

# Behavioral and Clinical Characteristics of Persons Receiving HIV Medical Care San Francisco 2011-2012



HIV Epidemiology Section  
Applied Research, Community Health Epidemiology  
and Surveillance Branch (ARCHES)  
San Francisco Department of Public Health  
May 11, 2016



**Suggested Citation:**

San Francisco Department of Public Health. Behavioral and Clinical Characteristics of Persons Receiving HIV Medical Care - Medical Monitoring Project, San Francisco 2011-2012. San Francisco: San Francisco Department of Public Health. May 11, 2016; 1-43.

This report is available online at:

<https://www.sfdph.org/dph/files/reports/RptsHIVAIDS/SF-MMP-11-12-Report.pdf>

Title page photo courtesy of James Kang, MD.

**San Francisco Department of Public Health**

Director	Barbara Garcia, MA
Health Officer and Director Population Health Division	Tomás Aragón, MD, DrPH

**MMP Staff**

Principal Investigator	Susan Scheer, PhD, MPH
Co-Principal Investigator	Alison Hughes, MPH
Project Coordinator	Maree Kay Parisi
Special Projects	Sandy Schwartz, MD
Program Manager	Viva Delgado, MPH

**MMP Research Associates**

Jonathan Brock  
Tara Gonzalez  
Veronica Jimenez  
Zachary Matheson  
Rolando Ramirez  
Amadeia Rector  
Maya Yoshida-Cervantes, MPH

**Staff**

Kristiana Dhillon, MPH  
Patrick Norton, PhD, MA  
Nashanta Stanley, MBA  
Belinda Van  
Qianya Vinson  
James Wendelborn  
Emily Yunkun

**Report Design**

Catherine Kazbour, MPH

# Table Of Contents

<b>List of Tables</b>	<b>5</b>
<b>1 Background</b>	<b>7</b>
<b>2 Methods</b>	<b>8</b>
2.1 Recruitment and Consent . . . . .	8
2.2 Interview . . . . .	8
2.3 Medical Record Abstraction . . . . .	8
2.4 Surveillance Data . . . . .	9
2.5 Data Weighting, Management and Statistical Analyses . . . . .	9
2.6 Human Subjects Protection . . . . .	9
2.7 Facility and Patient Response Rates . . . . .	10
<b>3 Demographic Characteristics</b>	<b>11</b>
<b>4 Clinical Characteristics</b>	<b>14</b>
<b>5 Use of Health Care Services</b>	<b>16</b>
<b>6 Self-reported Antiretroviral Medication Use and Adherence</b>	<b>20</b>
<b>7 Medical Marijuana Use</b>	<b>24</b>
<b>8 Depression</b>	<b>26</b>
<b>9 Substance Use</b>	<b>27</b>
<b>10 Gynecologic and Reproductive Health</b>	<b>30</b>
<b>11 Sexual Behavior</b>	<b>31</b>
<b>12 Met and Unmet Need for Ancillary Services</b>	<b>38</b>
<b>13 Prevention Activities</b>	<b>40</b>
<b>14 Internalized Stigma and Discrimination</b>	<b>41</b>
<b>Bibliography</b>	<b>43</b>

## List of Tables

3.1	Characteristics of patients . . . . .	12
3.2	Characteristics of patients – in the past 12 months . . . . .	13
4.1	Stage of disease, CD4+ lymphocyte counts, and viral suppression of patients during the 12 months before the interview . . . . .	15
5.1	CD4 and viral load monitoring and prescription of antiretroviral therapy, Pneumocystis pneumonia (PCP) prophylaxis, and Mycobacterium avium complex (MAC) prophylaxis during the 12 months before the interview . . .	17
5.2	Clinical services during the 12 months before the interview . . . . .	18
5.3	Sexually transmitted disease testing during the 12 months before the interview among those who reported sexual activity . . . . .	18
5.4	Emergency department or urgent care clinic use and hospital admission during the 12 months before the interview . . . . .	19
6.1	Antiretroviral therapy use . . . . .	21
6.2	Antiretroviral payment source and adherence . . . . .	22
6.3	Beliefs among patients currently taking antiretroviral medications . . . . .	23
6.4	Reasons for missed antiretroviral therapy dose, among those ever missing a dose . . . . .	23
7.1	Frequency of medical marijuana use during the 12 months before the interview	24
7.2	Main source of medical marijuana . . . . .	24
7.3	Main reason for medical marijuana use . . . . .	25
8.1	Depression during the 12 months before the interview . . . . .	26
9.1	Cigarette smoking . . . . .	27
9.2	Alcohol use during the 12 months before the interview . . . . .	28
9.3	Non-injection drug use during the 12 months before the interview . . . . .	29
9.4	Injection drug use during the 12 months before the interview . . . . .	29
10.1	Gynecological history and reproductive health among women . . . . .	30
11.1	Sexual behavior, gender identity and sexual activity during the 12 months before the interview . . . . .	33
11.2	Sexual risk behaviors during the 12 months before the interview among men who have sex with men, by type of partner . . . . .	34
11.3	Sexual risk behaviors with any type of partner during the 12 months before the interview among men who have sex with women . . . . .	35
11.4	Sexual risk behaviors with any type of partner during the 12 months before the interview among women who have sex with men . . . . .	36

11.5 Attitudes towards condomless sex among all patients and among those who reported condomless sex with partners of unknown or negative serostatus during the 12 months before the interview . . . . .	37
12.1 Met and unmet needs for ancillary services during the 12 months before the interview . . . . .	39
13.1 Prevention services received during the 12 months before the interview . .	40
14.1 Internalized HIV stigma and discrimination experiences . . . . .	42

# 1 Background

In San Francisco in 2014, there were 302 persons newly diagnosed with HIV, down from 429 persons diagnosed in 2012 [1]. Deaths among persons with HIV in San Francisco also declined from 236 in 2012 to 177 in 2014 [1]. These declines reflect an increase in the number of persons receiving antiretroviral therapy, which has resulted in sustained viral suppression. The increased survival of persons with HIV has led to an increasing number of persons living with HIV. As of December 31, 2014, there were 15,979 San Francisco residents living with HIV [1].

In 2005, the Institute of Medicine issued a report documenting the need for nationally representative data on persons living with HIV [2] and, in response, the Centers for Disease Control and Prevention (CDC) implemented the Medical Monitoring Project (MMP) to collect information on the clinical and behavioral characteristics of persons receiving HIV care and to assess need for medical and ancillary services [3]. San Francisco is one of the 23 areas in the United States participating in the MMP. In order to have a sufficiently large sample for data analysis, this report summarizes the methods and findings from two cycles of MMP (2011 and 2012).

## 2 Methods

The MMP used a three-stage sampling approach to obtain a cross-sectional, locally representative, population-based sample of persons receiving outpatient HIV medical care. The first stage selected 23 states or municipal areas to include in the MMP. The second stage selected health care facilities based on the number of patients seen at the facilities. The third stage selected the patients to be included. Eligible patients are HIV-infected San Francisco residents aged > 18 years who had at least one medical care visit at one of the selected facilities from January 1 through April 30 of 2011 or 2012. Details of the MMP methods have been previously described [3, 5-6].

### 2.1 Recruitment and Consent

MMP or facility staff contacted sampled patients by telephone. All participants signed a written informed consent prior to the interview and gave permission for the medical record abstraction.

### 2.2 Interview

After obtaining consent, trained interviewers conducted a 45-minute, face-to-face, standardized computer-assisted structured interview in either English or Spanish with sampled patients. Interviews were conducted in a private location (such as at the San Francisco Department of Public Health, the patient's home or at their medical care facility). The standard interview collected information on patient demographic and clinical characteristics, use of health care services and medications, substance use, sexual behavior, depression, gynecologic and reproductive history (for females), met and unmet needs for ancillary services, use of HIV prevention services, and stigma. Participants were reimbursed \$40 for their time. Interviews were conducted from August 2011 through April 2012 for patients in the 2011 sample and from July 2012 through May 2013 for patients in the 2012 sample.

