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HIV Infection, Risk, Prevention, and Testing Behaviors Among Heterosexuals at Increased Risk for HIV Infection National HIV Behavioral Surveillance 17 U.S. Cities, 2016

National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention
Division of HIV/AIDS Prevention



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Lowering the annual number of new HIV infections is a major HIV prevention goal [1]. This goal can 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 HIV prevention goals [1].

The Centers for Disease Control and Prevention's (CDC's) National HIV Behavioral Surveillance (NHBS) serves as a key component of a high-impact prevention approach to reducing the spread of HIV in the United States [2] by providing data for monitoring behaviors among populations at risk of acquiring or transmitting HIV infection, and identifying the populations for whom scientifically proven, cost-effective, scalable interventions are most appropriate. NHBS also helps state and local health departments in areas with high HIV prevalence to monitor risk behaviors, HIV testing, use of prevention programs, and HIV prevalence in 3 populations at high risk for HIV infection: MSM, PWID, and heterosexual adults at increased risk for HIV [3, 4].

This report summarizes findings from the fourth NHBS data collection among heterosexuals at increased risk for HIV infection, which was conducted in 2016; previous years of data among heterosexuals at increased risk for HIV infection (2007, 2010, 2013) have been published [5, 6, 7]. The report provides descriptive, unweighted data that can be used to describe HIV infection among heterosexuals at increased risk for HIV infection and the percentages reporting specific risk behaviors, HIV testing, 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.

REPORT CHANGES

CDC routinely assesses NHBS reports to ensure the content and methods best meet the information needs of the nation. The following reporting changes were made from the previous NHBS report on heterosexuals at increased risk for HIV infection [7]:

- Outcomes are no longer reported by HIV-positive unaware and HIV-positive aware participants; instead, all HIV-positive participants are presented in a single category.
- This report includes 17 metropolitan statistical areas (MSAs). In 2016, NHBS funded 22 MSAs as part of its funding opportunity announcement. Of these 22 MSAs, 17 collected data among heterosexuals at increased risk for HIV infection; 5 focused their data collection on women who exchanged sex for money or drugs and those 5 are not included in this report.
- Tables 3 and 4 are no longer cross-tabulated by gender.
- Table 9 no longer lists interventions received by city.
- Diagnosis of genital warts or HPV was revised to diagnosis of genital warts (Table 10).
- Hallucinogen use (past 12 months) was removed (Table 11).
- Noninjection prescription opioid use (past 12 months) was added (Table 11).

Some modifications to measure definitions are made routinely to more accurately or more precisely describe the outcome or characteristic of interest; measure definitions are described in the appendix of this report. Additionally, Table 12 is designed as a flexible reporting mechanism to respond to emerging issues; the outcomes presented in this table vary with each report.

TABLE ORGANIZATION

The tables in this report are ordered by content. Tables 5–12 are stratified by HIV status: that is, data are presented separately for HIV-negative participants

and HIV-positive participants (HIV status was determined from the NHBS HIV test result). 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; that is, 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 Tables 5–12 in the “No valid NHBS HIV test results” row.

HIGHLIGHTS OF ANALYSES

Demographic Characteristics, HIV Prevalence, and HIV Testing

This report describes data from 7,560 heterosexual men and women who participated in NHBS in 2016, of whom 45% were male and 55% were female; 65% were aged 30 years or older; 72% were black, 20% were Hispanic or Latino, and 3% were white (Table 1). Of the participants, 24% had no health insurance, 19% had not visited a health care provider in the past 12 months, and the household income of 83% was at or below the federal poverty level.

In 2016, 2% of participants with a valid HIV test result tested positive for HIV (Table 2). By gender, HIV prevalence was 2% among males and 3% among females. By race and ethnicity, HIV prevalence was as follows: white (4%), black (3%), and Hispanic or Latino (2%).

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, 80% reported that they had ever been tested and 41% reported that they had been tested for HIV in the 12 months before interview (Table 3). Similar percentages of males and females had been tested.

CDC recommends routine HIV testing in clinical settings at least once for all persons aged 13–64 years [8]. Among participants who were tested for HIV in the 12 months before interview, 79% reported that their most recent test was performed in a clinical setting (Table 4). The percentage of participants who reported that their most recent HIV test was performed in a clinical setting decreased with older age but did not vary greatly by race/ethnicity.

Sexual Behaviors

Among men and women, condomless vaginal or anal sex with a partner of the opposite sex was reported less often by HIV-positive participants than HIV-negative participants (Tables 5 and 7). Among male participants, condomless vaginal sex and condomless anal sex were reported less often by HIV-positive participants (71% for condomless vaginal sex and 13% for condomless anal sex) compared with HIV-negative participants (88% and 20%) (Table 5). The same held true for female participants, with condomless vaginal sex and condomless anal sex reported less often by HIV-positive participants (73% and 22%) compared to HIV-negative participants (93% and 26%) (Table 7). Moreover, among male participants, condomless vaginal or anal sex was reported less often by HIV-positive men both for main (43%) and for casual (43%) female partners compared with HIV-negative men (main: 72%; casual: 45%) (Table 6). Among female participants, condomless vaginal or anal sex was reported less often by HIV-positive women both for main (57%) and for casual (33%) male partners compared with HIV-negative women (main: 80%; casual: 40%) (Table 8).

Despite lower percentages of HIV-positive 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 [9]. 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 for HIV infection that include access to and use of condoms, preexposure prophylaxis (PrEP), risk-reduction counseling, and HIV testing [2, 10].

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, 35% of participants received free condoms and 9% participated in an HIV behavioral intervention. The percentages of both were highest for HIV-positive participants, 64% of whom reported receiving free condoms and 22% of whom reported participating in an HIV behavioral intervention.

Sexually Transmitted Infections

Sexually transmitted infections (STIs) can increase the likelihood of acquiring and transmitting HIV [11]. 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; among all groups, the most commonly reported STI was chlamydia (5%) (Table 10).

Substance Use

Non-injection drug use, particularly crack use, has been associated with HIV acquisition risk among heterosexuals [12]. Crack use was reported more often by HIV-positive participants (22%) than by HIV-negative participants (9%) (Table 11).

Selected Results of Interest to Current HIV Prevention Efforts

Table 12 presents data on additional outcomes related to the risk of HIV transmission and acquisition among heterosexuals at increased risk for HIV infection. Exchange of sex for things like money or drugs has also been associated with HIV infection among heterosexuals [13]. In 2016, 17% 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 participants (27%). Overall, nearly half (49%) of participants reported condomless sex with an HIV-discordant or unknown status partner at the most recent sexual encounter with an opposite-sex partner. The percentage of participants reporting condomless sex with an HIV-discordant partner was higher among HIV-negative participants (49%) than among HIV-positive participants (41%).

