HIV Surveillance Report | Special Report

Number 9

Behavioral and Clinical Characteristics of Persons Receiving Medical Care for HIV Infection

Medical Monitoring Project
United States, 2010

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

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

Suggested citation

Centers for Disease Control and Prevention. *Behavioral and Clinical Characteristics of Persons Receiving Medical Care for HIV Infection—Medical Monitoring Project, United States, 2010*. HIV Surveillance Special Report 9. http://www.cdc.gov/hiv/library/reports/surveillance/#special. Published October 2014. Accessed [date].

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Acknowledgments

This report is based, in part, on contributions by Medical Monitoring Project (MMP) participants, facilities, community and provider advisory boards, interviewers, and abstractors; the Data Coordinating Center for HIV Supplemental Surveillance at ICF International; and members of the Clinical Outcomes Team, Division of HIV/AIDS Prevention, National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention, CDC, Atlanta, Georgia.

MMP study group members
http://www.cdc.gov/hiv/statistics/systems/mmp/resources.html#StudyGroupMembers

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Commentary

As of December 31, 2010, an estimated 891,857 persons in the United States and 6 dependent areas were living with diagnosed HIV infection [1]. In 2010, the estimated number of new HIV diagnoses was 47,132 [1]. Although the National HIV Surveillance System collects information about persons with diagnosed HIV infection [2], supplemental surveillance systems provide 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 report outlining the need for representative data on persons living with HIV [4], the Centers for Disease Control and Prevention (CDC) implemented the Medical Monitoring Project (MMP).

MMP is a cross-sectional, nationally representative, complex sample survey that assesses the clinical and behavioral characteristics of HIV-infected adults who are receiving outpatient medical care in the United States and Puerto Rico [3, 5, 6]. The MMP sample was selected in 3 consecutive stages: (1) United States and dependent areas, (2) outpatient facilities providing HIV care, and (3) HIV-infected adults aged ≥18 years who made at least 1 medical care visit to a participating facility during January–April, 2010. A total of 23 areas were funded to conduct data collection for the 2010 cycle (Table 1).

This report presents unweighted sample sizes and weighted prevalence estimates with 95% confidence intervals for selected characteristics. The term *patients* refers to HIV-infected adults who are living in the United States or Puerto Rico and who are receiving outpatient medical care. Statistical software (SAS, version 9.3) was used for analysis of weighted data [7]. Data are not reported for variables with <5 responses or a coefficient of variation of ≥30%. No statistical tests were performed. Additional information on MMP is available at http://www.cdc.gov/hiv/statistics/systems/mmp/.

Highlights of Analyses

Facility and Patient Response Rates

Of 582 sampled eligible facilities in 23 project areas, 474 participated in MMP; the facility response rate, adjusted for eligibility, was 81%. In total, 9,400 patients were sampled from 474 participating facilities. Of these, 4,474 patients completed the standard questionnaire, and their medical records were abstracted. Adjusted for eligibility, the patient response rate was 50% (Table 1).

Sociodemographic Characteristics

The 4,474 respondents represent an estimated 442,644 (95% confidence interval [CI], 390,166–495,122) adults living with HIV who received outpatient medical care in the United States and Puerto Rico during January–April 2010. An estimated 72% of patients were male, 26% were female, and 1% were transgender (Table 2). Nearly half (48%) of patients identified themselves as heterosexual, or straight; 43% as homosexual, gay, or lesbian; and 9% as bisexual. An estimated 42% were black or African American, 34% were white, and 19% were Hispanic or Latino. More than three-quarters (77%) were aged at least 40 years, and 56% had received an HIV diagnosis at least 10 years earlier. More than half (53%) had more than a high school education, and 83% were born in the United States. The estimated prevalence of homelessness in the previous 12 months was 8%. An estimated 84% had health insurance or other coverage for antiretroviral therapy (ART) medications: 41% had coverage through the Ryan White HIV/AIDS Program, 39% had Medicaid, 31% had private health insurance, and 27% had Medicare. Nearly 44% had household incomes at or below the federal poverty threshold.

Clinical Characteristics

According to the CDC stage of disease classification for HIV infection [8], an estimated 69% of patients had stage 3 (AIDS) disease (Table 3). An estimated 14% of patients had a mean CD4 T-lymphocyte (CD4) count of 0–199 cells/μL in the previous 12 months (Table 4). The estimated geometric mean CD4 count among all patients in the previous 12 months was 507 cells/μL, and the median CD4 count was 475 cells/μL (range, 0.1–2,695) (data not shown in table).

Use of Health Care Services

Nearly 100% (CI, 99.8–100.0) of patients received most of their HIV medical care at a single place (e.g., a physician's office or a clinic). Patients' estimated

travel time to their usual HIV care provider averaged 33 minutes (range, 0–480 minutes) (data not shown in table).

An estimated 70% of patients had at least 3 CD4 or HIV viral load tests documented in the medical record (Table 4). As recommended by guidelines, most patients had at least 1 viral load test in each 6-month period (76%) and at least one CD4 test annually (97%). Overall, an estimated 90% of patients had an ART prescription documented in the medical record, and 74% of patients had an undetectable (<200 copies/ml) viral load at the most recent measurement.

Of the estimated 19% (CI, 17.6–19.9) of patients who met the clinical criteria for *Pneumocystis* pneumonia (PCP) prophylaxis, 78% (CI, 73.0–82.0) had a prescription for PCP prophylaxis documented in the medical record (data not shown in table). Of the 5% (CI, 4.0–5.5) of patients who met the clinical criteria for *Mycobacterium avium* complex (MAC) prophylaxis, 69% (CI, 63.5–75.3) had a prescription for MAC prophylaxis documented in the medical record (data not shown in table). An estimated 84% (CI, 82.3–86.5) of patients received an influenza vaccination (data not shown in table). Among sexually active patients, an estimated 29% were tested for gonorrhea, 30% for chlamydia, 58% for syphilis, and 24% for all 3 sexually transmitted diseases (STDs) (Table 5).

An estimated 9% of patients were seen in an emergency department or an urgent care center at least 1 time, and 1% were seen at least 5 times (Table 6). An estimated 7% of patients were admitted to a hospital for an HIV-related illness at least 1 time; fewer than 1% were admitted at least 5 times. In total, 3.9% (CI, 2.7–5.1) of patients participated in an HIV clinical trial.

Self-reported Antiretroviral Medication Use and Adherence

An estimated 90% of patients were currently taking ART (Table 7). Among the estimated 6% of patients without a history of ART use, 84% had never taken ART because a physician advised a delay in treatment; 10% believed that medications were unnecessary because they felt healthy or believed their HIV laboratory test results (e.g., CD4 count and HIV viral load) were good. Patients' ART medications were most commonly paid for by the AIDS Drug Assistance Program (41%), Medicaid (32%), private health insurance (24%), or Medicare (18%).

Estimated adherence to dose, schedule, and instructions for taking ART during the past 3 days was 86%, 75%, and 70%, respectively. Among patients currently taking ART, 66% had not been troubled by ART side effects during the past 30 days; 17% had rarely been troubled.

Among patients currently taking ART, an estimated 94% were "very" or "extremely" sure that they could take all of their medication as directed, and 88% believed that their medication would have a positive effect on their health (Table 8). Among the estimated 57% of patients who were currently taking ART and ever missed a dose, 30% most recently missed a dose because of a change in daily routine, and 27% most recently missed a dose because they forgot to take it (Table 9).

Depression and Substance Use

The estimated prevalence of major or other depression based on the Patient Health Questionnaire (PHQ-8) algorithm [9] was 25%, including 12% with major depression (Table 10). Based on the total PHQ-8 symptom score (see the appendix), an estimated 24% of patients had current moderate or severe depression.

The estimated prevalence of smoking in the previous 12 months was 41%: 34% of patients smoked daily, 4% weekly, 1% monthly, and 2% less than monthly (Table 11). The estimated prevalence of alcohol use in the previous 12 months was 65%: 6% of patients drank alcohol daily, 20% weekly, 13% monthly, and 27% less than monthly (Table 12). An estimated 51% of patients drank alcohol during the past 30 days. Among patients who drank alcohol during the past 30 days, the estimated typical average daily consumption was 2.9 drinks (data not shown in table). An estimated 15% of patients engaged in binge drinking during the past 30 days. Among patients who drank alcohol in the past 30 days, the estimated mean number of binge-drinking days was 1.4 (data not shown in table).

An estimated 27% of patients used noninjection drugs for nonmedical purposes (Table 13). An estimated 22% used marijuana, 5% used poppers (amyl nitrate), 5% used cocaine, and 4% used crack. An estimated 24% of patients drank alcohol before or during sex; 13% used noninjection drugs before or during sex.

An estimated 2% (CI, 1.0–2.8) of patients used injection drugs for nonmedical purposes (data not shown in table). The drugs most frequently injected were methamphetamine by 1% (CI, 0.4–2.2) and heroin by 1% (CI, 0.4–0.9). Of patients who injected drugs, 79% (CI, 69.1–88.1) did so before or during sex.

Gynecologic and Reproductive Health

An estimated 21% (CI, 14.6–26.4) of female patients received HIV care at an obstetrics and gynecology clinic, and 79% (CI, 74.8–82.8) received a Papanicolaou (Pap) test. An estimated 22% (CI, 18.6–24.3) of female patients had been pregnant at least once since testing positive for HIV infection; of these, 73% (CI, 67.1–79.3) gave birth to 1 or more children after learning their HIV status (data not shown in table).

Sexual Behavior

An estimated 49% of patients were gay, bisexual, and other men who have sex with men (collectively referred to as MSM); 23% were men who exclusively have sex with women; 26% were women who have sex with men; 1% were women who exclusively have sex with women; and 1% were transgender (Table 14) (see the appendix for details of transgender classification). Of the estimated 63% of patients who were sexually active, 23% had engaged in unprotected sex, and 11% had engaged in unprotected sex with a partner of negative or unknown HIV status.

