

Acceptable Interventions to Reduce Syphilis Transmission Among High-Risk Men Who Have Sex With Men in Los Angeles

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Cases of primary and secondary syphilis among men who have sex with men (MSM) in the United States increased from approximately 6400 in 2009 to more than 8700 in 2012,¹ with Los Angeles County reporting the highest number of cases in the country.² In Los Angeles County as well as in other US metropolitan areas, the majority of cases occur among MSM,³⁻⁵ and incidence rates have increased dramatically in recent years.^{1,5-7} Syphilis is particularly common among MSM coinfecting with HIV,⁸ and can increase the transmissibility of HIV among those who are HIV positive and the susceptibility to HIV among those who are HIV negative.⁹⁻¹¹

The Centers for Disease Control and Prevention recommends annual screening for syphilis among sexually active MSM and more frequent testing for MSM who have multiple or anonymous partners.¹² It has also been suggested that additional testing and other intervention efforts focused on high-risk MSM,¹³⁻¹⁶ who may be core transmitters of syphilis, are needed to reduce the current syphilis epidemic.¹⁴ One potential group of core transmitters may be MSM who have repeated syphilis infections,^{17,18} because repeat infections suggest continued practice of risky sexual behaviors or riskier sexual networks. Indeed, in Los Angeles County and other jurisdictions, between 6% and 12% of MSM experience a repeat primary or secondary syphilis infection within 2 years.¹⁸⁻²⁰

Efforts to curtail the rising syphilis epidemic include increased community screening, enhanced case management and partner notification,^{21,22} and several wide-scale social marketing campaigns.^{23,24} One of the primary efforts currently in place in Los Angeles County is syphilis case management and partner notification services, which is provided by public health investigators (PHIs) who are located at the public health department or are embedded

Objectives. We examined perceptions of and attitudes toward existing and potential syphilis interventions, including case management and Web-based programs, to increase syphilis testing among high-risk men who have sex with men (MSM).

Methods. Between October 2010 and June 2011, we conducted in-depth interviews with 19 MSM in Los Angeles, California, with repeat early syphilis infections (primary, secondary, and early latent syphilis) within the previous 5 years. We analyzed the interviews inductively to determine the most acceptable potential interventions.

Results. Experiences with health department and community-based standard of care case management were generally positive. The most popular interventions among respondents included a Web site providing information on syphilis and syphilis testing, automated Web reminders to test, being paid to test, free online home testing kits, and preexposure prophylactic medication. Respondents' beliefs that they would continue to practice high-risk sexual behaviors reinforced their reasons for wanting increased accessibility and convenient testing strategies.

Conclusions. Public health officials should consider participant responses to potential interventions for syphilis, which suggest that high-risk MSM would consider testing more often or using other interventions. (*Am J Public Health.* 2015;105:e88-e94. doi:10.2105/AJPH.2014.302412)

within a community-based organization. As the primary promoters of syphilis intervention strategies in the county, PHI duties include locating, counseling, and referring infected individuals to treatment and locating and notifying sexual partners potentially exposed to syphilis. In addition to these standard public health practices of enhanced testing and case management, recent research has indicated that antibiotic prophylaxis for syphilis is potentially an acceptable prevention method for high-risk individuals,²⁵ although evidence is limited and concerns regarding risk compensation (i.e., being less careful because of feeling more protected) and the development of antibiotic resistance have been noted.²⁶ Overall, syphilis rates have continued to rise despite current efforts, suggesting that new and improved approaches are needed.¹⁴

Although targeting interventions to MSM repeatedly infected with syphilis may have the potential for significant individual and public health impact, little is known about the acceptability of potential interventions to this group of men. We have presented suggestions for improving current standard of care public health practices, such as case management. In addition, we explored attitudes about and responses to numerous potential interventions to increase syphilis testing and reduce transmission among MSM with repeat syphilis infection in Los Angeles County.