In 2014, after the publication of scientific evidence that antiretroviral HIV medication taken by HIV-negative persons can prevent HIV infection, CDC released clinical guidance recommending the use of PrEP for persons at increased risk of contracting HIV, including certain groups of heterosexually active men and women [10]. In 2016, few HIV-negative participants had heard of or reported taking PrEP as indicated to prevent HIV infection (7% and <1%, respectively).

Receipt of HIV Care

One national HIV prevention goal is to increase the proportion of persons with recently diagnosed HIV infection who are linked to clinical care [1]. Among self-reported HIV-positive participants, 97% 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 86% of self-reported HIV-positive participants overall and was higher for female (90%) than male (79%) HIV-positive participants. The corresponding percentages by race/ethnicity were: 86% of blacks, 80% of Hispanics or Latinos, and 100% for all other racial groups (Table 13).

NHBS conducts rotating cycles of behavioral surveys among MSM, PWID, and heterosexual adults at increased risk for HIV infection [4]; 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 2016 NHBS cycle was limited to persons who (1) were aged < 60 years; (2) reported vaginal or anal sex with an opposite sex partner in the 12 months before interview; and (3) reported their gender as either male or 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 500 persons from the population of interest. 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 CDC [14] and by applicable institutional review boards in each participating city.

PARTICIPATING CITIES

State and local health departments eligible to participate in NHBS are among those whose jurisdictions include an MSA or a specified division with high HIV burden. Throughout this report, MSAs and divisions are referred to by the name of the principal city.

In 2016, 22 MSAs were funded to conduct NHBS. This report includes data from 17 MSAs (see list at the end of the report), which represented approximately 33% of all persons living with HIV infection in urban areas with a population of at least 500,000 in 2015 [15]. Five MSAs participated in a 2016 NHBS evaluation project focused on women who exchange sex for money or drugs and did not contribute data to this report.

SAMPLING METHOD

Participants in the 2016 NHBS cycle were recruited by using respondent-driven sampling [16, 17]. Recruitment started with a limited number of initial participants who were chosen by referrals from people who knew the local population of interest or through outreach to areas where the population of interest 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. 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.

To reach the population of heterosexuals at increased risk for HIV infection, initial participants were recruited from poverty areas within each MSA based upon the 2015 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 US Census Bureau's poverty threshold [18].

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, testing and diagnosis of hepatitis C and STIs, and use of HIV prevention services and programs. In exchange 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-based rapid testing was performed in the field for all consenting participants, and blood or oral confirmatory specimens were collected for supplemental laboratory-based testing. A nonreactive rapid test result was considered HIV-negative; a reac-

tive rapid test result was considered HIV-positive if confirmed by supplemental laboratory testing. Participants also received \$10–\$25 for HIV testing. Participants who agreed to recruit others received an additional \$10 for each recruit (up to 5) who completed the interview.

Each participating city’s goal was to interview 500 persons who met the NHBS definition of a heterosexual at increased risk for HIV by being of low socioeconomic status (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 [19]. 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 [3].

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. Reported numbers less than 12 and percentages based on these numbers, should be interpreted with caution because the numbers are considered unreliable.

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 2016 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 of interest.

In the 17 cities included in this report, 11,652 persons were recruited to participate. Of those, 1,992 did not meet eligibility criteria and were excluded from this report. An additional 119 eligible persons were excluded from this report because of lost data during electronic uploads, lack of consent to the survey, incomplete survey data, or survey responses of questionable validity. Finally, an additional 1,981 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 2016 NHBS cycle participants who consented to and completed the survey ($n = 7,560$, 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.

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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 National HIV Behavioral Surveillance (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 for the calendar year before interview. Poverty was determined by using the U.S. Department of Health and Human Services poverty guidelines for 2015. These guidelines are issued yearly for the U.S. and are one indicator used for determining eligibility for many federal and state programs. The 2015 guidelines [1] were used for participants interviewed in 2016. Because the poverty guidelines are not defined for Puerto Rico, the guidelines for the contiguous states and Washington, D.C. were used for this jurisdiction. Participants were asked to identify the range of their income by selecting from a list of income ranges and the number of dependents on that income. 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 during the 12 months before interview.
- Incarcerated: Having been held in a detention center, jail, or prison, for more than 24 hours during the 12 months before interview.
- City: Throughout this report, eligible metropolitan statistical areas (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 HIV. This report presents 2016 data in 17 MSAs (see list at the end of the report), which represented approximately 33% of all HIV diagnoses in urban areas with a population of at least 500,000 in 2015.

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, or a negative laboratory test result if rapid test was not conducted and no self-report of a previous HIV-positive test result.
- HIV-positive: Reactive rapid NHBS HIV test result confirmed by supplemental laboratory-based testing, or a positive result by laboratory-based testing without a rapid HIV test.
- 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 an HIV-negative NHBS HIV test result. For data completeness, participants who did not have a valid test result were included in this report but listed separately in all tables that report outcomes by HIV status.

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 organizations), emergency room, hospital (inpatient), public health clinic or community health center, family planning or obstetrics clinic, correctional facility (jail or prison), 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, syringe services program, or home.
- Other locations: "Other" locations could not be classified and are excluded from the clinical/non-clinical setting classification.

SEXUAL BEHAVIORS

- Any sex: Includes vaginal, oral, or anal sex.
- Vaginal sex: Penis inserted into a partner's vagina.
- Oral sex: Mouth on a partner's vagina or penis.
- Anal sex: Penis inserted into a female partner's anus.
- Condomless sex: Vaginal or anal sex during which a condom is not used.
- 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: Received free condoms during the 12 months before interview, excluding those given by a friend, relative, or sex partner.

- Individual- or group-level intervention: Defined as either one-on-one conversations with an outreach worker, a counselor, or a prevention program worker about ways to prevent HIV, excluding conversations as part of an HIV test, or participating in any organized session that involves a small group of people discussing ways to prevent HIV infections, excluding informal discussions with friends.