### 2.3 Medical Record Abstraction

Trained MMP staff reviewed and abstracted medical records for patients after the interview was conducted. Information collected included demographics, HIV diagnosis, history of opportunistic infections, co-morbidities, prescription of antiretroviral therapy and other medications, HIV laboratory test results, and health care visits in the 12 months before interview.



## 2.4 Surveillance Data

The San Francisco Department of Public Health collects information on San Francisco residents who are diagnosed with HIV as mandated by the California Health and Safety regulations [7]. Limited data on demographic and HIV diagnosis variables was extracted from the San Francisco HIV surveillance database for all sampled patients, including those who were not interviewed. Data unavailable from surveillance records was obtained from the sampled patient's medical facility. This information was used for weighting procedures and for non-response adjustment.

## 2.5 Data Weighting, Management and Statistical Analyses

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

After collection, data were encrypted and transmitted to CDC through a secure data portal. Statistical weighting and cleaning procedures were conducted at CDC before data were returned to the San Francisco Department of Public Health via a secure data portal for data analysis. SAS v9.3 statistical software was used for analysis of weighted data.

Prevalence estimates (weighted percentages) and associated 95% confidence intervals (CI) were calculated using information from participants who completed both the standard questionnaire and also had their medical record abstracted. Confidence intervals are not reported for variables with a coefficient of variation  $>30\%$  due to unstable estimates. The numbers in the tables represent unweighted frequencies and might not add to total because of missing data. Percentages are weighted percentages and might not sum to 100 because of rounding.

The term "patients" in this report refers to adults living with HIV receiving outpatient HIV medical care in San Francisco. The time period referenced is the 12 months before the patient interview unless otherwise noted.

## 2.6 Human Subjects Protection

The 2011 MMP activities were approved by the Institutional Review Boards for the participating facilities. In 2012, subsequent review determined that MMP activities constitute public health surveillance and, as such, do not require ongoing approval.

## 2.7 Facility and Patient Response Rates

In 2011, 22 (81.5%) of the 27 selected and eligible facilities participated and 215 (53.8%) of the 400 sampled patients participated. In 2012, 24 (88.9%) of the 27 selected and eligible facilities participated and 247 (61.8%) of the 400 sampled patients participated. The adjusted interview response rate, defined as number of patients interviewed divided by total number of eligible patients (adjusting for eligibility rate), was 54.7% for 2011 and 62.9% for 2012. The overall response rate, defined as facility response rate multiplied by the adjusted patient response rate (for patients with both an interview and a medical record abstraction) was 44.6% in 2011 and 55.9% in 2012.

### 3 Demographic Characteristics

The majority of patients were men (92%), five percent were female, and close to three percent were transgender (Table 3.1). Patients were classified as transgender if sex at birth and gender reported by the patient were different, or if the patient chose transgender in response to the question about self-identified gender. Eighty percent of the sample self-identified as homosexual, gay, or lesbian and seven percent identified as bisexual. The majority of patients were White (61%), 18% were Latino and 12% were African American. Seventy percent of patients were aged 40 to 59 years. Hispanics or Latinos might be of any race. Patients are classified in only one race/ethnicity category. The majority of patients had at least a high school education (82%) and had been born in the United States (86%). A large proportion of patients had been aware of their infection for 10 or more years (74%). Eighty-three percent of the patients lived in San Francisco at the time of the interview. (Table 3.2) Thirteen percent of those interviewed were homeless and two percent had been incarcerated for more than 24 hours in the 12 months prior to the interview. Close to 100% of patients had health insurance and half of these had private insurance. Participants could select more than one insurance or coverage type. Persons were considered uninsured if they reported having health costs paid only by Ryan White-funded programs. Forty-nine percent of patients were employed and 38% relied on social security benefits (Supplemental Security Income and Social Security Disability Insurance). 24% of patients had a combined household income of at least \$75,000 in the previous year while 15% had incomes below the federal poverty limit. Income was defined as any income, from all sources and before taxes, in the last calendar year. Poverty guidelines were defined by the Department of Health and Human Services (HHS); the 2011 guidelines were used for patients interviewed in 2012 and the 2012 guidelines were used for patients interviewed in 2013. More information regarding the HHS poverty guidelines can be found at <http://aspe.hhs.gov/poverty/faq.cfm>.

**Table 3.1: Characteristics of patients – Medical Monitoring Project, San Francisco, 2011–2012.**

<b>Characteristic</b>	<b>No.</b>	<b>%</b>	<b>(95% CI)</b>
<b>Gender</b>			
Male	421	92.4	(89.2–95.6)
Female	27	5.0	(2.9–7.1)
Transgender	14	2.6	
<b>Sexual Orientation</b>			
Heterosexual or straight	67	12.8	(8.8–16.7)
Homosexual, gay or lesbian	351	79.9	(75.2–84.6)
Bisexual	39	7.3	(5.0–9.7)
<b>Race / Ethnicity</b>			
Black or African American	61	11.7	(8.2–15.2)
White	270	61.3	(56.5–66.1)
Hispanic or Latino	87	18.1	(14.8–21.4)
Multiracial or Other	25	5.2	(2.4–8.0)
Asian or Pacific Islander	19	3.8	(1.8–5.8)
<b>Age at time of interview</b>			
25–39 years	53	12.6	(9.1–16.1)
40–49 years	146	31.0	(27.0–35.1)
50–59 years	179	38.8	(34.3–43.3)
≥ 60 years	81	17.6	(14.2–20.9)
<b>Education</b>			
< High School	29	5.4	(3.4–7.4)
High School diploma or equivalent	67	13.1	(9.4–16.9)
≥ High School	366	81.5	(77.4–85.5)
<b>Country or territory of birth</b>			
United States	392	85.5	(82.1–88.8)
Other	70	14.5	(11.2–17.9)
<b>Time since HIV diagnosis</b>			
< 5 years	49	10.4	(7.2–13.6)
5–9 years	69	15.5	(12.4–18.5)
≥ 10 years	344	74.2	(70.2–78.1)
<b>Total</b>	<b>462</b>		

**Table 3.2: Characteristics of patients – in the past 12 months – Medical Monitoring Project, San Francisco, 2011–2012.**

<b>Characteristic</b>	<b>No.</b>	<b>%</b>	<b>(95% CI)</b>
<b>Current San Francisco resident</b>	388	83.2	(79.6–86.8)
<b>Homeless at any time in the past 12 months</b>	69	12.9	(8.2–17.5)
<b>Incarcerated for longer than 24 hours</b>	11	2.2	
<b>Had health insurance coverage</b>	461	99.8	(99.5–100.0)
<b>Type of health insurance</b>			
Private insurance	218	52.6	(45.4–59.9)
Medicaid	164	32.4	(26.6–38.1)
Medicare	151	31.3	(25.5–37.1)
Tricare/CHAMPUS or Veterans Administration	20	3.7	(2.8–4.7)
Other public insurance	63	11.9	(7.9–16.0)
<b>Currently employed</b>	213	48.7	(43.2–54.1)
<b>Primary source of most financial support</b>			
SSI or SSDI	188	37.7	(31.6–43.8)
Salary or wages	200	47.0	(40.7–53.3)
Other (including savings/investments/pensions)	64	13.3	(10.1–16.5)
Family, partner or friend(s)	10	2.0	(0.9–3.2)
<b>Combined yearly household income (dollars)</b>			
\$0 to \$9,999	62	12.1	(9.3–15.0)
\$10,000 to \$19,999	145	28.9	(23.3–34.5)
\$20,000 to \$39,999	61	13.4	(10.5–16.3)
\$40,000 to \$74,999	88	21.0	(16.8–25.2)
\$75,000 or more	99	24.5	(19.6–29.5)
<b>Poverty level</b>			
Above poverty level	380	85.4	(82.0–88.8)
At or below poverty level	75	14.6	(11.2–18.0)
<b>Total</b>	<b>462</b>		

**Abbreviations:**

CHAMPUS, Civilian Health and Medical Program of the Uniformed Services;

SSI, Supplemental Security Income; SSDI, Social Security Disability Insurance.

