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HIV Infection, Risk, Prevention, and Testing Behaviors Among Heterosexuals at Increased Risk of HIV Infection National HIV Behavioral Surveillance 20 U.S. Cities, 2013

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Reducing the number of people who become infected with HIV is one of the 3 primary goals of the National HIV/AIDS Strategy of the United States (NHAS) [1]. This goal is to be achieved by implementing 3 important strategies for reducing HIV infections:

(1) intensifying HIV prevention efforts in communities where HIV is most heavily concentrated, including blacks or African Americans (hereafter referred to as blacks); Hispanics or Latinos; gay, bisexual, and other men who have sex with men (hereafter referred to as MSM); and persons who inject drugs (PWID); (2) expanding efforts to prevent HIV infection by using a combination of effective, evidence-based, scalable approaches; and (3) educating the general public about the threat of HIV infection and how to prevent it. State and local health departments, as well as federal agencies, are expected to monitor progress toward NHAS goals [1].

Consistent with the goals of NHAS, the Centers for Disease Control and Prevention (CDC) is pursuing efforts to reduce new HIV infections by using a combination of effective, evidence-based, scalable approaches focused on populations at risk of acquiring or transmitting HIV infection in the United States [2]. CDC's National HIV Behavioral Surveillance (NHBS) serves as a key component of this effort by providing data for monitoring behaviors among these populations at risk. NHBS also helps state and local health departments in areas with high AIDS prevalence to monitor selected risk behaviors, HIV testing, use of prevention programs, and HIV prevalence in 3 populations at high risk of HIV infection: MSM, PWID, and heterosexual adults at increased risk of HIV infection [3, 4].

This report summarizes findings from cycle 3 of NHBS data collection among heterosexuals at increased risk of HIV infection, which was conducted in 2013. Heterosexual sex among adult and adolescent males and females continues to be a common route of HIV transmission in the United States, accounting for a quarter of the estimated new HIV diagnoses in 2013 [5]. Published data from NHBS cycles 1 and 2 among heterosexuals at increased risk of HIV infection (2007, 2010) demonstrate increased HIV prevalence among heterosexual men and women of low

socioeconomic status (SES) in urban areas when compared with the general population [4, 6–8.] This report provides descriptive, unweighted data that can be used to describe HIV infection among heterosexuals at increased risk of HIV infection and the percentages in this sample reporting specific risk behaviors, HIV testing behaviors, and participation in prevention programs. Monitoring these outcomes is useful for assessing risk behaviors and the use of prevention efforts over time and for identifying new HIV prevention opportunities for this population.

TABLE ORGANIZATION

The tables in this report are ordered by content. Tables 1 and 5–12 are stratified by HIV status: that is, data are presented separately for HIV-negative participants, HIV-positive participants who were unaware of their infection at the time of interview (HIV-positive–unaware), and HIV-positive participants who were aware of their infection at the time of interview (HIV-positive–aware). HIV-negative participants were those with a negative NHBS HIV test result who did not report a previous HIV-positive test result. HIV-positive–unaware participants were those who received a confirmed positive HIV test result during the NHBS survey, but who reported that their previous HIV test results were negative or indeterminate, they did not know the results, or they had never been tested. HIV-positive–aware participants were those who received a confirmed positive HIV test result during the NHBS survey and who reported having previously tested positive for HIV. Gender, age group, and race/ethnicity are not presented for HIV-positive participants due to small sample sizes. A small percentage of the sample could not be classified by HIV status because they had no valid NHBS HIV test result, meaning they did not consent to the HIV test, had an indeterminate result, or reported a previous HIV-positive test result but had a negative NHBS HIV test result. For data completeness, data from these participants are reported in a “No valid NHBS HIV test results” row.

HIGHLIGHTS

Demographic Characteristics, HIV Prevalence, and HIV Testing

This report describes data from 8,104 heterosexual men and women who participated in NHBS in 2013, of whom 53% were female, 44% were aged 40 years or older, and 77% were black (Table 1). Of HIV-positive-aware participants, however, 65% were female, 78% were aged 40 years or older, and 93% were black. Overall, 17% of the sample had more than a high school education and the household income for 86% was at or below the federal poverty level; 64% of the sample had health insurance and 76% had visited a health care provider in the 12 months before interview.

HIV prevalence and awareness of HIV infection (termed “awareness”) are presented in Table 2. Achieving awareness of HIV infection is the first step to linking HIV-positive persons to medical care and services, which can lead to improved clinical outcomes [9]. Awareness of infection can also lead to a reduction in risk behavior and reduced likelihood of transmitting HIV to others [10]. In 2013, 2% of participants with a valid HIV test result tested positive for HIV; of those, 56% were aware of their infection.

By gender, 2% of males with a valid HIV test result tested positive for HIV, of whom 50% were aware of their infection, and 3% of females with a valid HIV test result tested positive for HIV, of whom 59% were aware of their infection.

By race and ethnicity, HIV prevalence was as follows: 3% of blacks, 1% of Hispanics or Latinos, and 1% of whites. Among black participants with a valid HIV test result who tested positive for HIV, 56% were aware of their infection. The data were not sufficient to calculate meaningful estimates of awareness for white or Hispanic or Latino participants with a valid HIV test result who tested positive for HIV.

CDC recommends routine HIV testing in clinical settings at least once for all persons aged 13–64 years [11]. Among participants who did not report a previous HIV-positive test result or who had received their first HIV-positive test result less than 12 months before interview, 81% reported that they had ever been tested for HIV (Table 3). Among males, 76% reported that they had ever been tested versus 86% among females.

HIV testing is recommended at least annually for persons at increased risk of HIV infection [11].

Among participants who did not report a previous HIV-positive test result or who had received their first HIV-positive test result less than 12 months before interview (many of whom would qualify for at least annual HIV testing according to current recommendations), 38% reported that they had been tested for HIV in the 12 months before interview (34% among males versus 41% among females) (Table 3).

Among participants who reported an HIV test in the 12 months before interview, 75% of the most recent tests were performed in a clinical setting (Table 4). Among males, 70% reported that their most recent test was performed in a clinical setting versus 79% among females.

Sexual Behaviors

NHBS data are consistent with research findings that after HIV diagnosis, many persons modify their behaviors to protect their partners [10]. Among male participants, condomless vaginal and anal sex was reported least often by HIV-positive-aware participants (49% for condomless vaginal sex and 3% for condomless anal sex), compared with HIV-positive-unaware (88% and 24%) and HIV-negative (88% and 24%) participants (Table 5). The same held true for female participants, with condomless vaginal and anal sex being reported least often by HIV-positive-aware participants (63% for condomless vaginal sex and 8% for condomless anal sex), compared with HIV-positive-unaware (84% and 37%) and HIV-negative (92% and 25%) participants (Table 7). Moreover, among male participants, condomless vaginal or anal sex was reported least often by HIV-positive-aware males with both main (33%) and casual (24%) female partners, compared with HIV-positive-unaware (main: 52%; casual: 64%) and HIV-negative (main: 69%; casual: 50%) males (Table 6). Among female participants, condomless vaginal or anal sex was reported least often by HIV-positive-aware females with casual male partners (HIV-positive-aware females 26%; HIV-positive-unaware females: 58%; HIV-negative females: 42%). Although the percentage of female participants reporting condomless vaginal or anal sex with main male partners was similar for HIV-positive-aware (50%) and HIV-positive-unaware (49%) females, both reported condomless vaginal or anal sex with main male partners less often than HIV-negative females (78%) (Table 8).

Despite lower percentages of HIV-positive-aware participants reporting condomless vaginal or anal sex,

reports of condomless vaginal or anal sex were still common (Tables 5–8). Correct and consistent condom use is one of the primary means of protection from HIV infection [12]. The high percentages of heterosexual men and women who engaged in condomless sex underscore the importance of using effective, evidence-based, scalable combination HIV prevention strategies among heterosexuals at increased risk of HIV infection that include access to and use of condoms, preexposure prophylaxis, risk-reduction counseling, and HIV testing [2, 13].

Receipt of HIV Prevention Materials and Services

The receipt of free condoms and participation in HIV individual- or group-level behavioral interventions are reported in Table 9. Overall, 41% of the sample reported receiving free condoms and 13% reported participating in an HIV behavioral intervention. The percentages of both were highest for HIV-positive–aware participants, 75% of whom reported receiving free condoms and 52% of whom reported participating in an HIV behavioral intervention.

Sexually Transmitted Infections

Having a sexually transmitted infection (STI) can increase the likelihood of acquiring and transmitting HIV [14]. The percentage of heterosexual men and women who reported a diagnosis of any bacterial STI (chlamydia, gonorrhea, or syphilis) during the 12 months before interview was 7% overall; by age group, this percentage was highest among HIV-negative participants aged 18–24 years (12%) (Table 10).

Noninjection Drug Use

Noninjection drug use, particularly crack use, has been associated with HIV acquisition risk among heterosexuals [7]. Crack use was reported more often by HIV-positive participants (HIV-positive–unaware: 29%, HIV-positive–aware: 26%) than by HIV-negative participants (12%) (Table 11).

Additional Outcomes

Table 12 presents data (not displayed in other tables) on additional outcomes related to the risk of HIV transmission and acquisition among heterosexuals at increased risk of HIV infection.

Having multiple sex partners has been found to be associated with HIV risk among heterosexuals [15]. The median number of sex partners in the sample was

3 (Q1–Q3: 1–5), ranging from 2 (Q1–Q3: 1–4) among HIV-positive–aware participants to 4 (Q1–Q3: 2–12) among HIV-positive–unaware participants.

Exchange of sex for things like money or drugs has also been associated with HIV infection among heterosexuals [16]. In 2013, 27% of participants reported exchange sex with a casual partner in the 12 months before interview. The percentage of participants reporting exchange sex with a casual partner was highest for HIV-positive–unaware participants (51%).

