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Sexual Health Screening Among Racially/Ethnically Diverse Young Gay, Bisexual, and Other Men Who Have Sex with Men

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Abstract

Purpose—Screening for sexually transmitted infections is a crucial element of improving health and reducing disparities, and young men who have sex with men (YMSM) face high rates of both STIs and HIV. We examined sexual health screening among a diverse sample of adolescent YMSM living in New York City.

Methods—Between 2009 – 2011, cross-sectional data were collected from 590 YMSM in New York City. Separate multivariable logistic regression models were used to assess the relationship between sociodemographic, psychosocial, and health and healthcare related factors and two main outcomes: having sought a recent sexual health screening (past 6 months) and having a rectal sexual health screening (lifetime).

Results—Overall, 46% reported a sexual health screening in the prior 6 months, but only 16% reported ever having a rectal screening for STIs. Rates were higher among ethnic minority YMSM and men who accessed care at clinics. Multivariable results indicated that gay community affiliation, recent unprotected anal sex, and number of lifetime male partners were also associated with seeking a recent screening.

Conclusions—Though half of the sample reported recent general screening, rates of lifetime rectal screening are low. Efforts to increase screening may focus on improving provider knowledge and guideline adherence, and educating and encouraging YMSM to access sexual health check-ups.

Keywords

adolescent; gay and bisexual; sexual health; sexually transmitted infections

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Implications and Contribution: This manuscript examines sexual health screenings among adolescent YMSM. Though YMSM are accessing basic screenings, rectal screenings are under-performed. These analyses examine sociodemographic, psychosocial, and health care correlates of sexual health screening. The venue for care is considered, and recommendations for increasing screening rates are presented.

INTRODUCTION

Screening for sexually transmitted infections [STIs] is a principal public health tool for identifying and treating infections and reducing the likelihood of continued transmission. In addition to the sequelae associated with untreated infections, STIs may also increase the risk of HIV transmission or acquisition.^{1–4} Screening and treating STIs in at-risk populations may reduce HIV incidence,^{5,6} as an untreated STI may play a dual role in facilitating HIV by both increasing infectiousness and increasing susceptibility.^{2,3} Thus, timely and on-going access and uptake of sexual health screenings among YMSM, particularly Black YMSM, is critical as these groups are disproportionately affected by HIV,^{7,8} and high rates of undiagnosed or untreated STIs may contribute to HIV disparities in this population.^{9–11} While the lack of data on sexual orientation and sexual behaviors precludes the ability to examine national and local trends in the prevalence and incidence of most sexually transmitted infections (STIs) beyond HIV, among men who have sex with men (MSM), data from enhanced surveillance studies indicate that rates of primary and secondary syphilis, gonorrhea, and Chlamydia continue to increase among MSM. Additionally, in New York City among those tested as part of the STD Surveillance Network in 2010, 17% and 10% of MSM testing for STIs were diagnosed with gonorrhea and Chlamydia, respectively.¹²

The CDC recommends annual screening for MSM, with site-specific (urethral, pharyngeal, and rectal) screening contingent upon specific sexual behavior (receptive oral sex, receptive or insertive anal sex). Having multiple or anonymous partners, or engaging in concurrent sex and drug use, may constitute a higher risk for STIs including HIV, and thus these men should screen at 3–6 month intervals.¹³ Additionally, while there are no established screening guidelines for MSM, yearly pap screenings for anal cancer may be undertaken.¹⁴

Despite these recommendations, YMSM may face a number of barriers to access or utilization of sexual health care. Lindberg et al.¹⁵ suggest that for young males accessing sexual health care is a “stressful experience fraught with both internal and external barriers.” For YMSM, these obstacles may include financial and economic barriers at the individual or system level,^{16–18} a lack of relevant sexual health education and knowledge¹⁹, stigma, homophobia, and provider cultural competence,^{17,18} and concerns about confidentiality and privacy.^{15,18} As YMSM have the highest rate of STIs and concomitantly are the least likely to receive sexual health care, a more nuanced understanding of YMSM sexual health care is of paramount importance.

