Behavioral and Clinical Characteristics of Persons Living with Diagnosed HIV San Francisco 2017-2018

MEDICAL MONITORING PROJECT

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1 Background

In 2005, in response to an Institute of Medicine report outlining the need for representative data on persons living with HIV, the Centers for Disease Control and Prevention (CDC) implemented the Medical Monitoring Project (MMP), which from 2009 to 2014 collected data from a 3-stage probability sample of persons receiving HIV medical care [1,2]. In 2015, MMP sampling and weighting methods were revised to include all persons with diagnosed HIV regardless of HIV care status and a 2-stage sampling approach was implemented [3]. This is the second San Francisco report using data collected from these revised methods.

The National HIV/AIDS Strategy was released in 2010 to monitor progress towards achieving three primary goals in HIV treatment and prevention [4].The updated HIV National Strategic Plan 2021-2025 (The HIV Plan) includes four main objectives: (1) prevent HIV incidence, (2) improve HIV-related health outcomes of people with HIV, (3) reduce HIV-related health disparities and health inequities, and (4) achieve integrated, coordinated efforts that address the HIV epidemic among all partners and stakeholders [5]. MMP data is used to measure two of the eight core indicators: decrease stigma among people with diagnosed HIV and to reduce homelessness among people with diagnosed HIV [5].

In San Francisco there were 197 persons newly diagnosed with HIV in 2018, down from 221 persons diagnosed in 2017 [6]. This decline reflects 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, 2018, there were 15,990 San Francisco residents diagnosed and living with HIV [6].

2   Methods

MMP is a cross-sectional, nationally representative, complex sample survey that assesses the clinical and behavioral characteristics of adults living with diagnosed HIV in the United States. Since 2015, the Medical Monitoring Project has used a stratified 2-stage sampling design. For the first stage, probability-proportion-to-size sampling based on AIDS prevalence was used to sample from all 50 United States and dependent areas, resulting in a sample of 16 states and Puerto Rico [7]. At the second stage, living adults with a reported HIV diagnosis in the National HIV Surveillance System (NHSS) were sampled [3]. The sampling date was December 31, 2016 for the 2017 MMP cycle and December 31, 2017 for the 2018 MMP cycle.

San Francisco is one of the 23 project areas participating in the MMP. In order to have a sufficiently large sample for data analysis, this report summarizes findings from two cycles of the MMP (2017 and 2018). The 2017 MMP cycle data was collected from June 2017 to May 2018, and the 2018 MMP cycle data was collected from June 2018 to May 2019.

Eligibility

Persons were eligible for participation if, as of the sampling date, they had received a diagnosis of HIV, were age ≥18 years, alive, and a resident of San Francisco on the sampling date.

Recruitment and Consent

MMP staff contacted sampled persons by telephone or letter. MMP was conducted as a supplemental HIV surveillance activity with a non-research determination during the 2017 and 2018 data collection cycles nationally and in San Francisco [8]. All participants gave informed consent [9] prior to the interview and signed a release of information (ROI) for a medical record abstraction.

Interview

Trained interviewers conducted an approximately one hour face-to-face standardized computer-assisted structured interview in either English or Spanish with sampled persons. Interviews were conducted in a private location (such as at the San Francisco Department of Public Health, the person's home or at their medical care facility). The standard interview collected information on participant 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 given a token of appreciation of $75 in 2017 and $50 in 2018.

Medical Record Abstraction

Trained MMP staff reviewed and abstracted medical records for participants after the interview was conducted. Information collected during the medical record abstraction 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 24 months before the interview.

Data Weighting, Management and Statistical Analyses

Data were weighted and adjustments were made for unequal probability of selection, multiplicity, and nonresponse [3].

Prevalence estimates (weighted percentages) and associated 95% confidence intervals (CI) were calculated using information from persons who completed the standard questionnaire or 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 up to the total N because of missing data. Percentages are weighted percentages and might not sum to 100 because of rounding. Additional information on MMP is available at https://www.cdc.gov/hiv/statistics/systems/mmp/.

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 v9.4 statistical software was used for analysis of weighted data.

The estimates describe the characteristics of adults with diagnosed HIV who were living in San Francisco on the sampling date. The period referenced is the 12 months before interview and medical record abstraction unless otherwise noted.

Participant Response Rates

In 2017 there were 378 eligible persons in the MMP sample, of which 185 (49%) participated (Table 2.1). In 2018 there were 382 eligible persons in the MMP sample, of which 176 (46%) participated. For the 2017 and 2018 combined MMP data presented in this report, there were 361 respondents out of 760 eligible, resulting in a combined response rate of 48%.

Table 2.1: Sample size and response rate – Medical Monitoring Project, San Francisco, 2017–2018.

Year	Total Sampled Sample	Ineligible	Total Final Eligible Sample	Respondent	Response Rate
	n	n	n	n	%
2017 Cycle	400	22	378	185	48.9%
2018 Cycle	400	18	382	176	46.1%
2017 & 2018	**800**	**40**	**760**	**361**	**47.5%**

3 Demographic Characteristics

The majority were men (92%), six percent were female, a little over two percent were trans women, and less than one percent were trans men (Table 3.1). Persons were classified as a trans woman if sex at birth was reported as male and the self-identified gender was woman or trans woman. Seventy-eight percent of the sample self-identified as homosexual, gay, or lesbian, and seven percent identified as bisexual.

The majority of persons were White (51%), 21% were Latinx, 13% were African American, and 6% were Asian or Pacific Islander. Ten percent identified as more than one race/ethnicity. Fifty-six percent of persons were aged 40 to 59 years. The majority of persons had some college or greater education (80%) and had been born in the United States (80%). A large proportion had been diagnosed with HIV for 10 or more years (75%) (Table 3.1).

Sixteen percent were homeless and two percent had been incarcerated for more than 24 hours in the 12 months prior to the interview. All participants had some type of health insurance and/or coverage, and 49% had private insurance. One or more insurance or coverage type could be selected and persons were considered uninsured if they reported having health costs paid only by Ryan White–funded programs.

Fifty-one percent were employed at the time of the interview. Nineteen percent had a combined household income of $75,000 or greater in the previous year, while 26% had incomes at or below the federal poverty level (Table 3.2).

The federal poverty level was defined using the Department of Health and Human Services (HHS) poverty guidelines; the 2016 guidelines were used for persons interviewed in 2017 and the 2017 guidelines were used for persons interviewed in 2018. More information regarding the HHS poverty guidelines can be found at http://aspe.hhs.gov/poverty/faq.cfm.

Table 3.1: Demographics – Medical Monitoring Project, San Francisco, 2017–2018.

Demographics	No.	%	(95% CI)
Gender[a]			
Male	326	91.6	(88.8–94.4)
Female	24	5.8	(3.4–8.2)
Trans women	10	2.4	(0.9–3.8)
Trans men	1	0.2	-
Sexual Orientation			
Homosexual, gay or lesbian	271	78.1	(73.5–82.7)
Heterosexual or straight	49	12.3	(8.5–16.1)
Bisexual	29	7.3	(4.6–10.0)
Other sexual orientation	9	2.3	-
Race / Ethnicity			
White	182	50.5	(44.8–56.3)
Hispanic or Latinx[b]	69	20.8	(16.1–25.6)
Black or African American	49	12.6	(8.9–16.3)
Multiracial or Other	39	9.7	(6.7–12.8)
Asian or Pacific Islander	22	6.3	(3.5–9.1)
Age at time of interview			
18–39 years	51	16.8	(12.3–21.2)
40–49 years	76	21.3	(16.5–26.1)
50–59 years	127	35.0	(29.5–40.6)
60–64 years	53	13.3	(9.8–16.7)
≥ 65 years	54	13.7	(10.2–17.2)
Education			
< High School	28	7.0	(4.3–9.7)
High School diploma or equivalent	51	12.9	(9.4–16.4)
≥ High School	279	80.1	(75.8–84.3)
Country or territory of birth			
United States	289	80.4	(76.0–84.9)
Other	71	19.6	(15.1–24.0)
Time since HIV diagnosis			
< 5 years	31	9.8	(6.2–13.5)
5–9 years	54	14.9	(11.1–18.7)
≥ 10 years	276	75.3	(70.4–80.2)
Total	**361**		

[a] Persons were classified as a trans woman if sex at birth was male and self-reported gender identity was woman or trans woman and trans man if sex at birth was female and self-reported gender identity was man or trans man.
[b] Hispanics or Latinx might be of any race. Persons are classified in only one race/ethnicity category.