Nearly half of participants overall reported condomless sex with an HIV-discordant partner at the most recent sexual encounter with a heterosexual partner. The percentage of participants reporting condomless sex with an HIV-discordant partner was highest for HIV-positive–unaware (70%). Note: the result of the NHBS HIV test (completed after the interview) was not factored into this measure of discordance (see Appendix for more information).

In 2014, after the publication of scientific evidence that anti-HIV medication taken by HIV-negative persons can prevent HIV infection, CDC released clinical guidance recommending the use of preexposure prophylaxis (PrEP) for persons at increased risk of acquiring HIV, including certain groups of heterosexually active men and women [13]. Data in this report, collected in 2013, may serve as a baseline for data on number and percent who report taking PrEP among certain groups of heterosexually active men and women. Only 2 persons reported taking anti-HIV medicines before sex to prevent HIV infection.

Receipt of HIV Care and Treatment

Because achieving viral suppression through antiretroviral treatment can both result in improved clinical outcomes and reduce the likelihood of transmitting HIV to others [9], an NHAS goal is to increase the proportion of patients with recently diagnosed HIV infection who are linked to clinical care within 3 months after diagnosis [1]. Among self-reported HIV-positive–aware participants, 95% reported having ever visited a health care provider for HIV care, 72% reported that they did so within 3 months after diagnosis, and 91% reported visiting a health care provider for HIV care in the 6 months before interview. Current use of antiretroviral therapy was reported by 88% of self-reported HIV-positive–aware participants, although there was some variation by gender, age group, and race/ethnicity (Table 13).

NHBS conducts rotating cycles of behavioral surveys among MSM, PWID, and heterosexual adults at increased risk of HIV infection [3]; data are collected in annual cycles from 1 risk group per year so that each population is surveyed once every 3 years. The same general eligibility criteria are used in each cycle: age of ≥ 18 years, current residence in a participating city, no previous participation in NHBS during the current survey cycle, ability to complete the survey in either English or Spanish, and ability to provide informed consent. In addition to these basic NHBS eligibility requirements, participation in the 2013 NHBS cycle was limited to persons who (1) were ≤ 60 years of age, (2) reported vaginal or anal sex with an opposite sex partner in the 12 months before interview, and (3) reported their gender either as male or as female.

A standardized questionnaire is used to collect information about behavioral risks for HIV infection, HIV testing, and use of HIV prevention services. The anonymous in-person survey is administered by a trained interviewer using a portable computer. The goal of each participating city is to interview 450–500 eligible persons (number depends on the survey cycle). All participants are offered an anonymous HIV test, which is linked to the survey data through a unique survey identifier.

Activities for NHBS were approved by local institutional review boards (IRBs) for each of the 20 participating cities. The CDC IRB determined that NHBS activities were research in which CDC was not directly engaged; therefore, further review by the CDC IRB was not required.

PARTICIPATING CITIES

State and local health departments eligible to participate in NHBS are those jurisdictions that include a metropolitan statistical area (MSA) or a specified division with high AIDS burden. In 2013, NHBS was conducted in 20 MSAs (see list at the end of the report), which represented approximately 65% of all AIDS cases in urban areas with a population of at least 500,000 [5]. Throughout this report, MSAs and divisions are referred to by the name of the principal city.

SAMPLING METHOD

Participants in the 2013 NHBS cycle were recruited by using respondent-driven sampling [17, 18]. Recruitment started with a limited number of initial participants who were chosen by referrals from people who knew the local target population or through outreach to areas where the target population could be found. Initial participants who completed the eligibility screener and were found eligible were administered the survey, and those who completed the survey were asked to recruit up to 5 persons whom they knew personally in the target population. Those persons, in turn, completed the survey and were asked to recruit others by using a system of coded coupons. This recruitment process continued until the sample size was reached or the sampling period ended. Participants received incentives for participating in the survey as well as for recruiting others.

Initial participants were recruited from poverty areas within each MSA based upon the 2012 poverty rates for census tracts within the participating MSAs. Poverty areas were defined by the U.S. Census Bureau as census tracts in which at least 20% of residents live below the poverty threshold [19].

DATA COLLECTION

Persons who brought a valid coupon to an NHBS field site were escorted to a private area for eligibility screening. For those who met eligibility requirements, trained interviewers obtained informed consent and conducted face-to-face interviews, which took approximately 40 minutes and consisted of questions concerning participants' demographic characteristics, HIV testing history, sexual and drug-use behaviors, STI testing and diagnosis, and use of HIV prevention services and programs. As a token of appreciation for the time spent taking part in the interview, participants received \$20–\$30 (amount determined locally).

HIV testing was performed for participants who consented; blood or oral specimens were collected for rapid testing in the field or laboratory-based testing. A nonreactive rapid test result was considered HIV-negative; a reactive rapid test result was considered HIV-positive if confirmed by Western blot or indirect

immunofluorescence assay. Participants also received \$10–\$25 for HIV testing. Participants who agreed to recruit others received an additional incentive of \$10 for each recruit (up to 5) who completed the interview.

Each participating city's goal was to interview 450 persons who met the NHBS definition of a heterosexual at increased risk of HIV by being of low SES, defined as having completed no more than a high school education or having a household income at or below the U.S. Department of Health and Human Services poverty guidelines [20]. Sampling was focused on persons of low SES because results of a pilot study indicated that heterosexual adults of low SES were more likely than those of high SES to be infected with HIV [4].

completed the survey (n=8,104, Table 1). Additional inclusion criteria were applied for certain analyses of HIV infection and of HIV-associated behaviors; details of each analysis sample can be found in the footnotes of each table.

DATA ANALYSIS

This surveillance report presents descriptive data; no statistical tests were performed. In addition, these data are cross-sectional; we did not attempt to infer causal relationships.

Data for this report are not weighted. The purpose of this report is to provide a detailed summary of surveillance data collected as part of the NHBS 2013 cycle; unweighted data provide an efficient and transparent way to do so. Further, unweighted analysis allows for detailed reporting of outcomes among small subgroups of the population.

Inclusion for this report is limited to participants who (1) were eligible for and consented to the interview, (2) reported low SES (as defined above), and (3) reported no lifetime history of injection drug use or if male, no lifetime history of sex with another male.

In total, 12,530 persons were screened to participate in NHBS in 2013. Of those, 1,835 persons did not meet NHBS eligibility criteria and were excluded from this report. The 13 persons for whom data were lost during electronic upload were also excluded. An additional 147 eligible persons were excluded from this report due to lack of consent to the survey, incomplete survey data, or survey responses of questionable validity (reasons not mutually exclusive). Finally, an additional 2,431 eligible persons were excluded from this report who had any history of injection drug use, had any history of male-male sex, or were not of low SES (as defined above).

The full analysis sample for this report includes 2013 NHBS cycle participants who consented to and

References

1. National HIV/AIDS strategy for the United States. <http://www.whitehouse.gov/administration/eop/onap/nhas/>. Published July 2010. Accessed July 27, 2015.
2. CDC. High-Impact HIV Prevention: CDC's approach to reducing HIV infections in the United States. <http://go.usa.gov/p9xw>. Published August 2011. Accessed August 3, 2015.
3. Gallagher KM, Sullivan PS, Lansky A, Onorato IM. Behavioral surveillance among people at risk for HIV infection in the U.S.: the National HIV Behavioral Surveillance System. *Public Health Rep* 2007;122(suppl 1):32–38.
4. Dinunno EA, Oster AM, Sionean C, Denning P, Lansky A. Piloting a system for behavioral surveillance among heterosexuals at increased risk of HIV in the United States. *Open AIDS J* 2012;6:169–176.
5. CDC. *HIV Surveillance Report, 2013*; vol. 25. <http://www.cdc.gov/hiv/library/reports/surveillance/>. Published February 2015. Accessed August 3, 2015.
6. CDC. Characteristics associated with HIV infection among heterosexuals in urban areas with high AIDS prevalence—24 cities, United States, 2006–2007. *MMWR* 2011;60(31):1045–1049.
7. CDC. HIV infection among heterosexuals at increased risk—United States, 2010. *MMWR* 2013;62(10):183–188.
8. CDC. HIV risk, prevention, and testing behaviors among heterosexuals at increased risk for HIV infection—National HIV Behavioral Surveillance System, 21 U.S. cities, United States, 2010. *MMWR* 2014;63(SS-14):1–39.
9. Panel on Antiretroviral Guidelines for Adults and Adolescents. Guidelines for the use of antiretroviral agents in HIV-1–infected adults and adolescents. <http://go.usa.gov/vdGA>. Updated April 8, 2015. Accessed August 3, 2015.
10. Marks G, Crepaz N, Senterfitt JW, Janssen RS. Meta-analysis of high-risk sexual behavior in persons aware and unaware they are infected with HIV in the United States: implications for HIV prevention programs. *J Acquir Immune Defic Syndr* 2005;39(4):446–453.
11. CDC. Revised recommendations for HIV testing of adults, adolescents, and pregnant women in health-care settings. *MMWR* 2006;55(RR-14):1–17.
12. Weller S, Davis-Beatty K. Condom effectiveness in reducing heterosexual HIV transmission. *Cochrane Database of Systematic Reviews* 2007;4:1–24. <http://apps.who.int/whl/reviews/CD003255.pdf>. Accessed August 4, 2015.
13. CDC. Preexposure prophylaxis for the prevention of HIV infection—2014: a clinical practice guideline. <http://go.usa.gov/p8zP>. Published May 14, 2014. Accessed August 3, 2015.
14. CDC. Sexually transmitted diseases treatment guidelines, 2010. *MMWR* 2010;59(RR-12):1–110.
15. Mermin J, Musinguzi J, Opio A, et al. Risk factors for recent HIV infection in Uganda. *JAMA* 2008;300(5):540–549.
16. Jenness SM, Kobrak P, Wendel T, Neaigus A, Murrill CS, Hagan H. Patterns of exchange sex and HIV infection in high-risk heterosexual men and women. *J Urban Health* 2011;88(2):329–341.
17. Lansky A, Abdul-Quader AS, Cribbin M, et al. Developing an HIV behavioral surveillance system for injecting drug users: the National HIV Behavioral Surveillance System. *Public Health Rep* 2007;122(Suppl 1):48–55.
18. Heckathorn D. Respondent-driven sampling II: deriving valid population estimates from chain-referral samples of hidden populations. *Soc Prob* 2002;49(1):11–34.
19. U.S. Census Bureau. Poverty. <http://www.census.gov/hhes/www/poverty/methods/definitions.html>. Accessed August 4, 2015.
20. U.S. Department of Health and Human Services. 2012 poverty guidelines. <http://aspe.hhs.gov/poverty/12fedreg.shtml>. Published 2012. Accessed July 27, 2015.

