

HIV EPIDEMIOLOGY

Annual Report 2022

San Francisco

Department of Public Health
Population Health Division



HIV Epidemiology

Annual Report **2022**



San Francisco Department of Public Health
Population Health Division
HIV Epidemiology Section
December 2023

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Acknowledgments

This report was prepared by the Applied Research, Community Health Epidemiology, and Surveillance Branch's HIV Epidemiology Section staff members. We thank our colleagues in Bridge HIV, the Center for Public Health Research Branch, Disease Prevention and Control Branch, Community Health Equity and Promotion Branch, San Francisco AIDS Foundation, and the San Francisco MSM Intercept Survey for providing data and critical input in this report.

In addition, we acknowledge the important contribution of people with HIV, HIV health care providers, community groups, researchers, and members of the community. Publication of this report was made possible because of their cooperation, dedication, and hard work.

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A Abbreviations

API	Asian/Pacific Islander
ART	Antiretroviral therapy
CDC	Centers for Disease Control and Prevention
HCV	Hepatitis C virus
IN	HIV integrase
INSTI	Integrase strand transfer inhibitors
LINCS	Linkage Integration Navigation Comprehensive Service
MSM	Men who have sex with men
MSM-PWID	Men who have sex with men and who also inject drugs
NDI	National Death Index
NHBS	National HIV Behavioral Surveillance
NNRTI	Non-nucleoside reverse transcriptase inhibitors
NRTI	Nucleoside reverse transcriptase inhibitors
OOJ	Out-of-jurisdiction
PEH	People experiencing homelessness
PI	Protease inhibitors
PLWH	People living with HIV
PR	HIV protease
PrEP	Pre-exposure prophylaxis
RT	HIV reverse transcriptase
PWID	People who inject drugs
SFDPH	San Francisco Department of Public Health
SRO	Single-room occupancy
STI	Sexually transmitted infection
TDR	Transmitted drug resistance
TWSM	Trans women who have sex with men
TWSM-PWID	Trans women who have sex with men and who also inject drugs



E

Executive Summary

The past two HIV Epidemiology reports documented a sharp decline in HIV testing during San Francisco's shelter-in-place order in 2020, and a subsequent rebound in 2021. In 2022 HIV screening tests reported by select medical facilities lagged behind pre-pandemic levels (Figure 3.9), but novel approaches like the Take Me Home HIV and STI home testing program have made alternate approaches more available (Table 3.10).

Nearly 12,000 people living with HIV (PLWH) had a residence in San Francisco as of the end of 2022 (Table 1.4). There have been no children born with HIV since 2005 and PLWH have continued to age largely due to highly effective HIV treatment strategies: in 2022, half of PLWH were aged 50 years and older, and none were under 18 years old. A similar number of PLWH (11,579) received care in San Francisco during 2022, about a quarter of whom live outside of the city (Figure 3.8).

San Francisco continues to excel in many of the HIV prevention and care indicators described in this report, exceeding California and the United States on the indicators highlighted in Table 3.6. Notably, three-quarters of people with indications for pre-exposure prophylaxis (PrEP) had coverage in 2021. Almost all (97%) PLWH are aware of their status, most (80%) San Francisco resident PLWH had some evidence of HIV care during the year, and new diagnoses remain relatively low.

There were 157 diagnoses reported among San Francisco residents in 2022 (Figure 1.2). This is a small reduction from 2021, though recent fluctuations likely represent COVID-19 related changes in testing behaviors. As in previous years, San Francisco has rapidly connected people to care following diagnosis. Ninety percent of newly diagnosed people were linked to care within one month (Figure 3.1), and the median time from diagnosis to first care and subsequently to ART was one and zero days, respectively. Finally, of all PLWH residing in San Francisco at the end of 2022, about three-quarters (73%) were virally suppressed, and nearly all (94%) of those with evidence of care in the year were suppressed (Table 3.1).