Table 3.2: Characteristics in the past 12 months – Medical Monitoring Project, San Francisco, 2017–2018.

Characteristic	No.	%	(95% CI)
Homeless at any time in the past 12 months[a]	61	15.7	(11.9–19.5)
Incarcerated for longer than 24 hours	6	1.5	-
Had health insurance coverage	360	100.0	(-)
Type of health insurance[b]			
Private insurance	165	48.8	(43.1–54.6)
Ryan White	175	48.2	(42.4–53.9)
Medicaid	173	44.7	(39.1–50.3)
Medicare	137	35.4	(30.1–40.6)
Other public insurance	35	11.4	(7.2–15.5)
Tricare/CHAMPUS or VA	14	4.7	-
Currently employed[c]	170	50.8	(45.1–56.5)
Any Disability	155	42.1	(36.4–47.7)
Combined yearly household income (dollars)[d]			
$0 to $19,999	129	39.1	(33.3–44.8)
$20,000 to $39,999	59	19.1	(14.3–23.8)
$40,000 to $74,999	59	22.7	(17.0–28.5)
$75,000 or more	61	19.1	(14.7–23.6)
Poverty level			
Above poverty level	252	73.9	(69.2–78.6)
At or below poverty level	102	26.1	(21.4–30.8)
Total	361		

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

[b] Persons could select more than one response for health insurance.

[c] Employed includes employed for wages, self-employed, or homemaker.

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

Abbreviations: CHAMPUS: Civilian Health and Medical Program of the Uniformed Services, VA: Veterans Administration, SSI: Supplemental Security Income, SSDI: Social Security Disability Insurance.

4   Clinical Characteristics

Fifty-five percent of persons met the CDC clinical criteria for HIV Stage 3 (AIDS) [10], although only seven percent had a geometric mean CD4 count less than 200 cells/μL in the prior 12 months (Table 4.1). Note that CD4 counts are from medical record abstraction. A large proportion of persons (79%) were virally suppressed on their most recent test and 75% were virally suppressed throughout the entire previous 12 months.

Table 4.1: Stage of disease, CD4+ lymphocyte counts, and viral suppression during the prior 12 months – Medical Monitoring Project, San Francisco, 2017–2018.

	No.	%	(95% CI)
HIV infection stage 3 (AIDS)[a]	208	55.4	(49.6–61.1)
Geometric mean CD4+ lymphocyte count			
0–199 cells/μL	21	6.6	(3.7–9.4)
200–349 cells/μL	38	12.2	(8.4–16.0)
350–499 cells/μL	52	18.1	(13.5–22.7)
≥500 cells/μL	182	63.1	(57.4–68.8)
Lowest CD4+ lymphocyte count			
0–49 cells/μL	3	0.8	-
50–199 cells/μL	29	9.0	(5.7–12.2)
200–349 cells/μL	31	10.3	(6.7–13.9)
350–499 cells/μL	68	23.0	(18.0–28.0)
≥ 500 cells/μL	164	56.9	(51.0–62.8)
Viral suppression			
Most recent HIV viral load undetectable or <200 copies/mL	302	79.3	(73.8–84.8)
≥200 copies/mL or missing/unknown	59	20.7	(15.2–26.2)
Durable viral suppression			
All HIV viral load measurements undetectable or <200 copies/mL	284	75.2	(69.6–80.8)
Any HIV viral load measurement ≥200 copies/mL or missing/unknown	77	24.8	(19.2–30.4)
Total	**361**		

[a]HIV stage 3 (AIDS): Documentation of an AIDS–defining condition or either a CD4 count of <200 cells/μL 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.
Abbreviations: CD4: CD4 T–lymphocyte count (cells/μL). AIDS: acquired immunodeficiency syndrome.

5   Use of Health Care Services

ART is recommended for all persons living with HIV regardless of clinical stage or immuno-status and prophylaxis against *Pneumocystis jiroveci pneumonia* (PCP) and *Mycobacterium avium complex* (MAC) is recommended for persons with CD4+ lymphocyte cell counts below 200 cells/μL and below 50 cells/μL, respectively [11, 12]. Ninety-one percent of persons had been prescribed ART (Table 5.1). Fifty-two percent of clinically eligible persons were prescribed PCP prophylaxis and 61% of clinically eligible persons were prescribed MAC prophylaxis. All persons received outpatient HIV care in the last 24 months. Outpatient HIV care was defined as any documentation of the following: encounter with an HIV care provider, viral load test result, CD4 test result, HIV resistance test or tropism assay, ART prescription, PCP prophylaxis, or MAC prophylaxis. Eighty-three percent of persons had been vaccinated against influenza in the past year (Table 5.1).

Among persons who were sexually active in the previous 12 months, forty-nine percent were tested for gonorrhea, chlamydia, and syphilis, with syphilis testing conducted most frequently (71% of persons, Table 5.2).

Use of the emergency department (ED) was frequent; 16% percent of persons were seen in the ED two or more times in the prior 12 months (Table 5.3). Sixty-three percent did not have any illnesses or injuries requiring care in the ED and sixteen percent were hospitalized at least once.

Table 5.1: Access and quality of HIV care – Medical Monitoring Project, San Francisco, 2017–2018.

	No.	%	(95% CI)
Ever received outpatient HIV care[a]			
Yes	361	100.0	(100.0–100.0)
Received outpatient HIV care, past 12 months			
Yes	359	98.8	(96.9–100.0)
Received outpatient HIV care, past 24 months			
Yes	361	100.0	(100.0–100.0)
Retained in care[b], past 12 months			
Yes	317	82.9	(77.4–88.4)
No	42	17.1	(11.6–22.6)
Retained in care[b], past 24 months			
Yes	265	68.9	(63.1–74.8)
No	94	31.1	(25.2–36.9)
Prescribed ART, past 12 months			
Yes	340	90.6	(86.0–95.2)
No	21	9.4	(4.8–14.0)
Prescribed PCP prophylaxis[c], past 12 months			
Yes	17	52.0	(34.2–69.8)
No	15	48.0	(30.2–65.8)
Prescribed MAC prophylaxis[d], past 12 months			
Yes	2	60.6	-
No	1	39.4	-
Received influenza vaccination, past 12 months			
Yes	305	83.0	(78.1–87.9)
No	54	17.0	(12.1–21.9)
Total	**361**		

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

[b] Retained in care was defined as having at least two elements of outpatient HIV care as described in [a] at least 90 days apart in each 12-month period.

[c] Among persons with CD4 cell count <200 cells/μL.

[d] Among persons with CD4 cell count <50 cells/μL.

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

Abbreviations: CD4, CD4 T–lymphocyte count (cells/μL) or percentage; ART, antiretroviral therapy; PCP, *Pneumocystis pneumonia*; MAC, *Mycobacterium avium complex*.

Table 5.2: Sexually transmitted infection testing during the prior 12 months among the total population and among those who reported sexual activity – Medical Monitoring Project, San Francisco, 2017–2018.

	Total population			Sexually active		
	N	**%**	**(95% CI)**	**N**	**%**	**(95% CI)**
Syphilis testing						
Yes, received testing	254	67.5	(61.7–73.3)	164	70.8	(62.8–78.7)
No testing documented	104	32.5	(26.7–38.3)	49	29.2	(21.3–37.2)
Gonorrhea testing						
Yes, received testing	162	44.6	(39.0–50.2)	121	54.2	(46.4–62.0)
No testing documented	196	55.4	(49.8–61.0)	92	45.8	(38.0–53.6)
Chlamydia testing						
Yes, received testing	160	44.0	(38.4–49.6)	120	53.6	(45.8–61.4)
No testing documented	198	56.0	(50.4–61.6)	93	46.4	(38.6–54.2)
Syphilis, gonorrhea and chlamydia testing						
Yes, received all tests	142	39.4	(33.9–44.9)	109	49.0	(41.3–56.7)
No, did not receive all tests	216	60.6	(55.1–66.1)	104	51.0	(43.3–58.7)
Total	**361**			**215**		

Table 5.3: Emergency department or urgent care clinic use and hospital admission during the prior 12 months – Medical Monitoring Project, San Francisco, 2017–2018.

