

HIV | SURVEILLANCE REPORT

SPECIAL REPORT

**Behavioral and Clinical Characteristics
of Persons with Diagnosed HIV Infection**
Medical Monitoring Project, United States
2019 Cycle (June 2019–May 2020)



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

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MMP project areas—<https://www.cdc.gov/hiv/statistics/systems/mmp/projectareas.html>

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Commentary



At year-end 2018, an estimated 1,040,352 persons in the United States and 6 dependent areas were living with diagnosed HIV infection [1]. In 2019, the number of new HIV diagnoses was 37,881 [1]. Although the National HIV Surveillance System (NHSS) collects information about persons with diagnosed HIV infection [2], other surveillance systems provide more detailed information about care seeking, health care use, use of ancillary services, and other behaviors [3]. In 2005, in response to an Institute of Medicine (IOM) report outlining the need for representative data on persons with HIV [4], the Centers for Disease Control and Prevention (CDC) implemented the Medical Monitoring Project (MMP), which from 2009 to 2014 collected data from a 3-stage probability sample of adults receiving HIV medical care [5]. In 2015, in response to recommendations stemming from an IOM review of national HIV data systems [6], MMP sampling and weighting methods were revised to include all adults with diagnosed HIV infection regardless of HIV care status. MMP is a cross-sectional, nationally representative, complex sample survey that assesses the behavioral and clinical characteristics of adults with diagnosed HIV infection in the United States. MMP also provides information on behaviors and clinical outcomes affecting the risk of HIV transmission, morbidity, and mortality that are critical for achieving the goals of the HIV National Strategic Plan [7] and the Ending the HIV Epidemic in the U.S. (EHE) initiative [8], which seek to reduce new HIV infections in the United States by 90% by 2030.

The 2019 MMP sample was selected in 2 consecutive stages: (1) U.S. states, the District of Columbia, and Puerto Rico and (2) persons aged ≥ 18 years with diagnosed HIV infection reported to NHSS as of December 31, 2018. A total of 23 project areas from 16 states and Puerto Rico were funded to conduct data collection for the 2019 cycle (Table 1).

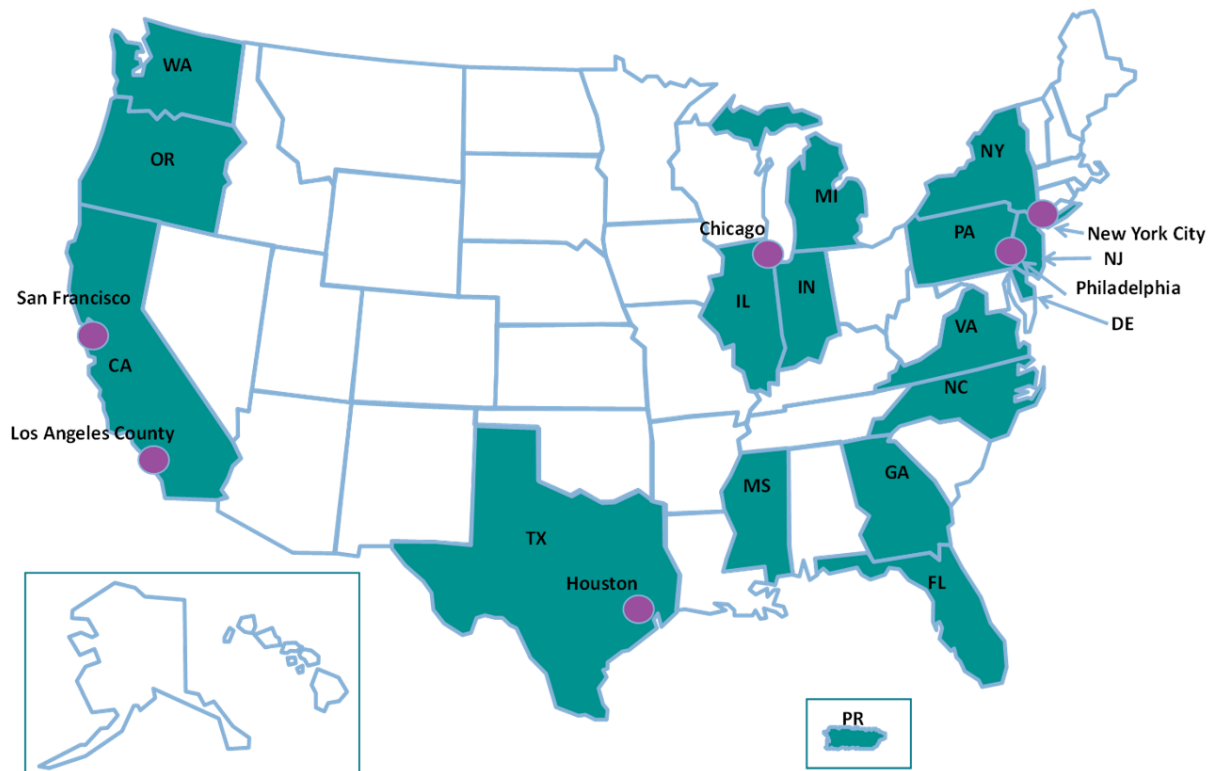
This report presents unweighted frequencies and weighted prevalence estimates with 95% confidence intervals for selected characteristics. The estimates describe the characteristics of adults with diagnosed HIV infection who are living in the United States, hereafter referred to as *persons with diagnosed HIV* or *persons*. The period referenced for estimates is the 12 months before the participants' interviews and medical record abstractions unless otherwise noted. Statistical software (SAS, version 9.4) was used for analysis of weighted data [9]. Data are not reported for estimates derived from a denominator size < 30 or with a coefficient of variation ≥ 0.30 . Estimates with an absolute confidence interval width ≥ 30 , estimates with an absolute confidence interval width between 5 and 30 and a relative confidence interval width $> 130\%$, and estimates of 0% or 100% are marked with an asterisk and should be interpreted with caution. No statistical tests were performed. Additional information on MMP is available at <https://www.cdc.gov/hiv/statistics/systems/mmp/>.

HIGHLIGHTS OF ANALYSES

Response Rates

All 16 states, including 6 separately funded jurisdictions within those states, and the 1 territory sampled for MMP participated (Figure 1). In total, 9,700 persons were sampled from NHSS and 4,100 participated (Table 1). Adjusted for eligibility, the response rate was 45% (data not shown in table).

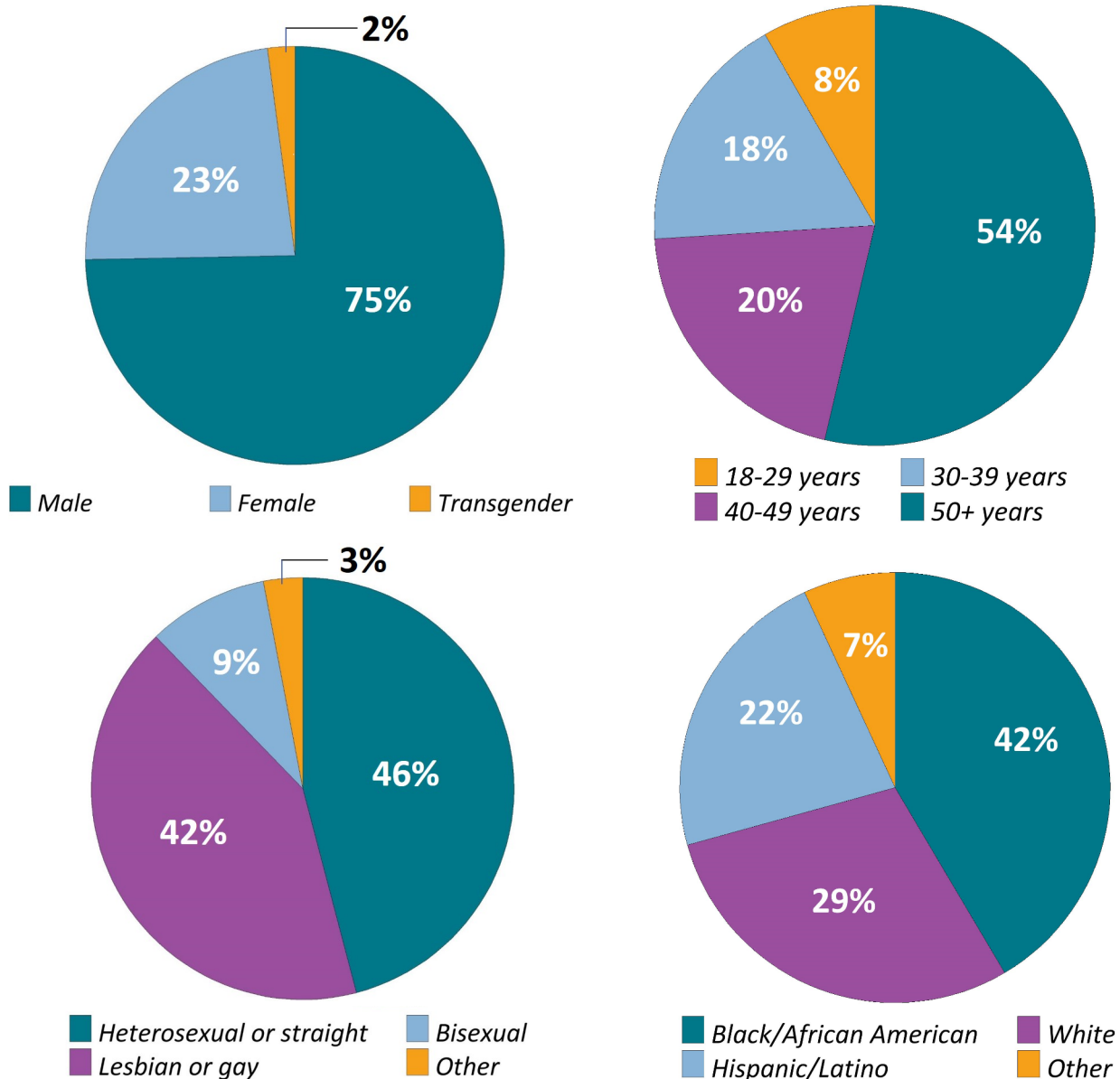
Figure 1. Participating Medical Monitoring Project sites, including 16 states and 6 separately funded jurisdictions—United States, 2019



Sociodemographic Characteristics

An estimated 75% of persons were male, 23% were female, and 2% were transgender (Figure 2; Table 2). Nearly half (46%) identified themselves as heterosexual or straight; 42% as lesbian or gay; 9% as bisexual; and 3% as another sexual orientation. An estimated 42% were Black or African American, 29% were White, and 22% were Hispanic or Latino. Nearly three-quarters (74%) were aged at least 40 years, and 68% had received an HIV diagnosis at least 10 years earlier.

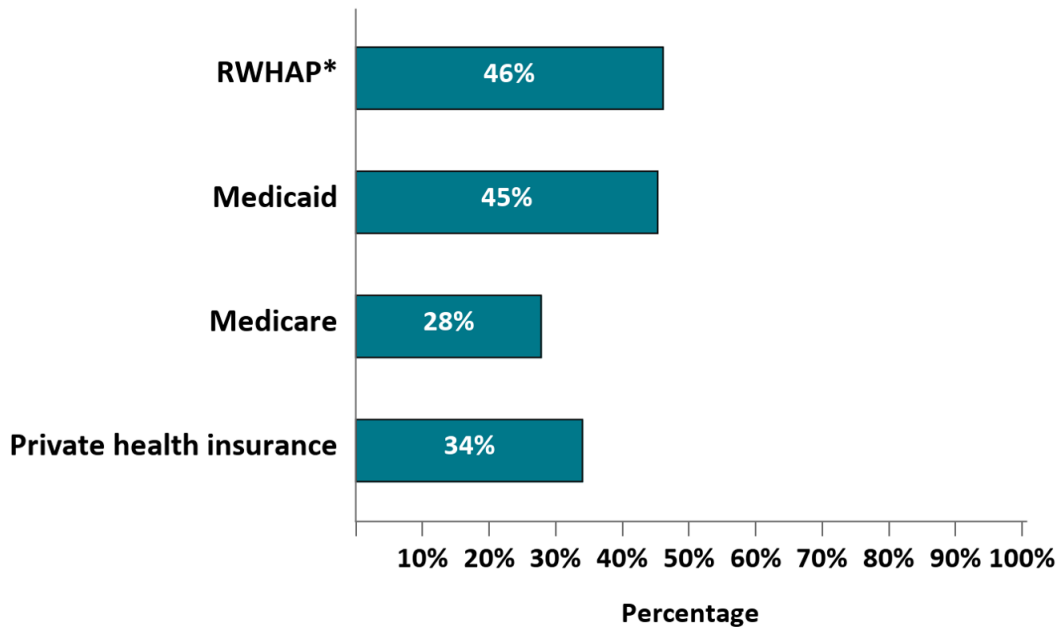
Figure 2. Distribution of gender, age, sexual orientation, and race/ethnicity among adults with diagnosed HIV—Medical Monitoring Project, United States, 2019



Note. Transgender persons defined as those who self-identified as transgender or who reported a gender identity different from sex assigned at birth. “Other” race/ethnicity defined as persons who were American Indian/Alaska Native, Asian, Native Hawaiian/Other Pacific Islander, or multiracial. Hispanics or Latinos can be of any race.

Over half (57%) had more than a high school education and 85% were born in a U.S. state or territory. The estimated prevalence of homelessness among all persons with diagnosed HIV was 9%. Approximately 13% had moved in with other people because of financial problems, and 3% had been evicted from housing during the past 12 months. An estimated 98% had health insurance or coverage for care or medications (including antiretroviral therapy [ART] medications): 46% had coverage through the Ryan White HIV/AIDS Program, 45% had Medicaid, 28% had Medicare, and 34% had private health insurance (Figure 3). An estimated 43% had a disability, 41% were unemployed, and 42% had household incomes at or below the federal poverty threshold. An estimated 18% received Supplemental Security Income (SSI), and 21% received Social Security Disability Insurance (SSDI).

Figure 3. Health insurance or coverage for care or medications during the 12 months before interview among adults with diagnosed HIV—Medical Monitoring Project, United States, 2019



Note. Healthcare insurance/coverage types not mutually exclusive; people could report >1 type of coverage.

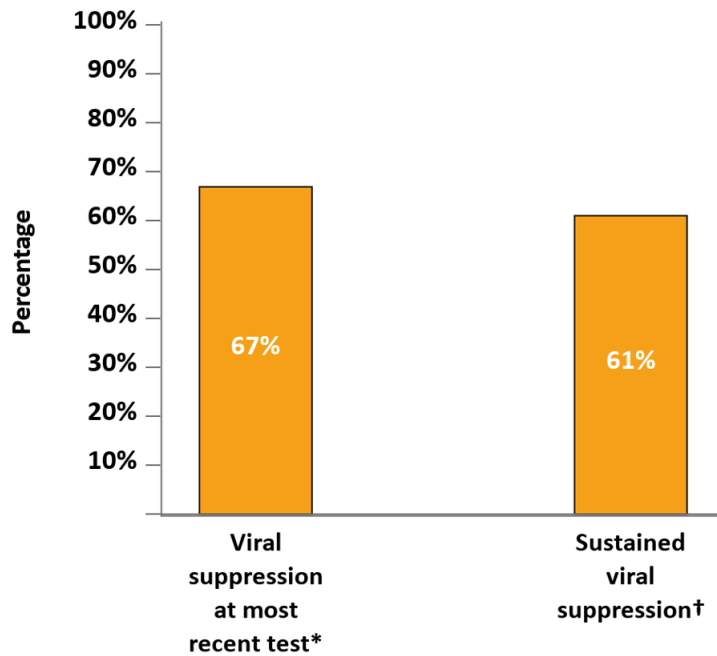
*RWHAP, Ryan White HIV/AIDS Program

Clinical Characteristics

According to the CDC stage of disease classification for HIV infection [10], an estimated 57% of persons ever had stage 3 (AIDS) disease (Table 3). An estimated 8% of persons had a geometric mean CD4 T-lymphocyte (CD4) count of 0–199 cells/ μ L. The estimated average geometric mean CD4 count among all persons was 637 cells/ μ L, and the median geometric mean CD4 count was 602 cells/ μ L (range, 1–2,650) (data not shown in table).

An estimated 67% of persons had an undetectable (<200 copies/mL) viral load at the most recent measurement, while 61% had undetectable viral loads at all measurements during the past 12 months (sustained viral suppression) (Figure 4; Table 3).

