Behavioral and Clinical Characteristics of Persons Living with Diagnosed HIV San Francisco 2019-2020

MEDICAL MONITORING PROJECT

HIV Epidemiology Section
Applied Research, Community Health Epidemiology and Surveillance Branch (ARCHES)
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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 human immunodeficiency virus/acquired immunodeficiency syndrome (HIV/AIDS), 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 third 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 2022-2025 (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 179 persons newly diagnosed with HIV in 2019 and 147 persons in 2020 [6]. This decline reflects a decrease in HIV testing in 2020 due to the COVID-19 pandemic. The increased survival of persons with HIV has led to an increasing number of persons living with HIV. As of December 31, 2021, there were 15,537 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, 2018 for the 2019 MMP cycle and December 31, 2019 for the 2020 MMP cycle.

San Francisco is one of the 23 project areas participating in the MMP. To have a sufficiently large sample for data analysis, this report summarizes findings from two cycles of the MMP (2019 and 2020). The 2019 MMP cycle data was collected from June 2019 to May 2020, and the 2020 MMP cycle data was collected from June 2020 to May 2021.

Eligibility

Persons were eligible for participation if they had received a diagnosis of HIV, were age ≥18 years, alive, and were 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 2019 and 2020 data collection cycles nationally and in San Francisco [8]. All participants gave informed consent [9] prior to the interview and, if needed, signed a release of information (ROI) for a medical record abstraction.

Interview

Trained interviewers conducted an approximately one-hour face-to-face or telephone standardized computer-assisted structured interview in either English or Spanish with sampled persons. Face-to-face 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). Telephone interviews were conducted at the San Francisco Department of Public Health. 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 people assigned female at birth),

met and unmet needs for ancillary services, use of HIV prevention services, and stigma. Participants were given a token of appreciation of $50.

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, comorbidities, 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 2019 there were 392 eligible persons in the MMP sample, of which 165 (42%) participated (Table 2.1). In 2020 there were 391 eligible persons in the MMP sample, of which 158 (40%) participated. For the 2019 and 2020 combined MMP data presented in this report, there were 323 respondents out of 783 eligible, resulting in a combined response rate of 41%.

Table 2.1: Sample size and response rate – Medical Monitoring Project, San Francisco, 2019–2020.

Year	Total Sample Size	Ineligible	Total Final Eligible Sample	Respondent	Response Rate
	n	n	n	n	%
2019 Cycle	400	8	392	165	42.1%
2020 Cycle	400	9	391	158	40.4%
2019 & 2020 cycles	**800**	**17**	**783**	**323**	**41.3%**

3 Demographic Characteristics

The majority of participants were cis men (90%), a little over five percent were cis women, and nearly five percent were trans women (Table 3.1). Persons were classified as trans women if sex at birth was reported as male and the self-identified gender was female or transgender. Eighty-four percent of participants self-identified as homosexual, gay, or lesbian, ten percent self-identified as straight or heterosexual, and three percent identified as bisexual.

A little over half of respondents were White (54%), 26% were Latinx, 11% were Black/African American, and 4% were Asian or Pacific Islander. Thirty-seven percent were ages 50-59 years and twenty percent were 65 years or older. The majority of persons had some college or greater education (82%) and had been born in the United States (75%). Most had been diagnosed with HIV for 10 or more years (82%) (Table 3.1).

Seventeen percent were homeless at any point in the year before the interview, and few had been incarcerated for more than 24 hours in the 12 months prior to the interview (2%). Nearly all of participants had some type of health insurance and/or coverage (99%), and about half had private insurance (52%) (Table 3.2). One or more insurance or coverage types could be selected, and persons were considered uninsured if they reported having health costs paid only by the Ryan White HIV/AIDS Program (RWHAP).

Forty-three percent were employed at the time of the interview. Thirty percent had a combined household income of $75,000 or greater in the previous year, while 27% 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 2018 guidelines were used for persons interviewed in 2019 and the 2019 guidelines were used for persons interviewed in 2020. 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, 2019–2020.

Demographics	No.	%	(95% CI)
Gender[a]			
Cis Men	291	90.4	(87.0–93.8)
Cis Women	19	5.2	(2.7–7.6)
Trans women	13	4.5	(2.0–6.9)
Sexual Orientation			
Homosexual, gay or lesbian	266	84.0	(79.9–88.2)
Heterosexual or straight	34	10.4	(6.9–13.9)
Bisexual	9	2.6	-
Other sexual orientation	11	3.0	-
Race / Ethnicity			
White	188	53.9	(48.1–59.6)
Hispanic or Latinx[b]	72	25.9	(20.5–31.2)
Black or African American	33	10.8	(7.2–14.3)
Asian or Pacific Islander	12	4.1	(1.8–6.4)
Multiracial or Other	18	5.4	(2.9–7.9)
Age at time of interview			
18–39 years	46	15.5	(11.0–20.0)
40–49 years	49	15.7	(11.6–19.8)
50–59 years	122	37.0	(31.6–42.5)
60–64 years	36	11.6	(7.7–15.5)
≥ 65 years	70	20.1	(15.7–24.5)
Education			
< High School	19	6.1	(3.3–8.8)
High School diploma or GED	39	11.8	(8.2–15.4)
≥ High School	262	82.1	(77.8–86.4)
Country or territory of birth			
United States or U.S. territory	251	75.0	(69.7–80.2)
Foreign born	71	25.0	(19.8–30.3)
Time since HIV diagnosis			
< 5 years	19	6.1	(3.4–8.8)
5–9 years	39	12.3	(8.6–16.0)
≥ 10 years	265	81.6	(77.2–86.0)
Total	**323**		

[a] Persons were classified as a trans woman if sex at birth was male and self-reported gender identity was woman or trans woman.

[b] Hispanics or Latinx can 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, 2019–2020.

Characteristic	No.	%	(95% CI)
Homeless at any time in the past 12 months[a]	56	17.4	(13.1–21.6)
Incarcerated for longer than 24 hours	6	1.8	-
Had health insurance coverage	317	99.0	(97.8–100.0)
Type of health insurance[b]			
Private insurance	163	52.2	(46.4–58.0)
Ryan White HIV/AIDS Program	152	48.2	(42.4–54.0)
Medicaid	141	43.8	(38.1–49.5)
Medicare	138	42.3	(36.6–48.1)
Other public insurance	42	13.0	(9.3–16.8)
Tricare/CHAMPUS or VA	8	2.5	-
Currently employed[c]	135	43.0	(37.3–48.7)
Any Disability	117	37.0	(31.4–42.6)
Combined yearly household income (dollars)[d]			
$0 to $19,999	110	35.8	(30.1–41.5)
$20,000 to $39,999	58	18.1	(13.7–22.4)
$40,000 to $74,999	51	16.3	(12.2–20.5)
$75,000 or more	90	29.8	(24.4–35.2)
Poverty level			
Above poverty level	229	73.4	(68.1–78.8)
At or below poverty level	80	26.6	(21.2–31.9)
Total	**323**		

[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.