METHODS

We identified potential study participants between 2010 and 2011 using Los Angeles County Department of Public Health syphilis morbidity data. Participants were eligible if

they were male, were aged 18 years or older, reported having male sex partners, and were diagnosed with early syphilis at least twice within the previous 5 years. In addition, a participant's most recent early syphilis infection had to be within 1 year of recruitment into the study. A health department PHI contacted individuals either by telephone or in person and asked if they would participate in the study.

All participants provided written informed consent before the face-to-face interview began. A trained, gay male interviewer conducted interviews, which took an average of 56 minutes to complete. The participant chose the interview location, which could be a private office at the Los Angeles Gay and Lesbian Center, the Los Angeles County Department of Public Health, a public sexually transmitted infection clinic, a drug rehabilitation center or in the participant's home. Interviewers used a semistructured, open-ended interview guide and audio recorded all interviews.

Interviews included a discussion of syphilis perceptions, testing and health care utilization, experiences with case management, and a discussion of possible prevention interventions. Specifically, interviewers asked participants to respond to several potential syphilis prevention interventions that Los Angeles County was hoping to initiate or improve (e.g., free home syphilis testing) or that the study investigators conceptualized on the basis of literature reviews (e.g., prophylactic medication). The interventions included (1) a reminder from a PHI to get tested every 3 months, (2) a visit from a PHI and home testing service, (3) a Web site that provides information about syphilis and syphilis testing, (4) an automatic reminder from the Web site to get tested every 3 months, (5) a free self-collected home syphilis-testing program, (6) being paid to test, and (7) ongoing oral prophylaxis with antibiotics to prevent syphilis acquisition. Respondents received \$100 for their participation.

We transcribed interviews verbatim and checked for accuracy to ensure reliable analysis of responses. We used a grounded theory approach in our analysis and used both open and axial coding to identify larger thematic constructs.²⁷⁻²⁹ For example, interviewers asked participants about specific potential interventions. Within the context of these

interventions, we used open coding to categorize themes according to whether the respondent said he would utilize the intervention and what challenges or facilitators were associated with it. Then, we used axial coding to look at similarities and differences across themes and to determine what kind of conditions or contexts influenced positive and negative responses to interventions.

We developed a codebook on the basis of the interview guide and participant responses.³⁰ Two investigators (S. S. and A. P.) reviewed and coded all transcripts to identify major themes, discussed any coding ambiguities, and refined codes until any discrepancies were resolved. We analyzed all data using ATLAS.ti 6.1 (ATLAS.ti GmbH, Berlin, Germany).

RESULTS

We approached 33 individuals, and 19 (58%) agreed to participate and were interviewed. Those who agreed to participate in the study and those who refused were similar with respect to age (mean = 38 years vs 40 years), HIV status (68% vs 79% positive), number of early syphilis episodes (mean = 3.5 vs 3.6), and race/ethnicity (53% vs 36% White). Among the 19 respondents, the majority were White ($n = 10$) followed by Latino ($n = 6$) and Black ($n = 3$), with age ranging from 21 to 54 years. Most were HIV positive ($n = 13$) and more than half were unemployed ($n = 10$). The number of early syphilis infections within the 5 years before the interview ranged from 2 to 5 infections. Most respondents reported testing for syphilis every 3 to 6 months ($n = 18$), either through routine sexually transmitted infection testing or as part of regular doctor visits for HIV care.

Current Standards of Practice

Most respondents reported positive experiences with PHIs and described them as being "polite," "professional," and "nonjudgmental." Some reported feeling embarrassed or uncomfortable at being contacted, whereas others were grateful. One respondent described the experience of speaking to PHIs as being uncomfortable although necessary. He related, "You know, it's like going to the dentist; it's one of those things you don't want to do, but you

know it has to happen" (Black, aged 49 years, 3 infections).

