Receipt of Prevention Services Among HIV-Infected Men Who Have Sex with Men

Wayne T. Steward, PhD, MPH, Edwin D. Charlebois, PhD, MPH, Mallory O. Johnson, PhD, Robert H. Remien, PhD, Risë B. Goldstein, PhD, F. Lennie Wong, PhD, and Stephen F. Morin, PhD

Unprotected sexual intercourse remains a primary mode of HIV transmission in the United States. We found that receipt of services to reduce HIV transmission-risk behaviors was low among 3787 HIV-infected individuals and that men who have sex with men were especially unlikely to receive these services even though they were more likely to report unprotected sexual intercourse with seronegative and unknown serostatus casual partners. Greater efforts should be made to ensure that prevention counseling is delivered to all HIV-infected persons, especially men who have sex with men. (*Am J Public Health.* 2008;98:1011–1014. doi:10.2105/AJPH.2007.124933)

A recent critique of HIV prevention in the United States has argued for an increased focus on infected individuals who are most likely to engage in transmission-risk behaviors.[1] Behavioral assessments to identify people at highest risk for infection are already a component of prevention guidelines[2] and interventions for HIV-infected individuals.[3–5] However, the actual delivery of prevention counseling may be hindered by factors unrelated to these assessments.[6–8]

In an evaluation of 16 publicly funded clinics, we found that providers were less likely to administer prevention counseling in settings serving primarily HIV-infected men who have sex with men (MSM).[8] This observation is striking because it is critical to focus on MSM for prevention efforts. In 2005,

42% of newly diagnosed AIDS cases were attributable to male-to-male sexual contact,[9] and recent studies of MSM have documented high levels of risk behaviors,[10–17] sexually transmitted infections,[10,11,18–22] and HIV.[16,23]

Our previous work did not allow us to examine whether delivery of prevention counseling was affected by differences in patients' risk behaviors.[8] In that study, we assessed only the types of services received during clinical appointments and did not capture detailed information on HIV transmission risks. To remedy this limitation, we examined data from the baseline assessment of the Healthy Living Project, a cognitive–behavioral intervention trial that has reduced transmission risks among HIV-infected people.[4] We investigated whether the observed disparity in MSM's receipt of services to help reduce HIV transmission-risk behaviors was replicated in a new sample and whether the prevalence of risk behaviors accounted for this difference.

METHODS

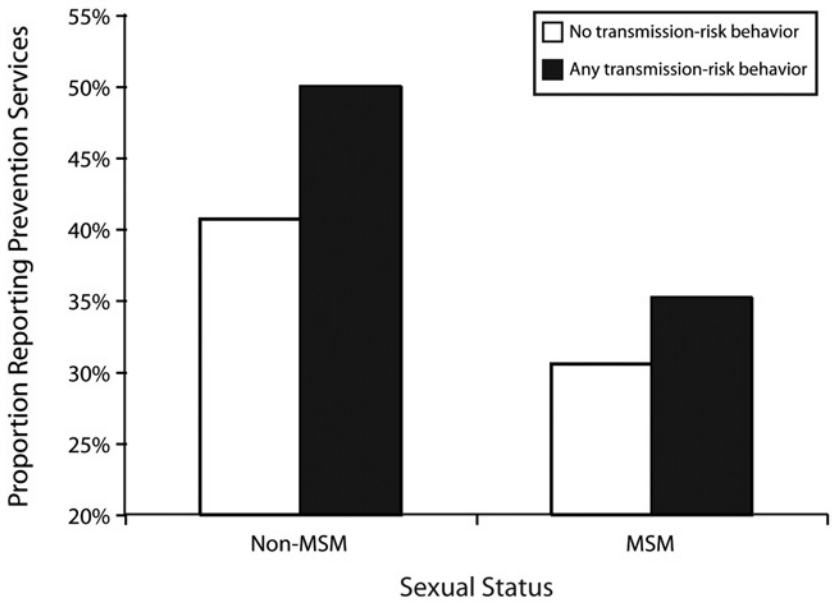
The Healthy Living Project baseline interview was completed by 3787 HIV-infected individuals in New York, New York; Milwaukee, Wisconsin; San Francisco, California; and Los Angeles, California. Participants were aged at least 18 years old, free of severe neuropsychological impairment, not involved in other HIV-related behavioral intervention studies, and willing to provide written informed consent and medical documentation of HIV infection. The trial examined the efficacy of an individual, 15-session intervention addressing stress and coping skills, avoidance of sexual and drug-related transmission risks, and active participation in health care decision making.[24,25] Complete methodological[24] and intervention[25] descriptions are published elsewhere. A majority of participants were African American (n=1841; 49%), Hispanic (n=729; 19%), or White (n=979; 26%). Their median age was 41 years (range 19–92). Most were male (n=2773; 73%), not college educated (n=2031; 54%), unemployed (n=2659; 70%), on antiretroviral therapy (n=2849; 75%), and had a CD4 count above 199 (n=2802; 74%). Individuals were categorized as MSM (n=1910; 50%) if they (1) were male and (2) either reported having had sexual contact with other men within the previous 3 months or, among sexually abstinent men, identified themselves as being gay or bisexual.

