

HIV

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HIV Infection Risk, Prevention, and Testing Behaviors Among Men Who Have Sex With Men National HIV Behavioral Surveillance 23 U.S. Cities, 2017

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



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Corresponding author

Susan Cha, National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention, CDC, 1600 Clifton Rd, NE, MS E-46, Atlanta, GA 30333. Telephone: 404-718-5486; Fax: 404-639-8640; E-mail: lx13@cdc.gov.

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NHBS Study Group

Atlanta, GA: Pascale Wortley, Jeff Todd, David Melton

Baltimore, MD: Colin Flynn, Danielle German

Boston, MA: Monina Klevens, Rose Doherty, Conall O'Cleirigh

Chicago, IL: Stephanie Masiello Schuette, David Kern, Antonio D. Jimenez

Dallas, TX: Jonathon Poe, Margaret Vaaler, Jie Deng

Denver, CO: Alia Al-Tayyib, Melanie Mattson

Detroit, MI: Vivian Griffin, Emily Higgins, Mary-Grace Brandt

Houston, TX: Salma Khuwaja, Zaida Lopez, Paige Padgett

Los Angeles, CA: Ekow Kwa Sey, Yingbo Ma

Memphis, TN: Shanell L. McGoy, Meredith Brantley, Randi Rosack

Miami, FL: Emma Spencer, Willie Nixon, David Forrest

Nassau-Suffolk, NY: Bridget Anderson, Ashley Tate, Meaghan Abrego

New Orleans, LA: William T. Robinson, Narquis Barak, Jeremy M. Beckford

New York City, NY: Sarah Braunstein, Alexis Rivera, Sidney Carrillo

Newark, NJ: Barbara Bolden, Afework Wogayehu, Henry Godette

Philadelphia, PA: Kathleen A. Brady, Chrysanthus Nnumolu, Jennifer Shinefeld

Portland, OR: Sean Schafer, E. Roberto Orellana, Amisha Bhattari

San Diego, CA: Anna Flynn, Rosalinda Cano

San Francisco, CA: H. Fisher Raymond, Theresa Ick

San Juan, PR: Sandra Miranda De León, Yadira Rolón-Colón

Seattle, WA: Tom Jaenicke, Sara Glick

Virginia Beach, VA: Celestine Buyu, Toyah Reid, Karen Diepstra

Washington, DC: Jenevieve Opoku, Irene Kuo

CDC: Behavioral Surveillance Team

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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 three important strategies for reducing HIV infections: (1) intensifying HIV prevention efforts in communities where HIV is most heavily concentrated, including gay, bisexual, and other men who have sex with men (hereafter referred to as MSM); blacks or African Americans (hereafter referred to as blacks); Hispanics or Latinos; and people 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 (CDC) 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, and 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 three populations at high risk of HIV infection: MSM, PWID, and heterosexual adults at increased risk for HIV [3, 4].

Male-to-male sexual contact continues to be the most common route of HIV transmission in the United States among adults and adolescents, accounting for approximately 70% of the HIV infections diagnosed in 2017, including those attributed to male-to-male contact and injection drug use [5]. This report summarizes findings from the fifth NHBS data collection among MSM, which was conducted in 2017. Data from previous MSM cycles of NHBS have been published elsewhere [6–9].

The report provides descriptive, unweighted data that can be used to describe HIV infection among MSM 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 MSM [9]:

- 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 23 metropolitan statistical areas (MSAs). In 2017, 23 MSAs collected NHBS data among MSM.
- Table 7 no longer includes the most recent sexual encounter with a male partner, but rather, any anal sex in the three months before interview with the most recent sex partner, if that sex partner was male.
- Table 8b is added to include MSA-specific receipt of HIV prevention.
- Diagnosis of genital warts or HPV was revised to diagnosis of genital warts (Table 9).
- Hallucinogen use (past 12 months) was removed (Table 10).
- Noninjection prescription opioid use (past 12 months) was added (Table 10).
- A visit to health care provider about HIV was changed from within 3 months after diagnosis to within a month after diagnosis (Table 12).

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 11 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 1 and 5–11 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). A small percentage of the sample (8%) 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 a “No valid NHBS HIV test result” column (Table 1) or row (Tables 5–11).

HIGHLIGHTS

Demographic Characteristics, HIV Prevalence, and HIV Testing

This report describes data from 10,104 MSM who participated in NHBS in 2017, of whom 39% were aged 29 years or younger, and 35% were white, 30% black, and 26% Hispanic or Latino (Table 1). Of HIV-positive participants, 28% were aged 29 years or younger, 22% were white, 49% were black, and 22% were Hispanic or Latino. Overall, 77% of participants had more than a high school education and 81% had a household income above the federal poverty level; 83% of participants had health insurance and 86% had visited a health care provider in the 12 months before interview. A small percentage of the sample reported being homeless (8%) or incarcerated (5%) in the 12 months before interview. Among HIV-positive participants, 13% reported being homeless and 7% incarcerated in the past 12 months.

In 2017, 23% of 9,299 participants with a valid NHBS HIV test result tested positive for HIV (Table 2). HIV prevalence increased with increasing age: 14% (18–24 years), 19% (25–29 years), 24% (30–39 years), 31% (40–49 years), and 32% (50–60 years). By race and ethnicity, HIV prevalence was 39% among blacks, 30% among American Indian or Alaska Natives, 20% among Native Hawaiian or other Pacific Islanders, 19% among Hispanics or Latinos, 15% among whites, and 9% among Asians.

CDC recommends that persons at increased risk of HIV infection, including MSM who themselves or whose sex partners have had more than one sex part-

ner since their most recent HIV test, undergo HIV testing at least annually [10]. 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, 77% reported that they had been tested for HIV in the 12 months before interview, and 95% reported that they had ever been tested (Table 3). These data are consistent with continued increases in HIV testing among MSM participating in NHBS with 62% in 2008 [6], 66% in 2011 [7], 71% in 2014 [9], and 77% in 2017 reporting an HIV test in the previous 12 months.

Among participants who reported being tested for HIV during the 12 months before interview, 62% reported their most recent test was performed in a clinical setting while 31% reported being tested in a nonclinical setting such as HIV counseling and testing site, HIV street outreach program or mobile unit, syringe services program, or at home (Table 4). Testing in nonclinical settings varied by race and ethnicity: 34% of black MSM and 38% of Hispanic MSM reported their most recent HIV test was conducted in a nonclinical setting, while 25% of white MSM reported a nonclinical setting for their most recent HIV test.

Sexual Behaviors

Among MSM, condomless vaginal or anal sex with females was reported similarly by HIV-positive participants (6% vaginal, 2% anal) and HIV-negative participants (8% vaginal, 3% anal) (Table 5). Condomless anal sex with male partners was also reported similarly by HIV-positive MSM (72%) and HIV-negative MSM (72%). HIV-positive participants reported condomless anal sex with main male partners (44%) and casual male partners (49%) at a similar rate to HIV-negative participants (main: 47%; casual: 47%) (Table 6). Among MSM whose last sex partner was male, 24% of HIV-positive and 21% of HIV-negative participants reported having both insertive and receptive condomless anal sex in the three months before the interview (Table 7).

Although other prevention methods may have been used such as preexposure prophylaxis (PrEP), the reporting of condomless vaginal or anal sex with female partners and condomless anal sex with male partners (Tables 5–7) is a concern. Despite the existence of other HIV prevention options, correct and consistent condom use is one of the primary means of

protection from HIV and other infections [11, 12]. The high percentages of participants who engaged in condomless sex underscore the importance of using effective, evidence-based scalable combination HIV prevention strategies among MSM at increased risk for HIV infection that include access to and use of condoms, PrEP, risk-reduction counseling, and HIV testing [2, 13].

Receipt of HIV Prevention

The receipt of free condoms and participation in HIV individual- or group-level behavioral interventions are reported in Table 8. Overall, 70% of participants reported receiving free condoms and 31% reported participating in an HIV behavioral intervention. The percentages of MSM who received condoms were similar across HIV status (74% HIV-positive; 70% HIV-negative); however, the percentage of MSM who reported participating in an HIV behavioral intervention was highest for HIV-positive participants (40%) in general, and for younger-aged HIV-positive MSM in particular (47% of 18-24 year olds; 50% of 25-29 year olds).

In 2014, CDC released clinical guidance recommending the use of PrEP for persons at increased risk of acquiring HIV, including MSM [13]. The majority of HIV-negative MSM reported previously hearing about PrEP (85%), particularly among younger age groups (18-24 years: 83%; 25-29 years: 89%). One in four HIV-negative MSM reported taking antiretroviral medicines at any point in the past 12 months to prevent HIV infection but there were notable racial/ethnic differences: whites (31%), Asians (31%), Native Hawaiian or other Pacific Islanders (25%), Hispanics or Latinos (21%), blacks (19%), and American Indian or Alaska Natives (14%).