METHODS

Study Design & Sample

Project 18 is a longitudinal study of adolescent YMSM in New York City and is described in detail elsewhere.²⁰ Participants were recruited between June 2009 and May 2011 using active (e.g., approaching individuals to solicit participation) and passive (e.g., posting advertisement flyers) methods across the New York City metropolitan area. Venues included public spaces, community events, educational institutions, youth organizations, service agencies, and nightlife venues. Internet-based recruitment occurred on popular dating, networking, and “hook up” sites. To be eligible for this study, participants had to be 18–19, biologically male, sexually active with other men, reside in the New York City area, and self-report a seronegative or unknown HIV status. To ensure a sufficient sample of racial/ethnic minority men (Black, Latino, Asian-Pacific Islander [API], multiracial/other) in our cohort, we oversampled within these groups. All participants provided informed consent prior to beginning the baseline interview and were remunerated for their time and effort. The assessment collected sociodemographic, psychosocial, and health care data using audio computer-assisted self-interview (ACASI) software to reduce biases associated with

interviewer-administered surveys and socially-desirable responding. Sexual behavior data were collected using the Time Line Follow Back methodology.²¹

A total of 2,068 individuals were screened for this study, with the majority ineligible due to age. A total of 601 YMSM completed the baseline survey; among these 601, three were later identified as duplicates, and eight reported no history of oral sex, anal sex, or vaginal sex. Thus, our final sample for these analyses consisted of 590 YMSM. Prior to study implementation, all study protocols were approved by the Institutional Review Board (IRB) at New York University and data are protected by a Certificate of Confidentiality.

Independent Variables

Sociodemographic characteristics—Participants indicated their race/ethnicity (collapsed as Hispanic/Latino, Black/non-Hispanic, Asian-Pacific Islander/non-Hispanic [API], White/non-Hispanic, and mixed or other/non-Hispanic). In order to minimize measurement error with regard to income (i.e., participants not knowing parental income), we measured perceived familial socioeconomic status (“What do you perceive to be the economic class of the people who raised you?”) on a 5-point scale (lower, lower-middle, middle, upper-middle, upper); we trichotomized responses as “lower,” “middle,” or “upper.” Sexual identity (“How do you describe your sexual identity?”) was indicated on a 7-point scale, ranging from “exclusively heterosexual” to “exclusively homosexual” and was dichotomized as “not exclusively homosexual,” and “exclusively homosexual.” Participants also indicated current educational enrollment (“Are you currently enrolled in school?”). Housing status was coded as stably housed (e.g., family residence, school residence), or unstably-housed/homeless (e.g., shelter, public place).²² Zip codes were collected, and were recoded for analyses as city center (Manhattan), outside city center (Brooklyn, Bronx, Queens, Staten Island), or outside of city (New York City metropolitan area, elsewhere).

Psychosocial factors—Participants indicated whether they were currently in a relationship with a man. Gay community affinity was assessed (“I feel part of the gay community in New York City”) using a 5-point Likert scale ranging from “strongly agree” to strongly disagree,²³ and responses were trichotomized as “agree,” “neutral,” and “disagree.” Participants also reported the proportion of friends who knew of the participant’s same-sex sexual behavior (“About how many of your friends know that you have had sex with a man?”²³ on a 5 point scale ranging from “all” to “none,” with a 6th response of “don’t know”), and responses were dichotomized as either “some, few, none, don’t know” and “all, most.” Participants indicated lifetime history of transactional sex (exchanging sex for drugs and/or money, lifetime number of male sexual partners (responses more than 187, i.e., 4 standard deviations above the mean, were excluded as outliers), and the age of first oral or anal sex with a man (responses below the age of 5 were coded as missing, as were any first-episodes reported as non-consensual). Recent history (30 days) of unprotected anal intercourse [UA] was captured using the Time Line Follow Back calendar method²⁰ and dichotomized as any UA in the prior 30 days.

Health and health care related factors—Participants self rated health (“In general, how is your health?”) on a 5-point scale ranging from “Poor” to “Excellent,” which was dichotomized as “good, fair, poor” or “excellent/very good.” Participants also indicated whether they had any health care coverage (“Do you have any kind of health care coverage, including health insurance, prepaid plans such as HMOs, or governmental plans such as Medicaid?”), whether they had a specific provider (“Do you have a clinic or doctor that you go to for medical care/treatment?”), and their most frequent venue for care (private doctor/physician/clinic, public clinic/hospital, VA hospital/clinic, emergency department) with responses collapsed as “private,” “public or VA,” or, “emergency department.”

