

# HIV Prevention Needs Among Street-Based Male Sex Workers in Providence, Rhode Island

Stewart Landers, JD, MCP, Elizabeth F. Closson, MSc, Catherine E. Oldenburg, MPH, Richard Holcomb, Shannon Spurlock, MS, and Matthew J. Mimiaga, ScD, MPH

We examined data derived from a needs assessment of the personal and social characteristics and HIV risk behavior of street-based male sex workers, in Providence, Rhode Island, who engage in transactional sexual intercourse with other men. Substance use, injected drugs, needle sharing, and psychosocial distress were highly prevalent among the sample. History of physical, sexual, and emotional abuse was associated with increased risk of condomless anal sexual intercourse with paying male clients. (*Am J Public Health*. 2014;104:e100–e102. doi:10.2105/AJPH.2014.302188)

In the United States, studies show that male sex workers (MSWs) engage in sexual and drug-using risk behaviors that put themselves and their partners at risk for HIV acquisition. Male sex workers have a significantly higher HIV prevalence (7.3% vs 1.1%) and incidence (4.7% vs 0.9%) than do men who have sex with men but who do not engage in transactional sexual intercourse.<sup>1–6</sup> Street-based MSWs have been shown to have the highest rates of HIV risk behavior both with clients and nontransactional partners.<sup>5,7</sup> Several psychosocial factors, including sexual abuse, homelessness, and substance use (particularly injecting), are known to heighten sexual risk behavior among street-based MSWs.<sup>8–13</sup>

Given the clandestine nature of sex work, there are limited surveillance data on MSWs in the United States. Project Weber (<http://www.projectweber.org>), a nonprofit health service organization serving MSWs in Providence, Rhode

Island, estimates that there are between 300 and 500 street-based MSWs in the city. Collected by Project Weber as part of a needs assessment of street-based MSWs in Providence, the data reported here detail the personal and social characteristics and HIV risk behavior among this group.

## METHODS

In 2010, trained peer outreach workers from Project Weber recruited 50 MSWs on the streets and around bathhouses and adult bookstores in Providence for a 1-time anonymous assessment for planning future prevention services. The outreach workers screened the participants in a private space. All were born male and reported exchanging sexual intercourse with other men for money, goods, drugs, or a place to stay. Participants provided verbal consent before data collection commenced. Participants received a \$20 incentive and supported referrals for health and social services.

The assessment included questions on demographics; sex work experience; infection and testing history for HIV, hepatitis C, and sexually transmitted infections (STIs); and preferences for HIV prevention interventions. Abuse history, substance use, and sexual risk behaviors were also assessed by questions adapted from earlier studies of MSWs.<sup>2–5</sup>

We calculated proportions for dichotomous and categorical variables and means and standard deviations for continuous variables. We used multivariable logistic regression models adjusted for age and race/ethnicity (defined as White or non-White because of the small sample size) to assess (1) the association between engaging in condomless sexual activity with clients, and (2) injection drug use in the past month, with psychosocial factors including sexual, physical, and emotional abuse; current homelessness; past diagnosis of depression; and HIV testing history. We used Stata version 12.0 (StataCorp, College Station, TX) for all analyses and we considered an  $\alpha$  level of 0.05 significant.

## RESULTS

Table 1 presents the distribution of descriptive characteristics of the sample. The majority

(70%) had been working in sex work for 3 or more years. Nearly half of participants reported exchanging sexual intercourse for money at least 25 times per week, and 26% engaged in condomless anal sex with clients. Twenty percent had been arrested for sex work at least once.

More than one third (37%) of participants reported that someone they depended on had physically, sexually, or emotionally abused them. Substance use was high: 94% had used drugs, 39% had injected drugs, and 19% had shared needles. Seventy-four percent of the sample reported diagnosis with a mental illness, and 42% had been diagnosed with depression.

