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A Web-based Survey of HIV Testing and Risk Behaviors among Gay, Bisexual, and Other Men Who Have Sex with Men—United States, 2012

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Contents

Commentary	4
Technical Notes	7
References	9
Figure	
1 Number of completed surveys, by county—Web-based HIV Behavioral Survey among Men Who Have Sex with Men, United States, 2012	10
Tables	
1 Selected characteristics of participants—Web-based HIV Behavioral Survey among Men Who Have Sex with Men, United States, 2012	11
2 Number and percentage of participants with self-reported HIV-negative or unknown HIV status who reported having had anal sex with a main or casual sex partner during the past 12 months, by selected characteristics—Web-based HIV Behavioral Survey among Men Who Have Sex with Men, United States, 2012	12
3 Sexual behaviors during the past 12 months with male partners among participants with self-reported HIV-negative or unknown HIV status, by selected characteristics—Web-based HIV Behavioral Survey among Men Who Have Sex with Men, United States, 2012	13
4 Sexual behaviors during the most recent sexual encounter with a male partner among participants with self-reported HIV-negative or unknown HIV status—Web-based HIV Behavioral Survey among Men Who Have Sex with Men, United States, 2012	14
5 Types of noninjection drugs used during the past 12 months among participants with self-reported HIV-negative or unknown HIV status—Web-based HIV Behavioral Survey among Men Who Have Sex with Men, United States, 2012	15
6 Alcohol use during the past 12 months among participants with self-reported HIV-negative or unknown HIV status, by selected characteristics—Web-based HIV Behavioral Survey among Men Who Have Sex with Men, United States, 2012	16
7 HIV testing among participants with self-reported HIV-negative or unknown HIV status, by selected characteristics—Web-based HIV Behavioral Survey among Men Who Have Sex with Men, United States, 2012	17
8 Types of facilities where participants received most recent HIV test among participants with self-reported HIV-negative or unknown HIV status—Web-based HIV Behavioral Survey among Men Who Have Sex with Men, United States, 2012	18
9 Hepatitis vaccination among participants with self-reported HIV-negative or unknown HIV status, by selected characteristics—Web-based HIV Behavioral Survey among Men Who Have Sex with Men, United States, 2012	19
10 STD diagnoses and STD testing during the past 12 months among participants with self-reported HIV-negative or unknown HIV status, by selected characteristics—Web-based HIV Behavioral Survey among Men Who Have Sex with Men, United States, 2012	20
11 HIV prevention materials or programs received during the past 12 months among participants with self-reported HIV-negative or unknown HIV status, by selected characteristics—Web-based HIV Behavioral Survey among Men Who Have Sex with Men, United States, 2012	21
12 Preexposure prophylaxis (PrEP) knowledge and attitudes among participants with self-reported HIV-negative or unknown HIV status, by selected characteristics—Web-based HIV Behavioral Survey among Men Who Have Sex with Men, United States, 2012	22

This revised edition of HIV Surveillance Special Report 14 includes corrected data for health insurance (Table 12) and individual-level behavioral intervention and group-level behavioral intervention column headings (Table 11).

Commentary

Approximately 1.2 million persons in the United States were living with HIV infection in 2012 [1]. Gay, bisexual, and other men who have sex with men (collectively referred to as MSM) continue to be disproportionately affected by HIV infection. In 2013, MSM accounted for 81% of the estimated 37,887 HIV diagnoses among all males aged 13 years and older and 65% of the estimated 47,352 diagnoses among all persons receiving an HIV diagnosis that year [2]. The National HIV/AIDS Strategy (NHAS), which was released in July 2010 and updated in July 2015, calls for preventing HIV infection in the United States by reducing new infections, improving access to care and health outcomes for people living with HIV, reducing HIV-related disparities and health inequities, and improving the coordination of HIV programs across federal, state, territorial, tribal, and local governments [3].

One of the key goals of NHAS is to reduce new HIV infections. An important step in reducing HIV infections is to intensify HIV prevention efforts in communities where HIV is most heavily concentrated and with a focus on high-risk populations. In order to better direct prevention efforts in high-risk populations, which include MSM, CDC conducts National HIV Behavioral Surveillance (NHBS). NHBS is conducted every 3 years among MSM in urban areas with high rates of HIV infection by using time-location sampling methods [4]. NHBS is representative of MSM who reside in U.S. urban areas with high rates of HIV infection and who frequent certain physical venues (e.g., bars, clubs, and organizations), but may miss men who live in rural areas or who do not frequent typical MSM physical venues. Therefore, CDC explored additional methods for sampling MSM for a behavioral survey.

Increasing proportions of Americans have access to high-speed Internet connections [5]. Among U.S. males, 87% report using the Internet on mobile devices [6]. In 2005, CDC piloted a web-based survey among MSM to examine the feasibility of using an Internet-based survey to collect behavioral data [7]. Lessons learned from this pilot were used to conduct a

national, Internet-based, self-administered survey among MSM in 2012, which was called the Web-based HIV Behavioral Survey among Men Who Have Sex with Men (WHBS). WHBS used a modified and shortened version of the NHBS questionnaire. WHBS collected cross-sectional, self-reported data on HIV status, HIV risk behaviors, HIV testing behaviors, and access to and use of HIV prevention services among Internet-using MSM in 2012. This report summarizes results from WHBS.

A total of 18,771 persons accessed the survey link. Among the 14,151 who provided informed consent and were screened for eligibility, 1,004 (7%) were determined to be duplicate respondents (see Technical Notes). Of the 13,147 nonduplicate respondents, 11,178 (85%) were eligible to take the survey, and 10,384 (93%) of those eligible completed the survey (see Technical Notes for eligibility criteria). For Table 1, the sample was restricted to men who submitted a complete survey and reported at least 1 male oral or anal sex partner in the 12 months preceding the interview (n=9,019). For the remaining tables, the analysis sample was further restricted to men who did not self-report as HIV-positive in order to describe men at risk for HIV infection (n=8,166).

HIGHLIGHTS

Characteristics of Respondents (Table 1)

Respondents were recruited from across the United States and dependent areas (Figure 1). Among the 9,019 MSM respondents included in this report, the majority were white (78%); 10% were Hispanic; 5% were black; 2% were Asian; Native Hawaiian or other Pacific Islander; less than 1% were American Indian or Alaska Native; and 3% were other or multiple races (Table 1). Men aged 18–24 years represented 27% of the sample.

A high proportion (90%) had at least some college education; 33% reported an annual income of \$75,000 or more; 57% were from urban areas and 43% were from rural areas; 92% identified their sexual orientation as homosexual or gay, 7% identified as bisexual, and less than 1% identified as heterosexual or straight.