4 Clinical Characteristics

Fifty-nine percent of persons met the CDC clinical criteria for HIV Stage 3 (AIDS) [10], although six 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. Most people (81%) were virally suppressed on their most recent test and 78% 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, 2019–2020.

	No.	%	(95% CI)
HIV infection stage 3 (AIDS)[a]	197	59.2	(53.5–64.9)
Geometric mean CD4+ lymphocyte count			
0–199 cells/μL	15	5.9	(2.9–8.9)
200–349 cells/μL	27	10.3	(6.5–14.1)
350–499 cells/μL	41	16.0	(11.3–20.6)
≥500 cells/μL	163	67.8	(61.8–73.8)
Lowest CD4+ lymphocyte count			
50–199 cells/μL	18	7.1	(3.8–10.3)
200–349 cells/μL	28	10.4	(6.6–14.2)
350–499 cells/μL	57	22.7	(17.4–28.1)
≥ 500 cells/μL	143	59.7	(53.4–66.1)
Viral suppression			
Most recent HIV viral load undetectable or <200 copies/mL	261	81.1	(76.5–85.6)
≥200 copies/mL or missing/unknown	62	18.9	(14.4-23.5)
Sustained viral suppression			
All HIV viral load measurements undetectable or <200 copies/mL	249	77.6	(72.8–82.4)
Any HIV viral load measurement ≥200 copies/mL or missing/unknown	74	22.4	(17.6–27.2)
Total	**323**		

[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

Antiretroviral therapy (ART) is recommended for all persons living with HIV regardless of clinical stage or immunostatus and prophylaxis against *Pneumocystis jiroveci pneumonia* (PCP) and *Mycobacterium avium complex* (MAC). PCP and MAC prophylaxis is recommended for persons with CD4+ lymphocyte cell counts below 200 cells/μL and below 50 cells/μL, respectively [11, 12]. Ninety percent of persons had been prescribed ART. Forty-nine percent of clinically eligible persons were prescribed PCP prophylaxis. Eighty percent of persons had been vaccinated against influenza in the past year. Almost all participants had received outpatient HIV care in the last 12 months (99%) and in the last 24 months (100%). 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. Retention in care was lower at the same lookback period: 82% of clients were retained in care in the last 12 months, and 69% were retained in care in the last 24 months. Nearly a quarter (24%) of participants had missed at least one HIV care visit in the last 12 months (Table 5.1).

Among persons who were sexually active in the previous 12 months, (51%) had all three tests for gonorrhea, chlamydia, and syphilis, with syphilis testing conducted most frequently (69% of persons, Table 5.2).

Use of the emergency department (ED) was frequent; 17% percent of persons were seen in the ED two or more times in the prior 12 months. Sixty-four percent did not have any illnesses or injuries requiring care in the ED and fourteen percent were hospitalized at least once (Table 5.3).

Table 5.1: Access and quality of HIV care – Medical Monitoring Project, San Francisco, 2019–2020.

	No.	%	(95% CI)
Ever received outpatient HIV care[a]			
Yes	322	100.0	(100.0–100.0)
Received outpatient HIV care, past 12 months			
Yes	320	99.4	(98.5–100.0)
Received outpatient HIV care, past 24 months			
Yes	321	99.7	(99.0–100.0)
Retained in care[b], past 12 months			
Yes	252	82.1	(77.7–86.5)
No	55	17.9	(13.5–22.3)
Retained in care[b], past 24 months			
Yes	216	69.2	(63.7–74.7)
No	91	30.8	(25.3–36.3)
Missed ≥1 HIV care visits, past 12 months			
Yes	73	24.1	(19.0–29.3)
No	246	75.9	(70.7–81.0)
Prescribed ART, past 12 months			
Yes	292	89.8	(86.1–93.5)
No	31	10.2	(6.5–13.9)
Prescribed PCP prophylaxis[c], past 12 months			
Yes	9	48.9	(23.5–74.3)
No	7	51.1	(25.7–76.5)
Received influenza vaccination, past 12 months			
Yes	255	79.8	(75.4–84.3)
No	67	20.2	(15.7–24.6)
Total	**323**		

[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.

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*.

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, 2019–2020.

	Total population			Sexually active		
	N	%	**(95% CI)**	**N**	%	**(95% CI)**
Syphilis testing						
Yes, received testing	194	64.9	(59.4–70.4)	127	69.0	(62.2–75.8)
No testing documented	110	35.1	(29.6–40.6)	60	31.0	(24.2–37.8)
Gonorrhea testing						
Yes, received testing	138	46.9	(41.1–52.8)	103	56.7	(49.3–64.0)
No testing documented	166	53.1	(47.2–58.9)	84	43.3	(36.0–50.7)
Chlamydia testing						
Yes, received testing	135	45.7	(39.8–51.5)	101	55.1	(47.7–62.6)
No testing documented	169	54.3	(48.5–60.2)	86	44.9	(37.4–52.3)
Syphilis, gonorrhea and chlamydia testing						
Yes, received all tests	124	42.1	(36.3–48.0)	93	51.3	(43.8–58.8)
No, did not receive all tests	180	57.9	(52.0–63.7)	94	48.7	(41.2–56.2)
Total	**323**			**196**		

Table 5.3: Emergency department or urgent care clinic use and hospital admission during the prior 12 months – Medical Monitoring Project, San Francisco, 2019–2020.

	No.	%	(95% CI)
Number of visits to emergency department or urgent care clinic			
0	200	64.0	(58.5–69.4)
1	64	18.9	(14.6–23.2)
2–4	45	13.6	(9.8–17.4)
≥5	11	3.5	-
Number of hospital admissions			
0	270	86.3	(82.5–90.1)
1	25	7.1	(4.3–9.9)
2–4	18	5.5	(2.9–8.0)
≥5	3	1.1	-
Total	**323**		

6 Self-reported Antiretroviral Medication Use and Adherence

Ninety-eight percent of participants self-reported current ART use and over 99% reported ever taking ART. About half of participants (47%) reported missing at least one ART dose in the last 30 days; the largest share of whom reported missing 1-2 doses (27% all participants). The most common reasons for last missed ART dose were forgetting (73%), a change in one's daily routine or travel (48%) and falling asleep early or oversleeping (36%) (Table 6.1).

A majority of participants reported that they never (71%) were troubled by ART side effects during the past 30 days; 16% had rarely been troubled. Eighty 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 cis men had a prescription of ART, only 53% were ART adherent, and 77% had sustained viral suppression. Among cis women, all had been prescribed ART, 51% were ART adherent, and 82% had sustained viral suppression. Among trans women, 77% had a prescription of ART, 52% were ART adherent, and 81% had sustained viral suppression (Table 6.3).

Ninety-two percent of Latinx, 87% of Black/African American, and 89% of White persons were prescribed ART. The prevalence of ART prescription was 87% among persons aged 18 to 39 years and 91% among those aged 65 years or older. The prevalence of sustained viral suppression was 73% among persons aged 18 to 39 years and 86% among those aged 65 years or older (Table 6.3).

