

RACIAL DISPARITIES IN SEXUAL RISK BEHAVIORS AND DRUG USE AMONG OLDER GAY/BISEXUAL AND HETEROSEXUAL MEN LIVING WITH HIV/AIDS

Karolynn Siegel, PhD; Eric W. Schrimshaw, MA; and Daniel Karus, MS

New York, New York

Adults over age 50 comprise 11% of yearly AIDS cases, yet little is known about their sexual risk behaviors and drug use following diagnosis with HIV/AIDS. The present questionnaire study examines potential racial differences in sexual risk and drug use behaviors among 59 HIV-infected gay/bisexual and heterosexual men over age 50 who were recruited from HIV-related organizations in New York City between 1996–1998. The majority (59%) of older men reported unprotected sex since diagnosis, and 36% had done so in the past six months. African-American gay/bisexual men (n=12) were significantly more likely than white gay/bisexual men (n=32) to report unprotected vaginal/anal sex in the past six months (67% versus 22%, $p<0.01$), since diagnosis (42% versus 9%, $p<0.05$), and to report a history of intravenous drug use (50% versus 3%, $p<0.01$), but did not differ from heterosexual African-American men (n=15). No differences were found in reports of unprotected oral sex or recent use of hard drugs (i.e., crack, cocaine, heroin). These findings suggest that interventions targeting older African-American men (both gay/bisexual and heterosexual) with HIV/AIDS are needed to reduce risk behaviors and prevent HIV transmission in this population. (*J Natl Med Assoc.* 2004;96:215–223.)

Key words: sexual behavior ♦ drug use ♦ HIV/AIDS ♦ primary prevention ♦ racial/ethnic disparities ♦ gay and bisexual men ♦ heterosexual men

Adults age 50 and over account for approximately 11% of new AIDS cases each year in the United States.¹⁻³ and 18% of new AIDS cases in New York City.⁴ In addition, as a result of extended survival made possible by treatment advances, a

growing number of persons diagnosed with HIV infection in their 30s and 40s are now surviving into their 50s and even 60s.⁵ Thus, older adults living with HIV/AIDS may comprise a growing segment of the HIV-infected population whose unsafe behaviors may place others at risk for HIV infection, as well as place themselves at risk of reinfection with another strain of HIV or infection with other diseases (e.g., hepatitis C).

Currently, little is known about the sexual risk behaviors and drug use of older HIV-infected adults following their HIV/AIDS diagnosis. However, research on the sexual behavior of older uninfected adults and younger HIV-infected adults may provide some insights. Uninfected sexually active older adults who report at least one HIV risk behavior also report very rarely using condoms,⁶⁻⁸ and reported condom use declines with age.⁹ Among younger

© 2004. From the Center for the Psychosocial Study of Health & Illness, Mailman School of Public Health, Columbia University, New York, NY. Send correspondence and reprint requests for *J Natl Med Assoc.* 2004;96:215–223 to: Karolynn Siegel, PhD, Center for the Psychosocial Study of Health & Illness, Mailman School of Public Health, Columbia University, 100 Haven Avenue, Suite 6A, New York, NY 10032; e-mail: ks420@columbia.edu

HIV-infected adults across all risk groups, approximately one-third report continued unprotected sexual behaviors following their diagnosis with HIV/AIDS,¹⁰ and HIV-infected gay/bisexual men are no less likely to report unprotected sex than uninfected gay/bisexual men.¹¹⁻¹³ If these findings from uninfected older adults and younger HIV-infected men generalize to older men living with HIV/AIDS, a substantial proportion may be engaging in unprotected sexual behaviors.

The present study examines potential differences by race and sexual orientation in the sexual risk behaviors and drug use of older men living with HIV/AIDS. Its purpose is to examine whether African-American gay/bisexual men are similar to or differ from men who share their race but not sexual orientation (completely heterosexual African-American men) and from men who share their sexual orientation but not their race (white gay/bisexual men).

There is reason to believe that older African-American gay/bisexual men may be more likely to report both sexual risk behaviors and drug use than either white gay/bisexual men or African-American heterosexual men. There are a number of reasons for this hypothesis. First, African-American gay/bisexual men, as both gay/bisexual and African Americans, belong to two groups who have been most impacted by the AIDS epidemic. Together, men who have sex with men (MSM) and African-American men comprise 63% of all adult men diagnosed with AIDS in the United States in 2001.¹ Similarly, adults diagnosed with AIDS at age 50 or older have been disproportionately male (84%), and these have been disproportionately African American (35%).¹ Given that both MSM and African-American men are disproportionately infected by HIV, of particular concern from a prevention perspective are African-American MSM who belong to both of these groups, and thus, may engage in risk behaviors associated in both groups.