Sexually Transmitted Infections

Sexually transmitted infections (STIs) can increase the likelihood of acquiring and transmitting HIV [14]. The percentage of MSM who reported a diagnosis of any bacterial STI (chlamydia, gonorrhea, or syphilis) during the 12 months before interview was 19% overall, and was higher among HIV-positive MSM (26%) than HIV-negative MSM (18%). Percentages of reported lifetime diagnosis of genital warts (12%) and genital herpes (10%) were also higher among HIV-positive MSM than among HIV-negative MSM (6% for both genital warts and genital herpes) (Table 9).

Since 2000, rates of reported primary and secondary syphilis have been steadily increasing, primarily attributable to increased cases among MSM; MSM who are HIV-positive account for almost half of reported primary and secondary syphilis cases with known HIV-status [15]. In the current NHBS cycle, 13% of HIV-positive MSM reported being diagnosed with syphilis during the 12 months before interview compared with 5% of HIV-negative MSM.

Drug and Alcohol Use

Drug and alcohol use, particularly binge drinking, injection drug use, and methamphetamine use, have been associated with sexual risk behavior among MSM [16]. Binge drinking prevalence was more common among HIV-negative MSM (45%) than among HIV-positive participants (32%). Use of any injection drugs was reported more often by HIV-positive MSM (5%) than by HIV-negative MSM (2%). The most common noninjection drugs reported by HIV-positive MSM were marijuana, cocaine, and methamphetamine; for HIV-negative MSM, commonly reported noninjection drugs were marijuana, cocaine, and ecstasy (Table 10). Noninjection use of prescription opioids was reported by 6% of HIV-positive and 6% of HIV-negative MSM.

Additional Outcomes

Table 11 presents data on additional outcomes related to the risk of HIV transmission and acquisition among MSM. Outcomes reported in Table 11 are of current relevance to HIV among MSM and may not be reported in future reports.

The median number of male sex partners reported in the 12 months before interview was 4 (Q1–Q3: 2–10) among HIV-positive participants and HIV-negative participants.

Giving or receiving money or drugs in exchange of sex is a recognized risk factor for HIV infection [17]. In 2017, 9% of MSM reported giving or receiving things like money or drugs in exchange for sex with a male casual partner in the 12 months before interview. The percentage of participants reporting exchange of sex with a male casual partner was higher among HIV-positive participants (15%) than HIV-negative MSM (8%).

Condomless sex with an HIV-discordant partner at last sex was commonly reported among MSM (18%). More than a quarter of HIV-positive MSM (26%)

and 16% of HIV-negative MSM reported sex without a condom during the most recent sexual encounter with a partner of different or unknown HIV status.

Receipt of HIV Care and Treatment

Achieving viral suppression through antiretroviral treatment can improve clinical outcomes and reduce the likelihood of transmitting HIV to others [18]. In 2015, a national goal for linkage-to-care changed from increasing the percentage of persons with newly diagnosed HIV linked to care within 3 months of diagnosis to increasing the percentage of linkage to care within one month of diagnosis [1]. In 2017, among self-reported HIV-positive MSM, 97% reported having ever visited a health care provider for HIV, 72% reported that they did so within one month after diagnosis, and 90% reported visiting a health care provider for HIV care in the six months before interview. Current use of antiretroviral therapy was reported by 92% of self-reported HIV-positive MSM (Table 12).

NHBS conducts rotating cycles of biobehavioral surveys among MSM, PWID, and heterosexual adults at increased risk of HIV infection [3]; data are collected in annual cycles from one risk group per year so that each population is surveyed once every three years. The same general eligibility criteria are used in each cycle: age 18 years or older, 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 criteria, participation in the 2017 NHBS cycle was limited to persons who (1) were male at birth, (2) reported their gender as male, and (3) reported oral or anal sex with a male partner during their lifetime. Only participants who reported having oral or anal sex with another man in the past 12 months were counted toward the required sample size of current MSM.

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. 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 [19, 20] and by applicable institutional review boards (IRBs) 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 prevalence of HIV. In 2017, NHBS was conducted in 23 MSAs (see list at the end of the report), which represented approximately 59% of all persons living with HIV in urban areas with a population of at least 500,000 at year's end 2016 [5].

Throughout this report, MSAs and divisions are referred to by the name of the principal city.

SAMPLING METHOD

Participants in the 2017 NHBS cycle were recruited using venue-based, time-space sampling (VBS) [21]. The primary steps were identifying venues frequented by MSM, determining the best time for sampling at each venue and the number of sampling events to be conducted each month, and recruiting men at the sampling event [9].

DATA COLLECTION

Persons recruited for the interview 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 30 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). For participants who consented to the anonymous testing for HIV, STI, or hepatitis, local testing procedures were followed, and an additional incentive was provided.

HIV testing was performed for participants who consented; blood specimens were collected for rapid testing in the field or laboratory-based testing. A non-reactive rapid test result was considered HIV-negative; a reactive rapid test result was considered HIV-positive if supported by a second rapid test or supplemental laboratory-based testing. Participants received \$10–\$50 for HIV testing (amount determined locally).

Each participating city's goal was to interview 500 eligible men who also reported having sex with another man in the 12 months before the interview.

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 fewer 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 2017 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.

Inclusion for this report is limited to participants who (1) were eligible for and consented to the interview and (2) reported having sex with another man in the 12 months before interview.

In total, 45,098 men were approached for participation at 588 venues; 13,852 persons were screened to participate in NHBS in 2017. Of those, 3,002 persons did not meet NHBS eligibility criteria or did not provide consent and were excluded from the survey. An additional 90 interviews were excluded from this report due to incomplete survey data, survey responses of questionable validity, or data lost during electronic upload. Finally, 656 eligible persons who completed interviews but did not report having sex with a male in the 12 months before interview were excluded from this report.

The full analysis sample for this report includes 2017 NHBS cycle participants who consented to and completed the survey (n=10,104, 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.

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Table 1. Selected characteristics of men who have sex with men—National HIV Behavioral Surveillance, 23 U.S. cities, 2017

	HIV-negative ^a		HIV-positive ^b		No valid NHBS HIV test result ^c		Total	
	No.	%	No.	%	No.	%	No.	%
Age at interview (yr)								
18–24	1,273	17.9	201	9.2	99	12.3	1,573	15.6
25–29	1,792	25.2	408	18.8	167	20.7	2,367	23.4
30–39	2,098	29.4	659	30.3	250	31.1	3,007	29.8
40–49	983	13.8	436	20.1	128	15.9	1,547	15.3
≥50	979	13.7	470	21.6	161	20.0	1,610	15.9
Race/ethnicity								
American Indian/Alaska Native	49	0.7	21	1.0	4	0.5	74	0.7
Asian	192	2.7	18	0.8	19	2.4	229	2.3
Black/African American	1,672	23.5	1,059	48.7	294	36.5	3,025	29.9
Hispanic/Latino ^d	2,002	28.1	479	22.0	137	17.0	2,618	25.9
Native Hawaiian/Other Pacific Islander	32	0.4	8	0.4	3	0.4	43	0.4
White	2,774	38.9	480	22.1	295	36.6	3,549	35.1
Multiple races	365	5.1	100	4.6	48	6.0	513	5.1
Education								
Less than high school	173	2.4	103	4.7	17	2.1	293	2.9
High school diploma or equivalent	1,307	18.3	563	25.9	131	16.3	2,001	19.8
Some college or technical degree	2,314	32.5	827	38.0	227	28.2	3,368	33.3
College degree or more	3,329	46.7	680	31.3	430	53.4	4,439	43.9
Household income^e								
At or below the federal poverty level	1,145	16.1	602	27.7	123	15.3	1,870	18.5
Above the federal poverty level	5,926	83.2	1,558	71.7	671	83.4	8,155	80.7
Health insurance								
Yes	5,823	81.7	1,915	88.1	669	83.1	8,407	83.2
No	1,291	18.1	256	11.8	135	16.8	1,682	16.6
Visited a health care provider, past 12 months								
Yes	5,977	83.9	2,044	94.0	709	88.1	8,730	86.4
No	1,145	16.1	130	6.0	96	11.9	1,371	13.6
Homeless,^f past 12 months								
Yes	507	7.1	273	12.6	40	5.0	820	8.1
No	6,618	92.9	1,901	87.4	765	95.0	9,284	91.9
Incarcerated,^g past 12 months								
Yes	306	4.3	154	7.1	30	3.7	490	4.8
No	6,819	95.7	2,019	92.9	774	96.1	9,612	95.1