SEXUALLY TRANSMITTED INFECTIONS

- Chlamydia: Received a diagnosis of chlamydia during the 12 months before interview.
- Gonorrhea: Received a diagnosis of gonorrhea during the 12 months before interview.
- Syphilis: Received a diagnosis of syphilis during the 12 months before interview.
- Any bacterial STI: Received a diagnosis of chlamydia, gonorrhea, or syphilis during the 12 months before interview.
- Genital warts: Received a diagnosis of genital warts during one's lifetime.
- Genital herpes: Received a diagnosis of genital herpes during one's lifetime.

NONINJECTION SUBSTANCE USE

Participants were asked about their use of alcohol during the 30 days before interview and their use of noninjection drugs (excluding those prescribed for them) during the 12 months before interview. Participants were considered to have used a substance if they reported using that substance with any frequency other than "never."

- Binge drinking: Consumed 5 or more alcoholic drinks in about 2 hours (males) or 4 or more alcoholic drinks in about 2 hours (females) during the 30 days before interview.
- Cocaine: Used powder cocaine during the 12 months before interview.
- Crack: Used crack cocaine during the 12 months before interview.
- Downers: Used benzodiazepines, such as Klonopin, Valium, or Ativan during the 12 months before interview.
- Ecstasy: Used X or ecstasy during the 12 months before interview.

- Heroin: Used heroin (smoked or snorted) during the 12 months before interview.
- Marijuana: Used marijuana during the 12 months before interview.
- Methamphetamine: Used methamphetamines, including meth, crystal meth, speed, or crank, during the 12 months before interview.
- Prescription opioids: Used pain killers, such as OxyContin, Vicodin, morphine, or Percocet, during the 12 months before interview.
- Any noninjection drug: Used any noninjection drug, excluding alcohol, during the 12 months before interview.

ADDITIONAL OUTCOMES

The additional outcomes table includes outcomes that were of particular interest at the time of publication, but were not included in the other tables.

- Number of opposite sex partners: Median number of opposite sex partners during the 12 months before interview; first and third quartiles (25th and 75th percentiles) are also reported.
- Exchange sex: For females, “exchange sex” refers to receiving money or drugs from a casual male partner in exchange for sex. For males, “exchange sex” refers to giving money or drugs to a casual female partner in exchange for sex
- 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 reported HIV status of his or her most recent opposite-sex partner (positive, negative, or unknown), and whether the participant reported engaging in vaginal or anal sex without a condom during his or her last sexual encounter with the partner. A partner was considered to be of discordant HIV status if the participant reported he or she did not know the HIV status of at least one member of the partnership (the participant or the partner) or if one member of the partnership was known to be HIV-positive while the other was known to be HIV-negative. The result of the NHBS HIV test completed after the interview was not factored into this measure.
- Heard of PrEP: Ever having heard of people who do not have HIV taking PrEP, the antiretroviral

medicine taken every day for months or years to reduce the risk of getting HIV.

- Took PrEP: At any point during the 12 months before interview, took PrEP every day for at least 2 months to reduce the risk of getting HIV (not including time when taking antiretroviral medicine for only a few days at a time).

RECEIPT OF HIV CARE

Participants who reported having received a positive HIV test result before interview were asked about their receipt of HIV care. Specifically, participants were asked: the date of their first HIV-positive test result; if 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 antiretroviral medicines.

- Visited health care provider about HIV, ever: Having ever visited a health care provider for HIV care.
- Visited health care provider about HIV, within 3 months after diagnosis: Having visited a health care provider for HIV care within 3 months after the date of his or her first HIV-positive test result.
- Visited health care provider about HIV, in the past 6 months: Having visited a health care provider for HIV care during the 6 months before date of interview.
- Currently taking antiretroviral HIV medications: Taking antiretroviral medicines at the time of interview.

REFERENCE

1. U.S. Department of Health and Human Services. Annual Update of the HHS Poverty Guidelines. <https://www.federalregister.gov/documents/2015/01/22/2015-01120/annual-update-of-the-hhs-poverty-guidelines>. *Federal Register* 2015;80(14):3236–3237. Updated January 22, 2015. Accessed March 9, 2018.

Table 1. Selected characteristics of heterosexual men and women—National HIV Behavioral Surveillance, 17 U.S. cities, 2016

	HIV-negative ^a		HIV-positive ^b		No valid NHBS HIV test result ^c		Total	
	No.	%	No.	%	No.	%	No.	%
Gender								
Male	3,280	44.8	70	40.2	40	57.1	3,390	44.8
Female	4,036	55.2	104	59.8	30	42.9	4,170	55.2
Age at interview (yr)								
18–24	1,518	20.7	5	2.9	9	12.9	1,532	20.3
25–29	1,067	14.6	8	4.6	7	10.0	1,082	14.3
30–39	1,546	21.1	31	17.8	5	7.1	1,582	20.9
40–49	1,455	19.9	43	24.7	20	28.6	1,518	20.1
50–60	1,730	23.6	87	50.0	29	41.4	1,846	24.4
Race/ethnicity								
American Indian/Alaska Native	52	0.7	2	1.1	0	0.0	54	0.7
Asian	12	0.2	0	0.0	0	0.0	12	0.2
Black/African American	5,245	71.7	138	79.3	57	81.4	5,440	72.0
Hispanic/Latino ^d	1,471	20.1	22	12.6	8	11.4	1,501	19.9
Native Hawaiian/Other Pacific Islander	21	0.3	0	0.0	0	0.0	21	0.3
White	221	3.0	8	4.6	2	2.9	231	3.1
Multiple races	282	3.9	3	1.7	3	4.3	288	3.8
Education								
Less than high school	2,073	28.3	74	42.5	27	38.6	2,174	28.8
High school diploma or equivalent	3,975	54.3	71	40.8	35	50.0	4,081	54.0
Some college or technical degree	1,169	16.0	27	15.5	8	11.4	1,204	15.9
College degree or more	99	1.4	2	1.1	0	0.0	101	1.3
Household income^e								
At or below the federal poverty level	6,085	83.2	156	89.7	53	75.7	6,294	83.3
Above the federal poverty level	1,155	15.8	17	9.8	16	22.9	1,188	15.7
Health insurance								
Yes	5,540	75.7	144	82.8	51	72.9	5,735	75.9
No	1,745	23.9	30	17.2	19	27.1	1,794	23.7
Visited a health care provider, past 12 months								
Yes	5,948	81.3	155	89.1	58	82.9	6,161	81.5
No	1,368	18.7	19	10.9	12	17.1	1,399	18.5
Homeless,^f past 12 months								
Yes	1,766	24.1	57	32.8	22	31.4	1,845	24.4
No	5,549	75.8	117	67.2	48	68.6	5,714	75.6