Indeed, African-American MSM are 2.5–6.3 times more likely to be HIV-infected than white MSM.^{12,14,15} The higher rates of HIV/AIDS among African-American MSM suggest higher rates of risk behaviors or higher risk behaviors (e.g., receptive anal sex) than white MSM. However, investigations have failed to identify differences in reported sexual risk behavior between either HIV-infected African-American and white gay/bisexual men,¹⁶⁻¹⁸ or between uninfected white and African-American gay/bisexual men.^{15,19-22}

However, this research has been conducted with samples comprised either entirely or primarily of younger men; thus, potential disparities among older HIV-infected men remain unexamined.

In addition to their high rates of HIV infection, there are several other potential reasons to suggest that African-American gay/bisexual men may be more likely to engage in sexual risk behaviors and drug use than either white gay/bisexual men or African-American heterosexual men. First, the African-American community has been reluctant to confront issues about HIV risk²³ and both condemns and stigmatizes homosexuality.^{22,24} As such, African-American gay/bisexual men are more likely to conceal their sexuality and sexual behavior.^{25,26} On the other hand, many African-American gay/bisexual men may feel alienated from predominantly white AIDS service organizations.²⁷ Indeed, African-American gay/bisexual men report less knowledge about HIV and less access to HIV-related information relative to white gay/bisexual men.^{21,27} This disparity may be even greater among older infected African-American gay/bisexual men, as older infected adults also report feeling more stigmatized,²⁸ are less likely to disclose,²⁹ and have lower levels of HIV-related knowledge.³⁰

The present study compares the reported sexual risk behavior and drug use of three groups of HIV-infected older men—African-American gay/bisexual men, white gay/bisexual men and African-American heterosexual men. In doing so, it provides important preliminary data on the risk behavior of older infected men and also illuminates differences associated with race and sexual orientation.

METHOD

Participants

The analyses presented below were based on data from 59 late-middle-age or older men (age 50 or older) living with HIV/AIDS in New York City. This study represents a secondary analysis of data drawn from two concurrent qualitative studies (n=64, n=49) of late-middle-age and older adults living with HIV/AIDS.^{31,32} Eligibility in both samples was limited to individuals who: 1) had tested seropositive for HIV antibodies; 2) were 50 years of age or older; 3) if Hispanic, were Puerto Rican (any race) and resided within the U.S. mainland for at least four years, or if non-Hispanic, were native-born African-American or white; 4) were cognitive-

ly competent as assessed with a brief screening measure.³³ An additional eligibility criterion for the supplemental sample was current or previous use of antiviral medications, including at least one protease inhibitor. For both samples, further case selection was guided by representative case sampling.³⁴ Thus, while the eligibility criteria set the broad parameters for inclusion, beyond these criteria, participants were selected to ensure the sample had variability on time since diagnosis, disease stage, age, race/ethnicity, and gender because these char-

acteristics were believed to potentially influence their psychosocial adaptation to HIV/AIDS. This purposive sampling method has been employed extensively by the researchers in prior work^{35,36} and is described more fully in earlier reports from the primary study³⁷ and the supplemental study.³⁸

As the two studies have samples that were accrued concurrently, employed nearly the same eligibility criteria, used the same recruitment procedures and sources, and used the same data collection methods, combining the samples for these

Table 1. Demographic Comparisons Between Older HIV-Infected White Gay/Bisexual Men, African-American Gay/Bisexual Men, and African-American Heterosexual Men

Variables	White Gay/Bisexual Men (n=32)	African-American Gay/Bisexual Men (n=12)	African-American Heterosexual Men (n=15)	χ^2/F	Post-Hoc
Age (SD)	57.81 (5.78)	54.80 (4.85)	54.75 (3.59)	F=2.56+	ns
Number of Years Since Diagnosis (SD)	7.01 (3.71)	6.63 (2.41)	6.91 (3.81)	F=0.05	ns
Disease Stage					
Pre-AIDS	37%	33%	20%	1.44	ns
AIDS diagnosis	63%	67%	80%		
Household Income					
<\$20,000	50%	92%	80%	8.50**	a,c
>\$20,000	50%	8%	20%		
Education					
<College	47%	75%	87%	7.89*	c
College graduate	53%	25%	14%		
Relationship Status					
Married or has steady partner	22%	17%	67%	11.05**	b,c
No steady partner	78%	83%	33%		
Living Arrangement					
Lives alone	81%	83%	53%	4.81+	c
Lives with other person	19%	17%	47%		
Parental Status					
Has children	22%	58%	93%	21.63**	a,b,c
No children	78%	42%	7%		

