

HIV | SURVEILLANCE REPORT

SPECIAL REPORT

**HIV Infection Risk, Prevention, and
Testing Behaviors Among Men
Who Have Sex with Men
National HIV Behavioral Surveillance
13 U.S. Cities, 2021**



**Centers for Disease
Control and Prevention**
National Center for HIV,
Viral Hepatitis, STD, and
TB Prevention

This HIV Surveillance Special Report is published by the Behavioral and Clinical Surveillance Branch of the Division of HIV Prevention, National Center for HIV, Viral Hepatitis, STD, and TB Prevention, Centers for Disease Control and Prevention (CDC), U.S. Department of Health and Human Services, Atlanta, Georgia.

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Suggested citation

Centers for Disease Control and Prevention. *HIV Infection Risk, Prevention, and Testing Behaviors Among Men Who Have Sex With Men—National HIV Behavioral Surveillance, 13 U.S. Cities, 2021*. HIV Surveillance Special Report 31. <https://www.cdc.gov/hiv/library/reports/hiv-surveillance.html>. Published January 2023. Accessed [date].

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Acknowledgments

This report was prepared by the following CDC staff and contractors: Dafna Kanny, Anna Teplinskaya, Teresa Finlayson, Catlainn Sionean, Jeff Todd, Johanna Chapin-Bardales, Savannah Harris, Rebecca Hershov, Amy Baugher, Julie Berg, and Cyprian Wejnert, for the National HIV Behavioral Surveillance (NHBS) Study Group.

We thank the NHBS participants and the DHP editorial staff (Michael Friend) for their efforts in making this report possible.

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Commentary



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 among populations with high burden of HIV, including gay, bisexual, and other men who have sex with men (hereafter referred to as MSM); Black or African American people (hereafter referred to as Black); Hispanic or Latino people; 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 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].

National HIV Behavioral Surveillance (NHBS) provides data for monitoring behaviors among populations at risk of acquiring or transmitting HIV infection and identifies the populations for whom scientifically proven, cost-effective, and scalable interventions are most appropriate. Monitoring key indicators among members of populations disproportionately affected by HIV is critical to achieving the goals of the ending the HIV Epidemic in the U.S. (EHE) Initiative [2] and the Centers for Disease Control and Prevention (CDC)'s high-impact prevention (HIP) approach [3]. The EHE Initiative is aimed at reducing new HIV infections by 90% by 2030 by implementing evidence-based strategies for specific populations in geographic areas most affected by HIV. NHBS has previously proven effective at monitoring key indicators, such as behavioral risk factors, HIV testing, and linkage to care; access to and use of prevention interventions, including preexposure prophylaxis (PrEP) and syringe services programs (SSPs); and prevalence of HIV in areas with high HIV prevalence among 3 populations at high risk of HIV infection: MSM, PWID, and heterosexually active persons at increased risk for HIV infection [4, 5].

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 72% of the HIV infections diagnosed in 2020, including those attributed to male-to-male contact and injection drug use [6]. This report summarizes findings from the 2021 NHBS data collection among MSM. Data from previous MSM cycles of NHBS have been published elsewhere [7–11].

The report provides descriptive, unweighted data that can be used to describe HIV infection among MSM and the percentages reporting specific behavioral risk factors, HIV testing, and participation in prevention programs. Monitoring these outcomes is useful for assessing behavioral risk factors and the use of prevention efforts over time and for identifying new HIV prevention opportunities for this population.

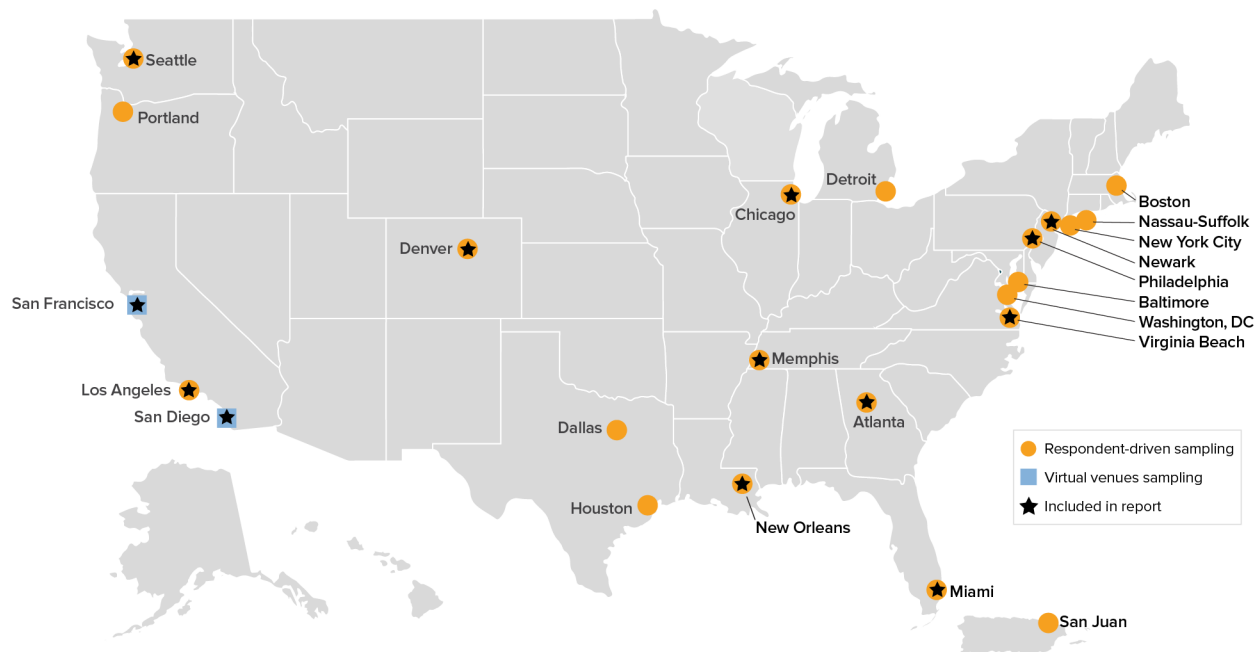
REPORT CHANGES

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 [11]:

- In 2021, 23 metropolitan statistical areas (MSAs) participated in NHBS among MSM; however, this report includes data from 13 MSAs that met the threshold for sufficient sample size (Figure 1; see Data Analysis section).
- In previous MSM cycles, a venue-based sampling (VBS) method was used to collect data. As a result of the COVID-19 pandemic, 2 sampling methods were used in the 2021 cycle: respondent-driven sampling (RDS) and virtual venues sampling (VVS). The results in this report combine data from both sampling methods.
- Due to the impact of the COVID-19 pandemic, in addition to the standard NHBS HIV testing protocol (i.e., blood specimens collected for rapid HIV testing with rapid or laboratory-based supplemental testing), the NHBS HIV testing protocol could be modified locally to include testing without in-person contact, such as offering only one rapid oral HIV self-test. As a result, rapid or laboratory-based supplemental testing was not always performed to confirm infection. Therefore, HIV status in this report (Table 1) is reported by using the following 4 categories: HIV-negative, HIV-positive, presumed HIV-positive, and no valid HIV test result.
- Tables are not stratified by participants' HIV status determined from the NHBS HIV test results (i.e., HIV-positive, HIV-negative, and no valid NHBS HIV test results); instead, some tables include a new row, 'self-reported HIV-positive (Yes/No),' which serves as a proxy for the traditional stratification by HIV status.
- A new indicator, 'unprotected sex with an HIV-discordant partner at last sex,' was developed and presented for the first time in this report. This indicator accounts for sex without the participant's use of either condoms or HIV medications (i.e., PrEP among those without HIV or antiretrovirals among those with HIV) with a sex partner of different or unknown HIV status.

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.

Figure 1. Participating National HIV Behavioral Surveillance project areas—United States, 2021



Note. In 2021, 23 metropolitan statistical areas (MSAs) participated in National HIV Behavioral Surveillance among gay, bisexual, and other men who have sex with men (MSM); 13 MSAs met the threshold for sufficient sample size.

HIGHLIGHTS

Demographic Characteristics, HIV Testing, and Preexposure Prophylaxis

This report describes data from 2,241 MSM who participated in NHBS in 2021, of whom 26% were aged 29 years or younger (Figure 2), 38% were Black, 27% were White, and 25% were Hispanic or Latino (Figure 3; Table 1). Overall, 71% of MSM had more than a high school education and 71% had a household income above the federal poverty level; 86% of MSM had health insurance and 89% had visited a health care provider in the 12 months before interview; 30% of MSM reported having a disability and 18% reported being unemployed; 14% experienced homelessness and 6% were incarcerated in the 12 months before interview (Figure 4).