Table 1. Selected characteristics of heterosexual men and women—National HIV Behavioral Surveillance, 17 U.S. cities, 2016 (cont)

	HIV-negative ^a		HIV-positive ^b		No valid NHBS HIV test result ^c		Total	
	No.	%	No.	%	No.	%	No.	%
Incarcerated,^g past 12 months								
Yes	1,127	15.4	25	14.4	21	30.0	1,173	15.5
No	6,189	84.6	149	85.6	49	70.0	6,387	84.5
City								
Atlanta, GA	507	6.9	6	3.4	5	7.1	518	6.9
Boston, MA	264	3.6	3	1.7	0	0.0	267	3.5
Dallas, TX	422	5.8	2	1.1	3	4.3	427	5.6
Denver, CO	355	4.9	2	1.1	6	8.6	363	4.8
Los Angeles, CA	506	6.9	5	2.9	4	5.7	515	6.8
Memphis, TN	516	7.1	1	0.6	5	7.1	522	6.9
Miami, FL	387	5.3	62	35.6	1	1.4	450	6.0
Nassau-Suffolk, NY	482	6.6	12	6.9	7	10.0	501	6.6
New Orleans, LA	427	5.8	22	12.6	12	17.1	461	6.1
Newark, NJ	486	6.6	9	5.2	2	2.9	497	6.6
Norfolk, VA	434	5.9	8	4.6	7	10.0	449	5.9
Philadelphia, PA	506	6.9	10	5.7	1	1.4	517	6.8
Portland, OR	450	6.2	3	1.7	6	8.6	459	6.1
San Diego, CA	470	6.4	4	2.3	4	5.7	478	6.3
San Francisco, CA	169	2.3	4	2.3	1	1.4	174	2.3
San Juan, PR	486	6.6	8	4.6	0	0.0	494	6.5
Washington, DC	449	6.1	13	7.5	6	8.6	468	6.2
Total	7,316	100	174	100	70	100	7,560	100

Abbreviation: NHBS, National HIV Behavioral Surveillance.

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

^a Participants with a valid negative NHBS HIV test result.

^b Participants with a reactive rapid NHBS HIV test result confirmed by supplemental laboratory-based testing, or a positive result by laboratory-based testing without a rapid HIV test.

^c Participants who did not have a valid HIV-positive or HIV-negative NHBS 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 an HIV-negative NHBS HIV test result.

^d Hispanics/Latinos can be of any race.

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

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

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

Table 2. HIV prevalence among heterosexual men and women—National HIV Behavioral Surveillance, 17 U.S. cities, 2016

	Male			Female			Full sample		
	HIV-positive ^a		Total	HIV-positive ^a		Total	HIV-positive ^a		Total
	No.	%	No.	No.	%	No.	No.	%	No.
Age at interview (yr)									
18–24	3	0.4	718	2	0.2	805	5	0.3	1,523
25–29	2	0.4	463	6	1.0	612	8	0.7	1,075
30–39	11	1.7	644	20	2.1	933	31	2.0	1,577
40–49	12	1.9	648	31	3.6	850	43	2.9	1,498
50–60	42	4.8	877	45	4.8	940	87	4.8	1,817
Race/ethnicity									
American Indian/Alaska Native	1	4.0	25	1	3.4	29	2	3.7	54
Asian	0	0.0	3	0	0.0	9	0	0.0	12
Black/African American	57	2.3	2,508	81	2.8	2,875	138	2.6	5,383
Hispanic/Latino ^b	9	1.6	579	13	1.4	914	22	1.5	1,493
Native Hawaiian/Other Pacific Islander	0	0.0	14	0	0.0	7	0	0.0	21
White	2	2.5	80	6	4.0	149	8	3.5	229
Multiple races	0	0.0	133	3	2.0	152	3	1.1	285
City									
Atlanta, GA	2	1.1	176	4	1.2	337	6	1.2	513
Boston, MA	0	0.0	134	3	2.3	133	3	1.1	267
Dallas, TX	0	0.0	182	2	0.8	242	2	0.5	424
Denver, CO	0	0.0	124	2	0.9	233	2	0.6	357
Los Angeles, CA	4	1.5	273	1	0.4	238	5	1.0	511
Memphis, TN	1	0.5	222	0	0.0	295	1	0.2	517
Miami, FL	25	10.2	246	37	18.2	203	62	13.8	449
Nassau-Suffolk, NY	7	2.8	254	5	2.1	240	12	2.4	494
New Orleans, LA	6	2.6	228	16	7.2	221	22	4.9	449
Newark, NJ	7	3.5	202	2	0.7	293	9	1.8	495
Norfolk, VA	2	1.0	194	6	2.4	248	8	1.8	442
Philadelphia, PA	3	1.1	271	7	2.9	245	10	1.9	516
Portland, OR	2	1.0	208	1	0.4	245	3	0.7	453
San Diego, CA	2	1.1	178	2	0.7	296	4	0.8	474
San Francisco, CA	1	1.3	75	3	3.1	98	4	2.3	173
San Juan, PR	4	2.7	150	4	1.2	344	8	1.6	494
Washington, DC	4	1.7	233	9	3.9	229	13	2.8	462
Total	70	2.1	3,350	104	2.5	4,140	174	2.3	7,490

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

Note. Data include participants with a valid NHBS HIV test result.

^a Participants with a reactive rapid NHBS HIV test result confirmed by supplemental laboratory-based testing, or a positive result by laboratory-based testing without a rapid HIV test.

^b Hispanics/Latinos can be of any race.