Note: All reported that pairwise post-hoc comparisons using Fisher's exact test are significant $p < 0.05$.
a=White gay/bisexual men differed from African-American gay/bisexual men
b=African-American gay/bisexual men differed from African-American heterosexual men
c=White gay/bisexual men differed from African-American heterosexual men
ns=Nonsignificant
*p<0.05 **p<0.01 +p<0.10

analyses seemed reasonable. A comparison of the two samples revealed few significant differences ($p < 0.05$). However, there were more Puerto Rican participants in the primary sample than in the supplemental sample (24% versus 2%, respectively), $\chi^2(1, N=113)=10.91, p < 0.01$. The participants in the primary sample were also less likely to report intravenous drug use histories than those in the supplemental sample (22% versus 43%, respectively), $\chi^2(1, N=112)=5.46, p < 0.05$.

Analyses for the present study were based on data from 59 African-American and white men. Of the 113 cases in the combined sample, 86 (76%) were men. Women ($n=27$) were excluded because they were not appropriate comparisons to answer the research questions. Of the 86 men, four white gay/bisexual men and one African-American gay/bisexual man were omitted because they were interviewed before the addition of items on unsafe sexual behavior. Puerto Rican men ($n=8$ gay/bisexual, 6 heterosexual) and heterosexual white men ($n=8$) were also excluded because there were too few cases to permit meaningful statistical comparisons.

Procedure

Individuals were recruited from community-based health and social organizations, support groups, advocacy organizations, and drug treatment centers in New York City. Flyers containing information about the study and how to contact the researchers by telephone were distributed within the organizations as well as directly to potentially eligible clients/members.

Interested individuals who called the study telephone line were screened for eligibility. Eligible individuals were scheduled for an interview at the investigators' research offices. After informed consent was obtained, participants for both studies completed an identical battery of self-administered measures, followed by an interviewer-administered questionnaire that elicited sociodemographic and medical history data. This was followed by a semi-structured interview. Interviewers were specifically trained and experienced at eliciting sensitive information (e.g., sexual behavior, drug use). Participants were given \$25 and reimbursed for transportation costs at each meeting. Data for the primary study were collected in 1996 through 1997, and supplemental study data were collected in 1997 through early 1998. The protocols were approved by the university institutional review board, and a fed-

eral certificate of confidentiality was obtained.

Measures

Demographic variables. Using standard demographic items, interviewers gathered data on participants' gender, race/ethnicity, age, marital/partner status, living arrangements, educational attainment, and household income. Sexual orientation was assessed using a five-point Likert-type scale ranging from "completely heterosexual" (1) to "completely homosexual" (5). Only those identifying as completely heterosexual were categorized as heterosexual, with all others categorized as gay or bisexual. Although five African-American men and eight white men did not complete this item because they were interviewed prior to the inclusion of this item, it was possible to determine their sexual orientation from information provided during the semistructured interview. For the current analyses, race/ethnicity and sexual orientation were combined into a single race-by-sexual-orientation variable noting whether the participant was an African-American gay/bisexual man, a white gay/bisexual man, or a completely heterosexual African-American man. Educational attainment was collapsed into a dummy variable indicating whether the individual had graduated from college. Household income was categorized into a dummy variable indicating whether the participant received \$20,000 or more per year.

HIV and health status variables. Illness-related information was gathered through an interviewer-administered questionnaire and included the length of time since the participants' first HIV-positive test (i.e., date of diagnosis) and information to determine disease stage. For these analyses, we have categorized participants as having ever met the CDC criteria³⁹ for an AIDS diagnosis or not.

Unprotected sexual behavior. Each participant was asked in the first meeting whether he had engaged in unprotected oral, anal, or vaginal intercourse within each of two timeframes—since learning of his HIV infection, and in the last six months. As both heterosexual and homosexual participants were included in these analyses, we followed established procedures^{17,40} to combine unprotected vaginal and anal sex into a single category representing "high-risk" unprotected sex (for each timeframe). Unprotected oral sex was examined separately.