Dependent Variables

Sexual healthcare screenings were measured via two main variables (1) having sought sexual health screening in the prior 6 months (“In the past 6 months, have you visited a doctor or health care provider to be tested for sexually transmitted infections?”), and (2) having a rectal sexual health screening at any point (“Has your doctor or medical professional ever swabbed the inside of your anus (butt) with a cotton swab to test for sexually transmitted infections or cancer?”).

Data analysis

First, descriptive analyses characterized the sample. Next, bivariate analyses examined sociodemographic characteristics, psychosocial variables, and health and healthcare related factors as they related to the dependent variables. Analyses of having an rectal sexual health screening were restricted to the subsample of men who indicated ever having receptive anal sex. Chi-square tests were used for categorical variables, and t-tests were used for continuous variables; adjusted t-tests were used in cases of unequal variance. We also examined differences by race/ethnicity within each independent variable.

Variables that were statistically significant at $p < 0.05$ in bivariate analyses were included in two separate multivariable analyses, one examining seeing a provider for sexual health screening in the prior 6 months, and the second examining ever having a rectal sexual health screening. For each dependent variable (sexual health screening, and rectal screening), a binary logistic regression model was created using two blocks; race/ethnicity was included in the first block, and all other variables were included in the second block to determine if they improved fit after controlling for race/ethnicity.

RESULTS

The sample is detailed in Table 1. Overall, 46% ($n = 272$) reported seeing a healthcare provider for sexual health testing in the prior 6 months, and having sought sexual health testing in the prior 6 months was associated with ever having a rectal screening (OR = 6.60, $p < .001$, 95% CI = 3.67, 11.88). Among the subsample who reported any receptive anal sex in their lifetime ($N = 461$), 16% ($n = 73$) ever had a rectal screening.

Seeking sexual health screening

Race/ethnicity was significant ($\chi^2 (4) = 43.30$, $p < .001$) with more Black (62%) Hispanic/Latino (54%) and multiracial/other (54%) YMSM having sought sexual health screening as compared to White (29%) or API (21%) YMSM (Table 2).

Factors associated with seeing a provider for screening included non-enrollment in school (69%) ($\chi^2 (1) = 11.28$, $p = .001$) as compared to YMSM enrolled in school (43%). More men of lower (49%) or middle (49.5%) SES ($\chi^2 (2) = 6.12$, $p = .05$) sought testing as compared to men of upper SES (38%). Housing status ($\chi^2 (1) = 6.24$, $p = .01$) was also associated with seeking screening, as 67% of unstably housed/homeless men had tested as compared to stably housed men (45%). Men who lived in the outer boroughs of New York City were more likely to have sought testing (59%) than men who lived in Manhattan (40%) or outside the NY metro area (32%) ($\chi^2 (2) = 30.10$, $p < .001$). Men who engaged in transactional sex ($\chi^2 (1) = 6.30$, $p = .01$) were more likely to have sought screening (58%) than men who had not engaged in transactional sex (44%). Men who reported gay community affinity ($\chi^2 (2) = 22.84$, $p < .001$) (“agree”) reported seeking screening at a higher rate (58%) than men who were neutral (39%) or disagreed (35%). Similarly, peer knowledge of same-sex behavior was associated with seeking screening ($\chi^2 (1) = 7.65$, $p = .006$); 50% of men who reported that all or most of their peers knew of their same-sex

behavior had sought testing, as compared to 38% of men who reported “some” or fewer of their peers knew. Participants’ venue for medical care was also associated with seeking screening ($\chi^2(2) = 20.01, p < .001$), and a higher proportion of men receiving care in public clinics, hospitals, or VA sites had seen a provider to be tested (59%) as compared to men receiving care in the emergency department (48%) or at a private doctor or clinic (39%). Men who had sought screening reported more lifetime partners ($M = 14.39, SD = 16.67$) versus men who had not had a screening ($M = 8.15, SD = 9.53$); ($t(586) = 5.45, p < .001$). The magnitude of the difference (mean difference = 6.24, CI = 8.49 to 3.99) was moderate-to-small (eta squared = .05). Men who had seen a provider for testing had younger sexual onset ($M = 14.12, SD = 2.71$) than men who had not screened ($M = 14.98, SD = 2.38$); ($t(566) = 4.03, p < .001$). The magnitude of the difference (mean difference = 0.85, CI = 0.44 to 1.28) was small (eta squared = .01).