Table 6.1: Antiretroviral therapy use – Medical Monitoring Project, San Francisco, 2019–2020.

	No.	%	(95% CI)
Ever taken antiretroviral medications (ART)	320	99.6	(98.8–100.0)
Currently taking ART	315	98.3	(96.9–99.7)
Main reasons for last missed ART dose[a]			
Forgot to take HIV medicines	186	72.8	(67.3–78.4)
Change in daily routine/traveling	124	48.1	(41.8–54.3)
Fell asleep early or overslept	93	36.1	(30.0–42.1)
Felt depressed or overwhelmed	57	22.5	(17.2–27.7)
Was drinking or using drugs	47	18.4	(13.6–23.2)
Had problems with prescription/refills	39	15.4	(10.8–20.0)
Did not feel like taking HIV medication	35	13.4	(9.1–17.7)
Experienced side effects	29	11.2	(7.2–15.2)
In the hospital or too sick for medication	18	6.4	(3.5–9.3)
Had problems with payment	13	5.1	(2.3–7.8)
Total	**323**		

Abbreviations: ART, antiretroviral therapy.

[a] Among those currently taking ART. Person could report more than 1 reason for missed last dose.

Table 6.2: Antiretroviral therapy (ART) adherence among persons taking ART – Medical Monitoring Project, San Francisco, 2019–2020.

	No.	%	(95% CI)
How many days did you miss at least one dose of any of your HIV medicines?			
0	161	52.7	(46.9–58.5)
1–2	86	27.2	(22.1–32.3)
3–5	44	14.0	(10.0–17.9)
6–10	11	3.5	(1.5–5.6)
≥ 11	9	2.6	-
How well did you do at taking your HIV medicines in the way you were supposed to?			
Excellent	162	51.1	(45.3–56.9)
Very good	90	29.1	(23.8–34.5)
Good	36	11.4	(7.8–15.0)
Fair	19	6.2	(3.4–9.0)
Poor	6	1.4	-
Very poor	2	0.7	-
How often did you take your HIV medicines in the way you were supposed to?			
Always	192	61.6	(56.0–67.1)
Almost always	90	28.2	(23.1–33.3)
Usually	17	5.3	(2.8–7.9)
Sometimes	11	3.7	-
Rarely	5	1.2	-
Troubled by ART side effects			
Never	218	70.9	(65.7–76.1)
Rarely	50	15.6	(11.5–19.7)
About half the time	18	6.0	(3.2–8.8)
Most of the time	13	3.6	(1.7–5.6)
Always	13	3.8	(1.7–5.9)
Total	**315**		

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, 2019–2020.

	Prescription of ART			ART dose adherence[a]			Sustained viral suppression[b]			Mean CD4 count >200[c]		
Subgroups	**No.**	**Row%[d]**	**(95% CI)**	**No.**	**Row%[d]**	**(95% CI)**	**No.**	**Row%[d]**	**(95% CI)**	**No.**	**Row%[d]**	**(95% CI)**
Gender												
Cis men	263	89.8	(85.9–93.8)	146	52.8	(46.8–58.9)	225	77.2	(72.1–82.3)	205	93.8	(90.5–97.2)
Cis women	19	100.0	-	9	51.0	(25.8–76.3)	14	81.6	(65.5–97.8)	16	97.3	(91.8–100.0)
Trans women	10	77.0	(53.8–100.0)	6	51.7	(21.2–82.1)	10	81.2	(61.1–100.0)	10	94.6	(83.9–100.0)
Sexual Orientation												
Lesbian or gay	241	90.0	(85.8–94.2)	139	54.7	(48.4–61.0)	211	79.0	(73.7–84.3)	191	94.2	(90.7–97.6)
Heterosexual or straight	32	93.7	(85.3–100.0)	13	41.3	(23.4–59.3)	22	71.4	(56.6–86.3)	25	92.8	(84.5–100.0)
Bisexual	8	84.5	(56.9–100.0)	2	19.9	-	8	88.9	(68.2–100.0)	6	100.0	-
Other	9	82.8	(60.5–100.0)	7	66.2	(37.9–94.5)	6	53.6	(23.0–84.3)	7	90.7	(72.9–100.0)
Race/Ethnicity												
White	169	88.7	(83.1–94.2)	103	56.0	(48.7–63.4)	145	76.9	(70.3–83.6)	130	96.4	(93.4–99.3)
Hispanic or Latinx	66	92.3	(86.2–98.3)	31	51.3	(38.5–64.1)	56	80.6	(71.7–89.5)	54	94.1	(87.5–100.0)
Black/African American	29	87.3	(75.5–99.1)	9	28.7	(12.6–44.8)	25	75.4	(60.4–90.4)	23	85.4	(72.0–98.8)
Asian or Pacific Islander	11	91.6	(75.9–100.0)	6	53.4	(23.5–83.3)	9	72.4	(46.0–98.9)	8	100.0	-
Multiracial or other	17	92.7	(78.9–100.0)	12	71.2	(48.7–93.8)	14	78.0	(58.6–97.4)	16	89.2	(75.0–100.0)
Age at time of interview												
18-39	40	87.0	(77.0–96.9)	18	48.8	(31.9–65.8)	32	72.8	(59.7–85.9)	34	98.9	(96.7–100.0)
40–49	47	96.3	(91.2–100.0)	18	39.7	(25.4–54.0)	42	85.2	(74.9–95.5)	36	100.0	-
50–59	110	89.8	(84.2–95.4)	60	50.9	(41.6–60.2)	85	71.3	(63.2–79.4)	82	90.9	(84.7–97.1)
60–64	32	82.7	(64.5–100.0)	23	66.6	(50.2–83.0)	31	79.3	(60.9–97.8)	24	87.3	(73.5–100.0)
≥65	63	91.1	(84.6–97.6)	42	60.3	(48.6–72.1)	59	86.1	(78.1–94.0)	55	95.1	(89.5–100.0)
Total	292	89.8	(86.1–93.5)	161	52.7	(46.9–58.5)	249	77.6	(72.8–82.4)	231	94.1	(91.1–97.1)

[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 twelve 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. About three quarters (74%) of participants reported no anxiety, and few reported severe (6%) or moderate (11%) anxiety (Table 7.1).

Table 7.1: Depression and anxiety during the prior 2 weeks – Medical Monitoring Project, San Francisco, 2019–2020.

	No.	%	(95% CI)
Depression based on DSM–IV criteria			
No depression	255	81.1	(76.7–85.5)
Other depression[a]	38	12.0	(8.4–15.7)
Major depression[b]	23	6.8	(4.1–9.6)
Moderate or severe depression (PHQ–8 score >10)			
Yes	49	15.0	(11.0–19.0)
No	267	85.0	(81.0–89.0)
Anxiety (GAD-7)			
No anxiety	237	73.5	(68.2–78.8)
Mild anxiety	29	9.6	(6.2–13.0)
Moderate anxiety	31	10.6	(6.6–14.6)
Severe anxiety	20	6.3	(3.5–9.0)
Total	**323**		

[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 (58%). Twenty-five percent reported current use, most of whom (18%) reported smoking daily. Forty percent of participants reported having used an electronic cigarette, but few (5%) had done so in the last 30 days (Table 8.1). Alcohol use was reported by three quarters (75%) of respondents, and 41% reported daily or weekly drinking (Table 8.2). Twenty-three percent of persons reported binge drinking in the last 30 days.