Table 1. Selected characteristics of men who have sex with men—National HIV Behavioral Surveillance, 23 U.S. cities, 2017 (cont)

	HIV-negative ^a		HIV-positive ^b		No valid NHBS HIV test result ^c		Total	
	No.	%	No.	%	No.	%	No.	%
City								
Atlanta, GA	328	4.6	164	7.5	19	2.4	511	5.1
Baltimore, MD	236	3.3	138	6.3	43	5.3	417	4.1
Boston, MA	330	4.6	25	1.1	73	9.1	428	4.2
Chicago, IL	295	4.1	98	4.5	146	18.1	539	5.3
Dallas, TX	406	5.7	97	4.5	21	2.6	524	5.2
Denver, CO	437	6.1	60	2.8	33	4.1	530	5.2
Detroit, MI	312	4.4	158	7.3	41	5.1	511	5.1
Houston, TX	371	5.2	113	5.2	21	2.6	505	5.0
Los Angeles, CA	409	5.7	109	5.0	7	0.9	525	5.2
Memphis, TN	180	2.5	93	4.3	59	7.3	332	3.3
Miami, FL	301	4.2	93	4.3	4	0.5	398	3.9
Nassau-Suffolk, NY	139	2.0	11	0.5	11	1.4	161	1.6
New Orleans, LA	272	3.8	71	3.3	42	5.2	385	3.8
New York City, NY	368	5.2	83	3.8	49	6.1	500	4.9
Newark, NJ	121	1.7	40	1.8	7	0.9	168	1.7
Philadelphia, PA	330	4.6	195	9.0	15	1.9	540	5.3
Portland, OR	321	4.5	62	2.9	40	5.0	423	4.2
San Diego, CA	423	5.9	134	6.2	14	1.7	571	5.7
San Francisco, CA	362	5.1	84	3.9	21	2.6	467	4.6
San Juan, PR	247	3.5	29	1.3	5	0.6	281	2.8
Seattle, WA	374	5.2	88	4.0	46	5.7	508	5.0
Virginia Beach, VA	232	3.3	108	5.0	39	4.8	379	3.8
Washington, DC	331	4.6	121	5.6	49	6.1	501	5.0
Total	7,125	100	2,174	100	805	100	10,104	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 supported by a second rapid test or supplemental laboratory-based testing.

^c Participants 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 laboratory result, discordant rapid test results, or reported a previous HIV-positive test result but had a 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 men who have sex with men—National HIV Behavioral Surveillance, 23 U.S. cities, 2017

	HIV-positive ^a		Total No.
	No.	%	
Age at interview (yr)			
18–24	201	13.6	1,474
25–29	408	18.5	2,200
30–39	659	23.9	2,757
40–49	436	30.7	1,419
≥50	470	32.4	1,449
Race/ethnicity			
American Indian/Alaska Native	21	30.0	70
Asian	18	8.6	210
Black/African American	1,059	38.8	2,731
Hispanic/Latino ^b	479	19.3	2,481
Native Hawaiian/Other Pacific Islander	8	20.0	40
White	480	14.8	3,254
Multiple races	100	21.5	465
City			
Atlanta, GA	164	33.3	492
Baltimore, MD	138	36.9	374
Boston, MA	25	7.0	355
Chicago, IL	98	24.9	393
Dallas, TX	97	19.3	503
Denver, CO	60	12.1	497
Detroit, MI	158	33.6	470
Houston, TX	113	23.3	484
Los Angeles, CA	109	21.0	518
Memphis, TN	93	34.1	273
Miami, FL	93	23.6	394
Nassau-Suffolk, NY	11	7.3	150
New Orleans, LA	71	20.7	343
New York City, NY	83	18.4	451
Newark, NJ	40	24.8	161
Philadelphia, PA	195	37.1	525
Portland, OR	62	16.2	383
San Diego, CA	134	24.1	557
San Francisco, CA	84	18.8	446
San Juan, PR	29	10.5	276
Seattle, WA	88	19.0	462
Virginia Beach, VA	108	31.8	340
Washington, DC	121	26.8	452
Total	2,174	23.4	9,299

Abbreviation: NHBS, National HIV Behavioral Surveillance (footnotes only).

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

^a Participants with a reactive rapid NHBS HIV test result supported by a second rapid test or supplemental laboratory-based testing.

^b Hispanics/Latinos can be of any race.

Table 3. HIV testing among men who have sex with men—National HIV Behavioral Surveillance, 23 U.S. cities, 2017

	Ever tested		Tested in past 12 months ^a		Total No.
	No.	%	No.	%	
Age at interview (yr)					
18–24	1,309	90.1	1,145	78.8	1,453
25–29	1,976	96.1	1,693	82.3	2,057
30–39	2,380	97.2	1,922	78.5	2,448
40–49	1,101	97.2	822	72.6	1,133
≥50	1,105	95.1	743	63.9	1,162
Race/ethnicity					
American Indian/Alaska Native	54	96.4	37	66.1	56
Asian	200	95.2	157	74.8	210
Black/African American	2,112	95.7	1,721	78.0	2,206
Hispanic/Latino ^b	2,095	94.6	1,683	76.0	2,215
Native Hawaiian/Other Pacific Islander	37	97.4	30	78.9	38
White	2,917	95.5	2,317	75.8	3,056
Multiple races	413	96.7	343	80.3	427
City					
Atlanta, GA	366	96.8	307	81.2	378
Baltimore, MD	294	95.1	224	72.5	309
Boston, MA	393	98.0	297	74.1	401
Chicago, IL	414	96.3	344	80.0	430
Dallas, TX	420	94.4	340	76.4	445
Denver, CO	438	92.8	347	73.5	472
Detroit, MI	367	88.4	260	62.7	415
Houston, TX	400	95.5	309	73.7	419
Los Angeles, CA	428	98.2	368	84.4	436
Memphis, TN	230	91.3	199	79.0	252
Miami, FL	302	92.9	241	74.2	325
Nassau-Suffolk, NY	139	93.3	101	67.8	149
New Orleans, LA	307	97.2	245	77.5	316
New York City, NY	410	96.9	342	80.9	423
Newark, NJ	127	96.2	111	84.1	132
Philadelphia, PA	382	96.2	319	80.4	397
Portland, OR	339	93.9	249	69.0	361
San Diego, CA	423	95.7	356	80.5	442
San Francisco, CA	378	99.2	323	84.8	381
San Juan, PR	241	92.7	169	65.0	260
Seattle, WA	406	97.4	331	79.4	417
Virginia Beach, VA	275	95.2	213	73.7	289
Washington, DC	392	97.0	330	81.7	404
Total	7,871	95.4	6,325	76.6	8,253

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 men who have sex with men and who were tested for HIV during the 12 months before interview—National HIV Behavioral Surveillance, 23 U.S. cities, 2017

	Clinical setting ^a		Nonclinical setting ^b		Total No.
	No.	(%)	No.	(%)	
Age at interview (yr)					
18–24	607	53.0	425	37.1	1,145
25–29	1,041	61.5	537	31.7	1,693
30–39	1,252	65.1	560	29.1	1,922
40–49	543	66.1	235	28.6	822
≥50	491	66.1	207	27.9	743
Race/ethnicity					
American Indian/Alaska Native	20	54.1	12	32.4	37
Asian	102	65.0	49	31.2	157
Black/African American	982	57.1	589	34.2	1,721
Hispanic/Latino ^c	926	55.0	644	38.3	1,683
Native Hawaiian/Other Pacific Islander	24	80.0	3	10.0	30
White	1,630	70.3	572	24.7	2,317
Multiple races	223	65.0	85	24.8	343
City					
Atlanta, GA	165	53.7	119	38.8	307
Baltimore, MD	167	74.6	36	16.1	224
Boston, MA	268	90.2	20	6.7	297
Chicago, IL	270	78.5	60	17.4	344
Dallas, TX	184	54.1	132	38.8	340
Denver, CO	251	72.3	69	19.9	347
Detroit, MI	161	61.9	80	30.8	260
Houston, TX	175	56.6	117	37.9	309
Los Angeles, CA	147	39.9	212	57.6	368
Memphis, TN	127	63.8	54	27.1	199
Miami, FL	91	37.8	137	56.8	241
Nassau-Suffolk, NY	68	67.3	23	22.8	101
New Orleans, LA	152	62.0	78	31.8	245
New York City, NY	256	74.9	71	20.8	342
Newark, NJ	36	32.4	67	60.4	111
Philadelphia, PA	121	37.9	172	53.9	319
Portland, OR	183	73.5	54	21.7	249
San Diego, CA	265	74.4	76	21.3	356
San Francisco, CA	214	66.3	98	30.3	323
San Juan, PR	43	25.4	100	59.2	169
Seattle, WA	241	72.8	74	22.4	331
Virginia Beach, VA	108	50.7	55	25.8	213
Washington, DC	241	73.0	60	18.2	330
Total	3,934	62.2	1,964	31.1	6,325

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 because of missing data and “other” locations, which could not be classified as clinical or nonclinical 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, needle exchange program, or home.

