Published in final edited form as:
Int J STD AIDS. 2014 April ; 25(5): 325–331. doi:10.1177/0956462413507443.

Bringing testing to the people - benefits of mobile unit HIV/syphilis testing in Lima, Peru, 2007–2009

MC Lipsitz[1], **ER Segura**[1], **JL Castro**[2], **E Smith**[2], **C Medrano**[2], **JL Clark**[1], **JE Lake**[1], and **R Cabello**[2]

[1]UCLA Geffen School of Medicine, Department of Medicine, Division of Infectious Diseases; South American Program in HIV Prevention Research (SAPHIR)

[2]Asociacion Civil Via Libre

Introduction

Early HIV testing and treatment initiation are widely accepted ways to decrease morbidity and mortality and reduce HIV transmission. Such strategies traditionally include public HIV/sexually transmitted infection (STI) clinics that offer voluntary counseling, testing, and referral services.[1] While these clinics are effective in testing and treating those with access to care, they may miss potentially at-risk populations such as men who have sex with men (MSM), transgender women (TW), and those who have never before been tested for HIV.[2, 3] In order to reach those most at risk, innovative voluntary counseling, testing, and referral services techniques are needed.

Mobile units offering HIV/STI testing services have proven to be an effective outreach tool to at-risk groups around the world.[4–8] HIV testing barriers such as stigma have been reduced, and HIV testing has been shown to increase four-fold when voluntary counseling, testing, and referral services are provided in a non-traditional setting, according to one recent multi-national study in sub-Saharan Africa and Thailand.[7,8] In Guatemala, mobile unit (MU) participants were significantly less likely to have had a prior HIV test than those seen at traditional clinics.[5] MUs in the USA have been shown to reach high-prevalence groups of MSM, injection drug users (IDU), and persons engaging in transactional sex.[6,9,10] Additionally, acceptability of MU testing is high, with one study in Louisiana, USA reporting 97% of respondents viewing neighborhood screening as “good” or “very good.”[4]

In Latin America, however, there is a dearth of information on MU testing initiatives and their effectiveness in reaching high-risk populations, determining HIV/STI prevalence, HIV testing patterns, and related risk behaviors among MU users. With the HIV epidemic in Peru relatively stable and concentrated in MSM and TW with a prevalence greater than 10% over the past decade,[11,12,13] creative efforts such as MU testing programs need to be evaluated

Corresponding Author: Mindy Lipsitz, South American Program in HIV Prevention Research (SAPHIR), Department of Medicine, Division of Infectious Diseases, UCLA Geffen School of Medicine, 10833 Leconte Avenue, CHS 37-121, Los Angeles, CA 90095, (310) 601-7798, mcladybug@gmail.com.

Declaration of Conflicting Interests
Authors ML, ES, JLC, CM, ES, JLC, JEL, and RC declare that there is no conflict of interest.

for implementation in order to test, treat, and link to care high-prevalence groups, in which the majority have never been previously tested.[14,15] One large online study in 2008 in Peru enrolled 1301 MSM and found that almost half (49%) of participants had never been tested for HIV. The most common reason for not testing among high-risk MSM (participants reporting unprotected intercourse with their last sexual partner) in this online study was not knowing where to get tested.[16] MU may be able to extend the reach of traditional testing centers and provide care to those who do not use services in traditional clinic settings,[6] thus increasing the number of HIV cases detected that would likely not otherwise be found.

Our study aimed to evaluate demographic and behavioral characteristics and HIV and syphilis prevalence and associated factors of a non-profit HIV/STI testing MU in Lima, Peru to determine whether mobile testing could provide an effective complement to traditional, clinic-based testing services.

Methods

Study setting and participant selection

From October 2007 to November 2009, Vía Libre (www.vialibre.org.pe), a community-based Peruvian non-profit organization that provides HIV/STI voluntary counseling, testing, and referral services in downtown Lima, implemented the SOMOS project ("Servicios Optimos Para Mejorar las Oportunidades en Salud" or "Optimizing Services to Improve Health Opportunities") in collaboration with the European Commission, HIVOS (Humanist Institute for Development Cooperation, The Netherlands) and the Peruvian Ministry of Health (MoH). This multi-level community outreach program aimed to control HIV/STI transmission among high-prevalence groups of MSM and TW in metropolitan Lima, the area of Peru with the highest HIV prevalence.[17,18] As part of the SOMOS project, two community-based MUs offering HIV and syphilis voluntary counseling, testing, and referral services were utilized to target at-risk vulnerable populations in the municipalities of metropolitan Lima and Ica. Two research workers who explained the study, consented participants, and cataloged and stored serum samples, one community health promoter who stood outside the van and encouraged testing and answered questions, and one HIV testing counselor who took serum samples staffed the mobile clinic. The van included two consult rooms equipped for rapid HIV and syphilis testing and the provision of voluntary counseling, testing, and referral services.