## 4 Clinical Characteristics

Sixty-three percent of patients met the CDC clinical criteria for HIV Stage 3 (AIDS), although only five percent of patients had a geometric mean CD4 count of less than 200 cells/mm<sup>3</sup> in the prior 12 months (Table 4.1). Note that CD4 counts are from medical record abstraction. A large proportion of patients (85%) were virally suppressed on their most recent test and 79% were virally suppressed throughout the entire 12 months prior to the interview.

**Table 4.1: Stage of disease, CD4+ lymphocyte counts, and viral suppression of patients during the 12 months before the interview – Medical Monitoring Project, San Francisco, 2011–2012.**

	No.	%	(95% CI)
<b>Stage of disease</b>			
Stage 1 <sup>a</sup>	40	9.3	(6.0–12.6)
Stage 2 <sup>b</sup>	119	27.5	(23.3–31.8)
Stage 3 <sup>c</sup> (AIDS)	301	63.2	(58.5–67.8)
<b>Geometric mean CD4+ lymphocyte count</b>			
0–199 cells/ $\mu$ L	21	4.6	(2.6–6.6)
200–349 cells/ $\mu$ L	74	16.1	(12.1–20.1)
350–499 cells/ $\mu$ L	111	25.0	(20.7–29.3)
$\geq 500$ cells/ $\mu$ L	231	54.3	(49.3–59.2)
<b>Lowest CD4+ lymphocyte count</b>			
0–49	11	2.5	(1.0–3.9)
50–199	21	4.7	(2.7–6.7)
200–349	99	21.5	(17.5–25.4)
350–499	114	26.2	(21.9–30.5)
$\geq 500$	192	45.1	(40.5–49.8)
<b>Viral suppression</b>			
Most recent HIV viral load undetectable or <200 copies/mL	388	84.6	(81.2–88.0)
$\geq 200$ copies/mL or missing/unknown	74	15.4	(12.0–18.8)
<b>Durable viral suppression</b>			
All HIV viral load measurements undetectable or <200 copies/mL	361	79.0	(75.2–82.8)
Any HIV viral load measurement $\geq 200$ copies/mL or missing/unknown	101	21.0	(17.2–24.8)
<b>Total</b>	<b>462</b>		

Abbreviations: CD4, CD4 T-lymphocyte count (cells/ $\mu$ L);

<sup>a</sup>HIV stage 1: No AIDS-defining condition and either CD4 count of  $\geq 500$  cells/ $\mu$ L or CD4 percentage of total lymphocytes of  $\geq 29$ .

<sup>b</sup>HIV stage 2: No AIDS-defining condition and either CD4 count of 200–499 cells/ $\mu$ L or CD4 percentage of total lymphocytes of 14–28.

<sup>c</sup>HIV stage 3 (AIDS): Documentation of an AIDS-defining condition or either a CD4 count of <200 cells/ $\mu$ L or 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.

## 5 Use of Health Care Services

The Department of Health and Human Services recommends monitoring CD4+ lymphocyte levels every three to six months for the first two years of antiretroviral therapy (ART) and annually thereafter among stable patients [9]. These guidelines also call for monitoring the HIV RNA concentration (HIV viral load) every three to four months, which can be extended to every six months for patients who are clinically stable for two years. At least 51% of patients were appropriately monitored for viral load (i.e. had at least three tests in the past 12 months; Table 5.1). Assuming that all patients were clinically stable, 81% were appropriately monitored for viral load and 95% for CD4 counts. ART is recommended for all persons with HIV infection regardless of clinical stage or immunostatus and prophylaxis against *Pneumocystis jiroveci pneumonia* (PCP) and *Mycobacterium avium complex* (MAC) is recommended for patients with CD4+ lymphocyte cell counts below 200 cells/ $\mu$ L. and below 50 cells/ $\mu$ L., respectively [9, 10]. Ninety-three percent of patients had been prescribed ART (Table 5.1). Seventy-six percent of clinically eligible patients were prescribed PCP prophylaxis and 93% of clinically eligible patients were prescribed MAC prophylaxis.

Nearly 100% of patients had a routine place for receiving primary HIV health care (Table 5.2). Eighty-one percent of patients had been vaccinated against influenza in the past year. Travel time to their primary HIV care facility averaged 30 minutes. Among patients who were sexually active in the previous 12 months, thirty-one percent were tested for gonorrhea, chlamydia, and syphilis (Table 5.3), with syphilis testing conducted most frequently (67% of patients). Sexual activity was self-reported in the interview component of the Medical Monitoring Project and was defined as oral sex or anal or vaginal intercourse. 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. *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. 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.

Use of the emergency department (ED) was rare; in the 12 months prior to the interview 5% of patients were seen in the ED between two and four times (Table 5.4). Close to 90% of patients did not have any illnesses or injuries requiring care in the ED and only 6% had been hospitalized.



**Table 5.1: CD4 and viral load monitoring and prescription of antiretroviral therapy, *Pneumocystis pneumonia* (PCP) prophylaxis, and *Mycobacterium avium* complex (MAC) prophylaxis during the 12 months before the interview – Medical Monitoring Project, San Francisco, 2011–2012.**

	No.	%	(95% CI)
<b>Number of outpatient laboratory tests for CD4+ lymphocyte cell count or HIV viral load</b>			
0	16	3.7	(1.9–5.6)
1	51	10.9	(8.0–13.8)
2	126	27.1	(22.2–32.0)
≥3	264	58.2	(52.4–64.1)
<b>Number of outpatient laboratory tests for CD4+ lymphocyte count</b>			
0	20	4.7	(2.7–6.8)
1	55	11.6	(8.5–14.6)
2	136	29.0	(23.9–34.2)
≥3	246	54.7	(48.3–61.0)
<b>Number of outpatient laboratory tests for HIV viral load</b>			
0	25	5.3	(3.4–7.3)
1	66	14.1	(10.6–17.5)
2	135	29.2	(24.6–33.9)
≥3	231	51.4	(45.6–57.1)
<b>CD4+ lymphocyte count measured at least once</b>	437	95.3	(93.2–97.3)
<b>Viral load measured at least once every 6 months</b>	335	74.1	(69.6–78.6)
<b>Prescribed ART</b>			
Yes	426	92.6	(90.2–94.9)
No	36	7.4	(5.1–9.8)
<b>Prescribed PCP prophylaxis<sup>a</sup></b>			
Yes	25	76.3	(61.6–90.9)
No	7	23.7	
<b>Prescribed MAC prophylaxis<sup>b</sup></b>			
Yes	10	92.8	
No	1	7.2	
<b>Total</b>	<b>462</b>		

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

Abbreviations: CD4, CD4 T-lymphocyte count (cells/ $\mu$ L) or percentage; ART, antiretroviral therapy; PCP, *Pneumocystis pneumonia*; MAC, *Mycobacterium avium* complex

<sup>a</sup>Among patients with CD4 cell count <200 cells/ $\mu$ L.

<sup>b</sup>Among patients with CD4 cell count <50 cells/ $\mu$ L.

