referent group in this table is “no injection drug use, p12m.”

p12m, past 12 months; NA, not analyzed.

TABLE 4.

Descriptive Injection-Related Characteristics Among Persons Who Inject Drugs From NHBS-Trans 2019–2020 and NHBS-PWID 2018–7 US Cities

Characteristic	NHBS-Trans 2019–2020		NHBS-PWID 2018	
	n *	Col % *	n *	Col % *
Injected Methamphetamine, past 12 mo				
No	23	22.1	1871	51.6
Yes	81	77.9	1756	48.4
Injected heroin, past 12 mo				
No	67	64.4	365	10.1
Yes	37	35.6	3262	89.9
Drug most injected, past 12 mo				
Speedball	3	2.9	219	6.1
Heroin	29	27.9	1832	50.7
Methamphetamine	70	67.3	332	9.2
Oxycontin or painkillers	2	1.9	12	0.3
Other drug(s) [†]	NA	NA	1220	33.7
Frequency of injection, past 12 mo				
At least once a day	48	47.4	3184	87.9
More than once a week	19	18.8	258	7.1
Once a week or less	34	33.7	179	4.9
Noninjection drug use, past 12 mo				
No	19	18.3	608	16.8
Yes	85	81.7	3019	83.2
Noninjection methamphetamine use, past 12 mo				
No	33	31.7	1901	52.5
Yes	71	68.3	1721	47.5
Shared syringes (receptive), past 12 mo				
No	64	72.7	2551	70.4
Yes	24	27.3	1074	29.6
Always sterile syringe use, past 12 mo				
No	40	38.5	2288	63.1
Yes	64	61.5	1339	36.9
Accessed syringe services programs, past 12 mo				
No	34	34.0	782	22.6
Yes	66	66.0	2686	77.5
Accessed drug treatment, past 12 mo				
No	58	57.0	2045	56.4
Yes	46	43.0	1580	43.6
NHBS HIV test result				
Negative	45	43.3	235	93.5
Positive	59	56.7	3372	6.5

Characteristic	NHBS-Trans 2019–2020		NHBS-PWID 2018	
	n *	Col % *	n *	Col % *
Total	104	100.0	3627	100.0

* N's do not include missing values. Percentages may not add up to 100% because of rounding.

[†] NHBS-Trans transgender women who inject did not report any other most injected drugs. Other drugs reported by NHBS-PWID persons who inject included cocaine, crack, multiple drugs, or other drugs not specified.

NA, not applicable.