^c Hispanics/Latinos can be of any race.

Table 5. Sexual behavior with female and male sex partners in the 12 months before interview among men who have sex with men—National HIV Behavioral Surveillance, 23 U.S. cities, 2017

	With female sex partners								With male sex partners				Total No.
	Vaginal sex		Condomless vaginal sex		Anal sex		Condomless anal sex		Anal sex		Condomless anal sex		
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	
HIV-negative^a	885	12.4	596	8.4	353	5.0	231	3.2	6,422	90.1	5,112	71.7	7,125
Age at interview (yr)													
18–24	184	14.5	129	10.1	69	5.4	45	3.5	1,190	93.5	927	72.8	1,273
25–29	248	13.8	156	8.7	89	5.0	53	3.0	1,692	94.4	1,381	77.1	1,792
30–39	239	11.4	167	8.0	108	5.1	75	3.6	1,944	92.7	1,592	75.9	2,098
40–49	122	12.4	78	7.9	53	5.4	35	3.6	856	87.1	665	67.7	983
≥50	92	9.4	66	6.7	34	3.5	23	2.3	740	75.6	547	55.9	979
Race/ethnicity													
American Indian/Alaska Native	10	20.4	6	12.2	3	6.1	2	4.1	42	85.7	28	57.1	49
Asian	12	6.3	9	4.7	4	2.1	2	1.0	173	90.1	124	64.6	192
Black/African American	330	19.7	213	12.7	128	7.7	82	4.9	1,493	89.3	1,091	65.3	1,672
Hispanic/Latino ^b	239	11.9	153	7.6	96	4.8	61	3.0	1,853	92.6	1,472	73.5	2,002
Native Hawaiian/Other Pacific Islander	2	6.3	2	6.3	0	0.0	0	0.0	29	90.6	25	78.1	32
White	237	8.5	176	6.3	97	3.5	68	2.5	2,465	88.9	2,082	75.1	2,774
Multiple races	51	14.0	35	9.6	24	6.6	15	4.1	331	90.7	261	71.5	365
HIV-positive^c	226	10.4	119	5.5	84	3.9	43	2.0	2,026	93.2	1,561	71.8	2,174
Age at interview (yr)													
18–24	27	13.4	14	7.0	11	5.5	6	3.0	192	95.5	149	74.1	201
25–29	48	11.8	17	4.2	12	2.9	7	1.7	400	98.0	312	76.5	408
30–39	69	10.5	40	6.1	24	3.6	12	1.8	638	96.8	506	76.8	659
40–49	41	9.4	23	5.3	19	4.4	12	2.8	404	92.7	307	70.4	436
≥50	41	8.7	25	5.3	18	3.8	6	1.3	392	83.4	287	61.1	470
Race/ethnicity													
American Indian/Alaska Native	1	4.8	0	0.0	0	0.0	0	0.0	20	95.2	17	81.0	21
Asian	0	0.0	0	0.0	0	0.0	0	0.0	18	100	14	77.8	18
Black/African American	139	13.1	74	7.0	49	4.6	27	2.5	996	94.1	710	67.0	1,059
Hispanic/Latino ^b	44	9.2	21	4.4	19	4.0	7	1.5	453	94.6	368	76.8	479
Native Hawaiian/Other Pacific Islander	1	12.5	0	0.0	1	12.5	0	0.0	8	100	6	75.0	8
White	28	5.8	16	3.3	10	2.1	7	1.5	428	89.2	369	76.9	480
Multiple races	12	12.0	7	7.0	5	5.0	2	2.0	97	97.0	74	74.0	100
No valid NHBS HIV test result^d	75	9.3	33	4.1	27	3.4	12	1.5	695	86.3	496	61.6	805
Total	1,186	11.7	748	7.4	464	4.6	286	2.8	9,143	90.5	7,169	71.0	10,104

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 supported by a second rapid test or supplemental laboratory-based testing.

^d Participants 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 laboratory result, discordant rapid test results, or reported a previous HIV-positive test result but had a negative NHBS HIV test result.

Table 6. Sexual behavior with male partners in the 12 months before interview among men who have sex with men, by partner type—National HIV Behavioral Surveillance, 23 U.S. cities, 2017

	Main male partner				Casual male partner				Main and casual male partners—sex of any type ^a		Total No.
	Anal sex		Condomless anal sex		Anal sex		Condomless anal sex		No.	%	
	No.	%	No.	%	No.	%	No.	%			
HIV-negative^b	4,035	56.6	3,336	46.8	4,966	69.7	3,325	46.7	2,579	36.2	7,125
Age at interview (yr)											
18–24	824	64.7	662	52.0	920	72.3	555	43.6	554	43.5	1,273
25–29	1,155	64.5	970	54.1	1,338	74.7	923	51.5	801	44.7	1,792
30–39	1,246	59.4	1,051	50.1	1,504	71.7	1,052	50.1	806	38.4	2,098
40–49	465	47.3	381	38.8	652	66.3	436	44.4	261	26.6	983
≥50	345	35.2	272	27.8	552	56.4	359	36.7	157	16.0	979
Race/ethnicity											
American Indian/Alaska Native	32	65.3	22	44.9	27	55.1	14	28.6	17	34.7	49
Asian	93	48.4	74	38.5	138	71.9	90	46.9	58	30.2	192
Black/African American	935	55.9	702	42.0	1,125	67.3	660	39.5	567	33.9	1,672
Hispanic/Latino ^c	1,185	59.2	976	48.8	1,416	70.7	907	45.3	748	37.4	2,002
Native Hawaiian/Other Pacific Islander	19	59.4	18	56.3	23	71.9	18	56.3	13	40.6	32
White	1,548	55.8	1,357	48.9	1,948	70.2	1,437	51.8	1,031	37.2	2,774
Multiple races	205	56.2	170	46.6	259	71.0	177	48.5	133	36.4	365
HIV-positive^d	1,285	59.1	965	44.4	1,570	72.2	1,068	49.1	829	38.1	2,174
Age at interview (yr)											
18–24	151	75.1	111	55.2	144	71.6	83	41.3	103	51.2	201
25–29	289	70.8	220	53.9	304	74.5	194	47.5	193	47.3	408
30–39	417	63.3	319	48.4	504	76.5	360	54.6	283	42.9	659
40–49	237	54.4	172	39.4	319	73.2	233	53.4	152	34.9	436
≥50	191	40.6	143	30.4	299	63.6	198	42.1	98	20.9	470
Race/ethnicity											
American Indian/Alaska Native	15	71.4	13	61.9	17	81.0	11	52.4	12	57.1	21
Asian	11	61.1	6	33.3	13	72.2	11	61.1	6	33.3	18
Black/African American	646	61.0	445	42.0	725	68.5	433	40.9	375	35.4	1,059
Hispanic/Latino ^c	283	59.1	224	46.8	370	77.2	270	56.4	200	41.8	479
Native Hawaiian/Other Pacific Islander	7	87.5	4	50.0	7	87.5	4	50.0	6	75.0	8
White	263	54.8	226	47.1	352	73.3	287	59.8	187	39.0	480
Multiple races	56	56.0	45	45.0	83	83.0	51	51.0	42	42.0	100
No valid NHBS HIV test result^e	438	54.4	325	40.4	502	62.4	296	36.8	245	30.4	805
Total	5,758	57.0	4,626	45.8	7,038	69.7	4,689	46.4	3,653	36.2	10,104

Abbreviation: NHBS, National HIV Behavioral Surveillance.

^a Participants who reported oral 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/Latinos can be of any race.^d Participants with a reactive rapid NHBS HIV test result supported by a second rapid test or supplemental laboratory-based testing.^e Participants 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 laboratory result, discordant rapid test results, or reported a previous HIV-positive test result but had a negative NHBS HIV test result.