**Table 5.2: Clinical services during the 12 months before the interview – Medical Monitoring Project, San Francisco, 2011–2012.**

	No.	%	(95% CI)
<b>Has usual place for primary HIV care</b>			
Yes	459	99.3	(98.5–100.0)
No	3	0.7	
<b>Received influenza vaccine</b>			
Yes	373	81.3	(77.4–85.2)
No	89	18.7	(14.8–22.6)
<b>Participated in an HIV clinical trial</b>			
Yes	37	8.0	(5.5–10.4)
No	423	92.0	(89.6–94.5)
<b>Travel time to primary HIV care (minutes)</b>			
Mean	30.7		
Median	20.6		
Range	0–360		
<b>Total</b>	<b>462</b>		

**Table 5.3: Sexually transmitted disease testing during the 12 months before the interview among those who reported sexual activity – Medical Monitoring Project, San Francisco, 2011–2012.**

	No.	%	(95% CI)
<b>Gonorrhea testing</b>			
Yes, received testing	122	36.3	(31.3–41.2)
No testing documented	218	63.7	(58.8–68.7)
<b>Chlamydia testing</b>			
Yes, received testing	124	37.0	(32.0–42.0)
No testing documented	216	63.0	(58.0–68.0)
<b>Syphilis testing</b>			
Yes, received testing	235	67.3	(61.7–72.9)
No testing documented	105	32.7	(27.1–38.3)
<b>Gonorrhea, Chlamydia and Syphilis testing</b>			
Yes, received testing for all three STDs	104	30.7	(26.0–35.5)
No testing documented	236	69.3	(64.5–74.00)
<b>Total</b>	<b>344</b>		

**Table 5.4: Emergency department or urgent care clinic use and hospital admission during the 12 months before the interview – Medical Monitoring Project, San Francisco, 2011–2012.**

	No.	%	(95% CI)
<b>Number of visits to emergency department or urgent care clinic</b>			
0	401	88.8	(85.8–91.8)
1	29	5.4	(3.6–7.3)
2–4	25	4.7	(2.6–6.8)
≥5	6	1.1	
<b>Number of hospital admissions</b>			
0	434	94.4	(92.2–96.6)
1	18	3.7	(1.9–5.4)
≥2	10	2.0	
<b>Total</b>	<b>462</b>		

## 6 Self-reported Antiretroviral Medication Use and Adherence

Ninety-four percent of patients were currently on ART (Table 6.1). The three most common ways ART was paid for were through private insurance (51%), by the AIDS Drug Assistance Program (43%) and out-of-pocket (30%; where patients could report multiple sources of payment for ART). Ninety percent of patients reported adhering to their ART dose in the past 72 hours and 78% also reported adherence to the dosing schedule in this same period. Although recent adherence was high, 70% of patients reported ever missing a dose of ART since initiation of ART. Eighty-three percent of patients reported rarely or never experiencing ART side effects (Table 6.2).

Confidence in their ability to comply with ART and the ability of ART to positively impact their health was reported by a large proportion of patients (Table 6.3). Sixty-one percent indicated that they were very or extremely certain that incorrect use of ART leads to drug resistance.

The most common reasons for missing a dose were forgetting to take the medication or a change in their daily routine (Table 6.4).

**Table 6.1: Antiretroviral therapy use – Medical Monitoring Project, San Francisco, 2011-2012.**

	No.	%	(95% CI)
<b>Ever taken antiretroviral medications (ART)</b>	447	96.9	(95.1-98.8)
<b>Currently taking ART</b>	430	93.9	(91.6-96.2)
<b>Main reason for never taking ART</b>			
Doctor advised to delay treatment	4	24.2	
Participant believed he/she didn't need medications			
because felt healthy/believed HIV results were good	7	51.6	
Didn't want to think about being HIV positive	1	5.8	
Other	3	18.4	
<b>Main reason for not currently taking ART, among those persons with a history of ART use</b>			
Doctor advised to delay treatment	3	17.7	
Participant believed he/she didn't need medications			
because felt healthy/believed HIV results were good	3	22.4	
Due to side effects of medication	2	12.1	
Worried about ability to adhere	1	6.5	
Money or insurance issues	1	10.1	
Other	5	31.2	
<b>Total</b>	<b>462</b>		

Abbreviations: ART, antiretroviral therapy;

**Table 6.2: Antiretroviral payment source and adherence – Medical Monitoring Project, San Francisco, 2011-2012.**

	<b>No.</b>	<b>%</b>	<b>(95% CI)</b>
<b>ART medications paid for by<sup>a</sup></b>			
AIDS Drug Assistance Program (ADAP)	90	43.0	(36.4-49.6)
Medicaid	52	21.4	(15.0-27.9)
Private health insurance	81	50.8	(43.1-58.4)
Medicare	54	24.9	(18.9-30.8)
Out of pocket	50	30.0	(23.9-36.1)
Other public insurance	12	2.5	
Other unspecified insurance	6	1.5	
Veterans Administration	11	2.2	(1.3-3.2)
Clinical trial or drug study	1	0.7	
<b>100% ART medication adherence (during preceding 72 hours)</b>			
By dose	372	89.9	(87.2-92.7)
By schedule	325	77.7	(73.7-81.8)
By special instructions	153	71.5	(65.5-77.6)
<b>Troubled by ART side effects</b>			
Never	268	63.3	(58.8-67.8)
Rarely	81	19.8	(15.9-23.7)
About half the time	32	7.3	(4.9-9.6)
Most of the time	24	5.1	(3.2-6.9)
Always	19	4.2	(2.3-6.1)
<b>Troubled by ART side effect half of the time or more</b>	75	16.6	(12.9-20.4)
<b>Any drug holiday (during past 12 months)</b>	34	7.5	(5.2-9.9)
<b>Ever missed a dose of ART medications</b>	270	70.4	(65.5-75.3)
<b>Total</b>	<b>462</b>		

Abbreviations: ART, antiretroviral therapy;

<sup>a</sup>Participants could select more than one ART payment source.

**Table 6.3: Beliefs among patients currently taking antiretroviral medications – Medical Monitoring Project, San Francisco, 2011–2012.**

	No.	%	(95% CI)
<b>Will be able to take all or most of medication as directed</b>			
Not at all sure	3	0.6	
Somewhat sure	26	5.3	(3.2–7.4)
Very sure	122	27.1	(22.7–31.5)
Extremely sure	279	67.0	(62.3–71.6)
<b>Medication will have a positive effect on health</b>			
Not at all sure	8	1.6	
Somewhat sure	47	10.6	(7.1–14.1)
Very sure	165	37.8	(33.2–42.4)
Extremely sure	209	50.0	(45.1–54.9)
<b>HIV will become resistant to HIV medications if medication is not taken exactly as instructed</b>			
Not at all sure	46	10.6	(7.5–13.8)
Somewhat sure	116	28.2	(24.1–32.4)
Very sure	127	30.8	(26.7–34.9)
Extremely sure	125	30.3	(25.4–35.2)
<b>Total</b>	<b>430</b>		

**Table 6.4: Reasons for missed antiretroviral therapy dose, among those ever missing a dose – Medical Monitoring Project, San Francisco, 2011–2012.**

Reason for missing last ART dose	No.	%	(95% CI)
Forgot to take them	60	46.3	(36.7–56.0)
Change in daily routine including travel	36	31.9	(22.6–41.1)
Felt sick or tired	9	7.2	
Problem with prescription or refill	7	5.1	
Drinking or using drugs	6	4.0	
Due to side effects	2	2.1	
Felt depressed or overwhelmed	1	0.6	
Homeless <sup>a</sup>	2	1.2	
Had too many pills to take	1	1.1	
<b>Total</b>	<b>270</b>		

<sup>a</sup>Living on the street, in a shelter, in a single-room-occupancy hotel, or in a car.

## 7 Medical Marijuana Use

Thirty-five percent of patients reported using medical marijuana in the past 12 months and 16% reported daily use (Table 7.1). Fifty-eight percent of medical marijuana users obtained it from a dispensary (Table 7.2). A number of reasons for using medical marijuana were reported; most commonly to relieve anxiety (17%), to improve appetite (17%), to get high (16%), to relieve nausea (14%) and to relieve pain (14%) (Table 7.3). Among those reporting medical marijuana use, about half (55%) were registered in the state marijuana program and of these, 90% had their application for the program signed by their HIV or primary care provider (data not shown).