	No.	%	(95% CI)
Number of visits to emergency department or urgent care clinic			
0	216	62.5	(57.1–67.9)
1	80	22.0	(17.3–26.6)
2–4	51	12.6	(9.2–16.1)
≥5	12	2.9	(1.2–4.7)
Number of hospital admissions			
0	298	84.3	(80.5–88.1))
1	32	8.5	(5.6–11.4)
2–4	29	7.0	(4.4–9.6)
≥5	1	0.2	-
Total	**361**		

6 Self-reported Antiretroviral Medication Use and Adherence

Ninety-eight percent self-reported current ART use and over 99% reported ever taking ART (Table 6.1). Among those who had a history of ART use but were not currently taking ART, 46% were not currently taking ART because their health care provider never discussed restarting ART. The most common reasons for last missed ART dose were forgetting (65%), a change in one's daily routine or travel (51%), and falling asleep early or oversleeping (39%) (Table 6.1).

Among persons taking ART, 55% had perfect 30 day dose adherence (i.e. did not miss an ART dose in the past 30 days) (Table 6.2). Sixty-eight percent had never been troubled by ART side effects during the past 30 days; 21% had rarely been troubled. Seventy-nine percent reported they were either very good or excellent at taking their HIV medicines in the way they were supposed to (Table 6.2).

While 90% of men had a prescription of ART, only 55% were ART adherent and 76% had sustained viral suppression. Among women, 94% had been prescribed ART, 67% were ART adherent and 64% had sustained viral suppression (Table 6.3).

Ninety percent of Latinx, Black/African Americans, and White persons were prescribed ART. The prevalence of ART prescription was 89% among persons aged 18 to 39 years and 100% among those aged 65 years or older. The prevalence of sustained viral suppression was 79% among persons aged 18 to 39 years and 94% among those aged 65 and older (Table 6.3).

Table 6.1: Antiretroviral therapy use – Medical Monitoring Project, San Francisco, 2017–2018.

	No.	%	(95% CI)
Ever taken antiretroviral medications (ART)	358	99.5	(98.7–100.0)
Currently taking ART	351	97.7	(96.2–99.2)
Main reasons for last missed ART dose[a]			
Forgot to take HIV medicines	202	65.2	(59.6–70.8)
Change in daily routine/traveling	152	51.2	(45.2–57.2)
Fell asleep early or overslept	123	38.8	(32.9–44.7)
Felt depressed or overwhelmed	71	23.0	(17.7–28.4)
Was drinking or using drugs	53	16.0	(11.8–20.1)
Did not feel like taking HIV medication	48	13.8	(10.0–17.5)
Experienced side effects	29	8.1	(5.1–11.0)
In the hospital or too sick for medication	23	5.7	(3.3–8.0)
Had problems with prescription/refills	22	16.9	(9.0–24.9)
Had problems with payment	8	4.3	-
Total	361		

Abbreviations: ART, antiretroviral therapy.

[a] Among those currently taking ART.

Table 6.2: Antiretroviral therapy (ART) adherence among persons taking ART – Medical Monitoring Project, San Francisco, 2017–2018.

	No.	%	(95% CI)
How many days did you miss at least one dose of any of your HIV medicines?			
0	196	54.9	(49.1–60.7)
1–2	101	28.8	(23.6–34.0)
3–5	41	11.7	(7.8–15.5)
6–10	9	2.6	-
≥ 11	4	2.0	-
How well did you do at taking your HIV medicines in the way you were supposed to?			
Very poor	3	1.8	-
Poor	5	1.5	-
Fair	13	3.8	(1.7–5.9)
Good	50	13.6	(9.7–17.5)
Very good	84	23.0	(18.4–27.7)
Excellent	196	56.4	(50.6–62.1)
How often did you take your HIV medicines in the way you were supposed to?			
Never	1	0.2	-
Rarely	2	0.7	-
Sometimes	11	3.9	-
Usually	7	2.4	-
Almost always	93	29.9	(20.9–30.9)
Always	237	66.9	(61.4–72.4)
Troubled by ART side effects			
Never	234	67.9	(62.6–73.2)
Rarely	76	21.1	(16.6–25.6)
About half the time	26	7.3	(4.0–10.6)
Most of the time	9	2.6	-
Always	4	1.1	-
Total	**361**		

Table 6.3: Antiretroviral therapy (ART) prescription, ART dose adherence, durable viral suppression, and geometric mean CD4 count by subgroups – Medical Monitoring Project, San Francisco, 2017–2018.

Subgroups	Prescription of ART No.	Row%[d]	(95% CI)	ART dose adherence[a] No.	Row%[d]	(95% CI)	Sustained viral suppression[b] No.	Row%[d]	(95% CI)	Mean CD4 count >200[c] No.	Row%[d]	(95% CI)
Gender												
Male	306	90.1	(85.2–95.1)	179	55.1	(49.0–61.2)	260	75.8	(69.9–81.1)	244	93.4	(90.4–96.4)
Female	23	94.4	(83.9–100.0)	14	66.6	(45.3–87.9)	16	64.3	(44.0–84.6)	19	91.8	(79.1–100.0)
Trans women	10	100.0	-	2	18.3	-	8	84.0	(62.9–100.0)	9	100.0	-
Trans men	1	100.0	-	1	100	-			-			-
Sexual Orientation												
Lesbian or gay	253	89.1	(83.4–94.7)	150	55.7	(49.0–62.3)	223	77.9	(71.5–84.3)	205	94.6	(91.6–97.6)
Heterosexual or straight	49	100.0	-	24	49.9	(32.9–66.9)	31	60.1	(42.9–77.4)	37	91.7	(84.2–99.3)
Bisexual	26	87.6	(74.5–100.0)	16	57.3	(38.0–76.6)	22	74.2	(57.4–91.1)	19	81.3	(64.7–97.9)
Other	9	100.0	-	4	42.9	-	7	80.7	(55.8–100.0)	8	100.0	-
Race/Ethnicity												
White	170	89.9	(83.1–96.8)	110	60.8	(52.6–69.0)	150	77.9	(69.7–86.1)	136	93.9	(89.9–97.8)
Hispanic or Latinx	65	90.1	(80.0–100.0)	31	47.7	(34.6–60.8)	49	67.2	(54.1–80.4)	56	94.8	(89.0–100.0)
Black/African American	47	89.5	(75.0–100.0)	24	49.0	(33.3–64.7)	37	72.2	(56.6–87.7)	39	91.6	(83.4–99.7)
Multiracial or other	38	96.5	(89.4–100.0)	18	45.5	(29.1–61.9)	29	75.1	(61.1–89.0)	24	89.6	(78.2–100.0)
Asian or Pacific Islander	20	90.9	(78.7–100.0)	13	57.8	(32.6–83.0)	19	86.4	(71.7–100.0)	17	95.1	(85.5–100.0)
Age at time of interview												
18-39	46	89.2	(80.2–98.3)	29	60.3	(46.0–74.5)	40	78.7	(67.0–90.3)	41	99.4	(98.1–100.0)
40–49	68	85.6	(74.0–97.2)	38	49.0	(35.8–62.3)	54	65.3	(51.9–78.7)	56	89.5	(81.3–97.6)
50–59	121	88.7	(79.1–98.2)	65	51.1	(10.9–61.3)	98	70.2	(59.5–80.9)	90	93.3	(88.3–98.2)
60–64	51	95.9	(90.4–100.0)	27	52.4	(38.5–66.2)	42	81.1	(70.5–91.61)	41	89.3	(80.1–98.5)
≥65	54	100.0	(-)	37	68.6	(56.1–81.2)	50	93.6	(87.4–99.8)	44	96.5	(91.6–100.0)
Housing Status												
Housed	283	90.7	(85.4–95.9)	163	54.7	(48.3–61.1)	241	76.5	(70.2–82.8)	225	93.5	(90.4–96.6)
SRO	24	100.0	-	11	44.7	(24.1–65.3)	19	79.6	(63.3–95.9)	19	94.9	(85.2–100.0)
Shelter/Street/Car	10	71.7	(45.1–98.3)	5	53.2	(21.6–84.9)	4	27.5	-	9	78.6	(52.6–100.0)
Jail	2	100.0	-	2	100.0	-	2	100.0	-	2	100.0	-
Other	7	100.0	-	5	74.1	-	6	74.3	-	5	93.9	-
Total	340	90.6	(86.0–95.2)	196	54.9	(49.1–60.7)	284	75.2	(69.6–80.8)	272	93.4	(90.6–96.3)

[a] In the past 30 days, 100% adherence to all ART doses.