Table 1. Selected characteristics of heterosexual men and women—National HIV Behavioral Surveillance, 20 U.S. cities, 2013

	HIV-negative ^a		HIV-positive				No valid NHBS HIV test result ^d		Total	
	No.	%	Unaware ^b		Aware ^c		No.	%	No.	%
			No.	%	No.	%				
Gender										
Male	3,731	47.3	33	43.4	33	34.7	28	63.6	3,825	47.2
Female	4,158	52.7	43	56.6	62	65.3	16	36.4	4,279	52.8
Age at interview (yr)										
18–24	1,850	23.5	7	9.2	2	2.1	7	15.9	1,866	23.0
25–29	1,011	12.8	5	6.6	2	2.1	2	4.5	1,020	12.6
30–39	1,640	20.8	14	18.4	17	17.9	10	22.7	1,681	20.7
40–49	1,720	21.8	30	39.5	31	32.6	14	31.8	1,795	22.1
≥50	1,668	21.1	20	26.3	43	45.3	11	25.0	1,742	21.5
Race/ethnicity										
American Indian/Alaska Native	59	0.7	0	0.0	1	1.1	0	0.0	60	0.7
Asian	16	0.2	1	1.3	0	0.0	1	2.3	18	0.2
Black/African American	6,021	76.3	68	89.5	88	92.6	34	77.3	6,211	76.6
Hispanic/Latino ^e	1,302	16.5	5	6.6	4	4.2	6	13.6	1,317	16.3
Native Hawaiian/Other Pacific Islander	22	0.3	0	0.0	0	0.0	0	0.0	22	0.3
White	217	2.8	0	0.0	1	1.1	1	2.3	219	2.7
Multiple races	245	3.1	2	2.6	1	1.1	2	4.5	250	3.1
Education										
Less than high school	2,413	30.6	42	55.3	46	48.4	18	40.9	2,519	31.1
High school diploma or equivalent	4,143	52.5	23	30.3	30	31.6	21	47.7	4,217	52.0
Some college or technical degree	1,231	15.6	11	14.5	17	17.9	4	9.1	1,263	15.6
College degree or more	100	1.3	0	0.0	2	2.1	1	2.3	103	1.3
Household income^f										
At or below the federal poverty level	6,740	85.4	68	89.5	87	91.6	35	79.5	6,930	85.5
Above the federal poverty level	1,081	13.7	7	9.2	8	8.4	8	18.2	1,104	13.6
Health insurance										
Yes	5,005	63.4	45	59.2	76	80.0	35	79.5	5,161	63.7
No	2,860	36.3	31	40.8	19	20.0	9	20.5	2,919	36.0
Visited a health care provider, past 12 months										
Yes	5,984	75.9	53	69.7	91	95.8	36	81.8	6,164	76.1
No	1,901	24.1	23	30.3	4	4.2	8	18.2	1,936	23.9
Homeless,^g past 12 months										
Yes	1,913	24.2	23	30.3	23	24.2	12	27.3	1,971	24.3
No	5,976	75.8	53	69.7	72	75.8	32	72.7	6,133	75.7

Table 1. Selected characteristics of heterosexual men and women—National HIV Behavioral Surveillance, 20 U.S. cities, 2013 (cont)

	HIV-negative ^a		HIV-positive				No valid NHBS HIV test result ^d		Total	
	No.	%	Unaware ^b		Aware ^c		No.	%	No.	%
			No.	%	No.	%				
Incarcerated,^h past 12 months										
Yes	1,401	17.8	9	11.8	19	20.0	9	20.5	1,438	17.7
No	6,487	82.2	67	88.2	76	80.0	35	79.5	6,665	82.2
City										
Atlanta, GA	427	5.4	6	7.9	5	5.3	1	2.3	439	5.4
Baltimore, MD	334	4.2	6	7.9	5	5.3	3	6.8	348	4.3
Boston, MA	389	4.9	1	1.3	3	3.2	6	13.6	399	4.9
Chicago, IL	429	5.4	4	5.3	0	0.0	1	2.3	434	5.4
Dallas, TX	438	5.6	1	1.3	0	0.0	2	4.5	441	5.4
Denver, CO	424	5.4	0	0.0	2	2.1	4	9.1	430	5.3
Detroit, MI	507	6.4	2	2.6	3	3.2	1	2.3	513	6.3
Houston, TX	410	5.2	8	10.5	3	3.2	1	2.3	422	5.2
Los Angeles, CA	439	5.6	0	0.0	1	1.1	0	0.0	440	5.4
Miami, FL	450	5.7	18	23.7	34	35.8	0	0.0	502	6.2
Nassau-Suffolk, NY	422	5.3	3	3.9	0	0.0	2	4.5	427	5.3
New Orleans, LA	371	4.7	3	3.9	13	13.7	4	9.1	391	4.8
New York City, NY	370	4.7	6	7.9	2	2.1	7	15.9	385	4.8
Newark, NJ	448	5.7	6	7.9	4	4.2	1	2.3	459	5.7
Philadelphia, PA	504	6.4	2	2.6	1	1.1	2	4.5	509	6.3
San Diego, CA	410	5.2	2	2.6	0	0.0	2	4.5	414	5.1
San Francisco, CA	213	2.7	6	7.9	0	0.0	1	2.3	220	2.7
San Juan, PR	93	1.2	0	0.0	0	0.0	2	4.5	95	1.2
Seattle, WA	399	5.1	1	1.3	2	2.1	0	0.0	402	5.0
Washington, DC	412	5.2	1	1.3	17	17.9	4	9.1	434	5.4
Total	7,889	100	76	100	95	100	44	100	8,104	100

Abbreviation: NHBS, National HIV Behavioral Surveillance.

Note. "Past 12 months" refers to the 12 months before interview.

^a Heterosexual men and women with a negative NHBS HIV test result who did not report a previous HIV-positive test result.

^b Heterosexual men and women with a confirmed positive NHBS HIV test result who did not report a previous HIV-positive test result, including those who had not been previously tested or did not know the results of previous HIV tests.

^c Heterosexual men and women with a confirmed positive NHBS HIV test result who reported a previous HIV-positive test result.

^d Heterosexual men and women who did not have a valid positive or negative NHBS HIV test result, including those who did not consent to the HIV test, had an indeterminate result, or reported a previous HIV-positive test result but had a negative NHBS HIV test result.

^e Hispanics/Latinos can be of any race.

^f Poverty level is based on household income and household size.

^g Living on the street, in a shelter, in a single-room-occupancy hotel, or in a car.

^h Having been held in a detention center, jail, or prison for more than 24 hours.

Table 2. HIV prevalence and awareness of infection among heterosexual men and women—National HIV Behavioral Surveillance, 20 U.S. cities, 2013

	HIV prevalence ^a						HIV awareness ^b						Total			
	Males		Females		Total		Males		Females		Total		Males	Females		
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	No.	No.	
Age at interview (yr)																
18–24	4	0.4	5	0.5	9	0.5	2	50.0	0	0.0	2	22.2	919	940	1,859	
25–29	3	0.7	4	0.7	7	0.7	1	33.3	1	25.0	2	28.6	404	614	1,018	
30–39	7	1.0	24	2.5	31	1.9	3	42.9	14	58.3	17	54.8	715	956	1,671	
40–49	25	2.9	36	3.9	61	3.4	10	40.0	21	58.3	31	50.8	862	919	1,781	
≥50	27	3.0	36	4.3	63	3.6	17	63.0	26	72.2	43	68.3	897	834	1,731	
Race/ethnicity																
American Indian/Alaska Native	1	3.7	0	0.0	1	1.7	1	100.0	0	0.0	1	100.0	27	33	60	
Asian	0	0.0	1	14.3	1	5.9	0	0.0	0	0.0	0	0.0	10	7	17	
Black/African American	62	2.1	94	2.9	156	2.5	31	50.0	57	60.6	88	56.4	2,884	3,293	6,177	
Hispanic/Latino ^c	2	0.3	7	1.1	9	0.7	1	50.0	3	42.9	4	44.4	647	664	1,311	
Native Hawaiian/Other Pacific Islander	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	14	8	22	
White	0	0.0	1	0.9	1	0.5	0	0.0	1	100.0	1	100.0	104	114	218	
Multiple races	1	0.9	2	1.4	3	1.2	0	0.0	1	50.0	1	33.3	106	142	248	
City																
Atlanta, GA	3	1.3	8	3.9	11	2.5	2	66.7	3	37.5	5	45.5	232	206	438	
Baltimore, MD	3	1.9	8	4.2	11	3.2	1	33.3	4	50.0	5	45.5	154	191	345	
Boston, MA	2	1.3	2	0.8	4	1.0	1	50.0	2	100.0	3	75.0	152	241	393	
Chicago, IL	3	1.3	1	0.5	4	0.9	0	0.0	0	0.0	0	0.0	235	198	433	
Dallas, TX	0	0.0	1	0.4	1	0.2	0	0.0	0	0.0	0	0.0	199	240	439	
Denver, CO	0	0.0	2	0.9	2	0.5	0	0.0	2	100.0	2	100.0	195	231	426	
Detroit, MI	2	0.9	3	1.0	5	1.0	1	50.0	2	66.7	3	60.0	225	287	512	
Houston, TX	6	3.1	5	2.2	11	2.6	2	33.3	1	20.0	3	27.3	191	230	421	
Los Angeles, CA	1	0.4	0	0.0	1	0.2	1	100.0	0	0.0	1	100.0	245	195	440	
Miami, FL	24	10.1	28	10.6	52	10.4	12	50.0	22	78.6	34	65.4	238	264	502	
Nassau-Suffolk, NY	1	0.5	2	1.0	3	0.7	0	0.0	0	0.0	0	0.0	217	208	425	
New Orleans, LA	7	4.8	9	3.8	16	4.1	5	71.4	8	88.9	13	81.3	147	240	387	
New York City, NY	1	0.5	7	4.0	8	2.1	1	100.0	1	14.3	2	25.0	203	175	378	
Newark, NJ	2	1.2	8	2.7	10	2.2	0	0.0	4	50.0	4	40.0	165	293	458	
Philadelphia, PA	2	1.0	1	0.3	3	0.6	1	50.0	0	0.0	1	33.3	207	300	507	
San Diego, CA	1	0.6	1	0.4	2	0.5	0	0.0	0	0.0	0	0.0	179	233	412	
San Francisco, CA	1	0.7	5	5.9	6	2.7	0	0.0	0	0.0	0	0.0	134	85	219	
San Juan, PR	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	34	59	93	
Seattle, WA	1	0.4	2	1.3	3	0.7	1	100.0	1	50.0	2	66.7	250	152	402	
Washington, DC	6	3.1	12	5.1	18	4.2	5	83.3	12	100.0	17	94.4	195	235	430	
Total	66	1.7	105	2.5	171	2.1	33	50.0	62	59.0	95	55.6	3,797	4,263	8,060	