Table 7. Anal sex with the most recent sex partner during the 3 months before interview among men whose last sex partner was male—National HIV Behavioral Surveillance, 23 U.S. cities, 2017

	Insertive ^a anal sex only				Receptive ^b anal sex only				Both insertive ^a and receptive ^b anal sex				No anal sex in the past 3 months ^{c,d}		Total No.
	Total ^c		Condomless ^e		Total ^c		Condomless ^f		Total ^c		Condomless ^g		No.	%	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%			
HIV-negative^h	1,913	28.1	1,257	18.5	1,177	17.3	725	10.6	1,863	27.4	1,430	21.0	1,853	27.2	6,811
Age at interview (yr)															
18–24	277	22.9	150	12.4	268	22.1	152	12.6	405	33.5	310	25.6	257	21.2	1,210
25–29	472	27.4	306	17.8	333	19.3	197	11.4	549	31.9	418	24.3	368	21.4	1,723
30–39	634	31.5	430	21.4	328	16.3	221	11.0	569	28.3	447	22.2	481	23.9	2,013
40–49	298	32.1	203	21.9	125	13.5	80	8.6	193	20.8	149	16.1	311	33.5	927
≥50	232	24.7	168	17.9	123	13.1	75	8.0	147	15.7	106	11.3	436	46.5	938
Race/ethnicity															
American Indian/Alaska Native	13	27.1	10	20.8	9	18.8	5	10.4	11	22.9	6	12.5	15	31.3	48
Asian	28	14.9	12	6.4	45	23.9	23	12.2	45	23.9	35	18.6	70	37.2	188
Black/African American	542	35.1	316	20.4	231	14.9	125	8.1	365	23.6	246	15.9	406	26.3	1,546
Hispanic/Latino ⁱ	523	27.0	345	17.8	331	17.1	189	9.8	626	32.4	474	24.5	453	23.4	1,934
Native Hawaiian/Other Pacific Islander	9	28.1	5	15.6	10	31.3	8	25.0	4	12.5	3	9.4	9	28.1	32
White	685	25.5	495	18.4	482	17.9	332	12.4	715	26.6	599	22.3	803	29.9	2,686
Multiple races	105	31.0	68	20.1	63	18.6	38	11.2	86	25.4	60	17.7	84	24.8	339
HIV-positive^j	476	22.4	318	15.0	500	23.6	314	14.8	676	31.9	502	23.7	467	22.0	2,122
Age at interview (yr)															
18–24	26	13.4	17	8.8	62	32.0	34	17.5	85	43.8	62	32.0	21	10.8	194
25–29	98	24.5	68	17.0	99	24.8	63	15.8	141	35.3	94	23.5	61	15.3	400
30–39	154	23.8	106	16.4	156	24.1	104	16.1	214	33.1	162	25.1	120	18.6	646
40–49	99	23.3	70	16.5	88	20.8	53	12.5	130	30.7	107	25.2	107	25.2	424
≥50	99	21.6	57	12.4	95	20.7	60	13.1	106	23.1	77	16.8	158	34.5	458
Race/ethnicity															
American Indian/Alaska Native	5	25.0	3	15.0	5	25.0	2	10.0	8	40.0	7	35.0	2	10.0	20
Asian	1	5.6	1	5.6	8	44.4	6	33.3	6	33.3	3	16.7	3	16.7	18
Black/African American	240	23.3	150	14.6	231	22.4	119	11.6	348	33.8	238	23.1	208	20.2	1,029
Hispanic/Latino ⁱ	97	20.5	65	13.7	133	28.1	88	18.6	151	31.9	120	25.4	92	19.5	473
Native Hawaiian/Other Pacific Islander	2	28.6	2	28.6	2	28.6	1	14.3	1	14.3	1	14.3	2	28.6	7
White	104	22.1	79	16.8	104	22.1	86	18.3	127	27.0	109	23.2	134	28.5	470
Multiple races	23	24.0	16	16.7	16	16.7	12	12.5	35	36.5	24	25.0	22	22.9	96
No valid NHBS HIV test result^k	188	24.1	100	12.8	117	15.0	71	9.1	230	29.5	158	20.3	243	31.2	779
Total	2,577	26.5	1,675	17.2	1,794	18.5	1,110	11.4	2,769	28.5	2,090	21.5	2,563	26.4	9,712

Abbreviation: NHBS, National HIV Behavioral Surveillance.

Note. Outcomes are only reported for men whose most recent sex partner was male. Men whose most recent sex partner was female (n=353) or unknown gender (n=39) were excluded. Percentages may not add to 100 because of missing data.

^a The participant's most recent sex partner was male and the participant placed his penis in the anus of his sex partner one or more times during the 3 months before interview.

^b The participant's most recent sex partner was male and the sex partner placed his penis in the participant's anus one or more times during the 3 months before interview.

^c The categories—insertive anal sex, receptive anal sex, both insertive and receptive anal sex, and no anal sex—are mutually exclusive.

^d The participant's most recent sex partner was male and the participant reported neither insertive anal sex nor receptive anal sex with the sex partner during the 3 months before interview. Includes participants who had oral sex but not anal sex with the most recent sex partner during the 3 months before interview and those who last had sex more than 3 months before interview.

^e The participant did not use a condom during one or more of the times he had insertive anal sex with the most recent sex partner during the 3 months before interview.

^f The participant did not use a condom during one or more of the times he had receptive anal sex with the most recent sex partner during the 3 months before interview.

^g The participant did not use a condom during one or more of the times he had insertive anal sex or did not use a condom during one or more of the times he had receptive anal sex with the most recent sex partner during the 3 months before interview.

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

ⁱ Hispanics/Latinos can be of any race.

^j Participants with a reactive rapid NHBS HIV test result supported by a second rapid test or supplemental laboratory-based testing.

^k Participants 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 laboratory result, discordant rapid test results, or reported a previous HIV-positive test result but had a negative NHBS HIV test result.

Table 8a. Receipt of HIV prevention in the 12 months before interview among men who have sex with men—National HIV Behavioral Surveillance, 23 U.S. cities, 2017

	Free condoms ^a		Individual- or group-level intervention ^b		PrEP awareness ^c		PrEP use ^d		Total No.
	No.	%	No.	%	No.	%	No.	%	
HIV-negative^e	4,952	69.5	2,000	28.1	6,044	84.8	1,782	25.0	7,125
Age at interview (yr)									
18–24	924	72.6	499	39.2	1,060	83.3	274	21.5	1,273
25–29	1,307	72.9	561	31.3	1,598	89.2	502	28.0	1,792
30–39	1,430	68.2	589	28.1	1,860	88.7	637	30.4	2,098
40–49	669	68.1	191	19.4	780	79.3	233	23.7	983
≥50	622	63.5	160	16.3	746	76.2	136	13.9	979
Race/ethnicity									
American Indian/Alaska Native	35	71.4	12	24.5	44	89.8	7	14.3	49
Asian	128	66.7	57	29.7	172	89.6	60	31.3	192
Black/African American	1,183	70.8	647	38.7	1,309	78.3	315	18.8	1,672
Hispanic/Latino ^f	1,426	71.2	588	29.4	1,616	80.7	425	21.2	2,002
Native Hawaiian/Other Pacific Islander	25	78.1	9	28.1	30	93.8	8	25.0	32
White	1,878	67.7	571	20.6	2,525	91.0	856	30.9	2,774
Multiple races	254	69.6	102	27.9	313	85.8	98	26.8	365
HIV-positive^g	1,603	73.7	858	39.5	---	---	---	---	2,174
Age at interview (yr)									
18–24	154	76.6	95	47.3	---	---	---	---	201
25–29	313	76.7	205	50.2	---	---	---	---	408
30–39	498	75.6	272	41.3	---	---	---	---	659
40–49	314	72.0	145	33.3	---	---	---	---	436
≥50	324	68.9	141	30.0	---	---	---	---	470
Race/ethnicity									
American Indian/Alaska Native	16	76.2	7	33.3	---	---	---	---	21
Asian	12	66.7	7	38.9	---	---	---	---	18
Black/African American	795	75.1	489	46.2	---	---	---	---	1,059
Hispanic/Latino ^f	367	76.6	171	35.7	---	---	---	---	479
Native Hawaiian/Other Pacific Islander	6	75.0	3	37.5	---	---	---	---	8
White	323	67.3	133	27.7	---	---	---	---	480
Multiple races	77	77.0	44	44.0	---	---	---	---	100
No valid NHBS HIV test result^h	518	64.3	247	30.7	---	---	---	---	805
Total	7,073	70.0	3,105	30.7	6,044	59.8	1,782	17.6	10,104

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

^a Excludes condoms received from friends, relatives, or sex partners.^b 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. 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. Conversations that were part of obtaining an HIV test were excluded.^c Ever heard of PrEP, an antiretroviral medicine taken for months or years by a person who is HIV-negative to reduce the risk of getting HIV.^d Took PrEP at any point during the 12 months before interview to reduce the risk of getting HIV.^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 supported by a second rapid test or supplemental laboratory-based testing.^h Participants 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 laboratory result, discordant rapid test results, or reported a previous HIV-positive test result but had a negative NHBS HIV test result.