Table 3. HIV testing among heterosexual men and women—National HIV Behavioral Surveillance, 17 U.S. cities, 2016

	Ever tested		Tested during past 12 months ^a		Total No.
	No.	%	No.	%	
Gender					
Male	2,574	76.8	1,300	38.8	3,352
Female	3,389	82.6	1,720	41.9	4,101
Age at interview (yr)					
18–24	1,004	65.6	633	41.3	1,531
25–29	879	81.5	515	47.7	1,079
30–39	1,379	88.0	709	45.2	1,567
40–49	1,273	85.7	559	37.6	1,486
50–60	1,428	79.8	604	33.7	1,790
Race/ethnicity					
American Indian/Alaska Native	41	77.4	19	35.8	53
Asian	9	75.0	6	50.0	12
Black/African American	4,468	83.4	2,438	45.5	5,357
Hispanic/Latino ^b	1,032	69.4	374	25.2	1,487
Native Hawaiian/Other Pacific Islander	14	66.7	5	23.8	21
White	156	68.7	60	26.4	227
Multiple races	234	82.4	114	40.1	284
City					
Atlanta, GA	442	85.7	228	44.2	516
Boston, MA	223	84.5	110	41.7	264
Dallas, TX	313	73.6	131	30.8	425
Denver, CO	260	71.6	115	31.7	363
Los Angeles, CA	356	69.3	167	32.5	514
Memphis, TN	404	77.5	221	42.4	521
Miami, FL	355	88.3	229	57.0	402
Nassau-Suffolk, NY	425	85.7	222	44.8	496
New Orleans, LA	384	86.1	228	51.1	446
Newark, NJ	447	90.7	253	51.3	493
Norfolk, VA	350	78.7	151	33.9	445
Philadelphia, PA	432	84.5	235	46.0	511
Portland, OR	302	66.2	127	27.9	456
San Diego, CA	327	68.7	137	28.8	476
San Francisco, CA	146	84.9	71	41.3	172
San Juan, PR	356	72.5	81	16.5	491
Washington, DC	441	95.5	314	68.0	462
Total	5,963	80.0	3,020	40.5	7,453

Note. Data include all participants who did not report a previous HIV-positive test result and participants who received their first HIV-positive test result less than 12 months before interview.

^a "Past 12 months" refers to the 12 months before interview.

^b 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 during the 12 months before interview—National HIV Behavioral Surveillance, 17 U.S. cities, 2016

	Clinical setting ^a		Nonclinical setting ^b		Total No.
	No.	%	No.	%	
Gender					
Male	958	73.7	245	18.8	1,300
Female	1,434	83.4	190	11.0	1,720
Age at interview (yr)					
18–24	531	83.9	69	10.9	633
25–29	435	84.5	62	12.0	515
30–39	555	78.3	102	14.4	709
40–49	428	76.6	84	15.0	559
50–60	443	73.3	118	19.5	604
Race/ethnicity					
American Indian/Alaska Native	17	89.5	2	10.5	19
Asian	5	83.3	1	16.7	6
Black/African American	1,926	79.0	363	14.9	2,438
Hispanic/Latino ^c	294	78.6	48	12.8	374
Native Hawaiian/Other Pacific Islander	5	100	0	0.0	5
White	50	83.3	6	10.0	60
Multiple races	94	82.5	12	10.5	114
City					
Atlanta, GA	178	78.1	38	16.7	228
Boston, MA	97	88.2	7	6.4	110
Dallas, TX	105	80.2	20	15.3	131
Denver, CO	100	87.0	6	5.2	115
Los Angeles, CA	143	85.6	22	13.2	167
Memphis, TN	201	91.0	4	1.8	221
Miami, FL	125	54.6	88	38.4	229
Nassau-Suffolk, NY	191	86.0	19	8.6	222
New Orleans, LA	174	76.3	41	18.0	228
Newark, NJ	185	73.1	62	24.5	253
Norfolk, VA	110	72.8	9	6.0	151
Philadelphia, PA	203	86.4	25	10.6	235
Portland, OR	119	93.7	2	1.6	127
San Diego, CA	126	92.0	4	2.9	137
San Francisco, CA	68	95.8	2	2.8	71
San Juan, PR	59	72.8	10	12.3	81
Washington, DC	208	66.2	76	24.2	314
Total	2,392	79.2	435	14.4	3,020

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

Note. Data report setting of most recent HIV test. Data exclude participants who did not report an HIV test during the 12 months before interview or who reported receiving an HIV-positive test result more than 12 months before interview. Percentages may not add to 100% due to missing data and 'other' locations, which could not be classified as clinical or non-clinical settings.

^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, syringe services 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, 17 U.S. cities, 2016

	Vaginal sex		Condomless vaginal sex		Anal sex		Condomless anal sex		Total males
	No.	%	No.	%	No.	%	No.	%	No.
HIV-negative^a	3,269	99.7	2,881	87.8	878	26.8	668	20.4	3,280
Age at interview (yr)									
18–24	713	99.7	621	86.9	143	20.0	96	13.4	715
25–29	459	99.6	412	89.4	128	27.8	91	19.7	461
30–39	631	99.7	566	89.4	206	32.5	158	25.0	633
40–49	634	99.7	558	87.7	191	30.0	157	24.7	636
50–60	832	99.6	724	86.7	210	25.1	166	19.9	835
Race/ethnicity									
American Indian/Alaska Native	23	95.8	22	91.7	4	16.7	2	8.3	24
Asian	3	100	3	100	0	0.0	0	0.0	3
Black/African American	2,443	99.7	2,134	87.1	582	23.7	446	18.2	2,451
Hispanic/Latino ^b	568	99.6	517	90.7	219	38.4	176	30.9	570
Native Hawaiian/Other Pacific Islander	14	100	10	71.4	2	14.3	2	14.3	14
White	78	100	68	87.2	33	42.3	20	25.6	78
Multiple races	133	100	122	91.7	38	28.6	22	16.5	133
HIV-positive^c	70	100	50	71.4	20	28.6	9	12.9	70
No valid NHBS HIV test result^d	40	100	31	77.5	10	25.0	5	12.5	40
Total	3,379	99.7	2,962	87.4	908	26.8	682	20.1	3,390

Abbreviation: NHBS, National HIV Behavioral Surveillance.

^a Participants with a valid negative NHBS HIV test result.

^b Hispanics/Latinos can be of any race.

^c Participants with a reactive rapid NHBS HIV test result confirmed by supplemental laboratory-based testing, or a positive result by laboratory-based testing without a rapid HIV test.