Abbreviation: NHBS, National HIV Behavioral Surveillance [footnotes only].

^a "HIV prevalence" refers to the percentage of heterosexual men and women with a confirmed positive NHBS HIV test result among the total number of heterosexual men and women tested in NHBS in each subcategory (females, males, total).^b Percentage denominator is the number of HIV-positive heterosexual men and women in each subcategory (females, males, total).^c Hispanics/Latinos can be of any race.

Table 3. HIV testing among heterosexual men and women—National HIV Behavioral Surveillance, 20 U.S. cities, 2013

	Males					Females					Total				
	Ever tested		Tested in past 12 months		Total	Ever tested		Tested in past 12 months		Total	Ever tested		Tested in past 12 months		No.
	No.	%	No.	%		No.	%	No.	%		No.	%	No.	%	
	No.	%	No.	%	No.	No.	%	No.	%	No.	No.	%	No.	%	No.
Age at interview (yr)															
18–24	558	60.5	291	31.5	923	745	79.2	447	47.5	941	1,303	69.9	738	39.6	1,864
25–29	332	82.2	163	40.3	404	568	92.4	305	49.6	615	900	88.3	468	45.9	1,019
30–39	599	83.3	256	35.6	719	880	93.0	427	45.1	946	1,479	88.8	683	41.0	1,665
40–49	712	82.6	295	34.2	862	773	85.6	314	34.8	903	1,485	84.1	609	34.5	1,765
≥50	683	77.3	278	31.4	884	642	79.0	239	29.4	813	1,325	78.1	517	30.5	1,697
Race/ethnicity															
American Indian/Alaska Native	19	73.1	8	30.8	26	26	78.8	14	42.4	33	45	76.3	22	37.3	59
Asian	3	30.0	2	20.0	10	6	75.0	2	25.0	8	9	50.0	4	22.2	18
Black/African American	2,303	80.0	1,057	36.7	2,877	2,861	88.1	1,405	43.3	3,248	5,164	84.3	2,462	40.2	6,125
Hispanic/Latino ^a	394	60.7	146	22.5	649	489	73.6	199	30.0	664	883	67.3	345	26.3	1,313
Native Hawaiian/Other Pacific Islander	8	57.1	3	21.4	14	7	87.5	4	50.0	8	15	68.2	7	31.8	22
White	73	70.2	29	27.9	104	94	83.2	44	38.9	113	167	77.0	73	33.6	217
Multiple races	79	73.8	35	32.7	107	123	86.6	63	44.4	142	202	81.1	98	39.4	249
City															
Atlanta, GA	201	87.0	99	42.9	231	180	88.7	85	41.9	203	381	87.8	184	42.4	434
Baltimore, MD	140	90.9	65	42.2	154	176	93.1	100	52.9	189	316	92.1	165	48.1	343
Boston, MA	133	86.4	65	42.2	154	214	88.4	103	42.6	242	347	87.6	168	42.4	396
Chicago, IL	190	80.9	75	31.9	235	177	89.4	80	40.4	198	367	84.8	155	35.8	433
Dallas, TX	139	69.2	45	22.4	201	194	80.8	67	27.9	240	333	75.5	112	25.4	441
Denver, CO	120	60.9	36	18.3	197	164	71.3	65	28.3	230	284	66.5	101	23.7	427
Detroit, MI	148	66.1	48	21.4	224	235	82.5	83	29.1	285	383	75.2	131	25.7	509
Houston, TX	156	81.3	67	34.9	192	206	90.0	91	39.7	229	362	86.0	158	37.5	421
Los Angeles, CA	142	58.2	57	23.4	244	161	82.6	70	35.9	195	303	69.0	127	28.9	439
Miami, FL	181	79.7	96	42.3	227	211	86.8	108	44.4	243	392	83.4	204	43.4	470
Nassau-Suffolk, NY	168	76.7	75	34.2	219	186	89.4	101	48.6	208	354	82.9	176	41.2	427
New Orleans, LA	114	79.7	57	39.9	143	200	85.1	102	43.4	235	314	83.1	159	42.1	378
New York City, NY	183	89.3	101	49.3	205	156	88.1	84	47.5	177	339	88.7	185	48.4	382
Newark, NJ	122	73.5	47	28.3	166	249	86.2	112	38.8	289	371	81.5	159	34.9	455
Philadelphia, PA	165	79.7	85	41.1	207	264	87.7	142	47.2	301	429	84.4	227	44.7	508
San Diego, CA	103	56.9	33	18.2	181	164	70.4	69	29.6	233	267	64.5	102	24.6	414
San Francisco, CA	109	81.3	40	29.9	134	68	79.1	29	33.7	86	177	80.5	69	31.4	220
San Juan, PR	22	62.9	7	20.0	35	54	90.0	9	15.0	60	76	80.0	16	16.8	95
Seattle, WA	166	66.7	52	20.9	249	128	84.2	57	37.5	152	294	73.3	109	27.2	401
Washington, DC	182	93.8	133	68.6	194	221	99.1	175	78.5	223	403	96.6	308	73.9	417
Total	2,884	76.1	1,283	33.8	3,792	3,608	85.5	1,732	41.1	4,218	6,492	81.0	3,015	37.6	8,010

Note. "Past 12 months" refers to the 12 months before interview. Data include all heterosexual men and women who did not report a previous HIV-positive test result and heterosexual men and women who received their first HIV-positive test result less than 12 months before the interview.

^a Hispanics/Latinos can be of any race.

Table 4. Setting of most recent HIV test among heterosexual men and women who were tested for HIV in the 12 months before interview—National HIV Behavioral Surveillance, 20 U.S. cities, 2013

	Males tested					Females tested					Total tested				
	Clinical setting ^a		Nonclinical setting ^b		Total No.	Clinical setting ^a		Nonclinical setting ^b		Total No.	Clinical setting ^a		Nonclinical setting ^b		Total No.
	No.	%	No.	%		No.	%	No.	%		No.	%	No.	%	
Age at interview (yr)															
18–24	213	73.2	55	18.9	291	368	82.3	49	11.0	447	581	78.7	104	14.1	738
25–29	117	71.8	37	22.7	163	256	83.9	39	12.8	305	373	79.7	76	16.2	468
30–39	181	70.7	48	18.8	256	341	79.9	64	15.0	427	522	76.4	112	16.4	683
40–49	200	67.8	70	23.7	295	229	72.9	61	19.4	314	429	70.4	131	21.5	609
≥50	189	68.0	71	25.5	278	173	72.4	55	23.0	239	362	70.0	126	24.4	517
Race/ethnicity															
American Indian/Alaska Native	7	87.5	1	12.5	8	10	71.4	3	21.4	14	17	77.3	4	18.2	22
Asian	1	50.0	1	50.0	2	2	100.0	0	0.0	2	3	75.0	1	25.0	4
Black/African American	743	70.3	232	21.9	1,057	1,101	78.4	225	16.0	1,405	1,844	74.9	457	18.6	2,462
Hispanic/Latino ^c	101	69.2	36	24.7	146	159	79.9	29	14.6	199	260	75.4	65	18.8	345
Native Hawaiian/Other Pacific Islander	3	100.0	0	0.0	3	4	100.0	0	0.0	4	7	100.0	0	0.0	7
White	17	58.6	4	13.8	29	42	95.5	2	4.5	44	59	80.8	6	8.2	73
Multiple races	26	74.3	6	17.1	35	48	76.2	9	14.3	63	74	75.5	15	15.3	98
City															
Atlanta, GA	63	63.6	30	30.3	99	63	74.1	16	18.8	85	126	68.5	46	25.0	184
Baltimore, MD	50	76.9	7	10.8	65	90	90.0	9	9.0	100	140	84.8	16	9.7	165
Boston, MA	52	80.0	12	18.5	65	80	77.7	18	17.5	103	132	78.6	30	17.9	168
Chicago, IL	55	73.3	12	16.0	75	71	88.8	6	7.5	80	126	81.3	18	11.6	155
Dallas, TX	29	64.4	10	22.2	45	54	80.6	8	11.9	67	83	74.1	18	16.1	112
Denver, CO	29	80.6	2	5.6	36	52	80.0	4	6.2	65	81	80.2	6	5.9	101
Detroit, MI	38	79.2	4	8.3	48	74	89.2	7	8.4	83	112	85.5	11	8.4	131
Houston, TX	47	70.1	15	22.4	67	65	71.4	18	19.8	91	112	70.9	33	20.9	158
Los Angeles, CA	36	63.2	18	31.6	57	54	77.1	15	21.4	70	90	70.9	33	26.0	127
Miami, FL	44	45.8	50	52.1	96	65	60.2	40	37.0	108	109	53.4	90	44.1	204
Nassau-Suffolk, NY	62	82.7	9	12.0	75	92	91.1	7	6.9	101	154	87.5	16	9.1	176
New Orleans, LA	48	84.2	3	5.3	57	87	85.3	11	10.8	102	135	84.9	14	8.8	159
New York City, NY	64	63.4	29	28.7	101	65	77.4	15	17.9	84	129	69.7	44	23.8	185
Newark, NJ	28	59.6	19	40.4	47	79	70.5	30	26.8	112	107	67.3	49	30.8	159
Philadelphia, PA	75	88.2	5	5.9	85	127	89.4	12	8.5	142	202	89.0	17	7.5	227
San Diego, CA	27	81.8	3	9.1	33	64	92.8	4	5.8	69	91	89.2	7	6.9	102
San Francisco, CA	30	75.0	5	12.5	40	25	86.2	2	6.9	29	55	79.7	7	10.1	69
San Juan, PR	5	71.4	2	28.6	7	8	88.9	1	11.1	9	13	81.3	3	18.8	16
Seattle, WA	38	73.1	9	17.3	52	48	84.2	7	12.3	57	86	78.9	16	14.7	109
Washington, DC	80	60.2	37	27.8	133	104	59.4	38	21.7	175	184	59.7	75	24.4	308
Total	900	70.1	281	21.9	1,283	1,367	78.9	268	15.5	1,732	2,267	75.2	549	18.2	3,015