Physical, sexual, or emotional abuse was associated with increased odds of condomless anal sexual intercourse with clients (adjusted odds ratio [AOR] = 8.77; 95% confidence interval [CI] = 1.83, 42.1;  $P = .007$ ). There was a trend toward an association between not being tested for HIV in the past year and condomless anal sexual intercourse with clients (AOR = 3.95; 95% CI = 0.95, 16.4;  $P = .06$ ). Those who injected drugs in the past month were more likely to have hepatitis C (AOR = 40.7; 95% CI = 3.91, 424.2;  $P = .002$ ) and to have experienced homelessness within the past month (AOR = 5.50; 95% CI = 1.03, 29.4;  $P = .046$ ).

## DISCUSSION

The street-based MSWs in this sample are a subpopulation of men who have sex with men whose sexual and drug-using behaviors make them particularly susceptible to HIV infection. We examined the personal and social characteristics and HIV risk behaviors of street-based MSWs in Providence to plan future prevention services. More than a quarter of MSWs in our sample reported condomless sexual activity with clients. Most MSWs reported at least 3 years of sex work, and nearly half exchanged sexual intercourse more than 25 times per week. Longer and more frequent engagement in sex work may elevate HIV infection and STI risk because of increased transmission opportunities.<sup>14,15</sup>

There was a high prevalence of individual and social factors that are predictive of HIV risk among vulnerable populations, including abuse, mental health problems, substance

**TABLE 1—Descriptive Characteristics of Street-Based Male Sex Workers (n = 50): Providence, Rhode Island, 2010**

Characteristic	No. (%) or Mean $\pm$ SD
Age, y	30.8 $\pm$ 9.1
Race/ethnicity	
White	31 (62.0)
Black/African American	11 (22.0)
Latino/Hispanic	5 (10.0)
Multiracial	2 (4.0)
Native American/Alaska Native	1 (2.0)
Sexual orientation	
Straight	28 (56.0)
Gay	8 (16.0)
Bisexual	11 (22.0)
Other	3 (6.0)
Sexual risk in the context of sex work	
Any condomless anal or vaginal sexual intercourse with clients	13 (26.0)
Any condomless oral sexual intercourse with clients	45 (90.0)
How many times/wk exchanged sexual intercourse (n = 49)	
< 5	12 (24.5)
6-25	13 (26.5)
25-50	16 (32.7)
$\geq$ 50	8 (16.3)
Length of time in sex work	
< 6 mo	3 (6.0)
6 mo to 1 y	4 (8.0)
1-2 y	8 (16.0)
$\geq$ 3 y	35 (70.0)
Ever arrested for sex work	10 (20.0)
Income from a job other than sex work	18 (36.0)
Sex work disclosure to main partner (n = 32)	
Yes	13 (40.6)
No	18 (56.3)
Unsure	1 (3.1)
Self-reported HIV-infected	3 (6.4)
Ever been tested for HIV	48 (96.0)
Location tested for HIV	
Hospital or emergency department	15 (30.6)
AIDS service or community organization	12 (24.5)
Correctional facility	11 (22.5)
Health center or clinic	6 (12.2)
Substance use treatment	2 (4.1)
Time since most recent HIV test (n = 49)	
< 6 mo ago	25 (51.0)
6 mo to 1 y ago	10 (20.4)
> 1 y	14 (28.6)
Self-reported hepatitis C infection	11 (22.0)

Continued

use, homelessness, and incarceration. Independently, these conditions are known to elevate HIV risk and may also synergistically interact to negatively affect the health and behavioral profile of men who engage in sex work. Consistent with studies of high-risk men who have sex with men, a history of abuse was associated with condomless sexual intercourse.<sup>7,16,17</sup> The MSWs who have experienced abuse may have difficulty negotiating condom use because of fear of retribution from current partners and long-term mental health sequelae of past abuse.<sup>18-20</sup> Interventions are needed to treat the underlying mental health and substance use problems of MSWs so that they are better able to negotiate sexual safety in the sex work environment.

Evaluations of peer-led HIV prevention interventions with street-based MSWs in New York City and London, England, have highlighted some of the distinct challenges with this delivery method.<sup>21,22</sup> In our sample, nearly 70% of participants were amenable to participation in a future HIV prevention intervention and said that they would like the content to be delivered by a peer educator. Despite the limitations of the peer-based model, there is a need to develop innovative and effective HIV prevention programming platforms for trained peer-educators that move beyond HIV prevention education alone.