**Table 7.1: Frequency of medical marijuana use during the 12 months before the interview – Medical Monitoring Project, San Francisco, 2011–2012.**

<b>Marijuana use</b>	<b>No.</b>	<b>%</b>	<b>(95% CI)</b>
Daily	77	16.1	(13.1–19.1)
Weekly	34	7.2	(4.5–9.9)
Monthly	28	5.9	(3.5–8.2)
Less than monthly	28	5.6	(3.7–7.4)
Never	297	65.3	(61.1–69.5)
<b>Total</b>	<b>464</b>		

**Table 7.2: Main source of medical marijuana – Medical Monitoring Project, San Francisco, 2011–2012.**

<b>Source of Medical Marijuana</b>	<b>No.</b>	<b>%</b>	<b>(95% CI)</b>
Medical marijuana dispensary	95	57.8	(50.2–65.4)
Dealer	49	29.6	(22.4–36.7)
Grower	16	9.2	(4.4–14.0)
Self	5	3.5	
<b>Total</b>	<b>165</b>		



**Table 7.3: Main reason for medical marijuana use – Medical Monitoring Project, San Francisco, 2011–2012.**

Reasons for use	No.	%	(95% CI)
To relieve pain	23	13.8	(8.5–19.1)
To relieve anxiety	27	16.6	(9.9–23.3)
To relieve insomnia	14	9.5	(4.8–14.2)
To relieve nausea	24	14.3	(8.7–19.9)
To relieve depression	8	4.4	
To improve appetite	30	16.5	(9.8–23.3)
To relieve side effects from HIV medications	5	2.5	
To get high	25	15.6	(10.1–21.1)
Other	11	6.7	
<b>Total</b>	<b>167</b>		

## 8 Depression

Depression was measured by asking patients to complete the eight-item Patient Health Questionnaire (PHQ-8) algorithm based on the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV) criteria [11]. Eight percent of patients met the criteria for major depression, and 10% met the criteria for other, less severe depression (Table 8.1). "Major depression" and "other depression", were defined according to criteria from the Diagnostic and Statistical Manual of Mental Disorders, 4th ed. (DSM-IV-TR).

**Table 8.1: Depression during the 12 months before the interview – Medical Monitoring Project, San Francisco, 2011–2012.**

	No.	%	(95% CI)
<b>Depression based on DSM-IV criteria<sup>a</sup></b>			
No depression	376	82.6	(78.6–86.6)
Other depression	47	9.5	(6.5–12.5)
Major depression	39	7.9	(5.4–10.4)
<b>Moderate or severe depression (PHQ-8 score &gt;10)</b>			
Yes	100	20.3	(16.3–24.4)
No	362	79.7	(75.6–83.7)
<b>Total</b>	<b>462</b>		
<sup>a</sup> "Other depression" was defined as having 2-4 symptoms of depression; "Major depression" was defined as having at least 5 symptoms of depression.			

## 9 Substance Use

The number of patients reporting lifetime cigarette smoking was high (64%). Current use was reported by 31% of patients and 23% reported smoking daily (Table 9.1). Alcohol use was reported by 76% of patients and 43% reported daily or weekly drinking (Table 9.2). One alcoholic beverage was defined as a 12-ounce beer, 5-ounce glass of wine, or 1.5-ounce shot of liquor. Thirty-one percent of patients reported drinking alcohol before or during sex. Eighteen percent of patients reported binge drinking in the last 30 days with an average of one day of binge drinking in the past month. A binge drinking episode was defined as having more than 5 alcoholic beverages for men or more than 4 drinks for women at one sitting. And heavy drinking was defined as patients who drank, on average, >2 alcoholic beverages (>1 for women) per day.

Non-injection drug use was reported by 48% of patients with 29% reporting drug use before or during sex (Table 9.3). The most commonly used drugs were marijuana (38%), amyl nitrite (18%), and crystal methamphetamine (14%). Six percent reported use of prescription narcotics such as codeine. Injection drug use in the 12 months before the interview was reported by 9% of patients and among these, 90% injected before or during sex (Table 9.4).

**Table 9.1: Cigarette smoking – Medical Monitoring Project, San Francisco, 2011–2012.**

	No.	%	(95% CI)
<b>Smoked <math>\geq 100</math> cigarettes (lifetime)</b>			
Yes	295	63.6	(58.7–68.5)
No	165	36.4	(31.5–41.3)
<b>Smoking status</b>			
Never smoker	165	36.4	(31.5–41.3)
Former smoker	145	32.4	(28.1–36.8)
Current smoker	150	31.2	(26.3–36.0)
<b>Frequency of cigarette smoking (during past 12 months)</b>			
Never	310	68.8	(64.0–73.7)
Daily	113	22.9	(17.9–27.9)
Weekly	13	2.7	(1.4–4.1)
Monthly	3	0.8	
Less than monthly	21	4.7	(2.7–6.7)
<b>Total</b>	<b>462</b>		

**Table 9.2: Alcohol use during the 12 months before the interview – Medical Monitoring Project, San Francisco, 2011–2012.**

	No.	%	(95% CI)
<b>Any alcohol used</b>			
Yes	344	75.8	(71.5–80.1)
No	118	24.2	(19.9–28.5)
<b>Frequency of alcohol use</b>			
Daily	52	11.4	(8.5–14.3)
Weekly	136	31.4	(26.2–36.5)
Monthly	66	14.1	(10.6–17.6)
Less than monthly	90	19.0	(15.3–22.6)
Never	118	24.2	(19.9–28.5)
<b>Alcohol use before or during sex</b>			
Yes	135	30.9	(27.0–34.9)
No	325	69.1	(65.1–73.0)
<b>Alcohol use (during past 30 days)</b>			
Yes	285	63.2	(58.6–67.9)
No	177	36.8	(32.1–41.4)
<b>Binge drinking (during past 30 days)</b>			
Yes	79	17.6	(14.2–21.0)
No	382	82.4	(79.0–85.8)
<b>Heavy drinking (during past 30 days)</b>			
Yes	27	6.0	(3.6–8.5)
No	435	94.0	(91.5–96.4)
<b>Days <math>\geq 1</math> drink consumed</b>			
(estimated numbers during past 30 days)			
Mean	10.1		
Median	5.6		
Range	1–30		
<b>Drinks consumed per day</b>			
(estimated number during past 30 days)			
Mean	2.5		
Median	1.6		
Range	1–15		
<b>Binge drinking days</b>			
(estimated number during past 30 days)			
Mean	1.1		
Median	0		
Range	0–30		
<b>Total</b>	<b>462</b>		

**Table 9.3: Non-injection drug use during the 12 months before the interview – Medical Monitoring Project, San Francisco, 2011–2012.**

	No.	%	(95% CI)
<b>Use of any non-injection drugs<sup>a</sup></b>	217	47.5	(43.3–51.8)
<b>Use of any non-injection drugs before or during sex</b>	131	29.3	(24.8–33.9)
<b>Non-injection drugs used by participant</b>			
Marijuana	173	38.0	(33.8–42.2)
Amyl nitrate ("poppers")	81	18.3	(14.3–22.4)
Crystal methamphetamine ("tina, crack, ice")	68	14.1	(10.5–17.8)
Cocaine that is smoked or snorted	33	6.8	(4.6–9.0)
X or Ecstasy	24	6.0	(3.4–8.7)
GHB	41	9.0	(5.9–12.2)
Crack	21	3.8	(2.1–5.5)
Painkillers (e.g. Oxycontin, Vicodin, or Percocet)	25	5.7	(3.3–8.1)
Hallucinogens such as LSD or mushrooms	15	3.4	(1.7–5.1)
Downers (e.g. Valium, Ativan, or Xanax)	17	3.7	(1.8–5.6)
Special k (ketamine)	14	3.2	(1.4–5.0)
Amphetamines ("speed")	13	2.5	
Heroin/opium that is smoked or snorted	8	1.5	
Steroids	3	0.6	
<b>Total</b>	<b>462</b>		

<sup>a</sup>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 9.4: Injection drug use during the 12 months before the interview – Medical Monitoring Project, San Francisco, 2011–2012.**

	No.	%	(95% CI)
<b>Use of any injection drugs</b>	44	8.6	(5.5–11.6)
<b>Use of any injection drugs before or during sex<sup>a</sup></b>	32	89.6	(80.5–98.8)
<b>Injection drugs used by participant</b>			
Crystal methamphetamine ("tina, crack, ice")	37	7.3	(4.3–10.3)
Heroin	11	2.0	
Cocaine	4	0.7	
Heroin and cocaine	6	1.1	
Crack	1	0.2	
Amphetamines ("speed")	5	0.8	
Oxycontin	2	0.5	
<b>Total</b>	<b>462</b>		

Abbreviations: GHB, gamma hydroxybutyrate; LSD, lysergic acid diethylamide.