Rectal screening

Having a rectal swab in the prior 6 months was associated with race/ethnicity ($\chi^2(4) = 10.63, p = .03$); a greater proportion of Hispanic/Latino (21%), Black (17%), and multiracial/other (14%) YMSM reported screening as compared to White (11%) or API (0.0%) YMSM. Reporting any UA was associated with a rectal screening ($\chi^2(1) = 14.18, p < .001$), as more men who engaged in UA had tested (27%) as compared to men who had not (12%). Venue for care was associated with rectal screening ($\chi^2(2) = 9.45, p = .009$), with care at a public hospital, clinic, or VA site reporting screening (23%) as compared to care from a private doctor or clinic (13%) or emergency department (5%). Men who had undergone rectal screening reported more lifetime partners ($M = 16.74, SD = 14.52$) compared to men who had not screened ($M = 11.51, SD = 14.39$); ($t(99) = 2.81, p = .006$). The magnitude of the difference (mean difference = 5.23, CI = 8.92 to 1.53) was small (eta squared = .01). Finally, men who had a rectal screening had younger sexual onset ($M = 13.48, SD = 2.93$) compared to men who had not undergone screening ($M = 14.49, SD = 2.51$); ($t(447) = 2.99, p = .003$). The magnitude of the difference (mean difference = 1.00, CI = 0.34 to 1.67) was small (eta squared = .02).

Multivariable analyses

The model explaining likelihood of a sexual health screening in the prior 6 months fit in two steps ($\chi^2(17) = 118.09, p < .001$). This second block, which included psychosocial and health care variables, improved fit over the first block which included only race/ethnicity ($\chi^2(13) = 71.98, p < .001$) (Table 4). These results indicate that Black (OR = 2.88, 95% CI = 1.48, 5.59), Latino (OR = 2.03, 95% CI = 1.22, 3.37), and multiracial/other participants (OR = 2.79, 95% CI = 1.47, 5.28) had a 2–3 times greater odds of having had a sexual health screening in the prior 6 months than White YMSM. The odds were also greater for those who resided in the outer boroughs as compared to those residing in the city center (OR = 1.87, 95% CI = 1.19, 2.92), those with higher levels of community affiliation (OR = 1.29, 95% CI = 1.00, 1.66), and those with a greater number of lifetime male sexual partners (OR = 1.05, 95% CI = 1.02, 1.07), and tangentially, those receiving care from public venues or clinics as compared to private venues (OR = 1.49, 95% CI = 0.47, 2.29).

The model explaining likelihood of a rectal screening also fit in two steps ($\chi^2(9) = 48.801, p < .001$). This second step improved fit over the first block which included only race/ethnicity ($\chi^2(5) = 35.65, p < .001$) (Table 5). These results indicate that Hispanic/Latino participants (OR = 2.08, 95% CI = 1.01, 4.30) were more likely to have had a rectal screening. Likelihood of a screening was also greater for those receiving care in public clinics, hospitals, or VA sites (OR = 2.05, 95% CI = 1.14, 3.70) as compared to private care, and those who had unprotected anal intercourse in the month prior to assessment (OR = 3.37, 95% CI = 1.87, 6.07). Tangentially, odds of having a rectal screening were higher

among men with a younger age of sexual onset (OR = 0.91, 95% CI = 0.81, 1.00) and those with more lifetime sexual partners (OR = 1.08, 95% CI = 1.00, 1.04).

DISCUSSION

In this sample, nearly half (46%) of men reported seeing a provider for sexual health testing in the prior 6 months. These rates are slightly higher than data from the 2003–2005 National HIV Behavioral Surveillance System (NHBS), which indicated that about a third of MSM had undergone screening in the prior year (39% for syphilis, 36% for gonorrhea, and 34% for both).²⁴ In their study of Australian gay men, Zablotska et al.²⁵ found that 65% of gay men reported general STI testing in the prior 12 months.