Site selection for outreach visits was based on formative work completed prior to project implementation and included sites such as saunas and clubs frequented almost exclusively by MSM/TW as well as public areas of high foot traffic, such as main plazas.[18] Site selection was based on volume of visitors, accommodation for MU services, and business-owner consent. Screenings were scheduled for 4–6 hour blocks during hours of highest foot traffic, for example from 9 p.m. to 2 a.m. when outside of bars or clubs. Outreach visits were programmed according to a rotating schedule, returning to each site every 4 weeks. Testing services were provided to all interested persons regardless of risk profile. Flyers, banners, pamphlets, newspaper ads, and web-based promotional tools, such as video and radio advertisements on the SOMOS project website and websites frequented by MSM/TW in Peru, such as www.gayperu.com and www.peruesgay.com, were used to publicize outreach

efforts beginning approximately 1 month before the project. To minimize potential stigma associated with HIV testing, services were advertised as “routine health screenings” available to all visitors without restrictions. Participants could choose to be tested for HIV, syphilis, or both. Consistent with Peruvian MoH regulations, all participants provided written consent for HIV testing. Oral consent was obtained for syphilis testing. Implementation of the SOMOS project took tremendous collaboration between Vía Libre, its testing and laboratory staff, and the Peruvian Ministry of Health. Determining logistics of the mobile van (who was needed on board, where to go, how to advertise, how to get blood samples to the lab in sufficient amount of time) were details worked out over the course of several months by Vía Libre staff.

Information was also collected from visitors to the Vía Libre STI clinic in Lima, Peru. Vía Libre is an established non-governmental organization providing community-based HIV testing, treatment, and prevention services in downtown Lima. For our analyses, inclusion was restricted to genetically-born male participants at least 18 years of age at their first visit to either Vía Libre (the fixed clinic, FC) or the MU in any of the sites visited in metropolitan Lima. Data collected from subsequent visits and from MU participants in Ica, Callao, and Lima’s outer provinces were excluded from analysis.

All data were collected by Vía Libre personnel as part of the SOMOS project, a community public health outreach program sanctioned by the Peruvian MoH, and not a research study. Data used in this analysis were de-linked from any unique patient identifiers with no code or code key available to link the data, directly or indirectly, to specific individuals. Accordingly, the study was considered exempt from institutional review board oversight.

Testing Procedures

Following informed consent, pre-test counseling was given and finger-prick blood was collected to test for HIV and/or syphilis. HIV rapid test results were delivered within 20 minutes and post-test counseling was performed. Referral to follow-up testing or treatment resources for both HIV and syphilis was provided when appropriate.

Screening for syphilis was performed using the Determine Syphilis rapid test (Inverness Medical Laboratories, Yavne, Israel). Consistent with Peruvian MoH guidelines, participants with a reactive syphilis rapid test received a quantitative RPR test for confirmation (BioSystems, Barcelona, Spain), with titers >1:8 considered positive.

Following informed consent and pre-test counseling, HIV screening was conducted using the Determine HIV-1/2 rapid test (Inverness Medical, Yavne, Israel), and participants received their results within 20 minutes. Participants who were positive on rapid testing were notified of their result, provided with post-test counseling, and asked to return to the Vía Libre clinic site the following day to receive a confirmatory ELISA test (Vironostika, bioMérieux, l'Étoile, France or Genscreen Plus, Biorad, CA, USA). In accordance with national protocol, if ELISA positive, a second ELISA test was performed from the same sample. If this second ELISA was positive, confirmatory testing using HIV immunofluorescence (IFA) antibody testing (Instítuto Naciónal de Salud, house assay) was performed.

Treatment and Follow-Up

The Peruvian MoH standard of care for HIV/STI screening and treatment was followed. Persons testing positive for syphilis with titers above 1:8 were given a follow up appointment at the Vía Libre clinic site and treated with the standard antibiotic regimen of three weekly intramuscular injections of 2.4 million units of benzathine penicillin G, as recommended by the United States Centers for Disease Control and Prevention.[19] Participants with titers less than or equal to 1:8 were clinically evaluated and treated at the Vía Libre clinic site with the same antibiotic regimen detailed above if deemed clinically appropriate by medical staff. Persons testing positive for syphilis who were not given a follow-up appointment at the time of testing were immediately contacted by telephone and referred to the Vía Libre clinic site for diagnosis, consultation, and treatment.