Drug use history. Both past and recent illicit drug use were assessed. Participants were asked whether they had a history of injecting drug use

(taken illegal drugs by needle at any time since 1977). Drug use in the past year was assessed using a checklist of six illegal drugs (i.e., crack, marijuana, speed, cocaine, heroin, other). For the purposes of these analyses, dummy variables were created indicating whether the participant had used marijuana in the past year, and another indicating whether the participant had used any hard illegal drugs (i.e., crack, speed, cocaine, heroin) in the past year.

Data Analysis

Compared analyses reported sexual risk behaviors and drug use of African-American gay/bisexual men, white gay/bisexual men, and African-American heterosexual men. Bivariate associations were examined using 2x3 chi-square tests to compare the distribution of categorical variables (e.g., sexual behavior, drug use) across racial/sexual orientation groups, and one-way Analysis of Variance (ANO-

Table 2. Sexual Risk Behavior and Drug Use Comparisons Between Older HIV-Infected White Gay/Bisexual Men, African-American Gay/Bisexual Men, and African-American Heterosexual Men

Variables	White Gay/Bisexual Men (n=32)	African-American Gay/Bisexual Men (n=12)	African-American Heterosexual Men (n=15)	χ^2/F	Post-Hoc
<i>Unprotected Vaginal/Anal Sex Since Diagnosis</i>					
Yes	22%	67%	47%	8.24**	a
No	78%	33%	53%		
<i>Unprotected Vaginal/Anal Sex in Past Six Months</i>					
Yes	9%	42%	20%	6.02*	a
No	91%	58%	80%		
<i>Unprotected Oral Sex Since Diagnosis</i>					
Yes	56%	58%	33%	2.48	ns
No	44%	42%	67%		
<i>Unprotected Oral Sex In Past Six Months</i>					
Yes	34%	33%	33%	0.01	ns
No	66%	67%	67%		
<i>History of IV Drug Use</i>					
Yes	3%	50%	60%	20.71**	a,c
No	97%	50%	40%		
<i>Recent Marijuana Use</i>					
Yes	38%	8%	13%	5.47+	ns
No	63%	92%	87%		
<i>Recent Hard Drug Use</i>					
Yes	19%	33%	20%	1.13	ns
No	81%	67%	80%		

Note: All reported that pairwise post-hoc comparisons using Fisher's exact test are significant $p < 0.05$.
a=White gay/bisexual men differed from African-American gay/bisexual men
b=African-American gay/bisexual men differed from African-American heterosexual men
c=White gay/bisexual men differed from African-American heterosexual men
ns=Nonsignificant
*p<0.05 **p<0.01 +p<0.10

VA) was used to compare means of the continuous variables (e.g., age, length of time since diagnosis). When significant differences were found, post-hoc 2x2 comparisons were conducted using the Fisher's exact test, which is more appropriate given the small sample. Due to the small sample size, we do not have sufficient power to statistically control for potential confounds using multivariate analyses. However, we have performed additional bivariate analyses to examine the potential confounds of income and education.

RESULTS

Sample Characteristics

The subsample for the analyses reported here ($N=59$) consisted of 15 African-American heterosexual men (25%), 12 African-American gay/bisexual men (20%), and 32 white gay/bisexual men (54%). The men ranged in age from 50 to 68 years ($M=56.42$ years, $SD=5.27$ years). Sixty-two percent has less than a college education, and 37% a college degree or more. Most (81%) were no longer working. The median yearly household income was between \$5,000 and \$9,999. Thirty-two percent were married or had a steady partner. Seventy-five percent reported living alone. Using CDC criteria,³⁹ 68% had ever met the criteria for an AIDS diagnosis. Participants reported an average of 7.8 HIV-related symptoms ($SD=6.4$), and 24% had a current CD4 cell count of 200 or less ($M=360$, $SD=208$, median=300). The length of time since first testing HIV-positive ranged from less than a year to over 15 years ($M=6.91$ years, $SD=3.46$ years).