However, only 16% reported ever having a rectal screening. This rate is low,²⁵ especially given that the question assessed any single screening over the lifetime. Providers may not follow screening guidelines,²⁶ and rectal screening is widely underperformed, despite CDC recommendations.²⁷ In a large study of MSM seeking sexual health services in San Francisco, the vast majority of rectal infections were asymptomatic (85%), despite the rectum being the most prevalent site for Chlamydia and the second most prevalent site for gonorrhea. Further, more than three-quarters of rectal infections would have gone undiagnosed if the clinician had only conducted urethral screening.²⁷ Finally, data from large-scale analysis of gay community-based Chlamydia and gonorrhea screening indicated that rates of pharyngeal and rectal infections were higher than urethral infections.²⁸

Black, Latino, and multiracial/other men were more likely to have recently sought testing than White men; Latino men were more likely to have undergone a rectal screening. Similar to these findings, NHBS reports indicate that Black MSM were more likely to have tested in the prior year, and note that this may be attributable to racial/ethnic STI disparities, and also, provider knowledge of these disparities resulting in higher screening rates.^{9–11,24} Higher rates of testing among ethnic minority YMSM may also result from identification of STI transmission within sexual networks, which have been attributed to HIV/STI disparities among Black YMSM.^{10,29,30}

Men who received care in public clinics, hospitals, or VA sites were more likely to have undergone general screening, and further, rectal screening. Notably, adolescents who seek sexual health care through a primary care physician may also receive less comprehensive sexual health care.¹⁸ Men experiencing STI symptoms may also be more likely to seek care at a clinic (e.g., public health STD clinics). Clinics also may reduce or eliminate a number of barriers to accessing care, including concerns about billing or parental notification.^{18,31,32} High rates of uninsurance among young men¹⁶ and MSM³³ may also steer men to clinics. Further, clinics may offer specialty sites where services are tailored to gay, bisexual, or LGBT clients²⁸ and where routine check-ups are the norm.

Finally, we found significant psychosocial and behavioral predictors of seeking screening. Men who had higher gay community affiliation were more likely to have seen a provider for sexual health testing. Gay community attachment has been associated with HIV testing.³⁴ These men may screen because they are immersed in the community and exposed to interventions regarding sexual health care, they may be more likely to disclose their sexual behavior or identity to a provider,²⁴ or they may be accessing services in community-based venues (e.g., gay men's health clinics) that are adherent to clinical guidelines. Finally, gay community affiliation may also confer increased opportunities for sexual behavior, and thus potential exposure to STIs.

The number of lifetime male sexual partners was also associated with seeking sexual health screening, and recent UA was the strongest factor predicting any rectal screening. Similar

predictors (number of partners, drug use during sex, UA) have been associated with sexual health testing.^{24,25} Conversely, we note that in our prior research with NYC YMSM, the majority of men had their most recent HIV test as part of their health care routine, rather than in response to recent sexual risk.³⁵ Thus, it is plausible that some men are screening in a proactive fashion.

Limitations

All data were self-reported, and are subject to recall bias and social desirability bias. The use of ACASI to collect data helps to minimize these biases. We assessed whether men sought a sexual health check-up in the prior 6 months, and it is plausible that screening rates, per the CDC recommendation of 12 months, are higher than reported here because men tested between 6 and 12 months ago, or because they were tested despite not visiting the provider specifically for that reason. Additionally, we did not assess whether men experienced STD symptoms that may have prompted the screening visit. Though we recruited participants from myriad venues to ensure diversity, the non-random sampling may limit generalizability. Finally, the data presented is cross-sectional, and causality cannot be inferred.

CONCLUSION

Improving sexual health care for YMSM requires addressing a number of barriers and obstacles. In general, there is a dearth of published research examining LGBT youth and the health care system.³² Youth may not disclose sexual risk to providers,^{32,36} and providers may be uncomfortable or untrained in addressing sexual behavior,^{16,37,38} sexual minorities,²⁶ or sexual minority youth.³⁶ Low rates of rectal screening in this sample may be attributable to patient factors (e.g., not disclosing sexual behavior to providers, or unawareness of the need for screening), or provider factors (e.g., discomfort with sexuality, sexual minority youth, or anal health). Thus, prevention efforts must include initiatives that improve provider competence and self-efficacy,³⁹ in addition to reinforcing screening guidelines. Provider LGBT cultural competence is especially important, as homophobia, racism, and lack of culturally competent health care may prevent MSM from accessing care,^{17,26} and may taint future health care interactions.^{36,40} Finally, intervention and health promotion efforts should encourage YMSM, as patients, to access screening and preventative services in a proactive, affirming way that considers the totality of sexual health. Future research opportunities include disentangling of both patient and provider facilitators of, and barriers to, sexual health screening within this population.