Any non-injection drug use in the last 12 months was reported by nearly two thirds (63%) of participants (Table 8.3). Marijuana use was reported by about half (52%) of respondents, and about a quarter (24%) reported using poppers and methamphetamine. Nineteen percent reported use of club drugs like Ecstasy, GHB or ketamine.

Any injection drug use in the 12 months before the interview was reported by 10% of participants. The most reported injection drug was methamphetamine (9% of all respondents) and other injection drugs were infrequently reported (Table 8.4).

Table 8.1: Cigarette smoking – Medical Monitoring Project, San Francisco, 2019–2020.

	No.	%	(95% CI)
Smoked ≥100 cigarettes (lifetime)			
Yes	187	58.1	(52.3–63.8)
No	133	41.9	(36.2–47.7)
Cigarette Smoking status			
Never smoker	133	41.9	(36.2–47.7)
Former smoker	107	32.8	(27.5–38.1)
Current smoker	80	25.2	(20.3–30.2)
Frequency of cigarette smoking (during past 12 months)			
Never	240	74.8	(69.8–79.7)
Daily	58	17.9	(13.6–22.3)
Weekly	8	2.4	-
Monthly	5	1.8	-
Less than monthly	9	3.2	-
Smoked ≥50 cigars, cigarillos, or little filtered cigars (lifetime)			
Yes	47	15.3	(11.2–19.4)
No	274	84.7	(80.6–88.8)
Cigars, cigarillos, or little filtered cigars smoking status (during past 12 months)			
Never smoker	274	84.7	(80.6–88.8)
Former smoker	28	8.8	(5.7–12.0)
Current smoker	19	6.5	(3.6–9.3)
Frequency of cigars, cigarillos, or little filtered cigars smoking (during past 12 months)			
Never	302	93.5	(90.7–96.4)
Daily	5	1.6	-
Some Days	3	1.3	-
Rarely	11	3.5	-
Electronic cigarette smoking status			
Never used electronic cigarette	192	59.8	(54.2–65.4)
Used electronic cigarettes, but not in the past 30 days	111	34.8	(29.4–40.3)
Used electronic cigarettes in the past 30 days	17	5.3	(2.8–7.9)
Total	**323**		

Table 8.2: Alcohol use during the prior 12 months – Medical Monitoring Project, San Francisco, 2019–2020.

	No.	%	(95% CI)
Any alcohol used			
Yes	233	74.5	(69.7–79.4)
No	84	25.5	(20.6–30.3)
Frequency of alcohol use			
Daily	59	17.7	(13.5–21.9)
Weekly	69	23.0	(17.8–28.3)
Monthly	38	13.3	(9.2–17.3)
Less than monthly	67	20.5	(16.0–25.1)
Never	84	25.5	(20.6–30.3)
Binge drinking (during past 30 days)[a]			
Yes	68	22.6	(17.8-27.5)
No	242	77.4	(72.5–82.2)
Total	**323**		

[a] 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, 2019–2020.

	No.	%	(95% CI)
Use of any non–injection drugs[a]			
Yes	197	62.7	(57.1–68.2)
No	118	37.3	(31.8–42.9)
Non–injection drugs used[b]			
Marijuana	161	51.6	(45.8–57.4)
Amyl Nitrite (poppers)	75	24.0	(19.0–29.1)
Methamphetamine ("Crystal Meth, Tina, Crank, Ice")	75	24.2	(19.1–29.2)
Club drugs (X or Ecstasy, Ketamine, GHB)	59	19.3	(14.6–24.1)
Cocaine that is smoked or snorted	35	12.1	(8.0–16.2)
Amphetamine ("Speed, Bennies, Uppers")	25	8.2	(4.7–11.7)
Prescription tranquilizers (e.g. Valium, Ativan, Xanax, or Downers)	22	7.0	(4.1–9.9)
Prescription opioids (e.g. Oxycontin, Vicodin, Percocet, Painkillers)	15	4.7	(2.3–7.0)
Crack	10	3.1	-
Total	**323**		

[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]Participants could report using multiple non–injection drugs.

Table 8.4: Injection drug use during the prior 12 months – Medical Monitoring Project, San Francisco, 2019–2020.

	No.	%	(95% CI)
Use of any injection drugs	33	9.8	(6.5–13.0)
Injection drugs used[a]			
Methamphetamine ("Tina, Crank, Ice")	27	8.5	(5.4–11.7)
Amphetamines ("Speed")	9	2.7	-
Heroin	7	1.8	-
Cocaine	1	0.3	-
Heroin and cocaine ("Speedball")	1	0.3	-
Prescription opioids (e.g. Oxycontin, Vicodin, or Percocet)	1	0.1	-
Total	**323**		

[a]Participants could report using multiple injection drugs.

9 Gynecologic and Reproductive Health

Nineteen women were interviewed during the 2019 and 2020 MMP cycles. Most (90%) reported a Papanicolaou smear in the past 3 years and about a third (31%) had been pregnant since the time of HIV diagnosis (Table 9.1).

Table 9.1: Receipt of Papanicolaou testing and pregnancy since HIV diagnosis among cisgender women with diagnosed HIV – Medical Monitoring Project, San Francisco, 2019–2020.

	No.	%	(95% CI)
Papanicolaou (Pap) smear			
Yes	16	90.3	(79.1–100.0)
No	3	9.7	-
Pregnant since HIV diagnosis			
Yes	6	30.5	-
No	13	69.5	(47.2-91.9)
Total	**19**		

10 Sexual Behavior

About a third (36%) of male participants reported no sexual activity in the last 12 months. About half of men reported receptive anal sex (48%) and/or insertive anal sex (44%) with men; few (1%) reported vaginal sex. Among women, 60% had vaginal sex, and 41% did not have vaginal or anal sex (Table 10.1).

Ten percent of men who have sex with men (MSM) engaged in sex without an HIV prevention strategy, compared to 3% 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 pre-exposure prophylaxis (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, a third (33%) of MSM had condom-protected sex, three-quarters (75%) engaged in sex while sustainably virally suppressed, and two-thirds (66%) had sex with an HIV-positive partner. Among sexually active men who have sex only with women (MSW), 47% had condom-protected sex, 82% engaged in sex while sustainably virally suppressed, and 29% had sex with an HIV-positive partner. Among sexually active WSM, 78% engaged in sex while sustainably virally suppressed, 51% had condom-protected sex and 34% 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, 2019–2020.