By contrast, the few who described negative experiences depicted PHIs as being "judgmental," "pushy," or "invasive." For example, 1 respondent relayed that he did not like being asked personal information such as his date of birth during a cold call (Black, aged 38 years, 3 infections) and suggested that the caller at least introduce himself or herself before asking identity-verifying information. However, requesting date of birth at the beginning of the call is standard protocol and is done to verify identity and protect confidentiality. In another case the participant said, "She was very judgmental, very pushy about me. She wanted all the phone numbers of all the people that I had—and I knew—I knew specifically who that was, and I said, 'I'm going to call them'" (White, aged 45 years, 4 infections).

Potential Interventions

We asked participants how they felt about a reminder from a PHI to get tested every 3 months. Almost all stated that they were already testing regularly (at least once every 3–6 months) and just under half said that because of this a reminder from a PHI would not be necessary. One respondent noted, "For me, it wouldn't be necessary, because I get tested every 3 months" (White, aged 45 years, 4 infections; Table 1). However, overall participants perceived this service positively, and 11 respondents said they would use it (Table 2), with the preferred method of contact being e-mail or text message rather than a telephone call from the PHI. Reasons for not wanting a telephone call included it being too intimate and too difficult to receive the message (e.g., while at work).

As a follow-up, we asked respondents if they would prefer someone from a community-based organization serving the gay community or from the county health department to contact them. Several expressed a preference for community-based organization, stating that they were more comfortable with these types of organizations because staff members were more accustomed to communicating with gay men and because they were more "relatable," "personal," or "genuine."

One man preferred not to be contacted by the county health department because he

TABLE 1—Selected Quotations About Potential Interventions to Reduce Syphilis Transmission Among High-Risk Men Who Have Sex With Men: Los Angeles County, CA, October 2010–June 2011

Intervention	Selected Quotations (Respondent's Race/Ethnicity, Age in Years, No. of Confirmed Cases)
Public health investigator reminder	<p>For me, it wouldn't be necessary, because I get tested every 3 months. (White, 45, 4)</p> <p>I would say, um, the text and the e-mail would be fine, but not a reminder phone call. (Latino, 37, 4)</p> <p>I don't want to be reminded unless they know for a fact that I need to get tested because I do that myself . . . I won't just go in for testing. If I think I've been exposed, I want treatment. (White, 51, 5)</p> <p>A text message is fine. (Black, 48, 3)</p> <p>Probably, um, it would be better a text. (Latino, 36, 3)</p>
Public health investigator home visit	<p>Because it's my house. It's my personal space right there. It's where I go. . . . Phone calls, texts—I don't worry about it, but someone knocking on my door to test me is just—it's too much. That's for me crossing the line already. (Latino, 21, 3)</p> <p>Just because I don't even have really friends come to my apartment, so to have somebody come to my apartment for that particular reason—I just with—it wouldn't make me feel comfortable. . . . And again, it's confidentiality. People don't want people to know where they live. (White, 37, 4)</p> <p>I'd be annoyed. (White, 45, 4)</p> <p>Definitely. I mean, it's all about convenience. People love convenience, so why not have to go sit in a clinic and see other people that you might even know? It's private at your own home. (Black, 25, 3)</p>
Web site	<p>I think it's great. Any—anyway you can scan people and let them know and try to prevent them to have, like, uh, further problems and health problems, I think it's val—valuable. (Latino, 33, 4)</p> <p>I don't know. I just don't think about, uh, diseases when I'm at home. I—I don't think I'll sit down in front of a computer and go try to learn about diseases, unless I've experience—I—I would do that on syphilis 'cause I've had it, you know? (White, 28, 3)</p> <p>It's a great idea. People need to know, especially—I mean, it's always gonna be a new generation of new people not knowing, so the best way to prevent it is to know—is knowing how to prevent it. (Black, 25, 3)</p> <p>Yeah, I would use it. If I thought I had it or anything, yeah, I would use it. (White, 36, 3)</p> <p>You know, you can Google syphilis. You know, there's enough Web sites that we can get information or whatever. (White, 48, 4)</p> <p>Um, think it's a good idea. Um, would I use it? Yeah because I'm that kind of information seeking person. (Black, 49, 3)</p> <p>I think it's a good idea. I wouldn't use it though. Um, it takes too much time, you know, to read about all this kind of stuff. (White, 30, 4)</p>
Automated reminder	<p>It's—everybody's addicted to texting, so I know I'm gonna read it. With e-mail it's—I don't really check the e-mail 'cause I get a lot of spam. You don't want to sort through them. (Latino, 21, 3)</p> <p>E-mail, 'cause text message, people usually go through your phone. . . . Well, for me, like my phone, my mom has my phone right now. I—I don't know, sometimes somebody will just bor—ask you to borrow your phone. (Latino, 33, 5)</p> <p>No. Unnecessary. I mean, I—I take care of my own business. I took—I mean, good thoughts, and maybe some people it would be good for, but not for me. I—I go to my doctor. (White, 48, 4)</p> <p>I wouldn't mind it. I mean but I—I don't need to be reminded anyway, because I go every 3 months. (Latino, 28, 3)</p> <p>I think that'll be good, remind me to get tested. . . . Either one [e-mail or text]. It still get—it still goes through my phone, you know. (Latino, 36, 3)</p> <p>I mean that would be cool because a lot of people, especially if you're partying, and I keep going back to the partying thing but that's where it all applies to in my mind, for the most part, um, but time goes by so fast, 3 months, it seems like 2 days sometimes because you're—you sleep—what—five days out of 3 months? So it's just like one big, long week, so yeah, that would be cool. (White, 36, 3)</p>
Home test kit	<p>My God, that's amazing, uh, future. (Latino, 33, 4)</p> <p>I would actually rather go through having my doctor do it, yeah. It's just, um, um, keeps the doctor informed and keeps you—your charts up to date, so I think for those reasons it would be probably not that beneficial. (White, 44, 3)</p> <p>I mean, it just—just because I don't want to have to stick myself and—and hassle with putting it all in a package and sending it back and reading the instructions and—it just would become a—an unnecessary—could become an unnecessary hassle. I don't know how easy it would be to do. But if I didn't have any other choice or wasn't being tested, then yes, I would use it. (White, 51, 5)</p> <p>That's awesome. I think more people—like I said, it's convenient, it's more private, more—that's a great idea. (Black, 25, 3)</p> <p>That's a great idea. (White, 54, 2)</p> <p>That would be good. I mean, to tell you the truth, I hate going to the doctor and get tested. (Latino, 36, 3)</p>