<sup>a</sup>Among patients who inject any drug.

## 10 Gynecologic and Reproductive Health

Twenty-seven women were interviewed during the 2011 and 2012 MMP cycles. Thirty-two percent reported receiving HIV care at a gynecological clinic (Table 10.1). Eighty-five percent reported both a pelvic exam and a Papanicolaou smear in the past 12 months. Twenty-three percent had been pregnant since time of HIV diagnosis.

**Table 10.1: Gynecological history and reproductive health among women – Medical Monitoring Project, San Francisco, 2011–2012.**

	No.	%	(95% CI)
<b>Received HIV care at a gynecological clinic</b>			
Yes	9	31.7	(14.5–48.8)
No	18	68.3	(51.2–85.5)
<b>Pelvic exam (during past 12 months)</b>			
Yes	11	84.6	(64.9–100.0)
No	2	15.4	
<b>Papanicolaou (Pap) smear (during past 12 months)</b>			
Yes	11	84.6	(64.9–100.0)
No	2	15.4	
<b>Pregnant since HIV diagnosis</b>			
Yes	6	22.8	
No	21	77.2	(60.8–93.7)
<b>Given birth since HIV diagnosis<sup>a</sup></b>			
Yes	3	52.7	
No	3	47.3	
<b>Pregnant (during past 12 months)<sup>a</sup></b>			
Yes	1	14.9	
No	5	85.1	(63.1–100.0)
<b>Total</b>	<b>27</b>		

<sup>a</sup>Among women who had been pregnant since HIV diagnosis.

## 11 Sexual Behavior

A high proportion of patients (84%) were men who have sex with men (including men who have sex with both men and women; Table 11.1). 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. Few (0.4%) patients were women who have sex only with women. Seventy-six percent of patients reported sexual activity (any oral, vaginal or anal sex) in the 12 months preceding the interview. Seventeen percent of patients reported condomless sex with partners who were either HIV negative or whose infection status was unknown. The median number of partners in the previous 12 months was one for men who have sex only with women, women who have sex with men, women who have sex only with women, and transgender persons, while the median number of partners for men who have sex with men was four.

Among men who have sex with men, 65% reported anal sex in the past 12 months (Table 11.2). Eighteen percent reported condomless anal intercourse with a partner of unknown or negative HIV status; eight percent reported this activity with a main partner and 13% with casual partners. Condomless insertive anal intercourse with partners of unknown or negative status, the sexual activity with highest risk of transmitting HIV, was reported among 11% of patients; four percent reported this activity with their main partner and 8% with their casual partners.

Among men who have sex with women, 62% reported vaginal intercourse in the past 12 months and 16% reported condomless vaginal sex (Table 11.3). 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. Twelve percent of patients who had partners of negative or unknown HIV status reported condomless vaginal sex. Anal intercourse was reported by 11% of these patients; 4% reported condomless anal intercourse, and 2% reported condomless anal intercourse with a partner of negative or unknown HIV status.

Among women who have sex with men 62% reported vaginal intercourse and 37% reported condomless vaginal sex (Table 11.4). 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. Fifteen percent of the women had condomless vaginal sex with partners of negative or unknown HIV status. Thirteen percent reported anal intercourse and nine percent reported condomless anal intercourse. None of the women had condomless anal intercourse with HIV negative or unknown status male partners.

Among all patients interviewed for MMP in 2012 (the first year these questions were asked), 57% strongly disagreed with the statement "having an undetectable viral load means I can worry less about having to use a condom" (Table 11.5). Forty-nine percent strongly disagreed with the statement that "if I have an undetectable viral load I am more likely to have unprotected sex". Forty-five percent strongly disagreed to the statement "if my partner tells me he or she is HIV-positive, we don't have to worry about using condoms". Thirty-eight percent strongly disagreed with the statement "if my partner tells me he or she is HIV-positive, I am more likely to have unprotected sex with him or her". Among patients who reported condomless sex with HIV-negative or unknown HIV status partners, 5%, 6%, 7% and 11% strongly disagreed to the above statements (respectively).



**Table 11.1: Sexual behavior, gender identity and sexual activity during the 12 months before the interview – Medical Monitoring Project, San Francisco, 2011–2012.**

	No.	%	(95% CI)
<b>Classification of sexual behavior and gender identity</b>			
Any MSM <sup>a</sup>	377	84.4	(79.8–88.9)
Men who have sex with women only	42	8.0	(5.2–10.8)
Any women who have sex with men <sup>b</sup>	25	4.6	(2.6–6.7)
Women who have sex with women only	2	0.4	
Transgender	14	2.6	
<b>Any sexual activity</b>			
Yes	344	75.8	(72.1–79.5)
No	116	24.2	(20.5–27.9)
<b>Any sexual activity among:</b>			
MSM	294	78.6	(74.6–82.6)
Men who have sex with women only	28	66.7	(51.3–82.2)
Women who have sex with men	16	65.9	(43.6–88.3)
Transgender	6	42.8	(18.3–67.3)
<b>Engaged in any condomless sex with</b>			
Any partner	204	46.5	(41.4–51.5)
Any partner whose HIV status was neg./unknown	76	17.0	(13.4–20.7)
<b>Estimated number of sex partners<sup>c</sup> among:</b>			
<b>MSM</b>			
Mean	15.6		
Median	3.9		
Range	1–300		
<b>Men who have sex with women only</b>			
Mean	1.4		
Median	1.0		
Range	1 – 4		
<b>Women who have sex with men</b>			
Mean	1.1		
Median	1.0		
Range	1–2		
<b>Transgender</b>			
Mean	10.6		
Median	1.0		
Range	1–40		
<b>Total</b>	<b>462</b>		

<sup>a</sup>MSM only, and men who have sex with men and women.

<sup>b</sup>Women who have sex with men only, and women who have sex with women.

Abbreviation: MSM, men who have sex with men. <sup>c</sup>Among sexually active patients.

**Table 11.2: Sexual risk behaviors during the 12 months before the interview among men who have sex with men, by type of partner – Medical Monitoring Project, San Francisco, 2011–2012.**