Figure 4. Percentage of adults with diagnosed HIV who were virally suppressed during the 12 months before interview—Medical Monitoring Project, United States, 2019



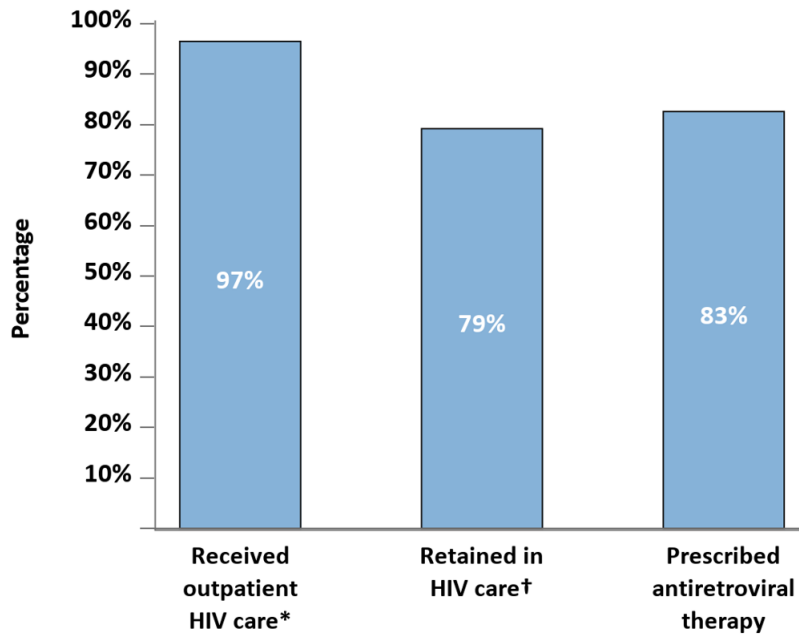
*Viral load <200 copies/mL or undetectable based on most recent test in the past 12 months.

†Sustained viral suppression defined as having all viral load tests in the past 12 months <200 copies/mL or undetectable.

Use of Health Care Services

Overall, 97% had received outpatient HIV care during the past 12 months (Figure 5; Table 4). An estimated 79% were retained in care during the past 12 months, while 61% were retained in care during the past 24 months. An estimated 83% of persons had an ART prescription documented in the medical record during the 12 months before interview. Of persons who met the clinical criteria for *Pneumocystis pneumonia* (PCP) prophylaxis, 33% had a prescription for PCP prophylaxis documented in the medical record.

Figure 5. Receipt of HIV care and antiretroviral therapy prescription during the 12 months before interview among adults with diagnosed HIV—Medical Monitoring Project, United States, 2019

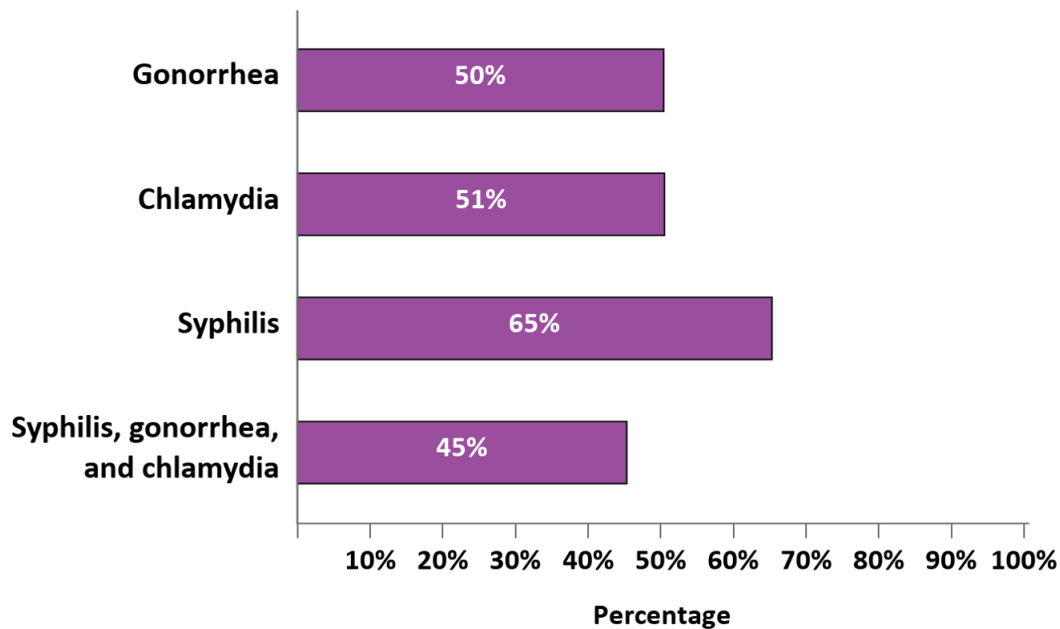


*Outpatient HIV care was defined as any documentation of the following: encounter with an HIV care provider, viral load test result, CD4 test result, HIV resistance test or tropism assay, ART prescription, PCP prophylaxis, or MAC prophylaxis.

†Two elements of outpatient HIV care at least 90 days apart in each 12-month period.

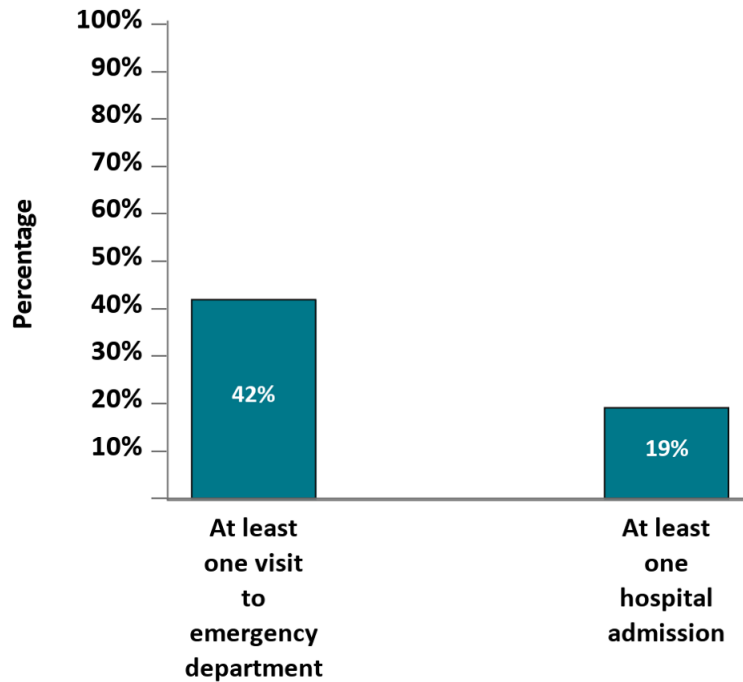
Among sexually active persons, an estimated 50% were tested for gonorrhea, 51% for chlamydia, 65% for syphilis, and 45% for all 3 sexually transmitted diseases (STDs) (Figure 6; Table 5).

Figure 6. Percentage of sexually active adults with diagnosed HIV who tested for gonorrhea, chlamydia, or syphilis during the 12 months before interview—Medical Monitoring Project, United States, 2019



An estimated 42% of persons were seen in an emergency department at least once, and 4% were seen at least 5 times (Figure 7; Table 6). An estimated 19% of persons were admitted to a hospital for an illness at least once.

Figure 7. Percentage of adults with diagnosed HIV who had at least one visit to the emergency room or at least one hospital admission during the 12 months before interview—Medical Monitoring Project, United States, 2019

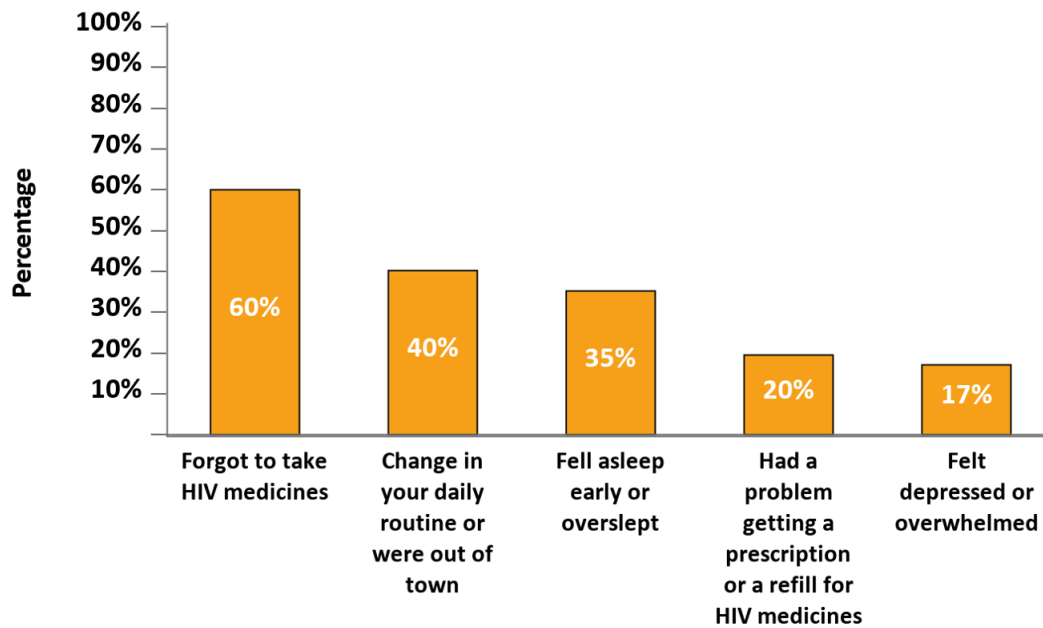


Self-reported ART Medication Use and Adherence

An estimated 98% of persons had ever taken ART and 94% of persons were currently taking ART, based on self-report (Table 7). Among the estimated 4% of persons with a history of ART use but who were not currently taking ART, 51% were not taking ART due to money or insurance problems and 29% were not taking ART because the person’s health care provider never discussed restarting ART with them (Table 7).

Among persons taking ART, 61% took all of their ART doses in the past 30 days (Table 8). Among persons taking ART, 76% had never been troubled by ART side effects during the past 30 days; 14% had rarely been troubled. Among persons who had ever missed a dose, the most common reasons given for not taking one’s most recently missed ART dose were forgetting (60%), a change in one’s daily routine or being out of town (40%), and falling asleep early or oversleeping (35%) (Figure 8).

Figure 8. Reasons for missing last antiretroviral therapy dose among adults with diagnosed HIV who have ever missed a dose—Medical Monitoring Project, United States, 2019*



*Participants may report more than one reason for last missed dose.

Clinical Characteristics by Selected Populations

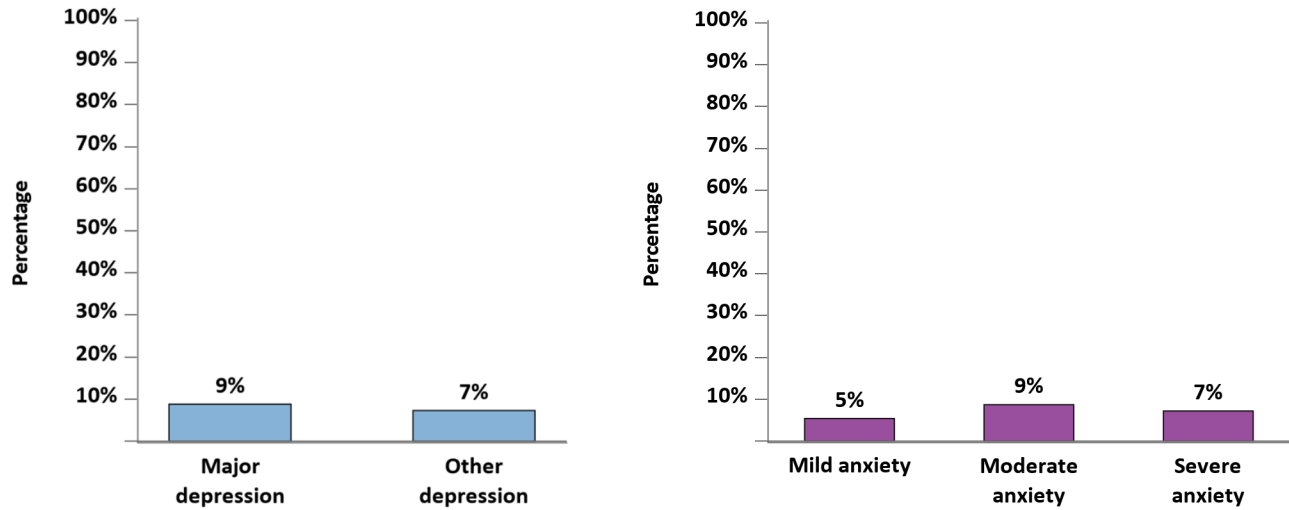
The estimated prevalence of ART prescription documented in a medical record was 83% among males and 83% among females (Table 9). An estimated 80% of Blacks or African Americans were prescribed ART, compared with 86% of Hispanics or Latinos and 85% of Whites. The estimated prevalence of ART prescription was 76% among persons aged 18 to 29 years and 85% among those aged 50 years or older.

The estimated prevalence of sustained viral suppression was 62% among males and 59% among females. An estimated 56% of Blacks or African Americans had sustained viral suppression, compared with 67% of Hispanics or Latinos and 66% of Whites. The estimated prevalence of sustained viral suppression was 49% among persons aged 18 to 29 years and 67% among those aged 50 years or older.

Depression and Substance Use

The estimated prevalence of major or other depression in the past 2 weeks based on the Patient Health Questionnaire (PHQ-8) algorithm [11] was 16%, including 9% with major depression (Figure 9; Table 10). Based on the total PHQ-8 symptom score (see the appendix), an estimated 13% of persons had moderate or severe depression. The estimated prevalence of mild, moderate, or severe anxiety in the past 2 weeks based on the Generalized Anxiety Disorder Scale (GAD-7) [12] was 21%, including 7% with severe anxiety.

Figure 9. Percentage of adults with diagnosed HIV who experienced symptoms of major or other depression* and generalized anxiety disorder† during the two weeks before interview—Medical Monitoring Project, United States, 2019

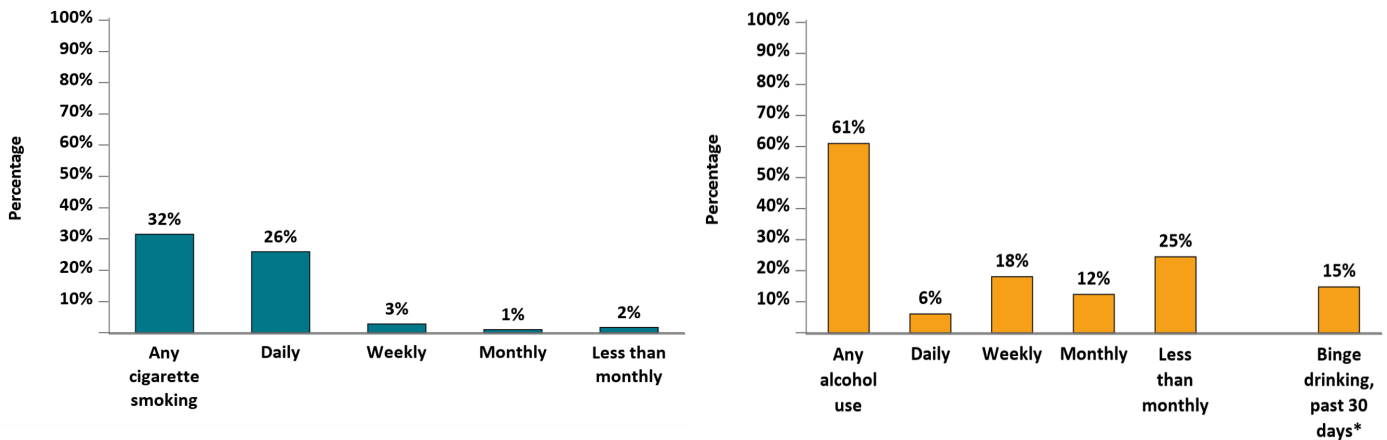


*Responses to the items on the PHQ-8 were used to define “major depression” and “other depression” according to criteria from the DSM-IV. “Major depression” was defined as having at least 5 symptoms of depression; “other depression” was defined as having 2–4 symptoms of depression. The PHQ-8 classification “other depression” comprises the DSM-IV categories of dysthymia and depressive disorder, not otherwise specified, which includes minor or subthreshold depression.

†Responses to the GAD-7 were used to define “mild anxiety,” “moderate anxiety,” and “severe anxiety,” according to criteria from the DSM-IV. “Severe anxiety” was defined as having a score of ≥ 15 ; “moderate anxiety” was defined as having a score of 10–14; and “mild anxiety” was defined as having a score of 5–9.

The estimated prevalence of current smoking was 32%: 26% of persons smoked daily, 3% weekly, 1% monthly, and 2% less than monthly (Figure 10; Table 11). The estimated prevalence of alcohol use was 61%: 6% of persons drank alcohol daily, 18% weekly, 12% monthly, and 25% less than monthly (Figure 10; Table 12). An estimated 15% of persons engaged in binge drinking during the past 30 days.