Among MSM, an estimated 73% (CI, 70.9–74.6) had engaged in anal intercourse or oral sex with at least 1 man (data not shown in table), 31% had engaged in unprotected anal intercourse, and 11% had engaged in unprotected anal intercourse with a partner of negative or unknown HIV status (Table 15). Among sexually active MSM, the estimated mean number of sex partners during the past 12 months was 6 (range, 1–700) (data not shown in table).

Among men who have sex with women, an estimated 56% (CI, 51.1–60.7) had engaged in oral sex, vaginal intercourse, or anal intercourse with at least 1 woman (data not shown in table), 11% had engaged in unprotected vaginal intercourse, and 7% had engaged in unprotected vaginal intercourse with a partner of negative or unknown HIV status (Table 16). Among sexually active men who have sex with women, the estimated mean number of female sex partners during the past 12 months was 2 (range, 1–50) (data not shown in table).

Among women who have sex with men, an estimated 52% (CI, 49.3–55.0) had engaged in anal intercourse, oral sex, or vaginal intercourse with at least 1 man (data not shown in table), 18% had engaged in unprotected vaginal intercourse, and 11% had engaged in unprotected vaginal intercourse with a partner of negative or unknown HIV status (Table 17). Among sexually active women who have sex with men, the estimated mean number of male sex partners was 3 (range, 1–500) (data not shown in table).

Among women who have sex with women, an estimated 67% (CI, 50.4–83.4) had engaged in sexual activity with at least 1 woman. Among sexually active women who have sex with women, the estimated mean number of sex partners was 2 (range, 1–4) (data not shown in table). MMP does not collect data on the sexual behaviors of women who have sex with women.

Among transgender persons, an estimated 48% (CI, 32.5–63.4) had engaged in vaginal or anal intercourse with at least 1 partner (data not shown in table). Given the small number of transgender persons, the estimated mean number of sex partners is not reported here.

Met and Unmet Need for Ancillary Services

An estimated 59% of patients received HIV case management services, 58% received dental care, 44% received medicine through the AIDS Drug Assistance Program, and 39% received counseling about how to prevent the transmission of HIV (Table 18). An estimated 24% of patients had unmet needs for dental care; 12% for public benefits, such as Social Security Income or Social Security Disability Insurance; 9% for transportation services; 9% for shelter or housing services; and 8% for meal or food services.

Prevention Activities

An estimated 43% (CI, 39.3–47.3) of patients received counseling from a physician, nurse, or other health care worker about HIV and STD prevention; 29% (CI, 25.1–33.3) had a one-on-one conversation with an outreach worker, a counselor, or a prevention program worker about prevention; and 15% (CI, 12.2–17.1) participated in a small-group session (excluding discussions with friends) to discuss the prevention of HIV and other STDs. An estimated 54% (CI, 50.3–56.7) of patients received free condoms from various organizations; of these, 62.5% (CI, 56.0–69.0) received free condoms from a general health clinic, 28.1% (CI, 22.2–33.9) from an HIV/AIDS-focused community-based organization, 15.2% (CI, 11.1–19.3) from a social venue (i.e., bar, club, bathhouse, gym, bookstore), 5.7% (CI, 3.8–7.6) from a special event, 5.1% (CI, 2.6–7.7) from an STD clinic, 1.8% (CI, 0.6–2.9) from a family planning clinic, and 0.9% (CI, 0.5–1.3) from an outreach organization focused on injection drug use (excluding needle exchange programs) (data not shown in table).

Technical Notes

For further technical details, please see the appendix.

Population of Inference

For each MMP data collection cycle, the population of inference is HIV-infected adults (aged 18 years and older) who received care from known providers of outpatient HIV medical care in the United States during the population definition period (PDP). The PDP is a predefined period in which HIV-infected persons must have received care in a sampled facility in order to be sampled for participation in MMP. The PDP for the 2010 data collection cycle was January 1 through April 30, 2010. Published research suggests that of all HIV-infected persons in medical care, 88% had visited their HIV medical care provider at least once during the first 4 months of the specified calendar year [10].

A total of 23 areas were funded to conduct data collection for the 2010 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

Patients were enrolled by either MMP staff or health facility staff. The enrollment strategy depended on clinic needs, project area needs, local institutional review board requirements, and the number of patients sampled from a given facility. For enrollment by MMP staff, facilities provided local MMP staff with contact information for patients. For enrollment by HIV medical care providers, selected patients were initially contacted by their health care providers—in person, by telephone, or by mail—and then were contacted by MMP staff. The participant eligibility criteria were the same in all participating project areas: diagnosis of HIV infection, age of ≥18 years at the beginning of the 4-month period when patients were eligible for selection, no previous participation in MMP during the current data collection cycle, and receipt of medical care at the sampled facility during the PDP.

A trained interviewer conducted a computer-assisted personal interview. Two versions of the questionnaire (both available in English and in Spanish) were used in 2009: a standard questionnaire and a short questionnaire. The short questionnaire was administered when a patient was too ill to complete the longer standard interview or when translation to a language other than Spanish was required. Only standard questionnaire data are included in this report.

Persons who agreed to participate were interviewed in a private location (e.g., at home or in a clinic). The standard interview (approximately 45 minutes) included questions about demographics, health care utilization, met and unmet needs for ancillary services, sexual behavior, depression, gynecologic and reproductive history (women only), drug and alcohol use, and use of prevention services. Participants were reimbursed approximately $40 in cash or the equivalent for participation; reimbursement amounts differed slightly by project area.

After the interview, medical records were abstracted by MMP staff, using an electronic application provided by CDC. Abstracted information included diagnoses of AIDS-defining conditions, prescription of ART, laboratory results, and health care utilization in the 12 months before the interview.

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Table 1. Participants, by area—Medical Monitoring Project, United States, 2010

	Unweighted	
Area	**No.**	**%**
California (excluding Los Angeles County and San Francisco)	249	5.6
Chicago, IL	231	5.2
Delaware	224	5.0
Florida	423	9.5
Georgia	144	3.2
Houston, TX	159	3.6
Illinois (excluding Chicago)	46	1.0
Indiana	147	3.3
Los Angeles County, CA	247	5.5
Michigan	123	2.7
Mississippi	228	5.1
New Jersey	163	3.6
New York (excluding New York City)	104	2.3
New York City, NY	223	5.0
North Carolina	158	3.5
Oregon	280	6.3
Pennsylvania (excluding Philadelphia)	32	0.7
Philadelphia, PA	211	4.7
Puerto Rico	210	4.7
San Francisco, CA	213	4.8
Texas (excluding Houston)	257	5.7
Virginia	200	4.5
Washington	202	4.5
Total	**4,474**	**100.0**

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

Table 2. Characteristics of patients—Medical Monitoring Project, United States, 2010

	No.[a]	%[b]	95% CI[c]
Gender			
Male	3,228	72.2	68.9–75.6
Female	1,182	26.4	23.0–29.7
Transgender[d]	62	1.4	1.1–1.7
Sexual orientation			
Heterosexual or straight	2,160	48.3	42.4–54.3
Homosexual or gay	1,872	42.9	37.0–48.9
Bisexual	380	8.7	8.0–9.5
Race/ethnicity			
American Indian/Alaska Native	34	0.9	0.4–1.3
Asian	33	0.7	0.4–1.0
Black/African American	1,822	41.7	32.8–50.6
Hispanic/Latino[e]	960	19.4	13.6–25.1
Native Hawaiian/Other Pacific Islander	15	0.3	0.1–0.4
White	1,489	34.3	26.8–41.8
Multiple races	114	2.8	2.1–3.4
Age at time of interview (yr)			
18–24	125	3.1	2.1–4.2
25–29	197	4.7	3.8–5.6
30–34	306	6.9	6.1–7.7
35–39	395	8.7	7.5–9.8
40–44	741	17.1	16.0–18.3
45–49	892	19.6	18.2–21.0
50–54	822	17.9	16.8–18.9
55–59	541	12.0	10.8–13.2
60–64	264	5.8	5.1–6.6
≥65	191	4.2	3.5–4.9
Education			
Less than high school	976	20.6	17.8–23.3
High school diploma or GED	1,189	26.2	23.4–29.0
More than high school	2,307	53.2	48.3–58.2
Country or territory of birth			
United States	3,594	82.5	77.3–87.7
Puerto Rico	265	4.2	0.0–8.5
Mexico	204	3.9	2.9–4.9
Cuba	25	0.6	0.3–1.0
Other	386	8.8	6.7–10.9
Time since HIV diagnosis (yr)			
<5	951	22.0	19.9–24.0
5–9	978	22.3	20.8–23.8
≥10	2,543	55.7	52.6–58.9

Table 2. Characteristics of patients—Medical Monitoring Project, United States, 2010 *(cont)*

	No.[a]	%[b]	95% CI[c]
Homeless[f] at any time (during past 12 months)			
Yes	351	7.7	6.7–8.7
No	4,122	92.3	91.3–93.3
Incarcerated >24 hours (during past 12 months)			
Yes	219	5.2	4.5–6.0
No	4,254	94.8	94.0–95.5
Health insurance or coverage for antiretroviral medications[g] (during past 12 months)			
Yes	3,770	84.2	81.0–87.4
No	690	15.8	12.6–19.0
Type of health insurance or coverage for antiretroviral medications (during past 12 months)			
Private health insurance			
Yes	1,322	31.0	26.8–35.2
No	3,134	69.0	64.8–73.2
Medicaid			
Yes	1,745	39.3	34.0–44.7
No	2,714	60.7	55.3–66.0
Medicare			
Yes	1,196	26.9	24.8–28.9
No	3,260	73.1	71.1–75.2
Ryan White			
Yes	1,909	41.2	38.3–44.2
No	2,547	58.8	55.8–61.7
Tricare/CHAMPUS or Veterans Administration			
Yes	108	2.4	1.0–3.9
No	4,349	97.6	96.1–99.0
Other public insurance			
Yes	406	7.6	3.1–12.1
No	4,054	92.4	87.9–96.9
Insurance type unknown[h]			
Yes	104	2.5	1.7–3.4
No	4,356	97.5	96.6–98.3