[b] All viral load measurements in the 12 months preceding the interview documented undetectable or less than 200 copies/mL in the medical chart.

[c] Persons with a geometric mean CD4 count of more than 200 cells/μL in the prior 12 months in the medical chart.

[d] Percent among each subgroup.

7 Depression and Anxiety

Depression was measured by asking persons to complete the eight-item Patient Health Questionnaire (PHQ-8). The interpretation is based on the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV) criteria [13]. Seven percent of persons met the criteria for major depression and nine percent met the criteria for other, less severe depression (Table 7.1). Responses to the Generalized Anxiety Disorder Scale (GAD-7) were used to define mild anxiety, moderate anxiety and severe anxiety, according to criteria from the DSM-IV. Eight percent reported severe anxiety and 80% reported having no anxiety (Table 7.1).

Table 7.1: Depression and anxiety during the prior 2 weeks – Medical Monitoring Project, San Francisco, 2017–2018.

	No.	%	(95% CI)
Depression based on DSM–IV criteria			
No depression	295	83.4	(79.3–87.5)
Other depression[a]	35	9.4	(6.1–12.7)
Major depression[b]	27	7.2	(4.4–9.9)
Moderate or severe depression (PHQ–8 score >10)			
Yes	47	12.0	(8.6–15.4)
No	310	88.0	(84.6–91.4)
Anxiety (GAD-7)			
No anxiety	279	80.0	(75.7–84.2)
Mild anxiety	15	4.2	(2.0–6.3)
Moderate anxiety	32	8.0	(5.3–10.8)
Severe anxiety	31	7.9	(5.1–10.7)
Total	**361**		

[a] Other depression was defined as having 2-4 symptoms of depression.

[b] Major depression was defined as having at least 5 symptoms of depression.

8   Substance Use

The proportion reporting lifetime cigarette smoking was high (64%). Thirty percent reported current use and 20% reported smoking daily.   Seven percent reported using electronic cigarettes in the last 30 days (Table 8.1).   Alcohol use was reported by 76% and 43% reported daily or weekly drinking (Table 8.2).   Twenty-three percent of persons reported binge drinking in the last 30 days.

Non-injection drug use was reported by 61% (Table 8.3).   The most common drugs were: marijuana (50%), amyl nitrite (27%), and crystal methamphetamine (23%). Sixteen percent reported use of club drugs like Ecstasy, GHB or ketamine.   Injection drug use in the 12 months before the interview was reported by 11%. The most common injection drug was methamphetamine and was reported by 87% of those using injection drugs (Table 8.4).

Table 8.1: Cigarette smoking – Medical Monitoring Project, San Francisco, 2017–2018.

	No.	%	(95% CI)
Smoked ≥100 cigarettes (lifetime)			
Yes	228	63.7	(58.2–69.3)
No	130	36.3	(30.7–41.8)
Cigarette Smoking status			
Never smoker	130	36.3	(30.8–41.9)
Former smoker	121	33.4	(28.1–38.6)
Current smoker	106	30.3	(24.9–35.7)
Frequency of cigarette smoking (during past 12 months)			
Never	251	69.7	(64.3–75.1)
Daily	70	19.9	(15.2–24.7)
Weekly	17	4.7	(2.4–7.0)
Monthly	4	1.0	-
Less than monthly	15	4.7	(2.0–7.4)
Smoked ≥50 cigars, cigarillos, or little filtered cigars (lifetime)			
Yes	55	14.7	(10.9–18.5)
No	304	85.3	(81.5–89.1)
Cigars, cigarillos, or little filtered cigars smoking status (during past 12 months)			
Never smoker	304	85.5	(81.7–89.3)
Former smoker	33	8.9	(5.8–11.9)
Current smoker	21	5.6	(3.2–8.1)
Frequency of cigars, cigarillos, or little filtered cigars smoking (during past 12 months)			
Never	337	94.4	(91.9–96.8)
Daily	4	0.8	-
Some Days	8	2.3	-
Rarely	9	2.6	-
Electronic cigarette smoking status			
Never used electronic cigarette	253	69.3	(64.0–74.6)
Used electronic cigarettes, but not in the past 30 days	81	24.1	(19.1–29.1)
Used electronic cigarettes in the past 30 days	25	6.6	(4.0–9.2)
Total	**361**		

Table 8.2: Alcohol use during the prior 12 months – Medical Monitoring Project, San Francisco, 2017–2018.

	No.	%	(95% CI)
Any alcohol used			
Yes	266	75.9	(71.2–80.7)
No	91	24.1	(19.3–28.8)
Frequency of alcohol use			
Daily	42	11.4	(7.9–15.0)
Weekly	105	31.1	(25.7–36.6)
Monthly	36	9.5	(6.4–12.5)
Less than monthly	83	23.9	(18.9–28.9)
Never	91	24.1	(19.3–28.8)
Binge drinking (during past 30 days)[a,b]			
Yes	79	22.8	(18.0-27.6)
No	275	77.2	(72.4–82.0)
Total	**361**		

[a] Among those who used alcohol in the prior 12 months.

[b] Persons who had at least 1 binge drinking episode during 30 days before the interview.

An alcoholic beverage was defined as a 12oz beer, 5oz glass of wine, or 1.5oz of liquor.

A binge drinking episode was defined as having more than 5 drinks for men and more than 4 drinks for women.

Table 8.3: Non–injection drug use during the prior 12 months – Medical Monitoring Project, San Francisco, 2017–2018.

	No.	%	(95% CI)
Use of any non–injection drugs[a]			
Yes	211	60.7	(55.1–66.3)
No	147	39.3	(33.7–44.9)
Non–injection drugs used[b]			
Marijuana	170	50.1	(44.4–55.9)
Amyl Nitrite (poppers)	93	27.3	(22.1–32.4)
Methamphetamine ("Crystal Meth, Tina, Crank, Ice")	79	22.9	(17.9–27.9)
Club drugs (X or Ecstasy, Ketamine, GHB)	56	16.2	(12.1–20.3)
Cocaine that is smoked or snorted	51	14.6	(10.7–18.5)
Amphetamine ("Speed, Bennies, Uppers")	31	8.3	(5.4–11.2)
Painkillers (e.g. Oxycontin, Vicodin, or Percocet)	28	7.4	(4.7–10.1)
Downers (e.g. Valium, Ativan, or Xanax)	21	6.2	(3.5–8.9)
Crack	21	5.6	(3.2–8.0)
Heroin	7	2.5	-
Total	**361**		

[a]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.

Abbreviation: GHB: gamma hydroxybutyrate.

[b]Among those who reported using any non-injection drugs. Some participants reported using multiple non–injection drugs.

Table 8.4: Injection drug use during the prior 12 months – Medical Monitoring Project, San Francisco, 2017–2018.

	No.	%	(95% CI)
Use of any injection drugs	38	11.1	(7.3–15.0)
Injection drugs used[a]			
Methamphetamine ("Tina, Crank, Ice")	33	9.6	(5.9–13.2)
Heroin	7	1.8	-
Amphetamines ("Speed")	14	3.7	(1.7–5.7)
Heroin and cocaine ("Speedball")	3	0.7	-
Painkillers (e.g. Oxycontin, Vicodin, or Percocet)	2	0.4	-
Cocaine	2	0.5	-
Total	**361**		

[a]Among those who reported using any injection drugs. Some participants reported using multiple injection drugs.

9 Gynecologic and Reproductive Health

Twenty-four women were interviewed during the 2017 and 2018 MMP cycles. Sixty-seven percent reported a Papanicolaou smear in the past 12 months. Eleven percent had been pregnant since time of HIV diagnosis.

Table 9.1: Gynecological history and reproductive health among women during the prior 12 months – Medical Monitoring Project, San Francisco, 2017–2018.

	No.	%	(95% CI)
Papanicolaou (Pap) smear			
Yes	10	66.6	(40.7–92.6)
No	5	33.4	-
Pregnant since HIV diagnosis			
Yes	4	11.4	-
No	20	88.6	(76.1-100.0)
Total	24		

10   Sexual Behavior

Fifty percent of men had receptive anal sex with men, 45% had insertive anal sex with men, and 6% had vaginal sex (Table 10.1). Thirty-six percent of men had neither vaginal nor anal sex. Among women, 49% had vaginal sex, and 51% did not have vaginal or anal sex.