Figure 10. Percentage of adults with diagnosed HIV who smoked cigarettes and drank alcohol during the 12 months before interview—Medical Monitoring Project, United States, 2019



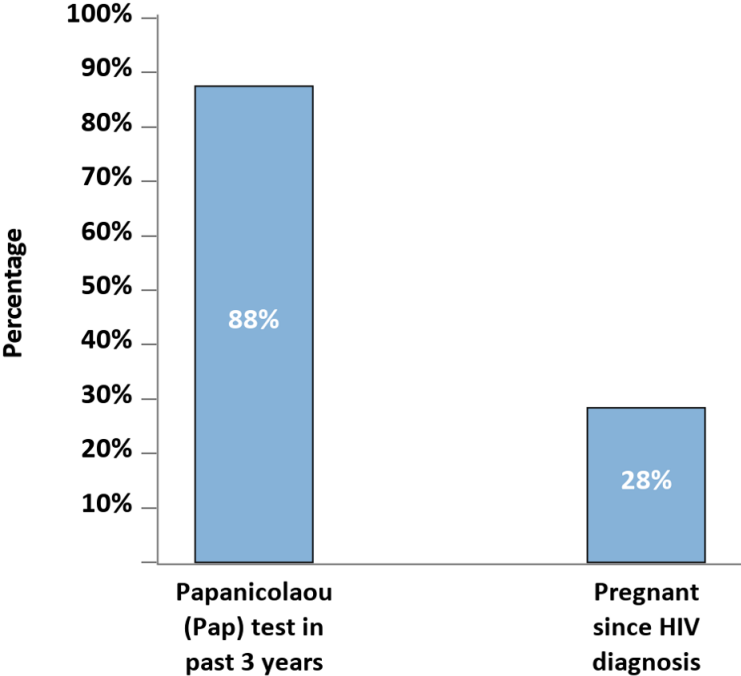
*5 or more alcoholic beverages in one sitting for men or 4 or more alcoholic beverages for women

An estimated 32% of persons used noninjection drugs for nonmedical purposes (Table 13). In total, an estimated 29% used marijuana, 7% used poppers (amyl nitrite), 6% used cocaine, 5% used methamphetamines, 4% used club drugs, 3% used crack, and 3% used prescription opioids. An estimated 3% of persons used injection drugs for nonmedical purposes (Table 14). In total, an estimated 2% injected methamphetamines and 1% injected heroin.

Gynecologic and Reproductive Health

Among females, 88% reported receiving a Papanicolaou (Pap) test in the past 3 years (Figure 11; Table 15). An estimated 28% of females reported being pregnant at least once since receiving an HIV diagnosis.

Figure 11. Percentage of female adults with diagnosed HIV who had a Papanicolaou test during the three years before interview or became pregnant since receiving an HIV diagnosis—Medical Monitoring Project, United States, 2019

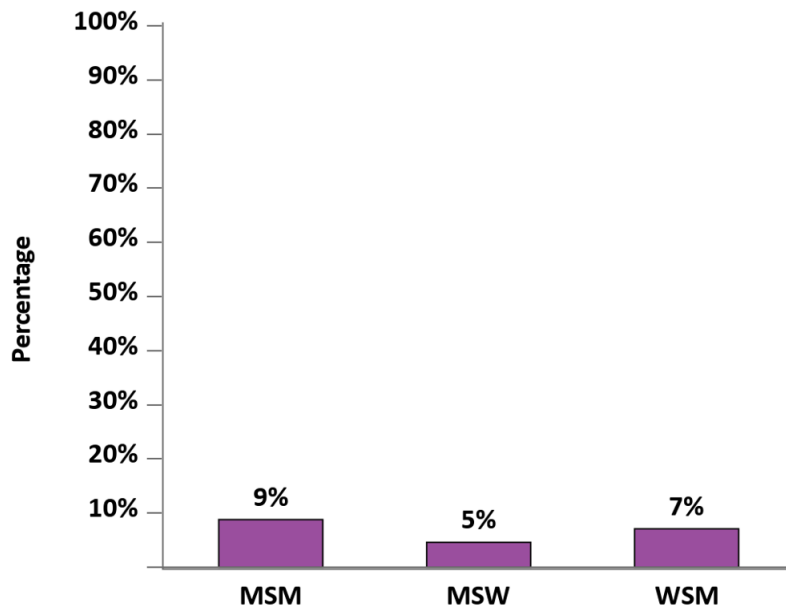


Sexual Behavior

An estimated 35% of men had receptive anal sex with men, 32% had insertive anal sex with men, and 18% had vaginal sex (Table 16). An estimated 39% of men did not have vaginal or anal sex. Among women, an estimated 5% had receptive anal sex, 50% had vaginal sex, and 50% did not have vaginal or anal sex. Among transgender persons, 75% had vaginal or anal sex (Table 17).

Among men who had sex with men, an estimated 9% engaged in high-risk sex, compared with 5% of men who had sex only with women and 7% of women who had sex with men (Figure 12; Table 18).

Figure 12. Percentage of adults with diagnosed HIV who engaged in high-risk sex* during the 12 months before interview by sexual behavior/orientation—Medical Monitoring Project, United States, 2019

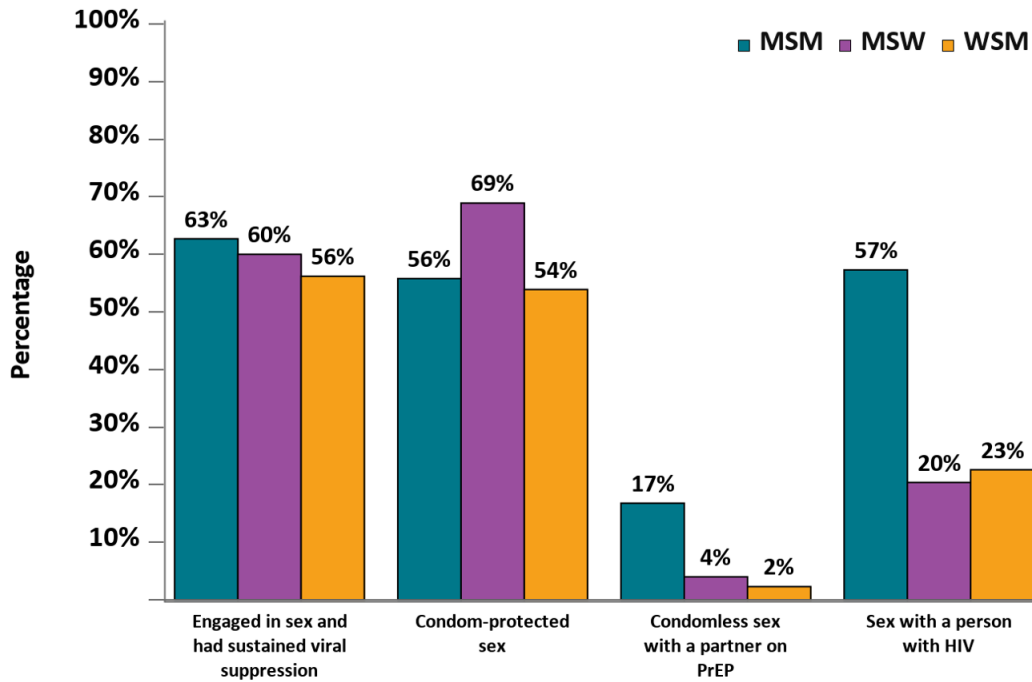


Note. MSM, men who have sex with men; MSW, men who have sex only with women; WSM, women who have sex with men.

*Vaginal or anal sex with at least 1 HIV-negative or unknown status partner while not having sustained viral suppression (all viral load measurements in the past 12 months undetectable or <200 copies/mL), when a condom was not used, and the partner was not known to be taking preexposure prophylaxis (PrEP)

In terms of prevention strategies among sexually active persons, an estimated 63% of men who had sex with men engaged in sex and had sustained viral suppression, 56% had condom-protected sex, 17% had condomless sex with a partner on preexposure prophylaxis (PrEP), and 57% had sex with a person with HIV (Figure 13; Table 18). Among sexually active men who had sex only with women, 60% engaged in sex and had sustained viral suppression, 69% had condom-protected sex, 4% had condomless sex with a partner on PrEP, and 20% had sex with a person with HIV. Among sexually active women who had sex with men, 56% engaged in sex and had sustained viral suppression, 54% had condom-protected sex, 2% had condomless sex with a partner on PrEP, and 23% had sex with a person with HIV.

Figure 13. Prevention strategies used during the past 12 months among sexually active men who have sex with men, men who have sex with only women, and women who have sex with men with diagnosed HIV—Medical Monitoring Project, United States, 2019

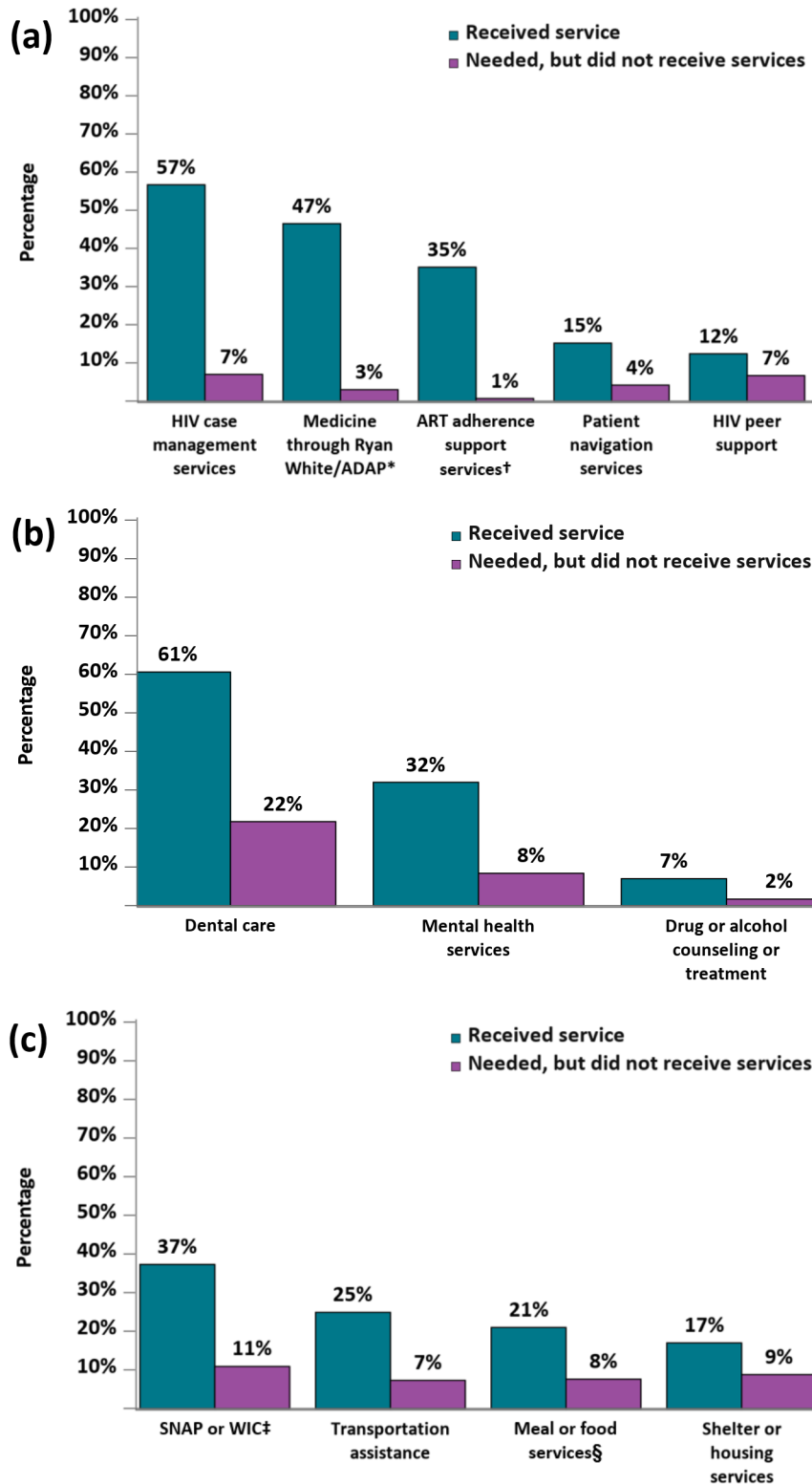


Note. MSM, men who have sex with men; MSW, men who have sex only with women; WSM, women who have sex with men.

Met and Unmet Need for Ancillary Services

Among all HIV support services, the most commonly reported service received in the 12 months before interview was HIV case management (57%); estimated unmet need for HIV case management services was 7% (Figure 14; Table 19). Of all non-HIV medical care services, the most commonly reported service received was dental care (61%); 22% reported an unmet need for dental care. Among all subsistence services, the most commonly reported services received were obtained through the Supplemental Nutrition Assistance Program (SNAP) or Special Supplemental Nutrition Program for Women, Infants, and Children (WIC) (37%); unmet need for SNAP or WIC services was 11%.

Figure 14. Percentage of adults with diagnosed HIV who received and needed ancillary care services related to (a) HIV support, (b) non-HIV medical services, and (c) subsistence during the 12 months before interview—Medical Monitoring Project, United States, 2019



*AIDS Drug Assistance Program

†ART: Antiretroviral therapy

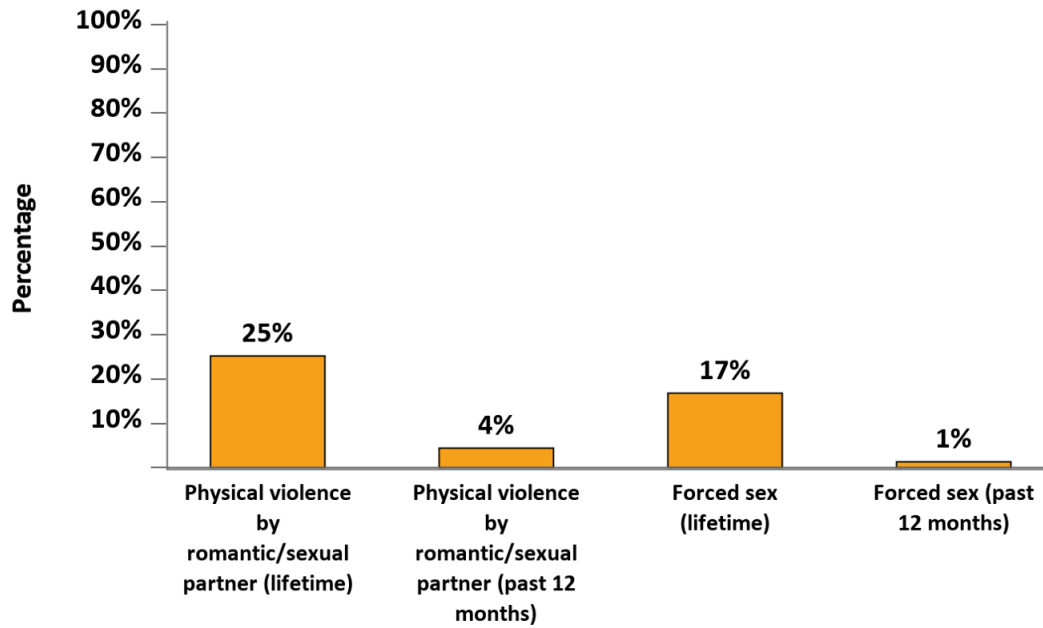
‡SNAP: Supplemental Nutrition Assistance Program; WIC: Special Supplemental Nutrition Program for Women, Infants, and Children

§Includes services such as soup kitchens, food pantries, food banks, church dinners, or food delivery services.

Physical Violence and Forced Sex

An estimated 25% of persons had ever been physically hurt by a romantic or sexual partner, including 4% who experienced this in the past 12 months (Figure 15; Table 20). An estimated 17% of persons had ever been threatened with harm or physically forced to have unwanted sex, including 1% who experienced this in the past 12 months.