^d Participants who did not have a valid HIV-positive or HIV-negative NHBS 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 an HIV-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, 17 U.S. cities, 2016**

	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^b	2,633	80.3	2,353	71.7	2,103	64.1	1,471	44.8	1,510	46.0	3,280
Age at interview (yr)											
18–24	601	84.1	522	73.0	497	69.5	315	44.1	397	55.5	715
25–29	387	83.9	351	76.1	305	66.2	196	42.5	243	52.7	461
30–39	515	81.4	470	74.2	397	62.7	284	44.9	289	45.7	633
40–49	495	77.8	450	70.8	402	63.2	295	46.4	267	42.0	636
50–60	635	76.0	560	67.1	502	60.1	381	45.6	314	37.6	835
Race/ethnicity											
American Indian/Alaska Native	17	70.8	16	66.7	12	50.0	11	45.8	6	25.0	24
Asian	1	33.3	1	33.3	3	100	3	100	1	33.3	3
Black/African American	1,989	81.2	1,765	72.0	1,565	63.9	1,069	43.6	1,146	46.8	2,451
Hispanic/Latino ^c	442	77.5	400	70.2	365	64.0	279	48.9	243	42.6	570
Native Hawaiian/Other Pacific Islander	8	57.1	7	50.0	12	85.7	9	64.3	7	50.0	14
White	59	75.6	55	70.5	48	61.5	35	44.9	29	37.2	78
Multiple races	111	83.5	104	78.2	94	70.7	63	47.4	75	56.4	133
HIV-positive^d	43	61.4	30	42.9	46	65.7	30	42.9	19	27.1	70
No valid NHBS HIV test result^e	31	77.5	26	65.0	25	62.5	13	32.5	17	42.5	40
Total	2,707	79.9	2,409	71.1	2,174	64.1	1,514	44.7	1,546	45.6	3,390

Abbreviation: NHBS, National HIV Behavioral Surveillance.

^a Participants 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 Participants with a negative NHBS HIV test result.

^c Hispanics/Latinos can be of any race.

^d Participants with a reactive rapid NHBS HIV test result confirmed by supplemental laboratory-based testing, or a positive result by laboratory-based testing without a rapid HIV test.

^e Participants who did not have a valid HIV-positive or HIV-negative NHBS 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 an HIV-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, 17 U.S. cities, 2016

	Vaginal sex		Condomless vaginal sex		Anal sex		Condomless anal sex		Total females
	No.	%	No.	%	No.	%	No.	%	No.
HIV-negative^a	4,028	99.8	3,740	92.7	1,187	29.4	1,035	25.6	4,036
Age at interview (yr)									
18–24	802	99.9	748	93.2	205	25.5	169	21.0	803
25–29	605	99.8	566	93.4	204	33.7	183	30.2	606
30–39	911	99.8	850	93.1	314	34.4	273	29.9	913
40–49	819	100	756	92.3	250	30.5	223	27.2	819
50–60	891	99.6	820	91.6	214	23.9	187	20.9	895
Race/ethnicity									
American Indian/Alaska Native	28	100	27	96.4	11	39.3	9	32.1	28
Asian	9	100	9	100	0	0.0	0	0.0	9
Black/African American	2,789	99.8	2,565	91.8	704	25.2	599	21.4	2,794
Hispanic/Latina ^b	900	99.9	858	95.2	375	41.6	345	38.3	901
Native Hawaiian/Other Pacific Islander	7	100	7	100	4	57.1	4	57.1	7
White	143	100	132	92.3	45	31.5	39	27.3	143
Multiple races	148	99.3	139	93.3	47	31.5	38	25.5	149
HIV-positive^c	104	100	76	73.1	32	30.8	23	22.1	104
No valid NHBS HIV test result^d	29	96.7	20	66.7	3	10.0	3	10.0	30
Total	4,161	99.8	3,836	92.0	1,222	29.3	1,061	25.4	4,170

Abbreviation: NHBS, National HIV Behavioral Surveillance.

^a Participants with a negative NHBS HIV test result.

^b Hispanics/Latinas can be of any race.

^c Participants with a reactive rapid NHBS HIV test result confirmed by supplemental laboratory-based testing, or a positive result by laboratory-based testing without a rapid HIV test.

^d Participants who did not have a valid HIV-positive or HIV-negative NHBS 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 an HIV-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, 17 U.S. cities, 2016

	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^b	3,496	86.6	3,231	80.1	2,147	53.2	1,619	40.1	1,653	41.0	4,036
Age at interview (yr)											
18–24	745	92.8	688	85.7	414	51.6	283	35.2	366	45.6	803
25–29	535	88.3	500	82.5	345	56.9	246	40.6	284	46.9	606
30–39	785	86.0	732	80.2	503	55.1	369	40.4	388	42.5	913
40–49	704	86.0	650	79.4	435	53.1	348	42.5	325	39.7	819
50–60	727	81.2	661	73.9	450	50.3	373	41.7	290	32.4	895
Race/ethnicity											
American Indian/Alaska Native	22	78.6	19	67.9	18	64.3	16	57.1	12	42.9	28
Asian	7	77.8	7	77.8	6	66.7	6	66.7	4	44.4	9
Black/African American	2,441	87.4	2,229	79.8	1,501	53.7	1,101	39.4	1,184	42.4	2,794
Hispanic/Latina ^c	767	85.1	736	81.7	464	51.5	380	42.2	336	37.3	901
Native Hawaiian/Other Pacific Islander	5	71.4	5	71.4	5	71.4	4	57.1	3	42.9	7
White	126	88.1	115	80.4	69	48.3	55	38.5	53	37.1	143
Multiple races	124	83.2	117	78.5	83	55.7	56	37.6	60	40.3	149
HIV-positive^d	84	80.8	59	56.7	54	51.9	34	32.7	34	32.7	104
No valid NHBS HIV test result^e	22	73.3	16	53.3	16	53.3	9	30.0	9	30.0	30
Total	3,602	86.4	3,306	79.3	2,217	53.2	1,662	39.9	1,696	40.7	4,170

Abbreviation: NHBS, National HIV Behavioral Surveillance.

^a Participants 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 Participants with a valid negative NHBS HIV test result.

^c Hispanics/Latinas can be of any race.

^d Participants with a reactive rapid NHBS HIV test result confirmed by supplemental laboratory-based testing, or a positive result by laboratory-based testing without a rapid HIV test.

^e Participants who did not have a valid HIV-positive or HIV-negative NHBS 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 an HIV-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, 17 U.S. cities, 2016

	Free condoms ^a		Individual- or group-level intervention ^b		Total No.
	No.	%	No.	%	
HIV-negative^c	2,530	34.6	640	8.7	7,316
Gender					
Male	1,210	36.9	264	8.0	3,280
Female	1,320	32.7	376	9.3	4,036
Age at interview (yr)					
18–24	625	41.2	150	9.9	1,518
25–29	373	35.0	89	8.3	1,067
30–39	512	33.1	143	9.2	1,546
40–49	438	30.1	116	8.0	1,455
50–60	582	33.6	142	8.2	1,730
Race/ethnicity					
American Indian/Alaska Native	26	50.0	3	5.8	52
Asian	6	50.0	3	25.0	12
Black/African American	1,871	35.7	492	9.4	5,245
Hispanic/Latino ^d	440	29.9	98	6.7	1,471
Native Hawaiian/Other Pacific Islander	11	52.4	0	0.0	21
White	58	26.2	14	6.3	221
Multiple races	116	41.1	30	10.6	282
HIV-positive^e	112	64.4	38	21.8	174
No valid NHBS HIV test result^f	29	41.4	8	11.4	70
Total	2,671	35.3	686	9.1	7,560

Abbreviation: NHBS, National HIV Behavioral Surveillance.