Figure 2. Age distribution of men who have sex with men—National HIV Behavioral Surveillance, 13 U.S. cities, 2021

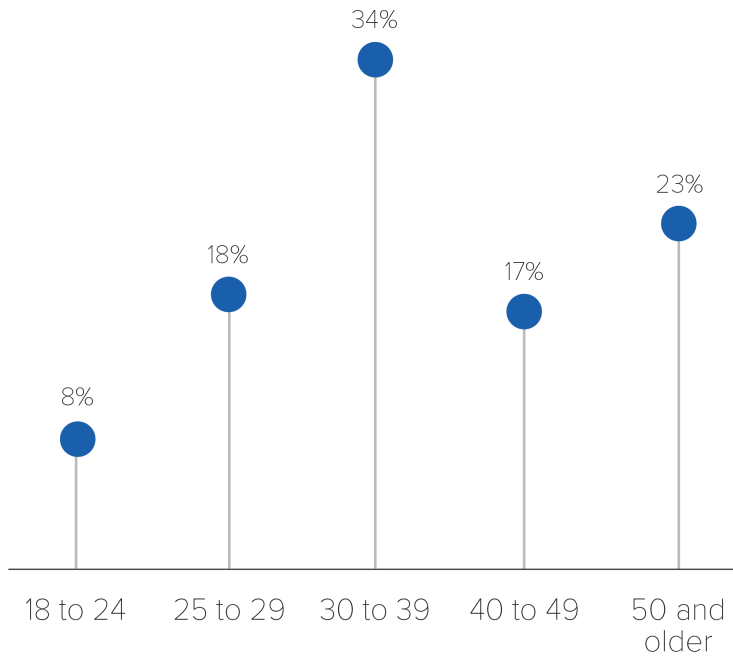
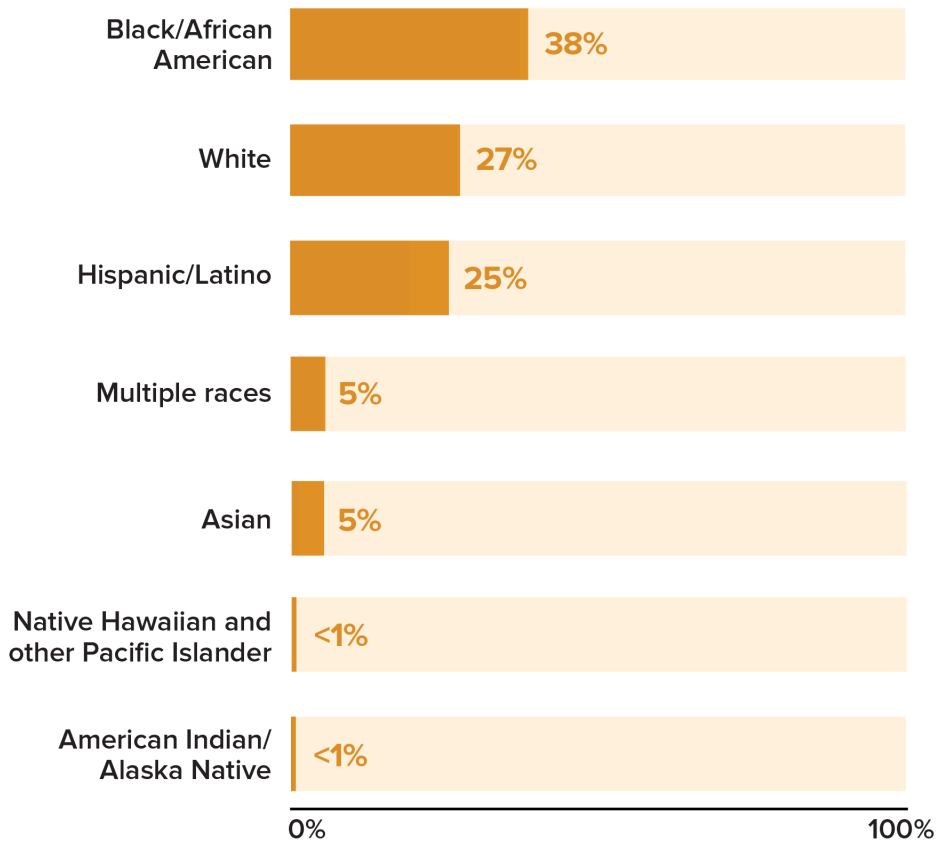
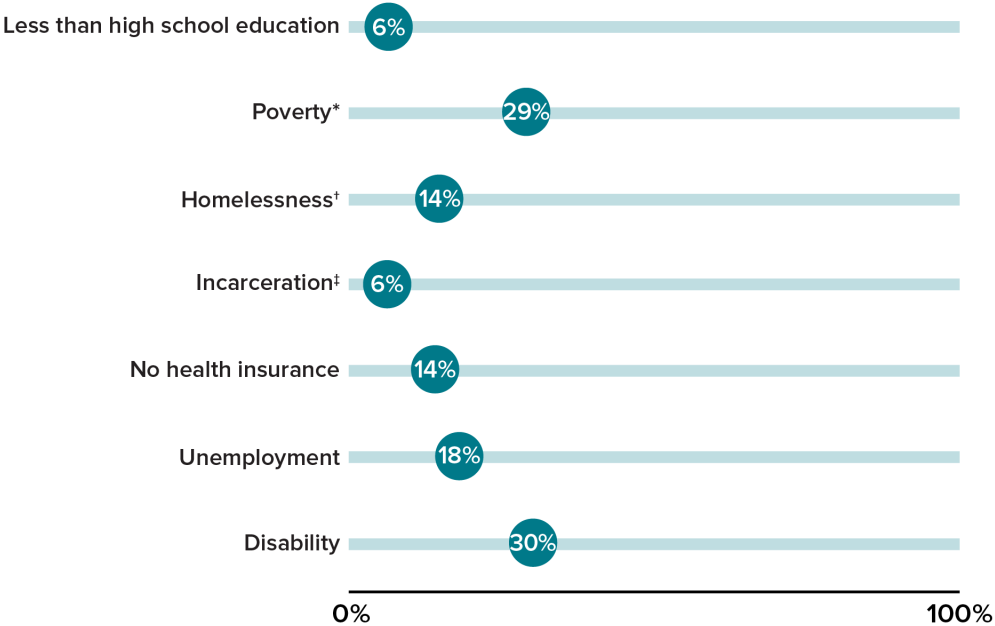


Figure 3. Race/ethnicity distribution of men who have sex with men—National HIV Behavioral Surveillance, 13 U.S. cities, 2021



Note. Hispanic/Latino persons can be of any race.

Figure 4. Social determinants of health among men who have sex with men—National HIV Behavioral Surveillance, 13 U.S. cities, 2021

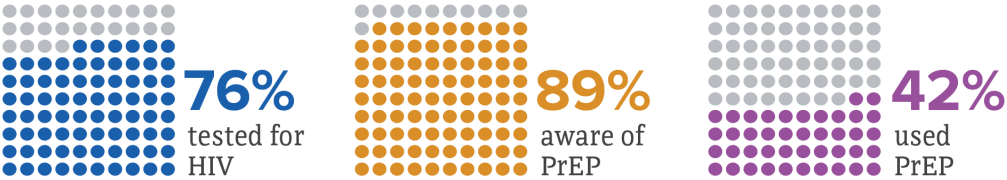


* Poverty level is based on household income and size.
 † Homelessness is defined as living on the street, in a shelter, in a single-room–occupancy hotel, or in a car in the 12 months before interview.
 ‡ Incarceration is defined as having been held in a detention center, jail, or prison for more than 24 hours in the 12 months before interview.

CDC recommends that persons with risk factors for HIV infection, including sexually active MSM, undergo HIV testing at least annually [12]. Among MSM who (1) did not report a previous HIV-positive test result or (2) had received their first HIV-positive test result less than 12 months before interview, 76% reported that they had been tested for HIV in the 12 months before interview (Figure 5), and 95% reported that they had ever been tested (Table 2).

In 2021, CDC released an update to clinical guidance recommending the use of PrEP for persons at an increased risk of HIV acquisition, including MSM [13]. Among 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, the majority reported previously hearing about PrEP (89%) and 42% reported taking PrEP in the past 12 months (Figure 5); 57% of White MSM reported taking PrEP compared with 44% of Hispanic or Latino MSM and 24% of Black MSM.

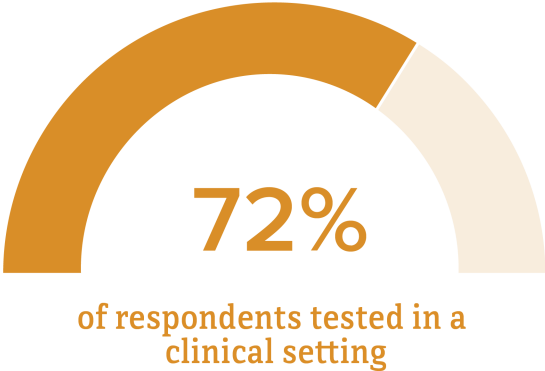
Figure 5. Prevalence of HIV testing and preexposure prophylaxis among men who have sex with men—National HIV Behavioral Surveillance, 13 U.S. cities, 2021



Abbreviation: PrEP, preexposure prophylaxis.
 Note. Among 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. HIV testing and PrEP use are in the 12 months before interview. PrEP awareness is ever.

Among MSM who were tested for HIV in the past 12 months, 72% reported their most recent test was performed in a clinical setting (Figure 6), while 25% reported being tested in a nonclinical setting such as an HIV counseling and testing site, an HIV street outreach program or mobile unit, a syringe services program, or at home (Table 3). Testing in nonclinical settings varied by race and ethnicity: 32% of Black MSM and 29% of Hispanic or Latino MSM reported their most recent HIV test was conducted in a nonclinical setting, while 15% of White MSM reported a nonclinical setting for their most recent HIV test.

Figure 6. 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, 13 U.S. cities, 2021

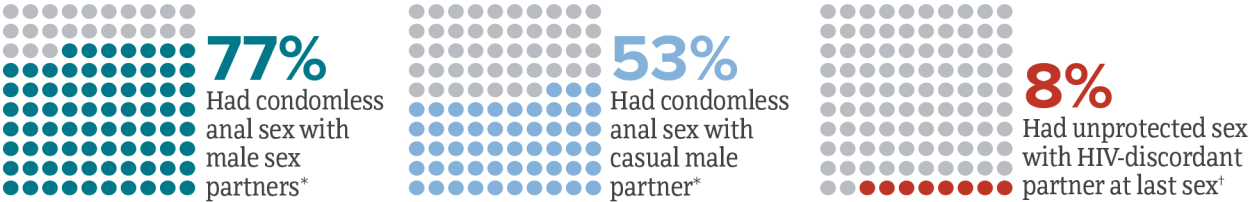


Note. Clinical settings include private doctor’s office (including health maintenance organization), emergency department, hospital (inpatient), public health clinic or community health center, family planning or obstetrics clinic, correctional facility, or drug treatment program.