Some differences in participant characteristics were noted between men self-reporting as HIV-positive compared to those self-reporting as HIV-negative or of unknown HIV status. Black respondents comprised 11% of those self-reporting as HIV-positive and 4% of those self-reporting as HIV-negative or unknown. Respondents aged 45 years or older comprised a higher proportion of those who were HIV-positive (48%) compared to HIV-negative or unknown status respondents (22%). Additionally, men living in urban areas comprised a higher proportion of those who were HIV-positive (65%) compared to those of HIV-negative or unknown HIV status (56%).

All subsequent tables in this surveillance summary describe respondents who self-reported as HIV-negative or were not aware of their HIV status.

Sexual Behavior

Type of male partner (Tables 2, 3, and 4)

Of the 8,166 respondents who reported oral or anal sex with a male partner in the past year, and who self-reported as HIV-negative or were unaware of their HIV status, 5,496 (67%) reported having more than 1 sex partner in the past 12 months (not reported in table). Among respondents reporting multiple sex partners, the median number of casual partners was 4 (IQR 2–9) and the median number of main and casual partners was 6 (IQR 3–10) (not reported in table).

Overall, 31% of the respondents reported having anal sex only with main partners, 27% reported having anal sex only with casual partners, and 41% reported having anal sex with both main and casual partners (Table 2). Across most respondent characteristics, the partner type most often reported in the past 12 months was a combination of main and casual partners.

Sexual behavior with male partners

Among the 8,166 respondents who self-reported as HIV-negative or were unaware of their HIV status, 85% reported anal sex in the past year, and 74% of those respondents reported at least 1 episode of condomless anal sex (Table 3). Condomless anal sex increases risk for acquisition of HIV as well as other sexually transmitted diseases (STDs) [8]. Among those reporting condomless anal sex, 29% (n=1,501) reported discordant condomless anal sex, which was defined as sex with a partner who was either HIV-positive or whose HIV status was unknown. The majority of the 1,501 men reporting discordant condomless anal sex (77%) did not know their partner's

HIV status; 11% reported HIV-positive partners and 12% reported a combination of both HIV-positive partners and partners whose HIV status was unknown to the respondent (not reported in table). Among those who reported engaging in condomless anal sex, the highest proportions of groups reporting condomless anal sex with a partner of discordant or unknown HIV status were blacks (49%) and Hispanics/Latinos (38%), men aged 18–19 years (38%), those with less than a high school diploma (46%), and those with an annual household income of less than \$20,000 (35%).

Respondents were also asked about their last male sex partner (Table 4). The median duration of relationship with their last sex partner was 18 months (IQR of 4–60 months) (not reported in table). Nearly one-quarter (24%) of respondents did not know the HIV status of their last sex partner, and the proportion was greater for casual partners (78%) than for main partners (20%) (not reported in table).

During their most recent sexual encounter, 26% of the 8,166 men did not use a condom when they had insertive anal sex (n=2,135) or receptive anal sex (n=2,145). Condomless insertive or receptive anal sex was higher with main partners compared to casual partners. The 5,392 respondents who had met their partner in the past 3 years were asked where they had met their last partner. About half (52%) met their partner on the Internet (Table 4).

Sexual behavior with female partners

The number of respondents reporting a female sex partner in the past 12 months was 417 (5%). Among these men, 203 (49%) reported condomless vaginal or anal sex with their last female sex partner (not reported in table).

Drug and Alcohol Use (Tables 5 and 6)

In the 12 months prior to the interview, 5,676 (70%) respondents reported no drug use (Table 5). Among all respondents, marijuana (26%), poppers (8%), cocaine (6%), painkillers (6%), and Ecstasy (5%) were reported most frequently.

Respondents who reported alcohol use in the past 12 months (i.e., current drinkers), comprised 90% of men in the sample (Table 6). Of the 7,343 reporting alcohol use, 72% reported binge drinking, defined as 5 or more drinks in one sitting. The highest proportions of respondents reporting binge drinking (among current drinkers) were men aged 20–24 years (86%) and 25–29 years (83%).

Use of Prevention Services and Programs

HIV testing (Tables 7 and 8)

The proportion of respondents who reported having been tested for HIV in their lifetime was 84%, and 50% reported having been tested for HIV in the past 12 months. Among ethnic and racial groups, the highest proportions of respondents reporting an HIV test in the past 12 months were blacks (60%) and Asian, Native Hawaiian, and other Pacific Islander respondents (57%). Among age groups, the highest proportion of respondents reporting an HIV test in the past 12 months were men aged 25–29 years (55%), while the lowest was among men aged 18–19 years (33%). Among educational levels, the highest proportion of respondents reporting an HIV test in the past 12 months were men with a college degree or postgraduate education (53%). A lower proportion of men from rural areas reported having an HIV test in the past 12 months (44%) than men from urban areas (55%). CDC recommends at least annual testing for sexually active MSM [9].

Among the 4,063 men who reported testing in the past 12 months, the most common locations for their latest HIV test were a private doctor's office (42%), an HIV counseling and testing site (18%), and a public health clinic or community health clinic (21%) (Table 8). The proportion of men who tested for HIV at home was low (2%); however, data for this report were collected prior to the U.S. Food and Drug Administration approval of a rapid HIV test for home use.

Hepatitis vaccination (Table 9)

MSM are at an increased risk for sexually transmitted hepatitis A and hepatitis B (HBV) infections [10]. Among the 2,794 men who answered questions on ever receiving a hepatitis vaccination, 42% had been vaccinated for hepatitis A and B (Table 9). Additionally, 1% had been vaccinated only for hepatitis A and 7% had been vaccinated only for hepatitis B (not reported in table). The Advisory Committee on Immunization Practices recommends that MSM get vaccinated for hepatitis A and hepatitis B. CDC also recommends testing MSM for chronic HBV infection [11].

STD testing and diagnosis (Table 10)

Among the 2,794 men who answered questions on STD testing and diagnoses, 36% had been tested in the past 12 months for STDs, and 6% had been diagnosed in the past 12 months with 1 or more of the fol-

lowing STDs: gonorrhea, chlamydia, or syphilis (Table 10). A higher proportion of testing was reported among respondents from urban areas (42%) compared to rural area (30%). CDC recommends screening at least once a year for gonorrhea, chlamydia, and syphilis for all sexually active MSM. MSM who have multiple or anonymous partners should be screened more frequently for STDs (i.e., at 3- to 6-month intervals) [12].

Other HIV prevention interventions (Tables 11 and 12)

Among the 8,166 respondents who answered questions on HIV prevention services, 56% reported receiving free condoms in the past 12 months; 8% reported attending an individual-level HIV prevention intervention, defined as a one-on-one conversation with an outreach worker, a counselor, or a prevention program worker about ways to protect against HIV or other STDs; and 17% reported attending a group-level HIV prevention intervention, defined as a small-group discussion about ways to protect against HIV or other STDs (Table 11). A lower proportion of rural respondents (50%) reported receiving free condoms compared to urban respondents (60%).