Table 8b. Receipt of HIV prevention in the 12 months before interview among men who have sex with men—National HIV Behavioral Surveillance, 23 U.S. cities, 2017

	Free condoms ^a		Individual- or group-level intervention ^b		PrEP awareness ^c		PrEP use ^d		Total No.
	No.	%	No.	%	No.	%	No.	%	
HIV-negative^e									
City									
Atlanta, GA	224	68.3	86	26.2	285	86.9	71	21.6	328
Baltimore, MD	133	56.4	62	26.3	168	71.2	29	12.3	236
Boston, MA	212	64.2	57	17.3	308	93.3	111	33.6	330
Chicago, IL	204	69.2	83	28.1	255	86.4	104	35.3	295
Dallas, TX	293	72.2	99	24.4	340	83.7	74	18.2	406
Denver, CO	271	62.0	91	20.8	392	89.7	103	23.6	437
Detroit, MI	224	71.8	89	28.5	179	57.4	37	11.9	312
Houston, TX	257	69.3	104	28.0	310	83.6	67	18.1	371
Los Angeles, CA	331	80.9	106	25.9	390	95.4	124	30.3	409
Memphis, TN	114	63.3	90	50.0	121	67.2	32	17.8	180
Miami, FL	188	62.5	54	17.9	209	69.4	34	11.3	301
Nassau-Suffolk, NY	93	66.9	40	28.8	108	77.7	18	12.9	139
New Orleans, LA	202	74.3	83	30.5	248	91.2	75	27.6	272
New York City, NY	269	73.1	115	31.3	331	89.9	118	32.1	368
Newark, NJ	97	80.2	78	64.5	95	78.5	20	16.5	121
Philadelphia, PA	213	64.5	120	36.4	250	75.8	68	20.6	330
Portland, OR	212	66.0	60	18.7	286	89.1	81	25.2	321
San Diego, CA	296	70.0	171	40.4	386	91.3	140	33.1	423
San Francisco, CA	244	67.4	108	29.8	352	97.2	176	48.6	362
San Juan, PR	195	78.9	55	22.3	149	60.3	9	3.6	247
Seattle, WA	290	77.5	66	17.6	355	94.9	129	34.5	374
Virginia Beach, VA	147	63.4	80	34.5	214	92.2	34	14.7	232
Washington, DC	243	73.4	103	31.1	313	94.6	128	38.7	331
HIV-positive^f									
City									
Atlanta, GA	122	74.4	63	38.4	---	---	---	---	164
Baltimore, MD	89	64.5	48	34.8	---	---	---	---	138
Boston, MA	14	56.0	10	40.0	---	---	---	---	25
Chicago, IL	78	79.6	37	37.8	---	---	---	---	98
Dallas, TX	70	72.2	35	36.1	---	---	---	---	97
Denver, CO	44	73.3	26	43.3	---	---	---	---	60
Detroit, MI	121	76.6	68	43.0	---	---	---	---	158
Houston, TX	80	70.8	45	39.8	---	---	---	---	113
Los Angeles, CA	94	86.2	45	41.3	---	---	---	---	109
Memphis, TN	66	71.0	58	62.4	---	---	---	---	93
Miami, FL	69	74.2	20	21.5	---	---	---	---	93
Nassau-Suffolk, NY	6	54.5	0	0.0	---	---	---	---	11
New Orleans, LA	54	76.1	25	35.2	---	---	---	---	71
New York City, NY	67	80.7	41	49.4	---	---	---	---	83
Newark, NJ	32	80.0	35	87.5	---	---	---	---	40
Philadelphia, PA	135	69.2	74	37.9	---	---	---	---	195
Portland, OR	41	66.1	23	37.1	---	---	---	---	62
San Diego, CA	94	70.1	55	41.0	---	---	---	---	134
San Francisco, CA	59	70.2	20	23.8	---	---	---	---	84
San Juan, PR	23	79.3	8	27.6	---	---	---	---	29
Seattle, WA	68	77.3	24	27.3	---	---	---	---	88
Virginia Beach, VA	80	74.1	54	50.0	---	---	---	---	108
Washington, DC	97	80.2	44	36.4	---	---	---	---	121

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

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

^b 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. 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. Conversations that were part of obtaining an HIV test were excluded.

^c Ever heard of PrEP, an antiretroviral medicine taken for months or years by a person who is HIV-negative to reduce the risk of getting HIV.

^d Took PrEP at any point during the 12 months before interview to reduce the risk of getting HIV.

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

^f Participants with a reactive rapid NHBS HIV test result supported by a second rapid test or supplemental laboratory-based testing.

Table 9. Diagnosis of sexually transmitted infections among men who have sex with men—National HIV Behavioral Surveillance, 23 U.S. cities, 2017

	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	1,254	17.6	633	8.9	770	10.8	347	4.9	431	6.0	405	5.7	7,125
Age at interview (yr)													
18–24	266	20.9	114	9.0	173	13.6	70	5.5	31	2.4	32	2.5	1,273
25–29	396	22.1	208	11.6	249	13.9	107	6.0	88	4.9	83	4.6	1,792
30–39	400	19.1	214	10.2	250	11.9	110	5.2	153	7.3	141	6.7	2,098
40–49	121	12.3	68	6.9	64	6.5	36	3.7	63	6.4	64	6.5	983
≥50	71	7.3	29	3.0	34	3.5	24	2.5	96	9.8	85	8.7	979
Race/ethnicity													
American Indian/Alaska Native	6	12.2	1	2.0	5	10.2	0	0.0	1	2.0	1	2.0	49
Asian	43	22.4	27	14.1	27	14.1	13	6.8	14	7.3	20	10.4	192
Black/African American	279	16.7	128	7.7	168	10.0	89	5.3	45	2.7	66	3.9	1,672
Hispanic/Latino ^c	332	16.6	159	7.9	193	9.6	109	5.4	90	4.5	92	4.6	2,002
Native Hawaiian/Other Pacific Islander	8	25.0	4	12.5	2	6.3	3	9.4	1	3.1	1	3.1	32
White	510	18.4	268	9.7	325	11.7	117	4.2	260	9.4	211	7.6	2,774
Multiple races	64	17.5	41	11.2	43	11.8	12	3.3	18	4.9	14	3.8	365
HIV-positive^d	565	26.0	235	10.8	293	13.5	284	13.1	254	11.7	206	9.5	2,174
Age at interview (yr)													
18–24	79	39.3	39	19.4	52	25.9	34	16.9	7	3.5	8	4.0	201
25–29	107	26.2	47	11.5	55	13.5	53	13.0	27	6.6	19	4.7	408
30–39	202	30.7	81	12.3	109	16.5	105	15.9	67	10.2	50	7.6	659
40–49	107	24.5	41	9.4	52	11.9	51	11.7	63	14.4	56	12.8	436
≥50	70	14.9	27	5.7	25	5.3	41	8.7	90	19.1	73	15.5	470
Race/ethnicity													
American Indian/Alaska Native	9	42.9	5	23.8	6	28.6	5	23.8	2	9.5	2	9.5	21
Asian	6	33.3	3	16.7	2	11.1	5	27.8	3	16.7	1	5.6	18
Black/African American	222	21.0	95	9.0	112	10.6	115	10.9	59	5.6	58	5.5	1,059
Hispanic/Latino ^c	150	31.3	62	12.9	75	15.7	78	16.3	62	12.9	54	11.3	479
Native Hawaiian/Other Pacific Islander	5	62.5	0	0.0	3	37.5	2	25.0	1	12.5	0	0.0	8
White	133	27.7	53	11.0	73	15.2	61	12.7	112	23.3	81	16.9	480
Multiple races	36	36.0	16	16.0	20	20.0	17	17.0	15	15.0	10	10.0	100
No valid NHBS HIV test result^e	112	13.9	55	6.8	73	9.1	37	4.6	61	7.6	42	5.2	805
Total	1,931	19.1	923	9.1	1,136	11.2	668	6.6	746	7.4	653	6.5	10,104

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

^a Any bacterial STI includes having received a 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 supported by a second rapid test or supplemental laboratory-based testing.

^e Participants 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 laboratory test, discordant rapid test results, or reported a previous HIV-positive test result but had a negative NHBS HIV test result.