Continued

TABLE 1—Continued

Paid to test	Oh, heavens. I wouldn't expect to be paid for it. The state shouldn't be having to dole out money for that. (White, 54, 2)
	I would think that, "Well, I need to get tested anyway, so why not get paid for it?" . . . It would've encouraged me to go do it, I guess. (White, 28, 3)
	Oh, I love money. But just, you know, gas—gas money, uh, the day that I'm gonna be out of work. I don't know. Let's suppose I make, uh, \$10.00 an hour, very average. Uh, 10 times, uh, 5, that would take probably 50 bucks plus gas. (Latino, 33, 4)
Preventive medicine	Um, that's more of an incentive to do it, but, um, I'm sure people would do it more often if they were paid, 'cause money talks. (Black, 25, 3)
	Given my, um, track record, I love it. Um, the shots are not fun. The needle hurts. . . . Well, of course, and I'm stating the obvious. I would have to find out what are the ramifications of taking this medication? What's it going to do to my body? What's it going to do to my liver? You know, all that stuff. I mean, I—the HIV medicine I take, that—they still don't know what the long-term effects are. (White, 45, 4)
	Yeah, I would do that. Because then you can prevent it. Even if you have a slip-up you can prevent it. (Latino, 21, 3)
	I think that actually could be a great thing for—for some people. For me, I would like to address my or at least try to address the—the issues of just having unprotected sex whenever, however, what—you know, like I have been. Address those issues and try to correct that and not have unprotected sex. (White, 54, 2)
	I'd have to know more about what antibiotic it is, or like sometimes antibiotics really make you feel like shit, or they give you diarrhea, because it wipes out all the bacteria in your tummy. I'd want to know more. (White, 48, 4)
	No, because then you'd be more careless. No, if you feel that you'll be protected then you're just gonna be, "Oh, I'm—no. It's not a good idea." (Black, 25, 3)
That's a great idea. I would actually take the pill daily. (Latino, 28, 3)	
Oh my God, [I would take it] faithfully like birth control. In fact it could become gay men's birth control. (Black, 49, 3)	