Sexual Behaviors

Condomless anal sex with male partners was reported by 77% of MSM regardless of self-reported HIV status (Figure 7; Table 4). Condomless vaginal or anal sex with female sex partners was higher among MSM who did not self-report HIV-positive (10% and 6%, respectively) than among MSM who self-reported HIV-positive (4% and 2%, respectively). MSM who self-reported HIV-positive reported condomless anal sex with main and casual male partners (44% and 55%, respectively) at a similar percentage to MSM who did not self-report HIV-positive (50% and 53%, respectively) (Table 5). Among MSM, 19% reported having a male last sex partner but not having had anal sex with him during their last sexual encounter, and this did not differ by self-reported HIV status (Table 6).

Figure 7. Sexual behaviors among men who have sex with men—National HIV Behavioral Surveillance, 13 U.S. cities, 2021



* Condomless anal sex with male sex partners and condomless anal sex with casual male partner are in the 12 months before interview.
 † Unprotected sex refers to sex without the participant’s use of either condoms or HIV medications (i.e., HIV preexposure prophylaxis or antiretrovirals). HIV-discordant partner refers to a sex partner of different or unknown HIV status.

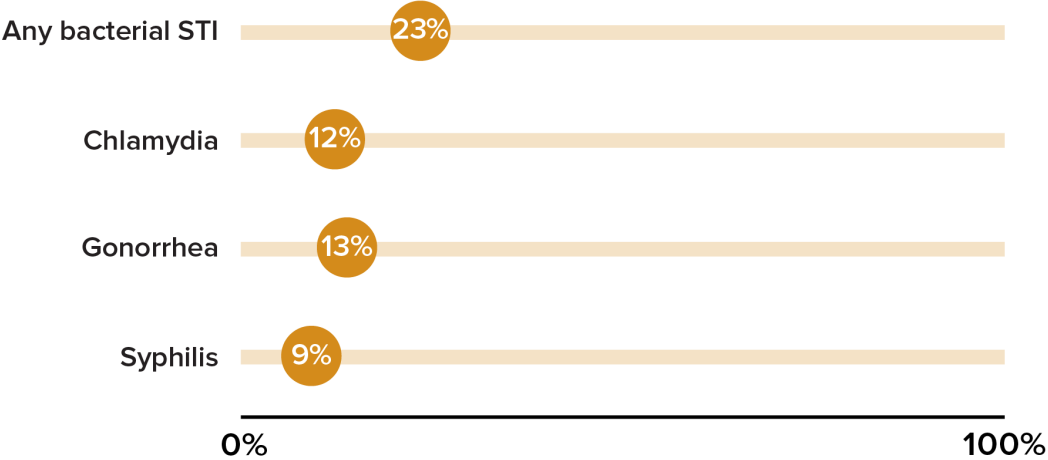
Despite the existence of other HIV prevention options, correct and consistent condom use is one of the primary means of protection from HIV and other infections [14, 15]. The high percentages of MSM who engaged

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 [3, 13].

Sexually Transmitted Infections

Sexually transmitted infections (STIs) can increase the likelihood of acquiring and transmitting HIV [16]. The percentage of MSM who reported a diagnosis of any bacterial STI (chlamydia, gonorrhea, or syphilis) during the 12 months before interview was 23% overall (Figure 8) and was higher among MSM who self-reported HIV-positive (33%) than among MSM who did not self-report HIV-positive (19%). Percentages of lifetime diagnosis of genital warts (18%) and genital herpes (13%) among MSM who self-reported HIV-positive were also higher than among MSM who did not self-report HIV-positive (8% for genital warts and 8% for genital herpes) (Table 7).

Figure 8. Diagnosis of sexually transmitted infections in the 12 months before interview among men who have sex with men—National HIV Behavioral Surveillance, 13 U.S. cities, 2021



Abbreviation: STI, sexually transmitted infection.

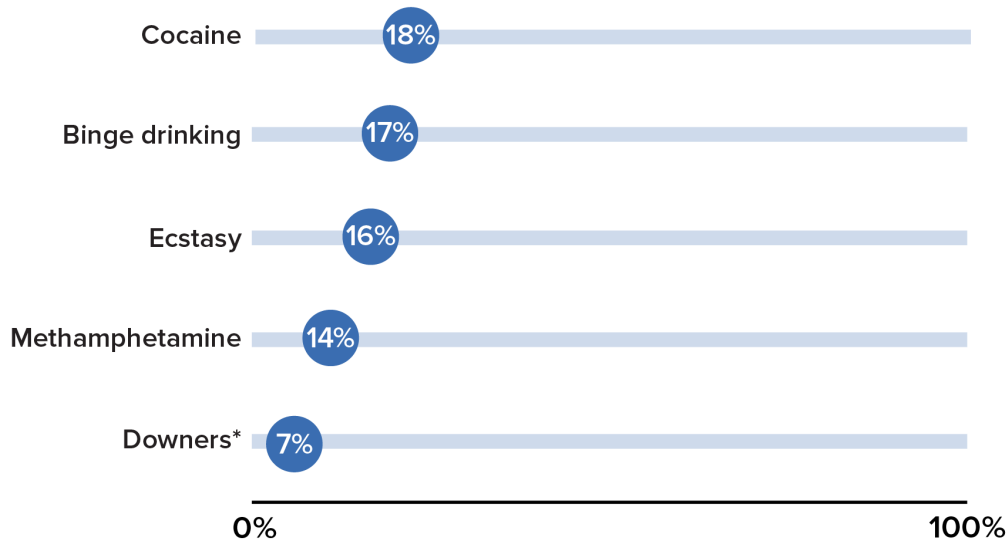
Note. “Any bacterial STI” includes having received a diagnosis of gonorrhea, chlamydia, or syphilis in the 12 months before interview.

Since 2000, rates of primary and secondary syphilis have increased among men, likely attributable to increases in cases among MSM; however, increases among MSM have slowed in recent years and during 2019–2020, the number of cases of primary and secondary syphilis among MSM decreased 2.2%. Still, MSM are disproportionately impacted, accounting for a majority (53%) of all male primary and secondary syphilis cases in 2020 [17]. In the current NHBS cycle, 20% of MSM who self-reported HIV-positive reported receiving a syphilis diagnosis during the 12 months before interview compared with 5% of MSM who did not self-report HIV-positive.

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 [18]. Among MSM, 17% reported binge drinking in the past 30 days, while 59% reported using marijuana, 18% reported using cocaine, 16% reported using ecstasy, and 14% reported using methamphetamine in the 12 months before interview (Figure 9; Table 8). Noninjection use of any drug in the 12 months before interview was reported by 65% of MSM while any injection drug use was reported by 6% of MSM.

Figure 9. 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, 13 U.S. cities, 2021



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.

Note. Binge drinking defined as 5 or more drinks at one sitting during the 30 days before interview.

* Downers, such as Klonopin, Valium, Ativan, or Xanax.

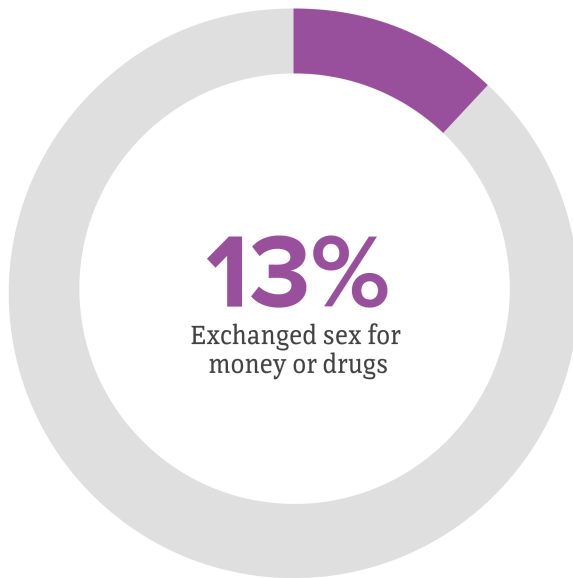
Additional Outcomes

Table 9 presents data on additional outcomes related to the risk of HIV transmission and acquisition among MSM. Outcomes reported in Table 9 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 MSM regardless of self-reported HIV-positive status.

Giving or receiving money or drugs in exchange for sex is a recognized risk factor for HIV infection [19]. In 2021, 13% 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 (Figure 10). The percentage of MSM reporting exchange sex with a male casual partner was higher among MSM who self-reported HIV-positive (18%) than among MSM who did not self-report HIV-positive (11%).

Figure 10. Exchanged sex in the 12 months before interview among men who have sex with men—National HIV Behavioral Surveillance, 13 U.S. cities, 2021



Note. Exchanged sex refers to giving or receiving money or drugs from a male casual partner in exchange for sex.

Overall, 8% of MSM reported unprotected sex with an HIV-discordant partner at last sex (Figure 7); this percentage was lower among MSM who self-reported HIV-positive (1%) compared with MSM who did not self-report HIV-positive (11%).

Overall, 51% of MSM reported receiving free condoms and 27% reported participating in an HIV behavioral intervention (Figure 11). The percentage of MSM who received condoms were higher among MSM who self-reported HIV-positive (61%) compared with MSM who did not self-report HIV-positive (47%). The percentage of MSM who reported participating in an HIV behavioral intervention was highest for MSM who self-reported HIV-positive (34%) and, among all MSM, for the youngest age group (32% of MSM aged 18–24 years).