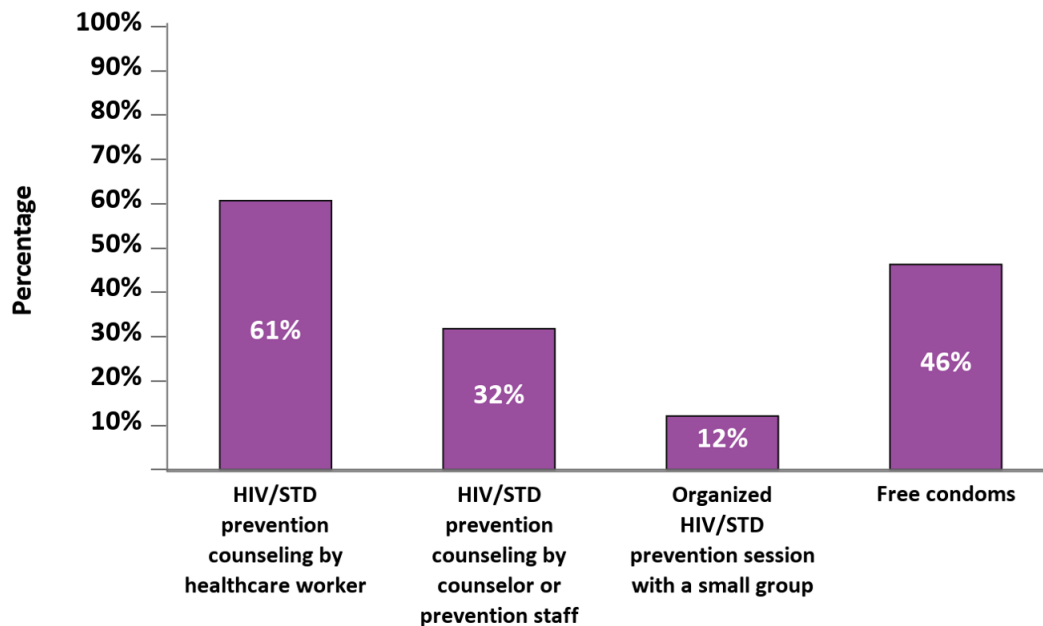
Figure 15. Percentage of adults with diagnosed HIV who experienced physical violence by an intimate partner or forced sex during their lifetime or the 12 months before interview—Medical Monitoring Project, United States, 2019



Prevention Activities

An estimated 61% of persons received counseling from a physician, nurse, or other health care worker about HIV and STD risk reduction; 32% had a one-on-one conversation with an outreach worker, a counselor, or a prevention program worker about prevention; and 12% participated in a small-group session (excluding discussions with friends) to discuss the prevention of HIV and other STDs (Figure 16; Table 21). An estimated 46% of persons received free condoms from various organizations.

Figure 16. Receipt of HIV and sexually transmitted disease prevention services during the 12 months before interview—Medical Monitoring Project, United States, 2019



Centers for Disease Control and Prevention National Indicators

The estimated prevalence of homelessness among persons who received outpatient HIV care in the past 12 months was 9% (Table 22). The median HIV stigma score (see the appendix for more details on how the score was derived and its validity) among all persons was 38. When the personalized stigma dimension was limited to the past 12 months, the median HIV stigma score was 31. An estimated 7% of persons engaged in high-risk sex.

REFERENCES

1. CDC. *HIV Surveillance Report, 2018 (Updated)*; vol. 31. <https://www.cdc.gov/hiv/library/reports/hiv-surveillance.html>. Published May 2020. Accessed June 23, 2021.
2. Nakashima AK, Fleming PL. HIV/AIDS surveillance in the United States, 1981–2001. *J Acquir Immune Defic Syndr* 2003;32(suppl 1):S68–S85.
3. McNaghten AD, Wolfe MI, Onorato I, et al. Improving the representativeness of behavioral and clinical surveillance for persons with HIV in the United States: the rationale for developing a population-based approach. *PLoS One* 2007;2(6):e550.
4. Institute of Medicine. *Measuring What Matters: Allocation, Planning and Quality Assessment for the Ryan White CARE Act*. Washington, DC: National Academies Press; 2004. <https://www.nap.edu/read/10855>. Published November 7, 2003. Accessed June 23, 2021.
5. CDC. *Behavioral and Clinical Characteristics of Persons Receiving Medical Care for HIV Infection—Medical Monitoring Project, United States, 2010*. HIV Surveillance Special Report 9. <https://www.cdc.gov/hiv/library/reports/hiv-surveillance.html>. Published October 2014. Accessed June 23, 2021.
6. Institute of Medicine. *Monitoring HIV Care in the United States: Indicators and Data Systems*. Washington, DC: National Academies Press; 2012. doi:10.17226/13225

7. U.S. Department of Health and Human Services. HIV National Strategic Plan for the United States: A Roadmap to End the Epidemic 2021–2025. <https://www.hiv.gov/federal-response/hiv-national-strategic-plan/hiv-plan-2021-2025>. Published January 15, 2021. Accessed June 23, 2021.
8. Fauci AS, Redfield RR, Sigounas G, Weahkee MD, Giroir BP. Ending the HIV Epidemic: A Plan for the United States [editorial]. *JAMA* 2019;321(9):844–845. doi:10.1001/jama.2019.1343
9. SAS Institute Inc. SAS version 9.4. Cary, NC: SAS Institute; 2011.
10. CDC [Selik RM, Mokotoff ED, Branson B, Owen SM, Whitmore S, Hall HI]. Revised surveillance case definition for HIV infection—United States, 2014. *MMWR* 2014;63(RR-03):1–10. https://www.cdc.gov/mmwr/indrr_2014.html. Accessed June 23, 2021.
11. Kroenke K, Strine TW, Spitzer RL, et al. The PHQ-8 as a measure of current depression in the general population. *J Affect Disord* 2009;114(1–3):163–173. doi:10.1016/j.jad.2008.06.026
12. Spitzer RL, Kroenke K, Williams JB, Löwe B. A brief measure for assessing generalized anxiety disorder: the GAD-7. *Arch Intern Med* 2006;166(10):1092–1097. doi:10.1001/archinte.166.10.1092

Technical Notes

POPULATION OF INFERENCE

For the 2019 Medical Monitoring Project (MMP) data collection cycle (data collected June 1, 2019–May 31, 2020), the population of inference was adults with diagnosed HIV (aged ≥ 18 years) living in the United States.

A total of 23 areas were funded to conduct data collection for the 2019 cycle: California (including the separately funded jurisdictions of Los Angeles County and San Francisco), Delaware, Florida, Georgia, Illinois (including the separately funded jurisdiction of Chicago), Indiana, Michigan, Mississippi, New Jersey, New York (including the separately funded jurisdiction of New York City), North Carolina, Oregon, Pennsylvania (including the separately funded jurisdiction of Philadelphia), Puerto Rico, Texas (including the separately funded jurisdiction of Houston), Virginia, and Washington.

DATA COLLECTION

Persons with diagnosed HIV were sampled for MMP using data from the National HIV Surveillance System (NHSS). Sampled persons were recruited to participate by mail, by telephone, or in person. To be eligible for MMP, the person had to be, as of December 31, 2018: living with diagnosed HIV infection, aged ≥ 18 years, and residing in an MMP project area. The participant eligibility criteria were the same in all participating project areas.

A trained interviewer conducted either a telephone interview or an in-person interview. English and Spanish versions of the questionnaire were used in the 2019 cycle (June 2019–May 2020). Persons who agreed to participate were interviewed over the telephone or in a private location (e.g., at home or in a clinic). The interview (approximately 45 minutes) included questions about demographics, health care use, met and unmet needs for ancillary services, sexual behavior, depression and anxiety, gynecologic and reproductive history (females only), drug and alcohol use, and use of prevention services. Participants were given a token of appreciation of no more than \$50 in cash or the equivalent for participation; tokens differed by project area according to local considerations.

After the interview, MMP staff abstracted clinical data from the medical records of participants at the health care facility identified by the participant as their most frequent source of HIV care. Abstracted information included diagnoses of AIDS-defining conditions, prescription of antiretroviral therapy (ART) medications, laboratory results, and health care use in the 24 months before the interview.

For further technical details, please see the appendix.

Table 1. Participants, by project area—Medical Monitoring Project, United States, 2019

Project area	No. sampled	No. participating	% participating^a	% of total
California (excluding Los Angeles County and San Francisco)	500	218	43.6	5.3
Chicago, IL	400	161	40.3	3.9
Delaware	400	189	47.3	4.6
Florida	800	315	39.4	7.7
Georgia	500	218	43.6	5.3
Houston, TX	400	181	45.3	4.4
Illinois (excluding Chicago)	200	67	33.5	1.6
Indiana	400	171	42.8	4.2
Los Angeles County, CA	400	167	41.8	4.1
Michigan	400	180	45.0	4.4
Mississippi	400	154	38.5	3.8
New Jersey	500	220	44.0	5.4
New York (excluding New York City)	200	82	41.0	2.0
New York City, NY	800	347	43.4	8.5
North Carolina	400	186	46.5	4.5
Oregon	400	180	45.0	4.4
Pennsylvania (excluding Philadelphia)	200	81	40.5	2.0
Philadelphia, PA	400	147	36.8	3.6
Puerto Rico	400	177	44.3	4.3
San Francisco, CA	400	165	41.3	4.0
Texas (excluding Houston)	400	157	39.3	3.8
Virginia	400	152	38.0	3.7
Washington	400	185	46.3	4.5
Total	9,700	4,100	42.3	100

Note. Percentages might not sum to 100 because of rounding.

^a Not adjusted for eligibility.

Table 2. Selected characteristics of persons with diagnosed HIV infection—Medical Monitoring Project, United States, 2019

	No. ^a	% ^b	95% CI ^c
Gender			
Male	2,965	74.7	71.9–77.6
Female	1,042	23.2	20.3–26.1
Transgender ^d	87	2.1	1.5–2.7
Sexual orientation			
Lesbian or gay	1,675	41.9	37.7–46.0
Heterosexual or straight	1,912	45.9	41.6–50.2
Bisexual	359	9.2	7.7–10.7
Other	120	3.0	2.1–3.9
Race/ethnicity			
American Indian/Alaska Native	—	—	—
Asian	38	1.0	0.6–1.4
Black/African American	1,708	41.5	32.5–50.5
Hispanic/Latino ^e	933	22.4	14.5–30.4
Native Hawaiian/other Pacific Islander	—	—	—
White	1,195	29.2	24.3–34.1
Multiple races	191	4.6	3.4–5.8
Age at time of interview (years)			
18–24	85	1.9	1.5–2.4
25–29	258	6.4	5.2–7.5
30–34	323	8.9	7.7–10.0
35–39	323	8.8	7.6–10.1
40–44	342	9.1	8.1–10.1
45–49	455	11.3	10.2–12.3
50–54	658	15.4	14.1–16.6
55–59	714	16.4	15.1–17.7
60–64	490	12.2	10.8–13.7
≥65	452	9.7	8.8–10.6
Education			
Less than high school	688	16.3	15.0–17.6
High school diploma or GED	1,103	26.7	25.0–28.5
More than high school	2,296	57.0	54.7–59.2
Country or territory of birth			
United States or U.S. territory	3,479	84.9	82.9–87.0
Foreign born	609	15.1	13.0–17.1
Time since HIV diagnosis (years)			
<5	556	13.8	12.1–15.4
5–9	726	18.7	16.9–20.5
≥10	2,814	67.5	65.8–69.2
Homeless at any time, past 12 months^f			
Yes	372	9.3	8.1–10.5
No	3,717	90.7	89.5–91.9
Moved in with other people because of financial problems, past 12 months			
Yes	511	13.0	11.7–14.3
No	3,578	87.0	85.7–88.3
Number of times moved, past 12 months			
0	3,004	72.7	70.6–74.7
1	679	17.5	16.1–18.8
≥2	400	9.9	8.6–11.1

Table 2. Selected characteristics of persons with diagnosed HIV infection—Medical Monitoring Project, United States, 2019 (cont)

	No. ^a	% ^b	95% CI ^c
Evicted from housing, past 12 months			
Yes	106	2.8	1.9–3.6
No	3,983	97.2	96.4–98.1
Incarcerated >24 hours, past 12 months			
Yes	148	3.9	3.0–4.8
No	3,938	96.1	95.2–97.0
Health insurance or coverage for care or medications, past 12 months^g			
Yes	4,024	97.9	97.1–98.6
No	47	2.1	1.4–2.9
Type of health insurance or coverage for care or medications, past 12 months			
Ryan White HIV/AIDS Program			
Yes	1,950	46.1	43.4–48.8
No	2,030	53.9	51.2–56.6
Medicaid			
Yes	1,886	45.3	43.1–47.5
No	2,149	54.7	52.5–56.9
Medicare			
Yes	1,176	27.8	26.1–29.6
No	2,813	72.2	70.4–73.9
Private health insurance			
Yes	1,388	34.0	31.2–36.7
No	2,599	66.0	63.3–68.8
Other public insurance			
Yes	—	—	—
No	—	—	—
Tricare/CHAMPUS or Veterans Administration			
Yes	122	4.2	3.3–5.1
No	3,844	95.8	94.9–96.7
Insurance type unknown^h			
Yes	35	0.7	0.3–1.1
No	3,940	99.3	98.9–99.7
Any disabilityⁱ			
Yes	1,797	42.6	40.7–44.4
No	2,288	57.4	55.6–59.3
Received Supplemental Security Income (SSI), past 12 months			
Yes	776	17.8	15.7–19.8
No	3,278	82.2	80.2–84.3
Received Social Security Disability Insurance (SSDI), past 12 months			
Yes	843	20.7	18.4–23.0
No	3,197	79.3	77.0–81.6
Perception of general health			
Poor	226	5.3	4.1–6.6
Fair	1,007	24.0	22.6–25.4
Good	1,428	35.6	34.0–37.2
Very good	865	21.4	19.7–23.1
Excellent	555	13.6	12.2–15.1
Went without food due to lack of money, past 12 months			
Yes	781	19.9	18.0–21.8
No	3,302	80.1	78.2–82.0

Table 2. Selected characteristics of persons with diagnosed HIV infection—Medical Monitoring Project, United States, 2019 (cont)

	No. ^a	% ^b	95% CI ^c
Employment status^j			
Employed	1,941	48.6	46.9–50.3
Unemployed	1,710	41.1	38.9–43.3
Student	42	1.3	0.8–1.7
Retired	385	9.1	7.7–10.4
Combined yearly household income (U.S.)^k			
0–19,999	1,956	51.1	48.3–53.8
20,000–39,999	820	23.1	21.5–24.8
40,000–74,999	534	14.8	13.3–16.2
≥75,000	430	11.0	9.4–12.6
Poverty guidelines^l			
Above poverty threshold	2,145	58.4	55.1–61.6
At or below poverty threshold	1,593	41.6	38.4–44.9
Total	4,100	100	

Abbreviations: CI, confidence interval; GED, general educational development; CHAMPUS, Civilian Health and Medical Program of the Uniformed Services; U.S.\$, U.S. dollar; HHS, Department of Health and Human Services [footnotes only].

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

Excluded are estimates with a coefficient of variation ≥0.30, estimates based on a denominator sample size <30, “don’t know” responses, and skipped (missing) responses.

^a Numbers are unweighted.

^b Percentages are weighted percentages.

^c CIs incorporate weighted percentages.

^d Persons were classified as transgender if sex at birth and gender reported by the person were different, or if the person chose “transgender” in response to the question about self-identified gender.

^e Hispanics or Latinos can be of any race. Persons are classified in only 1 race/ethnicity category.

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

^g Persons could select more than 1 response for health insurance or coverage for care or medications.

^h Unknown insurance type means that the person had insurance or coverage for care or medications, but the type of insurance or coverage could not be determined.

ⁱ Includes physical, mental, and emotional disabilities.

^j Employed includes employed for wages, self-employed, or homemaker.

^k Income from all sources, before taxes, in the last calendar year.

^l Poverty guidelines as defined by HHS; the 2018 guidelines were used for persons interviewed in 2019 and the 2019 guidelines were used for persons interviewed in 2020. More information regarding HHS poverty guidelines can be found at <https://aspe.hhs.gov/frequently-asked-questions-related-poverty-guidelines-and-poverty>.

Table 3. Stage of disease, CD4 counts, and viral suppression during the 12 months before interview among persons with diagnosed HIV—Medical Monitoring Project, United States, 2019

	No. ^a	% ^b	95% CI ^c
HIV infection stage 3 (AIDS)^d			
Yes	2,440	57.3	55.4–59.1
No	1,659	42.7	40.9–44.6
Geometric mean CD4 count (cells/μL)			
0–199	267	8.3	7.3–9.2
200–349	361	10.6	9.2–12.0
350–499	549	17.7	16.3–19.0
≥500	2,095	63.5	61.5–65.4
Lowest CD4 count (cells/μL), past 12 months			
0–49	93	2.9	2.3–3.6
50–199	252	7.6	6.8–8.5
200–349	442	13.3	11.8–14.8
350–499	609	19.1	17.7–20.5
≥500	1,876	57.1	55.2–58.9
Viral suppression			
Most recent viral load documented undetectable or <200 copies/mL	2,984	66.9	61.8–72.0
Most recent viral load documented detectable, ≥200 copies/mL, or missing/unknown	1,116	33.1	28.0–38.2
Sustained viral suppression			
All viral load measurements documented undetectable or <200 copies/mL	2,707	61.0	56.4–65.5
Any viral load ≥200 copies/mL or missing/unknown	1,393	39.0	34.5–43.6
Total	4,100	100	

Abbreviations: CD4, CD4 T-lymphocyte count (cells/μL); CI, confidence interval; CDC, Centers for Disease Control and Prevention [footnotes only].

Source of disease stage information: CDC. Revised surveillance case definition for HIV infection—United States, 2014. *MMWR* 2014;63(RR-03):1–10. https://www.cdc.gov/mmwr/indrr_2014.html. Accessed June 23, 2021.

Note. CD4 counts and viral load measurements are from medical record abstraction.

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

Excluded are estimates with “don’t know” responses and skipped (missing) responses.