Participants with confirmed HIV infection were referred to designated MoH treatment facilities (including the Vía Libre clinic) for treatment and counseling, which included partner notification strategies. Project volunteers helped HIV-infected participants enroll in anti-retroviral therapy programs and were responsible for maintaining contact with participants and ensuring appropriate follow-up.

Data Collection

Data collection procedures were similar between FC and MU settings. Sociodemographic characteristics, behavioral risk factors including condom use, engagement in transactional sex, and alcohol/drug use, HIV testing history, and reasons for testing were collected using anonymous written surveys administered by trained project personnel that were later manually entered into a computerized database.

Data Analysis

To assess the effectiveness of MU outreach, our analyses included data from the FC Vía Libre, an HIV/STI clinic in central Lima, as a means of comparison. Primary outcomes were HIV and syphilis prevalence and HIV prevalence among participants who have never before been tested for HIV (first-time testers) in the MU. Independent variables including age, condom use, partner type, alcohol/drug use with sexual encounter, self-reported symptoms compatible with an STI over the past year, and self-identified sexual identity were used both to describe the population of interest and to determine any associations to the primary outcomes.

Self-reported symptoms over the past year such as: genital warts, dysuria, genital secretions, genital ulcers, and other symptoms were categorized into one composite, dichotomous variable, “STI symptoms.” The variable “Condom use in the past 3 months,” was dichotomized, with check box responses of “Never” and fill-in responses of “0” re-categorized as “Never,” and all other responses coded as “at least once.”

Sociodemographic and behavioral characteristics and HIV/syphilis prevalence were described using percentages or medians and interquartile ranges, as appropriate. We used Chi-square/Fisher exact tests or Wilcoxon rank-sum tests for categorical variables and continuous variables, respectively, to determine associations between variables of interest

and testing site (FC or MU). Bivariate logistic regression analyses were conducted to examine the relationship between independent variables and HIV/syphilis prevalence. We computed the unadjusted odds ratios and the 95% confidence interval (CI) to assess the association between each variable and the outcomes of interest.

Variables that were statistically significant (p-value<0.05) in bivariate analyses were included in multivariate logistic regression analyses. Multivariate analysis controlled for self-reported sexual identity, risk behaviors within the past 3 months, partner type, and self-reported STI symptoms within the past year, and these variables were added simultaneously to the multivariate model.

For each question of interest, data coded as “does not apply” was recoded as “missing” and excluded from our analyses. Those with missing data for one variable of interest were excluded from that particular question (coded as “missing”), but not from the entire analysis. All data analyses were conducted using Stata 12.0 (College Station, TX, USA).

Results

Subjects’ Characteristics and STI Prevalence

From October 2007 to November 2009, 3,456 eligible participants received HIV screening services in Lima (1602 MU 1854 FC). Participant demographic and behavioral characteristics and STI prevalence stratified by clinic type are displayed in Table 1.

MU participants self-identified as MSM (24%), bisexual (22%), heterosexual (41%), and transgender (13%). The MU had significantly higher proportions of participants engaging in transactional sex in past 3 months (24%, vs. 10% FC p<0.001), having sexual relations under the influence of alcohol/drugs during their most recent sexual partner (24% vs. 20% FC, p<0.01) and/or self-identifying as TW (13% vs. 3% FC, p<0.001) than FC participants (Table 1). Participant age, alcohol/drug use in the past 3 months with a sexual encounter, and testing positive for syphilis infection were not statistically significant characteristics between MU and FC participants.

Overall syphilis prevalence in the MU was 8.3%. Thirty-four MU participants and 68 FC participants were co-infected with HIV and syphilis (Table 1).

Overall HIV prevalence was 8.8% in the MU. The MU detected 140 cases of HIV (49 cases among MSM, 64 cases among TW, 16 cases among bisexual males, and 11 cases among heterosexual males).

STI Correlates

Bivariate and multivariate associations of demographics, risk behaviors and testing site with HIV prevalence are shown in Table 2. Among MU testers, bivariate analyses demonstrated associations between HIV prevalence and recent (within the past 3 months) intercourse with a transactional sex partner (OR=3.36; 95% CI [2.32–4.86]), and/or unprotected intercourse (OR=1.60; 95% CI [1.12–2.27]). HIV diagnosis among MU participants was associated with

self-reported STI symptoms in the past year and (on bivariate only), with no history of prior HIV testing (Table 2).