Six percent of men who have sex with men (MSM) engaged in sex without an HIV pre-vention strategy, as well as 3% of men who have sex only with women (MSW), compared to 15% of women who have sex with men (WSM) (Table 10.2). Sex without an HIV prevention strategy was defined as vaginal or anal sex with at least one HIV-negative or unknown status partner while not sustainably virally suppressed, a condom was not used, and the partner was not on PrEP. PrEP use was only measured among the five most recent partners. In terms of prevention strategies utilized by those who were sexually active in the last 12 months, 47% of MSM had condom-protected sex, 73% engaged in sex while sustainably virally suppressed, 68% had sex with an HIV-positive partner, and 33% had condomless sex with a partner on preexposure prophylaxis (PrEP). Among sexually active MSW, 73% had condom-protected sex, 56% engaged in sex while sustainably virally suppressed, 8% had sex with an HIV-positive partner and 8% had condomless sex with a partner on PrEP. Among sexually active WSM, 52% engaged in sex while sustainably virally suppressed, 6% had condom-protected sex and 37% had sex with an HIV-positive partner.

Table 10.1: Sexual behavior during the prior 12 months among cisgender men and women – Medical Monitoring Project, San Francisco, 2017–2018.

Behavior	Men			Women		
	N	%	(95% CI)	N	%	(95% CI)
Engaged in anal sex with men						
Receptive						
Yes	149	50.3	(44.2-56.3)	1	5.6	-
No	172	49.7	(43.7–55.8)	23	94.4	(83.9–100.0)
Insertive						
Yes	138	45.3	(39.2–51.3)	-		
No	183	54.7	(48.7–60.8)	-		
Anal sex with women						
Yes	4	0.9	-	-		
No	321	99.1	(98.3–100.0)	-		
Vaginal sex						
Yes	20	6.0	(2.7–9.3)	12	48.6	(27.4–69.7)
No	302	94.9	(90.7–97.3)	12	51.4	(30.3–72.6)
Vaginal or anal sex						
Yes	196	64.2	(58.7–69.7)	12	48.6	(27.4–69.7)
No	126	35.8	(30.2–41.3)	12	51.4	(30.3–72.6)
Total	**326**			**24**		

Table 10.2: Sexual behavior during the prior 12 months among men who have sex with men (MSM), men who have sex only with women (MSW), and women who have sex with men (WSM) – Medical Monitoring Project, San Francisco, 2017–2018.

	MSM			MSW			WSM		
	No.	%	(95% CI)	No.	%	(95% CI)	No.	%	(95% CI)
Engaged in sex without an HIV prevention strategy[a]									
Yes	14	6.1	(2.4–9.9)	1	2.5	-	3	15.1	-
No	276	93.9	(90.1–97.6)	29	97.5	(92.5–100)	21	84.9	(69.0–100.0)
Engaged in sex without prevention strategy among sexually active persons[b]									
Yes	14	9.6	-	1	4.2	-	3	31.1	-
No	163	90.4	(84.8–96.1)	15	95.8	(87.4–100.0)	9	68.9	-
Sexually-active persons who used a prevention strategy with at least one partner									
Sex while sustainably virally suppressed[c]	141	73.3	(64.8–81.8)	12	55.5	(22.3–88.9)	7	52.2	-
Condom-protected sex[d]	83	47.4	(39.1–55.7)	10	72.6	-	1	5.8	-
Condomless sex with a partner on PrEP[e]	55	32.5	(24.5–40.5)	2	7.9	-	-		
Sex with an HIV positive partner	125	68.3	(60.4-76.1)	2	8.4	-	4	36.5	-
Total	**292**			**31**			**24**		

[a] Vaginal or anal sex with at least one HIV-negative or unknown status partner while not sustainably virally suppressed, when a condom was not used, and the partner was not on PrEP. PrEP use was only measured among the 5 most recent partners.

[b] Sexually active is defined as having vaginal or anal intercourse, excluding oral sex in the past 12 months.

[c] HIV viral load <200 copies/mL documented in the medical record at every measure in the past 12 months before the interview.

[d] Condoms were consistently used with at least one vaginal or anal sex partner.

[e] At least one HIV-negative condomless sex partner was on PrEP. PrEP use was only measured among the five most recent partners and was reported by the HIV-positive partner.

Table 10.3: Sexual behavior during the prior 12 months among transgender women and transgender men – Medical Monitoring Project, San Francisco, 2017–2018.

	Transgender			Transgender Women			Transgender Men		
	No.	%	(95% CI)	No.	%	(95% CI)	No.	%	(95% CI)
Engaged in vaginal or anal sex									
Yes	7	73.0	-	6	70.0	-	1	100.0	-
No	3	27.0	-	3	30.0	-	0	0	-
Engaged in vaginal or anal sex with men									
Yes	7	73.0	(45.9–100.0)	6	70.0	(40.6–99.5)	1	100.0	-
No	3	27.0	-	3	30.0	-	0	0	-
Engaged in vaginal or anal sex with women									
No	10	100.0	-	9	100.0	-	1	100.0	-
Engaged in vaginal or anal sex with transgender partners									
No	10	100.0	-	9	100.0	-	1	100.0	-
Reported any sex without prevention strategy[a]									
Yes	1	8.6	-	0	0	-	1	100.0	-
No	10	91.4	(75.1–100.0)	10	100.0	-	0	0	-
Number of vaginal or anal sex partners									
Mean	5			4			8		
Median	3			2			8		
Range	1–10			1–10			8–8		
Total	**11**			**10**			**1**		

[a] Vaginal or anal sex with at least 1 HIV-negative or unknown status partner while not sustainably virally suppressed, a condom was not used, and the partner was not on PrEP. PrEP use was only measured among the 5 most recent partners.

11 Intimate Partner Violence and Sexual Violence

Twenty-seven percent had ever been physically hurt by a romantic or sexual partner, including 4% who experienced this in the past 12 months (Table 20.1). Twenty-three percent had ever been threatened with harm or physically forced to have unwanted sex, including 2% who experienced this in the past 12 months.

Table 11.1: Intimate partner violence and sexual violence – Medical Monitoring Project, San Francisco, 2017–2018.

	No.	%	(95% CI)
Was *ever* physically hurt by a romantic or sexual partner			
Yes	91	26.8	(21.5–32.1)
No	262	73.2	(67.9–78.5)
Was physically hurt by a romantic or sexual partner in the past 12 months			
Yes	12	3.7	(1.6–5.9)
No	341	96.3	(94.1–98.4)
Was *ever* threatened/forced to have unwanted sex			
Yes	83	23.1	(18.3–27.9)
No	270	76.9	(72.1–81.7)
Was threatened/forced to have unwanted sex in the past 12 months			
Yes	5	1.6	-
No	348	98.4	(97.1–99.8)
Total	361		

12 Met and Unmet Need for Ancillary Services

Almost half (48%) reported that HIV was their main health concern. The other top health concerns reported were: cardiovascular (6%), mental health (6%), musculoskeletal (5%), cancer (5%), aging (4%), and substance abuse (3%) (Table 12.1).

The most frequent ancillary services received were dental care (64%), AIDS Drug Assistance Program (ADAP) (49%), HIV case management (44%), and mental health services (40%) (Table 12.2). Twenty-four percent of persons reported needing but not receiving dental care, 16% also needed but did not receive Supplemental Nutrition Assistance Program (SNAP) or special supplemental nutrition program for Woman Infants, and Children (WIC), and 12% also needed but did not receive mental health services.

Table 12.1: Self-reported health concerns in the last 12 months – Medical Monitoring Project, San Francisco, 2017-2018 local data.

	No.	%	(95% CI)
What is the main health concern?			
HIV	161	47.8	(42.3–53.2)
Cardiovascular	20	6.3	(3.3–9.3)
Mental Health	21	5.9	(3.3–8.5)
Musculoskeletal	21	5.3	(3.0–7.6)
Cancer	16	5.2	-
Aging	15	4.3	(2.1–6.5)
Substance abuse	7	2.7	-
Total	**328**		

Table 12.2: Met and unmet needs for ancillary services during the prior 12 months – Medical Monitoring Project, San Francisco, 2017–2018.