associated the word “county” with the possibility of being sued, which made him uncomfortable (Latino, aged 33 years, 4 infections). Another trusted the community-based organization to do a better job than the health department in safeguarding his health information (White, aged 45 years, 4 infections).

However, 1 participant preferred the health department to contact him because he was concerned that his sexual orientation would be revealed to his friends if a gay health organization contacted him (White, aged 28 years, 3 infections). His concern related to the possibility of his friends intercepting the correspondence, which could then reveal his sexual orientation to them. He indicated that an anonymous source would be ideal by suggesting, “As long as it’s anonymous, does it matter?”

In addition, we asked participants how they would feel about a visit from a PHI every 3 months to be tested at home. Responses to this strategy were mixed, with those who viewed it favorably noting the convenience and potential for improved confidentiality of this strategy as major advantages. As 1 person noted, “People love convenience, so why have to go sit in a clinic and see other people that you might even know? It’s private at your own home” (Black, aged 25 years, 3 infections). Confidentiality (or the potential lack of) was also a reason for negative perceptions surrounding this strategy. One respondent in particular said, “People don’t want people to know where they live” (White, aged 37 years, 4 infections). Three others noted that they would be annoyed by a PHI visiting them at their home

or that it would feel like an invasion of personal space.

Web-Based Approaches

The Los Angeles County Department of Public Health had a syphilis-testing Web site targeting MSM and wanted to determine if high-risk MSM would be likely to use it. Fifteen said that they would use a Web site devoted to syphilis information and testing and noted that a Web site would help high-risk MSM identify whether they were experiencing syphilis symptoms and find a local testing or treatment venue. Some believed that they or their peers would be more likely to use the Web site if they had already had syphilis. As 1 respondent commented, “It didn’t even affect me the first time as much as the second and the third time, and now I’m taking it really seriously” (White, aged 28 years, 3 infections). However, some felt that the information available online is sufficient, stating, “You know, you can Google syphilis . . . there’s enough Web sites that we can get information” (White, aged 48 years, 4 infections).

Most respondents viewed an automated Web-based reminder to get tested every 3 months favorably, although some expressed concern about confidentiality issues, and others

TABLE 2—Response to Potential Interventions to Reduce Syphilis Transmission Among High-Risk Men Who Have Sex With Men: Los Angeles County, CA, October 2010–June 2011

Intervention	Response to Intervention		
	Positive	Negative	Neutral
Public health investigator reminder	11	8	0
Public health investigator home visit	7	9	3
Web site	15	3	1
Automated reminder	12	7	0
Home test kit	14	5	0
Paid to test ^a	16	2	0
Preventive medicine ^a	13	4	1

^aOne participant was not asked about this intervention.

felt that they already got tested regularly and would therefore not benefit from such a system. One participant said, “Unnecessary. I mean, I take care of my own business” (White, aged 48 years, 4 infections). Among those who thought an automated reminder system was a good idea, nearly half noted that they preferred e-mails, whereas the other half preferred text messages. The preference for e-mails related to concerns that someone else such as a partner or relative could potentially see or access this information on their phone. By contrast, the preference for text messages related to easy access to the information, with 1 respondent stating, “It’s just easier. I check my phone daily” (Latino, aged 28 years, 3 infections).