^a Numbers are unweighted.

^b Percentages are weighted percentages.

^c CIs incorporate weighted percentages.

^d HIV infection, stage 3 (AIDS): documentation of an AIDS-defining condition or either a CD4 count of <200 cells/μL or a CD4 percentage of total lymphocytes of <14. Documentation of an AIDS-defining condition supersedes a CD4 count or percentage that would not, by itself, be the basis for a stage 3 (AIDS) classification.

Table 4. Receipt of HIV care, ART prescription, PCP prophylaxis, and influenza vaccination among persons with diagnosed HIV—Medical Monitoring Project, United States, 2019

	No. ^a	% ^b	95% CI ^c
Ever received outpatient HIV care^d			
Yes	—	—	—
No	—	—	—
Received outpatient HIV care, past 12 months^d			
Yes	4,032	96.5	95.1–97.8
No	64	3.5	2.2–4.9
Received outpatient HIV care, past 24 months^d			
Yes	—	—	—
No	—	—	—
Retained in care, past 12 months^e			
Yes	3,253	79.2	76.5–81.9
No	589	20.8	18.1–23.5
Retained in care, past 24 months^e			
Yes	2,535	61.1	57.7–64.5
No	1,304	38.9	35.5–42.3
Prescribed ART, past 12 months^f			
Yes	3,542	82.6	80.9–84.3
No	558	17.4	15.7–19.1
Prescribed PCP prophylaxis, past 12 months^g			
Yes	99	33.4	23.2–43.5
No	193	66.6	56.5–76.8
Received influenza vaccination, past 12 months			
Yes	3,140	75.8	73.7–77.9
No	915	24.2	22.1–26.3
Total	4,100	100	

Abbreviations: CI, confidence interval; ART, antiretroviral therapy; PCP, *Pneumocystis pneumonia*; CD4, CD4 T-lymphocyte count (cells/ μ L) [footnotes only].

Note. CD4 counts, viral load measurements, and prophylaxes are from medical record abstraction. Influenza vaccination was obtained through interview. Measurement period is the 12 months before interview unless otherwise noted.

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

Excluded are estimates with a coefficient of variation ≥ 0.30 , estimates based on a denominator sample size < 30 , “don’t know” responses, and skipped (missing) responses.

^a Numbers are unweighted.

^b Percentages are weighted percentages.

^c CIs incorporate weighted percentages.

^d Outpatient HIV care was defined as any documentation of the following: encounter with an HIV care provider, viral load test result, CD4 test result, HIV resistance test or tropism assay, ART prescription, PCP prophylaxis, or MAC prophylaxis.

^e Two elements of outpatient HIV care at least 90 days apart in each 12-month period.

^f ART prescription documented in medical record; persons with no medical record abstraction were considered to have no documentation of ART prescription.

^g Among persons with CD4 cell count < 200 cells/ μ L.

Table 5. Sexually transmitted disease testing during the 12 months before interview among persons with diagnosed HIV—Medical Monitoring Project, United States, 2019

	Total population			Sexually active ^a persons only		
	No. ^b	% ^c	95% CI ^d	No. ^b	% ^c	95% CI ^d
Gonorrhea^e						
Yes, received test	1,749	45.1	40.5–49.7	1,115	50.4	45.7–55.1
No test documented	1,994	54.9	50.3–59.5	1,002	49.6	44.9–54.3
Chlamydia^f						
Yes, received test	1,749	45.1	40.3–49.8	1,119	50.5	45.6–55.4
No test documented	1,994	54.9	50.2–59.7	998	49.5	44.6–54.4
Syphilis^g						
Yes, received test	2,408	61.6	58.0–65.1	1,458	65.3	61.8–68.8
No test documented	1,335	38.4	34.9–42.0	659	34.7	31.2–38.2
Gonorrhea, chlamydia, and syphilis						
Yes, received all 3 tests	1,560	40.2	36.0–44.4	1,005	45.3	40.8–49.7
Fewer than 3 tests documented	2,183	59.8	55.6–64.0	1,112	54.7	50.3–59.2
Total	4,100	100		2,307	100	

Abbreviations: CI, confidence interval; DFA, direct fluorescent antibody [footnotes only]; EIA, enzyme immunoassay [footnotes only]; ELISA, enzyme-linked immunoassay [footnotes only]; FTA-ABS, fluorescent treponemal antibody absorbed [footnotes only]; MHA-TP, microhemagglutination assay for antibody to *Treponema pallidum* [footnotes only]; NAAT, nucleic acid amplification test [footnotes only]; RPR, rapid plasma reagin [footnotes only]; TP-PA, *T. pallidum* particle agglutination [footnotes only]; TPHA, *T. pallidum* hemagglutination assay [footnotes only]; VDRL, Venereal Disease Research Laboratory [footnotes only].

Note. Information on laboratory testing for sexually transmitted diseases was based on medical record abstraction.

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

Excluded are estimates with “don’t know” responses and skipped (missing) responses.

^a Sexual activity was reported in the interview component of the Medical Monitoring Project and was defined as anal or vaginal intercourse.

^b Numbers are unweighted.

^c Percentages are weighted percentages.

^d CIs incorporate weighted percentages.

^e Testing for *Neisseria gonorrhoeae* was defined as documentation of a result from culture, gram stain, EIA, NAAT, or nucleic acid probe performed on a specimen from any anatomical site for screening or diagnostic purposes.

^f *Chlamydia trachomatis* testing was defined as a result from culture, DFA, EIA or ELISA, NAAT, or nucleic acid probe performed on a specimen from any anatomical site for screening or diagnostic purposes.

^g Syphilis testing was defined as a result from nontreponemal syphilis tests (RPR or VDRL), treponemal syphilis tests (TPHA, TP-PA, MHA-TP, or FTA-ABS tests), or dark-field microscopy performed for screening or diagnostic purposes.

Table 6. Emergency department visits and hospital admissions during the 12 months before interview among persons with diagnosed HIV—Medical Monitoring Project, United States, 2019

	No. ^a	% ^b	95% CI ^c
Number of visits to emergency department			
0	2,360	58.1	55.5–60.7
1	763	18.2	17.1–19.3
2–4	772	19.3	17.4–21.3
≥5	183	4.4	3.6–5.2
Number of hospital admissions			
0	3,271	80.9	79.5–82.2
1	456	11.0	10.0–12.0
2–4	298	7.1	6.2–7.9
≥5	49	1.1	0.7–1.5
Total	4,100	100	

Abbreviation: CI, confidence interval.

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

Excluded are estimates with “don’t know” responses and skipped (missing) responses.

^a Numbers are unweighted.

^b Percentages are weighted percentages.

^c CIs incorporate weighted percentages.

**Table 7. Antiretroviral therapy (ART) use and reasons for not taking ART among persons with diagnosed HIV—
Medical Monitoring Project, United States, 2019**

	No. ^a	% ^b	95% CI ^c
Ever taken ART			
Yes	4,026	98.2	97.5–98.9
No	48	1.8	1.1–2.5
Currently taking ART			
Yes	3,930	94.4	93.1–95.8
No	144	5.6	4.2–6.9
Reasons for never taking ART^d			
Health care provider never discussed taking ART with person			
Yes	—	—	—
No	—	—	—
Health care provider said person should not start taking ART			
Yes	—	—	—
No	—	—	—
Money or insurance problems			
Yes	—	—	—
No	—	—	—
Person did not believe they needed ART			
Yes	19	57.5*	36.4–78.5
No	13	42.5*	21.5–63.6
Person thinks ART would make them feel sick or harm them			
Yes	—	—	—
No	—	—	—
Person decided not to take ART for some other reason			
Yes	12	34.5*	14.3–54.7
No	20	65.5*	45.3–85.7
Reasons for not currently taking ART, among those persons with a history of ART use^d			
Health care provider never discussed restarting ART with person			
Yes	23	29.4	17.8–41.1
No	73	70.6	58.9–82.2
Health care provider said person should not take ART			
Yes	—	—	—
No	—	—	—
Money or insurance problems			
Yes	42	50.5	39.4–61.6
No	54	49.5	38.4–60.6
Person did not believe they needed ART			
Yes	—	—	—
No	—	—	—
Person thinks ART would make them feel sick or harm them			
Yes	23	30.1*	15.0–45.1
No	73	69.9*	54.9–85.0
Person decided not to take ART for some other reason			
Yes	43	43.7	29.5–57.9
No	53	56.3	42.1–70.5
Total	4,100	100	

Abbreviation: CI, confidence interval.

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

Excluded are estimates with a coefficient of variation ≥ 0.30 , estimates based on a denominator sample size < 30 , “don’t know” responses, and skipped (missing) responses. Estimates with an absolute CI width ≥ 0.30 , estimates with an absolute CI width between 5 and 30 and a relative CI width $> 130\%$, and estimates of 0% or 100% are marked with an asterisk (*) and should be interpreted with caution.

^a Numbers are unweighted.

^b Percentages are weighted percentages.

^c CIs incorporate weighted percentages.

^d Persons could select more than 1 response for reasons not taking ART.

Table 8. Antiretroviral therapy (ART) adherence and reasons for missing ART doses among persons with diagnosed HIV taking ART—Medical Monitoring Project, United States, 2019

	No. ^a	% ^b	95% CI ^c
ART adherence in the past 30 days			
How many days did you miss at least 1 dose of any of your HIV medicines?			
0	2,385	61.1	58.5–63.8
1–2	992	25.0	23.3–26.8
3–5	340	8.6	7.4–9.8
6–10	120	3.2	2.6–3.9
11+	74	2.0	1.5–2.5
How well did you do at taking your HIV medicines in the way you were supposed to?			
Very poor	38	0.9	0.6–1.2
Poor	52	1.3	0.9–1.8
Fair	194	5.3	4.5–6.0
Good	444	11.4	10.1–12.7
Very good	1,043	26.4	24.2–28.6
Excellent	2,157	54.7	52.5–56.9
How often did you take your HIV medicines in the way you were supposed to?			
Never	24	0.6	0.3–0.8
Rarely	34	0.9	0.5–1.2
Sometimes	91	2.5	2.0–3.1
Usually	179	4.7	4.1–5.4
Almost always	876	22.6	20.8–24.4
Always	2,722	68.7	66.6–70.9
How often were you troubled by ART side effects?			
Never	2,961	75.9	72.8–79.0
Rarely	514	13.6	11.8–15.5
About half the time	183	4.9	3.9–6.0
Most of the time	114	2.7	2.1–3.3
Always	124	2.9	2.3–3.5
Reasons for last missed ART dose among persons who ever missed a dose^d			
Had a problem paying for HIV medicines			
Yes	146	5.1	4.1–6.1
No	2,762	94.9	93.9–95.9
Had a problem getting a prescription or a refill for HIV medicines			
Yes	530	19.5	16.1–22.9
No	2,378	80.5	77.1–83.9
In the hospital or too sick to take HIV medicines			
Yes	252	8.3	7.4–9.1
No	2,656	91.7	90.9–92.6
Fell asleep early or overslept			
Yes	1,038	35.2	33.2–37.3
No	1,868	64.8	62.7–66.8
Change in your daily routine or were out of town			
Yes	1,190	40.2	37.7–42.8
No	1,717	59.8	57.2–62.3
Had side effects from your HIV medicines			
Yes	300	9.9	8.7–11.2
No	2,602	90.1	88.8–91.3
Felt depressed or overwhelmed			
Yes	509	17.1	15.7–18.5
No	2,397	82.9	81.5–84.3
Was drinking or using drugs			
Yes	310	9.7	8.6–10.8
No	2,597	90.3	89.2–91.4
Forgot to take HIV medicines			
Yes	1,768	60.0	57.5–62.5
No	1,137	40.0	37.5–42.5
Did not feel like taking HIV medicines			
Yes	366	11.9	10.4–13.4
No	2,538	88.1	86.6–89.6
Total	3,930	100	

Abbreviation: CI, confidence interval.

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

Excluded are estimates with “don’t know” responses and skipped (missing) responses.

^a Numbers are unweighted.

^b Percentages are weighted percentages.

^c CIs incorporate weighted percentages.

^d Persons could report more than 1 reason for missed last dose.

Table 9. Antiretroviral therapy (ART) prescription, ART dose adherence, sustained viral suppression, and geometric mean CD4 count among persons with diagnosed HIV, by selected characteristics—Medical Monitoring Project, United States, 2019

	Prescription of ART ^a			ART dose adherence ^b			Sustained viral suppression ^c			Geometric mean CD4 count ≥ 200 ^d		
	No. ^e	Row % ^f	95% CI ^g	No. ^e	Row % ^f	95% CI ^g	No. ^e	Row % ^f	95% CI ^g	No. ^e	Row % ^f	95% CI ^g
Gender												
Male	2,567	82.6	80.6–84.6	1,728	61.1	58.3–63.8	1,994	62.0	56.6–67.4	2,204	92.3	91.1–93.4
Female	903	83.2	80.3–86.1	615	61.9	57.8–66.0	661	59.2	55.8–62.5	744	90.2	88.0–92.3
Transgender ^h	68	76.0	64.5–87.5	39	52.6	41.3–63.8	50	49.8	39.5–60.2	55	93.1	86.8–99.4
Sexual orientation												
Lesbian or gay	1,466	83.6	80.9–86.3	963	60.0	56.5–63.5	1,170	63.7	56.8–70.5	1,274	94.5	93.2–95.8
Heterosexual or straight	1,635	81.5	79.5–83.5	1,163	63.9	61.2–66.6	1,216	58.8	55.2–62.4	1,358	88.9	87.3–90.5
Bisexual	307	81.7	76.4–86.9	189	57.9	48.2–67.7	226	59.3	52.1–66.5	259	93.6	91.0–96.1
Other	105	86.6	77.6–95.6	53	42.7	32.6–52.8	71	57.8	49.3–66.3	88	90.5	84.1–96.8
Race/ethnicity												
American Indian/Alaska Native	—	—	—	—	—	—	—	—	—	—	—	—
Asian	33	84.6	71.4–97.7	25	69.8*	54.5–85.1	29	69.7*	50.6–88.9	30	100*	—
Black/African American	1,444	80.2	77.5–82.9	964	60.5	56.6–64.5	1,043	55.9	51.4–60.4	1,213	90.0	88.4–91.6
Hispanic/Latino ⁱ	827	86.2	83.2–89.2	524	57.2	52.7–61.7	654	66.8	61.4–72.3	716	91.3	89.1–93.5
Native Hawaiian/other Pacific Islander	—	—	—	—	—	—	—	—	—	—	—	—
White	1,050	84.5	81.7–87.3	765	66.8	61.7–71.8	854	65.6	58.4–72.9	891	95.1	93.8–96.4
Multiple races	159	77.9	69.5–86.3	93	50.4	40.5–60.3	108	51.0	39.9–62.1	134	87.6	81.8–93.5
Age at time of interview (years)												
18–29	278	76.4	70.0–82.8	132	44.2	36.2–52.2	186	49.3	41.4–57.2	250	92.2	88.6–95.8
30–39	560	79.9	76.1–83.6	314	51.3	45.2–57.3	380	52.8	46.8–58.9	473	91.6	88.9–94.3
40–49	683	81.9	78.8–84.9	466	61.8	56.6–66.9	487	56.2	50.6–61.7	557	89.2	87.1–91.2
≥ 50	2,021	84.7	82.7–86.8	1,473	66.4	63.7–69.2	1,654	67.2	62.3–72.2	1,725	92.7	91.2–94.1
Total	3,542	82.6	80.9–84.3	2,385	61.1	58.5–63.8	2,707	61.0	56.4–65.5	3,005	91.7	90.8–92.7

Abbreviations: CD4, CD4 T-lymphocyte count (cells/ μ L); CI, confidence interval.

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

Excluded are estimates with a coefficient of variation ≥ 0.30 , estimates based on a denominator sample size < 30 , “don’t know” responses, and skipped (missing) responses. Estimates with an absolute CI width ≥ 0.30 , estimates with an absolute CI width between 5 and 30 and a relative CI width $> 130\%$, and estimates of 0% or 100% are marked with an asterisk (*) and should be interpreted with caution.

^a Prescription of ART was based on documentation in the medical record in the 12 months before interview.

^b In past 30 days, 100% adherence to ART doses.

^c All viral load measurements in the 12 months before interview documented undetectable or < 200 copies/mL.

^d Geometric mean CD4 count was abstracted from medical records and based on the 12 months before interview.

^e Numbers are unweighted.

^f Percentages are weighted percentages.

^g CIs incorporate weighted percentages.

^h Persons were classified as transgender if sex at birth and gender reported by the person were different, or if the person chose “transgender” in response to the question about self-identified gender.

ⁱ Hispanics or Latinos might be of any race. Persons are classified in only 1 race/ethnicity category.