HIV Prevalence among First-time Testers

Mobile unit participants were more likely to be first-time testers than FC participants (48% vs. 41%, respectively, $p<0.001$). Among first-time testers in the MU, HIV prevalence was 5.4% (41 new HIV infections detected). When stratified by sexual identity, the prevalence of HIV infection among first-time testers was 11% of MSM, 49% of TW, 4% of Bisexual men and 1% of Heterosexual men (Table 3).

Discussion

Mobile unit testing services in Lima reached a population with high overall HIV and syphilis prevalence (9% and 8%, respectively) furthering the idea that MU outreach may be an effective means of bringing prevention and testing services to high-prevalence groups. HIV and syphilis prevalence was significantly higher in the fixed, MSM-friendly HIV/STI clinic, suggesting that traditional voluntary counseling, testing, and referral services effectively identify high-risk persons. However, the MU was successful in diagnosing a large number of new cases of HIV and syphilis and providing services to participants who had never before been tested for HIV. Our study found that nearly half (48%) of all MU visitors had never before been tested for HIV, of whom 5.4% were HIV-infected. We detected 41 new cases of HIV infection among first-time testers, including 12 MSM, 16 TW, 8 Bisexual men, and 5 Heterosexual men, suggesting that MU testing accessed an important, underserved population with a high disease burden.[20]

Multivariate analysis revealed that participants who self-identified as a TW were over twice as likely to test positive for HIV when compared to MSM. This is likely due to the marginalization of TW in Lima and the fact that the most common occupations for TW are currently either hairdressing or sex work.

With the HIV epidemic in Lima remaining consistently over 10% in MSM and TW both currently and over the past decade,[11, 17] innovative outreach efforts are needed to prevent and control the spread of HIV in Peru. In screening a higher proportion of TW (49%) and MSM (11%) with previously undiagnosed HIV infection, mobile unit testing should be a viable consideration to help stop the spread of HIV in Lima.

As a secondary analysis of a public health outreach program, our findings are subject to several limitations. Participant duplication might exist between the MU and FC site entries (i.e., the same individual could have been recorded as both a MU and FC participant). To avoid duplicate entries, we restricted our database to participants attending the FC or MU for their first visit only and further analyzed any responses to questions suggesting duplicate data entries. Upon further analyses, only 3 clinic visitors may have previously received testing in the MU, a number that would have minimal impact on our data. Participant bias is another limitation, since voluntary HIV/syphilis testing requires willing persons to seek and enter the MU to access testing services. We did not record the number of individuals who were approached by outreach staff who declined testing services, which may affect our

ability to assess the efficacy of MU outreach in the community. Additionally, we do not know whether MU testers would have accessed other clinic-based testing services if the outreach unit were not present, though the MU did access a large number of participants who had never before received HIV testing. Finally, our prevalence data cannot be considered representative of larger communities in Lima or Peru due to issues of selection bias in targeting high-risk populations and the lack of any random sampling methodology.

Our data suggest the possibility of using MU as a means to reach high-prevalence populations and those who have not been tested for HIV in Peru, serving as a viable complement to extend the reach of stationary STI clinics. Future research focusing on linkage to care and follow-up among MU attendees diagnosed with HIV or syphilis infection and is needed to determine utility. Cost-benefit analyses are needed to assess the feasibility and sustainability of MU testing services and to determine the role of community outreach testing in Peruvian HIV control systems.

Conclusions

Mobile unit testing detected a large number of new cases of HIV and syphilis in this sample of 1602 participants, including among individuals with no previous HIV testing history. MU testing may serve as a viable complement to fixed clinic voluntary counseling, testing, and referral services and as a way to bring testing services to high-prevalence populations such as MSM, TW, and persons without regular access to counseling and testing services.

Acknowledgments

We thank our partners at Vía Libre for their efforts, especially laboratory director Martín Gutierrez for his help in manuscript preparation.

Funding

This work was supported by the South American Program in HIV Prevention Research (SAPHIR) through the David Geffen School of Medicine Program in Global Health [NIH R25 MH087222 (South American Program in HIV Prevention Research)]. Funding for the SOMOS project was provided by HIVOS and the European Commission.