Table 2. Characteristics of patients—Medical Monitoring Project, United States, 2010 *(cont)*

	No.[a]	%[b]	95% CI[c]
Primary source of most financial support (during past 12 months)			
SSI or SSDI	1,786	39.6	36.9–42.2
Salary or wages	1,632	37.2	34.9–39.6
Family, partner, or friend(s)	405	9.4	8.0–10.7
Illegal or possibly illegal activities	6	0.1	0.0–0.3
No income or financial support	59	1.2	0.7–1.6
Other	582	12.5	10.1–14.9
Combined yearly household income[i] (US$)			
0–4,999	512	10.9	8.8–12.9
5,000–9,999	1,075	23.7	20.3–27.2
10,000–14,999	855	19.6	18.1–21.2
15,000–19,999	433	10.2	9.3–11.1
20,000–29,999	474	11.3	10.2–12.4
30,000–39,999	296	7.4	6.3–8.5
40,000–49,999	188	4.7	3.8–5.7
50,000–74,999	216	5.2	4.1–6.2
≥75,000	297	6.9	5.7–8.1
Poverty guidelines[j]			
Above poverty threshold	2,370	56.4	52.4–60.4
At or below poverty threshold	1,976	43.6	39.6–47.6
Total	**4,474**	**100.0**	

Abbreviations: CI, confidence interval; GED, general educational development; CHAMPUS, Civilian Health and Medical Program of the Uniformed Services; SSI, Social Security Supplemental Income; SSDI, Social Security Disability Insurance.

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

Excluded are choices with fewer than 5 responses, values with a coefficient of variation greater than .30 (30%), "don't know" responses and skipped (missing) responses.

[a] Numbers are unweighted.

[b] Percentages are weighted percentages.

[c] CIs incorporate weighted percentages.

[d] Participants were classified as transgender if sex at birth and gender reported by the participant were different, or if the participant chose transgender in response to the question about self-identified gender.

[e] Hispanics or Latinos might be of any race. Participants are classified in only one category.

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

[g] Participants could select more than one response for health insurance or coverage for antiretroviral medications.

[h] Unknown insurance type means that the participant had insurance or coverage for antiretroviral medications, but the type of insurance or coverage could not be determined.

[i] Income from all sources, before taxes, in the last calendar year.

[j] Poverty guidelines as defined by the Department of Health and Human Services (HHS); the 2009 guidelines were used for patients interviewed in 2010 and the 2010 guidelines were used for patients interviewed in 2011. More information regarding the HHS poverty guidelines can be found at http://aspe.hhs.gov/poverty/faq.cfm.

Table 3. Stage of disease and CD4 counts of patients during the 12 months before the interview—Medical Monitoring Project, United States, 2010

	No.[a]	%[b]	95% CI[c]
Stage of disease			
Stage 1[d]	289	6.9	5.9–7.8
Stage 2[e]	1,085	24.3	22.6–26.0
Stage 3 (AIDS)[f]	3,091	68.8	67.3–70.3
Geometric mean CD4 count (cells/μL)			
0–199	583	13.4	12.4–14.4
200–349	756	17.4	16.0–18.7
350–499	963	22.8	21.4–24.1
≥500	1,998	46.4	44.7–48.2
Lowest CD4 count (cells/μL)			
0–49	210	4.7	4.0–5.5
50–199	608	14.0	12.9–15.2
200–349	940	22.0	20.5–23.5
350–499	1,016	23.6	22.3–24.8
≥500	1,534	35.7	33.9–37.4
Total	**4,474**	**100.0**	

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

Source of stages: CDC. Revised surveillance case definition for HIV infection among adults, adolescents, and children aged <18 months and for HIV infection and AIDS among children aged 18 months to <13 years—United States, 2008. *MMWR* 2008;57(RR-10):1–12.

Note. CD4 counts 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 choices with fewer than 5 responses, values with a coefficient of variation greater than .30 (30%), "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 1: No AIDS-defining condition and either CD4 count of ≥500 cells/μL or CD4 percentage of total lymphocytes of ≥29.

[e] HIV infection, stage 2: No AIDS-defining condition and either CD4 count of 200–499 cells/μL or CD4 percentage of total lymphocytes of 14–28.

[f] 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. CD4 and viral load monitoring, prescription of antiretroviral therapy, and viral suppression during the 12 months before the interview—Medical Monitoring Project, United States, 2010

	No.[a]	%[b]	95% CI[c]
Outpatient laboratory tests[d]			
CD4 or HIV viral load			
0	114	2.9	2.1–3.7
1	337	7.6	6.4–8.8
2	868	19.9	17.4–22.5
≥3	3,134	69.6	65.9–73.3
CD4			
0	141	3.5	2.6–4.3
1	405	9.3	7.6–11.0
2	965	22.1	19.9–24.4
≥3	2,942	65.1	61.3–68.8
HIV viral load			
0	218	5.2	4.2–6.2
1	443	10.1	8.6–11.6
2	968	22.1	19.5–24.7
≥3	2,824	62.6	58.4–66.9
Viral load measured at least once every 6 months			
Yes	3,415	76.0	72.9–79.0
No	1,038	24.0	21.0–27.1
CD4 measured at least once annually			
Yes	4,312	96.5	95.7–97.4
No	141	35	2.6–4.3
Prescribed ART			
Yes	4,077	90.2	88.9–91.6
No	397	9.8	8.4–11.1
Viral suppression			
Most recent viral load documented undetectable or <200 copies/mL	3,316	73.9	71.8–76.0
Most recent viral load documented ≥200 copies/mL or missing/unknown	1,158	26.1	24.0–28.2
Durable viral suppression			
All viral load measurements during past 12 months documented undetectable or <200 copies/mL	2,683	59.5	56.8–62.3
Any viral load during past 12 months ≥200 copies/mL or missing/unknown	1,791	40.5	37.7–43.2
Total	**4,474**	**100.0**	

Abbreviation: CI, confidence interval; CD4, CD4 T-lymphocyte count (cells/μL); ART, antiretroviral therapy.

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 choices with fewer than 5 responses, values with a coefficient of variation greater than .30 (30%), "don't know" responses and skipped (missing) responses.

[a] Numbers are unweighted.

[b] Percentages are weighted percentages.

[c] CIs incorporate weighted percentages.

[d] Only includes those tests with a documented result.

Table 5. Sexually transmitted disease testing during the 12 months before the interview, by sexual activity—Medical Monitoring Project, United States, 2010

	Total population			Sexually active[a] persons only		
	No.[b]	%[c]	95% CI[d]	No.[b]	%[c]	95% CI[d]
Gonorrhea[e]						
Yes, received screening	1,234	25.8	20.2–31.4	868	28.6	22.7–34.5
No screening documented	3,219	74.2	68.6–79.8	1,954	71.4	65.5–77.3
Chlamydia[f]						
Yes, received screening	1,287	27.1	21.6–32.7	901	29.7	23.8–35.6
No screening documented	3,166	72.9	67.3–78.4	1,921	70.3	64.4–76.2
Syphilis[g]						
Yes, received screening	2,610	55.3	50.0–60.5	1,738	58.2	53.3–63.1
No screening documented	1,843	44.7	39.5–50.0	1,084	41.8	36.9–46.7
Gonorrhea, chlamydia, and syphilis						
Yes, received screening	1,034	21.4	16.2–26.5	732	23.7	18.2–29.3
No screening documented	3,419	78.6	73.5–83.8	2,090	76.3	70.7–81.8
Total	**4,474**	**100.0**		**2,832**	**100.0**	

Abbreviation: CI, confidence interval.

Note. Information on laboratory testing for sexually transmitted diseases was based on documentation in medical records.

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

Excluded are choices with fewer than 5 responses, values with a coefficient of variation greater than .30 (30%), "don't know" responses, and skipped (missing) responses.

[a] Sexual activity was reported in the patient interview component of the Medical Monitoring Project and was defined as oral sex or 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, the nucleic acid amplification test (NAAT), or the nucleic acid probe.

[f] *Chlamydia trachomatis* testing was defined as a result from culture, direct fluorescent antibody (DFA), enzyme immunoassay (EIA) or enzyme-linked immunoassay (ELISA), the nucleic acid amplification test (NAAT), or nucleic acid probe.

[g] Syphilis testing was defined as a result from non-treponemal syphilis tests (rapid plasma reagin [RPR], Venereal Disease Research Laboratory [VDRL]), treponemal syphilis tests (*Treponema pallidum* hemagglutination assay [TPHA], *T. pallidum* particle agglutination [TP-PA], microhemagglutination assay for antibody to *T. pallidum* [MHA-TP], fluorescent treponemal antibody absorbed [FTA-ABS] tests), or dark-field microscopy.