Self-Collected Home Syphilis Test Program

We described a free home syphilis test program to participants as a kit that is ordered online and mailed to their home. To take the test, they would use a lancet to stick their finger and put several drops of blood on a piece of paper that they would then mail back in a pre-paid envelope. Results would be accessible via the Web site within 1 week of submission of the kit and all results would be confidential. Fourteen participants responded positively, and several noted that it would be more convenient and private than would testing in a clinic. In fact, some favored this option so much that they reported wanting to use home testing for HIV and other sexually transmitted infections, as well. Furthermore, 4 respondents noted that having home test kits automatically sent every 3 months would be an additional benefit. One participant emphasized, “I hate going to the doctor [to] get tested” (Latino, aged 36 years, 3 infections).

Reasons for not wanting to use the home test kit related to confidentiality issues and overall medical care concerns. One participant noted that he would not be comfortable submitting identifying information, such as his name, online. Another said he would not use it because he would prefer not to risk other household members, such as his partner, finding out about it. Finally, 1 HIV-positive respondent did not think he would use it because he would prefer to keep his doctor informed of his health status and keep his medical history

up to date. Few respondents expressed concern about having to do a finger stick.

Receiving Payment to Test

At the time of the study, syphilis testing at Los Angeles County public sexually transmitted infection clinics and numerous community clinics was available free of charge. Sixteen respondents said that they would test for syphilis even more often if they were compensated for testing.

When asked how much they would like to be paid to make it worthwhile to test, responses from participants ranged from 10 cents to \$100, with the majority reporting between \$40 and \$50.

Syphilis Antibiotic Prophylaxis

We asked respondents their opinion about taking 3 antibiotic pills every 2 weeks to prevent syphilis. Overall, the response was favorable, although some expressed concern about potential side effects and would prefer discussing it with their health care provider before starting the regimen. By contrast, a major reason for supporting this intervention was respondents’ belief that they would continue to practice high-risk sexual behaviors regardless of testing and that this medication would be beneficial. When asked if he thought he would take the medication, 1 respondent exclaimed, “Oh my God, faithfully like birth control. In fact it could become gay men’s birth control” (Black, aged 49 years, 3 infections).

Four respondents expressed concerns about risk compensation and stated that taking prophylactic treatment might increase their sexual behaviors because it would make them feel invulnerable to syphilis. When asked if he would take the medication, 1 man replied, “No, because then you’d be more careless” (Black, aged 25 years, 3 infections). Other reasons for not favoring prophylactic treatment included the belief that it could be difficult to remember to take the medication every day, a fear that the medicine could become less effective over time, and pill burden because some were taking other medications, such as HIV antiretroviral therapy.

DISCUSSION

Many participants regarded themselves as at risk for another syphilis infection resulting

from continued high-risk sexual behaviors. Our findings agree with studies indicating that MSM are unlikely to reduce risky sexual behaviors on a long-term basis to prevent syphilis.^{31,32} Furthermore, this suggests that prevention strategies targeted at changing risky sexual behaviors alone are unlikely to reduce syphilis transmission, and additional interventions are needed.

Increased syphilis testing may serve as a promising strategy for reducing syphilis among MSM with repeat infection. Mathematical models of syphilis transmission among high-risk MSM networks suggest that increasing the frequency of syphilis screening among those already testing may be more effective in reducing syphilis incidence than would increasing the proportion of the population that is screened,^{13,33} because targeting men who are low risk is inefficient. Although most participants reported testing at least once every 6 months, most were open to testing more frequently.

Using a Web site to access information about syphilis and syphilis testing, receiving automatic reminders from the Web site to get tested, and using a home test kit were testing strategies that most respondents considered favorably. This is consistent with previous research indicating generally high levels of enthusiasm for Internet-based sexually transmitted infection and HIV testing among MSM.^{34,35} In addition, home testing kits for chlamydia and gonorrhea testing targeted to women have been successfully implemented,^{36–38} which suggests that home syphilis testing targeted to MSM would also be feasible.

Although free testing for syphilis is widely available in Los Angeles County, MSM with repeat infections may be willing to test more frequently for payment. A study conducted in the 1990s determined the cost associated with locating and treating partners for syphilis infection to be \$317 to \$362 per person on the basis of 3 different partner notification strategies.³⁹ Because most participants reported that \$40 to \$50 would incentivize them to test more often, this approach could be a feasible public health intervention if directed at MSM with repeat infections. However, further cost-effectiveness research is needed.