Individual-level interventions were reported by higher proportions of men aged 18–19 and 20–24 years, as well as those who had public health insurance, who reported a yearly income below \$20,000, and who belonged to a racial/ethnic minority group. Similar results were found for group-level interventions.

Among the 2,794 men who answered questions on preexposure prophylaxis (PrEP), 48% had heard of PrEP and 41% were willing to take PrEP (Table 12). Federal guidelines recommend PrEP be considered for people who are HIV-negative and at substantial risk for HIV. This recommendation includes any gay or bisexual man who is not in a mutually monogamous relationship with a partner who recently tested HIV-negative and who has had condomless anal sex, been diagnosed with an STD in the past 6 months, or is in an ongoing sexual relationship with an HIV-positive male partner [13]. The 2,794 men who answered questions on PrEP also were asked about taking nonoccupational postexposure prophylaxis (nPEP) in the past 12 months. A total of 32 respondents (1%) reported taking nPEP in the past 12 months (not reported in table).

RECRUITMENT

Respondents were recruited through an Internet-based convenience sampling method between June and August 2012 using banner ads, social media, and peer referral methods. Banner ad recruitment consisted of advertisements in English and Spanish that depicted male models of various races and ethnicities. These ads were randomly displayed on websites popular with gay and bisexual men. Using social media, men were recruited through text-based advertisements on Facebook delivered to men whose profiles indicated they were aged 18 years or older, male, and interested in other men, and by allowing 2 nonprofit organizations to publicize the survey on their Facebook pages. For peer referral, the survey invited respondents who finished the survey to share the survey link with friends. Participants who agreed to peer referral were prompted to log into their Facebook account and send to their friends a private Facebook message with the survey link.

Men interested in taking the survey clicked on the embedded survey link in the banner ad, Facebook advertisement, or peer referral invitation, which took them to the survey's home page. Men were directed to the consent page and were given a brief online screening questionnaire. To be eligible for the survey, persons had to report that they: (1) were aged 18 years or older, (2) considered themselves to be male (not transgender), (3) were a resident of a U.S. state or dependent area, (4) were able to take the survey in either English or Spanish, and (5) had ever had oral or anal sex with a man. For Table 1 of this report, the analysis was restricted to men who had completed the survey and reported at least 1 male oral or anal sex partner in the 12 months preceding the interview (n=9,019). For the remaining tables in the report, the analysis sample was further restricted to men who did not self-report as HIV-positive in order to describe men at risk for HIV infection (n=8,166).

DATA COLLECTION

Respondents who completed the consent page and were eligible to participate in the survey completed a 15-minute, self-administered, confidential survey in

either English or Spanish. The survey received Institutional Review Board (IRB) approval by Emory University, and CDC determined that it was not research and therefore was not subject to CDC IRB review. No monetary incentive was provided to participants.

All respondents answered questions on demographics, sexual behaviors with male and female partners, HIV testing history, drug and alcohol use, and use of HIV prevention services. Respondents were also randomized to complete 1 of 3 additional survey modules that covered other topics, such as experiences with harassment and discrimination due to sexual orientation and HIV status, use of nonoccupational postexposure prophylaxis (nPEP), use of preexposure prophylaxis (PrEP), and history of testing for—or diagnosis of—gonorrhea, chlamydia, and syphilis. Respondents could decline to answer any of the survey questions.

After completing the survey, participants were shown a participant dashboard screen that provided basic information about the entire survey sample (e.g., mean age of participants, total number of surveys conducted throughout the United States), as well as HIV-specific information, such as the proportion of respondents who had been tested for HIV in the past year, and an “HIV testing site” locator link for participants interested in learning more about HIV testing available in their community.

Internet Protocol (IP) addresses were collected to identify potential duplicate respondents. A federal contractor conducted data management activities. After data collection ended, the contractor applied a deduplication algorithm to the dataset. If 2 or more surveys had the same IP address, the surveys were flagged for additional review. Given the possibility that multiple survey respondents could come from the same household or computer with the same IP address, certain responses, including age, race/ethnicity, and whether or not they ever reported oral or anal sex with a man, were evaluated. If all of these respondent characteristics were identical between surveys with the same IP address, then the first survey was counted as valid and the remaining surveys with the same IP address were counted as duplicates and were excluded from the dataset. After deduplication

procedures were completed, the contractor permanently deleted IP addresses from the dataset. CDC did not receive IP addresses.

Definitions of measures in this report are consistent with those measures used in National HIV Behavioral Surveillance reports [14]. The following are exceptions to these measures:

- Population density was a composite measure based on respondent's self-reported ZIP Code and the U.S. Census Bureau's data and definition of urban and rural. Rural locations were defined as <1,000 people per square mile and urban locations were defined as $\geq 1,000$ people per square mile [15].
- Region was a composite measure based on respondent's self-reported state of residence and the definition of regions by the U.S. Census Bureau [16].
- Condomless anal sex with a partner of discordant or unknown HIV status during the past 12 months was a composite measure based on self-reported HIV status of the participant (HIV-negative or unknown status), the respondent's knowledge of the HIV status of his male sex partners (positive, negative, or unknown) during the past 12 months, and whether the respondent reported engaging in condomless anal sex during the past 12 months. A partner was considered to be of discordant or unknown HIV status if the respondent reported he did not know the HIV status of at least one member of the partnership (the respondent or partner) or if the partner was known to be HIV-positive while the respondent was known to be HIV-negative.
- Alcohol use was defined as drinking any alcoholic beverage, such as beer, wine, malt liquor, or hard liquor, during the past 12 months. Data were collected from respondents using a frequency scale (never, less than once a month, once a month, more than once a month, once a week, more than once a week, once a day, more than once a day). Both current drinking and binge drinking are reported; current drinking was defined as any frequency of alcohol use (ranging from less than once a month to more than once a day). Binge drinking was defined as a current drinker reporting drinking ≥ 5 alcoholic beverages at one sitting at any frequency (ranging from less than once a month to more than once a day).

LIMITATIONS

The findings in this report are subject to several limitations:

(1) Participants were recruited online using convenience methods, such as banner ads and peer referral. Convenience samples are subject to sampling bias and therefore the results of this survey may not be representative of all MSM or all Internet-using MSM. For example, the majority of participants in this survey were white and reported at least some college education.

(2) Risk behaviors described in this report were self-reported, and were subject to misclassification. Therefore, behaviors could have either been over-reported or under-reported.

(3) Because statistical tests were not performed, differences in behaviors between groups should be interpreted with caution.