Abbreviation: HMO, health maintenance organization [footnotes only].

Note. Data report setting of most recent HIV test. Data exclude heterosexual men and women who did not report an HIV test in the past 12 months or who reported receiving an HIV-positive test result more than 12 months before interview.^a Clinical settings include private doctor's office (including HMO), emergency department, hospital (inpatient), public health clinic or community health center, family planning or obstetrics clinic, correctional facility, or drug treatment program.^b Nonclinical settings include HIV counseling and testing site, HIV street outreach program or mobile unit, needle exchange program, or home.^c Hispanics/Latinos can be of any race.

Table 5. Sexual behavior with female sex partners in the 12 months before interview among heterosexual men—National HIV Behavioral Surveillance, 20 U.S. cities, 2013

	Vaginal sex		Condomless vaginal sex		Anal sex		Condomless anal sex		Total males
	No.	%	No.	%	No.	%	No.	%	No.
HIV-negative heterosexual men^a	3,727	99.9	3,278	87.9	1,129	30.3	894	24.0	3,731
Age at interview (yr)									
18–24	915	100.0	780	85.2	230	25.1	172	18.8	915
25–29	401	100.0	362	90.3	125	31.2	100	24.9	401
30–39	706	99.7	643	90.8	237	33.5	184	26.0	708
40–49	835	99.8	753	90.0	294	35.1	242	28.9	837
≥50	870	100.0	740	85.1	243	27.9	196	22.5	870
Race/ethnicity									
American Indian/Alaska Native	26	100.0	24	92.3	6	23.1	4	15.4	26
Asian	10	100.0	7	70.0	3	30.0	2	20.0	10
Black/African American	2,819	99.9	2,493	88.3	819	29.0	645	22.9	2,822
Hispanic/Latino ^b	645	100.0	552	85.6	223	34.6	178	27.6	645
Native Hawaiian/Other Pacific Islander	13	92.9	12	85.7	0	0.0	0	0.0	14
White	104	100.0	90	86.5	40	38.5	36	34.6	104
Multiple races	105	100.0	95	90.5	34	32.4	29	27.6	105
HIV-positive heterosexual men	66	100.0	45	68.2	12	18.2	9	13.6	66
HIV-positive—unaware ^c	33	100.0	29	87.9	8	24.2	8	24.2	33
HIV-positive—aware ^d	33	100.0	16	48.5	4	12.1	1	3.0	33
No valid NHBS HIV test result^e	28	100.0	19	67.9	4	14.3	4	14.3	28
Total	3,821	99.9	3,342	87.4	1,145	29.9	907	23.7	3,825

Abbreviation: NHBS, National HIV Behavioral Surveillance.

^a Heterosexual men with a negative NHBS HIV test result who did not report a previous HIV-positive test result.

^b Hispanics/Latinos can be of any race.

^c Heterosexual men with a confirmed positive NHBS HIV test result who did not report a previous HIV-positive test result, including those who had not been previously tested or did not know the results of previous HIV tests.

^d Heterosexual men with a confirmed positive NHBS HIV test result who reported a previous HIV-positive test result.

^e Heterosexual men who did not have a valid positive or negative NHBS HIV test result, including those who did not consent to the HIV test, had an indeterminate result, or reported a previous HIV-positive test result but had a negative NHBS HIV test result.

Table 6. Sexual behavior with female sex partners in the 12 months before interview among heterosexual men, by partner type—National HIV Behavioral Surveillance, 20 U.S. cities, 2013

	Main female partner				Casual female partner				Main and casual female partners—sex of any type ^a		Total males No.
	Vaginal or anal sex		Condomless vaginal or anal sex		Vaginal or anal sex		Condomless vaginal or anal sex		No.	%	
	No.	%	No.	%	No.	%	No.	%			
HIV-negative heterosexual men^b	2,891	77.5	2,565	68.7	2,597	69.6	1,863	49.9	1,816	48.7	3,731
Age at interview (yr)											
18–24	772	84.4	655	71.6	696	76.1	435	47.5	572	62.5	915
25–29	322	80.3	298	74.3	291	72.6	203	50.6	219	54.6	401
30–39	572	80.8	520	73.4	475	67.1	357	50.4	350	49.4	708
40–49	618	73.8	568	67.9	570	68.1	441	52.7	365	43.6	837
≥50	607	69.8	524	60.2	565	64.9	427	49.1	310	35.6	870
Race/ethnicity											
American Indian/Alaska Native	20	76.9	17	65.4	17	65.4	15	57.7	11	42.3	26
Asian	5	50.0	4	40.0	9	90.0	6	60.0	4	40.0	10
Black/African American	2,181	77.3	1,941	68.8	1,988	70.4	1,433	50.8	1,399	49.6	2,822
Hispanic/Latino ^c	517	80.2	445	69.0	414	64.2	295	45.7	290	45.0	645
Native Hawaiian/Other Pacific Islander	10	71.4	9	64.3	8	57.1	6	42.9	5	35.7	14
White	66	63.5	62	59.6	78	75.0	59	56.7	41	39.4	104
Multiple races	87	82.9	82	78.1	79	75.2	46	43.8	62	59.0	105
HIV-positive heterosexual men	43	65.2	28	42.4	43	65.2	29	43.9	20	30.3	66
HIV-positive—unaware ^d	19	57.6	17	51.5	25	75.8	21	63.6	11	33.3	33
HIV-positive—aware ^e	24	72.7	11	33.3	18	54.5	8	24.2	9	27.3	33
No valid NHBS HIV test result^f	18	64.3	11	39.3	21	75.0	11	39.3	11	39.3	28
Total	2,952	77.2	2,604	68.1	2,661	69.6	1,903	49.8	1,847	48.3	3,825

Abbreviation: NHBS, National HIV Behavioral Surveillance.

^a Heterosexual men who reported oral, vaginal, or anal sex with at least 1 female main partner and at least 1 female casual partner in the 12 months before interview.

^b Heterosexual men with a negative NHBS HIV test result who did not report a previous HIV-positive test result.

^c Hispanics/Latinos can be of any race.

^d Heterosexual men with a confirmed positive NHBS HIV test result who did not report a previous HIV-positive test result, including those who had not been previously tested or did not know the results of previous HIV tests.

^e Heterosexual men with a confirmed positive NHBS HIV test result who reported a previous HIV-positive test result.

^f Heterosexual men who did not have a valid positive or negative NHBS HIV test result, including those who did not consent to the HIV test, had an indeterminate result, or reported a previous HIV-positive test result but had a negative NHBS HIV test result.

Table 7. Sexual behavior with male sex partners in the 12 months before interview among heterosexual women—National HIV Behavioral Surveillance, 20 U.S. cities, 2013

	Vaginal sex		Condomless vaginal sex		Anal sex		Condomless anal sex		Total females
	No.	%	No.	%	No.	%	No.	%	No.
HIV-negative heterosexual women^a	4,149	99.8	3,811	91.7	1,203	28.9	1,022	24.6	4,158
Age at interview (yr)									
18–24	934	99.9	838	89.6	230	24.6	191	20.4	935
25–29	609	99.8	577	94.6	191	31.3	155	25.4	610
30–39	930	99.8	872	93.6	318	34.1	272	29.2	932
40–49	882	99.9	817	92.5	274	31.0	250	28.3	883
≥50	794	99.5	707	88.6	190	23.8	154	19.3	798
Race/ethnicity									
American Indian/Alaska Native	33	100.0	31	93.9	6	18.2	5	15.2	33
Asian	6	100.0	6	100.0	3	50.0	3	50.0	6
Black/African American	3,192	99.8	2,927	91.5	926	28.9	800	25.0	3,199
Hispanic/Latina ^b	656	99.8	598	91.0	188	28.6	143	21.8	657
Native Hawaiian/Other Pacific Islander	8	100.0	7	87.5	2	25.0	1	12.5	8
White	112	99.1	109	96.5	35	31.0	32	28.3	113
Multiple races	140	100.0	131	93.6	43	30.7	38	27.1	140
HIV-positive heterosexual women	105	100.0	75	71.4	30	28.6	21	20.0	105
HIV-positive—unaware ^c	43	100.0	36	83.7	17	39.5	16	37.2	43
HIV-positive—aware ^d	62	100.0	39	62.9	13	21.0	5	8.1	62
No valid NHBS HIV test result^e	16	100.0	11	68.8	0	0.0	0	0.0	16
Total	4,270	99.8	3,897	91.1	1,233	28.8	1,043	24.4	4,279

Abbreviation: NHBS, National HIV Behavioral Surveillance.