Demographic comparisons between white gay/bisexual men, African-American gay/bisexual men, and African-American heterosexual men are presented in Table 1. The three groups of men differed in the distribution of age, and socioeconomic, relationship, and family characteristics. There was a trend ($p<0.10$) for white gay/bisexual men to be older ($M=57.8$, $SD=5.8$) than both African-American gay/bisexual men ($M=54.8$, $SD=4.8$) and African-American heterosexual men ($M=54.8$, $SD=3.6$). African-American gay/bisexual men and African-American heterosexual men reported significantly lower household incomes (8% and 20% $> \$20,000$ per year) than white gay/bisexual men (50% $> \$20,000$ per year). White gay/bisexual men were significantly more likely to have a college education than African-American heterosexual

men (53% versus 14%), and there was a trend ($p<0.10$) toward white gay/bisexual men being more likely to have a college education than African-American gay/bisexual men (53% versus 25%). African-American gay/bisexual men and white gay/bisexual men were both significantly less likely to report being married or having a steady partner than heterosexual African-American men (22%, 17%, 67%, respectively). Similarly, white gay/bisexual men were more likely to report living alone than heterosexual African-American men (81% versus 53%), but African-American gay/bisexual men did not differ from either group (83%). Finally, African-American gay/bisexual men were significantly less likely to report having children than heterosexual African-American men (58% versus 93%) but were significantly more likely to report having children than white gay/bisexual men (58% versus 22%). There were no differences among the three groups on disease stage or length of time since diagnosis.

Sexual Risk Behaviors and Drug Use

The majority (59%) of these older HIV-infected men reported having had unprotected sex (vaginal, anal, or oral) since their diagnosis with HIV/AIDS. Although the proportion of men reporting that sexual risk behaviors during the six months preceding the interview was lower, a substantial number (36%) still reported engaging in one or more unprotected sexual behaviors during this recent period. Drug use was also widespread in this sample, as 27% reported a history of injecting drug use, 25% reported marijuana use in the past year, and 22% reported hard drug use (i.e., crack, coke, heroin) in the past year.

Sexual risk behavior and drug use comparisons among the three groups of older men are presented in Table 2. Differences were found in reported unprotected vaginal or anal sex in both time periods. African-American gay/bisexual men were significantly more likely to report unprotected vaginal/anal sex than white gay/bisexual men both since diagnosis (67% versus 22%) and in the past six months (42% versus 9%). African-American heterosexual men's reports of unprotected vaginal/anal sex did not differ from either white gay/bisexual men or African-American gay/bisexual men. It should be noted, however, that the proportion of heterosexual African-American men that engaged in unprotected vaginal/anal sex in the past

six months (although not statistically different) was half that of gay/bisexual African-American men (20% versus 42%). No significant differences in the prevalence of reported unprotected oral sex were found among the three groups in either time period. However, the distribution of men who reported *only* having unprotected oral sex (and not having unprotected vaginal/anal) since diagnosis did vary among the three groups, χ^2 (1, $N=59$)=6.21, $p<0.05$. Although the post-hoc comparisons were only marginally significant, there was a trend for white gay/bisexual men to be more likely to report only having unprotected oral sex than African-American gay/bisexual men since diagnosis (34% versus 8%), χ^2 (1, $N=44$)=2.98, $p=0.08$. No differences were found among the groups with regard to reporting only unprotected oral sex in the past six months.

Significant differences were also found among the three groups in their reported histories of intravenous (IV) drug use and recent marijuana use. African-American gay/bisexual men and African-American heterosexual men were both significantly more likely to report a history of IV drug use than white gay/bisexual men (50% and 60% versus 3%). In contrast, there was a trend ($p<0.10$) toward white gay/bisexual men being more likely to report marijuana use in the past year than African-American gay/bisexual men (38% versus 8%). There were no significant differences in reports of hard drug use (i.e., crack, cocaine, heroin, speed) in the past year.

Additional Analyses

Although the above analyses suggest race-related differences in sexual risk behavior and drug use, alternative explanations exist. Because the three race/sexual orientation groups also differed on education and income, socioeconomic status (SES) may account for the observed differences. To investigate this possibility, the prevalence of reported sexual risk behaviors and drug use was compared for high- and low SES groups. However, no significant differences in the prevalence of unprotected sexual risk behavior (vaginal/anal or oral) were found by education level or income. Significant SES differences were noted, however, in reported history of IV drug use, recent marijuana use, and recent hard drug use. Specifically, participants with a college education were less likely to report a history of IV drug use [χ^2 (1, $N=59$)=5.77, $p<0.05$]

and more likely to report recent marijuana use [χ^2 (1, $N=59$)=7.24, $p<0.01$] than those without a college education; and participants with lower incomes were more likely to report a history of IV drug use [χ^2 (1, $N=59$)=7.49, $p<0.01$] and recent hard drug use [χ^2 (1, $N=59$)=5.11, $p<0.05$] than those with higher incomes. Thus, these findings suggest that although SES may, at least partially, explain the racial differences noted in reported history of IV drug use and recent marijuana use, it does not offer evidence of SES as an alternative explanation for the relation found between racial/sexual orientation disparities in sexual risk behavior.