Table 6. Emergency department or urgent care clinic use and hospital admission during the 12 months before the interview—Medical Monitoring Project, United States, 2010

	No.[a]	%[b]	95% CI[c]
Visits to emergency department or urgent care clinic			
0	4,024	91.1	89.2–93.1
1	225	4.7	3.5–5.8
2–4	173	3.5	2.8–4.3
≥5	36	0.7	0.3–1.0
Hospital admissions			
0	4,138	93.2	92.1–94.4
1	221	4.7	3.7–5.6
2–4	88	1.8	1.4–2.2
≥5	16	0.3	0.1–0.5
Total	**4,474**	**100.0**	

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 choices with fewer than 5 responses, values with a coefficient of variation greater than .30 (30%), "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 use, payment source, and adherence—Medical Monitoring Project, United States, 2010

	No.[a]	%[b]	95% CI[c]
Ever taken antiretroviral medications (ART)			
Yes	4,227	94.1	93.2–95.1
No	237	5.9	4.9–6.8
Currently taking ART			
Yes	4,034	90.4	89.2–91.7
No	404	9.6	8.3–10.8
Main reason for never taking ART			
Doctor advised to delay treatment	192	84.0	79.1–88.9
Participant believed he or she didn't need medications because felt healthy or believed HIV laboratory results were good	26	10.0	6.0–14.1
Due to side effects of medication	—	—	—
Felt depressed or overwhelmed	—	—	—
Didn't want to think about being HIV positive	—	—	—
Worried about ability to adhere	—	—	—
Drinking or using drugs	—	—	—
Money or insurance issues	—	—	—
Homeless	—	—	—
Other	9	2.8	0.0–5.6
Main reason for not currently taking ART, among those persons with a history of ART use			
Doctor advised to delay treatment	58	35.7	26.5–44.9
Participant believed he or she didn't need medications because felt healthy or believed HIV laboratory results were good	15	10.2	3.8–16.7
Due to side effects of medication	25	16.9	9.9–23.8
Felt depressed or overwhelmed	8	4.1	1.0–7.2
Didn't want to think about being HIV positive	—	—	—
Worried about ability to adhere	—	—	—
Drinking or using drugs	5	2.3	0.2–4.4
Money or insurance issues	26	17.4	10.8–24.0
Homeless	—	—	—
Other	22	11.0	5.8–16.3
ART medications paid for by			
AIDS Drug Assistance Program (ADAP)			
Yes	1,694	40.6	37.4–43.8
No	2,313	59.4	56.2–62.6
Medicaid			
Yes	1,229	31.5	26.5–36.4
No	2,778	68.5	63.6–73.5
Private health insurance			
Yes	927	23.8	19.9–27.8
No	3,080	76.2	72.2–80.1

Table 7. Antiretroviral therapy use, payment source, and adherence—Medical Monitoring Project, United States, 2010 *(cont)*

	No.[a]	%[b]	95% CI[c]
Medicare			
Yes	718	17.9	16.3–19.4
No	3,289	82.1	80.6–83.7
Out of pocket			
Yes	420	10.9	7.5–14.4
No	3,587	89.1	85.6–92.5
Other public insurance			
Yes	172	3.1	0.7–5.6
No	3,862	96.9	94.4–99.3
Veterans Administration			
Yes	73	1.8	0.5–3.2
No	3,961	98.2	96.8–99.5
Public clinic			
Yes	58	1.7	0.5–2.8
No	3,949	98.3	97.2–99.5
AIDS service organization			
Yes	50	1.5	0.8–2.2
No	3,957	98.5	97.8–99.2
Other unspecified insurance			
Yes	44	1.3	0.9–1.7
No	3,990	98.7	98.3–99.1
Clinical trial or drug study			
Yes	21	0.5	0.2–0.9
No	3,986	99.5	99.1–99.8
Tricare or CHAMPUS			
Yes	—	—	—
No	4,031	99.9	99.8–100.0
100% ART medication adherence (during preceding 72 hours)			
By dose			
Yes	3,405	85.7	84.4–86.9
No	571	14.3	13.1–15.6
By schedule			
Yes	3,010	74.8	72.6–77.1
No	1,006	25.2	22.9–27.4
By special instructions			
Yes	1,905	70.1	68.4–71.8
No	757	29.9	28.2–31.6

Table 7. Antiretroviral therapy use, payment source, and adherence—Medical Monitoring Project, United States, 2010 *(cont)*

	No.[a]	%[b]	95% CI[c]
Troubled by ART side effects			
Never	2,658	65.5	63.3–67.7
Rarely	684	17.4	15.7–19.2
About half the time	245	6.5	5.7–7.3
Most of the time	208	5.6	4.8–6.4
Always	200	4.7	4.0–5.5
Been on medications <30 days	14	0.2	0.1–0.4
Troubled by ART side effects half of the time or more (during past 30 days)			
Yes	653	16.8	15.7–18.0
Rarely	3,342	83.2	82.0–84.3
Any drug holiday (during past 12 months)			
Yes	386	9.2	7.6–10.8
No	3,643	90.8	89.2–92.4
Ever missed a dose of ART medications			
Yes	1,909	56.9	54.5–59.3
No	1,527	43.1	40.7–45.5
Total	**4,474**	**100.0**	

Abbreviations: CI, confidence interval; ART, antiretroviral therapy; CHAMPUS, Civilian Health and Medical Program of the Uniformed Services.

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

Excluded are choices with fewer than 5 responses, values with a coefficient of variation greater than .30 (30%), “don’t know” responses and skipped (missing) responses.

[a] Numbers are unweighted.

[b] Percentages are weighted percentages.

[c] CIs incorporate weighted percentages.

Table 8. Beliefs among patients currently taking antiretroviral medications—Medical Monitoring Project, United States, 2010

Belief	No.[a]	%[b]	95% CI[c]
Will be able to take all or most of medication as directed			
Not at all sure	42	0.9	0.6–1.2
Somewhat sure	204	4.8	4.1–5.5
Very sure	1,205	29.8	27.7–32.0
Extremely sure	2,580	64.4	62.1–66.7
Medication will have a positive effect on health			
Not at all sure	127	3.3	2.7–4.0
Somewhat sure	332	8.7	7.5–9.9
Very sure	1,284	32.0	29.2–34.7
Extremely sure	2,274	56.0	52.4–59.6
HIV will become resistant to antiretroviral medications if medication is not taken exactly as instructed			
Not at all sure	270	7.0	5.7–8.2
Somewhat sure	507	13.0	11.8–14.2
Very sure	1,220	30.3	27.9–32.7
Extremely sure	1,982	49.7	47.2–52.3
Total	**4,034**	**100.0**	

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 choices with fewer than 5 responses, values with a coefficient of variation greater than .30 (30%), "don't know" responses and skipped (missing) responses.

[a] Numbers are unweighted.

[b] Percentages are weighted percentages.

[c] CIs incorporate weighted percentages.

Table 9. Reasons for missed antiretroviral therapy dose, among those missing a dose during the 12 months before the interview—Medical Monitoring Project, United States, 2010

	No.[a]	%[b]	95% CI[c]
Change in daily routine, including travel			
Yes	537	29.5	25.7–33.3
No	1,357	70.5	66.7–74.3
Forgot to take them			
Yes	545	27.0	23.1–30.9
No	1,349	73.0	69.1–76.9
Problem with prescription or refill			
Yes	272	14.4	11.8–17.0
No	1,622	85.6	83.0–88.2
Felt sick or tired			
Yes	190	10.6	8.2–13.0
No	1,704	89.4	87.0–91.8
Drinking or using drugs			
Yes	80	3.9	2.4–5.4
No	1,814	96.1	94.6–97.6
Felt depressed or overwhelmed			
Yes	60	3.3	2.4–4.3
No	1,834	96.7	95.7–97.6
Due to side effects of medications			
Yes	58	2.8	2.1–3.4
No	1,836	97.2	96.6–97.9
Money or insurance issues			
Yes	43	2.3	1.7–3.0
No	1,851	97.7	97.0–98.3
Homeless[d]			
Yes	7	0.4	0.0–0.7
No	1,887	99.6	99.3–100.0
Total	**1,909**	**100.0**	

Abbreviation: CI, confidence interval.

Note. Participants could report more than 1 reason.

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

Excluded are choices with fewer than 5 responses, values with a coefficient of variation greater than .30 (30%), "don't know" responses and skipped (missing) responses.

[a] Numbers are unweighted.

[b] Percentages are weighted percentages.

[c] CIs incorporate weighted percentages.

[d] Living on the street, in a shelter, in a single-room–occupancy hotel, or in a car.

Table 10. Depression during the 12 months before the interview—Medical Monitoring Project, United States, 2010

	No.[a]	%[b]	95% CI[c]
Depression based on DSM-IV criteria[d]			
No depression	3,348	75.5	73.7–77.4
Other depression	541	12.5	11.4–13.6
Major depression	534	12.0	10.7–13.3
Moderate or severe depression (PHQ-8 score >10)			
Yes	1,036	23.7	21.5–25.9
No	3,387	76.3	74.1–78.5
Total	**4,474**	**100.0**	

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 choices with fewer than 5 responses, values with a coefficient of variation greater than .30 (30%), "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 8 items on the Patient Health Questionnaire (PHQ-8) were used to define "major depression" and "other depression," according to criteria from the *Diagnostic and Statistical Manual of Mental Disorders*, 4th ed. (DSM-IV-TR). "Major depression" was defined as having at least 5 symptoms of depression, while "other depression" was defined as having 2–4 symptoms of depression.

Table 11. Cigarette smoking—Medical Monitoring Project, United States, 2010

	No.[a]	%[b]	95% CI[c]
Smoked ≥100 cigarettes (lifetime)			
Yes	2,781	62.6	60.7–64.6
No	1,684	37.4	35.4–39.3
Smoking status			
Never smoked	1,684	37.4	35.5–39.3
Former smoker	963	21.9	20.0–23.7
Current smoker	1,815	40.7	38.9–42.6
Frequency of cigarette smoking (during past 12 months)			
Never	2,647	59.3	57.4–61.1
Daily	1,517	33.8	32.1–35.5
Weekly	163	3.7	3.1–4.3
Monthly	50	1.1	0.7–1.6
Less than monthly	85	2.1	1.5–2.7
Total	**4,474**	**100.0**	

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 choices with fewer than 5 responses, values with a coefficient of variation greater than .30 (30%), "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 the interview—Medical Monitoring Project, United States, 2010

	No.[a]	%[b]	95% CI[c]
Any alcohol use[d] (during past 12 months)			
Yes	2,863	65.4	62.3–68.4
No	1,603	34.6	31.6–37.7
Frequency of alcohol use (during past 12 months)			
Daily	275	6.0	5.2–6.9
Weekly	880	19.9	18.3–21.6
Monthly	556	12.5	11.2–13.7
Less than monthly	1,152	26.9	25.3–28.5
Never	1,603	34.6	31.6–37.7
Alcohol use before or during sex (during past 12 months)			
Yes	1,047	23.9	22.3–25.6
No	3,400	76.1	74.4–77.7
Alcohol use (during past 30 days)			
Yes	2,201	50.5	47.3–53.6
No	2,250	49.5	46.4–52.7
Binge drinking[e] (during past 30 days)			
Yes	684	15.3	14.0–16.5
No	3,761	84.7	83.5–86.0
Heavy drinking[f] (during past 30 days)			
Yes	203	4.5	3.9–5.1
No	4,239	95.5	94.9–96.1
Total	**4,474**	**100.0**	

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 choices with fewer than 5 responses, values with a coefficient of variation greater than .30 (30%), "don't know" responses and skipped (missing) responses.