Table 10. Drug use in the 12 months before interview and binge drinking in the 30 days before interview among men who have sex with men—National HIV Behavioral Surveillance, 23 U.S. cities, 2017

	Used drug	
	No.	%
HIV-negative^a		
Binge drinking (past 30 days) ^b	3,209	45.0
Any injection drugs	133	1.9
Any noninjection drugs (excludes binge drinking)	3,982	55.9
Cocaine	1,474	20.7
Crack	374	5.2
Downer ^c	486	6.8
Ecstasy	854	12.0
Heroin	77	1.1
Marijuana	3,485	48.9
Methamphetamine	421	5.9
Prescription opioids ^d	415	5.8
HIV-positive^e		
Binge drinking (past 30 days) ^b	694	31.9
Any injection drugs	114	5.2
Any noninjection drugs (excludes binge drinking)	1,225	56.3
Cocaine	388	17.8
Crack	121	5.6
Downer ^c	124	5.7
Ecstasy	192	8.8
Heroin	24	1.1
Marijuana	1,046	48.1
Methamphetamine	267	12.3
Prescription opioids ^d	129	5.9
No valid NHBS HIV test result^f		
Binge drinking (past 30 days) ^b	309	38.4
Any injection drugs	15	1.9
Any noninjection drugs (excludes binge drinking)	380	47.2
Cocaine	135	16.8
Crack	20	2.5
Downer ^c	43	5.3
Ecstasy	64	8.0
Heroin	2	0.2
Marijuana	344	42.7
Methamphetamine	44	5.5
Prescription opioids ^d	27	3.4

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 = 7,125; HIV-positive participants: n = 2,174; participants without a valid NHBS HIV test result: n = 805. 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 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 supported by a second rapid test or supplemental laboratory-based testing.

^f Participants 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 laboratory result, discordant rapid test results, or reported a previous HIV-positive test result but had a negative NHBS HIV test result.

Table 11. Additional outcomes among men who have sex with men—National HIV Behavioral Surveillance, 23 U.S. cities, 2017

	Number of male sex partners Median (Q1–Q3)	Exchange sex ^a		Condomless sex with an HIV-discordant partner at last sex ^b		Total No.
		No.	%	No.	%	
HIV-negative^c	4 (2–10)	566	7.9	1,152	16.2	7,125
Age at interview (yr)						
18–24	4 (2–10)	122	9.6	212	16.7	1,273
25–29	5 (2–12)	131	7.3	297	16.6	1,792
30–39	5 (2–12)	149	7.1	334	15.9	2,098
40–49	4 (2–10)	79	8.0	173	17.6	983
≥50	3 (2–10)	85	8.7	136	13.9	979
Race/ethnicity						
American Indian/Alaska Native	3 (1–7)	3	6.1	11	22.4	49
Asian	4 (2–12)	9	4.7	21	10.9	192
Black/African American	3 (2–7)	194	11.6	279	16.7	1,672
Hispanic/Latino ^d	4 (2–10)	153	7.6	344	17.2	2,002
Native Hawaiian/Other Pacific Islander	5 (2.5–8.5)	3	9.4	6	18.8	32
White	5 (2–15)	159	5.7	418	15.1	2,774
Multiple races	4 (2–10)	42	11.5	69	18.9	365
HIV-positive^e	4 (2–10)	324	14.9	555	25.5	2,174
Age at interview (yr)						
18–24	4 (2–7)	44	21.9	54	26.9	201
25–29	4 (2–10)	56	13.7	106	26.0	408
30–39	5 (2–12)	91	13.8	189	28.7	659
40–49	4.5 (2–12)	63	14.4	113	25.9	436
≥50	4 (2–10)	70	14.9	93	19.8	470
Race/ethnicity						
American Indian/Alaska Native	6 (3–12)	4	19.0	7	33.3	21
Asian	6 (3–20)	3	16.7	7	38.9	18
Black/African American	3 (2–7)	191	18.0	234	22.1	1,059
Hispanic/Latino ^d	5 (2–15)	57	11.9	138	28.8	479
Native Hawaiian/Other Pacific Islander	3.5 (2.5–5)	3	37.5	2	25.0	8
White	6 (2–20)	47	9.8	137	28.5	480
Multiple races	5 (2–12)	19	19.0	29	29.0	100
No valid NHBS HIV test result^f	4 (2–10)	49	6.1	98	12.2	805
Total	4 (2–10)	939	9.3	1,805	17.9	10,104

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

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

^a “Exchange sex” refers to giving or receiving money or drugs from a male casual partner in exchange for sex.

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

^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 supported by a second rapid test or supplemental laboratory-based testing.

^f Participants 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 laboratory result, discordant rapid test results, or reported a previous HIV-positive test result but had a negative NHBS HIV test result.

Table 12. Receipt of HIV care and treatment among self-reported HIV-positive men who have sex with men—National HIV Behavioral Surveillance, 23 U.S. cities, 2017

	Visited health care provider about HIV								Total No.
	Ever		Within a month after diagnosis		During past 6 months		Currently taking antiretrovirals		
	No.	%	No.	%	No.	%	No.	%	
Age at interview (yr)									
18–24	146	94.2	118	76.1	135	87.1	137	88.4	155
25–29	349	98.0	261	73.3	321	90.2	331	93.0	356
30–39	568	96.4	423	71.8	518	87.9	527	89.5	589
40–49	406	97.4	309	74.1	383	91.8	390	93.5	417
≥50	443	97.6	301	66.3	422	93.0	434	95.6	454
Race/ethnicity									
American Indian/Alaska Native	21	100	15	71.4	18	85.7	20	95.2	21
Asian	19	95.0	12	60.0	19	95.0	18	90.0	20
Black/African American	851	96.0	608	68.6	792	89.4	802	90.5	886
Hispanic/Latino ^a	411	96.3	314	73.5	379	88.8	399	93.4	427
Native Hawaiian/ Other Pacific Islander	7	100	5	71.4	7	100	6	85.7	7
White	499	98.6	382	75.5	467	92.3	476	94.1	506
Multiple races	96	100	70	72.9	89	92.7	90	93.8	96
City									
Atlanta, GA	131	92.9	103	73.0	123	87.2	123	87.2	141
Baltimore, MD	113	99.1	79	69.3	106	93.0	104	91.2	114
Boston, MA	29	96.7	18	60.0	27	90.0	29	96.7	30
Chicago, IL	109	95.6	75	65.8	101	88.6	108	94.7	114
Dallas, TX	84	98.8	61	71.8	75	88.2	76	89.4	85
Denver, CO	60	96.8	43	69.4	56	90.3	60	96.8	62
Detroit, MI	100	94.3	72	67.9	95	89.6	97	91.5	106
Houston, TX	88	95.7	71	77.2	81	88.0	81	88.0	92
Los Angeles, CA	90	98.9	58	63.7	82	90.1	82	90.1	91
Memphis, TN	86	95.6	61	67.8	80	88.9	78	86.7	90
Miami, FL	75	97.4	62	80.5	70	90.9	71	92.2	77
Nassau-Suffolk, NY	12	100	10	83.3	11	91.7	11	91.7	12
New Orleans, LA	70	98.6	53	74.6	63	88.7	67	94.4	71
New York City, NY	82	98.8	68	81.9	81	97.6	79	95.2	83
Newark, NJ	35	89.7	27	69.2	34	87.2	33	84.6	39
Philadelphia, PA	154	97.5	108	68.4	146	92.4	145	91.8	158
Portland, OR	66	98.5	56	83.6	64	95.5	66	98.5	67
San Diego, CA	128	97.0	90	68.2	120	90.9	123	93.2	132
San Francisco, CA	87	100	67	77.0	74	85.1	83	95.4	87
San Juan, PR	18	90.0	12	60.0	17	85.0	17	85.0	20
Seattle, WA	91	98.9	65	70.7	84	91.3	89	96.7	92
Virginia Beach, VA	98	98.0	70	70.0	92	92.0	94	94.0	100
Washington, DC	106	98.1	83	76.9	97	89.8	103	95.4	108
Total	1,912	97.0	1,412	71.6	1,779	90.3	1,819	92.3	1,971

Abbreviation: NHBS, National HIV Behavioral Surveillance (footnotes only).

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.

Appendix: Measurement Notes

SOCIODEMOGRAPHIC CHARACTERISTICS

- 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 2017. These guidelines are issued yearly for the United States and are one of the indicators used for determining eligibility for many federal and state programs. The 2017 guidelines [1] were used for participants interviewed in 2017. Because the poverty guidelines are not defined for Puerto Rico, the guidelines for the 48 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 those in jurisdictions that included an MSA or a specified division within an MSA with high prevalence of HIV. This report presents 2017 data in 23 MSAs (see list at the end of the report), which represented approximately 59% of all persons living with HIV in urban areas with a population of at least 500,000 in 2016.