Service[a]	Received services			Persons who needed but did not receive service		
	No.	%	(95% CI)	No.	%	(95% CI)
Dental care	228	63.5	(58.0–69.0)	83	23.8	(18.8–28.7)
ADAP[b]	175	48.5	(42.7–54.2)	8	2.0	(0.6–3.4)
HIV case management	154	43.5	(37.8–49.3)	25	6.3	(3.8–8.7)
Mental health services	150	40.2	(34.7–45.7)	41	12.0	(8.0–16.1)
HIV medication adherence support services	97	28.1	(22.8–33.4)	5	1.0	-
Transportation assistance	87	23.4	(18.7–28.2)	34	10.1	(6.4–13.9)
Meal or food services[c]	87	21.3	(17.1–25.6)	27	7.3	(4.6–10.0)
Shelter or housing services	67	16.7	(12.8–20.6)	29	8.5	(5.0–12.1)
SNAP or WIC[d]	53	13.8	(10.2–17.5)	60	16.0	(12.1–19.9)
HIV peer group support	51	14.2	(10.1–18.3)	27	6.7	(4.2–9.3)
Participant navigation	51	13.3	(9.7–16.9)	28	7.9	(4.8–10.9)
Drug or alcohol counseling	36	8.6	(5.8–11.5)	22	5.9	(3.4–8.5)
Domestic violence services	7	3.0	-	3	1.4	-
Total	**361**			**361**		

[a]Persons could report receiving or needing more than one service.

[b]Medicine through the AIDS Drug Assistance Program.

[c] Includes services such as soup kitchens, church dinners, food banks, pantries, or delivery services.

[d] SNAP - Supplemental Nutrition Assistance Program. WIC - Special supplemental nutrition program for Woman Infants, and Children.

13 Prevention Activities

A one-on-one prevention-related conversation with a health care provider in the 12 months prior to the interview was reported by 47% and 29% reported one-on-one prevention-related conversations with an outreach worker (Table 13.1). Small group prevention counseling was reported by 13%. Fifty-two percent of participants reported receiving condoms in the past 12 months.

Table 13.1: Prevention services received during the prior 12 months – Medical Monitoring Project, San Francisco, 2017–2018.

	No.	%	(95% CI)
One–on–one conversation with a physician, nurse, or other health care worker			
Yes	164	47.4	(41.7–53.2)
No	194	52.6	(46.8–58.3)
One–on–one conversation with an outreach worker, counselor, or prevention program worker			
Yes	102	28.5	(23.3–33.6)
No	257	71.5	(66.4–76.7)
Organized session involving a small group of people			
Yes	47	13.2	(9.3–17.1)
No	312	86.8	(82.9–90.7)
Free condoms			
Yes	180	51.9	(46.2–57.7)
No	178	48.1	(42.3–53.8)
Total	**361**		

14   National HIV/AIDS Strategy Indicators

The prevalence of homelessness in the past 12 months was 16% among all persons living with HIV. Homelessness among trans women was 28%. Thirty percent of Black/African Americans reported homelessness in the last 12 months and 17% of Hispanics or Latinx were homeless (Table 14.1).

HIV stigma was measured by the median score on a 10-item scale ranging from 0 (no stigma) to 100 (high stigma) [3]. The median HIV stigma score among all persons was 33 and was higher for women (39) and trans women (36), Hispanics or Latinx (37), African American/Black (35), multiracial persons (40) and those under the age of 50 years (Table 14.1).

Table 14.1: National indicators: homelessness and HIV stigma by demographics – Medical Monitoring Project, San Francisco, 2017–2018.

Subgroups	No.	Row %[c]	(95% CI)	No.	Median	(95% CI)
		Homeless[a]			Median HIV Stigma score[b]	
Gender						
Male	52	14.8	(10.9–18.7)	318	32.3	(10.9–18.7)
Female	6	25.0	-	23	38.9	(24.2–60.0)
Trans women	3	28.1	-	10	36.4	(23.0–51.9)
Trans men	0	-	-	1	47.5	-
Sexual Orientation						
Lesbian or gay	26	9.1	(5.7–12.6)	264	30.8	(16.7–46.1)
Heterosexual	18	33.7	(19.2–48.1)	48	45.0	(30.0–62.1)
Bisexual	13	47.6	(28.8–66.3)	29	49.1	(26.2–64.5)
Other sexual orientation	4	46.2	-	9	31.0	(22.9–45.2)
Race/ethnicity						
White	20	10.3	(5.9–14.7)	180	30.5	(17.6–44.9)
Black/African American	16	29.9	(16.5–43.2)	48	34.8	(15.7–55.5)
Hispanic or Latinx	13	16.6	(7.9–25.3)	65	37.0	(21.6–55.0)
Asian or Pacific Islander	0	-	-	21	30.4	(22.4–40.9)
Multiracial or Other	12	33.4	(17.6–49.2)	38	39.7	(16.6–52.7)
Age						
18–39	11	19.8	(8.7–30.9)	49	39.1	(22.2–55.8)
40–49	16	18.9	(9.9–27.8)	74	36.9	(22.0–48.4)
50–59	21	15.1	(8.8–21.4)	126	30.0	(17.4–51.1)
60–64	5	7.8	-	51	32.6	(13.9–46.3)
≥65	8	14-7	-	52	25.4	(10.6–41.7)
Total	61	15.7	(11.9–19.5)	352	33.4	(18.1–49.3)

[a]Persons reported living in a single-room-occupancy hotel (SRO), shelter, car or the street in the past 12 months.
[b]HIV stigma was defined as the median score on a 10-item scale ranging from 0 (no stigma) to 100 (high stigma).
[c]Percent identified as homeless among each subgroup.

15 Internalized Stigma and Discrimination

The MMP survey includes a scale that measures five dimensions of HIV stigma and discrimination: personalized stigma, disclosure concerns, negative self-image, perceived public attitudes about people with HIV, and discrimination experienced in the health care setting.

Forty-five percent reported that they have been hurt by how people reacted to their HIV status and 32% reported they had stopped socializing because of people's reaction to their HIV status (Table 15.1). Sixty-five percent indicated that they are very careful about who they disclose their HIV status to (Table 15.2). The statements "I feel unclean" and "like a bad person" because of HIV was agreed with by 20% and 9%, and disagreed by 75% and 86% respectively (Table 15.3). Thirty-six percent agreed or strongly agreed to the statement "Most people with HIV are rejected when others find out" (Table 15.4).

Eighty percent reported feeling comfortable discussing their health concerns with their primary medical provider or other clinical staff; less than three percent reported feeling "a little" or "not at all" comfortable. Among those who experienced any discrimination, 18% reported that the discrimination occurred because of their HIV status (Table 15.5).

Table 15.1: Personalized HIV stigma – Medical Monitoring Project, San Francisco, 2017–2018.

	No.	%	(95% CI)
I have been hurt by how people reacted to learning I have HIV			
Strongly disagree	116	32.0	(26.7–37.3)
Somewhat disagree	38	10.3	(7.0–13.6)
Neutral	43	12.4	(8.69–16.2)
Somewhat agree	80	23.7	(18.7–28.7)
Strongly agree	76	21.4	(16.5–26.4)
I have stopped socializing with some people because of their reaction to my HIV status			
Strongly disagree	163	45.8	(40.1–51.5)
Somewhat disagree	36	10.5	(7.0–13.9)
Neutral	44	12.2	(8.6–15.7)
Somewhat agree	64	18.8	(14.0–23.6)
Strongly agree	49	12.8	(8.7–16.7)
I have lost friends by telling them I have HIV			
Strongly disagree	195	55.1	(49.4–60.8)
Somewhat disagree	37	10.2	(7.0–13.4)
Neutral	35	9.3	(6.2–12.4)
Somewhat agree	41	12.0	(7.9–16.1)
Strongly agree	49	13.4	(9.4–17.4)
Total	**361**		

Table 15.2: Disclosure concerns – Medical Monitoring Project, San Francisco, 2017–2018.

	No.	%	(95% CI)
I am very careful who I tell that I have HIV			
Strongly disagree	51	14.5	(10.4–18.7)
Somewhat disagree	40	11.3	(7.8–14.9)
Neutral	34	8.8	(5.8–11.7)
Somewhat agree	77	21.6	(16.9–26.3)
Strongly agree	156	43.8	(38.1–49.5)
I worry that people who know I have HIV will tell others			
Strongly disagree	118	33.7	(28.2–39.1)
Somewhat disagree	54	14.4	(10.7–18.11)
Neutral	32	8.3	(5.2–11.3)
Somewhat agree	77	22.6	(17.6–27.5)
Strongly agree	77	21.1	(16.4–25.7)
Total	**361**		

Table 15.3: Negative self-image from HIV stigma – Medical Monitoring Project, San Francisco, 2017–2018.