[a] Numbers are unweighted.

[b] Percentages are weighted percentages.

[c] CIs incorporate weighted percentages.

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

[e] Participants who drank ≥5 alcoholic beverages at one sitting (≥4 for women) during the 30 days preceding the interview.

[f] Participants who drank, on average, >2 alcoholic beverages (>1 for women) per day during the 30 days preceding the interview.

Table 13. Noninjection drug use during the 12 months before the interview—Medical Monitoring Project, United States, 2010

	No.[a]	%[b]	95% CI[c]
Use of any noninjection drugs[d] (during past 12 months)			
Yes	1,145	26.6	24.5–28.8
No	3,317	73.4	71.2–75.5
Use of any noninjection drugs[d] before or during sex (during past 12 months)			
Yes	545	12.5	10.9–14.2
No	3,901	87.5	85.8–89.1
Noninjection drugs[d] used by participants (during past 12 months)			
Marijuana			
Yes	918	21.9	19.8–24.1
No	3,544	78.1	75.9–80.2
Poppers (amyl nitrate)			
Yes	229	5.1	3.3–7.0
No	4,234	94.9	93.0–96.7
Cocaine (smoked or snorted)			
Yes	215	4.9	4.2–5.5
No	4,248	95.1	94.5–95.8
Crack			
Yes	186	4.3	3.6–4.9
No	4,276	95.7	95.1–96.4
Methamphetamine (crystal meth, tina, crank, ice)			
Yes	180	3.7	2.1–5.3
No	4,284	96.3	94.7–97.9
Painkiller (e.g., Oxycontin, Vicodin, or Percocet)			
Yes	124	2.8	2.1–3.5
No	4,340	97.2	96.5–97.9
Downer (e.g., Valium, Ativan, or Xanax)			
Yes	91	2.0	1.6–2.4
No	4,372	98.0	97.6–98.4

Table 13. Noninjection drug use during the 12 months before the interview—Medical Monitoring Project, United States, 2010 *(cont)*

	No.[a]	%[b]	95% CI[c]
X or Ecstacy			
Yes	67	1.4	1.1–1.7
No	4,397	98.6	98.3–98.9
GHB			
Yes	66	1.3	0.7–1.9
No	4,398	98.7	98.1–99.3
Heroin or opium (smoked or snorted)			
Yes	36	0.7	0.4–1.0
No	4,427	99.3	99.0–99.6
Hallucinogen (e.g., LSD or mushrooms)			
Yes	25	0.5	0.2–0.8
No	4,439	99.5	99.2–99.8
Special K (ketamine)			
Yes	20	0.4	0.2–0.5
No	4,444	99.6	99.5–99.8
Steroid			
Yes	16	0.4	0.2–0.6
No	4,447	99.6	99.4–99.8
Amphetamine (speed)			
Yes	46	0.9	0.6–1.2
No	4,418	99.1	98.8–99.4
Total	**4,474**	**100.0**	

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; LSD, lysergic acid diethylamide.

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

Excluded are choices with fewer than 5 responses, values with a coefficient of variation greater than .30 (30%), “don’t know” responses and skipped (missing) responses.

[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.

Table 14. Sexual orientation and sexual activity during the 12 months before the interview—Medical Monitoring Project, United States, 2010

	No.[a]	%[b]	95% CI[c]
Classification of sexual behavior and sexual orientation			
Any MSM (MSM only, and men who have sex with men and women)	2,148	49.4	43.4–55.3
Men who have sex with women only	1,047	22.8	19.7–25.9
Any women who have sex with men (women who have sex with men only, and women who have sex with men and women)	1,147	25.9	22.7–29.2
Women who have sex with women only	29	0.5	0.3–0.7
Transgender	62	1.4	1.1–1.7
Any sexual activity (during past 12 months)			
Yes	2,832	62.7	60.4–64.9
No	1,622	37.3	35.1–39.6
Engaged in any unprotected sex with			
Any partner			
Yes	1,014	22.7	20.0–25.4
No	3,347	77.3	74.6–80.0
Any partner whose HIV status was negative or unknown			
Yes	474	10.5	9.3–11.7
No	3,876	89.5	88.3–90.7
Total	**4,474**	**100.0**	

Abbreviations: CI, confidence interval; MSM, men who have 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 choices with fewer than 5 responses, values with a coefficient of variation greater than .30 (30%), “don’t know” responses and skipped (missing) responses.

[a] Numbers are unweighted.

[b] Percentages are weighted percentages.

[c] CIs incorporate weighted percentages.

Table 15. Sexual risk behaviors during the 12 months before the interview among men who have sex with men, by type of partner—Medical Monitoring Project, United States, 2010

	Any partner[a]			Main partner[b]			Casual partner[c]		
Behavior	**No.[d]**	**%[e]**	**95% CI[f]**	**No.[d]**	**%[e]**	**95% CI[f]**	**No.[d]**	**%[e]**	**95% CI[f]**
Any anal sex									
Yes	1,258	59.2	57.1–61.3	869	41.4	39.3–43.6	718	33.1	30.8–35.4
No	864	40.8	38.7–42.9	1,254	58.6	56.4–60.7	1,405	66.9	64.6–69.2
Any unprotected[g] anal sex									
Yes	644	30.5	27.9–33.1	436	20.5	18.2–22.7	352	16.4	14.3–18.4
No	1,425	69.5	66.9–72.1	1,676	79.5	77.3–81.8	1,718	83.6	81.6–85.7
Unprotected[g] anal sex with partner whose HIV status was negative or unknown									
Yes	243	11.3	9.9–12.6	128	5.5	4.4–6.5	147	7.0	5.9–8.1
No	1,817	88.7	87.4–90.1	1,982	94.5	93.5–95.6	1,921	93.0	91.9–94.1
Insertive anal sex									
Yes	1,001	46.7	44.3–49.2	678	32.2	30.0–34.3	563	25.6	23.4–27.8
No	1,121	53.3	50.8–55.7	1,446	67.8	65.7–70.0	1,559	74.4	72.2–76.6
Unprotected[g] insertive anal sex									
Yes	499	23.0	20.9–25.2	329	15.5	13.7–17.4	265	11.9	10.2–13.6
No	1,622	77.0	74.8–79.1	1,795	84.5	82.6–86.3	1,856	88.1	86.4–89.8
Unprotected[g] insertive anal sex with partner whose HIV status was negative or unknown									
Yes	131	5.8	4.9–6.8	66	2.7	2.0–3.4	72	3.4	2.7–4.2
No	1,990	94.2	93.2–95.1	2,058	97.3	96.6–98.0	2,049	96.6	95.8–97.3

Table 15. Sexual risk behaviors during the 12 months before the interview among men who have sex with men, by type of partner—Medical Monitoring Project, United States, 2010 *(cont)*

	Any partner[a]			Main partner[b]			Casual partner[c]		
Behavior	**No.[d]**	**%[e]**	**95% CI[f]**	**No.[d]**	**%[e]**	**95% CI[f]**	**No.[d]**	**%[e]**	**95% CI[f]**
Receptive anal sex									
Yes	957	45.3	43.2–47.4	653	30.8	29.3–32.3	522	24.2	22.0–26.4
No	1,140	54.7	52.6–56.8	1,465	69.2	67.7–70.7	1,573	75.8	73.6–78.0
Unprotected[g] receptive anal sex									
Yes	505	23.9	21.6–26.2	341	15.9	14.0–17.7	266	12.2	10.5–13.8
No	1,558	76.1	73.8–78.4	1,771	84.1	82.3–86.0	1,803	87.8	86.2–89.5
Unprotected[g] receptive anal sex with partner whose HIV status was negative or unknown									
Yes	187	8.7	7.6–9.8	99	4.2	3.4–5.1	116	5.6	4.7–6.5
No	1,868	91.3	90.2–92.4	2,011	95.8	94.9–96.6	1,951	94.4	93.5–95.3
Total	**2,148**	**100.0**		**2,148**	**100.0**		**2,148**	**100.0**	

Abbreviation: CI, confidence interval.

Note. Men who have sex with men were defined as men who reported sex with men during the 12 months preceding the interview, regardless of whether they also reported sex with women, or if no sexual activity was reported, men who identified as homosexual, gay, or bisexual.

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

Excluded are choices with fewer than 5 responses, values with a coefficient of variation greater than .30 (30%), "don't know" responses and skipped (missing) responses.

[a] Indicates whether the behavior was reported with any sexual partner.

[b] A partner with whom the participant had sex and to whom he felt most committed to (e.g., boyfriend, spouse, significant other, or life partner).

[c] A partner with whom the participant had sex but to whom he did not feel committed or whom he did not know very well.

[d] Numbers are unweighted.

[e] Percentages are weighted percentages.

[f] CIs incorporate weighted percentages.

[g] Neither the participant nor his partner used a condom.