HIV STATUS

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

- HIV-negative: Participants with a valid negative NHBS HIV test result.
- HIV-positive: Participants with a reactive rapid NHBS HIV test result supported by a second rapid test or supplemental laboratory-based testing.
- No valid NHBS HIV test result: Participants 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 laboratory result or discordant rapid test results, or reported a previous HIV-positive test result but had a negative NHBS HIV test result.

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 (inpa-

- tient), 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, needle exchange program, or home.
 - “Other” locations could not be classified and are 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 partner’s mouth, or mouth on a partner’s penis.
- Insertive anal sex: Participant’s penis inserted into a partner’s anus.
- Receptive anal sex: Partner’s penis inserted into the participant’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 feels most committed (e.g., boyfriend, husband, significant other, or life partner).
- Casual partner: Person with whom the participant has sex, but to whom he does not feel committed or whom he does not know very well.
- Both insertive and receptive anal sex, condomless: participant reported both receptive and insertive anal sex with the most recent sex partner during the 3 months before interview (during the same or different sexual encounters) and reported not using a condom during one or more of those anal sex acts.

RECEIPT OF HIV PREVENTION

- Free condoms: Having received free condoms during 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.
- PrEP awareness: Ever heard of PrEP, an antiretroviral medicine taken for months or years by a person who is HIV-negative to reduce the risk of getting HIV.
- PrEP use: Took PrEP at any point during the 12 months before interview to reduce the risk of getting HIV.

SEXUALLY TRANSMITTED INFECTIONS

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

SUBSTANCE USE

Participants were asked about their use of drugs (excluding those prescribed for them) during the 12 months before interview and their use of alcohol during 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: Consumed 5 or more drinks at one sitting during the 30 days before interview.

- Any injection drug: Used any injection drug (excluding those prescribed for him) during the 12 months before interview.
- Any noninjection drug: Used any noninjection drug, excluding alcohol, during the 12 months before interview.
- Cocaine: Used powder cocaine during the 12 months before interview.
- Crack: Used crack cocaine during the 12 months before interview.
- Downer: Used downers (benzodiazepines), such as Klonopin, Valium, Ativan, or Xanax, 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.

ADDITIONAL OUTCOMES

Table 11 includes outcomes that were of particular interest at the time of publication but that were not included in other tables.

- Number of male sex partners: Median number of male sex partners in the 12 months before interview; first and third quartiles (25th and 75th percentiles) are also reported.
- Exchange sex: Refers to giving or receiving money or drugs, during the 12 months before interview, in exchange for sex with a male 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 most recent sex partner (positive, negative, or unknown), and whether the participant reported engaging in vaginal or anal sex without a condom during his 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 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.

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 1 month after diagnosis: Having visited a health care provider for HIV care within 1 month after the date of their 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 medicines: Taking antiretroviral medicines at the time of interview.

REFERENCE

1. U.S. Department of Health and Human Services. 2017 poverty guidelines. <http://aspe.hhs.gov/2017-poverty-guidelines>. Published 2017. Accessed January 28, 2019.

Participating Metropolitan Statistical Areas, 2017

Principal city	Metropolitan statistical area division
Atlanta, Georgia	Atlanta–Sandy Springs–Roswell, Georgia
Baltimore, Maryland	Baltimore–Columbia–Towson, Maryland
Boston, Massachusetts	Boston–Cambridge–Newton, Massachusetts–New Hampshire (Boston Division)
Chicago, Illinois	Chicago–Naperville–Elgin, Illinois–Indiana–Wisconsin (Chicago Division)
Dallas, Texas	Dallas–Fort Worth–Arlington, Texas (Dallas Division)
Denver, Colorado	Denver–Aurora–Lakewood, Colorado
Detroit, Michigan	Detroit–Warren–Dearborn, Michigan (Detroit Division)
Houston, Texas	Houston–The Woodlands–Sugar Land, Texas
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
New York, New York	New York–Newark–Jersey City, New York–New Jersey–Pennsylvania (New York Division)
Newark, New Jersey	New York–Newark–Jersey City, New York–New Jersey–Pennsylvania (Newark Division)
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
Seattle, Washington	Seattle–Tacoma–Bellevue, Washington (Seattle Division)
Virginia Beach, VA	Virginia Beach–Norfolk–Newport News, Virginia–North Carolina
Washington, DC	Washington, District of Columbia (DC)–Virginia–Maryland–West Virginia (Washington Division)

Addendum: National HIV Prevention Progress Indicators

Table A1 presents data for indicators used to monitor progress toward HIV prevention goals outlined in the CDC Division of HIV/AIDS Prevention (DHAP) Strategic Plan [<https://www.cdc.gov/hiv/pdf/dhap/cdc-hiv-dhap-external-strategic-plan.pdf>]. Similar indicators were published previously in the National HIV Prevention Progress Report, 2015 [<https://www.cdc.gov/hiv/pdf/policies/progressreports/cdc-hiv-nationalprogressreport.pdf>]. For consistency with National HIV Prevention Progress Reports, data reported in Table A1 are reported for men who had oral or anal sex with another man during the 12 months before interview and did not report a previous HIV-positive test result, and are stratified by the following age categories: 18–24, 25–34, 35–44, 45–54, and ≥ 55 . Numbers and percentages may differ from those for similar outcomes included in this and other reports of NHBS data due to differences in indicator definition, analysis sample, or strata. Data for DHAP Strategic Plan indicators from NHBS will be included in future DHAP HIV Prevention Progress Reports. Published DHAP reports of NHBS data are available at <https://www.cdc.gov/hiv/library/reports/hiv-surveillance.html>.

Table A1. High-risk sexual behavior among men who have sex with men at risk for HIV infection—National HIV Behavioral Surveillance, 2011, 2014, and 2017

	2011 ^a			2014 ^b			2017 ^c		
	High-risk sexual behavior ^d		Total No.	High-risk sexual behavior ^d		Total No.	High-risk sexual behavior ^d		Total No.
	No.	%		No.	%		No.	%	
Age at interview (yr)									
18–24	308	13.9	2,209	259	14.5	1,787	184	13.0	1,417
25–34	332	12.3	2,710	380	12.2	3,103	374	10.8	3,463
35–44	211	13.6	1,557	209	14.4	1,448	148	9.6	1,535
45–54	144	13.5	1,069	170	14.4	1,179	143	13.2	1,084
≥55	46	9.9	464	49	9.2	533	67	10.7	628
Race/ethnicity									
American Indian/Alaska Native	11	17.5	63	3	6.1	49	9	17.0	53
Asian	14	7.0	200	16	9.5	169	11	5.3	209
Black/African American	297	14.4	2,068	310	15.2	2,034	299	14.0	2,137
Hispanic/Latino ^e	328	15.3	2,145	335	15.3	2,188	272	12.4	2,189
Native Hawaiian/Other Pacific Islander	8	15.1	53	2	4.8	42	4	11.1	36
White	344	10.8	3,177	339	10.8	3,147	266	8.7	3,041
Multiple races	35	12.3	284	57	15.2	375	52	12.5	417
Total	1,041	13.0	8,009	1,067	13.3	8,050	916	11.3	8,127

Abbreviations: NHBS, National HIV Behavioral Surveillance; PrEP; preexposure prophylaxis [footnotes only].

Note. Data include men who had oral or anal sex with another man during the 12 months before interview and did not report a previous HIV-positive test result.

^a In 2011, NHBS was conducted in 20 MSAs using venue-based, time-space sampling. Details of the 2011 sample are reported in: Centers for Disease Control and Prevention. *HIV Risk, Prevention, and Testing Behaviors—National HIV Behavioral Surveillance System: Men Who Have Sex With Men, 20 U.S. Cities, 2011*. HIV Surveillance Special Report 8. <http://www.cdc.gov/hiv/library/reports/hiv-surveillance.html>. Published September 2014. Accessed January 28, 2019.

^b In 2014, NHBS was conducted in 20 MSAs using venue-based, time-space sampling. Details of the 2014 sample are reported in: Centers for Disease Control and Prevention. *HIV Infection Risk, Prevention, and Testing Behaviors among Men Who Have Sex With Men—National HIV Behavioral Surveillance, 20 U.S. Cities, 2014*. HIV Surveillance Special Report 15. <http://www.cdc.gov/hiv/library/reports/hiv-surveillance.html>. Published January 2016. Accessed January 28, 2019.

^c In 2017, NHBS was conducted in 23 MSAs using venue-based, time-spaced sampling. Details of the 2017 sample are reported in Technical Notes.

^d During the 12 months before interview, did not take PrEP and at the most recent sexual encounter had vaginal or anal sex without a condom with a partner who was HIV-positive or of unknown status.

^e Hispanics/Latinos can be of any race.