	No.	%	(95% CI)
I feel that I am not as good a person as others because I have HIV			
Strongly disagree	247	69.1	(63.9–74.4)
Somewhat disagree	26	6.9	(4.2–9.7)
Neutral	20	5.2	(2.9–7.6)
Somewhat agree	42	12.1	(8.5–15.6)
Strongly agree	23	6.7	(3.4–9.9)
Having HIV makes me feel unclean			
Strongly disagree	234	64.7	(59.2–70.2)
Somewhat disagree	27	7.1	(4.4–9.9)
Neutral	30	8.4	(5.3-11.6)
Somewhat agree	43	12.2	(8.5–16.0)
Strongly agree	25	7.5	(4.1–10.9)
Having HIV makes me feel that I'm a bad person			
Strongly disagree	291	80.5	(75.9–85.1)
Somewhat disagree	22	5.9	(3.4–8.4)
Neutral	20	5.0	(2.7–7.3)
Somewhat agree	19	5.5	(3.0–8.0)
Strongly agree	7	3.1	-
Total	**361**		

Table 15.4: Perceived public attitudes about HIV – Medical Monitoring Project, San Francisco, 2017–2018.

	No.	%	(95% CI)
Most people think that **a person with HIV is disgusting**			
Strongly disagree	128	35.5	(30.0–41.0)
Somewhat disagree	70	20.3	(15.7–24.9)
Neutral	48	13.1	(9.5–16.7)
Somewhat agree	82	22.9	(18.1–27.7)
Strongly agree	28	8.2	(4.7–11.6)
Most people with HIV are **rejected when others find out**			
Strongly disagree	76	19.8	(15.2–24.5)
Somewhat disagree	88	26.9	(21.0–32.7)
Neutral	57	17.4	(12.4–22.3)
Somewhat agree	91	26.4	(20.7–32.0)
Strongly agree	35	9.6	(5.7–13.4)
Total	**361**		

Table 15.5: Discrimination experienced in the health care setting – Medical Monitoring Project, San Francisco, 2018.

	No.	%	(95% CI)
How comfortable are you discussing your health concerns with your primary medical provider or other clinical staff?			
Completely	282	80.1	(75.2–85.1)
Mostly	38	12.7	(8.3–17.0)
Moderately	13	4.1	(1.5–6.7)
A little	7	1.5	(0.4–2.6)
Not at all	5	1.3	-
Total	**346**		
Has anyone in the health care system done any of the following to you since testing positive for HIV? [a]			
Seem to not listen to you?	19	9.9	(5.4–14.5)
Seemed to think they were smarter than you?	15	7.4	(3.6–11.1)
Seemed to think they were better than you?	14	7.9	(3.7–12.1)
Treated you with less respect?	12	5.9	(2.4–9.5)
Provided you with poorer services?	12	7.3	(2.6–12.0)
Treated you with less courtesy?	9	3.8	(1.2–6.4)
Seemed afraid of you	3	1.3	-
Total	**170**		
Did the discrimination occur because of [b]...			
Your HIV status?	15	18.0	(8.9–27.1)
Your sexual orientation or practices?	15	17.4	(8.6–24.1)
Your drug injecting habit?	8	29.1	(11.2–47.0)
Your income or social class?	20	27.7	(16.3–39.2)
Your race or ethnicity?	20	24.9	(14.0–35.7)
Your gender?	11	12.5	(4.9–20.0)
Total	**78**		

[a]Those that had reported experiencing these more "half the time", "most of the time", and "always."
[b]Among those that had experienced any discrimination since testing positive for HIV.

16 Housing

Stable housing is associated with better health outcomes for persons living with HIV. MMP defines homelessness as living in a single-room-occupancy hotel (SRO), on the street, in a shelter, or in a car at any point during the prior 12 months. Types of housing are not mutually exclusive and participants could select more than one type. Ten percent were classified as being homeless in the last 12 months (Table 16.1). Six percent lived in an SRO at any point in the last 12 months, 2% lived on the street, less than 1% lived in a shelter, and less than 1% lived in a car (Table 16.1).

Table 16.1: Housing type in the past 12 months – Medical Monitoring Project, San Francisco, 2017–2018.

	No.	%	(95% CI)
Housed	304	88.8	(85.4–92.2)
Rent a place	232	69.6	(64.6–74.6)
Own a place	56	14.9	(11.2–18.7)
Staying with others rent-free	7	2.3	-
Supportive housing	4	0.9	-
Hospital/nursing home/hospice	4	0.9	-
Other	1	0.2	-
Unstably Housed	5	1.4	-
Temporary or transitional housing	2	0.7	-
Jail or prison	2	0.5	-
Drug treatment, detox unit, or sober living	1	0.2	-
Homeless[a]	36	9.8	(6.7–13.0)
Single-room-occupancy hotel	23	6.4	(3.8–9.0)
Street	8	2.0	-
Car	3	0.8	-
Shelter	2	0.6	-
Total	**345**		

[a]Homeless defined as lived in an SRO, on the street, in a car, or in a shelter at any point in the last 12 months.

17 Food Insecurity

The Household Food Insecurity Access Scale (HFIAS) has been adapted from USAID's Food and Nutrition Technical Assistance (FANTA) project to estimate the prevalence of food insecurity. Among those who reported any food insecurities in the four weeks before the interview, those most affected were trans women (59%), women (31%) Black or African Americans (29%), and people living at or below poverty threshold (35%) (Table 17.1).

Table 17.1: Food Insecurity during the four weeks before the interview by gender, ethnicity and poverty status – Medical Monitoring Project, San Francisco, 2017–2018.

	Food secure			**Any food insecurity**		
	No.	**%**	**(95% CI)**	**No.**	**%**	**(95% CI)**
Gender						
Male	271	82.3	(77.6–87.0)	55	17.7	(13.0–22.4)
Female	17	69.4	(49.8–89.0)	7	30.6	(11.0–50.2)
Trans men	1	100	-	0	0	-
Trans women	4	41.5	-	6	58.5	-
Race/Ethnicity						
White	159	86.0	(79.7–92.3)	23	14.0	(7.7–20.3)
Hispanic or Latinx	49	72.5	(61.5–83.6)	20	27.5	(16.4–38.5)
Black or African American	35	71.3	(57.6–84.9)	14	28.7	(15.1–42.4)
Multiracial or Other	28	69.7	(54.3–85.1)	11	30.3	(14.9–45.7)
Asian or Pacific Islander	22	100.0	(100.0–100.0)	0	0	-
Poverty						
Above poverty threshold	220	86.3	(81.2–91.3)	32	13.7	(8.7–18.8)
At or below poverty threshold	67	64.6	(54.8–74.3)	35	35.4	(25.7–45.2)
Total	**293**	81.2		**68**	18.8	

18   Social Support

Participants were asked about who provides social support and what kind of support their primary support person gave them. Ninety-one percent disclosed their HIV status to their primary support person (Table 18.1). Forty-seven percent of those who disclosed felt that their support person usually or always provided HIV related support (Table 18.1). Partners and friends were most important for support with 34% and 33% reporting that was their main source of support, respectively (Table 18.2).   Ninety-one percent were usually or always satisfied with the support provided by this support person.

Table 18.1: HIV disclosure to primary support person in the past 12 months – Medical Monitoring Project, San Francisco, 2017–2018.

	No.	%	(95% CI)
Have you disclosed your HIV status to this person?			
Yes	309	90.7	(86.9–94.5)
No	29	9.3	(5.5–13.1)
Among those who disclosed their HIV status to their support person			
How often have they:			
Provided HIV-related support?			
Never	58	19.6	(14.8–24.4)
Rarely	48	18.4	(13.1–23.8)
Sometimes	42	15.2	(10.6–19.9)
Usually	34	11.1	(7.4–14.8)
Always	106	35.7	(29.6–41.8)
Supported you to get HIV care?			
Never	116	48.1	(41.8–54.6)
Rarely	32	12.4	(8.3–16.5)
Sometimes	23	9.4	(5.6–13.2)
Usually	15	6.3	(3.1–9.5)
Always	62	23.7	(18.3–29.1)
Total	338		

Table 18.2: Social support in the past 12 months – Medical Monitoring Project, San Francisco, 2017–2018.