References

1. UNAIDS. [accessed 4 April 2013] UNAIDS Best Practice Collection: Voluntary Counseling and Testing. 2000. http://www.unaids.org/en/media/unaids/contentassets/dataimport/publications/irc-pub01/jc379-vct_en.pdf
2. Farley TA, Kahn RH, Johnson G, et al. Strategies for syphilis prevention: findings from surveys in a high-incidence area. Sex Transm Dis. 2000; 27:205–310.
3. Vermund SH, et al. Addressing HIV prevention research priorities in the United States. Clin Infect Dis. 2010 May 15; 50(Suppl3):S149–S155. [PubMed: 20397942]
4. Kahn R, Moseley K, Thilges J, et al. Community-Based Screening and Treatment for STDs: Results from a Mobile Clinic Initiative. Sex Transm Dis. 2003 Aug; 30(8):654–658. [PubMed: 12897689]
5. Lahuerta M, Sabidó M, Giardina F, et al. Comparison of users of an HIV/syphilis screening community-based mobile van and traditional voluntary counseling and testing sites in Guatemala. Sex Transm Infect. 2011 Mar; 87(2):136–140. [PubMed: 21071565]
6. Ellen JM, Bonu S, Arruda JS, et al. Comparison of clients of a mobile health van and a traditional STD clinic. J Acquir Immune Defic Syndr. 2003 Apr; 32(4):388–393. [PubMed: 12640196]

7. Arlington, V. [accessed 2 Mar 2013] NIMH Project Accept/HPTN 043: a Phase III randomized controlled trial of community mobilization, mobile testing, same-day results and post-test support for HIV in sub-Saharan Africa and Thailand. HIV Prevention Trials Network. 2013. http://www.hptn.org/research_studies/hptn043.asp
8. Khumalo-Sakutukwa G, Morin SF, Fritz K, et al. Project Accept (HPTN 043): a community-based intervention to reduce HIV incidence in populations at risk for HIV in sub-Saharan Africa and Thailand. J Acquir Immune Defic Syndr. 2008; 49:422–431. [PubMed: 18931624]
9. DiFranceisco W, Holtgrave DR, Hoxie N, et al. HIV seropositivity rates in outreach-based counseling and testing services: program evaluation. J Acquir Immune Defic Syndr Hum Retrovirol. 1998 Nov 1; 19(3):282–288. [PubMed: 9803971]
10. Reisner S, Mimiaga M, Skeer M, et al. Differential HIV Risk Behavior among Men who have Sex with Men Seeking Health-Related Mobile Van Services at Diverse Gay-Specific Venues. AIDS Behav. 2009 Aug; 13(4):822–831. [PubMed: 18642070]
11. Caceres C, Mendoza W. The National Response to the HIV/AIDS Epidemic in Peru: Accomplishments and Gaps-A Review. Acquir Immune Defic Syndro. 2009 May 1; 41(Suppl 1):S60–S66.
12. Silva-Santisteban A, Raymond HF, Salazar X, et al. Understanding the HIV/AIDS Epidemic in Transgender Women of Lima, Peru: Results from a Sero-Epidemiologic Study Using Respondent Driven Sampling. AIDS Behav. 2012; 16:872–881. [PubMed: 21983694]
13. Sanchez J, Lama JR, Kusunoki L, et al. HIV-1, sexually transmitted infections, and sexual behavior trends among men who have sex with men in Lima, Peru. J Acquir Immune Defic Syndr. 2007; 44(5):578–585. [PubMed: 17279049]
14. UNAIDS. [accessed 25 Mar 2013] UNAIDS 2012 Regional Fact Sheet: Latin America and the Caribbean. 2012. http://www.unaids.org/en/media/unaids/contentassets/documents/epidemiology/2012/gr2012/2012_FS_regional_la_caribbean_en.pdf.
15. Peruvian Ministry of Health. [accessed 11 Mar 2013] Plan Estratégico Multisectorial 2007–2011 para la prevención y control de las ITS y VIH/SIDA en el Perú. Lima, Peru: 2007. 2011. http://www.conamusa.org.pe/docs/normas/DSPEMITSVIHSIDA2007–2011.pdf. [Spanish].
16. Blas MM, Alva IE, Cabello R, et al. Risk behaviors and reasons for not getting tested for HIV among men who have sex with men: an online survey in Peru. PLoS One. 2011; 6(11):27334.
17. Global Fund against AIDS, Tuberculosis, and Malaria. Final Report: Epidemiological Vigilance Study of HIV and STIs in MSM, Comparison of Recruitment Methods of Convenience, Time Space, and Directed Sampling of Participants. 2011 Nov. [Spanish].
18. HIVOS, Vía Libre, and the European Commission. Final Report: Improving the social environment and access to social services for MSM or vulnerable persons living with HIV/AIDS-The SOMOS project, March 2007–February 2010. 2010. [Spanish].
19. Centers for Disease Control and Prevention. [accessed 11 Mar 2013] HIV/AIDS and STDs Treatment. HIV infection: Detection, Counseling, and Referral. 2010. http://www.cdc.gov/std/treatment/2010/hiv.htm.
20. Musheke M, Ntalasha H, Gari S, et al. A systematic review of qualitative findings on factors enabling and deterring uptake of HIV testing in Sub-Saharan Africa. BMC Public Health. 2013 Mar 11.13:220. [PubMed: 23497196]
21. Tabet S, Sanchez J, Lama J, et al. HIV, syphilis and heterosexual bridging among Peruvian men who have sex with men. AIDS. 2002 Jun 14; 16(9):1271–1277. [PubMed: 12045493]