^a Excludes condoms received from friends, relatives, or sex partners.

^b Defined as either one-on-one conversations with an outreach worker, a counselor, or a prevention program worker about ways to prevent HIV, or participating in any organized sessions that involve a small group of people discussing ways to prevent HIV infections, excluding informal discussions with friends. Conversations that were part of obtaining an HIV test were excluded.

^c Participants with a valid negative NHBS HIV test result.

^d Hispanics/Latinos can be of any race.

^e Participants with a reactive rapid NHBS HIV test result confirmed by supplemental laboratory-based testing, or a positive result by laboratory-based testing without a rapid HIV test.

^f Participants who did not have a valid HIV-positive or HIV-negative NHBS 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 an HIV-negative NHBS HIV test result.

Table 10. Diagnosis of sexually transmitted infections among heterosexual men and women—National HIV Behavioral Surveillance, 17 U.S. cities, 2016

	Diagnosis during the 12 months before interview								Diagnosis, ever				Total No.
	Any bacterial STI ^a		Chlamydia		Gonorrhea		Syphilis		Genital warts		Genital herpes		
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	
HIV-negative^b	507	6.9	364	5.0	187	2.6	62	0.8	149	2.0	206	2.8	7,316
Gender													
Male	176	5.4	106	3.2	77	2.3	20	0.6	37	1.1	45	1.4	3,280
Female	331	8.2	258	6.4	110	2.7	42	1.0	112	2.8	161	4.0	4,036
Age at interview (yr)													
18–24	173	11.4	138	9.1	59	3.9	8	0.5	10	0.7	22	1.4	1,518
25–29	114	10.7	89	8.3	46	4.3	7	0.7	15	1.4	21	2.0	1,067
30–39	86	5.6	59	3.8	38	2.5	9	0.6	33	2.1	49	3.2	1,546
40–49	68	4.7	40	2.7	25	1.7	19	1.3	46	3.2	49	3.4	1,455
50–60	66	3.8	38	2.2	19	1.1	19	1.1	45	2.6	65	3.8	1,730
Race/ethnicity													
American Indian/Alaska Native	4	7.7	3	5.8	2	3.8	0	0.0	0	0.0	1	1.9	52
Asian	3	25.0	3	25.0	1	8.3	0	0.0	0	0.0	1	8.3	12
Black/African American	415	7.9	290	5.5	161	3.1	54	1.0	100	1.9	153	2.9	5,245
Hispanic/Latino ^c	55	3.7	44	3.0	14	1.0	8	0.5	27	1.8	28	1.9	1,471
Native Hawaiian/Other Pacific Islander	1	4.8	1	4.8	0	0.0	0	0.0	0	0.0	1	4.8	21
White	8	3.6	6	2.7	3	1.4	0	0.0	10	4.5	6	2.7	221
Multiple races	20	7.1	16	5.7	6	2.1	0	0.0	12	4.3	16	5.7	282
HIV-positive^d	18	10.3	9	5.2	7	4.0	8	4.6	18	10.3	19	10.9	174
No valid NHBS HIV test result^e	1	1.4	0	0.0	1	1.4	0	0.0	0	0.0	3	4.3	70
Total	526	7.0	373	4.9	195	2.6	70	0.9	167	2.2	228	3.0	7,560

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

^a Any bacterial STI includes diagnosis of gonorrhea, chlamydia, or syphilis in the 12 months before interview.

^b Participants with a valid negative NHBS HIV test result.

^c Hispanics/Latinos can be of any race.

^d Participants with a reactive rapid NHBS HIV test result confirmed by supplemental laboratory-based testing, or a positive result by laboratory-based testing without a rapid HIV test.

^e Participants who did not have a valid HIV-positive or HIV-negative NHBS 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 an HIV-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, 17 U.S. cities, 2016

	Used drug	
	No.	%
HIV-negative^a		
Binge drinking (past 30 days) ^b	2,604	35.6
Cocaine	883	12.1
Crack	666	9.1
Downers ^c	513	7.0
Ecstasy	372	5.1
Heroin	183	2.5
Marijuana	3,731	51.0
Methamphetamine	293	4.0
Prescription opioids ^d	757	10.3
Any noninjection drugs (excludes binge drinking)	4,135	56.5
HIV-positive^e		
Binge drinking (past 30 days) ^b	61	35.1
Cocaine	29	16.7
Crack	38	21.8
Downers ^c	11	6.3
Ecstasy	10	5.7
Heroin	2	1.1
Marijuana	81	46.6
Methamphetamine	7	4.0
Prescription opioids ^d	13	7.5
Any noninjection drugs (excludes binge drinking)	99	56.9
No valid NHBS HIV test result^f		
Binge drinking (past 30 days) ^b	25	35.7
Cocaine	9	12.9
Crack	11	15.7
Downers ^c	6	8.6
Ecstasy	3	4.3
Heroin	3	4.3
Marijuana	30	42.9
Methamphetamine	2	2.9
Prescription opioids ^d	6	8.6
Any noninjection drugs (excludes binge drinking)	38	54.3

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.

Note. Denominator is the total number of participants in the category; HIV-negative participants: n = 7,316; HIV-positive participants: n = 174; participants without a valid NHBS HIV test result: n = 70. Responses are not mutually exclusive; percentages may not add to 100.

^a Participants with a valid negative NHBS HIV test result.

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

^c Such as Klonopin, Valium, Ativan, or Xanax.

^d Such as OxyContin, Vicodin, morphine, or Percocet.

^e Participants with a reactive rapid NHBS HIV test result confirmed by supplemental laboratory-based testing, or a positive result by laboratory-based testing without a rapid HIV test.

^f Participants who did not have a valid HIV-positive or HIV-negative NHBS 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 an HIV-negative NHBS HIV test result.

