Received: 29 October 2018 | Revised: 27 January 2019 | Accepted: 4 February 2019

DOI: 10.1111/jvh.13089

SHORT COMMUNICATION

WILEY JOURNAL OF VIRAL HEPATITIS JVH

Hepatitis C seroprevalence and engagement in related care and treatment among trans women

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Funding information
Funds for this analysis were provided by the National Institute of Minority Health and Health Disparities (NIMHD) grant # R01MD010678.

KEYWORDS
hepatitis C virus, seroepidemiologic studies, transgender persons

1 | INTRODUCTION

Effective treatment of hepatitis C virus (HCV) offers opportunities to reduce the burden of disease, onward transmission and incidence at a population level.[1] In this context, the San Francisco Department of Public Health has declared getting to zero HCV infections through screening and treatment of populations at risk for HCV as a city priority.[2]

However, the epidemiology of HCV presents a major challenge to getting to zero HCV infections. Populations most severely affected by HCV include those who are stigmatized, marginalized and not adequately reached by screening and treatment programs. These include people who inject drugs, people in correctional facilities, homeless individuals and men who have sex with men.[1-4] Data on HCV prevalence in another potentially severely affected population, trans women, are limited.

Trans women have documented risks for HCV, including multiple sex partners, sex work, drug use, incarceration and homelessness.[3,4] However, few studies document HCV prevalence in the population as a whole and existing data paint an uncertain picture. For example, one clinic-based study found 1.4% prevalence of HCV among 180 transgender youth.[5] On the other hand, a large survey of transgender veterans found HCV prevalence at 7.5%.[6] To our knowledge, few data exist on HCV prevalence among trans women outside of clinical care.

We included HCV antibody testing and questions on access to HCV-specific care among trans women in the most recent wave of a series of cross-sectional surveys to track HIV in this population.[7,8] The objective was to provide baseline data on prevalence of infection and reach of services as the city scales up its programs to eliminate HCV.

2 | METHODS

2.1 | Sampling, recruitment and procedures

Data originate from a cross-sectional survey among trans women conducted in San Francisco from June 2016 to March 2017. The methods are identical to two previous surveys conducted in 2010 and 2013[7,8] with the addition of HCV antibody testing in the current wave. In brief, respondent-driven sampling (RDS) was used to obtain a diverse, community-based sample of trans women. Fifteen trans women, diverse with respect to demographic characteristics, were enlisted to recruit their peers. These initial 15 "seeds" were instructed to refer other eligible trans women, namely 18 years of age or older, resident of San Francisco, and identifying as a transwoman (ie, as a woman or gender other than male as assigned at birth). Eligible recruits gave written informed consent, completed an interviewer-administered questionnaire, provided blood specimens for HCV and HIV antibody testing, and in turn were instructed to refer up to 10 other trans women to the study. Participants

Abbreviations: HCV, hepatitis C virus; RDS, respondent-driven sampling.

received $65.00 for completing the study and $20.00 for each recruit. Recruitment continued until the sample size (N = 300) was met and the composition of the sample stabilized with respect to demographic characteristics. The Internal Review Board of the University of California, San Francisco approved the protocol (CHR#15-17775).

2.2 | Measurements

Hepatitis C virus antibodies were detected using Oraquick® HCV Rapid Antibody Test. No other tests were conducted to confirm seropositivity or determine viral load. HIV screening was done using INSTI® HIV-1/HIV-2 Rapid Antibody Test. For those who self-reported being HIV positive and were positive on the rapid, no second test was performed. For those testing positive on the rapid test who did not have a history of a prior HIV-positive test, a second Determine™ HIV-1/2 Ag/AB Rapid Test was used to confirm.

The interviewer-administered questionnaire included demographic characteristics, incarceration history, substance use by drug type and mode of use, and indicators of HCV care access and use.

2.3 | Statistical analyses

Descriptive statistics (ie, proportions) were used to summarize demographic and HCV risk-related variables, including HCV seroprevalence (ie, antibody positivity). The chi-square test was used to test differences in HCV seroprevalence by demographic and risk subgroups, using $P < 0.05$ as the level for significance. HCV care indicators are presented as proportions in the total sample and in relevant sub-populations.

3 | RESULTS

Among 315 trans women surveyed, the median age was 44 years. Participants were racially/ethnically diverse, with 37.1% Latina, 20.3% African American, 19.1% White, and 23.5% other or multiple ethnicities. Two-thirds (66.7%) were currently unstably housed and more than three-fourths (77.5%) had ever been incarcerated. History of substance use was common: 63.8% has used intranasal drugs, 61.9% had smoked crack or methamphetamine, and 36.2% had ever injected drugs. HIV prevalence was 39.1%. The median number of sexual partners was 2, and 49.8% had more than one sexual partner. A little more than half (53.7%) had any anal intercourse in the past 6 months, and 14% had condomless anal intercourse. About one-third (34.9%) used alcohol before sex, 28.9% used methamphetamine before sex and 9.2% used crack before sex. Almost three quarters (74.3%) ever did sex work, while 18.7% did sex work in the last month. Self-report of having a sexually transmitted infection was low at 9.8%.