Table 16. Sexual risk behaviors during the 12 months before the interview among men who have sex with women, by type of partner—Medical Monitoring Project, United States, 2010

	Any partner[a]			Main partner[b]			Casual partner[c]		
Behavior	**No.[d]**	**%[e]**	**95% CI[f]**	**No.[d]**	**%[e]**	**95% CI[f]**	**No.[d]**	**%[e]**	**95% CI[f]**
Any vaginal sex									
Yes	575	53.1	48.4–57.9	454	41.7	37.5–45.9	164	15.2	12.4–18.1
No	462	46.9	42.1–51.6	583	58.3	54.1–62.5	873	84.8	81.9–87.6
Any unprotected[g] vaginal sex									
Yes	127	11.3	8.9–13.6	110	9.6	7.0–12.3	23	2.1	1.3–3.0
No	910	88.7	86.4–91.1	927	90.4	87.7–93.0	1,014	97.9	97.0–98.7
Unprotected[g] vaginal sex with partner whose HIV status was negative or unknown									
Yes	77	7.3	5.6–9.0	62	5.7	3.7–7.8	19	1.9	1.1–2.8
No	959	92.7	91.0–94.4	974	94.3	92.2–96.3	1,018	98.1	97.2–98.9
Any anal sex									
Yes	65	5.7	3.5–7.9	43	3.5	1.9–5.1	24	2.3	1.1–3.5
No	969	94.3	92.1–96.5	992	96.5	94.9–98.1	1,012	97.7	96.5–98.9
Unprotected[g] anal sex									
Yes	20	1.6	0.9–2.3	17	1.3	0.6–2.0	—	—	—
No	1,013	98.4	97.7–99.1	1,018	98.7	98.0–99.4	1,032	99.7	99.3–100.0
Unprotected[g] anal sex with partner whose HIV status was negative or unknown									
Yes	12	1.2	0.6–1.7	10	0.9	0.3–1.5	—	—	—
No	1,021	98.8	98.3–99.4	1,025	99.1	98.5–99.7	1,033	99.8	99.4–100.0
Total	**1,047**	**100.0**		**1,047**	**100.0**		**1,047**	**100.0**	

Abbreviation: CI, confidence interval.

Note. Men who exclusively have sex with women were defined as men who reported sex only with women during the 12 months preceding the interview, or if no sexual activity was reported, men who identified as heterosexual or straight.

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

Excluded are choices with fewer than 5 responses, values with a coefficient of variation greater than .30 (30%), "don't know" responses and skipped (missing) responses.

[a] Indicates whether the behavior was reported with any sexual partner.

[b] A partner with whom the participant had sex and to whom he felt most committed to (e.g., girlfriend, spouse, significant other, or life partner).

[c] A partner with whom the participant had sex but to whom he did not feel committed or whom he did not know very well.

[d] Numbers are unweighted.

[e] Percentages are weighted percentages.

[f] CIs incorporate weighted percentages.

[g] Neither the participant nor his partner used a condom.

Table 17. Sexual risk behaviors during the 12 months before the interview among women who have sex with men, by type of partner—Medical Monitoring Project, United States, 2010

	Any partner[a]			Main partner[b]			Casual partner[c]		
Behavior	**No.[d]**	**%[e]**	**95% CI[f]**	**No.[d]**	**%[e]**	**95% CI[f]**	**No.[d]**	**%[e]**	**95% CI[f]**
Any vaginal sex									
Yes	586	50.4	47.5–53.2	519	43.5	40.1–46.8	95	9.3	6.9–11.7
No	548	49.6	46.8–52.5	615	56.5	53.2–59.9	1,039	90.7	88.3–93.1
Any unprotected[g] vaginal sex									
Yes	217	18.4	15.6–21.2	195	16.6	14.1–19.1	27	2.2	1.3–3.1
No	916	81.6	78.8–84.4	939	83.4	80.9–85.9	1,106	97.8	96.9–98.7
Unprotected[g] vaginal sex with partner whose HIV status was negative or unknown									
Yes	134	11.3	8.9–13.6	119	10.2	8.1–12.3	19	1.5	0.8–2.3
No	999	88.7	86.4–91.1	1,015	89.8	87.7–91.9	1,114	98.5	97.7–99.2
Any anal sex									
Yes	54	5.1	3.1–7.1	46	4.3	2.5–6.0	10	1.0	0.3–1.7
No	1,077	94.9	92.9–96.9	1,086	95.7	94.0–97.5	1,123	99.0	98.3–99.7
Unprotected[g] anal sex									
Yes	24	2.0	1.0–3.1	21	1.7	0.7–2.7	—	—	—
No	1,105	98.0	96.9–99.0	1,111	98.3	97.3–99.3	1,127	99.6	99.3–100.0
Unprotected[g] anal sex with partner whose HIV status was negative or unknown									
Yes	15	1.1	0.3–1.9	13	0.9	0.2–1.6	—	—	—
No	1,114	98.9	98.1–99.7	1,119	99.1	98.4–99.8	1,128	99.7	99.4–100.0
Total	**1,147**	**100.0**		**1,147**	**100.0**		**1,147**	**100.0**	

Abbreviation: CI, confidence interval.

Note. Women who have sex with men were defined as women who reported sex with men during the 12 months preceding the interview, regardless of whether they also reported sex with women, or if no sexual activity was reported, women who identified as heterosexual, straight, or bisexual.

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

Excluded are choices with fewer than 5 responses, values with a coefficient of variation greater than .30 (30%), "don't know" responses and skipped (missing) responses.

[a] Indicates whether the behavior was reported with any sexual partner.

[b] A partner with whom the participant had sex and to whom she felt most committed to (e.g., boyfriend, spouse, significant other, or life partner).

[c] A partner with whom the participant had sex but to whom she did not feel committed or whom she did not know very well.

[d] Numbers are unweighted.

[e] Percentages are weighted percentages.

[f] CIs incorporate weighted percentages.

[g] Neither the participant nor her partner used a condom.

Table 18. Met and unmet needs for ancillary services during the 12 months before the interview—Medical Monitoring Project, United States, 2010

	Persons who received services			Persons who needed but did not receive services by time of interview			Persons who did not need or receive services		
	No.[a]	%[b]	95% CI[c]	No.[a]	%[b]	95% CI[c]	No.[a]	%[b]	95% CI[c]
HIV case management services									
Yes	2,673	59.3	55.1–63.5	228	5.3	4.5–6.1	1,553	35.3	31.3–39.3
No	1,786	40.7	36.5–44.9	4,232	94.7	93.9–95.5	2,903	64.7	60.7–68.7
Dental care									
Yes	2,630	58.0	55.2–60.9	1,045	23.9	21.6–26.2	792	18.1	15.7–20.4
No	1,837	42.0	39.1–44.8	3,423	76.1	73.8–78.4	3,676	81.9	79.6–84.3
Public benefits (e.g., SSI or SSDI)									
Yes	2,048	45.6	42.9–48.3	506	12.2	10.9–13.6	1,906	42.2	39.8–44.5
No	2,415	54.4	51.7–57.1	3,955	87.8	86.4–89.1	2,554	57.8	55.5–60.2
Medicine through ADAP									
Yes	1,997	43.6	40.5–46.6	123	3.0	2.3–3.8	2,259	53.2	50.4–56.0
No	2,390	56.4	53.4–59.5	4,295	97.0	96.2–97.7	2,123	46.8	44.0–49.6
Counseling about how to prevent spread of HIV									
Yes	1,778	39.2	34.6–43.8	59	1.3	0.9–1.8	2,631	59.5	55.0–63.9
No	2,690	60.8	56.2–65.4	4,409	98.7	98.2–99.1	1,837	40.5	36.1–45.0
Meal or food services									
Yes	1,332	29.0	26.6–31.4	348	7.9	6.6–9.2	2,788	63.1	60.3–65.9
No	3,136	71.0	68.6–73.4	4,120	92.1	90.8–93.4	1,680	36.9	34.1–39.7
Mental health services									
Yes	1,238	27.3	25.3–29.3	281	68	5.7–7.9	2,944	65.9	63.8–68.1
No	3,230	72.7	70.7–74.7	4,183	93.2	92.1–94.3	1,519	34.1	31.9–36.2
Transportation assistance									
Yes	1,213	25.7	23.1–28.4	374	8.6	7.6–9.6	2,882	65.7	63.0–68.3
No	3,256	74.3	71.6–76.9	4,095	91.4	90.4–92.4	1,587	34.3	31.7–37.0
Professional help remembering to take HIV medicines on time or correctly (adherence support services)									
Yes	875	18.7	15.4–22.0	87	2.1	1.6–2.6	3,507	79.2	75.9–82.6
No	3,594	81.3	78.0–84.6	4,382	97.9	97.4–98.4	962	20.8	17.4–24.1

Table 18. Met and unmet needs for ancillary services during the 12 months before the interview—Medical Monitoring Project, United States, 2010 *(cont)*

	Persons who received services			Persons who needed but did not receive services by time of interview			Persons who did not need or receive services		
	No.[a]	%[b]	95% CI[c]	No.[a]	%[b]	95% CI[c]	No.[a]	%[b]	95% CI[c]
Shelter or housing services									
Yes	758	16.4	14.9–17.9	377	8.8	7.1–10.6	3,332	74.7	72.3–77.2
No	3,709	83.6	82.1–85.1	4,090	91.2	89.4–92.9	1,135	25.3	22.8–27.7
HIV peer group support									
Yes	742	16.2	14.6–17.8	352	8.3	7.1–9.5	3,366	75.5	73.7–77.3
No	3,727	83.8	82.2–85.4	4,108	91.7	90.5–92.9	1,094	24.5	22.7–26.3
Drug or alcohol counseling or treatment									
Yes	416	8.7	7.2–10.2	74	1.6	1.3–2.0	3,976	89.7	88.1–91.2
No	4,052	91.3	89.8–92.8	4,393	98.4	98.0–98.7	490	10.3	8.8–11.9
Home health services									
Yes	289	6.2	5.3–7.1	116	2.7	2.1–3.3	4,059	91.1	90.2–92.0
No	4,177	93.8	92.9–94.7	4,349	97.3	96.7–97.9	405	8.9	8.0–9.8
Interpreter services									
Yes	130	2.8	2.0–3.6	15	0.3	0.1–0.5	4,324	96.9	96.1–97.7
No	4,339	97.2	96.4–98.0	4,454	99.7	99.5–99.9	145	3.1	2.3–3.9
Domestic violence services									
Yes	67	1.5	1.1–1.9	31	0.7	0.4–0.9	4,370	97.8	97.3–98.3
No	4,401	98.5	98.1–98.9	4,437	99.3	99.1–99.6	98	2.2	1.7–2.7
Childcare services									
Yes	45	1.0	0.6–1.3	57	1.5	1.0–2.0	4,367	97.5	97.0–98.0
No	4,424	99.0	98.7–99.4	4,412	98.5	98.0–99.0	102	2.5	2.0–3.0
Total	**4,474**	**100.0**		**4,474**	**100.0**		**4,474**	**100.0**	

Abbreviations: CI, confidence interval; SSI, Social Security Supplemental Income; SSDI, Social Security Disability Insurance; ADAP, AIDS Drug Assistance Program.