^a Heterosexual women with a negative NHBS HIV test result who did not report a previous HIV-positive test result.

^b Hispanics/Latinas can be of any race.

^c Heterosexual women with a confirmed positive NHBS HIV test result who did not report a previous HIV-positive test result, including those who had not been previously tested or did not know the results of previous HIV tests.

^d Heterosexual women with a confirmed positive NHBS HIV test result who reported a previous HIV-positive test result.

^e Heterosexual women who did not have a valid positive or negative NHBS HIV test result, including those who did not consent to the HIV test, had an indeterminate result, or reported a previous HIV-positive test result but had a negative NHBS HIV test result.

Table 8. Sexual behavior with male sex partners in the 12 months before interview among heterosexual women, by partner type—National HIV Behavioral Surveillance, 20 U.S. cities, 2013

	Main male partner				Casual male partner				Main and casual male partners—sex of any type ^a		Total females
	Vaginal or anal sex		Condomless vaginal or anal sex		Vaginal or anal sex		Condomless vaginal or anal sex		No.	%	No.
	No.	%	No.	%	No.	%	No.	%			
HIV-negative heterosexual women^b	3,515	84.5	3,234	77.8	2,409	57.9	1,743	41.9	1,820	43.8	4,158
Age at interview (yr)											
18–24	842	90.1	758	81.1	545	58.3	350	37.4	465	49.7	935
25–29	535	87.7	504	82.6	350	57.4	238	39.0	284	46.6	610
30–39	788	84.5	731	78.4	544	58.4	400	42.9	412	44.2	932
40–49	725	82.1	672	76.1	527	59.7	416	47.1	381	43.1	883
≥50	625	78.3	569	71.3	443	55.5	339	42.5	278	34.8	798
Race/ethnicity											
American Indian/Alaska Native	30	90.9	28	84.8	18	54.5	15	45.5	17	51.5	33
Asian	4	66.7	4	66.7	5	83.3	5	83.3	3	50.0	6
Black/African American	2,689	84.1	2,469	77.2	1,899	59.4	1,377	43.0	1,425	44.5	3,199
Hispanic/Latina ^c	572	87.1	522	79.5	316	48.1	229	34.9	239	36.4	657
Native Hawaiian/Other Pacific Islander	7	87.5	6	75.0	4	50.0	3	37.5	3	37.5	8
White	93	82.3	91	80.5	72	63.7	53	46.9	57	50.4	113
Multiple races	118	84.3	112	80.0	94	67.1	61	43.6	75	53.6	140
HIV-positive heterosexual women	79	75.2	52	49.5	66	62.9	41	39.0	40	38.1	105
HIV-positive—unaware ^d	26	60.5	21	48.8	33	76.7	25	58.1	16	37.2	43
HIV-positive—aware ^e	53	85.5	31	50.0	33	53.2	16	25.8	24	38.7	62
No valid NHBS HIV test result^f	14	87.5	10	62.5	2	12.5	1	6.3	0	0.0	16
Total	3,608	84.3	3,296	77.0	2,477	57.9	1,785	41.7	1,860	43.5	4,279

Abbreviation: NHBS, National HIV Behavioral Surveillance.

^a Heterosexual women who reported oral, vaginal, or anal sex with at least 1 male main partner and at least 1 male casual partner in the 12 months before interview.

^b Heterosexual women with a negative NHBS HIV test result who did not report a previous HIV-positive test result.

^c Hispanics/Latinas can be of any race.

^d Heterosexual women with a confirmed positive NHBS HIV test result who did not report a previous HIV-positive test result, including those who had not been previously tested or did not know the results of previous HIV tests.

^e Heterosexual women with a confirmed positive NHBS HIV test result who reported a previous HIV-positive test result.

^f Heterosexual women who did not have a valid positive or negative NHBS HIV test result, including those who did not consent to the HIV test, had an indeterminate result, or reported a previous HIV-positive test result but had a negative NHBS HIV test result.

Table 9. Receipt of HIV prevention materials and services in the 12 months before interview among heterosexual men and women—National HIV Behavioral Surveillance, 20 U.S. cities, 2013

	Free condoms		Individual ^a - or group ^b -level intervention		Total No.
	No.	%	No.	%	
HIV-negative heterosexual men and women^c	3,227	40.9	998	12.7	7,889
Gender					
Male	1,590	42.6	452	12.1	3,731
Female	1,637	39.4	546	13.1	4,158
Age at interview (yr)					
18–24	853	46.1	282	15.2	1,850
25–29	408	40.4	114	11.3	1,011
30–39	633	38.6	200	12.2	1,640
40–49	672	39.1	214	12.4	1,720
≥50	661	39.6	188	11.3	1,668
Race/ethnicity					
American Indian/Alaska Native	25	42.4	6	10.2	59
Asian	7	43.8	0	0.0	16
Black/African American	2,557	42.5	787	13.1	6,021
Hispanic/Latino ^d	433	33.3	144	11.1	1,302
Native Hawaiian/Other Pacific Islander	9	40.9	3	13.6	22
White	72	33.2	21	9.7	217
Multiple races	120	49.0	36	14.7	245
City					
Atlanta, GA	183	42.9	49	11.5	427
Baltimore, MD	148	44.3	49	14.7	334
Boston, MA	226	58.1	72	18.5	389
Chicago, IL	207	48.3	57	13.3	429
Dallas, TX	76	17.4	34	7.8	438
Denver, CO	117	27.6	30	7.1	424
Detroit, MI	102	20.1	48	9.5	507
Houston, TX	162	39.5	82	20.0	410
Los Angeles, CA	169	38.5	38	8.7	439
Miami, FL	175	38.9	42	9.3	450
Nassau-Suffolk, NY	172	40.8	55	13.0	422
New Orleans, LA	149	40.2	46	12.4	371
New York City, NY	249	67.3	93	25.1	370
Newark, NJ	72	16.1	55	12.3	448
Philadelphia, PA	274	54.4	61	12.1	504
San Diego, CA	98	23.9	33	8.0	410
San Francisco, CA	135	63.4	29	13.6	213
San Juan, PR	18	19.4	12	12.9	93
Seattle, WA	190	47.6	35	8.8	399
Washington, DC	305	74.0	78	18.9	412
HIV-positive heterosexual men and women	105	61.4	60	35.1	171
HIV-positive—unaware ^e	34	44.7	11	14.5	76
HIV-positive—aware ^f	71	74.7	49	51.6	95
No valid NHBS HIV test result^g	24	54.5	12	27.3	44
Total	3,356	41.4	1,070	13.2	8,104

Abbreviation: NHBS, National HIV Behavioral Surveillance.

^a Individual-level intervention defined as a one-on-one conversation with an outreach worker, a counselor, or a prevention program worker about ways to prevent HIV; excludes conversations that were part of HIV testing.

^b Group-level intervention defined as a small-group discussion that is part of an organized session about ways to prevent HIV; excludes informal discussions with friends.

^c Heterosexual men and women with a negative NHBS HIV test result who did not report a previous HIV-positive test result.

^d Hispanics/Latinos can be of any race.

^e Heterosexual men and women with a confirmed positive NHBS HIV test result who did not report a previous HIV-positive test result, including those who had not been previously tested or did not know the results of previous HIV tests.

^f Heterosexual men and women with a confirmed positive NHBS HIV test result who reported a previous HIV-positive test result.

^g Heterosexual men and women who did not have a valid positive or negative NHBS HIV test result, including those who did not consent to the HIV test, had an indeterminate result, or reported a previous HIV-positive test result but had a negative NHBS HIV test result.

Table 10. Diagnosis of sexually transmitted infections among heterosexual men and women—National HIV Behavioral Surveillance, 20 U.S. cities, 2013

	Diagnosed during the 12 months before interview								Diagnosed, ever				Total No.
	Any bacterial STI ^a		Chlamydia		Gonorrhea		Syphilis		Genital warts or HPV		Genital herpes		
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	
HIV-negative heterosexual men and women^b	553	7.0	406	5.1	208	2.6	74	0.9	359	4.6	252	3.2	7,889
Gender													
Male	174	4.7	118	3.2	72	1.9	18	0.5	70	1.9	59	1.6	3,731
Female	379	9.1	288	6.9	136	3.3	56	1.3	289	7.0	193	4.6	4,158
Age at interview (yr)													
18–24	218	11.8	183	9.9	70	3.8	7	0.4	31	1.7	24	1.3	1,850
25–29	87	8.6	69	6.8	34	3.4	6	0.6	72	7.1	30	3.0	1,011
30–39	94	5.7	67	4.1	38	2.3	13	0.8	92	5.6	57	3.5	1,640
40–49	88	5.1	49	2.8	37	2.2	24	1.4	104	6.0	75	4.4	1,720
≥50	66	4.0	38	2.3	29	1.7	24	1.4	60	3.6	66	4.0	1,668
Race/ethnicity													
American Indian/Alaska Native	4	6.8	4	6.8	0	0.0	1	1.7	5	8.5	1	1.7	59
Asian	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	16
Black/African American	449	7.5	323	5.4	167	2.8	66	1.1	254	4.2	191	3.2	6,021
Hispanic/Latino ^c	64	4.9	55	4.2	22	1.7	4	0.3	56	4.3	27	2.1	1,302
Native Hawaiian/Other Pacific Islander	2	9.1	2	9.1	1	4.5	0	0.0	1	4.5	1	4.5	22
White	12	5.5	8	3.7	5	2.3	1	0.5	24	11.1	14	6.5	217
Multiple races	22	9.0	14	5.7	13	5.3	2	0.8	18	7.3	18	7.3	245
HIV-positive heterosexual men and women	11	6.4	9	5.3	4	2.3	1	0.6	19	11.1	22	12.9	171
HIV-positive—unaware ^d	4	5.3	4	5.3	1	1.3	1	1.3	5	6.6	6	7.9	76
HIV-positive—aware ^e	7	7.4	5	5.3	3	3.2	0	0.0	14	14.7	16	16.8	95
No valid NHBS HIV test result^f	4	9.1	3	6.8	3	6.8	2	4.5	2	4.5	1	2.3	44
Total	568	7.0	418	5.2	215	2.7	77	1.0	380	4.7	275	3.4	8,104

Abbreviations: STI, sexually transmitted infection; HPV, human papillomavirus; NHBS, National HIV Behavioral Surveillance.