	Cisgender Men			Cisgender Women		
Behavior	**N**	%	**(95% CI)**	**N**	%	**(95% CI)**
Engaged in anal sex with men						
Receptive						
Yes	136	48.0	(41.9-54.1)	1	6.2	-
No	145	52.0	(45.9–58.1)	17	93.8	(81.9–100.0)
Insertive						
Yes	123	44.0	(37.9–50.1)	-	-	-
No	156	56.0	(49.9–62.1)	-	-	-
Anal sex with women						
Yes	4	1.3	-	-	-	-
No	287	98.7	(97.3–100.0)	-	-	-
Vaginal sex						
Yes	10	3.5	-	10	59.5	(35.0–84.0)
No	273	96.5	(94.4–98.7)	8	40.5	-
Vaginal or anal sex						
Yes	179	64.5	(58.8–70.3)	10	59.5	(35.0–84.0)
No	103	35.5	(29.7–41.2)	8	40.5	-
Total	**291**			**19**		

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, 2019–2020.

	MSM			MSW			WSM		
	No.	**%**	**(95% CI)**	**No.**	**%**	**(95% CI)**	**No.**	**%**	**(95% CI)**
Engaged in sex without an HIV prevention strategy[a]									
Yes	23	9.5	(5.4–13.6)	0	0	-	1	3.0	-
No	245	90.5	(86.4–94.6)	15	100.0	-	15	97.0	(90.9–100.0)
Engaged in sex without prevention strategy among sexually active persons[b]									
Yes	23	15.0	(8.8–21.2)	0	0	-	1	4.8	-
No	145	85.0	(78.8–91.2)	9	100.0	-	9	95.2	(85.8–100.0)
Sexually-active persons who used a prevention strategy with at least one partner									
Sex while sustainably virally suppressed[c]	128	74.9	(67.8–82.0)	8	82.1	(58.7–100.0)	7	77.7	(53.0–100.0)
Sex with an HIV positive partner	114	66.1	(58.4-73.8)	3	29.4	-	3	34.4	-
Condom-protected sex[d]	55	32.7	(25.3–40.0)	4	46.6	-	5	50.6	-
Total	**270**			**16**			**16**		

[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.

11 Intimate Partner Violence and Sexual Violence

About a third (32%) of participants had ever been physically hurt by a romantic or sexual partner, including 6% who experienced this in the past 12 months. About a quarter (26%) had ever been threatened with harm or physically forced to have unwanted sex, including 2% who experienced this in the past 12 months (Table 18.2).

Table 11.1: Intimate partner violence and sexual violence – Medical Monitoring Project, San Francisco, 2019–2020.

	No.	%	(95% CI)
Was *ever* physically hurt by a romantic or sexual partner			
Yes	107	32.3	(27.0–37.6)
No	209	67.7	(62.4–73.0)
Was physically hurt by a romantic or sexual partner in the past 12 months			
Yes	18	6.1	(3.3–8.9)
No	297	93.9	(91.1–96.7)
Was *ever* threatened/forced to have unwanted sex			
Yes	85	25.9	(20.9–30.8)
No	233	74.1	(69.2–79.1)
Was threatened/forced to have unwanted sex in the past 12 months			
Yes	7	2.4	-
No	310	97.6	(95.9–99.4)
Total	**323**		

12 Met and Unmet Need for Ancillary Services

Top health concerns have changed dramatically over time: participants were nearly twice as likely to report end of life aging (41%) as the top concern compared to HIV (22%). Other concerns were reported less commonly but included mental health (8%) and cardiovascular health (6%), with all others being reported by less than 5% of participants (Table 12.1).

Ancillary service receipt was high. Two-thirds of participants (66%) received dental care and half (49%) received AIDS Drug Assistance Program (ADAP) services. HIV case management (43%) and mental health services (37%) were also commonly received (Table 12.2). Unmet needs were generally low, though nearly a quarter (22%) of participants reported needing but not receiving dental care, and 12% reported the same for mental health care. Unmet needs for other services were reported by fewer than 10% of respondents.

Table 12.1: Self-reported health concerns in the last 12 months – Medical Monitoring Project, San Francisco, 2019-2020 local data.

	No.	%	(95% CI)
What is the main health concern?			
Aging	130	41.2	(35.7–46.8)
HIV	67	21.6	(16.9–26.3)
Mental Health	26	8.3	(5.2–11.4)
Cardiovascular	20	6.3	(3.6–9.1)
Musculoskeletal	9	3.0	-
Obesity/Nutrition	7	2.6	-
Cancer	6	1.8	-
Pulmonary/respiratory (asthma, COPD)	6	1.8	-
Total	**312**		

Table 12.2: Met and unmet needs for ancillary services during the prior 12 months – Medical Monitoring Project, San Francisco, 2019–2020.

	Received services			Persons who needed but did not receive service		
Service[a]	**No.**	**%**	**(95% CI)**	**No.**	**%**	**(95% CI)**
Dental care	210	65.6	(60.1–71.1)	70	22.2	(17.2–27.1)
ADAP[b]	152	48.7	(42.8–54.5)	9	3.0	-
HIV case management	133	42.6	(36.9–48.3)	18	5.6	(3.0–8.2)
Mental health services	118	36.5	(31.1–42.0)	40	11.6	(8.1–15.1)
SNAP or WIC[c]	85	25.9	(21.0–30.8)	25	7.7	(4.7–10.7)
Meal or food services[d]	84	25.5	(20.7–30.4)	17	5.3	(2.7–7.8)
HIV medication adherence support services	72	23.6	(18.5–28.8)	3	0.9	-
Transportation assistance	69	21.2	(16.6–25.9)	25	7.4	(4.5–10.3)
Shelter or housing services	61	18.9	(14.5–23.3)	14	4.0	(1.9–6.1)
Patient navigation	54	17.6	(12.9–22.2)	13	4.1	(1.8–6.3)
HIV peer group support	49	16.2	(11.6–20.7)	27	8.0	(5.0–11.0)
Drug or alcohol counseling	43	13.8	(9.8–17.7)	14	4.0	(1.9–6.2)
Domestic violence services	8	2.5	-	6	2.0	-
Total	**323**			**323**		

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

[b]Medicine through the AIDS Drug Assistance Program.

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

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

13 Prevention Activities

Less than half of participants indicated they received prevention services in the previous twelve months. The most common prevention activities received were a one-on-one HIV/STD risk reduction conversation with a health care provider (41%) and free condoms (40%)(Table 13.1).

Table 13.1: Prevention services received during the prior 12 months – Medical Monitoring Project, San Francisco, 2019–2020.

	No.	%	(95% CI)
One–on–one conversation with a physician, nurse, or other health care worker			
Yes	125	41.0	(35.2–46.7)
No	196	59.0	(53.3–64.8)
One–on–one conversation with an outreach worker, counselor, or prevention program worker			
Yes	62	19.6	(15.1–24.1)
No	258	80.4	(75.9–84.9)
Organized session involving a small group of people			
Yes	38	13.0	(8.8–17.1)
No	282	87.0	(82.9–91.2)
Free condoms			
Yes	124	40.0	(34.3–45.7)
No	198	60.0	(54.3–65.7)
Total	**323**		

14 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.

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 (55) and trans-women (44), Latinx (38), Black/African American (33), and multiracial persons or Alaskan Native (33) (Table 14.1).