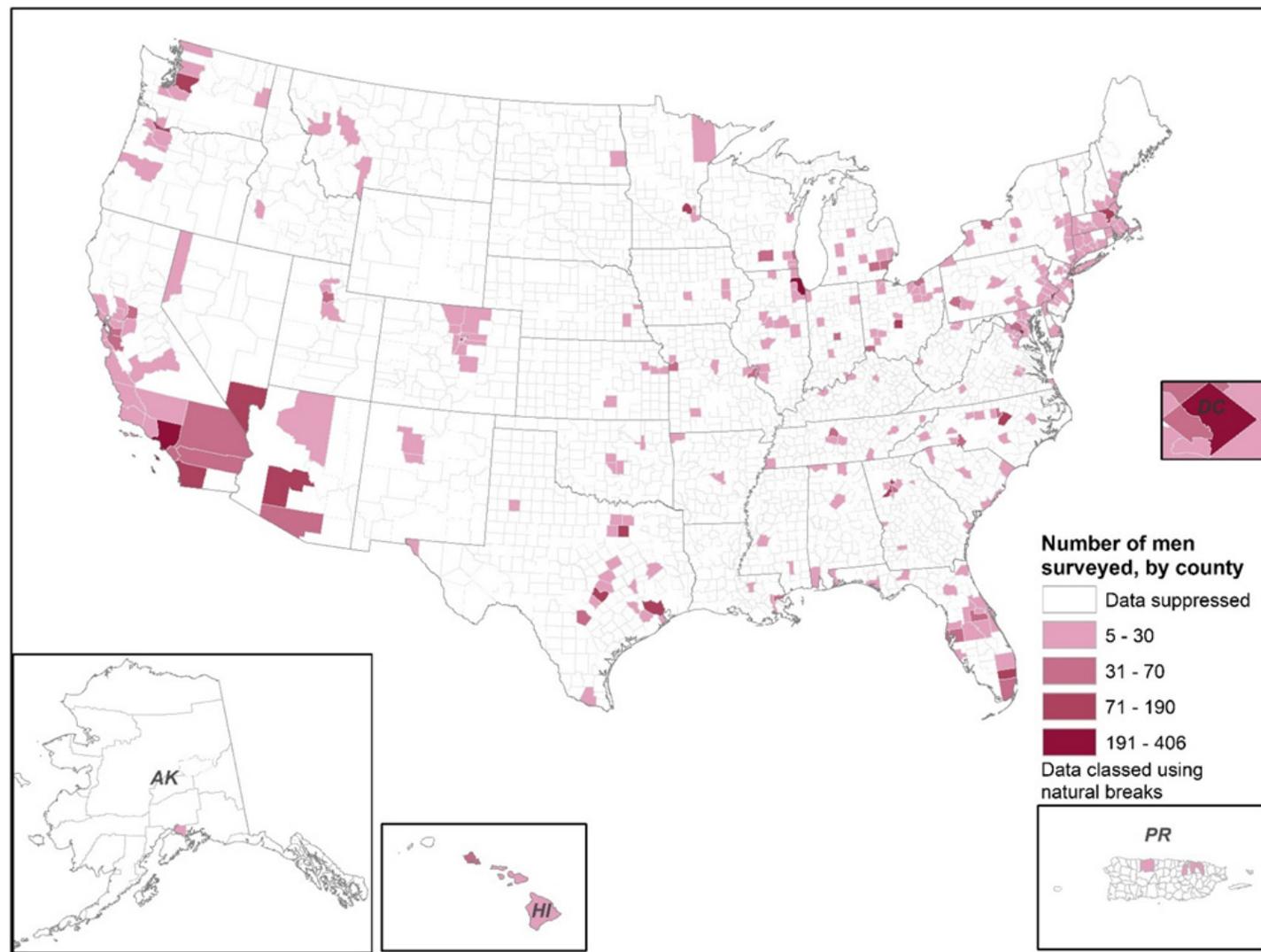
(4) The data in this report are not weighted to account for the likelihood of being selected to participate in the survey.

(5) The online convenience sampling method used to recruit participants differs substantially from other behavioral surveys of MSM, such as National HIV Behavioral Surveillance (NHBS). Comparisons of MSM risk behaviors between this study and from other published reports should be made with caution.

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Figure 1. Number of completed surveys, by county—Web-based HIV Behavioral Survey among Men Who Have Sex with Men, United States, 2012



Note. Data suppressed category includes counties with 1–4 surveys or no completed surveys.

Table 1. Selected characteristics of participants—Web-based HIV Behavioral Survey among Men Who Have Sex with Men, United States, 2012

	HIV-positive		HIV-negative or unknown status		Total	
	No.	%	No.	%	No.	%
Race/ethnicity						
American Indian/Alaska Native	—	—	29	(<1)	31	(<1)
Asian/Native Hawaiian/Other Pacific Islander ^a	7	(1)	210	(3)	217	(2)
Black/African American	93	(11)	333	(4)	426	(5)
Hispanic/Latino ^b	86	(10)	825	(10)	911	(10)
White	622	(73)	6,398	(78)	7,020	(78)
Other/Multiple races	29	(3)	269	(3)	298	(3)
Age (yr)						
18–19	—	—	489	(6)	491	(5)
20–24	37	(4)	1,940	(24)	1,977	(22)
25–29	89	(10)	1,564	(19)	1,653	(18)
30–34	88	(10)	996	(12)	1,084	(12)
35–39	110	(13)	700	(9)	810	(9)
40–44	115	(14)	678	(8)	793	(9)
45–49	162	(19)	609	(8)	771	(9)
≥50	250	(29)	1,190	(15)	1,440	(16)
Education						
Less than high school	7	(1)	74	(1)	81	(1)
High school diploma or equivalent degree	61	(7)	605	(7)	666	(7)
Some college or technical degree	303	(36)	2,498	(31)	2,801	(31)
College degree or postgraduate	470	(55)	4,887	(60)	5,357	(59)
Household income (U.S. \$)						
0–19,999	134	(16)	1,190	(15)	1,324	(15)
20,000–39,999	171	(20)	1,558	(19)	1,729	(19)
40,000–74,999	221	(26)	2,041	(25)	2,262	(25)
≥75,000	292	(34)	2,704	(33)	2,996	(33)
Population density^c						
Rural	303	(36)	3,583	(44)	3,886	(43)
Urban	550	(65)	4,583	(56)	5,133	(57)
Region						
Northeast	125	(15)	1,502	(18)	1,627	(18)
Midwest	143	(17)	1,605	(20)	1,748	(19)
South	317	(37)	2,732	(34)	3,049	(34)
West	261	(31)	2,263	(28)	2,524	(28)
U.S. dependent areas	7	(1)	64	(1)	71	(1)
Sexual identity						
Homosexual or gay	821	(96)	7,500	(92)	8,321	(92)
Bisexual	28	(3)	578	(7)	606	(7)
Heterosexual or straight	—	—	26	(<1)	26	(<1)
Total	853	(100)	8,166	(100)	9,019	(100)

Note. Numbers might not add to total because of missing or unknown data. Percentages might not sum to 100 because of rounding.