Note. Participants could report receiving or needing more than one service.

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

Excluded are choices with fewer than 5 responses, values with a coefficient of variation greater than .30 (30%), "don't know" responses and skipped (missing) responses.

Analyses limited to persons with a diagnosis of HIV infection received at least 12 months before the interview.

[a] Numbers are unweighted.

[b] Percentages are weighted percentages.

[c] CIs incorporate weighted percentages.

Appendix: Methods and Measures

SAMPLING METHODS

MMP uses a probability proportional to size (PPS) sampling design. The MMP sample was selected in 3 stages. States were selected first. 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 received separate funding for HIV/AIDS 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, an independently funded HIV surveillance authority), 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.

HIV medical care facilities (defined as secondary sampling units [SSUs]) were sampled after the selection of states. Facilities were defined as providing HIV medical care if they provided at least 1 of the following in the context of treating and managing a patient's HIV disease on an outpatient basis: (1) CD4 T-lymphocyte count (CD4) count or HIV viral load testing or (2) prescriptions for antiretroviral therapy (ART) medications. Thus, facilities providing HIV care could include outpatient facilities such as hospital-affiliated clinics, free-standing clinics, or private physicians' offices.

In 2009, within each participating project area, MMP staff members used various data sources to compile comprehensive lists of facilities providing HIV medical care. Facilities selected from this list for participation in 2009 were also used for 2010. The exception was California, for which the list was reconstructed because of a high proportion of ineligible facilities in 2009. The lists were developed by using a roster of facilities that reported patients to the National HIV Surveillance System (NHSS) via the Enhanced HIV/AIDS Reporting System (eHARS). Additional data sources were used: for example, databases of laboratory reports from state or local areas (including information on providers who order laboratory tests) and prescription drug lists (including information on prescribers of ART medications). Facilities that did not provide medical care (e.g., HIV counseling and testing sites) were excluded from the list of facilities, as were emergency departments, facilities located outside the MMP areas, correctional facilities, facilities at military installations, and facilities that provided HIV medical care exclusively to persons aged <18 years.

The size of each facility was determined by using the estimated patient load (EPL) for the population definition period (PDP). This information was based on the patient load provided by the facility. EPLs that could not be obtained from facilities were obtained from eHARS or other sources, such as state or local laboratory databases or prescription drug lists. From these lists, HIV medical care facilities were sampled with a likelihood of selection proportional to their EPL. Facilities with higher patient loads had a higher probability of selection; those with lower patient loads had a lower probability of selection. On average, 30 facilities per project area were sampled, and all sampled facilities were recruited. If a facility declined to participate or was found to be ineligible, that facility was not replaced with another facility (i.e., substitution of facilities was not allowed).

Individual patients were sampled after facility selection. Each participating facility compiled comprehensive lists of eligible patients seen during the PDP (hereafter referred to as actual patient load [APL]). Patient lists from all facilities in a project area

were compiled into a single list from which patients were sampled. Project areas attempted to recruit all sampled patients.

Nonresponse Analysis and Weighting

Data used to generate national estimates were weighted for the probability of selection based upon known probabilities of selection at each sampling stage. In addition, data were weighted to adjust for nonresponse by using predictors of patient-level response, including facility size, race/ethnicity, time since HIV diagnosis, and age group.

Data Sources

In 2010, 4 data sources were used for nonresponse analysis and weighting: (1) interview data, (2) medical record abstraction (MRA) data, (3) the minimum data set (MDS), and (4) facility attributes data. Information in each data set was used to define the eligible population and the total weight sum, or the estimated size of the population of HIV-infected adults in medical care in the United States. Interview data contain information for all participants who completed an interview.

MRA data were obtained for all participants whose medical records were available. Some project areas have surveillance authority to abstract medical records without patient consent; in these areas, MRA data may be available even if the participant could not be located for an interview.

The MDS is an adjunct to MMP that includes an extract of NHSS data for sampled patients in MMP. Information for the MDS is obtained locally, primarily from eHARS but might include data from other local sources such as participating facilities. The MDS provides descriptive information about sampled patients for assessing how patient characteristics might be associated with nonresponse.

Facility attributes data were collected for all 582 sampled, eligible facilities by using interviews with facility staff, information from state or local health department staff, and publicly available information. The collected data include facility type, size, ownership, and rural/urban status, as well as funding sources and services provided.

Eligibility and Response Classifications

Sampled facilities were classified into 3 categories (1) eligible respondents, (2) eligible nonrespondents, and (3) ineligibles. Eligible facilities are outpatient facilities providing HIV care during the PDP, excluding the following: facilities that referred patients for HIV care, facilities that provided only counseling and testing services, military or other federal facilities (apart from Veterans Administration), tribal facilities, or facilities exclusively serving patients aged <18 years. A respondent facility is one that submitted APLs for the PDP or reported that although it was still in business, it had no patients during the PDP preceding the data collection.

Sampled patients were classified into 4 categories: (1) eligible respondents, (2) eligible nonrespondents, (3) ineligible patients, and (4) unknown eligibility. Eligible patients are HIV-infected persons who are aged ≥18 years, and who received HIV care from a sampled facility during the PDP. Eligibility was determined for persons who could not be located by using a combination of the MRA and MDS data. If a person could not be located, but that person's medical record could be abstracted, MRA data were used to determine eligibility. Otherwise, MDS data were used to determine eligibility. Persons lacking interview, MRA, and MDS data were categorized as eligibility unknown. Patient response was determined separately for the interview and the MRA. For the final patient response rate, the eligibility rate for patients of known eligibility was applied to patients whose eligibility was unknown, resulting in a slightly increased adjusted response rate.

Weighting for Unequal Probabilities of Selection and Nonresponse

MMP data were first weighted within project areas, and weighted project area data sets were combined to produce the national data set. Within project areas, facility and patient base weights were applied, and statistical adjustments were made for nonresponse at the facility level and 3 patient levels. These nonresponse adjustments distributed the base weights of nonresponding facilities or patients to responding facilities or patients so that the sum of the adjusted weights equals the sum of the base weights.

The facility base weight was the inverse probability of selection for each sampled facility. For the facility-level nonresponse adjustment, weighting classes were based on facility size. Within weighting classes, the adjustment for facility nonresponse was the ratio of the total sum of facility EPLs to the sum of EPLs for responding facilities.

The patient base weight was the inverse probability of selection for the patient, conditional on selection of the facility from which the patient was sampled. Three nonresponse adjustments (discussed below in order of application) were applied to the patient base weight.

Adjustment 1 for patient nonresponse restricted sampled patients to those with available demographic data, including sex at birth, gender, race, ethnicity, date of birth, and date of first positive HIV test result. These data could come from the MRA, the MDS, or the interview, but some cases were missing information for all variables in every data set. Because facility data were the only data available for all sampled patients, adjustment 1 used facility-level information only. Definitions of weighting classes were based on variables that were significantly related to patient response at the project-area level: facility size, university affiliation, and type of practice (private or other). Within weighting classes, adjustment 1 for patient nonresponse was the ratio of the total sum of patient weights to the sum of patient weights for all patients *except* those whose eligibility was unknown and for whom all demographic data were missing. At this point, any missing demographic data for the aforementioned variables were completed by using nearest-neighbor hot-deck imputation.

Adjustment 2 for patient nonresponse was applied to data for patients whose demographic data were complete. First, data on ineligibles were used to estimate the percentage of patients whose eligibility was unknown but who may have been eligible. Then, like the previous adjustment, this adjustment was performed separately, by project area, within a weighting class defined by either facility or demographic variables. To limit variability in the weights for project areas with multiple significant predictors of response, the most predictive variable in each project area was chosen for adjustment. Within weighting classes, adjustment 2 for patient nonresponse was the ratio of the sum of patient weights (after adjustment 1) for known eligible patients to the sum of patient weights for eligible and ineligible patients. Data on ineligible patients were then removed from the final data set.

Adjustment 3 for patient nonresponse was performed on 4 data sets: respondents to MRA or interview, respondents to MRA only, respondents to interview only, and respondents to both MRA and interview. Respondents to either MRA or interview were used to create unified population estimates for all data sets. The weighting classes for adjustment 3 were the same for all data sets and were based on variables related to patient response rates in each project area: facility size, university affiliation, age of ≥45 years, age of 18–24 years, type of practice (private or other), and Hispanic/Latino ethnicity. For project areas with multiple significant predictors of response, the most predictive variable was chosen for adjustment within each project area. Within weighting classes, adjustment 3 for patient nonresponse was the ratio of the sum of patient weights (after adjustments 1 and 2 for patient nonresponse) for all patients to the sum of patient weights for respondents.