With regard to PHI-delivered approaches, slightly more than half of MSM interviewed

would want a reminder to test every 3 months (preferably received via e-mail or text), but fewer would want a PHI home visit for syphilis testing. Furthermore, our results suggest that whereas the current standard of care case management is often positively received, community-based partner notification services may be better inclined to establish trust within the MSM community and improve prevention efforts than do health department PHIs. These responses support previous research indicating that PHIs could be very effective when housed at community agencies.²¹ In addition, some PHIs might benefit from additional training on how to appropriately ask clients for personal information, such as date of birth, or how to elicit partners from individuals who are reluctant to provide this information. Our results also support findings of previous studies that suggest fears about confidentiality and mistrust of the health department among MSM.^{40,41}

Finally, preexposure antibiotic prophylaxis to prevent syphilis was regarded as 1 of the most favorable interventions, although many concerns were noted, including fears about risk compensation. However, a cohort study among MSM of preexposure prophylaxis for syphilis did not find increased sexual risk behaviors,²⁵ suggesting that minimal behavioral effects may result from MSM taking preexposure prophylaxis. Because long-term sexual behavior change is unlikely to occur among high-risk MSM,^{31,32} a prophylactic medication could be both beneficial and favorable.

Strengths and Limitations

Our findings should be interpreted in light of study limitations. Public health professionals preconceived the interventions; therefore, the interventions might be considered less relevant to community members. During the interviews, we asked participants if they had suggestions for additional interventions; however, none offered new ideas.

Furthermore, it is possible that the views of other high-risk MSM were not fully represented in this study because we interviewed only a small number of MSM within Los Angeles County. For example, more than half of our sample was unemployed, and because employment may present unique barriers to

testing, such as the ability to take time off work to test, there may be some issues related to testing that we did not uncover.

In addition, because the majority of men who participated reported testing regularly, we did not obtain feedback from high-risk MSM who were not testing regularly. However, our objective was to explore the attitudes toward and responses to potential interventions among MSM with repeat syphilis infections. It is possible that many MSM with repeat syphilis infections do test frequently because of the high prevalence of HIV and syphilis coinfection and the likelihood that many HIV-positive MSM will be tested for syphilis when they go in for regular HIV care.

Overall, we found a high degree of consistency in themes across the 19 interviews, indicating that this relatively small number of participants was sufficient to obtain a more in-depth understanding of the acceptability of interventions to prevent syphilis among this very specific group of high-risk MSM.

Conclusions

The persistently high syphilis rates among MSM underscore the need for new and innovative interventions, especially for those at highest risk. In general, high-risk MSM are more difficult to reach for intervention purposes; however, MSM who are identified with repeated syphilis infections can have programs offered to them by PHIs as part of their syphilis case management. Encouragingly, participants viewed many of the intervention strategies we described favorably. Because of the variety of responses, however, health departments might consider offering a range of flexible and client-centered intervention options to allow MSM with repeat infection to choose the most appropriate strategy for them.

Our analysis of qualitative interviews among MSM who have been repeatedly infected with syphilis thus provides essential information about the acceptability of several potential interventions in a high-risk population that can feasibly be reached for intervention. ■

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Contributors

S. Stahlman led the data analysis and article writing. A. Plant conceptualized the study, created the interview guide, and conducted interviews. A. Plant and M. Javanbakht assisted in article writing and data analysis. J. Cross recruited participants and conducted interviews. J. Cross, J. A. Montoya, and R. Bolan provided input on the interview guide and the article. J. A. Montoya assisted in the overview of the study design. R. Bolan provided input on participant recruitment. P. R. Kerndt provided input on study design, participant recruitment, and the article.

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Human Participant Protection

This study was approved by the institutional review board at the Los Angeles County Department of Public Health.

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