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Table 1

Sample characteristics (N = 590).

	%	n
Race/ethnicity		
Hispanic/Latino	38.3	226
Black	14.7	87
API	4.7	28
Mixed/other	12.9	76
White	29.3	173
Sexual Identity		
Exclusively gay	58.6	346
Not exclusively gay	41.4	244
School Enrollment		
Enrolled	85.4	504
Not enrolled	14.6	86
Perceived SES		
Lower	33.4	197
Middle	36.9	218
Upper	29.7	175
Housing status		
Stable	94.7	554
Unstable or homeless	5.3	31
Residence		
City center	36.7	215
Outer city	41.0	240
Outside city	22.4	131
Self-rating of Health		
Excellent/Very good	77.5	457
Good, fair, poor	22.5	133
In a relationship (male)		
No	73.1	431
Yes	26.9	159
Transactional sex		
No	83.2	491
Yes	16.8	99
UA in prior 30 days		
No	80.0	472
Yes	20.0	118
Gay Community Affinity		
Agree	42.5	251
Neutral	34.9	206
Disagree	22.5	133

	%	n
Peer Knowledge of Same-Sex Behavior		
Some, few, don't know	30.7	181
All, most	69.3	409
Any Health Care Coverage		
No	12.9	76
Yes	87.1	514
Doctor or Clinic for Medical Care		
No	13.6	80
Yes	86.4	510
Venue of Care		
Private	63.1	372
Public, Clinic, VA	33.4	197
Emergency Department	3.6	21

Table 2

Independent variable associations with race/ethnicity.

	Hispanic/ Latino n = 226	Black n = 87	Asian/Pacific Islander n = 28	Mixed/ Other n = 76	White n = 173	Total N = 590
School enrollment ***						
Yes	81.0% (183)	75.9% (66)	100.0% (28)	84.2% (64)	94.2% (163)	85.4% (504)
No	19.0% (43)	24.1% (21)	0.0% (0)	15.8% (12)	5.8% (10)	14.6% (86)
Health Insurance ***						
Yes	83.6% (189)	78.2% (68)	78.6% (22)	90.8% (69)	96.0% (166)	87.1% (514)
No	16.4% (37)	21.8% (19)	21.4% (6)	9.2% (7)	4.0% (7)	12.9% (76)
Doctor or clinic for care						
Yes	85.0% (192)	81.6% (71)	89.3% (25)	81.6% (62)	92.5% (160)	86.4% (510)
No	15.0% (34)	18.4% (16)	10.7% (3)	18.4% (14)	7.5% (13)	13.6% (80)
Venue of care ***						
Private doctor or clinic	59.3% (134)	37.9% (33)	78.6% (22)	56.6% (43)	80.9% (140)	63.1% (372)
Public hospital, clinic or VA	36.7% (83)	55.2% (48)	21.4% (6)	40.8% (31)	16.8% (29)	33.4% (197)
Emergency department	4.0% (9)	6.9% (6)	0.0% (0)	2.6% (2)	2.3% (4)	3.6% (21)
Self rating of health						
Excellent/very good	74.8% (169)	75.9% (66)	78.6% (22)	77.6% (59)	81.5% (141)	77.5% (457)
Good/fair/poor	25.2% (57)	24.1% (21)	21.4% (6)	22.4% (17)	18.5% (32)	22.5% (133)
Current housing status **						
Stable	93.3% (208)	90.7% (78)	96.4% (27)	93.3% (70)	98.8% (171)	94.7% (554)
Unstable	6.7% (15)	9.3% (8)	3.6% (1)	6.7% (5)	1.2% (2)	5.3% (31)
Sexual identity						
Exclusively homosexual	40.3% (91)	35.6% (31)	32.1% (9)	38.2% (29)	48.6% (84)	41.4% (244)
Not exclusively homosexual	59.7% (135)	64.4% (56)	67.9% (19)	61.8% (47)	51.4% (89)	58.6% (346)
Perceived SES ***						
Upper	17.3% (39)	12.6% (11)	42.9% (12)	28.9% (22)	52.6% (91)	29.7% (175)
Middle	41.6% (94)	34.5% (30)	35.7% (10)	35.5% (27)	32.9% (57)	36.9% (218)
Lower	41.2% (93)	52.9% (46)	21.4% (6)	35.5% (27)	14.5% (25)	33.4% (197)