Hepatitis C virus seroprevalence was 23.8%. HCV seropositivity was significantly higher among trans women who had ever injected drugs (48.2% vs 9.9%), had smoked crack or methamphetamine (30.8% vs 12.5%), had used intranasal drugs (28.4% vs 15.8%), and had been incarcerated (27.9% vs 9.9%). HCV seroprevalence did not differ by HIV-positive vs HIV-negative serostatus (23.6% vs 24.0%).

Figure 1 shows indicators of engagement in HCV care. Overall, 79.4% of trans women had previously tested for HCV. Of those currently HCV seropositive, 80.7% reported being previously diagnosed with HCV (19.2% in the overall sample). Viral load testing was reported by 83.3% of those previously diagnosed, with 90.6% of those reporting a positive result. HCV treatment was reported by 77.9% of those with a positive result, of whom 33.6% were told they cleared the virus following completion of treatment. Four (5.3% of all HCV-seropositive trans women) reported being told they cleared the virus without treatment.

4 | DISCUSSION

Our study documents the prevalence of HCV antibody seropositivity in a community-recruited sample of trans women ninefold higher

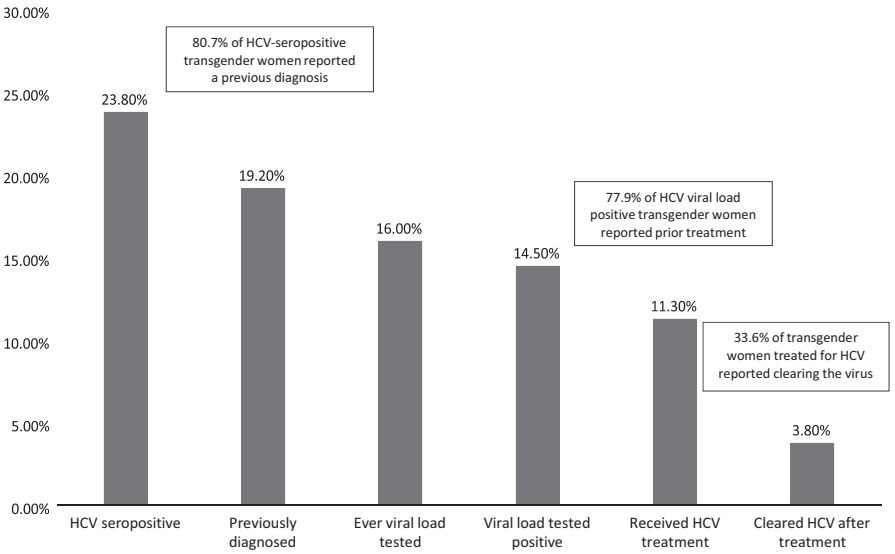

FIGURE 1 Hepatitis C virus (HCV) seroprevalence and engagement in HCV care, trans women, San Francisco, 2016-2017 (N = 315)

that of the San Francisco general population.[2] Injection, smoking and intranasal use of drugs were strong correlates of seropositivity and were common in the population. Incarceration was also a risk factor for HCV seropositivity. Provision of trans-friendly harm reduction services, such as syringe exchange, increased access to drug treatment, education on intranasal transmission and avoiding jail sentencing for drug possession may reduce HCV incidence among trans women in San Francisco.

We also found encouraging indicators of engagement in HCV care. HCV testing rates in our sample of trans women, nearly four out of five, were higher than other groups at risk, such as persons born in the baby boomer years.[1,2] Moreover, four out of five seropositive participants reported previously testing positive for HCV, most of whom also reported receiving treatment for HCV. However, only one-third recalled being told they had cleared the virus. These findings suggest a high level of initial engagement in HCV screening and care, but potentially low follow-up with test of cure.

We recognize multiple limitations to our survey. A primary limitation was the lack of resources to perform HCV viral load testing for current infection, sustained suppression or reinfection. The cross-sectional design limits establishing the temporal sequence of events surrounding infection, treatment and test results. Lastly, we cannot prove our sample is representative of all trans women in San Francisco. Nonetheless, the RDS design achieved a diverse sample of this hard-to-reach population and included persons not necessarily accessing clinics or included in outreach efforts.

Despite limitations, this study provides robust data on HCV prevalence in a large community-based survey of trans women. HCV correlates and indicators of screening and treatment give direction to efforts to eliminate infection from this marginalized, disproportionately affected population. The RDS methodology to sample trans women may also provide a means to provide screening and treatment through peer referral to those who are not reached by conventional programs and outreach efforts.

CONFLICTS OF INTERESTS

All authors declare they have no conflicts of interests.

AUTHOR CONTRIBUTIONS

EC Wilson: securing funds for parent study, study design and concept, oversight of data collection, first draft of manuscript, review of final manuscript, submission and revision. C Turner: primary analysis, data management, drafting of parts of the manuscript and overall review. J Lin: overall study coordination, oversight of data collection, interpretation of results, drafting of parts of manuscript and overall review. W McFarland: analysis and interpretation of data, final draft of manuscript. K Burk: securing of funding for HCV testing, coordination of care referrals, design of HCV-related questions, drafting of parts of manuscript and overall review. HF Raymond: design and securing funds for parent study, oversight of data collection, drafting of parts of manuscript and overall review.

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How to cite this article: Wilson EC, Turner C, Lin J, McFarland W, Burk K, Raymond HF. Hepatitis C seroprevalence and engagement in related care and treatment among trans women. *J Viral Hepat*. 2019;00:1–3. https://doi.org/10.1111/jvh.13089