^a Includes diagnosis of gonorrhea, chlamydia, or syphilis in the 12 months before interview.

^b Heterosexual men and women with a negative NHBS HIV test result who did not report a previous HIV-positive test result.

^c Hispanics/Latinos can be of any race.

^d Heterosexual men and women with a confirmed positive NHBS HIV test result who did not report a previous HIV-positive test result, including those who had not been previously tested or did not know the results of previous HIV tests.

^e Heterosexual men and women with a confirmed positive NHBS HIV test result who reported a previous HIV-positive test result.

^f Heterosexual men and women who did not have a valid positive or negative NHBS HIV test result, including those who did not consent to the HIV test, had an indeterminate result, or reported a previous HIV-positive test result but had a negative NHBS HIV test result.

Table 11. Noninjection drug use in the 12 months before interview and binge drinking in the 30 days before interview among heterosexual men and women—National HIV Behavioral Surveillance, 20 U.S. cities, 2013

	Used drug	
	No.	%
HIV-negative heterosexual men and women^a		
Binge drinking (past 30 days) ^b	3,519	44.6
Cocaine	925	11.7
Crack	921	11.7
Downer ^c	590	7.5
Ecstasy	688	8.7
Hallucinogen	138	1.7
Heroin	334	4.2
Marijuana	4,318	54.7
Methamphetamine	254	3.2
Pain killer ^d	952	12.1
Any noninjection drugs (excludes binge drinking)	4,813	61.0
HIV-positive—unaware heterosexual men and women^e		
Binge drinking (past 30 days) ^b	25	32.9
Cocaine	12	15.8
Crack	22	28.9
Downer ^c	1	1.3
Ecstasy	8	10.5
Hallucinogen	0	0.0
Heroin	5	6.6
Marijuana	36	47.4
Methamphetamine	1	1.3
Pain killer ^d	7	9.2
Any noninjection drugs (excludes binge drinking)	48	63.2
HIV-positive—aware heterosexual men and women^f		
Binge drinking (past 30 days) ^b	33	34.7
Cocaine	10	10.5
Crack	25	26.3
Downer ^c	5	5.3
Ecstasy	4	4.2
Hallucinogen	1	1.1
Heroin	0	0.0
Marijuana	38	40.0
Methamphetamine	0	0.0
Pain killer ^d	5	5.3
Any noninjection drugs (excludes binge drinking)	50	52.6

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.

Abbreviation: NHBS, National HIV Behavioral Surveillance [footnotes only].

Note. Denominator is the total number of heterosexual men and women in the category; HIV-negative heterosexuals: n = 7,889; HIV-positive—unaware heterosexuals: n = 76; HIV-positive—aware heterosexuals: n = 95. Responses are not mutually exclusive; percentages may not add to 100.

^a Heterosexual men and women with a negative NHBS HIV test result who did not report a previous HIV-positive test result.

^b 5 or more drinks at one sitting (males) or 4 or more drinks at one sitting (females) in the 30 days before interview.

^c Such as Valium, Ativan, or Xanax.

^d Such as Oxycontin, Vicodin, or Percocet.

^e Heterosexual men and women with a confirmed positive NHBS HIV test result who did not report a previous HIV-positive test result, including those who had not been previously tested or did not know the results of previous HIV tests.

^f Heterosexual men and women with a confirmed positive NHBS HIV test result who reported a previous HIV-positive test result.

Table 12. Additional outcomes among heterosexual men and women—National HIV Behavioral Surveillance, 20 U.S. cities, 2013

	Number of sex partners ^a	Exchange sex among casual partners ^b		Condomless sex with an HIV-discordant partner at last sex ^c		Took anti-HIV medicines before sex ^d		Total No.
		Median (Q1–Q3)	No.	%	No.	%	No.	
HIV-negative heterosexual men and women^e	3 (1–5)	2,080	26.4	3,831	48.6	2	0.0	7,889
Gender								
Male	3 (1–7)	1,016	27.2	1,706	45.7	0	0.0	3,731
Female	2 (1–4)	1,064	25.6	2,125	51.1	2	0.0	4,158
Age at interview (yr)								
18–24	3 (2–6)	279	15.1	868	46.9	1	0.1	1,850
25–29	2 (1–5)	233	23.0	445	44.0	0	0.0	1,011
30–39	3 (1–5)	407	24.8	759	46.3	0	0.0	1,640
40–49	2 (1–5)	579	33.7	880	51.2	1	0.1	1,720
≥50	2 (1–5)	582	34.9	879	52.7	0	0.0	1,668
Race/ethnicity								
American Indian/Alaska Native	2 (1–5)	13	22.0	30	50.8	0	0.0	59
Asian	3 (1–6.5)	3	18.8	7	43.8	0	0.0	16
Black/African American	3 (1–5)	1,805	30.0	2,894	48.1	1	0.0	6,021
Hispanic/Latino ^f	2 (1–4)	143	11.0	669	51.4	1	0.1	1,302
Native Hawaiian/Other Pacific Islander	1.5 (1–4)	5	22.7	11	50.0	0	0.0	22
White	2 (1–5)	42	19.4	100	46.1	0	0.0	217
Multiple races	3 (1–6)	69	28.2	116	47.3	0	0.0	245
HIV-positive heterosexual men and women	2 (1–6)	65	38.0	76	44.4	0	0.0	171
HIV-positive–unaware ^g	4 (2–12)	39	51.3	53	69.7	0	0.0	76
HIV-positive–aware ^h	2 (1–4)	26	27.4	23	24.2	—	—	95
No valid NHBS HIV test resultⁱ	2 (1–4)	6	13.6	12	27.3	0	0.0	44
Total	3 (1–5)	2,151	26.5	3,919	48.4	2	0.0	8,104

Abbreviations: Q, quartile; NHBS, National HIV Behavioral Surveillance.

Note. Unless otherwise stated, outcomes are reported for the 12 months before interview.

^a Number of heterosexual sex partners reported by participants in the 12 months before interview.

^b “Exchange sex” refers to having given or received things like money or drugs, in the 12 months before interview, in exchange for sex with a casual partner.

^c “Condomless sex” refers to whether the participant reported engaging in vaginal or anal sex without a condom. “HIV-discordant partner” refers to a partner of different or unknown HIV status. “Last sex” refers to the most recent sexual encounter with a heterosexual partner.

^d The question for this variable was “In the past 12 months, have you taken anti-HIV medicines before sex because you thought it would keep you from getting HIV?”

^e Heterosexual men and women with a negative NHBS HIV test result who did not report a previous HIV-positive test result.

^f Hispanics/Latinos can be of any race.

^g Heterosexual men and women with a confirmed positive NHBS HIV test result who did not report a previous HIV-positive test result, including those who had not been previously tested or did not know the results of previous HIV tests.

^h Heterosexual men and women with a confirmed positive NHBS HIV test result who reported a previous HIV-positive test result.

ⁱ Heterosexual men and women who did not have a valid positive or negative NHBS HIV test result, including those who did not consent to the HIV test, had an indeterminate result, or reported a previous HIV-positive test result but had a negative NHBS HIV test result.

Table 13. Receipt of HIV care and treatment among self-reported HIV-positive heterosexual men and women—National HIV Behavioral Surveillance, 20 U.S. cities, 2013

	Visited health care provider about HIV								Total No.
	Ever		Within 3 months after diagnosis		During past 6 months		Currently taking anti-HIV medicines		
	No.	%	No.	%	No.	%	No.	%	
Gender									
Male	35	94.6	27	73.0	33	89.2	34	91.9	37
Female	61	95.3	46	71.9	59	92.2	55	85.9	64
Age at interview (yr)									
18–24	3	100.0	3	100.0	3	100.0	3	100.0	3
25–29	2	100.0	2	100.0	2	100.0	2	100.0	2
30–39	17	94.4	14	77.8	16	88.9	14	77.8	18
40–49	31	93.9	22	66.7	29	87.9	30	90.9	33
≥50	43	95.6	32	71.1	42	93.3	40	88.9	45
Race/ethnicity									
American Indian/Alaska Native	1	100.0	1	100.0	0	0.0	1	100.0	1
Asian	0	—	0	—	0	—	0	—	0
Black/African American	89	95.7	68	73.1	87	93.5	83	89.2	93
Hispanic/Latino ^a	3	75.0	2	50.0	3	75.0	3	75.0	4
Native Hawaiian/Other Pacific Islander	0	—	0	—	0	—	0	—	0
White	2	100.0	1	50.0	2	100.0	2	100.0	2
Multiple races	1	100.0	1	100.0	0	0.0	0	0.0	1
Total	96	95.0	73	72.3	92	91.1	89	88.1	101

Note. Data include all heterosexual men and women who reported having ever received an HIV-positive test result. "Past 6 months" refers to the 6 months before interview.

^a Hispanics/Latinos can be of any race.