Table 1

Description of Participants at Each Test Site in Lima, Peru, 2007–2009

Characteristics	Fixed STI Clinic (FC) N=1854 N (%)	Mobile Unit (MU) N=1602 N (%)	p value
Demographics			
Age (Years)	26 (22–32) §	29 (22–34)§	⌘.18
Sexual Identity			***
Gay	1019 (55.0)	391 (24.4)	
Bisexual	494 (26.7)	346 (21.6)	
Hetero	291 (15.7)	650 (40.6)	
Trans	50 (2.7)	215 (13.4)	
Behavioral Factors, past 3 months			
No condom use	797 (43.1)	555 (34.7)	***
Transactional sex	161 (10.0)	343 (24.1)	***
Alcohol/drugs with sex	647 (40.0)	522 (36.7)	0.06
Behavioral Factors, last sexual encounter			
Sex under influence of alcohol/drugs	365 (19.7)	376 (23.5)	**
HIV Test History			
No prior HIV test	765 (41.3)	769 (48.0)	***
STI Prevalence			
Syphilis test + ❖	154 (9.2)	112 (8.3)	0.37
HIV test +	306 (16.6)	140 (8.8)	***
Syphilis and HIV co-infection	68 (4.1)	34 (2.5)	***
STI symptoms in past year (self-reported)	528 (28.5)	215 (13.4)	***

§ Median (interquartile range)

⌘ Students T-test or Wilcoxon Rank Sum result

❖ N=1673 in FC and N=1353 in MU

* = p<.05,

** = p<.01,

*** = p<.001

Table 2

Factors Associated with HIV infection in Mobile Unit participants in Lima, Peru, 2007–2009

Variables ❖	Unadjusted odds ratio (95% CI)	Adjusted Odds ratio (95%CI)
Demographics		
Age (Years)	1.00 (.98–1.02)	
Sexual Identity:		
Gay	ref	ref
Bisexual	.34 (.19–.61)***	.32 (.16–.65)**
Hetero	.12 (.06–.23)***	.09 (.04–.23)***
Trans	2.95 (1.94–4.49)***	2.49 (1.49–4.19)**
Behavioral Factors		
Last Partner:		
Sex under influence of alcohol/drugs	1.40 (.95–2.05)	
Last 3 months:		
No condom use	1.60 (1.12–2.27)**	1.47 (.96–2.27)
Transactional sex	3.36 (2.32–4.86)***	1.20 (.75–1.93)
HIV Test History		
No prior HIV test	2.41 (1.65–3.52)***	.68 (.41–1.10)
STI Prevalence		
Syphilis test +	5.17 (3.28–8.13)***	2.11 (1.26–3.53)**
STI symptoms in past year (self-reported)	1.62 (1.03–2.53)*	2.17 (1.27–3.72)**

Covariates include: self-identified sexual identity, no condom use in the past 3 months, engaging in transactional sex in the past 3 months, having no prior HIV test, testing positive for syphilis infection, and having symptoms of an STI in the past year.

❖ N=1199

* = p<.05,

** = p<.01,

*** = p<.001

Table 3

HIV prevalence in Mobile Unit participants

	Overall HIV prevalence ***ratio (%)***	**HIV Among First-time Testers** ***ratio (%)***
HIV prevalence:		
MSM	49/388 (12.6)	12/105 (11.4)
TW	64/214 (29.9)	16/33 (48.5)
Bisexual	16/343 (4.7)	8/192 (4.2)
Heterosexual	11/646 (1.7)	5/436 (1.2)
Total	140/1591 (8.8)	41/766 (5.4)