Figure 11. Percentage of men who have sex with men receiving free condoms in the 12 months before interview—National HIV Behavioral Surveillance, 13 U.S. cities, 2021

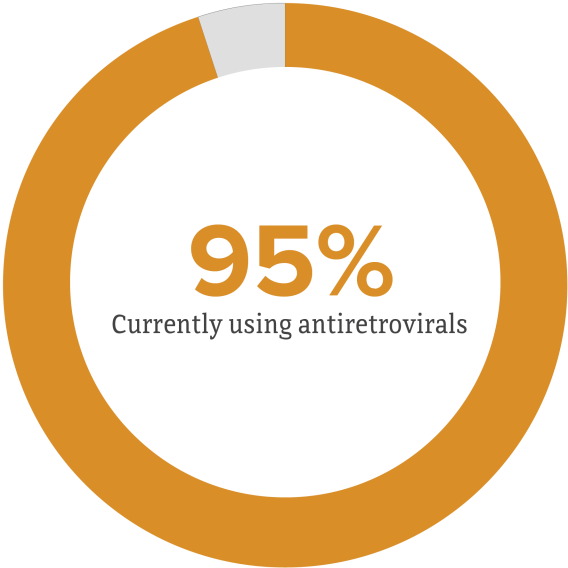


Note. Excludes condoms received from friends, relatives, or sex partners.

Receipt of HIV Care and Treatment

Achieving viral suppression through antiretroviral treatment improves clinical outcomes and reduces the likelihood of transmitting HIV to others [20]. The national goal is to link a person with a new HIV diagnosis to care within one month of diagnosis [1]. In 2021, among MSM who self-reported HIV-positive, 98% reported having ever visited a health care provider for HIV, 69% reported that they did so within one month after diagnosis, and 88% reported visiting a health care provider for HIV care in the six months before interview (Table 10). Current use of antiretroviral treatment was reported by 95% of MSM who self-reported HIV-positive (Figure 12).

Figure 12. Current antiretroviral use among self-reported HIV-positive men who have sex with men—National HIV Behavioral Surveillance, 13 U.S. cities, 2021



Note. Includes all participants who reported having ever received an HIV-positive test result, regardless of National HIV Behavioral Surveillance HIV test result.

Technical Notes

NHBS conducts rotating cycles of biobehavioral surveys among MSM, PWID, and heterosexually active persons at increased risk of HIV infection [4]; data are collected in annual cycles from one population per year so that each population is surveyed once every 3 years. The same general eligibility criteria are used in each cycle: aged 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 2021 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 sample size of current MSM.

A standardized questionnaire is used to collect information about behavioral risk factors for HIV infection, HIV testing, and use of HIV prevention services. The anonymous 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 [21, 22] 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 number of HIV infections diagnosed. In 2021, 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-end 2016 [23]; however, this report includes data from 13 MSAs that met the threshold for sufficient sample size (see Data Analysis section).

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

SAMPLING METHOD

Participants in the 2021 NHBS cycle were recruited using either respondent-driven sampling (RDS) [24] or virtual venues sampling (VVS) [25]. RDS begins with the nonrandom selection of a small number of initial recruiters or “seeds.” These seeds recruit project participants who in turn recruit other participants. This chain of recruiters and recruits then continues for multiple “waves” of recruitment. VVS participants were recruited through active outreach on geospatial social networking apps, online advertisements, and local social organization outreach on social media. Project sites used different recruitment methods tailored to their local community. Among the 13 project sites, 11 used RDS methods and 2 used VVS methods (San Diego and San Francisco). For the purposes of this report, these methods are presented in aggregate.

DATA COLLECTION

Persons recruited for the interview were screened for eligibility. For those who met eligibility requirements, trained interviewers obtained informed consent and conducted a remote interview, which took approximately 24 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. In exchange for the time spent taking part in the interview, participants received compensation equivalent to \$20–\$50 (amount determined locally).

HIV testing was performed for participants who consented; blood specimens were collected for rapid testing in the field or laboratory-based testing, or participants completed oral-based testing. For participants who consented to the testing for HIV, STI, or hepatitis, local testing procedures were followed, and an additional incentive was provided. Participants received \$10–\$50 for HIV testing (amount determined locally).

Participants who agreed to recruit others received an additional incentive of \$10–\$20 for each recruit (up to 5) who completed the interview (amount determined locally). Each participating city's goal was to interview 500 eligible men who 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 2021 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 2021, 23 MSAs participated in NHBS among MSM; however, this report includes data from 13 MSAs that met the threshold for sufficient sample size of 50 or more interviews of nonseeds. Among the 13 included MSAs, 2,846 men were recruited for participation; 2,536 persons were screened to participate in NHBS. Of those, 82 persons did not meet NHBS eligibility criteria or did not provide consent and were excluded from the survey. An additional 52 interviews were excluded from this report due to incomplete survey data, survey responses of questionable validity, being recruited using a non-RDS/VVS method, or data lost during electronic upload. Further, 161 eligible persons who completed interviews but did not report having sex with a male partner in the 12 months before interview were excluded from this report. The full analysis sample for this report includes 2,241 participants from the 2021 NHBS cycle. 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.

References

1. National HIV/AIDS strategy for the United States 2022–2025. <https://files.hiv.gov/s3fs-public/NHAS-2022-2025.pdf>. Published August 2022. Accessed January 12, 2023.
2. CDC. High-Impact HIV Prevention: CDC’s approach to reducing HIV infections in the United States. <https://www.cdc.gov/hiv/policies/hip/hip.html>. Published August 2011. Accessed January 12, 2023.
3. Fauci AS, Redfield RR, Sigounas G, Weahkee MD, Giroir BP. Ending the HIV Epidemic: A Plan for the United States. *JAMA* 2019;321(9):844–845. doi:10.1001/jama.2019.1343
4. Gallagher KM, Sullivan PS, Lansky A, Onorato IM. Behavioral surveillance among people at risk for HIV infection in the U.S.: The National HIV Behavioral Surveillance System. *Public Health Rep* 2007;122(suppl 1):32–38. doi:10.1177/00333549071220S106
5. DiNenno EA, Oster AM, Sionean C, Denning P, Lansky A. Piloting a system for behavioral surveillance among heterosexuals at increased risk of HIV in the United States. *Open AIDS J* 2012;6(suppl 1):169–176. doi:10.2174/1874613601206010169
6. CDC. *HIV Surveillance Report, 2020*; vol 33. <https://www.cdc.gov/hiv/library/reports/hiv-surveillance.html>. Published May 2022. Accessed January 12, 2023.
7. CDC [Sanchez T, Finlayson T, Drake A, et al]. Human immunodeficiency virus (HIV) risk, prevention, and testing behaviors—United States, National HIV Behavioral Surveillance System: Men who have sex with men, November 2003–April 2005. *MMWR* 2006;55(6):1–16. Erratum in: *MMWR* 2006;55(27):752.
8. CDC [Finlayson T, Le B, Smith A, et al]. HIV risk, prevention, and testing behaviors among men who have sex with men—National HIV Behavioral Surveillance System, 21 U.S. cities, United States, 2008. *MMWR* 2011;60(SS-14):1–34.
9. CDC. 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*. <https://www.cdc.gov/hiv/library/reports/hiv-surveillance.html>. Published September 2014. Accessed January 12, 2023.
10. CDC. HIV infection risk, prevention, and testing behaviors among men who have sex with men—National HIV Behavioral Surveillance System, 20 U.S. cities, 2014. *HIV Surveillance Special Report 15*. <https://www.cdc.gov/hiv/library/reports/hiv-surveillance.html>. Published January 2016. Accessed January 12, 2023.
11. CDC. HIV infection risk, prevention, and testing behaviors among men who have sex with men—National HIV Behavioral Surveillance System, 23 U.S. cities, 2017. *HIV Surveillance Special Report 22*. <https://www.cdc.gov/hiv/library/reports/hiv-surveillance.html>. Published February 2019. Accessed January 12, 2023.
12. DiNenno EA, Prejean J, Irwin K, et al. Recommendations for HIV screening of gay, bisexual, and other men who have sex with men—United States, 2017. *MMWR* 2017;66(31):830–832. doi:10.15585/mmwr.mm6631a3
13. CDC: US Public Health Service: Preexposure prophylaxis for the prevention of HIV infection—2021 update: A clinical practice guideline. <https://www.cdc.gov/hiv/pdf/risk/prep/cdc-hiv-prep-guidelines-2021.pdf>. Published March 2021. Accessed January 12, 2023.
14. Smith DK, Herbst JH, Zhang X, Rose CE. Condom effectiveness for HIV prevention by consistency of use among men who have sex with men in the United States. *J Acquir Immune Defic Syndr* 2015;68(3):337–344. doi:10.1097/QAI.0000000000000461
15. Johnson WD, O’Leary A, Flores SA. Per-partner condom effectiveness against HIV for men who have sex with men. *AIDS* 2018;32(11):1499–1505. doi:10.1097/QAD.0000000000001832
16. CDC [Workowski KA, Bolan GA]. Sexually transmitted diseases treatment guidelines, 2015. *MMWR* 2015;64(3):1–137.
17. CDC. Sexually transmitted disease surveillance 2020. <https://www.cdc.gov/std/statistics/2020/>. Published 2021. Accessed January 12, 2023.