	Hispanic/ Latino n = 226	Black n = 87	Asian/Pacific Islander n = 28	Mixed/ Other n = 76	White n = 173	Total N = 590
Residence ***						
City Center	27.1% (61)	26.4% (23)	35.7% (10)	44.0% (33)	51.5% (88)	36.7% (215)
City/not center	51.1% (115)	60.9% (53)	39.3% (11)	38.7% (29)	18.7% (32)	41.0% (240)
Outside city	21.8% (49)	12.6% (11)	25.0% (7)	17.3% (13)	29.8% (51)	22.4% (131)
In a relationship (male)						
Yes	28.3% (64)	20.7% (18)	25.0% (7)	32.9% (25)	26.0% (45)	26.9% (159)
No	71.7% (162)	79.3% (69)	75.0% (21)	67.1% (51)	74.0% (128)	73.1% (431)
Transactional sex						
Yes	16.4% (37)	23.0% (20)	17.9% (5)	15.8% (12)	14.5% (25)	16.8% (99)
No	83.6% (189)	77.0% (67)	82.1% (23)	84.2% (64)	85.5% (148)	83.2% (491)
Unprotected anal sex (30 days)						
Yes	19.9% (45)	16.1% (14)	14.3% (4)	23.7% (18)	21.4% (37)	20.0% (118)
No	80.1% (181)	83.9% (73)	85.7% (24)	76.3% (58)	78.6% (136)	80.0% (472)
Gay community affinity **						
Agree	49.1% (111)	44.8% (39)	21.4% (6)	52.6% (40)	31.8% (55)	42.5% (251)
Neutral	33.6% (76)	33.3% (29)	53.6% (15)	25.0% (19)	38.7% (67)	34.9% (206)
Disagree	17.3% (39)	21.8% (19)	25.0% (7)	22.4% (17)	29.5% (51)	22.5% (133)
Peer knowledge of same-sex behavior **						
All or most	71.2% (161)	60.9% (53)	46.4% (13)	65.8% (50)	76.3% (132)	69.3% (409)
Some, few, don't know	28.8% (65)	39.1% (34)	53.6% (15)	34.2% (26)	23.7% (41)	30.7% (181)
Lifetime number of male partners	11.94	13.87	8.36	9.04	9.71	11.03
Age of male sexual onset **	14.42	14.09	16.04	14.79	14.71	14.58

*
p = .05,

**
p = .01,

p .001

Table 3

Bivariate associations with sexual health screening (N = 590).

	Sexual health check-up in prior 6 months % (n)	Ever had rectal screening % (n)
Race/ethnicity		
Hispanic/Latino	53.5% (121) ***	21.3% (39) *
Black	62.1% (54) ***	17.1% (12) *
API	21.4% (6) ***	0.0% (0) *
Mixed/other	53.9% (41) ***	14.0% (8) *
White	28.9% (50) ***	10.6% (14) *
Sexual Identity		
Exclusively homosexual	49.2% (120)	15.2% (32)
Not exclusively homosexual	43.9% (152)	16.3% (41)
School Enrollment		
Enrolled	43.3% (218) ***	14.9% (58)
Not enrolled	62.8% (54) ***	20.5% (15)
Perceived SES		
Lower	49.2% (97) *	19.5% (31)
Middle	49.5% (108) *	14.6% (25)
Upper	38.3% (67) *	13.0% (17)
Housing status		
Stable	44.8% (248) **	14.9% (64)
Unstable or homeless	67.7% (21) **	25.0% (7)
Residence		
City center	40.0% (86) ***	14.6% (23)
Outer city	59.2% (142) ***	18.6% (37)
Outside city	32.1% (42) ***	12.9% (13)
Self-rating of Health		
Excellent/Very good	47.9% (219)	15.9% (57)
Good, fair, poor	39.8% (53)	15.5% (16)
In a relationship (male)		
No	45.0% (194)	15.1% (49)
Yes	49.1% (78)	17.5% (24)
Transactional sex		
No	43.8% (215) **	14.8% (56)
Yes	57.6% (57) **	20.5% (17)
UA in prior 30 days		
No	44.3% (209)	12.3% (43) ***
Yes	53.4% (63)	27.3% (30) ***