DISCUSSION

The present findings suggest a substantial minority of older HIV-infected white and African-American men may continue to engage in risk behaviors following diagnosis. Indeed, a disturbingly high proportion of men in each of the three groups reported some kind of unprotected sex since their diagnosis that could potentially transmit HIV infection to others, result coinfection with another sexually transmissible disease, or reinfection with another strain of HIV. Although the percentages of men still reporting unsafe sex in the past six months were lower, a third or more in each group still acknowledged at least one unsafe contact. Although their current partner status may not be the same as at the time of their unsafe behavior, the large majority of African-American gay/bisexual men and white gay/bisexual men (83% and 78% respectively) had no steady partner, suggesting that their unsafe sex may be taking place outside the context of a monogamous relationship.

The findings that older African-American gay/bisexual men were significantly more likely to report unprotected vaginal/anal sex and a history of IV drug use than older white gay/bisexual men but did not differ from older heterosexual African-American suggest that gay/bisexual African-American men were more similar in their sexual behavior and drug use to heterosexual African-American men than to white gay/bisexual men. These findings suggest that race or its correlates may exert a greater influence on their risk behaviors than sexual orientation. However, future research with a larger sample should further examine the potential sexual orientation differences among African-American men, which may not have reached statistical significance due to the small sample available here.

Several between-group differences that might possibly be factors in the greater prevalence of reported unsafe vaginal/anal sex among African-American gay/bisexual men than white gay/bisexual men were identified. For example, the former were more likely to report a history of IV drug use, which might explain the association between race and unsafe sexual behavior. Unfortunately, due to the high overlap between ethnicity and drug use, we were unable to examine this possibility. Another difference between these two groups that might be associated with differences in risky sexual behavior is the more socioeconomically disadvantaged status of the African-American men. It is possible that race is merely a surrogate for SES, since African-American participants of both sexual orientations tended to report lower incomes and less education than the white gay/bisexual men. However, in our exploration of this alternative hypothesis, no differences were found in reported sexual risk behaviors by income or education, suggesting that SES does not account for the differences in reported unprotected vaginal/anal sex between white and African-American gay/bisexual men. There were, however, differences in reported drug use by income and education. Thus, SES may account for the differences in IV drug use history and marijuana use between white gay/bisexual men and both groups of African-American men. Other possible explanations for why these racial disparities in sexual risk behaviors exist in this sample (e.g., self-disclosure, felt stigma, and HIV knowledge) are also possible, and should be examined as possible mechanisms by which race is associated with risk behaviors in future research.

Several limitations of the study must be acknowledged. First because sexual behaviors were not the original focus of the study, our measures of sexual risk behavior did not provide a detailed sexual behavior profile (e.g., how frequently these acts occurred, whether or not they took place with a steady partner, whether they acted as the insertive or receptive partner, or the serostatus of their partners). Second, because of the purposive sampling methods employed, the sample may not be representative of the population of older men with HIV/AIDS in New York City. The study may also be limited by the inherent problems of self-reported sexual behaviors and drug use. Furthermore, although we had a sufficient sample of this rare population to detect some significant between-group differences, others may have gone undetected

due to the relatively small sample size. Conversely, there is the possibility that the differences noted in this small sample may not replicate with larger samples; therefore, we encourage future research to replicate this study with a larger, more representative sample.

The fact that a substantial proportion of men in all three groups continued to report sexual risk and drug use behavior following their diagnosis suggests the need for greater prevention efforts which include or specifically target late-middle-age and older adults. Older gay/bisexual African-American men reported the highest prevalence of risky sexual behavior in comparison to white gay/bisexual men. Clearly, the prevention messages and interventions had not reached or had not yet been as effective with older African-American gay/bisexual men. Traditionally, prevention efforts have tended to target individuals based on risk behavior categories (e.g., MSM), however, these data question the appropriateness of targeting African-American gay/bisexual men solely on the basis of sexual orientation, and suggest that their race/ethnicity must also be considered. Further, the fact that the sexual risk behaviors reported here took place after diagnosis with HIV/AIDS suggests the need for improved risk-reduction interventions for HIV-infected individuals, particularly at the time of testing and immediately following diagnosis.

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Address correspondence to ktaylor@nmanet.org.