18. Vosburgh HW, Mansergh G, Sullivan PS, Purcell DW. A review of the literature on event-level substance use and sexual risk behavior among men who have sex with men. *AIDS Behav* 2012;16(6):1394–1410. doi:10.1007/s10461-011-0131-8
19. Moyer VA, U.S. Preventive Services Task Force. Screening for HIV: U.S. Preventive Services Task Force Recommendation Statement. *Ann Intern Med* 2013;159(1):51–60. doi:10.7326/0003-4819-159-1-201307020-00645
20. Panel on Antiretroviral Guidelines for Adults and Adolescents. Guidelines for the use of antiretroviral agents in adults and adolescents with HIV. <https://clinicalinfo.hiv.gov/en/guidelines/hiv-clinical-guidelines-adult-and-adolescent-arv/>. Updated September 21, 2022. Accessed January 12, 2023.
21. CDC. “Distinguishing public health research and public health nonresearch” policy. <https://www.cdc.gov/os/integrity/docs/cdc-policy-distinguishing-public-health-research-nonresearch.pdf>. Published July 2010. Accessed January 12, 2023.
22. Protection of Human Subjects, CFR 45, Part 46. <https://www.ecfr.gov/current/title-45/subtitle-A/subchapter-A/part-46>. Last amended January 12, 2023. Accessed January 12, 2023.
23. CDC. *HIV Surveillance Report, 2016*; vol. 28. <https://www.cdc.gov/hiv/library/reports/hiv-surveillance.html>. Published November 2017. Accessed January 12, 2023.
24. Heckathorn DD. Respondent-driven sampling II: Deriving valid population estimates from chain-referral samples of hidden populations. *Soc Probl* 2002;49(1):11–34. doi:10.1525/sp.2002.49.1.11
25. Macapagal K, Li DH, Clifford A, Madkins K, Mustanski B. The CAN-DO-IT Model: A process for developing and refining online recruitment in HIV/AIDS and sexual health research. *Curr HIV/AIDS Rep* 2020;17(3):190–202. doi:10.1007/s11904-020-00491-5

Table 1. Selected characteristics of men who have sex with men—National HIV Behavioral Surveillance, 13 U.S. cities, 2021

	HIV-negative ^a		HIV-positive ^b		Presumed HIV-positive ^c		No valid HIV test result ^d		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%
Age at interview (yr)										
18–24	118	9.5	23	4.1	3	3.0	28	8.4	172	7.7
25–29	274	22.0	48	8.6	14	13.9	69	20.6	405	18.1
30–39	428	34.3	178	31.9	24	23.8	130	38.8	760	33.9
40–49	208	16.7	112	20.1	19	18.8	48	14.3	387	17.3
≥50	219	17.6	197	35.3	41	40.6	60	17.9	517	23.1
Race/ethnicity										
American Indian/Alaska Native	2	0.2	2	0.4	0	0.0	0	0.0	4	0.2
Asian	92	7.4	4	0.7	4	4.0	10	3.0	110	4.9
Black/African American	388	31.1	270	48.4	35	34.7	157	46.9	850	37.9
Hispanic/Latino ^e	307	24.6	128	22.9	33	32.7	81	24.2	549	24.5
Native Hawaiian/other Pacific Islander	8	0.6	3	0.5	0	0.0	4	1.2	15	0.7
White	383	30.7	122	21.9	25	24.8	67	20.0	597	26.6
Multiple races	62	5.0	29	5.2	4	4.0	16	4.8	111	5.0
Education										
Less than high school	63	5.1	43	7.7	5	5.0	19	5.7	130	5.8
High school diploma or equivalent	242	19.4	171	30.6	21	20.8	96	28.7	530	23.7
Some college or technical degree	328	26.3	222	39.8	30	29.7	108	32.2	688	30.7
College degree or more	614	49.2	122	21.9	45	44.6	112	33.4	893	39.8
Household income^f										
At or below the federal poverty level	291	23.3	221	39.6	35	34.7	93	27.8	640	28.6
Above the federal poverty level	950	76.2	331	59.3	66	65.3	236	70.4	1,583	70.6
Unemployment										
Yes	212	17.0	116	20.8	19	18.8	59	17.6	406	18.1
No	1,035	83.0	442	79.2	82	81.2	276	82.4	1,835	81.9
Disability										
Yes	323	25.9	223	40.0	34	33.7	96	28.7	676	30.2
No	922	73.9	333	59.7	67	66.3	239	71.3	1,561	69.7
Health insurance										
Yes	1,046	83.9	505	90.5	86	85.1	281	83.9	1,918	85.6
No	200	16.0	53	9.5	15	14.9	54	16.1	322	14.4
Visited a health care provider, past 12 months										
Yes	1,075	86.2	539	96.6	93	92.1	286	85.4	1,993	88.9
No	172	13.8	19	3.4	8	7.9	49	14.6	248	11.1

Table 1. Selected characteristics of men who have sex with men—National HIV Behavioral Surveillance, 13 U.S. cities, 2021 (cont)

	HIV-negative ^a		HIV-positive ^b		Presumed HIV-positive ^c		No valid HIV test result ^d		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%
Homeless,^g past 12 months										
Yes	144	11.5	98	17.6	11	10.9	53	15.8	306	13.7
No	1,103	88.5	460	82.4	90	89.1	282	84.2	1,935	86.3
Incarcerated,^h past 12 months										
Yes	71	5.7	31	5.6	1	1.0	30	9.0	133	5.9
No	1,176	94.3	527	94.4	100	99.0	305	91.0	2,108	94.1
City										
Atlanta, GA	49	3.9	18	3.2	10	9.9	0	0.0	77	3.4
Chicago, IL	26	2.1	22	3.9	10	9.9	30	9.0	88	3.9
Denver, CO	70	5.6	17	3.0	0	0.0	4	1.2	91	4.1
Los Angeles, CA	95	7.6	98	17.6	20	19.8	52	15.5	265	11.8
Memphis, TN	13	1.0	5	0.9	3	3.0	66	19.7	87	3.9
Miami, FL	175	14.0	54	9.7	2	2.0	1	0.3	232	10.4
New Orleans, LA	52	4.2	20	3.6	0	0.0	9	2.7	81	3.6
Newark, NJ	91	7.3	55	9.9	0	0.0	4	1.2	150	6.7
Philadelphia, PA	37	3.0	48	8.6	12	11.9	39	11.6	136	6.1
San Diego, CA	71	5.7	44	7.9	0	0.0	48	14.3	163	7.3
San Francisco, CA	278	22.3	48	8.6	30	29.7	75	22.4	431	19.2
Seattle, WA	137	11.0	24	4.3	13	12.9	3	0.9	177	7.9
Virginia Beach, VA	153	12.3	105	18.8	1	1.0	4	1.2	263	11.7
Total	1,247	100	558	100	101	100	335	100	2,241	100

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

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

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

^b Participants who had a reactive rapid NHBS HIV test result that was supported by a second rapid test, supplemental laboratory-based testing, or self-report of a previous HIV-positive test result.

^c Participants who had a reactive rapid NHBS HIV test result that was not supported by a second rapid test, supplemental laboratory-based testing, or self-report of a previous HIV-positive test result, as well as participants who self-reported a previous HIV-positive test result and had a nonreactive NHBS HIV test result. Of participants in this category, 79% only received 1 oral-based test.

^d All participants not classified as HIV-positive, presumed HIV-positive, or HIV-negative, including those who did not consent to the NHBS HIV test and those who had only 1 rapid test result that was invalid.

^e Hispanic/Latino persons can be of any race.

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

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

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

Table 2. HIV testing and preexposure prophylaxis among men who have sex with men—National HIV Behavioral Surveillance, 13 U.S. cities, 2021

	Ever tested		Tested in past 12 months ^a		PrEP awareness ^b		PrEP use in past 12 months ^c		Total No.
	No.	%	No.	%	No.	%	No.	%	
Age at interview (yr)									
18–24	146	93.6	129	82.7	136	87.2	62	39.7	156
25–29	319	93.8	265	77.9	303	89.1	138	40.6	340
30–39	536	97.1	450	81.5	499	90.4	255	46.2	552
40–49	244	96.1	192	75.6	229	90.2	109	42.9	254
≥50	255	93.8	167	61.4	234	86.0	91	33.5	272
Race/ethnicity									
American Indian/Alaska Native	2	100	1	50.0	1	50.0	1	50.0	2
Asian	98	98.0	78	78.0	97	97.0	57	57.0	100
Black/African American	504	92.6	404	74.3	426	78.3	132	24.3	544
Hispanic/Latino ^d	369	95.1	308	79.4	352	90.7	171	44.1	388
Native Hawaiian/other Pacific Islander	11	100	6	54.5	11	100	1	9.1	11
White	434	97.3	345	77.4	434	97.3	253	56.7	446
Multiple races	77	98.7	56	71.8	75	96.2	37	47.4	78
City									
Atlanta, GA	55	96.5	39	68.4	54	94.7	21	36.8	57
Chicago, IL	45	90.0	32	64.0	46	92.0	12	24.0	50
Denver, CO	71	97.3	59	80.8	72	98.6	46	63.0	73
Los Angeles, CA	129	94.2	96	70.1	120	87.6	46	33.6	137
Memphis, TN	55	85.9	44	68.8	31	48.4	2	3.1	64
Miami, FL	165	85.5	133	68.9	140	72.5	37	19.2	193
New Orleans, LA	57	96.6	51	86.4	57	96.6	38	64.4	59
Newark, NJ	98	94.2	84	80.8	74	71.2	28	26.9	104
Philadelphia, PA	71	100	60	84.5	64	90.1	21	29.6	71
San Diego, CA	102	99.0	89	86.4	99	96.1	40	38.8	103
San Francisco, CA	351	99.2	294	83.1	347	98.0	240	67.8	354
Seattle, WA	137	97.9	101	72.1	139	99.3	71	50.7	140
Virginia Beach, VA	164	97.0	121	71.6	158	93.5	53	31.4	169
Total	1,500	95.3	1,203	76.4	1,401	89.0	655	41.6	1,574

Abbreviation: PrEP, preexposure prophylaxis.