Participating Metropolitan Statistical Areas, 2013

Principal city	Metropolitan statistical area division
Atlanta, Georgia	Atlanta–Sandy Springs–Marietta, Georgia
Baltimore, Maryland	Baltimore–Towson, Maryland
Boston, Massachusetts	Boston, Massachusetts–New Hampshire (Boston Division)
Chicago, Illinois	Chicago, Illinois–Indiana–Wisconsin (Chicago Division)
Dallas, Texas	Dallas, Texas (Dallas Division)
Denver, Colorado	Denver–Aurora, Colorado
Detroit, Michigan	Detroit, Michigan (Detroit Division)
Houston, Texas	Houston–Baytown–Sugar Land, Texas
Los Angeles, California	Los Angeles, California (Los Angeles Division)
Miami, Florida	Miami Florida (Miami Division)
Nassau–Suffolk, New York	New York, New York–New Jersey–Pennsylvania (Nassau Division)
New Orleans, Louisiana	New Orleans–Metairie–Kenner, Louisiana
New York, New York	New York, New York–New Jersey–Pennsylvania (New York–White Plains–Wayne Division)
Newark, New Jersey	New York, New York–New Jersey–Pennsylvania (Newark Division)
Philadelphia, Pennsylvania	Philadelphia, Pennsylvania–New Jersey–Delaware–Maryland (Philadelphia Division)
San Diego, California	San Diego–Carlsbad–San Marcos, California
San Francisco, California	San Francisco, California (San Francisco Division)
San Juan, Puerto Rico	San Juan–Caguas–Guaynabo, Puerto Rico
Seattle, Washington	Seattle, Washington (Seattle Division)
Washington, DC	Washington, District of Columbia (DC)–Virginia–Maryland–West Virginia (Washington Division)

Appendix: Measurement Notes

SOCIODEMOGRAPHIC CHARACTERISTICS

- Gender: Male or female. Participants who did not identify themselves as male or female were not eligible for interview.
- Age: Calculated from the reported date of birth; age categories were chosen for epidemiologic relevance and consistency of reporting across all 3 NHBS populations.
- Race/ethnicity: Participants reported 1 or more race categories (American Indian or Alaska Native, Asian, Black or African American, Native Hawaiian or Other Pacific Islander, and White). Hispanic or Latino ethnicity was asked separately; participants reporting Hispanic or Latino ethnicity were considered Hispanic or Latino, regardless of reported race. Participants reporting multiple races (but not Hispanic or Latino ethnicity) were classified as multiple races.
- Education: Highest level of education completed.
- Household income: Participants were asked about their combined monthly or yearly household income (in US\$) from all sources during the 12 months before interview. The number of persons meeting the current federal poverty threshold was determined by using the U.S. Department of Health and Human Services poverty guidelines that corresponded to the calendar year for which income was asked. These guidelines, issued yearly for the United States, are one of the indicators used for determining eligibility for many federal and state programs. The 2012 guidelines [1] were used for participants interviewed in 2013. Because the poverty guidelines are not defined for the territory of Puerto Rico, the guidelines for the contiguous states and Washington, DC, were used for this jurisdiction. Participants were asked to report their income by selecting from a list of income ranges. If the participant's income range and household size resulted in an ambiguous determination of poverty level, the participant's household income was assumed to be the low-point of the income range.
- Health insurance: Currently having some form of health insurance.

- Homeless: Living on the street, in a shelter, in a single-room-occupancy hotel, or in a car at any time in the past 12 months.
- Incarcerated: Having been held in a detention center, jail, or prison for more than 24 hours in the past 12 months.
- City: Throughout this report, eligible MSAs and divisions are referred to by the name of the principal city. State and local health departments eligible to participate in NHBS are among those whose jurisdictions included an MSA or a specified division within an MSA with high prevalence of AIDS. In 2013, NHBS was conducted in 20 MSAs (see list at the end of the report), which represented approximately 65% of all AIDS cases in urban areas with a population of at least 500,000.

HIV STATUS

HIV testing was performed for participants who consented to testing; blood or oral specimens were collected for either rapid testing in the field or laboratory-based testing.

- HIV-negative: Nonreactive NHBS HIV test result and no report of a previous HIV-positive test result.
- HIV-positive: Reactive rapid NHBS HIV test result confirmed by Western blot or indirect immunofluorescence assay, or a positive result by Western blot or indirect immunofluorescence assay without a rapid HIV test.
- HIV-positive-aware: Combination of a confirmed positive NHBS HIV test result and the participant's report of having previously tested HIV-positive.
- HIV-positive-unaware: Combination of a confirmed positive NHBS HIV test result and the participant's report of having never previously tested HIV-positive (including those whose previous test results were negative or indeterminate, those who had not received HIV test results, and those who had never tested).
- No valid NHBS HIV test result: Includes participants who did not consent to NHBS HIV testing,

had an indeterminate result, or reported a previous HIV-positive test result but had a negative NHBS HIV test result. For data completeness, heterosexual men and women who did not have a valid test result were included in this report.

HIV TESTING

- Ever tested: Having had an HIV test during one's lifetime.
- Tested in past 12 months: Having had an HIV test during the 12 months before interview.
- Clinical setting: Participants reported the location of their most recent HIV test: private doctor's office (including health maintenance organization), emergency department, hospital (inpatient), public health clinic or community health center, family planning or obstetrics clinic, correctional facility, or drug treatment program.
- Nonclinical setting: Participants reported the location of their most recent HIV test: HIV counseling and testing site, HIV street outreach program or mobile unit, needle exchange program, or home.
- "Other" locations could not be classified and were excluded from the clinical/nonclinical setting classification.

SEXUAL BEHAVIORS

- Any sex: Includes vaginal, oral, or anal sex.
- Vaginal sex: Penis inserted into a partner's vagina.
- Oral sex: Penis inserted into a female partner's mouth.
- Anal sex: Penis inserted into a female partner's anus.
- Condomless sex: Vaginal or anal sex during which a condom either is not used or is not used throughout the sex act.
- Main partner: Person with whom the participant has sex and to whom he or she feels most committed (e.g., girlfriend/boyfriend, wife/husband, significant other, or life partner).
- Casual partner: Person with whom the participant has sex, but to whom he or she does not feel committed or whom he or she does not know very well.

RECEIPT OF PREVENTION MATERIALS

- Free condoms: Having received free condoms in the 12 months before interview, not including those given by a friend, relative, or sex partner.
- Individual- or group-level intervention: A composite measure based on having received individual- or group-level HIV interventions. An individual-level intervention is a one-on-one conversation with an outreach worker, a counselor, or a prevention program worker about ways to prevent HIV, excluding conversations that were part of HIV testing. A group-level intervention is a small-group discussion (as part of an organized session) about ways to prevent HIV, excluding informal discussions with friends.

SEXUALLY TRANSMITTED INFECTIONS

- Chlamydia: Having received a diagnosis of chlamydia in the 12 months before interview.
- Gonorrhea: Having received a diagnosis of gonorrhea in the 12 months before interview.
- Syphilis: Having received a diagnosis of syphilis in the 12 months before interview.
- Any bacterial STI: Having received a diagnosis of chlamydia, gonorrhea, or syphilis in the 12 months before interview.
- Genital warts or human papillomavirus (HPV): Having received a diagnosis of genital warts or HPV during one's lifetime.
- Genital herpes: Having received a diagnosis of genital herpes during one's lifetime.

NONINJECTION SUBSTANCE USE

Participants were asked about their use of noninjection drugs (excluding those prescribed for them) in the 12 months before interview and their use of alcohol in the 30 days before interview. Participants were not limited in the number of substances they could report. Participants were considered to have used a substance if they reported using that substance with any frequency other than "never."

- Binge drinking: Having consumed 5 or more drinks at one sitting (males) or 4 or more drinks at one sitting (females) in the 30 days before interview.

- Downer: Having used downers (benzodiazepines) such as Valium, Ativan, or Xanax in the 12 months before interview.
- Hallucinogen: Having used hallucinogens such as LSD or mushrooms in the 12 months before interview.
- Pain killer: Having used pain killers such as Oxycontin, Vicodin, or Percocet in the 12 months before interview.
- Any noninjection drug: Having used any noninjection drug, excluding alcohol, in the 12 months before interview.

ADDITIONAL OUTCOMES

Table 12 includes outcomes that were of particular interest at the time of publication but that were not included in other tables.

- Number of sex partners: Median number of heterosexual sex partners in the 12 months before interview; first and third quartiles (25th and 75th percentiles) are also reported.
- Exchange sex: Having given or received things like money or drugs, in the 12 months before interview, in exchange for sex with a casual partner.
- Condomless sex with an HIV-discordant partner at last sex: A composite measure based on self-reported HIV status of the participant (positive, negative, or unknown), the participant's knowledge of the HIV status of his or her most recent heterosexual sex partner (positive, negative, or unknown), and whether the participant reported engaging in vaginal or anal sex without a condom during his or her most recent sexual encounter. A partner was considered to be of discordant HIV status if the participant reported that one member of the partnership was known to be HIV-positive and the other was known to be HIV-negative, or if he or she did not know the HIV status of at least one member of the partnership (participant or partner). The result of the NHBS HIV test (completed after the interview) was not factored into this measure.
- Took anti-HIV medicines before sex: Having taken, at any point in the 12 months before interview, anti-HIV medicines before sex to keep from getting HIV.

RECEIPT OF HIV CARE

Participants who reported having received a positive HIV test result before interview, including those without a valid NHBS test result, were asked about their receipt of HIV care. Specifically, participants were asked the date of their first HIV-positive test result; whether they had ever visited a doctor, nurse, or other health care provider for a medical evaluation or care related to their HIV infection; the date of their first visit to a health care provider for HIV care after learning they had HIV; the date of their most recent visit to a health care provider for HIV care; and whether they were currently taking any anti-HIV medicines.

- Visited health care provider for HIV, ever: Having ever visited a health care provider for care related to HIV infection.
- Visited health care provider for HIV, within 3 months after diagnosis: Having visited a health care provider for HIV care within 3 months after the date of first HIV-positive test result.
- Visited health care provider for HIV, in the past 6 months: Having visited a health care provider for HIV care less than 6 months before date of interview.
- Currently taking anti-HIV medicines: Taking antiretroviral medicines at the time of interview.

REFERENCES

1. U.S. Department of Health and Human Services. 2012 poverty guidelines. <http://aspe.hhs.gov/poverty/12fedreg.shtml>. Published 2012. Accessed July 27, 2015.