The baseline interview included a partner-by-partner assessment of sexual behavior in the previous 3 months.[24] We defined HIV transmission-risk behavior as unprotected anal or vaginal intercourse with seronegative or unknown serostatus partners. The interview also assessed medical and social services received in the 3 months before trial participation and included a question about prevention services, which were described as "programs that work with persons who are HIV-positive to help reduce the spread of HIV." We used generalized estimating equations, controlled for clustering by city, to examine the associations among prevention services, MSM status, and risk behaviors.

RESULTS

Approximately one third of participants (36%; n=1356) had received prevention services in the 3 months before the interview. However, MSM were significantly less likely than were other participants to report receipt of these services (odds ratio [OR]=0.64; 95% confidence interval [CI]=0.54, 0.77) even though they were significantly more likely to report HIV transmission-risk behaviors with casual sexual partners (OR=2.04; 95% CI=1.46, 2.85). Nearly one third of MSM (31%; n=589) had received prevention programming, compared with 41% of non-MSM (n=767). By contrast, 6% of MSM (n=105) reported transmission-risk behaviors with casual sexual partners, compared with only 3% of non-MSM (n=52).

As shown in Figure 1, when stratified by MSM status, fewer MSM than non-MSM received prevention services even though there was a positive association between risk behavior with casual sexual partners and prevention services (OR=1.23; 95% CI=1.11, 1.38 vs OR=1.46; 95% CI=1.15, 1.85). There was no correlation between prevention and risk behavior with steady sexual partners. In multivariable modeling, prevention services



Note. MSM = men who have sex with men.

FIGURE 1—Receipt of prevention services among men, by sexual status and transmission-risk behavior with casual sexual partners: The Healthy Living Project, New York, NY; Milwaukee, WI; San Francisco, CA; and Los Angeles, CA, 1998–2006.

TABLE 1—Multivariate Associations With Receipt of HIV Prevention Services in the Previous 3 Months: The Healthy Living Project, New York, New York; Milwaukee, Wisconsin; San Francisco, California; and Los Angeles, California; 1998–2006

Explanatory Variable	No.[a]	Adjusted OR (95% CI)[b]
Sexual Status		
Non-MSM (Ref)	1525	1.00
MSM	1608	0.69 (0.58, 0.82)
Race/Ethnicity		
White (Ref)	834	1.00
African American	1478	1.93 (1.38, 2.68)
Hispanic	616	1.52 (1.16, 1.98)
Other	205	1.52 (1.18, 1.94)
Gender		
Female (Ref)	801	1.00
Male	2286	1.08 (0.95, 1.22)
Transgender	46	1.10 (0.89, 1.35)
Age (continuous variable)	3313	1.00 (0.98, 1.02)
Education		
High school or less (Ref)	1646	1.00
Some college or more	1487	0.92 (0.79, 1.08)
Employment status		
Not employed (Ref)	2204	1.00
Employed	929	0.85 (0.67, 1.08)
CD4 cell count		
<200 (Ref)	676	1.00
≥200	2457	0.91 (0.77, 1.09)
Currently on antiretroviral therapy		
No (Ref)	506	1.00
Yes	2627	0.81 (0.74, 0.89)
HIV transmission-risk behavior with steady sexual partners		
No (Ref)	2962	1.00
Yes	171	0.78 (0.51, 1.18)
HIV transmission-risk behavior with casual sexual partners		
No (Ref)	3008	1.00
Yes	125	1.30 (1.00, 1.68)

[a]The number of participants does not sum to 3787 because of missing data.
[b]Standard errors were adjusted for clustering by city.

remained associated with non-MSM status as well as with race/ethnicity other than White, lack of antiretroviral therapy, and engaging in risk behaviors with casual sexual partners (Table 1).

DISCUSSION

To maximize effectiveness, HIV prevention interventions must reach infected individuals who are particularly likely to engage in transmission-risk behaviors.[1] Our research with HIV-infected people in 4 cities found that only a third had recently received prevention services and that MSM, who account for the largest group of new AIDS cases in the United States,[9] were especially likely to have gone without such services even though they were more likely to report risk behaviors. In addition, prevention was lower among Whites and people receiving antiretroviral therapy.

These observations highlight substantial missed opportunities. Interventions are effective at reducing risk behaviors among people living with HIV.[26] Increasing the delivery of prevention counseling may significantly reduce the epidemic's spread. Greater efforts are needed to ensure that prevention counseling is delivered to all HIV-infected persons, especially MSM. ■

About the Authors

Wayne T. Steward, Edwin D. Charlebois, Mallory O. Johnson, and Stephen F. Morin are with the Center for AIDS Prevention Studies, University of California, San Francisco. Robert H. Remien is with the HIV Center for Clinical and Behavioral Studies, New York State Psychiatric Institute and Columbia University, New York. At the time of the study, Risë B. Goldstein and F. Lennie Wong were with the Center for Community Health, University of California, Los Angeles.

Requests for reprints should be sent to Dr Wayne T. Steward, Center for AIDS Prevention Studies, University of California, San Francisco, 50 Beale St., Suite 1300, San Francisco, CA 94105 (e-mail: wayne.steward@ucsf.edu).

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Contributors

W.T. Steward originated the topic and led the writing. E.D. Charlebois, R.B. Goldstein, and F.L. Wong wrote statistical code necessary for the analyses. M.O. Johnson, R.H. Remien, and S.F. Morin made substantial contributions to the writing and had primary responsibilities for the study design and data collection at their sites.

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