The results of this study must be considered within the context of limitations. The sample size was small, and therefore underpowered to detect associations of moderate size. This study relied on self-report, which could introduce social desirability bias influencing responses to sensitive questions such as sexual behaviors and drug use.

Few organizations in the United States provide services designed to meet the unique needs of this high-risk and difficult-to-reach population. In light of the implementation and retention difficulties that previous HIV prevention interventions for MSWs have encountered,<sup>21,22</sup> the present study is an essential first step in planning for HIV prevention services that will effectively address the concerns and real-life experiences of this population. ■

#### About the Authors

Stewart Landers and Shannon Spurlock are with John Snow Inc, Boston, MA. Elizabeth F. Closson is with The Fenway Institute, Fenway Community Health, Boston. Catherine E. Oldenburg is with the Department of Epidemiology, Harvard School of Public Health, Boston. Richard

TABLE 1—Continued

STI diagnosis in the past year (other than HIV or hepatitis C)	
Yes	10 (20.0)
No	35 (70.0)
Unsure	5 (10.0)
Psychosocial factors	
Ever experienced physical, sexual, or emotional abuse	18 (36.7)
Homeless in the past month	31 (62.0)
Currently homeless	29 (58.0)
Ever diagnosed with a mental illness	37 (74.0)
Ever diagnosed with depression	21 (42.0)
Drug use	
Ever used drugs of any kind	47 (94.0)
Used drugs in the past month	39 (79.6)
Ever injected drugs (n = 49)	19 (38.9)
Injected drugs in past month (n = 48)	12 (25.0)
Ever shared needles (n = 48)	9 (18.8)
Do you want to stop using drugs? (n = 47)	
Yes	33 (70.2)
No	10 (21.3)
Unsure	4 (8.51)
Ever been in drug treatment program (n = 48)	27 (56.3)
HIV prevention	
Received HIV information in past year	40 (80.0)
Need more risk reduction information	10 (20.0)
Willingness to be in an HIV prevention program	28 (57.1)
Willingness to learn from peer educator	34 (69.4)

Note. STI = sexually transmitted infection.

Holcomb is with Project Weber, Providence, RI. Matthew J. Mimiaga is with John Snow Inc, and Department of Psychiatry, Harvard Medical School/Massachusetts General Hospital, Boston.

Correspondence should be sent to Stewart Landers, John Snow Inc, 44 Farnsworth St, Boston, MA 02210 (e-mail: landers@jsi.com). Reprints can be ordered at <http://www.ajph.org> by clicking the "Reprints" link.

This article was accepted July 6, 2014.

### Contributors

S. Landers helped conceptualize the article, reviewed data, and wrote parts of and reviewed drafts of the article. E. F. Closson conducted data analysis, drafted parts of the article, and reviewed the entire article. C. E. Oldenburg helped develop the survey instrument, conducted data analysis, and drafted parts of the article. R. Holcomb conducted data collection and reviewed drafts of the article. S. Spurlock developed the survey instrument, trained data collectors, and reviewed drafts of the article. M. J. Mimiaga conceptualized the article, and wrote parts of and reviewed drafts of the article.

### Acknowledgments

Thank you to the peer staff at Project Weber for their work collecting their data and working with street-based male sex workers in Providence, Rhode Island.

### Human Participant Protection

The institutional review board at John Snow Inc. analyzed these data and determined them to be exempt from review because of the lack of any personal identifiers.