	Any partners <sup>a</sup>			Main partner <sup>b</sup>			Casual partner <sup>c</sup>		
	No.	%	(95% CI)	No.	%	(95% CI)	No.	%	(95% CI)
<b>Any anal intercourse</b>									
Yes	238	65.0	(60.4–69.6)	142	39.0	(33.7–44.3)	178	48.5	(43.9–53.1)
No	135	35.0	(30.4–39.6)	231	61.0	(55.7–66.3)	195	51.5	(46.9–56.1)
<b>Any condomless anal intercourse</b>									
Yes	184	50.7	(45.1–56.3)	99	27.6	(22.6–32.6)	141	38.4	(33.7–43.1)
No	185	49.3	(43.7–54.9)	272	72.4	(67.4–77.4)	229	61.6	(56.9–66.3)
<b>Condomless anal intercourse with partners of neg./unknown HIV status</b>									
Yes	64	17.6	(13.4–21.9)	26	7.8	(4.8–10.9)	48	12.7	(9.0–16.5)
No	302	82.4	(78.1–86.6)	344	92.2	(89.1–95.2)	321	87.3	(83.5–91.0)
<b>Insertive anal intercourse</b>									
Yes	203	56.0	(50.7–61.3)	118	32.2	(26.7–37.6)	152	42.1	(37.2–47.1)
No	170	44.0	(38.7–49.3)	255	67.8	(62.4–73.3)	221	57.9	(52.9–62.8)
<b>Condomless insertive anal intercourse</b>									
Yes	155	42.8	(37.6–47.9)	80	22.0	(17.4–26.6)	118	32.4	(28.1–36.6)
No	218	57.2	(52.1–62.4)	293	78.0	(73.4–82.6)	255	67.6	(63.4–71.9)
<b>Condomless insertive anal intercourse with partners of neg./unknown HIV status</b>									
Yes	40	10.8	(7.0–14.6)	14	4.3	(1.9–6.7)	30	7.8	(4.8–10.8)
No	332	89.2	(85.4–93.0)	358	95.7	(93.3–98.1)	343	92.2	(89.2–95.2)
<b>Receptive anal intercourse</b>									
Yes	186	49.9	(44.7–55.0)	106	28.7	(23.8–33.6)	136	36.5	(31.7–41.2)
No	186	50.1	(45.0–55.3)	267	71.3	(66.4–76.2)	235	63.5	(58.8–68.3)
<b>Condomless receptive anal intercourse</b>									
Yes	147	39.9	(34.5–45.2)	75	20.8	(16.3–25.2)	110	29.2	(24.8–33.6)
No	222	60.1	(54.8–65.5)	296	79.2	(74.8–83.7)	260	70.8	(66.4–75.2)
<b>Condomless receptive anal intercourse with partners of neg./unknown HIV status</b>									
Yes	49	13.5	(9.8–17.2)	20	5.9	(3.3–8.6)	36	9.5	(6.4–12.7)
No	317	86.5	(82.8–90.2)	350	94.1	(91.4–96.7)	333	90.5	(87.3–93.6)
<b>Total</b>	<b>377</b>								

<sup>a</sup>Indicates whether the behavior was reported with any sexual partner. <sup>b</sup>A partner with whom the patient had sex and to whom he felt most committed (e.g., boyfriend, spouse, significant other, or life partner).

<sup>c</sup>A partner with whom the patient had sex but to whom he did not feel committed or whom he did not know very well.

**Table 11.3: Sexual risk behaviors with any type of partner during the 12 months before the interview among men who have sex with women – Medical Monitoring Project, San Francisco, 2011–2012.**

	No.	%	(95% CI)
<b>Vaginal intercourse</b>			
Yes	26	62.1	(46.1–78.0)
No	16	37.9	(22.0–53.9)
<b>Condomless vaginal intercourse</b>			
Yes	7	16.4	
No	35	83.6	(71.8–95.4)
<b>Condomless vaginal intercourse with partners of negative or unknown HIV status</b>			
Yes	5	12.1	
No	37	87.9	(77.4–98.4)
<b>Anal intercourse</b>			
Yes	5	11.4	
No	37	88.6	(78.9–98.2)
<b>Condomless anal intercourse</b>			
Yes	2	4.3	
No	40	95.7	(89.8–100.0)
<b>Condomless anal intercourse with partners of negative or unknown HIV status</b>			
Yes	1	2.2	
No	41	97.8	(93.5–100.0)
<b>Total</b>	<b>42</b>		

**Table 11.4: Sexual risk behaviors with any type of partner during the 12 months before the interview among women who have sex with men – Medical Monitoring Project, San Francisco, 2011–2012.**

	<b>No.</b>	<b>%</b>	<b>(95% CI)</b>
<b>Vaginal intercourse</b>			
Yes	15	62.3	(37.6–87.0)
No	10	37.7	
<b>Condomless vaginal intercourse</b>			
Yes	9	37.1	(18.4–55.9)
No	16	62.9	(44.1–81.6)
<b>Condomless vaginal intercourse with partners of negative or unknown HIV status</b>			
Yes	4	15.2	
No	21	84.8	(69.4–100.0)
<b>Anal intercourse</b>			
Yes	3	13.3	
No	22	86.7	(72.5–100.0)
<b>Condomless anal intercourse</b>			
Yes	2	9.0	
No	23	91.0	(78.9–100.0)
<b>Condomless anal intercourse with partners of negative or unknown HIV status</b>			
No	25	100.0	
<b>Total</b>	<b>25</b>		

**Table 11.5: Attitudes towards condomless sex among all patients and among those who reported condomless sex with partners of unknown or negative serostatus during the 12 months before the interview – Medical Monitoring Project, San Francisco, 2011–2012.**

	All patients			Patients reporting condomless sex with partners of neg./unknown serostatus		
	No.	%	(95% CI)	No.	%	(95% CI)
<b>An undetectable viral load means, I can worry less about using a condom</b>						
Strongly disagree	141	56.6	(50.2–62.9)	5	5.2	
Disagree	22	8.8	(5.0–12.6)	0	0	
Neutral	18	7.5	(4.3–10.7)	3	12.0	
Agree	42	17.7	(12.3–23.0)	14	29.8	(17.0–42.7)
Strongly agree	24	9.5	(5.7–13.3)	24	40.2	(27.9–52.4)
<b>If I have an undetectable viral load, I am more likely to have unprotected sex</b>						
Strongly disagree	120	48.7	(42.5–54.9)	7	6.2	
Disagree	36	14.4	(9.8–19.0)	8	15.7	
Neutral	15	6.3	(3.2–9.4)	4	30.7	
Agree	40	16.3	(11.5–21.2)	14	40.5	(24.3–56.7)
Strongly agree	35	14.3	(10.1–18.6)	13	38.5	(22.9–54.2)
<b>If my partner tells me he/she is HIV-positive, we don't have to worry about condoms</b>						
Strongly disagree	113	45.3	(39.5–51.1)	8	6.5	
Disagree	48	20.3	(15.7–24.9)	4	11.4	
Neutral	13	5.2	(2.4–8.0)	3	18.9	
Agree	37	15.5	(10.8–20.1)	13	34.0	(19.6–48.3)
Strongly agree	34	13.7	(9.8–17.7)	18	52.3	(35.4–69.2)
<b>If my partner tells me he/she is HIV-positive, I am more likely to have unprotected sex</b>						
Strongly disagree	95	37.9	(32.6–44.2)	15	10.6	(5.7–15.5)
Disagree	19	7.5	(3.6–11.5)	2	9.4	
Neutral	24	9.8	(6.2–13.5)	2	10.6	
Agree	49	20.8	(16.0–25.6)	14	35.1	(17.9–52.2)
Strongly agree	60	23.9	(18.7–29.1)	13	54.3	(35.5–73.1)
<b>Total</b>	<b>247</b>			<b>46</b>		

## 12 Met and Unmet Need for Ancillary Services

The most frequent ancillary services received by patients were dental care (68%), Supplemental Security Income or Social Security Disability Insurance (48%) and medication assistance through the AIDS Drug Assistance Program (44%; Table 12.1). Twenty-one percent of patients reported needing but not receiving dental care, while 9% reported needing but not receiving treatment for mental health services and 9% also needed but did not receive HIV peer support.