Forty-three percent reported that they have been hurt by how people reacted to their HIV status, and 36% reported they had stopped socializing because of people's reaction to their HIV status (Table 14.2). Sixty-six percent indicated that they are very careful about who they disclose their HIV status to and 41% worry that people who know the participant's HIV status will tell others (Table 14.3). The statements "I feel unclean" and "like a bad person" because of HIV was agreed with by 26% and 13% and disagreed by 67% and 80% respectively (Table 14.4). Thirty-nine percent agreed or strongly agreed with the statement "Most people with HIV are rejected when others find out" (Table 14.5).

Among those who experienced any discrimination, 21% reported that the discrimination occurred because of their HIV status (Table 14.6).

Table 14.1: HIV stigma by demographics – Medical Monitoring Project, San Francisco, 2019–2020.

		Median HIV Stigma score[a]	
Subgroups	**No.**	**Row %[c]**	**(95% CI)**
Gender			
Cis Male	277	31.0	(28.0–34.1)
Cis Female	17	54.9	(27.9–81.9)
Trans women	12	44.4	(20.9–67.9)
Sexual Orientation			
Lesbian or gay	255	30.6	(27.4–33.8)
Heterosexual	31	47.0	(30.6–63.3)
Bisexual	9	51.9	(26.0–77.7)
Other sexual orientation	9	30.3	(8.2–52.5)
Race/ethnicity			
White	183	28.5	(24.8–32.2)
Black/African American	32	33.1	(20.7–45.6)
Hispanic or Latinx	62	37.5	(28.4–46.5)
Asian or Pacific Islander	12	28.5	(24.8–32.3)
Multiracial or Other	17	33.1	(20.7–45.6)
Age			
18–39	44	37.2	(21.8–52.7)
40–49	46	37.0	(26.4–47.5)
50–59	117	36.3	(30.2–42.3)
60–64	34	33.0	(12.7–53.3)
≥65	65	23.5	(16.9–30.2)
Total	306	32.6	(28.8–36.5)

[a]HIV stigma was defined as the median score on a 10-item scale ranging from 0 (no stigma) to 100 (high stigma).

Table 14.2: Personalized HIV stigma – Medical Monitoring Project, San Francisco, 2019–2020.

	No.	%	(95% CI)
I have been hurt by how people reacted to learning I have HIV			
Strongly disagree	91	28.5	(23.2–33.8)
Somewhat disagree	37	11.3	(7.8–14.9)
Neutral	55	16.8	(12.7–21.0)
Somewhat agree	69	21.0	(16.5–25.6)
Strongly agree	68	22.3	(17.4–27.2)
I have stopped socializing with some people because of their reaction to my HIV status			
Strongly disagree	145	43.9	(38.2–49.6)
Somewhat disagree	30	9.4	(6.2–12.7)
Neutral	33	10.5	(7.1–14.0)
Somewhat agree	64	19.8	(15.2–24.5)
Strongly agree	48	16.3	(11.7–20.9)
I have lost friends by telling them I have HIV			
Strongly disagree	170	53.5	(47.7–59.3)
Somewhat disagree	31	10.0	(6.6–13.4)
Neutral	32	9.9	(6.6–13.2)
Somewhat agree	38	11.4	(7.9–14.9)
Strongly agree	45	15.2	(10.7–19.8)
Total	**320**		

Table 14.3: Disclosure concerns – Medical Monitoring Project, San Francisco, 2019–2020.

	No.	%	(95% CI)
I am very careful who I tell that I have HIV			
Strongly disagree	59	17.7	(13.5–22.0)
Somewhat disagree	28	8.6	(5.5–11.7)
Neutral	26	8.1	(5.0–11.1)
Somewhat agree	68	20.7	(16.2–25.3)
Strongly agree	138	44.9	(39.1–50.7)
I worry that people who know I have HIV will tell others			
Strongly disagree	125	38.3	(32.8–43.8)
Somewhat disagree	32	9.9	(6.6–13.2)
Neutral	35	10.5	(7.1–13.9)
Somewhat agree	59	18.0	(13.8–22.3)
Strongly agree	68	23.3	(18.0–28.6)
Total	**319**		

Table 14.4: Negative self-image from HIV stigma – Medical Monitoring Project, San Francisco, 2019–2020.

	No.	%	(95% CI)
I feel that I am not as good a person as others because I have HIV			
Strongly disagree	199	61.4	(55.6–67.1)
Somewhat disagree	25	7.1	(4.3–9.9)
Neutral	25	7.9	(4.8–10.9)
Somewhat agree	44	15.7	(10.9–20.5)
Strongly agree	25	8.0	(4.9–11.1)
Having HIV makes me feel unclean			
Strongly disagree	200	61.0	(55.2–66.7)
Somewhat disagree	21	6.4	(3.7–9.1)
Neutral	20	6.2	(3.5-8.9)
Somewhat agree	53	17.8	(13.2–22.5)
Strongly agree	24	8.6	(4.8–12.4)
Having HIV makes me feel that I'm a bad person			
Strongly disagree	240	74.2	(69.0–79.3)
Somewhat disagree	20	6.0	(3.4–8.7)
Neutral	24	7.2	(4.4–10.0)
Somewhat agree	32	11.1	(7.2–15.1)
Strongly agree	4	1.5	-
Total	**320**		

Table 14.5: Perceived public attitudes about HIV – Medical Monitoring Project, San Francisco, 2019–2020.

	No.	%	(95% CI)
Most people think that a person with HIV is disgusting			
Strongly disagree	102	32.4	(27.1–37.8)
Somewhat disagree	68	21.9	(17.2–26.6)
Neutral	52	16.4	(12.2–20.5)
Somewhat agree	62	21.3	(16.1–26.5)
Strongly agree	26	8.0	(5.0–11.1)
Most people with HIV are rejected when others find out			
Strongly disagree	69	22.3	(17.4–27.2)
Somewhat disagree	60	18.4	(14.1–22.7)
Neutral	68	20.6	(16.1–25.1)
Somewhat agree	93	29.4	(24.2–34.6)
Strongly agree	26	9.3	(5.4–13.2)
Total	**316**		

Table 14.6: Discrimination experienced in the health care setting – Medical Monitoring Project, San Francisco, 2019–2020.

	No.	%	(95% CI)
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?	15	5.1	(2.5–7.7)
Seemed to think they were smarter than you?	11	3.7	-
Seemed to think they were better than you?	15	4.9	(2.4–7.3)
Treated you with less respect?	12	3.7	(1.6–5.8)
Provided you with poorer services?	7	2.3	-
Treated you with less courtesy?	12	4.0	(1.7–6.3)
Seemed afraid of you	1	0.4	-
Total	**302**		
Did the discrimination occur because of [b]...			
Your HIV status?	23	21.4	(13.4–29.3)
Your sexual orientation or practices?	23	22.0	(13.9–30.1)
Your drug injecting habit?	14	32.0	(17.7–46.2)
Your income or social class?	30	28.8	(19.9–37.7)
Your race or ethnicity?	17	16.9	(9.5–24.4)
Your gender?	7	6.8	-
Total	**107**		

[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.