Multiplicity Adjustment

Last, a multiplicity factor was applied to the patient weight for patients visiting at least 1 other facility in addition to the facility from which the patient was sampled. The information on the number of facilities visited for HIV care during the PDP was obtained from the interview. This factor, which accounts for some patients' multiple opportunities for being sampled, was capped at 2.0 because few patients visited ≥3 facilities.

National Weights

The national weights were the product of the final patient weights, computed for each project area, and the inverse of the project area's probability of selection. To limit the variability in national weights, the initial national weights were trimmed. The trimming process was performed within classes defined by key demographics (age, race/ethnicity, and gender) so that the weight sum was preserved in each class. The weights were capped at 3 times the median of the weight for each class.

DESIGN VARIABLES

The design variables were defined so that the same variables could be used consistently for all interview and MRA data sets. To create the project-area design variables, a matrix was sorted in descending order by facility (or groups of facilities that had been linked for sampling purposes) probability of selection. Each facility with a probability of selection of 1.0 was classified as a design stratum, and each patient within those facilities was classified as a cluster. A grouping of 4–5 facilities with similar probabilities of selection of <1.0 was classified as a stratum. These strata were classified across data sets (MDS, MRA, interview, and

both MRA and interview) and assigned a cluster number. All data sets contain at least 2 facilities with ≥1 respondents in each stratum.

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 other coverage for ART medications:** Participants were asked whether they had health insurance and whether they had other coverage for 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 >1 response for health insurance or other coverage for ART medications.
- **Federal poverty guidelines:** Participants were asked about their combined monthly or yearly household income (in US$) from all sources during the 12 months before interview. The number of persons meeting the current federal poverty threshold was determined by using the U.S. Department of Health and Human Services poverty guidelines that corresponded to the calendar year for which income was asked. These guidelines are issued yearly for the 48 contiguous U.S. states and Washington D.C., and are one indicator used for determining eligibility for many federal and state programs. The 2008 guidelines [2] were used for participants interviewed in 2009, and the 2009 guidelines [3] were used for persons interviewed in 2010. 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. If the participant's income range and household size resulted in an ambiguous determination of poverty level, the participant's household income was assumed to be the midpoint of the income range.

Clinical Characteristics

- **CDC stage of disease classification for HIV infection:** Defined according to CDC's 2008 revised surveillance case definition for HIV infection [4]. To determine the stage of HIV infection, medical record data from the time since HIV diagnosis and the 12 months before interview were abstracted.

Use of Health Care Services

- **HIV medical care:** Participants were asked whether, during the 12 months before the interview, they had a usual source of primary HIV medical care. HIV medical care was defined as CD4 count or viral load testing and prescribing ART in the context of treating and managing a patient's HIV disease on an outpatient basis.
- **ART prescription:** Defined as a prescription in the medical record, during the 12 months before the interview, of any of the following medications: abacavir, amprenavir, atazanavir, darunavir, delavirdine, didanosine, efavirenz, emtricitabine, enfuvirtide, etravirine, fosamprenavir, indinavir, lamivudine, lopinavir/ritonavir, maraviroc, nelfinavir, nevirapine, raltegravir, ritonavir, saquinavir, stavudine, tenofovir, tipranavir, zalcitabine, or zidovudine.
- ***Pneumocystis* pneumonia (PCP) prophylaxis:** Defined as documentation in the medical record, during the 12 months before the interview, that prophylaxis for PCP was prescribed or that regimens typically given as PCP prophylaxis were prescribed (trimethoprim-sulfamethoxazole, dapsone with or without pyrimethamine and leucovorin, aerosolized pentamidine, and atovaquone) among persons with a CD4 count of <200 cells/μL during the 12 months before the interview [5].
- ***Mycobacterium avium* complex (MAC) prophylaxis:** Defined as documentation in the medical record, during the 12 months before the interview, that prophylaxis for MAC disease was prescribed or that regimens typically given as MAC prophylaxis were prescribed: (azithromycin with or without ethambutol and/or rifabutin,

clarithromycin with or without ethambutol and/or rifabutin, and rifabutin with or without azithromycin or azithromycin along with ethambutol) among persons with a CD4 count of <50 cells/μL in the 12 months before the interview [5].

- ***Neisseria gonorrhoeae* testing:** Defined as documentation in the medical record, during the 12 months before the interview, of a result from culture, gram stain, nucleic acid amplification test (NAAT), or nucleic acid probe.
- ***Chlamydia trachomatis* testing:** Defined as documentation in the medical record, during the 12 months before the interview, of a result from culture, direct fluorescent antibody (DFA), enzyme immunoassay (EIA) or enzyme-linked immunoassay (ELISA), NAAT, or nucleic acid probe.
- **Syphilis testing:** Defined as documentation in the medical record, during the 12 months before the interview, of a result from non-treponemal syphilis tests (rapid plasma reagin [RPR], Venereal Disease Research Laboratory [VDRL]), treponemal syphilis tests (*Treponema pallidum* hemagglutination assay [TPHA], *T. pallidum* particle agglutination [TP-PA], microhemagglutination for antibody to *T. pallidum* [MHA-TP], fluorescent treponemal antibody absorption [FTA-ABS] tests), or dark-field microscopy.
- **Influenza vaccination:** Participants were asked whether they had received seasonal influenza vaccine during the 12 months before the interview and whether they had received vaccination for H1N1. Participants were considered vaccinated for influenza if they answered yes to either question.

Self-reported Antiretroviral Medication Use and Adherence

- **ART adherence:** Participants were asked about adherence, over the past 3 days, to ART doses, schedules, and special instructions for taking ART. *Dose adherence* referred to taking a dose or set of pills/spoonfuls/injections of ART medications. *Schedule adherence* referred to following a specific schedule for ART medication timing, such as "2 times a day" or "every 8 hours." *Special instruction adherence* referred to following special instructions for ART medication, such as "take with food" or "on an empty stomach."

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 [6]. 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; (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." 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 ed (DSM-IV-TR) [7], for diagnosing major depression was used to classify adults receiving medical care for HIV infection as having major depression, other depression, or no depression. To meet the criteria for any type of depression, a participant must have experienced a number of symptoms, at least 1 of which was anhedonia or feelings of hopelessness (at least 5 symptoms for major depression, 2 to 4 symptoms for other types of depression) for half the days or nearly every day. Method 2: a score-based method, calculated as the sum of scores from the responses in the scale, was used to determine the presence of current depression of moderate or severe intensity, which was defined as a sum score of ≥10.
- **Alcohol use:** Participants were asked about alcohol use during the 12 months and 30 days before the interview. A drink was defined as 12 ounces of beer, a 5-ounce glass of wine, or a 1.5-ounce shot of liquor.

- **Heavy drinking:** Defined as an average of >2 drinks per day, or >14 drinks per week, for men and an average of >1 drink per day, or >7 drinks per week, for women.
- **Binge drinking:** Defined as ≥5 drinks in one sitting for men and ≥4 drinks in one sitting for women.

Sexual Behavior

- **Sexual behavior:** Defined as anal intercourse, vaginal intercourse, or oral sex.
- **Gender and sexual orientation of sex partners:** Men who have sex with men (MSM) were defined as men who reported sex with one or more men in the 12 months before interview, regardless of whether they also reported sex with women, or if no sexual activity was reported, men who self-identified as homosexual, gay, or bisexual. Men who exclusively have sex with women were defined as men who reported sex only with women in the 12 months before interview, or if no sexual activity reported, men who self-identified as heterosexual/straight. Women who have sex with men were defined as women who reported sex with one or more men in the 12 months before interview, regardless of whether they also reported sex with women, or if no sexual activity was reported, women who self-identified as heterosexual/straight or bisexual. Women who exclusively have sex with women were defined as women who reported sex with women only in the 12 months before interview, or if no sexual activity was reported, women who self-identified as homosexual, gay, or lesbian. Transgender persons were defined as previously described. Participants who did not fit into any of the categories above (i.e., were unclassified because they had not engaged in sexual activity during the past year and did not report their sexual orientation) were categorized as other/unclassified. These categories are mutually exclusive (i.e., a participant could not be transgender and be placed in any other category).
- **Main and casual sex partners:** Participants reporting sexual activity in the 12 months before the interview were asked about the number of sex partners and whether they considered the partners to be main or casual. A main partner was defined as a person to whom the respondent felt most committed. A casual partner was defined as person to whom the respondent did not feel committed or whom he or she did not know very well.
- **Unprotected sex:** Defined as vaginal or anal intercourse without a condom or condom use for part of the time during a sexual act during the 12 months before the interview.
- **Unprotected sex with partners of negative or unknown status:** The number of HIV-positive partners reported by a participant during the 12 months before the interview was subtracted from the total number of partners with whom the participant reported unprotected sex. If the numbers were not equal (i.e., not all partners were HIV-positive), the participant was considered to have had unprotected sex with a partner of negative or unknown HIV status.

Met and Unmet Needs for Ancillary Services

- **Met need:** Defined as an ancillary service (e.g., HIV case management services, dental care, mental health services) received during the 12 months before the interview.
- **Unmet need:** Defined as an ancillary service that the participant reported as needed but not received during the 12 months before the interview.

Ethics Statement

In accordance with the federal human subjects protection regulations at 45 Code of Federal Regulations 46.101c and 46.102d [8] and with the Guidelines for Defining Public Health Research and Public Health Non-Research [9], MMP was determined by CDC to be a nonresearch, public health surveillance activity used for disease control program or policy purposes. As such, MMP is not subject to human subjects regulations, including federal investigational review board review. Participating states or territories and facilities obtained local institutional review board approval to conduct MMP if required locally. Informed consent was obtained from all interviewed participants.

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