**Table 12.1: Met and unmet needs for ancillary services during the 12 months before the interview – Medical Monitoring Project, San Francisco, 2011–2012.**

Service <sup>a</sup>	Received service			Needed but did not receive service			Did not receive or need service		
	No.	%	(95% CI)	No.	%	(95% CI)	No.	%	(95% CI)
Dental care	305	68.0	(63.7–72.4)	106	21.3	(16.8–25.8)	51	10.7	(7.6–13.7)
HIV case management services	180	35.9	(30.4–41.5)	24	4.9	(3.2–6.6)	257	59.1	(53.3–65.0)
Medicine through the AIDS Drug Assistance Program	208	44.4	(39.3–49.5)	15	3.2	(1.6–4.8)	231	52.4	(46.9–57.9)
Public benefits including Supplemental Security Income or Social Security Disability Insurance	236	48.2	(42.2–54.2)	21	4.2	(2.6–5.8)	205	47.6	(41.4–53.8)
Counseling about how to prevent the spread of HIV	92	18.7	(15.0–22.5)	7	1.3		363	80.0	(76.1–83.8)
Meal or food services	146	28.7	(23.7–33.8)	23	4.7	(2.8–6.7)	293	66.5	(60.9–72.2)
Mental health services	155	33.3	(28.8–37.8)	42	8.6	(6.0–11.1)	265	58.1	(53.3–62.9)
Transportation services	100	20.0	(15.7–24.3)	40	7.6	(5.3–9.9)	322	72.4	(67.3–77.5)
Professional help remembering to take HIV medicines on time or correctly	64	12.5	(9.0–16.0)	23	4.7	(2.9–6.6)	375	82.8	(78.7–86.9)
Shelter or housing services	71	13.6	(10.4–16.9)	17	3.3	(1.6–5.1)	373	83.0	(79.1–87.0)
HIV peer group support	76	15.7	(11.8–19.6)	44	9.1	(6.4–11.8)	338	75.1	(70.8–79.4)
Drug or alcohol counseling or treatment	61	12.1	(8.5–15.6)	15	3.2	(1.6–4.9)	385	84.7	(80.8–88.5)
Home health services	47	9.2	(6.1–12.2)	21	4.1	(1.9–6.3)	393	86.7	(83.4–90.0)
Interpreter services	7	1.4		3	0.6		452	98.0	(96.9–99.2)
Domestic violence services	5	0.9		6	1.2		451	97.9	(96.7–99.1)
<b>Total</b>	<b>462</b>			<b>462</b>			<b>462</b>		

<sup>a</sup>Patients could report receiving or needing more than one service.

## 13 Prevention Activities

One-on-one prevention related conversations with a health care provider 12 months prior to the interview were reported by 37% of patients (Table 13.1). Sixteen percent reported one-on-one prevention related conversations with a social worker in the 12 months prior to interview. Small group prevention counseling was reported by 11% of patients. Half of patients received free condoms from someone other than a friend, relative or sex partner.

**Table 13.1: Prevention services<sup>a</sup> received during the 12 months before the interview – Medical Monitoring Project, San Francisco, 2011–2012.**

	No.	%	(95% CI)
<b>One-on-one conversation with physician, nurse, or other health care worker</b>			
Yes	84	37.1	(29.2–45.0)
No	132	62.9	(55.0–70.8)
<b>One-on-one conversation with outreach worker, counselor, or prevention program worker</b>			
Yes	74	15.5	(12.3–18.6)
No	388	84.5	(81.4–87.7)
<b>Organized session involving a small group of people</b>			
Yes	28	11.2	(7.8–14.5)
No	188	88.8	(85.5–92.2)
<b>Free condoms</b>			
Yes	240	51.7	(47.0–56.5)
No	222	48.3	(43.5–53.0)
<b>Source of free condoms<sup>b</sup></b>			
General health clinic	32	20.6	(14.1–27.2)
Community-based organization	49	38.6	(30.4–46.7)
Social venue	49	48.0	(38.7–57.4)
Sexually transmitted disease clinic	8	6.4	
Special event	23	20.0	(12.1–27.9)
Outreach organization for persons who inject drugs	6	3.8	
<b>Total</b>	<b>462</b>		

<sup>a</sup>Patients could report receiving or needing more than one service.

<sup>b</sup>Among patients who received free condoms.



## 14 Internalized Stigma and Discrimination

Fifty-four percent of patients acknowledged having difficulty telling others about having HIV and 45% indicated that they hid their HIV status from others (Table 14.1). Feeling guilty or ashamed of having HIV was reported by 25% and 21% respectively. Twenty-seven percent of patients reported that someone in the health care system had been hostile or disrespectful toward them since their HIV diagnosis. Eighty-three percent of patients reported being discriminated against because of HIV and 57% reported discrimination because of their sexual orientation and/or practices.

**Table 14.1: Internalized HIV stigma and discrimination experiences – Medical Monitoring Project, San Francisco, 2011–2012.**

	No.	%	(95% CI)
<b>Patient response was "agree" to the following:</b>			
It is difficult to tell people about my HIV infection.	248	53.9	(49.0–58.8)
Being HIV positive makes me feel dirty.	92	18.9	(15.1–22.8)
I am guilty that I am HIV positive.	119	24.9	(20.9–29.0)
I am ashamed that I am HIV positive.	97	20.5	(16.9–24.1)
I sometimes feel worthless because I am HIV positive.	85	16.9	(13.8–20.1)
I hide my HIV status from others.	210	45.1	(40.2–49.9)
<b>No. of stigma questions participant responded as "agreed"</b>			
0	132	29.1	(25.0–33.1)
1	93	21.0	(17.4–24.5)
2	104	22.4	(18.7–26.1)
3	50	10.3	(7.8–12.8)
4	33	7.4	(5.0–9.9)
5	32	6.4	(4.2–8.7)
6	18	3.4	(2.0–4.9)
<b>Number of stigma questions "agreed"</b>			
Mean	1.8		
Median	1.0		
Range	0–6		
<b>Has anyone in the health care system done any of the following to you since testing positive for HIV?</b>			
Exhibited hostility or a lack of respect toward you?	124	26.9	(22.3–31.5)
Given you less attention than other patients?	77	16.3	(12.9–19.6)
Refused you service?	55	11.4	(8.4–14.4)
<b>Experienced any discrimination since testing positive for HIV</b>			
	149	32.0	(27.2–36.7)
<b>Did the discrimination occur because of<sup>a</sup>...</b>			
Your HIV infection?	112	82.7	(77.1–88.3)
Your gender?	15	9.3	(4.7–14.0)
Your sexual orientation or practices?	78	57.1	(48.5–65.6)
Your race or ethnicity?	25	16.0	(10.2–21.9)
Your drug injecting habit?	23	14.4	(8.2–20.6)
<b>Total</b>	<b>462</b>		

<sup>a</sup>Percent out of those who experienced any discrimination.

# Bibliography

- [1] San Francisco Department of Public Health. HIV/AIDS Epidemiology Annual Report 2014. San Francisco: San Francisco Department of Public Health August 2015; 1–81.
- [2] Institute of Medicine. Measuring what matters: allocation, planning and quality assessment for the Ryan White CARE Act. Washington, DC:Institute of Medicine; 2004.
- [3] Blair J, McNaghten A, Frazier E, Skarbinski J, Huang P, Heffelfinger J. Clinical and behavioral characteristics of adults receiving medical care for HIV infection-Medical Monitoring Project, United States, 2007. *MMWR Surveillance Summary* 2011;60(11):1-20.
- [4] 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:e550.
- [5] Frankel MR, McNaghten AD, 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(Suppl 1: M2) 67-76. doi:10.2174/1874613601206010067.
- [6] Blair J.M., Fagan J.L., Frazier E.L., et al. Behavioral and Clinical Characteristics of Persons Receiving Medical Care for HIV Infection – Medical Monitoring Project, United States, 2009. *MMWR Surveillance Summary* 2014 Jun 20;63 Suppl 5:1–22.
- [7] State of California, Department of Public Health. Requirements for HIV case and CD4 test result reporting. California Health and Safety Code, Sections 121022–121023. Available from: <http://www.legendinfo.ca.gov/cgi-bin/displaycode?section=hsc&group=120001–121000&file=120975–121023>.
- [8] Centers for Disease Control and Prevention. Revised surveillance case definitions 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(No. RR–10).
- [9] Department of Health and Human Services. Guidelines for the Use of Antiretroviral Agents in HIV–1–Infected Adults and Adolescents.<https://aidsinfo.nih.gov/guidelines/html/1/adult-and-adolescent-treatment-guidelines/0>.
- [10] Department of Health and Human Services. Guidelines for the Prevention and Treatment of Opportunistic Infections in HIV–Infected Adults and Adolescents. <https://aidsinfo.nih.gov/guidelines/html/4/adult-and-adolescent-opi-prevention-and-treatment-guidelines/326>
- [11] Kroenke K, Strine TW, Spitzer RL, Williams JB, Berry JT, Mokdad AH. The PHQ–8 as a measure of current depression in the general population. *J Affect Disord* 2009;114:163-73.