### References

- Allen JP, Litten RZ, Fertig JB, Babor T. A review of research on the Alcohol Use Disorders Identification Test (AUDIT). *Alcohol Clin Exp Res*. 1997;21(4):613–619.
- Weber AE, Craib KJ, Chan K, et al. Sex trade involvement and rates of human immunodeficiency virus positivity among young gay and bisexual men. *Int J Epidemiol*. 2001;30(6):1449–1454.
- Bacon O, Lum P, Hahn J, et al. Commercial sex work and risk of HIV infection among young drug-injecting men who have sex with men in San Francisco. *Sex Transm Dis*. 2006;33(4):228–234.
- Timpson SC, Ross MW, Williams ML, Atkinson J. Characteristics, drug use, and sex partners of a sample of male sex workers. *Am J Drug Alcohol Abuse*. 2007;33(1):63–69.
- Rietmeijer CA, Wolitski RJ, Fishbein M, Corby NH, Cohn DL. Sex hustling, injection drug use, and non-gay identification by men who have sex with men: associations with high-risk sexual behaviors and condom use. *Sex Transm Dis*. 1998;25(7):353–360.
- Robertson MJ, Clark RA, Charlebois ED, et al. HIV seroprevalence among homeless and marginally housed adults in San Francisco. *Am J Public Health*. 2004;94(7):1207–1217.
- Mimiaga MJ, Noonan E, Donnell D, et al. Childhood sexual abuse is highly associated with HIV risk-taking behavior and infection among MSM in the EXPLORE study. *J Acquir Immune Defic Syndr*. 2009;51(3):340–348.
- Newman PA, Rhodes F, Weiss RE. Correlates of sex trading among drug-using men who have sex with men. *Am J Public Health*. 2004;94(11):1998–2003.
- Koken JA, Parsons JT, Severino J, Bimbi DS. Exploring commercial sex encounters in an urban community sample of gay and bisexual men: a preliminary report. *J Psychol Human Sex*. 2005;17(1-2):197–213.
- Lankenau SE, Clatts MC, Welle D, Goldsamt LA, Gwadz MV. Street careers: homelessness, drug use, and sex work among young men who have sex with men (YMSM). *Int J Drug Policy*. 2005;16(1):10–18.
- Morse E, Simon P, Baus S, Balson P, Osofsky H. Cofactors of substance use among male street prostitutes. *J Drug Issues*. 1992;22:977–994.
- Morse EV, Simon PM, Osofsky HJ, Balson PM, Gaumer HR. The male street prostitute: a vector for transmission of HIV infection into the heterosexual world. *Soc Sci Med*. 1991;32(5):535–539.
- Washington TA, Brocato J. Exploring the perspectives of substance abusing Black men who have sex with men and women in addiction treatment programs: a need for a human sexuality educational model for addiction professionals. *Am J Mens Health*. 2011;5(5):402–412.
- Wang H, Chen RY, Ding G, et al. Prevalence and predictors of HIV infection among female sex workers in Kaiyuan City, Yunnan Province, China. *Int J Infect Dis*. 2009;13(2):162–169.
- Ruan Y, Cao X, Qian H-Z, et al. Syphilis among female sex workers in southwestern China: potential for HIV transmission. *Sex Transm Dis*. 2006;33(12):719–723.
- Arreola S, Neilands T, Pollack L, Paul J, Catania J. Childhood sexual experiences and adult health sequelae among gay and bisexual men: defining childhood sexual abuse. *J Sex Res*. 2008;45(3):246–252.
- Houston E, McKirnan DJ. Intimate partner abuse among gay and bisexual men: risk correlates and health outcomes. *J Urban Health*. 2007;84(5):681–690.
- El-Bassel N, Witte SS, Wada T, Gilbert L, Wallace J. Correlates of partner violence among female street-based sex workers: substance abuse, history of childhood abuse, and HIV risks. *AIDS Patient Care STDS*. 2001;15(1):41–51.
- Surratt HL, Inciardi JA, Kurtz SP, Kiley MC. Sex work and drug use in a subculture of violence. *Crime Delinq*. 2004;50(1):43–59.
- Shannon K, Strathdee SA, Shoveller J, Rusch M, Kerr T, Tyndall MW. Structural and environmental barriers to condom use negotiation with clients among female sex workers: implications for HIV-prevention strategies and policy. *Am J Public Health*. 2009;99(4):659–665.
- Miller RL, Klotz D, Eckholdt HM. HIV prevention with male prostitutes and patrons of hustler bars: replication of an HIV preventive intervention. *Am J Community Psychol*. 1998;26(1):97–131.
- Ziersch A, Gaffney J, Tomlinson D. STI prevention and the male sex industry in London: evaluating a pilot peer education programme. *Sex Transm Infect*. 2000;76(6):447–453.