Table 10. Depression and anxiety during the 2 weeks before interview among persons with diagnosed HIV—Medical Monitoring Project, United States, 2019

	No. ^a	% ^b	95% CI ^c
Depression based on DSM-IV criteria^d			
No depression	3,377	83.9	82.0–85.8
Other depression	296	7.3	6.3–8.3
Major depression	361	8.8	7.4–10.1
Moderate or severe depression (PHQ-8 score ≥ 10)			
Yes	547	13.3	11.4–15.2
No	3,491	86.7	84.8–88.6
Anxiety^e			
No anxiety	3,201	78.7	75.9–81.4
Mild anxiety	222	5.4	4.6–6.1
Moderate anxiety	331	8.7	7.1–10.3
Severe anxiety	296	7.2	5.7–8.8
Total	4,100	100	

Abbreviations: CI, confidence interval; DSM-IV, *Diagnostic and Statistical Manual of Mental Disorders*, 4th edition; GAD-7, Generalized Anxiety Disorder 7-item Scale [footnotes only]; PHQ-8, Patient Health Questionnaire.

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

Excluded are estimates with “don’t know” responses and skipped (missing) responses.

^a Numbers are unweighted.

^b Percentages are weighted percentages.

^c CIs incorporate weighted percentages.

^d Responses to the items on the PHQ-8 were used to define “major depression” and “other depression” according to criteria from the DSM-IV. “Major depression” was defined as having at least 5 symptoms of depression; “other depression” was defined as having 2–4 symptoms of depression.

^e Responses to the GAD-7 were used to define “mild anxiety,” “moderate anxiety,” and “severe anxiety” according to criteria from the DSM-IV. “Severe anxiety” was defined as having a score of ≥ 15; “moderate anxiety” was defined as having a score of 10–14; and “mild anxiety” was defined as having a score of 5–9.

Table 11. Tobacco and electronic cigarette use among persons with diagnosed HIV—Medical Monitoring Project, United States, 2019

	No. ^a	% ^b	95% CI ^c
Smoked ≥ 100 cigarettes (lifetime)			
Yes	2,152	52.6	49.3–56.0
No	1,910	47.4	44.0–50.7
Cigarette smoking status			
Never smoked	1,910	47.4	44.0–50.7
Former smoker	889	21.2	19.0–23.3
Current smoker	1,261	31.5	29.0–33.9
Frequency of current cigarette smoking			
Never	2,799	68.5	66.1–71.0
Daily	1,029	25.9	23.8–28.0
Weekly	122	2.8	2.3–3.3
Monthly	38	1.0	0.6–1.5
Less than monthly	72	1.7	1.3–2.1
Smoked ≥ 50 cigars, cigarillos, or little filtered cigars (lifetime)			
Yes	553	14.3	12.6–16.0
No	3,515	85.7	84.0–87.4
Cigars, cigarillos, or little filtered cigars smoking status			
Never smoked	3,515	85.7	84.0–87.4
Former smoker	275	6.9	6.0–7.7
Current smoker	278	7.5	6.0–8.9
Frequency of current cigars, cigarillos, or little filtered cigars smoking			
Never	3,790	92.5	91.1–94.0
Daily	77	2.1	1.4–2.9
Some days	72	1.9	1.4–2.5
Rarely	129	3.4	2.7–4.1
Electronic cigarette smoking status			
Never used electronic cigarettes	3,042	73.5	69.7–77.3
Used electronic cigarettes, but not in the past 30 days	817	21.0	17.7–24.3
Used electronic cigarettes in the past 30 days	210	5.5	4.6–6.5
Total	4,100	100	

Abbreviation: CI, confidence interval.

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

Excluded are estimates with “don’t know” responses and skipped (missing) responses.

^a Numbers are unweighted.

^b Percentages are weighted percentages.

^c CIs incorporate weighted percentages.

**Table 12. Alcohol use during the 12 months before interview among persons with diagnosed HIV—
Medical Monitoring Project, United States, 2019**

	No. ^a	% ^b	95% CI ^c
Any alcohol use^d			
Yes	2,481	61.0	58.2–63.9
No	1,588	39.0	36.1–41.8
Frequency of alcohol use			
Daily	248	6.1	5.2–6.9
Weekly	747	18.1	16.5–19.6
Monthly	506	12.4	11.4–13.5
Less than monthly	980	24.5	23.1–25.8
Never	1,588	39.0	36.1–41.8
Binge drinking, past 30 days^e			
Yes	601	14.8	12.7–16.9
No	3,449	85.2	83.1–87.3
Total	4,100	100	

Abbreviation: CI, confidence interval.

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

Excluded are estimates with “don’t know” responses and skipped (missing) responses.

^a Numbers are unweighted.

^b Percentages are weighted percentages.

^c CIs incorporate weighted percentages.

^d Persons who drank at least 1 alcoholic beverage during the 12 months before interview. Alcoholic beverage was defined as a 12-ounce beer, 5-ounce glass of wine, or 1.5-ounce shot of liquor.

^e Persons who drank ≥ 5 alcoholic beverages in a single sitting (≥ 4 for women) during the 30 days before interview.

Table 13. Noninjection drug use during the 12 months before interview among persons with diagnosed HIV—Medical Monitoring Project, United States, 2019

	No. ^a	% ^b	95% CI ^c
Use of any noninjection drugs^d			
Yes	1,310	31.9	29.3–34.4
No	2,744	68.1	65.6–70.7
Noninjection drugs used^d			
Marijuana			
Yes	1,170	28.5	26.0–30.9
No	2,884	71.5	69.1–74.0
Crack			
Yes	121	3.1	2.3–3.9
No	3,933	96.9	96.1–97.7
Cocaine that is smoked or snorted			
Yes	237	6.0	5.0–7.0
No	3,817	94.0	93.0–95.0
Methamphetamine (e.g., crystal meth, tina, crank, ice)			
Yes	218	5.4	4.1–6.6
No	3,833	94.6	93.4–95.9
Amphetamine (e.g., speed, bennies, uppers)			
Yes	66	1.5	1.0–1.9
No	3,985	98.5	98.1–99.0
Club drugs (e.g., Ecstasy or X, ketamine or Special K, GHB or Liquid Ecstasy)			
Yes	159	3.7	2.8–4.5
No	3,895	96.3	95.5–97.2
Amyl nitrite (poppers)			
Yes	293	6.9	5.5–8.4
No	3,761	93.1	91.6–94.5
Prescription opioids (e.g., oxycodone, hydrocodone, Vicodin, Percocet)^e			
Yes	102	2.7	2.0–3.4
No	3,952	97.3	96.6–98.0
Prescription tranquilizers (e.g., Valium, Ativan, Xanax, downers, nerve pills)^e			
Yes	75	1.8	1.3–2.3
No	3,978	98.2	97.7–98.7
Total	4,100	100	

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

Abbreviations: CI, confidence interval; GHB, gamma hydroxybutyrate.

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

Excluded are estimates with "don't know" responses and skipped (missing) responses.

Persons could report taking more than 1 noninjection drug.

^a Numbers are unweighted.

^b Percentages are weighted percentages.

^c CIs incorporate weighted percentages.

^d Includes all drugs that were not injected (i.e., administered by any route other than injection), including legal drugs that were not used for medical purposes.

^e Not prescribed, or prescribed but taken more than directed.

Table 14. Injection drug use during the 12 months before interview among persons with diagnosed HIV—Medical Monitoring Project, United States, 2019

	No. ^a	% ^b	95% CI ^c
Use of any injection drugs			
Yes	109	2.7	1.9–3.4
No	3,949	97.3	96.6–98.1
Injection drugs used			
Cocaine			
Yes	—	—	—
No	—	—	—
Heroin			
Yes	28	0.5	0.2–0.7
No	4,029	99.5	99.3–99.8
Heroin and cocaine (speedball)			
Yes	—	—	—
No	—	—	—
Methamphetamine (e.g., crystal meth, tina, crank, ice)			
Yes	84	2.3	1.5–3.0
No	3,972	97.7	97.0–98.5
Amphetamine (e.g., speed, bennies, uppers)			
Yes	—	—	—
No	—	—	—
Prescription opioids (e.g., OxyContin, oxycodone, hydrocodone)			
Yes	—	—	—
No	—	—	—
Total	4,100	100	

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: CI, confidence interval.

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

Excluded are estimates with a coefficient of variation ≥ 0.30 , estimates based on a denominator sample size < 30 , “don’t know” responses, and skipped (missing) responses.

Persons could report taking more than 1 injection drug.

^a Numbers are unweighted.

^b Percentages are weighted percentages.

^c CIs incorporate weighted percentages.

**Table 15. Gynecological care and reproductive health among women with diagnosed HIV—
Medical Monitoring Project, United States, 2019**

	No. ^a	% ^b	95% CI ^c
Papanicolaou (Pap) test, past 3 years^d			
Yes	903	87.5	84.2–90.9
No	128	12.5	9.1–15.8
Pregnant since HIV diagnosis			
Yes	283	28.4	23.0–33.8
No	747	71.6	66.2–77.0
Total	1,042	100	

Abbreviation: CI, confidence interval.

Note. Measures are self-reported. Numbers might not add to total because of missing data. Percentages might not sum to 100 because of rounding.

Excluded are estimates with “don’t know” responses and skipped (missing) responses.

^a Numbers are unweighted.

^b Percentages are weighted percentages.

^c CIs incorporate weighted percentages.

^d Or since HIV diagnosis for women with a diagnosis within the past 3 years.

Table 16. Sexual behavior during the 12 months before interview among cisgender men and women with diagnosed HIV—Medical Monitoring Project, United States, 2019

Behavior	Men			Women		
	No. ^a	% ^b	95% CI ^c	No. ^a	% ^b	95% CI ^c
Engaged in anal sex with men						
Receptive						
Yes	997	34.7	31.6–37.8	51	4.8	3.2–6.4
No	1,872	65.3	62.2–68.4	972	95.2	93.6–96.8
Insertive						
Yes	923	32.3	30.2–34.4	NA	NA	NA
No	1,945	67.7	65.6–69.8	NA	NA	NA
Engaged in anal sex with women						
Yes	59	2.0	1.5–2.4	NA	NA	NA
No	2,892	98.0	97.6–98.5	NA	NA	NA
Engaged in vaginal sex						
Yes	516	18.2	15.5–20.9	512	50.0	45.6–54.4
No	2,378	81.8	79.1–84.5	514	50.0	45.6–54.4
Engaged in vaginal or anal sex						
Yes	1,733	60.6	58.3–63.0	514	50.2	45.7–54.6
No	1,150	39.4	37.0–41.7	512	49.8	45.4–54.3
Number of vaginal or anal sex partners among						
MSM^d						
Mean	7			NA		
Median	2			NA		
Range	1–300			NA		
MSW^e						
Mean	2			NA		
Median	1			NA		
Range	1–90			NA		
WSM^f						
Mean	NA			1		
Median	NA			1		
Range	NA			1–70		
Total	2,965	100		1,042	100	

Abbreviations: CI, confidence interval; NA, not applicable; MSM, men who had sex with men; MSW, men who had sex only with women; WSM, women who had sex with men.

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

Excluded are estimates with “don’t know” responses and skipped (missing) responses.

^a Numbers are unweighted.

^b Percentages are weighted percentages.

^c CIs incorporate weighted percentages.

^d Among men who had anal sex with men in the 12 months before interview.

^e Among men who had vaginal or anal sex only with women in the 12 months before interview.

^f Among women who had vaginal or anal sex with men in the 12 months before interview.

Table 17. Sexual behavior during the 12 months before interview among transgender persons with diagnosed HIV—Medical Monitoring Project, United States, 2019

Behavior	Transgender ^{a,b}			Transgender women ^a			Transgender men ^b		
	No. ^c	% ^d	95% CI ^e	No. ^c	% ^d	95% CI ^e	No. ^c	% ^d	95% CI ^e
Engaged in vaginal or anal sex									
Yes	56	74.7	62.1–87.3	51	77.4	64.8–90.1	—	—	—
No	27	25.3	12.7–37.9	22	22.6	9.9–35.2	—	—	—
Engaged in vaginal or anal sex with men									
Yes	52	70.4	58.2–82.6	50	77.0	64.2–89.7	—	—	—
No	31	29.6	17.4–41.8	23	23.0	10.3–35.8	—	—	—
Engaged in vaginal or anal sex with women									
Yes	—	—	—	—	—	—	—	—	—
No	—	—	—	—	—	—	—	—	—
Engaged in vaginal or anal sex with transgender partners									
Yes	—	—	—	—	—	—	—	—	—
No	—	—	—	—	—	—	—	—	—
Reported any high-risk sex^f									
Yes	—	—	—	—	—	—	—	—	—
No	—	—	—	—	—	—	—	—	—
Number of vaginal or anal sex partners^g									
Mean	5			5			7		
Median	2			2			1		
Range	1–100			1–100			1–30		
Total	87	100		77	100		8	100	

Abbreviations: CI, confidence interval; PrEP, preexposure prophylaxis [footnotes only].

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

Excluded are estimates with a coefficient of variation ≥ 0.30 , estimates based on a denominator sample size < 30 , “don’t know” responses, and skipped (missing) responses.

^a Persons were classified as transgender if sex at birth and gender reported by the person were different, or if the person chose “transgender” in response to the question about self-identified gender. When reported sex at birth and gender were different, persons who reported that their sex assigned at birth was male, but identified as female or transgender, were classified as transgender women.

^b Persons were classified as transgender if sex at birth and gender reported by the person were different, or if the person chose “transgender” in response to the question about self-identified gender. When reported sex at birth and gender were different, persons who reported that their sex assigned at birth was female, but identified as male or transgender, were classified as transgender men.

^c Numbers are unweighted.

^d Percentages are weighted percentages.

^e CIs incorporate weighted percentages.

^f Vaginal or anal sex with at least 1 partner with an HIV-negative or unknown status while not having sustained viral suppression (defined as HIV viral load < 200 copies/mL documented in the medical record at every measure in the 12 months before interview), a condom was not used, and the partner was not on PrEP. PrEP use was only measured among the 5 most recent partners.

^g Among persons who had vaginal or anal sex in the 12 months before interview.

Table 18. Sexual behavior during the 12 months before interview among men who had sex with men (MSM), men who had sex only with women (MSW), and women who had sex with men (WSM) with diagnosed HIV—Medical Monitoring Project, United States, 2019

Behavior	MSM			MSW			WSM		
	No. ^a	% ^b	95% CI ^c	No. ^a	% ^b	95% CI ^c	No. ^a	% ^b	95% CI ^c
Engaged in any high-risk sex^d									
Yes	153	8.8	6.8–10.7	32	4.6	3.1–6.1	69	7.1	5.2–8.9
No	1,841	91.2	89.3–93.2	834	95.4	93.9–96.9	930	92.9	91.1–94.8
Engaged in any high-risk sex (among sexually active persons)^d									
Yes	153	13.6	10.7–16.5	32	8.8	5.8–11.9	69	14.0	11.0–17.0
No	1,120	86.4	83.5–89.3	411	91.2	88.1–94.2	437	86.0	83.0–89.0
Percentages of sexually active persons who used a prevention strategy with at least 1 partner									
Sex while having sustained viral suppression^e									
Yes	865	62.7	57.3–68.1	290	60.0	54.3–65.6	316	56.2	50.9–61.4
No	416	37.3	31.9–42.7	158	40.0	34.4–45.7	198	43.8	38.6–49.1
Condom-protected sex^f									
Yes	684	55.8	52.9–58.6	297	68.9	64.8–73.0	261	53.9	49.6–58.1
No	572	44.2	41.4–47.1	137	31.1	27.0–35.2	238	46.1	41.9–50.4
Condomless sex with a partner on PrEP^g									
Yes	237	16.8	14.4–19.1	20	4.0	1.8–6.1	12	2.3	1.0–3.6
No	1,033	83.2	80.9–85.6	427	96.0	93.9–98.2	502	97.7	96.4–99.0
Sex with a partner with HIV^h									
Yes	745	57.3	53.8–60.7	105	20.4	16.6–24.2	122	22.6	18.5–26.7
No	536	42.7	39.3–46.2	343	79.6	75.8–83.4	392	77.4	73.3–81.5
Total	2,023	100		880	100		1,015	100	

Abbreviations: CI, confidence interval; PrEP, preexposure prophylaxis.

Note. Numbers might not add to total because of missing data. Percentages might not sum to 100 because of rounding. Persons who reported no anal, vaginal, or oral sex in the 12 months before interview were categorized according to self-reported sexual orientation. This table does not include information on women who had sex with women only, women who had sex with transgender persons only, or men who had sex with transgender persons only.

Excluded are estimates with “don’t know” responses and skipped (missing) responses.

^a Numbers are unweighted.

^b Percentages are weighted percentages.

^c CIs incorporate weighted percentages.

^d Vaginal or anal sex with at least 1 partner with an HIV-negative or unknown status while not having sustained viral suppression (defined as HIV viral load <200 copies/mL documented in the medical record at every measure in the 12 months before interview), a condom was not used, and the partner was not on PrEP. PrEP use was only measured among the 5 most recent partners.

^e HIV viral load <200 copies/mL documented in the medical record at every measure in the 12 months before interview.