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 Ever heard of PrEP, an antiretroviral medicine taken for months or years to reduce the risk of getting HIV.

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

^d Hispanic/Latino persons can be of any race.

Table 3. Setting of most recent HIV test among men who have sex with men and who were tested for HIV in the 12 months before interview—National HIV Behavioral Surveillance, 13 U.S. cities, 2021

	Clinical setting ^a		Nonclinical setting ^b		Total No.
	No.	(%)	No.	(%)	
Age at interview (yr)					
18–24	70	54.3	54	41.9	129
25–29	179	67.5	79	29.8	265
30–39	344	76.4	97	21.6	450
40–49	143	74.5	36	18.8	192
≥50	126	75.4	37	22.2	167
Race/ethnicity					
American Indian/Alaska Native	0	0.0	0	0.0	1
Asian	60	76.9	18	23.1	78
Black/African American	261	64.6	129	31.9	404
Hispanic/Latino ^c	211	68.5	88	28.6	308
Native Hawaiian/other Pacific Islander	6	100	0	0.0	6
White	283	82.0	51	14.8	345
Multiple races	37	66.1	16	28.6	56
City					
Atlanta, GA	19	48.7	20	51.3	39
Chicago, IL	28	87.5	3	9.4	32
Denver, CO	50	84.7	8	13.6	59
Los Angeles, CA	72	75.0	22	22.9	96
Memphis, TN	37	84.1	4	9.1	44
Miami, FL	67	50.4	60	45.1	133
New Orleans, LA	41	80.4	5	9.8	51
Newark, NJ	43	51.2	41	48.8	84
Philadelphia, PA	35	58.3	22	36.7	60
San Diego, CA	67	75.3	21	23.6	89
San Francisco, CA	260	88.4	28	9.5	294
Seattle, WA	85	84.2	12	11.9	101
Virginia Beach, VA	58	47.9	57	47.1	121
Total	862	71.7	303	25.2	1,203

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 Hispanic/Latino persons can be of any race.

Table 4. 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, 13 U.S. cities, 2021

	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.	%	
Age at interview (yr)													
18–24	18	10.5	9	5.2	9	5.2	4	2.3	157	91.3	118	68.6	172
25–29	48	11.9	35	8.6	27	6.7	19	4.7	385	95.1	327	80.7	405
30–39	99	13.0	64	8.4	53	7.0	32	4.2	726	95.5	629	82.8	760
40–49	55	14.2	38	9.8	35	9.0	25	6.5	365	94.3	302	78.0	387
≥50	56	10.8	36	7.0	31	6.0	22	4.3	439	84.9	340	65.8	517
Race/ethnicity													
American Indian/Alaska Native	1	25.0	1	25.0	0	0.0	0	0.0	4	100	3	75.0	4
Asian	3	2.7	3	2.7	3	2.7	3	2.7	101	91.8	95	86.4	110
Black/African American	168	19.8	103	12.1	90	10.6	54	6.4	786	92.5	573	67.4	850
Hispanic/Latino ^a	57	10.4	39	7.1	37	6.7	25	4.6	520	94.7	440	80.1	549
Native Hawaiian/other Pacific Islander	1	6.7	1	6.7	0	0.0	0	0.0	13	86.7	8	53.3	15
White	30	5.0	26	4.4	15	2.5	12	2.0	548	91.8	508	85.1	597
Multiple races	15	13.5	8	7.2	10	9.0	8	7.2	95	85.6	84	75.7	111
Self-reported HIV-positive													
Yes	49	7.1	29	4.2	24	3.5	15	2.2	638	91.9	519	74.8	694
No	227	14.7	153	9.9	131	8.5	87	5.6	1,434	92.7	1,197	77.4	1,547
City													
Atlanta, GA	7	9.1	2	2.6	4	5.2	0	0.0	67	87.0	57	74.0	77
Chicago, IL	9	10.2	6	6.8	3	3.4	3	3.4	80	90.9	64	72.7	88
Denver, CO	7	7.7	6	6.6	3	3.3	2	2.2	87	95.6	81	89.0	91
Los Angeles, CA	30	11.3	21	7.9	23	8.7	19	7.2	243	91.7	204	77.0	265
Memphis, TN	13	14.9	7	8.0	9	10.3	6	6.9	78	89.7	41	47.1	87
Miami, FL	94	40.5	58	25.0	58	25.0	39	16.8	219	94.4	144	62.1	232
New Orleans, LA	10	12.3	7	8.6	6	7.4	4	4.9	77	95.1	69	85.2	81
Newark, NJ	17	11.3	13	8.7	11	7.3	7	4.7	137	91.3	101	67.3	150
Philadelphia, PA	15	11.0	11	8.1	8	5.9	5	3.7	125	91.9	95	69.9	136
San Diego, CA	8	4.9	5	3.1	6	3.7	4	2.5	153	93.9	133	81.6	163
San Francisco, CA	21	4.9	15	3.5	9	2.1	6	1.4	400	92.8	380	88.2	431
Seattle, WA	3	1.7	2	1.1	3	1.7	1	0.6	168	94.9	160	90.4	177
Virginia Beach, VA	42	16.0	29	11.0	12	4.6	6	2.3	238	90.5	187	71.1	263
Total	276	12.3	182	8.1	155	6.9	102	4.6	2,072	92.5	1,716	76.6	2,241

^a Hispanic/Latino persons can be of any race.

Table 5. 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, 13 U.S. cities, 2021

	Main male partner ^a				Casual male partner ^b				Main and casual male partners—sex of any type ^c		Total No.
	Anal sex		Condomless anal sex		Anal sex		Condomless anal sex		No.	%	
	No.	%	No.	%	No.	%	No.	%			
Age at interview (yr)											
18–24	114	66.3	93	54.1	117	68.0	69	40.1	74	43.0	172
25–29	260	64.2	231	57.0	291	71.9	206	50.9	166	41.0	405
30–39	472	62.1	414	54.5	543	71.4	427	56.2	289	38.0	760
40–49	206	53.2	176	45.5	292	75.5	225	58.1	133	34.4	387
≥50	217	42.0	157	30.4	346	66.9	269	52.0	124	24.0	517
Race/ethnicity											
American Indian/Alaska Native	1	25.0	1	25.0	4	100	3	75.0	1	25.0	4
Asian	60	54.5	56	50.9	80	72.7	66	60.0	39	35.5	110
Black/African American	508	59.8	384	45.2	550	64.7	343	40.4	272	32.0	850
Hispanic/Latino ^d	325	59.2	275	50.1	412	75.0	326	59.4	217	39.5	549
Native Hawaiian/other Pacific Islander	6	40.0	4	26.7	11	73.3	7	46.7	4	26.7	15
White	311	52.1	296	49.6	454	76.0	390	65.3	217	36.3	597
Multiple races	56	50.5	53	47.7	73	65.8	57	51.4	34	30.6	111
Self-reported HIV-positive											
Yes	380	54.8	305	43.9	491	70.7	379	54.6	233	33.6	694
No	889	57.5	766	49.5	1,098	71.0	817	52.8	553	35.7	1,547
City											
Atlanta, GA	45	58.4	41	53.2	51	66.2	38	49.4	29	37.7	77
Chicago, IL	50	56.8	39	44.3	59	67.0	39	44.3	29	33.0	88
Denver, CO	52	57.1	48	52.7	78	85.7	68	74.7	43	47.3	91
Los Angeles, CA	131	49.4	114	43.0	206	77.7	153	57.7	94	35.5	265
Memphis, TN	63	72.4	30	34.5	39	44.8	24	27.6	24	27.6	87
Miami, FL	102	44.0	66	28.4	165	71.1	107	46.1	48	20.7	232
New Orleans, LA	51	63.0	47	58.0	62	76.5	46	56.8	36	44.4	81
Newark, NJ	91	60.7	72	48.0	94	62.7	52	34.7	48	32.0	150
Philadelphia, PA	94	69.1	76	55.9	75	55.1	44	32.4	44	32.4	136
San Diego, CA	85	52.1	79	48.5	117	71.8	91	55.8	49	30.1	163
San Francisco, CA	237	55.0	223	51.7	342	79.4	309	71.7	179	41.5	431
Seattle, WA	109	61.6	104	58.8	139	78.5	119	67.2	80	45.2	177
Virginia Beach, VA	159	60.5	132	50.2	162	61.6	106	40.3	83	31.6	263
Total	1,269	56.6	1,071	47.8	1,589	70.9	1,196	53.4	786	35.1	2,241

^a Includes all participants who had at least 1 main male partner, including those with casual partners.

^b Includes all participants who had at least 1 casual male partner, including those with main partners.

^c 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.

^d Hispanic/Latino persons can be of any race.