Cell sizes <5 are suppressed.

^a Combined because of small numbers.

^b Hispanics/Latinos can be of any race.

^c Rural locations were defined as <1,000 people per square mile and urban locations were defined as ≥1,000 people per square mile.

Table 2. Number and percentage of participants with self-reported HIV-negative or unknown HIV status who reported having had anal sex with a main or casual sex partner during the past 12 months, by selected characteristics—Web-based HIV Behavioral Survey among Men Who Have Sex with Men, United States, 2012

	Only main partners ^a		Only casual partners ^b		Main and casual partners		Total
	No.	%	No.	%	No.	%	No.
Race/ethnicity							
American Indian/Alaska Native	7	(24)	13	(45)	9	(31)	29
Asian/Native Hawaiian/Other Pacific Islander ^c	67	(32)	48	(23)	93	(44)	210
Black/African American	61	(18)	118	(35)	148	(44)	333
Hispanic/Latino ^d	228	(28)	250	(30)	342	(42)	825
White	2,073	(32)	1,644	(26)	2,641	(41)	6,398
Other/Multiple races	91	(34)	79	(29)	97	(36)	269
Age (yr)							
18–19	127	(26)	165	(34)	191	(39)	489
20–24	506	(26)	517	(27)	903	(47)	1,940
25–29	485	(31)	363	(23)	705	(45)	1,564
30–34	336	(34)	214	(22)	444	(45)	996
35–39	237	(34)	160	(23)	299	(43)	700
40–44	214	(32)	217	(32)	244	(36)	678
45–49	211	(35)	178	(29)	214	(35)	609
≥50	441	(37)	368	(31)	366	(31)	1,190
Education							
Less than high school	19	(26)	24	(32)	28	(38)	74
High school diploma or equivalent degree	187	(31)	203	(34)	206	(34)	605
Some college or technical degree	756	(30)	707	(28)	1,020	(41)	2,498
College degree or postgraduate	1,561	(32)	1,223	(25)	2,073	(42)	4,887
Household income (U.S. \$)							
0–19,999	290	(24)	408	(34)	477	(40)	1,190
20,000–39,999	442	(28)	470	(30)	630	(40)	1,558
40,000–74,999	621	(30)	550	(27)	861	(42)	2,041
≥75,000	1,015	(38)	537	(20)	1,138	(42)	2,704
Population density^e							
Rural	1,217	(34)	981	(27)	1,354	(38)	3,583
Urban	1,340	(29)	1,201	(26)	2,012	(44)	4,583
Total	2,557	(31)	2,182	(27)	3,366	(41)	8,166

Note. Results among those who reported oral or anal sex with a male partner in the past year, and were either HIV-negative or unaware of their HIV status (n=8,166).

Numbers might not add to total because of missing or unknown data.

The denominator for percentages is the row total.

^a A man with whom the participant had sex and to whom he felt most committed (e.g., boyfriend, spouse, significant other, or life partner).

^b A man with whom the participant had sex but to whom he did not feel committed or to whom he did not know very well.

^c Combined because of small numbers.

^d Hispanics/Latinos can be of any race.

^e Rural locations were defined as <1,000 people per square mile and urban locations were defined as ≥1,000 people per square mile.

Table 3. Sexual behaviors during the past 12 months with male partners among participants with self-reported HIV-negative or unknown HIV status, by selected characteristics—Web-based HIV Behavioral Survey among Men Who Have Sex with Men, United States, 2012

	Anal sex		Condomless anal sex ^a		Condomless anal sex with a partner of discordant or unknown HIV status ^b		Total
	No.	%	No.	%	No.	%	No.
Race/ethnicity							
American Indian/Alaska Native	23	(79)	15	(65)	—	—	29
Asian/Native Hawaiian/Other Pacific Islander ^c	180	(86)	128	(71)	23	(18)	210
Black/African American	289	(87)	198	(69)	96	(49)	333
Hispanic/Latino ^d	724	(88)	545	(75)	209	(38)	825
White	5,369	(84)	4,005	(75)	1,103	(28)	6,398
Other/Multiple races	230	(86)	155	(67)	49	(32)	269
Age (yr)							
18–19	402	(82)	273	(68)	104	(38)	489
20–24	1,694	(87)	1,184	(70)	366	(31)	1,940
25–29	1,408	(90)	1,064	(76)	301	(28)	1,564
30–34	889	(89)	699	(79)	184	(26)	996
35–39	597	(85)	457	(77)	125	(27)	700
40–44	572	(84)	436	(76)	131	(30)	678
45–49	472	(78)	366	(78)	116	(32)	609
≥50	863	(73)	626	(73)	174	(28)	1,190
Education							
Less than high school	60	(81)	48	(80)	22	(46)	74
High school diploma or equivalent degree	499	(83)	370	(74)	128	(35)	605
Some college or technical degree	2,114	(85)	1,594	(75)	502	(32)	2,498
College degree or postgraduate	4,137	(85)	3,024	(73)	832	(28)	4,887
Household income (U.S. \$)							
0–19,999	1,007	(85)	715	(71)	249	(35)	1,190
20,000–39,999	1,322	(85)	944	(71)	319	(34)	1,558
40,000–74,999	1,727	(85)	1,314	(76)	380	(29)	2,041
≥75,000	2,295	(85)	1,767	(77)	442	(25)	2,704
Population density^e							
Rural	2,997	(84)	2,242	(75)	618	(28)	3,583
Urban	3,900	(85)	2,863	(73)	883	(31)	4,583
Sexual identity							
Homosexual or gay	6,391	(85)	4,777	(75)	1,375	(29)	7,500
Bisexual	444	(77)	284	(64)	112	(39)	578
Heterosexual or straight	14	(54)	10	(71)	5	(50)	26
Total	6,897	(85)	5,105	(74)	1,501	(29)	8,166

Note. Numbers might not add to total because of missing or unknown data.

The denominator for all percentages is the row total.

Cell sizes <5 are suppressed.

^a The denominator for percentages is among those reporting anal sex.

^b Discordant condomless anal sex defined as sex with a partner whose status was HIV-positive or unknown. The denominator for percentages is among those reporting condomless anal sex.

^c Combined because of small numbers.

^d Hispanics/Latinos can be of any race.

^e Rural locations were defined as <1,000 people per square mile and urban locations were defined as ≥1,000 people per square mile.