^f Condoms were consistently used with at least 1 vaginal or anal sex partner.

^g At least 1 condomless-sex partner without HIV was on PrEP. PrEP use was only measured among the 5 most recent partners and was reported by the partner with HIV.

^h Sex with at least 1 partner with HIV.

**Table 19. Met and unmet needs for ancillary services during the 12 months before interview among persons with diagnosed HIV—
Medical Monitoring Project, United States, 2019**

	Persons who received services			Persons who needed but did not receive services by time of interview		
	No. ^a	% ^b	95% CI ^c	No. ^a	% ^b	95% CI ^c
HIV support services						
HIV case management services						
Yes	2,393	56.7	52.8–60.7	241	7.0	5.8–8.3
No	1,658	43.3	39.3–47.2	3,810	93.0	91.7–94.2
Medicine through ADAP						
Yes	1,950	46.5	43.9–49.1	98	3.0	2.4–3.6
No	2,009	53.5	50.9–56.1	3,861	97.0	96.4–97.6
Professional help remembering to take HIV medicines on time or correctly (adherence support services)						
Yes	1,453	35.1	32.6–37.7	25	0.7	0.4–0.9
No	2,593	64.9	62.3–67.4	4,021	99.3	99.1–99.6
Patient navigation services						
Yes	668	15.2	13.0–17.5	157	4.2	3.3–5.2
No	3,386	84.8	82.5–87.0	3,897	95.8	94.8–96.7
HIV peer group support						
Yes	528	12.4	10.9–13.8	259	6.7	5.4–8.0
No	3,525	87.6	86.2–89.1	3,794	93.3	92.0–94.6
Non-HIV medical services						
Dental care						
Yes	2,541	60.6	57.8–63.3	836	21.8	19.9–23.7
No	1,519	39.4	36.7–42.2	3,224	78.2	76.3–80.1
Mental health services						
Yes	1,352	32.0	28.0–36.0	336	8.4	7.2–9.6
No	2,708	68.0	64.0–72.0	3,724	91.6	90.4–92.8
Drug or alcohol counseling or treatment						
Yes	305	7.0	5.7–8.2	71	1.7	1.1–2.4
No	3,760	93.0	91.8–94.3	3,994	98.3	97.6–98.9
Domestic violence services						
Yes	50	1.2	0.8–1.7	33	0.9	0.5–1.2
No	4,017	98.8	98.3–99.2	4,034	99.1	98.8–99.5
Subsistence services						
SNAP or WIC						
Yes	1,576	37.3	34.6–40.0	416	10.9	8.9–12.9
No	2,489	62.7	60.0–65.4	3,649	89.1	87.1–91.1
Transportation assistance						
Yes	1,061	24.9	23.4–26.4	274	7.3	6.2–8.3
No	3,004	75.1	73.6–76.6	3,791	92.7	91.7–93.8
Meal or food services^d						
Yes	879	21.0	18.3–23.8	303	7.6	6.5–8.6
No	3,186	79.0	76.2–81.7	3,762	92.4	91.4–93.5
Shelter or housing services						
Yes	739	17.0	15.3–18.7	348	8.8	7.0–10.6
No	3,322	83.0	81.3–84.7	3,713	91.2	89.4–93.0
Total	4,100	100		4,100	100	

Abbreviations: CI, confidence interval; ADAP, AIDS Drug Assistance Program; SNAP, Supplemental Nutrition Assistance Program; WIC, Special Supplemental Nutrition Program for Women, Infants, and Children.

Note. Persons could report receiving or needing more than 1 service. Numbers might not add to total because of missing data. Percentages might not sum to 100 because of rounding. Excluded are estimates with “don’t know” responses and skipped (missing) responses.

^a Numbers are unweighted.

^b Percentages are weighted percentages.

^c CIs incorporate weighted percentages.

^d Includes services such as soup kitchens, food pantries, food banks, church dinners, or food delivery services.

Table 20. Physical violence by an intimate partner and forced sex among persons with diagnosed HIV—Medical Monitoring Project, United States, 2019

	No. ^a	% ^b	95% CI ^c
Was ever slapped, punched, shoved, kicked, choked, or otherwise physically hurt by a romantic or sexual partner			
Yes	1,043	25.2	23.0–27.3
No	2,993	74.8	72.7–77.0
Was slapped, punched, shoved, kicked, choked, or otherwise physically hurt by a romantic or sexual partner, past 12 months			
Yes	175	4.4	3.7–5.1
No	3,856	95.6	94.9–96.3
Was ever threatened with harm or physically forced to have unwanted vaginal, anal, or oral sex			
Yes	709	16.8	15.3–18.4
No	3,322	83.2	81.6–84.7
Was threatened with harm or physically forced to have unwanted vaginal, anal, or oral sex, past 12 months			
Yes	58	1.3	1.0–1.6
No	3,968	98.7	98.4–99.0
Total	4,100	100	

Abbreviation: CI, confidence interval.

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

Excluded are estimates with “don’t know” responses and skipped (missing) responses.

^a Numbers are unweighted.

^b Percentages are weighted percentages.

^c CIs incorporate weighted percentages.

Table 21. Prevention services received during the 12 months before interview among persons with diagnosed HIV—Medical Monitoring Project, United States, 2019

	No. ^a	% ^b	95% CI ^c
One-on-one HIV/STD risk-reduction conversation with physician, nurse, or other health care worker			
Yes	2,465	60.7	57.2–64.1
No	1,606	39.3	35.9–42.8
One-on-one HIV/STD risk-reduction conversation with outreach worker, counselor, or prevention program worker			
Yes	1,323	31.8	27.3–36.3
No	2,748	68.2	63.7–72.7
Attended an organized HIV/STD risk-reduction session involving a small group of people			
Yes	517	12.1	9.9–14.2
No	3,555	87.9	85.8–90.1
Received free condoms			
Yes	1,906	46.3	42.4–50.2
No	2,164	53.7	49.8–57.6
Total	4,100	100	

Abbreviation: CI, confidence interval.

Note. Persons could report receiving more than 1 prevention service.

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

Excluded are estimates with “don’t know” responses and skipped (missing) responses.

^a Numbers are unweighted.

^b Percentages are weighted percentages.

^c CIs incorporate weighted percentages.

Table 22. National indicators: homelessness, HIV stigma, and high-risk sex among persons with diagnosed HIV—Medical Monitoring Project, United States, 2019

	Homeless in the 12 months before interview among persons receiving HIV care in the past 12 months ^a			HIV stigma ^b		HIV stigma, past 12 months ^c			Engaged in any sex without using an HIV prevention strategy in the 12 months before interview ^d			
	No. ^e	Row % ^f	95% CI ^g	No. ^e	Row median score	95% CI	No. ^e	Row median score	95% CI	No. ^e	Row % ^f	95% CI ^g
Gender												
Male	250	8.5	7.2–9.8	2,831	36.2	33.8–38.6	2,824	28.9	27.5–30.3	186	7.3	5.9–8.8
Female	85	8.2	6.0–10.5	978	44.7	42.0–47.4	990	37.3	35.0–39.6	69	6.9	5.1–8.7
Transgender ^h	21	27.3	15.0–39.7	85	40.5	29.8–51.3	84	32.3	24.4–40.1	—	—	—
Sexual orientation												
Lesbian or gay	105	6.7	5.0–8.3	1,623	36.0	32.6–39.4	1,611	27.8	25.4–30.3	121	8.6	6.5–10.7
Heterosexual or straight	169	8.5	7.1–9.8	1,794	39.7	38.3–41.1	1,811	33.3	31.3–35.4	103	6.0	4.4–7.5
Bisexual	57	17.7	12.2–23.1	345	41.1	33.4–48.7	344	32.1	29.2–34.9	30	7.2	4.6–9.7
Other	23	18.8	10.2–27.5	115	36.8	31.1–42.5	115	31.0	26.0–36.0	12	12.5	5.8–19.2
Race/ethnicity												
American Indian/Alaska Native	—	—	—	—	—	—	—	—	—	—	—	—
Asian	—	—	—	38	40.4	27.9–53.0	38	32.4	21.8–43.1	0	0*	—
Black/African American	171	10.6	7.8–13.3	1,630	37.8	35.6–40.1	1,633	30.8	29.5–32.2	105	6.5	4.9–8.0
Hispanic/Latino ⁱ	68	6.8	4.5–9.0	872	39.0	36.4–41.5	875	32.7	30.2–35.2	63	6.5	4.6–8.4
Native Hawaiian/other Pacific Islander	—	—	—	—	—	—	—	—	—	—	—	—
White	85	7.7	5.4–9.9	1,147	38.3	35.1–41.6	1,142	29.0	27.1–31.0	80	8.4	6.5–10.2
Multiple races	31	16.6	10.8–22.5	179	44.0	35.0–53.0	182	35.3	26.1–44.4	—	—	—
Age at time of interview (years)												
18–29	54	16.5	11.3–21.7	333	42.9	39.2–46.6	329	38.2	35.5–40.9	49	14.9	10.0–19.9
30–39	79	11.9	9.2–14.7	616	41.3	37.8–44.8	615	33.9	31.0–36.8	71	12.7	9.5–15.8
40–49	72	9.7	7.2–12.1	765	40.6	37.7–43.4	765	32.4	30.4–34.4	51	7.4	5.3–9.4
≥50	153	6.6	5.3–8.0	2,186	35.8	34.1–37.5	2,195	28.4	27.4–29.4	96	4.5	3.4–5.7
Total	358	8.9	7.6–10.3	3,900	38.3	36.3–40.2	3,904	30.7	29.2–32.1	267	7.4	6.1–8.6

Abbreviations: CI, confidence interval; PrEP, preexposure prophylaxis [footnotes only].

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

Excluded are estimates with a coefficient of variation ≥ 0.30 , estimates based on a denominator sample size < 30 , “don’t know” responses, and skipped (missing) responses. Estimates with an absolute CI width ≥ 30 , estimates with an absolute CI width between 5 and 30 and a relative CI width $> 130\%$, and estimates of 0% or 100% are marked with an asterisk (*) and should be interpreted with caution.

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

^b Ten-item scale ranging from 0 (no stigma) to 100 (high stigma) that measures 4 dimensions of HIV stigma: personalized stigma since HIV diagnosis, current disclosure concerns, current negative self-image, and current perceived public attitudes about people living with HIV.

^c Ten-item scale ranging from 0 (no stigma) to 100 (high stigma) that measures 4 dimensions of HIV stigma during the past 12 months: personalized stigma since HIV diagnosis, current disclosure concerns, current negative self-image, and current perceived public attitudes about people living with HIV.

^d Vaginal or anal sex with at least 1 partner of HIV-negative or unknown status while not having sustained viral load suppression, a condom was not used, and the partner was not on PrEP. PrEP use was only measured among the 5 most recent partners.

^e Numbers are unweighted.

^f Percentages are weighted percentages.

^g CIs incorporate weighted percentages.

^h Persons were classified as transgender if sex at birth and gender reported by the person were different, or if the person chose “transgender” in response to the question about self-identified gender.

ⁱ Hispanics or Latinos can be of any race. Persons are classified in only 1 race/ethnicity category.

METHODS

The Medical Monitoring Project (MMP) uses a stratified, 2-stage sampling design. States were sampled first, with probability proportional to size (PPS). All 50 states, the District of Columbia, and Puerto Rico (defined as primary sampling units [PSUs]) were eligible for selection.

From these 52 PSUs, 20 were selected by using PPS sampling based on AIDS prevalence at the end of 2002. According to the PPS sampling method, states with a higher AIDS prevalence had a higher probability of selection, and those with a lower AIDS prevalence had a lower probability of selection [1]. Six municipal jurisdictions receive separate funding for HIV surveillance (Chicago, Illinois; Houston, Texas; Los Angeles County, California; New York City, New York; Philadelphia, Pennsylvania; and San Francisco, California); these areas were included with the state for first-stage sampling and constituted a city-state unit. If a state included a city with independent HIV surveillance authority (e.g., Texas, which includes Houston), selection of the state included selection of the city (i.e., city-state units were selected together).

In 2004, 19 states (including the 6 separately funded areas within those states) and Puerto Rico were selected from the 52 PSUs, resulting in 26 MMP project areas. Because of funding constraints for the 2009 data collection cycle, 3 project areas (Maryland, Massachusetts, and South Carolina) were randomly selected to discontinue participation in MMP, and the total number of MMP areas was reduced to 23.

An analysis carried out in 2014 found that the original measure of size with which states were originally sampled (i.e., AIDS prevalence in 2002) was still a reasonable proxy for the distribution of HIV prevalence in 2010 (the most recent year for which prevalence estimates were available at the time). The selected sample of states was still sufficiently representative of the population of persons with diagnosed HIV; consequently, selecting a new sample for the 2015 and subsequent data collection cycles was unwarranted. In addition, the change in the sampling frame and the availability of national totals from the National HIV Surveillance System (NHSS) presented new options for calibrating weights, further lessening the need for any adjustments to the sample of states.

At the second stage, persons with a reported diagnosis in NHSS were sampled after the selection of the states. The sampling frame was the national case surveillance data set containing records submitted to the Centers for Disease Control and Prevention (CDC) as of December 31, 2018. Using NHSS data, the initial national frame dataset was created for persons who were alive, had diagnosed HIV infection, 18 years or older, and living in the United States, the District of Columbia, or Puerto Rico on the sampling date (December 31, 2018). Each case was assigned to a surveillance jurisdiction based on the most recently reported residence in NHSS. These addresses primarily came from case report forms and HIV-related laboratory reports. From this initial national frame, CDC staff drew simple random samples for the 23 project areas; project area staff then linked their samples to local case surveillance systems and extracted contact information for use in locating sampled persons, whom they then attempted to recruit.

Eligibility and Response Classifications

Persons were eligible for participation if, as of the sampling date, they had received a diagnosis of HIV, were aged ≥ 18 years, alive, and a resident of an MMP project area. Sampled persons were presumed to be eligible based on their information in NHSS unless data from another source contradicted this status. Persons were classified into 4 categories: (1) eligible respondents, (2) contacted nonrespondents, (3) nonrespondents who

were not contacted, and (4) ineligible persons. These categories were used in calculating final response rates and contact rates following standard formulas [2].

Weighting

Overview

For the 2019 MMP cycle, sets of weights were produced nationally, for the city-state combinations, and for each project area. This report presents national weighted data and, thus, represents all adults with diagnosed HIV infection living in the United States. Nationally, data were weighted based on known probabilities of selection at the state or jurisdiction level and person level and then adjusted for multiplicity and nonresponse. After adjusting for nonresponse, the weights were poststratified to population totals from the NHSS frame. Extreme weights were trimmed, and the weights were adjusted to the same population totals.

For the weighting process, an updated sampling frame was obtained from NHSS data approximately a year and a half after sampling, during which time additional information reported to NHSS may have become available for sampled persons and additional diagnoses may have been reported. This updated sampling frame added records that would have been eligible if their information had been reported to NHSS on the date the initial sample was drawn; primarily, these were diagnoses that occurred during the year prior to the MMP sampling date (for the 2019 cycle, December 31, 2018). Additionally, some persons were found to have had multiple records at the time of sampling that were later identified as duplicate records. In some cases, updated information indicated that a person originally judged eligible and included on the original frame was ineligible. The updated sampling frame data also provided descriptive information for all sampled persons regardless of response and were the source of data used for nonresponse analysis and weighting.

Adjustments for unequal selection probabilities

The first step in the computation of weights was the calculation of base weights that reflect the sampling design probabilities. The base weight for each sampled person incorporates both the probability of selecting a project area, and the probability of selecting a person within a project area. A person who was sampled from one jurisdiction but lived in another area at the time of sampling retained the original base weight. Prior to weighting, such cross-jurisdictional records were grouped with their project area of residence at the time of sampling. This moving of records did not affect the national weights, but did affect the project area weight totals, increasing some while decreasing others.

Adjustments for multiplicity

A multiplicity factor was applied to the person weight for persons with records found to be present more than once after the original frame was compared to the updated sampling frame. This factor, which accounts for some persons' multiple opportunities for being sampled, was capped at 2.0 and was applicable for only 48 persons.

Adjustments for nonresponse

A nonresponse adjustment factor was applied to the multiplicity-adjusted base weight based on an analysis of nonresponse. In 2019, updated sampling frame data provided descriptive information about all sampled persons, which was used to assess how these characteristics were associated with nonresponse. The potential predictors of nonresponse were: race/ethnicity, men who have sex with men (MSM) HIV transmission category, HIV/AIDS disease stage, disease progression measured by most recent viral load test reported to NHSS, time since HIV diagnosis, age of most recent contact information, the person's frequency of receipt of HIV care (as indicated by NHSS records), movement to a different MMP jurisdiction since the time of sampling, non-U.S. birthplace, sex at birth, and age at sampling date. The nonresponse analysis followed a 2-step process. First, a bivariate analysis was conducted to determine which characteristics were potential predictors of nonresponse; then, a multivariate analysis using the significant characteristics from the bivariate analysis was conducted to identify independent predictors of nonresponse. Three significant predictors from this multivariate analysis

were used to create weighting classes for the national data. In 2019, the significant predictors of nonresponse were: the person's frequency of receipt of HIV care (as indicated by NHSS records), sex at birth, and disease progression measured by the most recent viral load test reported to NHSS. Within weighting classes, the adjustment factor for nonresponse was the ratio of the sum of the multiplicity-adjusted base weights for eligible sampled cases to the sum of these weights for eligible respondents. The multiplicity adjusted weight within each nonresponse weighting class was then multiplied by the nonresponse adjustment factor to produce the nonresponse adjusted weights.