Table 6. Anal sex with a male sex partner at last sex among men who have sex with men—National HIV Behavioral Surveillance, 13 U.S. cities, 2021

	Most recent sex partner was male														Most recent sex partner was not male ^a		Total No.
	Insertive ^b anal sex only				Receptive ^c anal sex only				Both insertive ^b and receptive ^c anal sex				No anal sex ^{d,e}				
	Total ^e		Condomless ^f		Total ^e		Condomless ^g		Total ^e		Condomless ^h		No. %				
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%			
Age at interview (yr)																	
18–24	41	23.8	23	13.4	63	36.6	41	23.8	32	18.6	22	12.8	29	16.9	7	4.1	172
25–29	123	30.4	78	19.3	122	30.1	87	21.5	73	18.0	47	11.6	74	18.3	13	3.2	405
30–39	274	36.1	212	27.9	194	25.5	150	19.7	149	19.6	107	14.1	112	14.7	30	3.9	760
40–49	143	37.0	110	28.4	94	24.3	78	20.2	73	18.9	42	10.9	66	17.1	11	2.8	387
≥50	135	26.1	93	18.0	118	22.8	83	16.1	97	18.8	54	10.4	148	28.6	19	3.7	517
Race/ethnicity																	
American Indian/Alaska Native	2	50.0	1	25.0	1	25.0	1	25.0	1	25.0	1	25.0	0	0.0	0	0.0	4
Asian	25	22.7	24	21.8	35	31.8	29	26.4	13	11.8	10	9.1	36	32.7	1	0.9	110
Black/African American	305	35.9	172	20.2	190	22.4	116	13.6	183	21.5	94	11.1	126	14.8	46	5.4	850
Hispanic/Latino ⁱ	173	31.5	142	25.9	152	27.7	117	21.3	119	21.7	76	13.8	86	15.7	19	3.5	549
Native Hawaiian/ other Pacific Islander	7	46.7	6	40.0	3	20.0	0	0.0	2	13.3	0	0.0	3	20.0	0	0.0	15
White	172	28.8	148	24.8	176	29.5	152	25.5	85	14.2	72	12.1	156	26.1	8	1.3	597
Multiple races	30	27.0	21	18.9	33	29.7	23	20.7	21	18.9	19	17.1	21	18.9	6	5.4	111
Self-reported HIV-positive																	
Yes	161	23.2	113	16.3	239	34.4	170	24.5	149	21.5	100	14.4	130	18.7	15	2.2	694
No	555	35.9	403	26.1	352	22.8	269	17.4	275	17.8	172	11.1	299	19.3	65	4.2	1,547
City																	
Atlanta, GA	26	33.8	15	19.5	21	27.3	17	22.1	13	16.9	8	10.4	16	20.8	1	1.3	77
Chicago, IL	21	23.9	15	17.0	24	27.3	20	22.7	20	22.7	10	11.4	21	23.9	2	2.3	88
Denver, CO	22	24.2	18	19.8	27	29.7	25	27.5	17	18.7	15	16.5	25	27.5	0	0.0	91
Los Angeles, CA	68	25.7	56	21.1	72	27.2	48	18.1	66	24.9	47	17.7	49	18.5	10	3.8	265
Memphis, TN	23	26.4	9	10.3	21	24.1	11	12.6	28	32.2	8	9.2	13	14.9	2	2.3	87
Miami, FL	102	44.0	45	19.4	35	15.1	18	7.8	61	26.3	28	12.1	5	2.2	29	12.5	232
New Orleans, LA	26	32.1	22	27.2	18	22.2	16	19.8	16	19.8	11	13.6	19	23.5	2	2.5	81
Newark, NJ	50	33.3	28	18.7	44	29.3	24	16.0	27	18.0	16	10.7	20	13.3	9	6.0	150
Philadelphia, PA	42	30.9	25	18.4	39	28.7	25	18.4	27	19.9	11	8.1	22	16.2	6	4.4	136
San Diego, CA	50	30.7	41	25.2	46	28.2	37	22.7	32	19.6	27	16.6	31	19.0	4	2.5	163
San Francisco, CA	130	30.2	117	27.1	115	26.7	105	24.4	66	15.3	57	13.2	114	26.5	5	1.2	431
Seattle, WA	62	35.0	58	32.8	57	32.2	47	26.6	20	11.3	16	9.0	38	21.5	0	0.0	177
Virginia Beach, VA	94	35.7	67	25.5	72	27.4	46	17.5	31	11.8	18	6.8	56	21.3	10	3.8	263
Total	716	32.0	516	23.0	591	26.4	439	19.6	424	18.9	272	12.1	429	19.1	80	3.6	2,241

Note. Percentages may not add to 100 because of missing data.

^a Includes participants whose most recent sex partner was female (n=76) and participants who did not report the gender of their most recent sex partner (n=3).

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

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

^d The participant reported neither insertive anal sex nor receptive anal sex with a male partner at last sex.

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

^f At last sex, the participant did not use a condom during insertive anal sex.

^g At last sex, the participant had receptive anal sex and his partner did not use a condom.

^h At last sex, the participant did not use a condom during insertive anal sex, or during receptive anal sex, the participant's partner did not use a condom.

ⁱ Hispanic/Latino persons can be of any race.

Table 7. Diagnosis of sexually transmitted infections among men who have sex with men—National HIV Behavioral Surveillance, 13 U.S. cities, 2021

	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.	%	
Age at interview (yr)													
18–24	57	33.1	31	18.0	35	20.3	12	7.0	9	5.2	3	1.7	172
25–29	99	24.4	54	13.3	64	15.8	36	8.9	16	4.0	22	5.4	405
30–39	192	25.3	96	12.6	112	14.7	85	11.2	67	8.8	70	9.2	760
40–49	79	20.4	34	8.8	47	12.1	31	8.0	60	15.5	40	10.3	387
≥50	88	17.0	45	8.7	41	7.9	44	8.5	91	17.6	68	13.2	517
Race/ethnicity													
American Indian/Alaska Native	2	50.0	0	0.0	1	25.0	1	25.0	1	25.0	0	0.0	4
Asian	28	25.5	14	12.7	22	20.0	6	5.5	7	6.4	10	9.1	110
Black/African American	178	20.9	66	7.8	93	10.9	93	10.9	38	4.5	38	4.5	850
Hispanic/Latino ^b	127	23.1	67	12.2	72	13.1	57	10.4	64	11.7	64	11.7	549
Native Hawaiian/other Pacific Islander	2	13.3	1	6.7	1	6.7	2	13.3	1	6.7	2	13.3	15
White	148	24.8	97	16.2	92	15.4	34	5.7	121	20.3	79	13.2	597
Multiple races	30	27.0	15	13.5	18	16.2	15	13.5	10	9.0	9	8.1	111
Self-reported HIV-positive													
Yes	228	32.9	96	13.8	118	17.0	139	20.0	122	17.6	87	12.5	694
No	287	18.6	164	10.6	181	11.7	69	4.5	121	7.8	116	7.5	1,547
City													
Atlanta, GA	25	32.5	14	18.2	13	16.9	6	7.8	4	5.2	7	9.1	77
Chicago, IL	20	22.7	10	11.4	8	9.1	12	13.6	6	6.8	3	3.4	88
Denver, CO	26	28.6	18	19.8	19	20.9	4	4.4	12	13.2	8	8.8	91
Los Angeles, CA	81	30.6	30	11.3	42	15.8	46	17.4	34	12.8	35	13.2	265
Memphis, TN	12	13.8	4	4.6	1	1.1	9	10.3	2	2.3	3	3.4	87
Miami, FL	21	9.1	5	2.2	13	5.6	13	5.6	9	3.9	6	2.6	232
New Orleans, LA	14	17.3	6	7.4	9	11.1	3	3.7	7	8.6	4	4.9	81
Newark, NJ	31	20.7	13	8.7	16	10.7	16	10.7	4	2.7	7	4.7	150
Philadelphia, PA	30	22.1	12	8.8	18	13.2	14	10.3	11	8.1	8	5.9	136
San Diego, CA	47	28.8	26	16.0	27	16.6	17	10.4	27	16.6	19	11.7	163
San Francisco, CA	110	25.5	63	14.6	79	18.3	27	6.3	83	19.3	67	15.5	431
Seattle, WA	43	24.3	31	17.5	25	14.1	12	6.8	27	15.3	24	13.6	177
Virginia Beach, VA	55	20.9	28	10.6	29	11.0	29	11.0	17	6.5	12	4.6	263
Total	515	23.0	260	11.6	299	13.3	208	9.3	243	10.8	203	9.1	2,241

Abbreviation: STI, sexually transmitted infection.

^a Any bacterial STI includes having received a diagnosis of gonorrhea, chlamydia, or syphilis in the 12 months before interview.^b Hispanic/Latino persons can be of any race.

Table 8. 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, 13 U.S. cities, 2021

	Used drug	
	No.	%
Binge drinking (past 30 days) ^a	370	16.5
Any injection drugs	129	5.8
Any noninjection drugs (excludes binge drinking)	1,455	64.9
Cocaine	402	17.9
Crack	139	6.2
Downers ^b	163	7.3
Ecstasy	354	15.8
Heroin	33	1.5
Marijuana	1,314	58.6
Methamphetamine	307	13.7
Prescription opioids ^c	115	5.1

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.

^a Defined as 5 or more drinks at one sitting during the 30 days before interview.