15 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. Twelve percent were classified as being homeless in the last 12 months. Ten percent lived in an SRO at any point in the last 12 months, 1% lived on the street, less than 1% lived in a car or shelter (Table 15.1).

The prevalence of unstable housing or homelessness in the past 12 months was 17% among all persons living with HIV. Unstable housing or homelessness among trans women was 37%. Forty-two percent of Black/African Americans reported housing instability or homelessness in the last 12 months and 17% of Latinx persons (Table 15.2).

Table 15.1: Housing type in the past 12 months – Medical Monitoring Project, San Francisco, 2019–2020.

	No.	%	(95% CI)
Housed	271	86.8	(82.9–90.7)
Rent a place	177	57.4	(51.8–63.0)
Own a place	76	24.0	(19.2–28.8)
Staying with others rent-free	10	3.1	-
Hospital/nursing home/hospice	2	0.4	-
Other	6	1.9	-
Unstably Housed	3	0.9	-
Temporary or transitional housing	3	0.9	-
Homeless[a]	37	12.3	(8.5–16.0)
Single-room-occupancy hotel	31	10.2	(6.8–13.7)
Street	3	1.0	-
Shelter	2	0.8	-
Car	1	0.3	-
Total	**311**		

[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.

Table 15.2: Unstable housing or homelessness by demographics – Medical Monitoring Project, San Francisco, 2019–2020.

	Unstable housing or homelessness[a]		
Subgroups	**No.**	**Row %**	**(95% CI)**
Gender			
Cis Male	49	16.9	(12.5–21.3)
Cis Female	2	9.8	-
Trans women	5	36.8	-
Sexual Orientation			
Lesbian or gay	34	12.8	(8.7–16.8)
Heterosexual	15	43.3	(25.9–60.7)
Bisexual	3	38.0	-
Other sexual orientation	3	32.3	-
Race/ethnicity			
White	24	12.8	(7.9–17.7)
Black/African American	14	42.3	(25.2–59.4)
Hispanic or Latinx	13	16.6	(8.1–25.1)
Asian or Pacific Islander	1	8.4	-
Multiracial or Other	4	24.1	-
Age			
18–39	10	20.6	(8.7–32.5)
40–49	15	30.3	(17.2–43.3)
50–59	21	17.1	(10.3–24.0)
60–64	4	11.3	-
≥65	6	8.9	-
Total	56	17.4	(13.1–21.6)

[a] "Unstable housing or homelessness" defined as experiencing unstable housing (i.e., moving 2 or more times, being evicted, or moving in with others due to financial problems) homelessness (i.e., living on the street, in a shelter, in a single- room{occupancy hotel, or in a car) during the past 12 months.

16 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. Of all participants 17% reported any food insecurities in the twelve months before the interview. Among those who reported any food insecurities, the most affected were trans women (61%), cis women (15%), and Black/African Americans (22%) (Table 16.1).

Table 16.1: Food Insecurity in the past 12 months before the interview by gender, ethnicity and poverty status – Medical Monitoring Project, San Francisco, 2019–2020.

	Food secure			Any food insecurity		
	No.	**%**	**(95% CI)**	**No.**	**%**	**(95% CI)**
Gender						
Cis Men	244	84.7	(80.5–88.9)	46	15.3	(11.1–19.5)
Cis Women	16	84.6	(66.2–100.0)	3	15.4	-
Trans women	5	38.8	-	8	61.2	(34.0–88.4)
Sexual Orientation						
Lesbian or gay	229	86.5	(82.4–90.7)	37	13.5	(9.3–17.6)
Heterosexual or straight	21	62.4	(45.4–79.4)	13	37.6	(20.6–54.6)
Bisexual	5	46.9	-	4	53.1	-
Other	8	70.8	(41.6–99.9)	3	29.2	-
Race/Ethnicity						
White	157	84.4	(79.2–89.7)	31	15.6	(10.3–20.8)
Hispanic or Latinx	58	81.7	(72.4–91.0)	13	18.3	-
Black or African American	25	77.6	(63.6–91.7)	8	22.4	-
Asian or Pacific Islander	10	83.3	(62.0–100.0)	2	16.7	-
Multiracial or Other	15	78.7	(57.4–100.0)	3	21.3	-
Age						
18–39	38	84.7	(74.4–95.0)	8	15.3	-
40–49	32	65.1	(51.3–78.8)	17	34.9	(21.2–48.7)
50–59	96	80.2	(73.0–87.3)	25	19.8	(12.7–27.0)
60–64	35	96.6	(90.0–100.0)	1	3.4	-
≥65	64	91.2	(84.2–98.2)	6	8.8	-
Total	**265**	82.6		**57**	17.4	

17 Social Support

Participants were asked about who provides social support and what kind of support their primary support person gave them. Almost all (92%) disclosed their HIV status to their primary support person. Forty-four percent of those who disclosed felt that their support person usually or always provided HIV related support (Table 17.1). Partners and friends were most important for support with 36% and 26% reporting that was their main source of support, respectively. Eighty-six percent were usually or always satisfied with the support provided by this support person (Table 17.2).

Table 17.1: HIV disclosure to primary support person in the past 12 months – Medical Monitoring Project, San Francisco, 2019–2020.

	No.	%	(95% CI)
Have you disclosed your HIV status to this person?			
Yes	270	91.8	(88.5–95.2)
No	22	8.2	(4.8–11.5)
Among those who disclosed their HIV status to their support person			
How often have they:			
Provided HIV-related support?			
Never	29	22.0	(14.7–29.3)
Rarely	27	20.7	(13.5–27.9)
Sometimes	17	13.5	(7.3–19.6)
Usually	7	5.3	-
Always	50	38.5	(29.8–47.2)
Supported you to get HIV care?			
Never	53	45.5	(36.1–54.8)
Rarely	15	13.0	(6.7–19.3)
Sometimes	11	8.8	(3.7–13.9)
Usually	2	1.5	-
Always	34	31.3	(22.4–40.2)
Total	**292**		

Table 17.2: Social support in the past 12 months – Medical Monitoring Project, San Francisco, 2019–2020.