Poststratification and trimming

Poststratification methods ensure that weighted totals sum to known population totals and, therefore, minimize the potential for biases due to nonresponse and noncoverage. However, poststratification can also add additional variance to the weights. Thus, trimming procedures are used to control weight variability and reduce its impact on survey variances. MMP used an iterative approach that combines poststratification and trimming so that trimmed weights retain their variance-reducing features after poststratification and ensures that poststratified weights add up to known population totals.

The nonresponse adjusted weights were first poststratified to population totals from the updated sampling frame. The poststratification cells were defined by crossing sex at birth, race/ethnicity, and age group. Nationally, there were 32 poststratification cells. Poststratification adjustments were performed within each poststratification cell so that the weighted sum was preserved in each cell. To reduce additional variance added to poststratified weights, cells were collapsed and the need for weight trimming was evaluated. Poststratified cells were collapsed when cells had 2 or fewer respondents or had an extreme adjustment factor (≥ 1.75). The need for trimming was then assessed. If the design effect due to weighting (measured as $1 + CV^2$, where CV is the coefficient of variation of the weights) had exceeded 1.75, we would have capped the weights at the median weight plus 4 times the interquartile range of the weights; where trimming occurred, the weights were redistributed and poststratified again to the population totals. However, no trimming was needed for the national weights.

Design variables

Nationally, design variables indicating strata and cluster membership for each participating person accounting for the sample design were created. Many project areas were sampled with certainty because of higher AIDS prevalence, and each of these was defined as its own stratum. Elsewhere, strata were created by grouping 2 to 3 project areas (PSUs in the stratified PPS design) that had similar selection probabilities. Among the 23 project areas, 14 were sampled with certainty. The 14 certainty project areas each represent a stratum, and each person within the stratum is a cluster. The remaining 9 noncertainty project areas were grouped to create strata, and each noncertainty project area was a cluster within the stratum. Multiple project areas within certainty states were effectively substrata, and each project area remained its own stratum. For local estimates, variance estimation was conditional on the initial sampling of states as PSUs, meaning that this stage of sampling was ignored. Participants were treated as having come from a simple random sample with replacement, although the various adjustment factors induced unequal weights.

DEFINITIONS

Sociodemographic Characteristics

- **Gender:** Categories were male, female, and transgender. Participants were classified as transgender if reported sex at birth and current gender as reported by the participant were not the same or if the participant answered "transgender" to the interview question regarding self-identified gender.
- **Health insurance or coverage for care or medications:** Participants were asked whether they had health insurance or coverage for care or medications (including antiretroviral [ART] medications) during the 12

months before interview. Responses to these questions were combined and categorized as private health insurance, Medicaid, Medicare, Ryan White HIV/AIDS Program, Tricare/CHAMPUS and Veterans Administration coverage, insurance classified as other public health insurance, and unknown insurance. Participants could select more than 1 response for health insurance or coverage for care or medications.

- **Federal poverty guidelines:** Participants were asked about their combined monthly or yearly household income (in U.S.\$) from all sources during the 12 months before interview. The number of persons meeting the current federal poverty threshold was determined by using the U.S. Department of Health and Human Services poverty guidelines that corresponded to the calendar year for which income was asked. These guidelines are issued yearly for the 48 contiguous states and Washington, D.C., and are an indicator used for determining eligibility for many federal and state programs. The 2018 guidelines [3] were used for participants interviewed in 2019, and the 2019 guidelines [4] were used for persons interviewed in 2020. Because the poverty guidelines are not defined for the territory of Puerto Rico, the guidelines for the contiguous states and Washington, D.C., were used for this jurisdiction. Participants were asked to specify the range of their income, and household income was assumed to be the midpoint of the income range.

Clinical Characteristics

- **CDC stage of disease classification for HIV infection:** Defined according to CDC's 2014 revised surveillance case definition for HIV infection [5]. Information from NHSS was used to determine the most advanced HIV disease stage ever reached by participants.

Use of Health Care Services

- **Outpatient HIV medical care:** Defined as documentation of any of the following: encounter with an HIV care provider, viral load test result, CD4 test result, HIV resistance test or tropism assay, ART prescription, *pneumocystis pneumonia* (PCP) prophylaxis, or *Mycobacterium avium* complex (MAC) prophylaxis. All were measured through documentation in the person's medical record; an encounter with an HIV care provider was also measured based on interview self-report. Persons were considered to be retained in care if they had 2 elements of outpatient HIV care at least 90 days apart in each 12-month period reviewed.
- **ART prescription:** Defined as a prescription in the medical record, during the 12 months before interview, of any of the following medications: abacavir, amprenavir, atazanavir, bictegravir, cobicistat, darunavir, delavirdine, didanosine, dolutegravir, doravirine, efavirenz, elvitegravir, emtricitabine, enfuvirtide, etravirine, fosamprenavir, ibalizumab, indinavir, lamivudine, lopinavir/ritonavir, maraviroc, nelfinavir, nevirapine, raltegravir, rilpivirine, ritonavir, saquinavir, stavudine, tenofovir alafenamide, tenofovir disoproxil fumarate, tipranavir, or zidovudine. Persons with no medical record abstraction were considered to have no documentation of ART prescription.
- **PCP prophylaxis:** Defined as documentation in the medical record that prophylaxis for PCP was prescribed among persons with a CD4 count of <200 cells/ μ L in the 12 months before interview [6]. Persons prescribed regimens typically given as PCP prophylaxis (trimethoprim-sulfamethoxazole, dapsone with or without pyrimethamine and leucovorin, aerosolized pentamidine, and atovaquone) were not presumptively categorized as having received PCP prophylaxis unless it was specifically stated in the medical record that prescription of these medications was for PCP prophylaxis or no length of time was specified for the course of treatment.
- **Influenza vaccination:** Participants were asked whether they had received seasonal influenza vaccine during the 12 months before interview.
- ***Neisseria gonorrhoeae* testing:** Defined as documentation in the medical record, during the 12 months before interview, of a result from culture, Gram stain, enzyme immunoassay (EIA), nucleic acid amplification test (NAAT), or nucleic acid probe performed on a specimen from any anatomical site for screening or diagnostic purposes.
- ***Chlamydia trachomatis* testing:** Defined as documentation in the medical record, during the 12 months before interview, of a result from culture, direct fluorescent antibody (DFA), EIA or enzyme-linked immu-

noassay (ELISA), NAAT, or nucleic acid probe performed on a specimen from any anatomical site for screening or diagnostic purposes.

- **Syphilis testing:** Defined as documentation in the medical record, during the 12 months before interview, of a result from nontreponemal serologic tests (rapid plasma reagin [RPR], Venereal Disease Research Laboratory [VDRL]), treponemal serologic tests (*Treponema pallidum* hemagglutination assay [TPHA], *T. pallidum* particle agglutination [TP-PA], microhemagglutination assay for antibodies to *T. pallidum* [MHA-TP], chemiluminescence immunoassay [CIA], fluorescent treponemal antibody absorption [FTA-ABS] tests), polymerase chain reactions (PCR), or dark-field microscopy performed for screening or diagnostic purposes.

Self-reported ART Medication Use and Adherence

- **ART adherence:** Participants were asked about their adherence to ART in the 30 days before interview using questions from a 3-item scale developed by Wilson and colleagues [7]. Participants were asked about how many days they missed at least 1 dose of their HIV medicines, how often they took their HIV medicines in the way they were supposed to, and how good a job they did at taking their HIV medicines in the way they were supposed to during the 30 days before interview.

Depression and Substance Use

- **Depression:** Participants were asked questions from the Patient Health Questionnaire (PHQ-8), an 8-item scale used to measure frequency of depressed mood in the preceding 2 weeks [8]. The PHQ-8 has the following question: “Over the last 2 weeks, how often have you been bothered by any of the following problems?” The respondent is then asked about the following problems: (1) little interest or pleasure in doing things (anhedonia); (2) feeling down, depressed, or hopeless; (3) trouble falling/staying asleep, or sleeping too much; (4) feeling tired or having little energy; (5) poor appetite or overeating; (6) feeling bad about yourself or that you are a failure or have let yourself or your family down; (7) trouble concentrating on things, such as reading the newspaper or watching television; and (8) moving or speaking so slowly that other people could have noticed, or being fidgety or restless or moving around a lot more than usual. Response categories were “not at all,” “several days,” “more than half the days,” and “nearly every day” with points (0–3) assigned to each response category, respectively. The PHQ-8 responses were scored by using 2 methods. Method 1: an algorithm involving criteria from the *Diagnostic and Statistical Manual of Mental Disorders*, 4th edition (DSM-IV-TR) [9], for diagnosing major depression was used to classify adults with diagnosed HIV as having major depression, other depression, or no depression. To meet the criteria for major depression, a participant must have experienced 5 or more symptoms at least “more than half the days,” and one of the symptoms must be anhedonia or feelings of hopelessness. For other depression, a participant must have experienced 2 to 4 symptoms at least “more than half the days,” and one of the symptoms must be anhedonia or feelings of hopelessness. Method 2: scores for each response category were summed to produce a total score between 0 and 24 points. Current depression of moderate or severe intensity was defined as a total score of ≥ 10 .
- **Anxiety:** Participants were asked questions from the Generalized Anxiety Disorder Scale (GAD-7), a 7-item scale used to screen for and measure the severity of generalized anxiety disorder [10]. The GAD-7 has the following question: “Over the last 2 weeks, how often have you been bothered by any of the following problems?” The respondent was then asked about the following problems: (1) feeling nervous, anxious, or on edge; (2) not being able to stop or control worrying; (3) worrying too much about different things; (4) trouble relaxing; (5) being so restless that it is hard to sit still; (6) becoming easily annoyed or irritable; and (7) feeling afraid as if something awful might happen. Responses were scored according to criteria from the DSM-IV-TR [9]. Response categories were “not at all,” “several days,” “more than half the days,” and “nearly every day,” with points (0–3) assigned to each response category, respectively. Scores for each response category were summed to produce a total score between 0 and 21 points. “Severe anxiety” was defined as having a score of ≥ 15 ; “moderate anxiety” was defined as having a score of 10–14; and “mild anxiety” was defined as having a score of 5–9.

- **Alcohol use:** Participants were asked about alcohol use during the 30 days and the 12 months before interview. A drink was defined as 12 ounces of beer, a 5-ounce glass of wine, or a 1.5-ounce shot of liquor.
- **Binge drinking:** Defined as ≥ 5 drinks in a single sitting for men and ≥ 4 drinks in a single sitting for women in the past 30 days.

Sexual Behavior

- **Prevention modalities:** Reported behaviors that decrease the likelihood of HIV transmission to a sexual partner, including:
 - Sex while having sustained viral suppression: Vaginal or anal sex and the person’s HIV viral loads were documented in the medical record as < 200 copies/mL at every measure in the past 12 months before interview.
 - Condom-protected sex: Condoms were consistently used with at least 1 vaginal or anal sex partner.
 - Condomless sex with a partner on preexposure prophylaxis (PrEP): At least 1 condomless-sex partner with an HIV-negative status was on PrEP. PrEP use was only measured among the 5 most recent partners and was reported by the partner with HIV.
 - Sex with a partner with HIV: Vaginal or anal sex with at least 1 partner with HIV.
- **High-risk sex:** Vaginal or anal sex with at least 1 partner with an HIV-negative or unknown status while not having sustained viral suppression, when a condom was not used, and the partner was not known to be taking PrEP.

Met and Unmet Needs for Ancillary Care Services

Ancillary care services were defined as services that support retention in routine HIV medical care and viral suppression, such as HIV case management, dental care, and mental health services. Ancillary care services were grouped into three categories: HIV support services, non-HIV medical services, and subsistence services. HIV support services included: HIV case management, medicine through ADAP, adherence support services, HIV peer group support, and patient navigation services. Non-HIV medical services included: dental care, mental health services, drug or alcohol counseling or treatment, and domestic violence services. Subsistence services included: Supplemental Nutrition Assistance Program (SNAP) or Special Supplemental Nutrition Program for Women, Infants, and Children (WIC), transportation assistance, meal or food services, and shelter or housing services.

- **Met need:** Defined as an ancillary service received during the 12 months before interview.
- **Unmet need:** Defined as an ancillary service that the participant reported as needed, but not received, during the 12 months before interview.

Centers for Disease Control and Prevention National Indicators

Measures in this section are used by CDC for national monitoring and evaluation purposes.

- **Homelessness among persons receiving HIV care:** Defined as 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 among persons who received any outpatient HIV medical care in the 12 months before interview.
- **HIV stigma:** *HIV stigma since HIV diagnosis* was defined as the median score on a 10-item scale ranging from 0 (no stigma) to 100 (high stigma) that measures 4 dimensions of HIV stigma: personalized stigma since HIV diagnosis, current disclosure concerns, current negative self-image, and current perceived public attitudes about people living with HIV [11]. *HIV stigma during the past 12 months* was defined as the median score on a 10-item scale ranging from 0 (no stigma) to 100 (high stigma) that measures 4 dimensions of HIV stigma during the past 12 months: personalized stigma during the past 12 months, current disclosure concerns, current negative self-image, and current perceived public attitudes about people living with HIV.
- **High-risk sex:** See “Sexual Behavior” section.

ETHICS STATEMENT

In accordance with guidelines for defining public health research [12], CDC has determined MMP is public health surveillance used for disease control, program, or policy purposes. Local institutional review board approval was obtained at participating states and territories when required. Informed consent was obtained from all interviewed participants.

REFERENCES

1. Frankel MR, McNaghten A, Shapiro MF, et al. A probability sample for monitoring the HIV-infected population in care in the U.S. and in selected states. *Open AIDS J* 2012;6:67–76. doi:10.2174/1874613601206010067
2. The American Association for Public Opinion Research. Standard Definitions: Final dispositions of case codes and outcome rates for surveys. 9th ed. [https://www.aapor.org/Standards-Ethics/Standard-Definitions-\(1\).aspx](https://www.aapor.org/Standards-Ethics/Standard-Definitions-(1).aspx). Revised 2016. Accessed June 23, 2021.
3. U.S. Department of Health and Human Services. Computations for the 2018 poverty guidelines. <https://aspe.hhs.gov/2018-poverty-guidelines-computations-page>. Published January 2018. Accessed June 23, 2021.
4. U.S. Department of Health and Human Services. Computations for the 2019 poverty guidelines. <https://aspe.hhs.gov/computations-2019-annual-update-hhs-poverty-guidelines-48-contiguous-states-and-district-columbia>. Published January 2019. Accessed June 23, 2021.
5. CDC [Selik RM, Mokotoff ED, Branson B, Owen SM, Whitmore S, Hall HI]. Revised surveillance case definition for HIV infection—United States, 2014. *MMWR* 2014;63(RR-03):1–10. https://www.cdc.gov/mmwr/indrr_2014.html. Accessed June 23, 2021.
6. 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/adult-and-adolescent-arv/>. Updated June 3, 2021. Accessed June 23, 2021.
7. Wilson IB, Lee Y, Michaud J, Fowler FJ Jr, Rogers WH. Validation of a new three-item self-report measure for medication adherence. *AIDS Behav* 2016;20(11):2700–2708. doi:10.1007/s10461-016-1406-x
8. Kroenke K, Spitzer TW, Spitzer RL, et al. The PHQ-8 as a measure of current depression in the general population. *J Affect Disord* 2009;114(1–3):163–173. doi:10.1016/j.jad.2008.06.026
9. American Psychiatric Association. *Diagnostic and Statistical Manual of Mental Disorders: DSM-IV-TR*. 4th ed. Washington, DC: American Psychiatric Association; 2000.
10. Spitzer RL, Kroenke K, Williams JB, Löwe B. A brief measure for assessing generalized anxiety disorder: the GAD-7. *Arch Intern Med* 2006;166(10):1092–1097. doi:10.1001/archinte.166.10.1092
11. Wright K, Naar-King S, Lam P, Templin T, Frey M. Stigma scale revised: reliability and validity of a brief measure of stigma for HIV+ youth. *J Adolesc Health* 2007;40(1):96–98. doi:10.1016/j.jadohealth.2006.08.001
12. CDC. Distinguishing public health research and public health nonresearch. <https://www.cdc.gov/os/integrity/docs/cdc-policy-distinguishing-public-health-research-nonresearch.pdf>. Published July 2010. Accessed June 23, 2021.