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

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

Table 9. Additional outcomes among men who have sex with men—National HIV Behavioral Surveillance, 13 U.S. cities, 2021

	Number of male sex partners Median (Q1–Q3)	Exchange sex ^a		Unprotected sex with an HIV-discordant partner at last sex ^b		Free condoms ^c		Individual- or group-level intervention ^d		Total No.
		No.	%	No.	%	No.	%	No.	%	
Age at interview (yr)										
18–24	4 (2–7)	23	13.4	12	7.0	103	59.9	55	32.0	172
25–29	4 (2–10)	48	11.9	35	8.6	225	55.6	114	28.1	405
30–39	4 (2–12)	100	13.2	62	8.2	382	50.3	212	27.9	760
40–49	4 (2–10)	58	15.0	39	10.1	190	49.1	96	24.8	387
≥50	3 (2–10)	71	13.7	38	7.4	247	47.8	129	25.0	517
Race/ethnicity										
American Indian/Alaska Native	5.5 (3.5–16)	2	50.0	0	0.0	3	75.0	1	25.0	4
Asian	5 (3–10)	6	5.5	6	5.5	49	44.5	19	17.3	110
Black/African American	3 (1–6)	123	14.5	85	10.0	498	58.6	276	32.5	850
Hispanic/Latino ^e	5 (2–12)	82	14.9	56	10.2	301	54.8	164	29.9	549
Native Hawaiian/other Pacific Islander	3 (2–8)	2	13.3	2	13.3	8	53.3	4	26.7	15
White	6 (3–20)	68	11.4	29	4.9	227	38.0	111	18.6	597
Multiple races	3 (1–8)	16	14.4	7	6.3	57	51.4	30	27.0	111
Self-reported HIV-positive										
Yes	4 (2–10)	124	17.9	9	1.3	421	60.7	237	34.1	694
No	4 (2–10)	176	11.4	177	11.4	726	46.9	369	23.9	1,547
City										
Atlanta, GA	4 (2–10)	4	5.2	5	6.5	43	55.8	18	23.4	77
Chicago, IL	3 (2–8)	15	17.0	7	8.0	51	58.0	30	34.1	88
Denver, CO	9 (4–20)	5	5.5	4	4.4	38	41.8	13	14.3	91
Los Angeles, CA	4 (2–10)	61	23.0	29	10.9	183	69.1	98	37.0	265
Memphis, TN	1 (1–4)	12	13.8	7	8.0	31	35.6	28	32.2	87
Miami, FL	2 (1–5)	37	15.9	37	15.9	109	47.0	45	19.4	232
New Orleans, LA	5 (2–12)	13	16.0	3	3.7	47	58.0	26	32.1	81
Newark, NJ	3 (2–5)	25	16.7	17	11.3	94	62.7	64	42.7	150
Philadelphia, PA	2 (1–5)	13	9.6	6	4.4	84	61.8	42	30.9	136
San Diego, CA	5 (2–15)	21	12.9	16	9.8	76	46.6	46	28.2	163
San Francisco, CA	8 (3–20)	44	10.2	17	3.9	137	31.8	85	19.7	431
Seattle, WA	6 (3–15)	14	7.9	20	11.3	102	57.6	29	16.4	177
Virginia Beach, VA	3 (1–6)	36	13.7	18	6.8	152	57.8	82	31.2	263
Total	4 (2–10)	300	13.4	186	8.3	1,147	51.2	606	27.0	2,241

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

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 “Unprotected sex” refers to sex without the participant’s use of either condoms or HIV medications (i.e., HIV PrEP or antivirals). “HIV-discordant partner” refers to a sex partner of different or unknown HIV status.

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

^d 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.

^e Hispanic/Latino persons can be of any race.

Table 10. Receipt of HIV care and treatment among self-reported HIV-positive men who have sex with men—National HIV Behavioral Surveillance, 13 U.S. cities, 2021

	Visited health care provider about HIV								Total No.
	Ever		Within a month after diagnosis		During past 6 months		Current antiretroviral use		
	No.	%	No.	%	No.	%	No.	%	
Age at interview (yr)									
18–24	21	95.5	19	86.4	19	86.4	21	95.5	22
25–29	68	95.8	52	73.2	61	85.9	66	93.0	71
30–39	212	97.2	154	70.6	191	87.6	202	92.7	218
40–49	133	98.5	98	72.6	120	88.9	131	97.0	135
≥50	246	99.2	157	63.3	217	87.5	241	97.2	248
Race/ethnicity									
American Indian/Alaska Native	2	100	2	100	2	100	2	100	2
Asian	11	100	6	54.5	9	81.8	11	100	11
Black/African American	316	97.8	228	70.6	287	88.9	306	94.7	323
Hispanic/Latino ^a	164	97.6	111	66.1	149	88.7	160	95.2	168
Native Hawaiian/ other Pacific Islander	4	100	3	75.0	4	100	4	100	4
White	149	98.0	109	71.7	128	84.2	146	96.1	152
Multiple races	34	100	21	61.8	29	85.3	32	94.1	34
City									
Atlanta, GA	22	100	14	63.6	21	95.5	22	100	22
Chicago, IL	37	97.4	28	73.7	31	81.6	37	97.4	38
Denver, CO	18	100	15	83.3	15	83.3	18	100	18
Los Angeles, CA	135	97.8	92	66.7	127	92.0	132	95.7	138
Memphis, TN	22	95.7	11	47.8	20	87.0	22	95.7	23
Miami, FL	37	92.5	30	75.0	36	90.0	35	87.5	40
New Orleans, LA	22	100	18	81.8	20	90.9	22	100	22
Newark, NJ	49	98.0	39	78.0	46	92.0	48	96.0	50
Philadelphia, PA	64	97.0	47	71.2	59	89.4	63	95.5	66
San Diego, CA	61	100	32	52.5	57	93.4	58	95.1	61
San Francisco, CA	79	100	60	75.9	62	78.5	76	96.2	79
Seattle, WA	36	97.3	27	73.0	29	78.4	34	91.9	37
Virginia Beach, VA	98	98.0	67	67.0	85	85.0	94	94.0	100
Total	680	98.0	480	69.2	608	87.6	661	95.2	694

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

Note. Data include all participants who reported having ever received an HIV-positive test result, regardless of NHBS HIV test result. "Past 6 months" refers to the 6 months before interview.

^a Hispanic/Latino persons can be of any race.

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 2021. 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 2021 guidelines [1] were used for participants interviewed in 2021. 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.
- **Unemployment:** Participants who reported their employment status as “unemployed.”
- **Disability:** Participants who reported difficulty with hearing, seeing, cognition, ambulation, self-care, or independent living, based on responses to the questions that comprise the US Department of Health and Human Services data standard for disability status [2, 3].
- **Health insurance:** Currently having some form of health insurance.
- **Visited a health care provider:** Having visited a healthcare provider during the 12 months before interview.
- **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 2021 data in 13 MSAs (see list at the end of the report) that met the threshold for sufficient sample size.

HIV STATUS

HIV testing was performed for participants who consented to testing. Due to the COVID-19 pandemic, in addition to the standard NHBS HIV testing protocol (i.e., blood specimens collected for rapid HIV testing with rapid or laboratory-based supplemental testing), local NHBS HIV testing procedures could be modified to include testing without in-person contact, such as offering only one rapid oral HIV self-test. As a result, rapid

or laboratory-based supplemental testing was not always performed to confirm infection. Therefore, HIV status in this report is reported using the following four categories:

- HIV-negative: Participants with a negative NHBS HIV test result who did not self-report a previous HIV-positive test result.
- HIV-positive: Participants who had a reactive rapid NHBS HIV test result that was supported by a second rapid test, supplemental laboratory-based testing, or self-report of a previous HIV-positive test result.
- Presumed HIV-positive: Participants who had a reactive NHBS HIV test result that was not supported by a second rapid test, supplemental laboratory-based testing, or self-report of a previous HIV-positive test result, as well as participants who self-reported a previous HIV-positive test result and had a nonreactive NHBS HIV test result. Of participants in this category, 79% received only one oral-based test.
- No valid NHBS HIV test result: All participants not classified as HIV-positive, presumed HIV-positive, or HIV-negative, including those who did not consent to the NHBS HIV test and those who had only one rapid test result that was invalid.

HIV TESTING AND PREEXPOSURE PROPHYLAXIS (PREP)

- 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.
- 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.
- Clinical setting: Participants reported the location of their most recent HIV test as private doctor's office (including health maintenance organization), emergency department, hospital (inpatient), public health clinic or community health center, family planning or obstetrics clinic, correctional facility (jail or prison), or drug treatment program.
- Nonclinical setting: Participants reported the location of their most recent HIV test as HIV counseling and testing site, HIV street outreach program or mobile unit, needle exchange program, or home.

SEXUAL BEHAVIORS

- Sex of any type: Includes oral or anal sex.
- Anal sex: Penis inserted into a partner's anus or butt.
- 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.
- Both insertive and receptive anal sex, condomless: participant reported both insertive and receptive anal sex at last sex and reported not using a condom during either or both of those anal sex acts.
- 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.

SEXUALLY TRANSMITTED INFECTIONS

- Any bacterial STI: Having received a diagnosis of chlamydia, gonorrhea, or syphilis during the 12 months before interview.
- 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.
- 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 and including marijuana, 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 9 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 from a male casual partner in exchange for sex.
- Unprotected sex with HIV-discordant partner at last sex: “Unprotected sex” refers to sex without the participant's use of either condoms or HIV medications (i.e., PrEP among those without HIV or

antiretrovirals among those with HIV). “HIV-discordant partner” refers to a sex partner of different or unknown HIV status.

- 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: Individual-level intervention defined as a one-on-one conversations 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.

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.

REFERENCES

1. U.S. Department of Health and Human Services. 2021 poverty guidelines. <http://aspe.hhs.gov/2021-poverty-guidelines>. Published 2021. Accessed January 12, 2023.
2. Office of Minority Health. Data collection standards for race, ethnicity, sex, primary language, and disability status. <https://minorityhealth.hhs.gov/omh/browse.aspx?lvl=2&lvlid=23>. Published October 2011. Accessed January 12, 2023.
3. U.S. Census Bureau [Brault M, Stern S, Raglin D]. Evaluation report covering disability. https://www.census.gov/content/dam/Census/library/working-papers/2007/acs/2007_Brault_01.pdf. Published January 2007. Accessed January 12, 2023.

Participating Metropolitan Statistical Areas, 2021

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)

* Included in report.