	No.	%	(95% CI)
Who is the most important person for support?			
Partner/spouse	114	36.1	(30.7–41.6)
Friend	83	25.6	(20.7–30.5)
Parent	37	12.4	(8.6–16.2)
Sibling	23	7.7	(4.6–10.8)
Child	12	4.0	(1.7–6.3)
How often are you satisfied with their support?			
Never	3	0.9	-
Rarely	7	2.2	-
Sometimes	34	11.2	(7.6–14.8)
Usually	80	27.3	(22.1–32.5)
Always	167	58.4	(52.7–64.2)
How often have they:			
Given you information or advice?			
Never	15	5.1	(2.5–7.7)
Rarely	18	5.7	(3.1–8.4)
Sometimes	69	23.8	(18.8–28.8)
Usually	78	26.2	(21.1–31.3)
Always	112	39.2	(33.5–44.9)
Listened to you when you need to talk?			
Never	6	1.7	-
Rarely	10	3.3	-
Sometimes	27	9.1	(5.8–12.4)
Usually	80	27.3	(22.1–32.5)
Always	169	58.6	(52.9-64.4)
Shown you that they care?			
Never	4	1.2	-
Rarely	4	1.3	-
Sometimes	23	7.4	(4.4–10.4)
Usually	61	20.5	(15.8–25.2)
Always	200	69.6	(64.2–74.9)
Helped with specific problems?			
Never	4	2.6	-
Rarely	5	3.7	-
Sometimes	36	22.8	(16.0–29.6)
Usually	36	25.0	(17.7–32.4)
Always	65	45.9	(37.5–54.3)
Total	**292**		

18 Long-Term Survivor

Long-term survivors were defined as persons diagnosed with HIV/AIDS prior to 1997, and 42% of the sample met this definition. Of these, 40% reported frequently having trouble sleeping, 32% reported frequently feeling depressed, 26% frequently isolated, and 18% frequently feeling they had no future (Table 18.1). Twenty-nine percent of long-term survivors reported experiencing 3 or more symptoms frequently (data not shown).

Table 18.1: Long-term survivors syndrome symptoms in the last 6 months among individuals who were diagnosed with HIV prior to 1997 – Medical Monitoring Project, San Francisco, 2019–2020.

Symptom	No.	%	(95% CI)
I felt depressed			
Never	27	20.6	(13.5–27.7)
Infrequently	65	47.0	(38.5–55.6)
Frequently	44	32.4	(24.4–40.5)
I felt isolated			
Never	40	30.4	(22.4–38.5)
Infrequently	61	44.1	(35.6–52.6)
Frequently	34	25.5	(18.0–32.9)
I felt anxious			
Never	26	20.2	(13.1–27.3)
Infrequently	73	52.3	(43.8–60.9)
Frequently	37	27.5	(19.9–35.1)
I had trouble sleeping			
Never	26	19.4	(12.6–26.3)
Infrequently	55	40.8	(32.4–49.3)
Frequently	55	39.7	(31.3–48.1)
I felt I had no future			
Never	59	44.4	(35.8–53.0)
Infrequently	52	38.2	(29.8–46.5)
Frequently	24	17.5	(10.9–24.0)

Infrequently was defined as the participant reported experiencing the symptoms "hardly ever" or "every so often." ; Frequently was defined as the participant reported experiencing the symptoms "fairly frequently", "at least once a week", or "almost every day."

Table 18.2: Long-term survivors syndrome symptoms in the last 6 months among individuals who were diagnosed with HIV prior to 1997 continued– Medical Monitoring Project, San Francisco, 2019–2020.

Symptom	No.	%	(95% CI)
I had nightmares			
Never	56	42.2	(33.7–50.7)
Infrequently	75	54.4	(45.8–63.0)
Frequently	5	3.4	-
I felt emotionally numb			
Never	53	40.5	(32.0–49.1)
Infrequently	64	47.3	(38.6–55.9)
Frequently	18	12.2	(6.8–17.6)
I had strong feelings of anger			
Never	39	28.8	(21.0–36.6)
Infrequently	85	62.4	(54.0–70.8)
Frequently	11	8.8	(3.8–13.8)
I felt threatened			
Never	77	58.0	(49.5–66.4)
Infrequently	51	36.0	(27.8–44.2)
Frequently	8	6.0	-
Total	**136**		

Infrequently was defined as the participant reported experiencing the symptoms "hardly ever" or "every so often." ; Frequently was defined as the participant reported experiencing the symptoms "fairly frequently", "at least once a week", or "almost every day."

19 Resiliency

Participants from the 2019 and 2020 cycles were interviewed on resiliency. Around half of participants reported they thought of themselves as a strong person (48%), were nearly always able to bounce back after illness or hardship (48%) nearly always able to adapt to change (47%) and were nearly always able to deal with whatever comes (42%). Fewer (37%) reported nearly always able to see the humorous side of things (Table 19.1).

Table 19.1: Resiliency – Medical Monitoring Project, San Francisco, 2019–2020.

Resiliency	No.	%	(95% CI)
Able to adapt to change			
Never true	6	2.1	-
Rarely true	13	3.9	(1.8–6.0)
Sometimes true	49	16.1	(11.9–20.3)
Often true	94	30.5	(25.3–35.8)
True nearly all the time	149	47.4	(41.7–53.0)
Can deal with whatever comes			
Never true	1	0.4	-
Rarely true	9	2.7	-
Sometimes true	59	19.4	(14.9–24.0)
Often true	110	35.2	(29.7–40.6)
True nearly all the time	130	42.3	(36.7–48.0)
See the humorous side of things			
Never true	3	1.1	-
Rarely true	13	4.2	(1.9–6.5)
Sometimes true	61	19.9	(15.3–24.5)
Often true	117	38.2	(32.7–43.8)
True nearly all the time	113	36.6	(31.1–42.1)
Coping with stress strengthens			
Never true	14	4.4	(2.1–6.7)
Rarely true	24	7.6	(4.6–10.6)
Sometimes true	95	30.7	(25.4–36.0)
Often true	93	30.7	(25.4–36.0)
True nearly all the time	81	26.6	(21.6-31.7)
Tend to bounce back after illness or hardship			
Never true	3	0.9	-
Rarely true	4	1.1	-
Sometimes true	50	16.2	(12.1–20.4)
Often true	105	34.2	(28.7–39.6)
True nearly all the time	146	47.6	(41.9–53.3)

Table 19.2: Resiliency continued – Medical Monitoring Project, San Francisco, 2019–2020.

Resiliency	No.	%	(95% CI)
You can achieve your goals			
Never true	3	1.2	-
Rarely true	13	4.0	(1.8–6.1)
Sometimes true	67	21.3	(16.6–25.9)
Often true	117	37.3	(31.8–42.8)
True nearly all the time	110	36.3	(30.7–41.8)
Under pressure, focus and think clearly			
Never true	5	1.6	-
Rarely true	17	5.4	(2.9–8.0)
Sometimes true	89	28.8	(23.6–33.9)
Often true	116	38.3	(32.7–43.9)
True nearly all the time	82	25.9	(20.9–30.9)
Not easily discouraged by failure			
Never true	10	3.1	-
Rarely true	25	8.1	(5.0–11.2)
Sometimes true	91	29.5	(24.3–34.7)
Often true	103	33.5	(28.1–38.9)
True nearly all the time	80	25.8	(20.8–30.7)
Think of self as strong person			
Never true	1	0.3	-
Rarely true	11	3.3	-
Sometimes true	45	15.1	(10.9–19.2)
Often true	103	33.4	(28.0–38.8)
True nearly all the time	149	47.9	(42.2–53.6)
Can handle unpleasant feelings			
Never true	4	1.4	-
Rarely true	13	4.1	(1.9–6.4)
Sometimes true	78	25.5	(20.5–30.4)
Often true	109	35.1	(29.7–40.5)
True nearly all the time	106	33.9	(28.5–39.3)
Total	**311**		

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