Table 12. Selected results of interest to current HIV prevention efforts among heterosexual men and women—National HIV Behavioral Surveillance, 17 U.S. cities, 2016

	Number of opposite sex partners Median (Q1–Q3)	Exchange sex ^a		Condomless sex with an HIV-discordant partner at last sex ^b		Heard of PrEP ^c		Took PrEP ^d		Total No.
		No.	%	No.	%	No.	%	No.	%	
HIV-negative^e	2(1–4)	1,191	16.3	3,599	49.2	493	6.7	11	0.2	7,316
Gender										
Male	3(1–5)	494	15.1	1,448	44.1	202	6.2	2	0.1	3,280
Female	2(1–3)	697	17.3	2,151	53.3	291	7.2	9	0.2	4,036
Age at interview (yr)										
18–24	2(1–4)	84	5.5	740	48.7	114	7.5	2	0.1	1,518
25–29	2(1–4)	133	12.5	504	47.2	78	7.3	2	0.2	1,067
30–39	2(1–4)	241	15.6	690	44.6	105	6.8	2	0.1	1,546
40–49	2(1–4)	293	20.1	753	51.8	97	6.7	2	0.1	1,455
50–60	2(1–4)	440	25.4	912	52.7	99	5.7	3	0.2	1,730
Race/ethnicity										
American Indian/Alaska Native	2(1–4.5)	9	17.3	28	53.8	4	7.7	0	0.0	52
Asian	2(1–12.5)	2	16.7	8	66.7	1	8.3	1	8.3	12
Black/African American	2(1–4)	993	18.9	2,427	46.3	375	7.1	9	0.2	5,245
Hispanic/Latino ^f	2(1–4)	127	8.6	883	60.0	73	5.0	0	0.0	1,471
Native Hawaiian/Other Pacific Islander	3(2–4)	1	4.8	11	52.4	2	9.5	0	0.0	21
White	2(1–4)	21	9.5	121	54.8	14	6.3	0	0.0	221
Multiple races	2(1–5)	36	12.8	117	41.5	24	8.5	1	0.4	282
HIV-positive^g	2(1–4)	47	27.0	72	41.4	—	—	—	—	174
No valid NHBS HIV test result^h	2(1–4)	13	18.6	25	35.7	—	—	—	—	70
Total	2(1–4)	1,251	16.5	3,696	48.9	—	—	—	—	7,560

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

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

^a For females, "exchange sex" refers to receiving money or drugs from a male casual partner in exchange for sex. For males, "exchange sex" refers to giving money or drugs to a female casual partner in exchange for sex.

^b "Condomless sex" refers to 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 an opposite sex partner.

^c Ever heard of people who do not have HIV taking PrEP, the antiretroviral medicine taken every day for months or years to reduce the risk of getting HIV. PrEP outcomes are limited to HIV-negative participants.

^d Took PrEP at any point during the 12 months before interview to reduce the risk of getting HIV (not including time when taking antiretroviral medicine for only a few days at a time). PrEP outcomes are limited to HIV-negative participants.

^e Participants with a valid negative NHBS HIV test result.

^f Hispanics/Latinos can be of any race.

^g Participants with a reactive rapid NHBS HIV test result confirmed by supplemental laboratory-based testing, or a positive result by laboratory-based testing without a rapid HIV test.

^h Participants who did not have a valid HIV-positive or HIV-negative NHBS 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 an HIV-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, 17 U.S. cities, 2016

	Visited health care provider about HIV								Total No.
	Ever		Within 3 months after diagnosis		During past 6 months		Currently taking antiretrovirals		
	No.	%	No.	%	No.	%	No.	%	
Gender									
Male	41	95.3	31	72.1	38	88.4	34	79.1	43
Female	72	98.6	52	71.2	67	91.8	66	90.4	73
Age at interview (yr)									
18–24	2	66.7	2	66.7	2	66.7	2	66.7	3
25–29	3	100	3	100	2	66.7	2	66.7	3
30–39	15	93.8	11	68.8	13	81.3	12	75.0	16
40–49	34	97.1	26	74.3	32	91.4	31	88.6	35
50–60	59	100	41	69.5	56	94.9	53	89.8	59
Race/ethnicity									
American Indian/Alaska Native	1	100	1	100	1	100	1	100	1
Asian	—	—	—	—	—	—	—	—	0
Black/African American	88	96.7	63	69.2	81	89.0	78	85.7	91
Hispanic/Latino ^a	15	100	12	80.0	14	93.3	12	80.0	15
Native Hawaiian/Other Pacific Islander	—	—	—	—	—	—	—	—	0
White	4	100	2	50.0	4	100	4	100	4
Multiple races	4	100	4	100	4	100	4	100	4
Total	113	97.4	83	71.6	105	90.5	100	86.2	116

Note. Data include all participants who reported having ever received an HIV-positive test result (which may include those who did not have a valid test result, positive or negative, or who did not consent to the HIV test). “Past 6 months” refers to the 6 months before interview.

^a Hispanics/Latinos can be of any race.

Participating Metropolitan Statistical Areas, 2016

Principal city	Metropolitan statistical area (division)
Atlanta, Georgia	Atlanta–Sandy Springs–Roswell, Georgia
Boston, Massachusetts	Boston–Cambridge–Newton, Massachusetts–New Hampshire (Boston Division)
Dallas, Texas	Dallas–Fort Worth–Arlington, Texas (Dallas Division)
Denver, Colorado	Denver–Aurora–Lakewood, Colorado
Los Angeles, California	Los Angeles–Long Beach–Anaheim, California (Los Angeles Division)
Memphis, Tennessee	Memphis, Tennessee–Mississippi–Arkansas
Miami, Florida	Miami–Fort Lauderdale–West Palm Beach, Florida (Miami Division)
Nassau–Suffolk, New York	New York–Newark–Jersey City, New York–New Jersey–Pennsylvania (Nassau Division)
New Orleans, Louisiana	New Orleans–Metairie, Louisiana
Newark, New Jersey	New York–Newark–Jersey City, New York–New Jersey–Pennsylvania (Newark Division)
Norfolk, Virginia	Virginia Beach–Norfolk–Newport News, Virginia–North Carolina
Philadelphia, Pennsylvania	Philadelphia–Camden–Wilmington, Pennsylvania–New Jersey–Delaware–Maryland (Philadelphia Division)
Portland, Oregon	Portland–Vancouver–Hillsboro, Oregon–Washington
San Diego, California	San Diego–Carlsbad, California
San Francisco, California	San Francisco–Oakland–Hayward, California (San Francisco Division)
San Juan, Puerto Rico	San Juan–Carolina–Caguas, Puerto Rico
Washington, DC	Washington–Arlington–Alexandria, District of Columbia (DC)–Virginia–Maryland–West Virginia (Washington Division)