Table 4. Sexual behaviors during the most recent sexual encounter with a male partner among participants with self-reported HIV-negative or unknown HIV status—Web-based HIV Behavioral Survey among Men Who Have Sex with Men, United States, 2012

	Insertive anal sex ^a		Condomless insertive anal sex		Receptive anal sex ^b		Condomless receptive anal sex		Total
	No.	%	No.	%	No.	%	No.	%	No.
Location where participant met respondent^c									
Internet	1,032	(37)	609	(22)	1,210	(44)	647	(23)	2,783
Private house party	153	(45)	93	(27)	151	(44)	93	(27)	342
Bar or club	253	(43)	154	(26)	250	(43)	138	(24)	587
Chat line	36	(39)	21	(23)	38	(41)	22	(24)	92
Bathhouse, sex club, or sex resort	55	(31)	36	(20)	52	(29)	22	(12)	178
Other	560	(40)	332	(24)	604	(43)	339	(24)	1,410
Partner type									
Main sex partner ^d	2,094	(44)	1,631	(35)	2,117	(45)	1,601	(34)	4,714
Casual sex partner ^e	1,085	(33)	492	(15)	1,260	(38)	524	(16)	3,340
Partner's HIV status									
Positive	136	(48)	79	(28)	96	(34)	47	(17)	282
Negative	2,425	(42)	1,743	(30)	2,567	(44)	1,763	(30)	5,793
Unknown	601	(31)	289	(15)	711	(36)	310	(16)	1,972
Substance use before or during sex									
None	2,346	(39)	1,626	(27)	2,478	(41)	1,598	(27)	5,999
Alcohol only	642	(39)	354	(22)	674	(41)	365	(22)	1,634
Drugs only	80	(41)	62	(32)	95	(49)	69	(36)	194
Alcohol and drugs	116	(43)	78	(29)	139	(52)	91	(34)	268
Total	3,206	(39)	2,135	(26)	3,417	(42)	2,145	(26)	8,166

Note. Numbers might not add to totals because of missing or unknown data; respondent could report both insertive and receptive anal sex, therefore, these categories are not mutually exclusive.

The denominator for percentages is the row total.

^a The participant placed his penis in the anus of his sex partner.

^b The participant's sex partner placed his penis in the participant's anus.

^c Among those who reported a relationship duration of ≤ 3 years with the most recent partner (n=5,392).

^d A man with whom the participant had sex and to whom he felt most committed (e.g., boyfriend, spouse, significant other, or life partner).

^e A man with whom the participant had sex but to whom he did not feel committed or to whom he did not know very well.

Table 5. Types of noninjection drugs used during the past 12 months among participants with self-reported HIV-negative or unknown HIV status—Web-based HIV Behavioral Survey among Men Who Have Sex with Men, United States, 2012

	No.	%
No reported drug use	5,676	(70)
Polydrug use^a	1,252	(15)
Marijuana	2,081	(26)
Poppers (amyl nitrite)	624	(8)
Cocaine	510	(6)
Painkiller (e.g., Oxycontin, Percocet)	474	(6)
Ecstasy	428	(5)
Downer (e.g., Valium, Ativan, Xanax)	329	(4)
Hallucinogen (e.g., LSD, mushrooms)	236	(3)
Methamphetamine (e.g., crystal meth)	125	(2)
GHB	102	(1)
Ketamine	75	(1)
Crack	32	(<1)
Other drugs	152	(2)
Total reported drug use	2,413	(30)

Disclaimer: The use of trade names is for identification only and does not imply endorsement by the Department of Health and Human Services or the Centers for Disease Control and Prevention.

Abbreviations: LSD, lysergic acid diethylamide; GHB, gamma hydroxybutyrate.

Note. Number = 8,166. Respondents could report more than 1 drug type. Numbers might not add to totals because of missing or unknown data.

^a More than 1 drug reported by respondent.

Table 6. Alcohol use during the past 12 months among participants with self-reported HIV-negative or unknown HIV status, by selected characteristics—Web-based HIV Behavioral Survey among Men Who Have Sex with Men, United States, 2012

	Nondrinkers		Current drinkers ^a		Binge drinkers ^b		Total
	No.	%	No.	%	No.	%	No.
Race/ethnicity							
American Indian/Alaska Native	7	(24)	22	(76)	17	(77)	29
Asian/Native Hawaiian/Other Pacific Islander ^c	28	(13)	180	(86)	120	(67)	210
Black/African American	42	(13)	285	(86)	193	(68)	333
Hispanic/Latino ^d	73	(9)	741	(90)	557	(75)	825
White	565	(9)	5,780	(90)	4,183	(72)	6,398
Other/Multiple races	26	(10)	240	(89)	175	(73)	269
Age (yr)							
18–19	111	(23)	372	(76)	265	(71)	489
20–24	91	(5)	1,825	(94)	1,568	(86)	1,940
25–29	69	(4)	1,481	(95)	1,226	(83)	1,564
30–34	60	(6)	927	(93)	722	(78)	996
35–39	59	(8)	635	(91)	452	(71)	700
40–44	76	(11)	598	(88)	387	(65)	678
45–49	72	(12)	534	(88)	294	(55)	609
≥50	208	(18)	971	(82)	397	(41)	1,190
Education							
Less than high school	20	(27)	52	(70)	41	(79)	74
High school diploma or equivalent degree	115	(19)	485	(80)	339	(70)	605
Some college or technical degree	242	(10)	2,227	(89)	1,678	(75)	2,498
College degree or postgraduate	357	(7)	4,498	(92)	3,205	(71)	4,887
Household income (U.S. \$)							
0–19,999	118	(10)	1,060	(89)	836	(79)	1,190
20,000–39,999	150	(10)	1,391	(89)	1,060	(76)	1,558
40,000–74,999	162	(8)	1,863	(91)	1,335	(72)	2,041
≥75,000	225	(8)	2,464	(91)	1,677	(68)	2,704
Population density^e							
Rural	410	(11)	3,135	(88)	2,202	(70)	3,583
Urban	336	(7)	4,208	(92)	3,109	(74)	4,583
Total	746	(9)	7,343	(90)	5,311	(72)	8,166

Note. Numbers might not add to total because of missing or unknown data. Percentages might not sum to 100 because of rounding.

^a Defined as any alcohol use during the past 12 months.

^b Defined as drinking ≥5 alcoholic beverages at one sitting during the past 12 months. Denominator is number of current drinkers.

^c Combined because of small numbers.

^d Hispanics/Latinos can be of any race.

^e Rural locations were defined as <1,000 people per square mile and urban locations were defined as ≥1,000 people per square mile.