	Sexual health check-up in prior 6 months % (n)	Ever had rectal screening % (n)
Gay Community Affinity		
Agree	57.4% (144) ***	17.7% (37)
Neutral	39.3% (81) ***	13.4% (22)
Disagree	35.3% (47) ***	15.9% (14)
Peer Knowledge of Same-Sex Behavior		
Some, few, don't know	37.6% (68) ***	13.4% (16)
All, most	49.9% (204) ***	16.7% (57)
Any Health Care Coverage		
No	39.5% (30)	10.3% (6)
Yes	47.1% (242)	16.6% (67)
Doctor or Clinic for Medical Care		
No	41.2% (33)	10.0% (6)
Yes	46.9% (239)	16.7% (67)
Venue of Care		
Private	39.2% (146) ***	12.7% (36) **
Public, Clinic, VA	58.9% (116) ***	22.8% (36) **
Emergency Department	47.6% (10) ***	5.3% (1) **
Lifetime number of male partners	t (586) = 5.45 ***	t (586) = 3.33 ***
Age of male sexual onset	t (566) = 4.03 ***	t (447) = 2.99 **

*
p = .05,

**
p = .01,

p = .001

Table 4

Multivariate model predicting sexual health screening (n = 559).

	B	OR (95% CI)	p
Race/ethnicity ***			
White		1.00	
Latino	0.71	2.03 (1.22, 3.37)	< .01
Black	1.06	2.88 (1.48, 5.59)	< .01
API	-0.62	0.54 (0.18, 1.62)	0.27
Multiracial/other	1.03	2.79 (1.47, 5.28)	< .01
School enrollment	-0.19	0.83 (0.47, 1.46)	0.52
Housing status	0.39	1.47 (0.58, 3.74)	0.42
Venue of Care *			
Private doctor or clinic		1.00	
Public clinic, hospital, or VA	0.40	1.49 (0.97, 2.29)	0.07
Emergency department	-0.86	0.42 (0.15, 1.22)	0.11
Perceived SES			
Lower		1.00	0.40
Middle	0.31	1.36 (0.86, 2.15)	0.19
Upper	0.27	1.31 (0.77, 2.25)	0.32
Residence ***			
City center		1.00	
City/Not center	0.62	1.87 (1.19, 2.92)	< .01
Outside city	-0.44	0.65 (0.39, 1.09)	0.10
Age at First Sex	-0.69	0.93 (0.86, 1.01)	0.09
Lifetime male partners ***	0.04	1.05 (1.02, 1.07)	< .001
Transactional Sex	0.01	1.01 (0.57, 1.79)	0.98
Gay Community Affinity *	0.26	1.29 (1.00, 1.66)	0.05
Peer Knowledge of MSM behavior	0.17	1.19 (0.77, 1.84)	0.44

*
p = .05,**
p = .01,***
p = .001

Table 5

Multivariate model predicting anal health screening (n = 447).

	B	OR (95% CI)	p
Race/ethnicity			
White		1.00	
Latino	0.73	2.08 (1.01, 4.30)	< .05
Black	0.27	1.31 (0.49, 3.48)	0.59
API	-18.88	0.00 (0.00, 0.00)	0.99
Multiracial/other	0.13	1.14 (0.42, 3.12)	0.80
Venue of Care **			
Private doctor or clinic		1.00	
Public clinic, hospital, or VA	0.72	2.05 (1.14, 3.70)	0.02
Emergency department	-1.90	0.15 (0.02, 1.55)	0.11
Age of male sexual onset *	-0.10	0.91 (0.82, 1.00)	0.05
Any UA in prior 30 days ***	1.21	3.37 (1.87, 6.07)	< .001
Lifetime male partners *	0.02	1.02 (1.00, 1.04)	0.05

*
p .05,**
p = .01,***
p .001