	No.	%	(95% CI)
Who is the most important person for support?			
Friend	119	32.8	(27.5–38.1)
Partner/spouse	110	34.2	(28.4–39.9)
Parent	42	12.0	(8.5–15.6)
Sibling	34	9.5	(6.4–12.7)
Child	9	1.9	(0.6–3.1)
How often are you satisfied with their support?			
Never	3	0.7	-
Rarely	7	1.9	(0.5–3.3)
Sometimes	24	6.5	(3.8–9.1)
Usually	96	28.8	(23.6–34.1)
Always	208	62.1	(56.5–67.7)
How often have they:			
Given you information or advice?			
Never	19	5.1	(2.8–7.3)
Rarely	20	5.4	(3.0–7.8)
Sometimes	68	20.4	(15.6–25.1)
Usually	95	28.1	(22.9–33.3)
Always	133	41.1	(35.2–47.0)
Listened to you when you need to talk?			
Never	2	0.4	-
Rarely	8	2.2	(0.7–3.8)
Sometimes	32	8.2	(5.3–11.1)
Usually	90	27.7	(22.3–33.0)
Always	205	61.4	(55.7-67.1)
Shown you that they care?			
Never	4	1.0	-
Rarely	3	0.9	-
Sometimes	18	4.5	(2.4–6.6)
Usually	55	17.1	(12.5–21.7)
Always	258	76.4	(71.4–81.5)
Helped with specific problems?			
Never	10	2.6	(01.0–4.3)
Rarely	17	5.9	(2.5–9.2)
Sometimes	64	20.4	(15.5–25.3)
Usually	92	26.6	(21.5–31.8)
Always	152	44.5	(38.6–50.3)
Total	**338**		

19   Long Term Survivor

In the 2018 MMP, data on long term survivors was first collected. Long term survivors were defined as persons diagnosed with HIV/AIDS prior to 1997, and 73 individuals in the 2018 cycle (41% of the total 176 participants) met this definition. Of these, 23% reported frequently feeling depressed, 31% frequently isolated, 40% frequently having trouble sleeping, and 21% frequently feeling they had no future during the last 6 months. Twenty-nine percent of long term survivors reported experiencing 3 or more symptoms frequently (data not shown).

Table 19.1: AIDS survivors syndrome symptoms in the last 6 months among individuals who were diagnosed with HIV prior to 1997 – Medical Monitoring Project, San Francisco, 2018.

Symptom	No.	%	(95% CI)
I felt depressed			
Never	8	10.3	-
Infrequently[a]	46	66.6	(55.1–78.1)
Frequently [b]	19	23.1	(13.2–33.0)
I felt isolated			
Never	21	30.7	(17.6–43.8)
Infrequently	27	38.5	(25.7–51.4)
Frequently	25	30.8	(19.6–41.9)
I felt anxious			
Never	9	12.3	-
Infrequently	48	69.0	(57.8–80.2)
Frequently	16	18.7	(9.8–27.5)
I had trouble sleeping			
Never	9	11.5	-
Infrequently	34	48.7	(35.5–62.0)
Frequently	30	39.7	(26.9–52.5)
I felt I had no future			
Never	20	29.2	(16.9–41.5)
Infrequently	36	50.2	(37.0–63.4)
Frequently	17	20.5	(11.1–30.0)

[a] Infrequently was defined as the participant reported experiencing the symptoms "hardly ever" or "every so often."

[b] Frequently was defined as the participant reported experiencing the symptoms "fairly frequently", "at least once a week", or "almost every day."

Table 19.2: AIDS survivors syndrome symptoms in the last 6 months among individuals who were diagnosed with HIV prior to 1997 continued– Medical Monitoring Project, San Francisco, 2018.

Symptom	No.	%	(95% CI)
I had nightmares			
Never	29	35.9	(24.1–47.8)
Infrequently [a]	37	55.3	(42.5–68.0)
Frequently [b]	7	8.8	-
I felt emotionally numb			
Never	24	33.3	(20.8–45.9)
Infrequently	40	56.2	(43.2–69.2)
Frequently	9	10.5	-
I had strong feelings of anger			
Never	16	18.6	(9.7–27.5)
Infrequently	50	73.2	(62.8–83.6)
Frequently	7	8.1	-
I felt threatened			
Never	46	66.6	(55.1–78.1)
Infrequently	24	30.2	(19.1–41.2)
Frequently	3	3.2	-
Total	**73**		

[a] Infrequently was defined as the participant reported experiencing the symptoms "hardly ever" or "every so often."

[b] Frequently was defined as the participant reported experiencing the symptoms "fairly frequently", "at least once a week", or "almost every day."

20   Resiliency

Resiliency has also been demonstrated. Fifty percent reported they were nearly always able to adapt to change, 39% nearly always able to deal with whatever comes, 47% nearly always able to see the humorous side of things, 51% nearly always bounce back after illness or hardship, and 46% nearly always thought of themselves as a strong person.

Table 20.1: Resiliency – Medical Monitoring Project, San Francisco, 2018.

Resiliency	No.	%	(95% CI)
Able to adapt to change			
Rarely true	6	2.6	-
Sometimes true	26	14.2	(8.6–19.9)
Often true	58	33.3	(24.9–41.7)
True nearly all the time	78	49.9	(40.9–58.9)
Can deal with whatever comes			
Rarely true	6	2.9	-
Sometimes true	25	14.0	(8.4–19.6)
Often true	71	43.7	(34.7–52.7)
True nearly all the time	65	39.4	(30.5–48.2)
See the humorous side of things			
Rarely true	13	5.5	(2.4–8.7)
Sometimes true	37	21.4	(14.6–28.0)
Often true	46	26.6	(18.8–34.4)
True nearly all the time	72	46.5	(37.4–55.6)
Coping with stress strengthens			
Rarely true	23	10.4	(6.1–14.7)
Sometimes true	41	25.0	(17.2–32.8)
Often true	61	38.2	(29.4–47.1)
True nearly all the time	43	26.4	(18.3-34.5)
Tend to bounce back after illness or hardship			
Rarely true	6	3.3	-
Sometimes true	19	9.3	(5.0–13.6)
Often true	62	36.8	(28.3–45.2)
True nearly all the time	79	50.7	(41.6–59.7)
You can achieve your goals			
Rarely true	6	3.2	-
Sometimes true	36	20.4	(13.2–27.5)
Often true	64	37.8	(29.1–46.4)
True nearly all the time	62	38.7	(29.8–47.5)

Table 20.2: Resiliency continued – Medical Monitoring Project, San Francisco, 2018.

Resiliency	No.	%	(95% CI)
Under pressure, focus and think clearly			
Rarely true	17	8.7	(4.4–13.1)
Sometimes true	47	26.1	(18.7–33.6)
Often true	57	34.6	(25.8–43.3)
True nearly all the time	47	30.5	(22.0–37.1)
Not easily discouraged by failure			
Rarely true	14	7.2	(3.2–11.2)
Sometimes true	51	30.1	(22.0–38.2)
Often true	64	41.4	(32.4–50.4)
True nearly all the time	39	21.3	(14.1–28.5)
Think of self as strong person			
Rarely true	8	3.1	-
Sometimes true	19	11.2	(6.1–16.3)
Often true	61	39.7	(30.6–48.8)
True nearly all the time	79	46.0	(37.0–54.9)
Can handle unpleasant feelings			
Rarely true	8	3.9	-
Sometimes true	38	21.4	(14.3–28.4)
Often true	67	44.1	(35.0–53.3)
True nearly all the time	53	30.6	(22.5–38.7)
Total	168		

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Erratum: In the "Behavioral and Clinical Characteristics of People Living with Diagnosed HIV San Francisco 2017-2018" published in June 2021 on page 31, an error occurred in Table 12.1 "Self-reported health concerns in the last 12 months - Medical Monitoring Project, San Francisco, 2017-2018 local data." Table 12.1 should read HIV 161 (47.8%), Cardiovascular 20 (6.3%), Mental Health 21 (5.9%), Musculoskeletal 21 (5.3%), Cancer 16 (5.2%), Aging 15 (4.3%), and Substance abuse 7 (2.7%). In the first paragraph on page 31, the first two sentences should read "Almost half (48%) reported that HIV was their main health concern. The other top health concerns reported were: cardiovascular (6%), mental health (6%), musculoskeletal (5%),cancer (5%), aging (4%), and substance abuse (3%) (Table 12.1)."