Table 7. HIV testing among participants with self-reported HIV-negative or unknown HIV status, by selected characteristics—Web-based HIV Behavioral Survey among Men Who Have Sex with Men, United States, 2012

	Ever tested		Tested past 12 months		Total
	No.	%	No.	%	No.
Race/ethnicity					
American Indian/Alaska Native	26	(90)	15	(52)	29
Asian/Native Hawaiian/Other Pacific Islander ^a	178	(85)	119	(57)	210
Black/African American	289	(87)	198	(60)	333
Hispanic/Latino ^b	678	(82)	445	(54)	825
White	5,347	(84)	3,103	(49)	6,398
Other/Multiple races	224	(83)	131	(49)	269
Age (yr)					
18–19	210	(43)	161	(33)	489
20–24	1,379	(71)	959	(49)	1,940
25–29	1,354	(87)	867	(55)	1,564
30–34	908	(91)	542	(54)	996
35–39	656	(94)	385	(55)	700
40–44	647	(95)	365	(54)	678
45–49	573	(94)	287	(47)	609
≥50	1,105	(93)	497	(42)	1,190
Education					
Less than high school	43	(58)	30	(41)	74
High school diploma or equivalent degree	375	(62)	218	(36)	605
Some college or technical degree	1,960	(79)	1,179	(47)	2,498
College degree or postgraduate	4,374	(90)	2,592	(53)	4,887
Health insurance					
None	872	(82)	468	(44)	1,070
Private only ^c	5,162	(85)	3,120	(52)	6,053
Public only ^d	299	(82)	185	(51)	365
Other	365	(86)	216	(51)	426
Household income (U.S. \$)					
0–19,999	891	(75)	551	(46)	1,190
20,000–39,999	1,288	(83)	786	(50)	1,558
40,000–74,999	1,791	(88)	1,088	(53)	2,041
≥75,000	2,404	(89)	1,365	(51)	2,704
Population density^e					
Rural	2,819	(79)	1,557	(44)	3,583
Urban	4,013	(88)	2,506	(55)	4,583
Total	6,832	(84)	4,063	(50)	8,166

Note. Numbers might not add to total because of missing or unknown data. Percentages might not sum to 100 because of rounding.

^a Combined because of small numbers.

^b Hispanics/Latinos can be of any race.

^c Coverage through a health insurance plan (including TRICARE) from an employer or purchased from a private company, such plans may be memberships in health maintenance organizations.

^d Coverage through Medicare, Medicaid, or Veterans Administration.

^e Rural locations were defined as <1,000 people per square mile and urban locations were defined as ≥1,000 people per square mile.

Table 8. Types of facilities where participants received most recent HIV test among participants with self-reported HIV-negative or unknown HIV status—Web-based HIV Behavioral Survey among Men Who Have Sex with Men, United States, 2012

	No.	%
Private doctor's office	1,724	(42)
Public health clinic or community health clinic	857	(21)
HIV counseling and testing site	737	(18)
Street outreach program or mobile unit	202	(5)
Other	206	(5)
Hospital (inpatient)	103	(3)
At home	83	(2)
Sexually transmitted disease clinic	100	(2)
Correctional facility (jail or prison)	6	(<1)
Emergency department	16	(<1)

Note. Among men who tested for HIV in the past 12 months (n=4,063). Numbers might not add to totals because the facility type was missing or unknown. Percentages might not sum to 100 because of rounding.

Table 9. Hepatitis vaccination among participants with self-reported HIV-negative or unknown HIV status, by selected characteristics—Web-based HIV Behavioral Survey among Men Who Have Sex with Men, United States, 2012

	Both hepatitis A and B ^a tested		Total
	No.	%	No.
Race/ethnicity			
American Indian/Alaska Native	—	(44)	9
Asian/Native Hawaiian/Other Pacific Islander ^b	35	(47)	74
Black/African American	30	(28)	108
Hispanic/Latino ^c	121	(45)	269
White	940	(43)	2,200
Other/Multiple races	38	(41)	92
Age (yr)			
18–19	52	(33)	157
20–24	271	(40)	677
25–29	257	(46)	556
30–34	153	(43)	353
35–39	103	(46)	222
40–44	124	(52)	238
45–49	78	(38)	205
≥50	130	(34)	386
Education			
Less than high school	5	(21)	24
High school diploma or equivalent degree	67	(32)	209
Some college or technical degree	778	(47)	1,672
College degree or postgraduate	318	(38)	846
Health insurance			
None	127	(37)	348
Private only ^d	955	(45)	2,102
Public only ^e	42	(31)	134
Other	44	(35)	126
Household income (U.S. \$)			
0–19,999	171	(40)	423
20,000–39,999	245	(45)	548
40,000–74,999	302	(45)	672
≥75,000	450	(48)	936
Population density^f			
Rural	462	(37)	1,234
Urban	706	(45)	1,560
Total	1,168	(42)	2,794

Note. Numbers might not add to total because of missing or unknown data. Percentages might not sum to 100 because of rounding.

Cell sizes <5 are suppressed.

^a Ever had a vaccination for both hepatitis A and B.

^b Combined because of small numbers.

^c Hispanics/Latinos can be of any race.

^d Coverage through a health insurance plan (including TRICARE) from an employer or purchased from a private company, such plans may be memberships in health maintenance organizations.

^e Coverage through Medicare, Medicaid, or Veterans Administration.

^f Rural locations were defined as <1,000 people per square mile and urban locations were defined as ≥1,000 people per square mile.

Table 10. STD diagnoses and STD testing during the past 12 months among participants with self-reported HIV-negative or unknown HIV status, by selected characteristics—Web-based HIV Behavioral Survey among Men Who Have Sex with Men, United States, 2012

	STD diagnosis		STD testing		Total
	No.	%	No.	%	No.
Race/ethnicity					
American Indian/Alaska Native	—	—	—	—	9
Asian/Native Hawaiian/Other Pacific Islander ^a	5	(7)	32	(43)	74
Black/African American	11	(10)	54	(50)	108
Hispanic/Latino ^b	21	(8)	113	(42)	269
White	131	(6)	759	(35)	2,200
Other/Multiple races	8	(9)	39	(42)	92
Age (yr)					
18–19	8	(5)	48	(31)	157
20–24	47	(7)	251	(37)	677
25–29	51	(9)	255	(46)	556
30–34	33	(9)	152	(43)	353
35–39	10	(5)	78	(35)	222
40–44	15	(6)	89	(37)	238
45–49	5	(2)	57	(28)	205
≥50	11	(3)	88	(23)	386
Education					
Less than high school	—	—	8	(33)	24
High school diploma or equivalent degree	14	(7)	63	(30)	209
Some college or technical degree	50	(6)	295	(35)	846
College degree or postgraduate	113	(7)	642	(38)	1,672
Health insurance					
None	32	(9)	103	(30)	348
Private only ^c	133	(6)	800	(38)	2,102
Public only ^d	7	(5)	49	(37)	134
Other	—	—	43	(34)	126
Household income (U.S. \$)					
0–19,999	31	(7)	150	(36)	423
20,000–39,999	45	(8)	209	(38)	548
40,000–74,999	54	(8)	278	(41)	672
≥75,000	44	(5)	320	(34)	936
Population density^e					
Rural	59	(5)	369	(30)	1,234
Urban	121	(8)	649	(42)	1,560
Total	180	(6)	1,018	(36)	2,794

Note. STD includes gonorrhea, chlamydia, or syphilis. Denominator is the row total.

Cell sizes <5 are suppressed.

^a Combined because of small numbers.

^b Hispanics/Latinos can be of any race.

^c Coverage through a health insurance plan (including TRICARE) from an employer or purchased from a private company, such plans may be memberships in health maintenance organizations.

^d Coverage through Medicare, Medicaid, or Veterans Administration.

^e Rural locations were defined as <1,000 people per square mile and urban locations were defined as ≥1,000 people per square mile.

Table 11. HIV prevention materials or programs received during the past 12 months among participants with self-reported HIV-negative or unknown HIV status, by selected characteristics—Web-based HIV Behavioral Survey among Men Who Have Sex with Men, United States, 2012

	Received free condoms		Group-level behavioral intervention ^a		Individual-level behavioral intervention ^b		Total
	No.	%	No.	%	No.	%	No.
Race/ethnicity							
American Indian/Alaska Native	14	(48)	—	—	—	—	29
Asian/Native Hawaiian/Other Pacific Islander ^c	142	(68)	22	(11)	45	(21)	210
Black/African American	218	(66)	66	(20)	107	(32)	333
Hispanic/Latino ^d	496	(60)	102	(12)	210	(26)	825
White	3,435	(54)	423	(7)	958	(15)	6,398
Other/Multiple races	163	(61)	37	(14)	59	(22)	269
Age (yr)							
18–19	288	(59)	74	(15)	105	(22)	489
20–24	1,251	(65)	238	(12)	393	(20)	1,940
25–29	911	(58)	105	(7)	289	(19)	1,564
30–34	563	(57)	72	(7)	183	(18)	996
35–39	370	(53)	44	(6)	110	(16)	700
40–44	344	(51)	38	(6)	99	(15)	678
45–49	298	(49)	40	(7)	81	(13)	609
≥50	516	(43)	58	(5)	143	(12)	1,190
Education							
Less than high school	41	(55)	6	(8)	16	(22)	74
High school diploma or equivalent degree	287	(47)	56	(9)	90	(15)	605
Some college or technical degree	1,404	(56)	248	(10)	459	(18)	2,498
College degree or postgraduate	2,760	(57)	353	(7)	824	(17)	4,887
Health insurance							
None	594	(56)	86	(8)	217	(20)	1,070
Private only ^e	3,389	(56)	456	(8)	975	(16)	6,053
Public only ^f	188	(52)	51	(14)	88	(24)	365
Other	222	(52)	45	(11)	83	(20)	426
Household income (U.S. \$)							
0–19,999	728	(61)	150	(13)	272	(23)	1,190
20,000–39,999	878	(56)	144	(9)	311	(20)	1,558
40,000–74,999	1,140	(56)	155	(8)	359	(18)	2,041
≥75,000	1,402	(52)	149	(6)	362	(13)	2,704
Population density^g							
Rural	1,772	(50)	317	(9)	565	(16)	3,583
Urban	2,769	(60)	352	(8)	838	(18)	4,583
Total	4,541	(56)	669	(8)	1,403	(17)	8,166

Note. Numbers might not add to total because of missing or unknown data. Percentages might not sum to 100 because of rounding.

Cell sizes <5 are suppressed.

^a Small-group discussion about ways to protect against HIV or other sexually transmitted diseases.

^b One-on-one conversation with an outreach worker, a counselor, or a prevention program worker about ways to protect against HIV or other sexually transmitted diseases; excludes conversations that took place solely as a part of obtaining HIV testing (e.g., pretest or posttest counseling).

^c Combined because of small numbers.

^d Hispanics/Latinos can be of any race.

^e Coverage through a health insurance plan (including TRICARE) from an employer or purchased from a private company, such plans may be memberships in health maintenance organizations.

^f Coverage through Medicare, Medicaid, or Veterans Administration.

^g Rural locations were defined as <1,000 people per square mile and urban locations were defined as ≥1,000 people per square mile.

Table 12. Preexposure prophylaxis (PrEP) knowledge and attitudes among participants with self-reported HIV-negative or unknown HIV status, by selected characteristics—Web-based HIV Behavioral Survey among Men Who Have Sex with Men, United States, 2012

	Heard of PrEP		Willingness to take PrEP		Total
	No.	%	No.	%	No.
Race/ethnicity					
American Indian/Alaska Native	—	—	5	(56)	9
Asian/Native Hawaiian/Other Pacific Islander ^a	31	(42)	33	(45)	74
Black/African American	56	(52)	54	(50)	108
Hispanic/Latino ^b	102	(38)	137	(51)	269
White	1,092	(50)	850	(39)	2,200
Other/Multiple races	46	(50)	41	(45)	92
Age (yr)					
18–19	39	(25)	93	(59)	157
20–24	260	(38)	304	(45)	677
25–29	279	(50)	240	(43)	556
30–34	215	(61)	134	(38)	353
35–39	123	(55)	70	(32)	222
40–44	131	(55)	91	(38)	238
45–49	104	(51)	81	(40)	205
≥50	201	(52)	125	(32)	386
Education					
Less than high school	7	(29)	15	(63)	24
High school diploma or equivalent degree	931	(56)	588	(35)	1,672
Some college or technical degree	55	(26)	115	(55)	209
College degree or postgraduate	339	(40)	396	(47)	846
Health insurance					
None	137	(39)	156	(45)	348
Private only ^c	1,095	(52)	827	(39)	2,102
Public only ^d	49	(37)	72	(54)	134
Other	53	(42)	47	(37)	126
Household income (U.S. \$)					
0–19,999	153	(36)	212	(50)	423
20,000–39,999	252	(46)	255	(47)	548
40,000–74,999	351	(52)	278	(41)	672
≥75,000	518	(55)	294	(31)	936
Population density^e					
Rural	821	(53)	619	(40)	1,560
Urban	531	(43)	519	(42)	1,234
Total	1,352	(48)	1,138	(41)	2,794

Note. Cell sizes <5 are suppressed. Denominator is the row total.

^a Combined because of small numbers.

^b Hispanics/Latinos can be of any race.

^c Coverage through a health insurance plan (including TRICARE) from an employer or purchased from a private company, such plans may be memberships in health maintenance organizations.

^d Coverage through Medicare, Medicaid, or Veterans Administration.

^e Rural locations were defined as <1,000 people per square mile and urban locations were defined as ≥1,000 people per square mile.