While these top-line numbers demonstrate the city's successes, there are disparities in the outcomes described throughout this report. Since 2018, the largest number of new HIV diagnoses have been among Latinx, and the annual rate of new diagnoses among Latino cis men surpassed all other racial/ethnic groups in 2022 (Figures 2.2 and 2.3). Compared to other racial/ethnic groups, Latinx San Francisco residents were the least likely to have any evidence of HIV care, and both Latinx and Black/African American San Franciscans were virally suppressed at a rate lower than White San Franciscans (Table 3.4).

Persistent disparities also continue among people experiencing homelessness (PEH) and people who inject drugs (PWID). PEH accounted for 17% of diagnoses in 2022, up from 8% in 2013 (Figure 14.1). Only half (52%) of PEH were virally suppressed in 2022 (Table 3.4). PWID, including men who have sex with men and inject drugs (MSM-PWID), accounted for nearly 20% of diagnoses in 2022 (Table 1.5). Compared to people with other transmission risks, PWID of all genders had the lowest viral suppression rates. Overall deaths due to drug overdose were the second most common cause of death for PLWH during 2018-2021, surpassing non-AIDS cancers. Among cis and trans women, PWID, and Black/African Americans, accidents (including overdose deaths) were the leading cause of death among PLWH during 2018-2021 (Tables 5.3 – 5.6).

We hope the findings detailed in this report will continue to inform data-driven approaches to HIV prevention and care activities in San Francisco.

1

Overview of HIV in San Francisco

15,537

**SAN FRANCISCO RESIDENTS
WERE DIAGNOSED AND
LIVING WITH HIV AS OF
12/31/2022**

11%

**OF PLWH IN CALIFORNIA
RESIDED IN SAN FRANCISCO**

1%

**OF PLWH IN THE UNITED
STATES RESIDED IN SAN
FRANCISCO**

By the end of 2022 there were 15,537 residents of San Francisco living with a diagnosis of HIV (Table 1.1). San Franciscans represented 11% of the total number of people diagnosed and living with HIV infection (PLWH) in the state of California and 1% of people diagnosed and living with HIV in the United States. In 2022, there were 157 people diagnosed with HIV in San Francisco, the majority of whom were cis men, Latinx, and men who have sex with men (MSM) – similar to the state as a whole. The total number of PLWH declined each year from 2018 to 2022 (Table 1.2) as the number of deaths among the cohort surpassed new diagnoses beginning in 2017 (Figure 1.2). As PLWH live increasingly longer lives, the proportion of people aged 60 and older increased from 30% in 2018 to 41% in 2022 (Table 1.2).

Among the 15,537 San Francisco residents at time of diagnosis, 8,745 were still living in the city based on their most recent available address (Table 1.4). In addition, people who reside outside of San Francisco (Out-of-Jurisdiction, OOJ) are often diagnosed at San Francisco facilities and testing sites. The annual number of OOJ residents diagnosed in San Francisco trended downward from 208 in 2013 to 71 in 2022 (Figure 1.3). The total number of PLWH with a known current San Francisco address was 11,798 by the end of 2022 (people diagnosed OOJ made up 26% of these PLWH). The demographic characteristics of current residents both diagnosed in San Francisco and diagnosed OOJ are similar to those of all San Francisco residents diagnosed and living with HIV.

During 2013 and 2022 the proportion of diagnoses among Latinx increased from 27% to 43% while the proportion among Whites decreased from 45% to 29% (Table 1.5). Though cis men made up the largest share of diagnoses each year, the proportion of diagnoses among women and trans women has nearly doubled to 9% and 6%, respectively. No children (<13 years) were diagnosed with HIV during 2013 to 2022. The proportion of diagnoses among MSM declined over time, from 75% in 2013 to 61% in 2022.



Table 1.1 Characteristics of people living with HIV and people newly diagnosed with HIV in San Francisco, California and the United States

		People Living with HIV			People Newly Diagnosed with HIV		
		San Francisco ¹ 2022 (N=15,537)	California ² 2021 (N=140,001)	United States ³ 2021 (N=1,088,769)	San Francisco ¹ 2022 (N=157)	California ² 2021 (N=4,444)	United States ³ 2021 (N=36,189)
Gender	Cis Men	91%	87%	76%	84%	85%	79%
	Cis Women	6%	12%	23%	9%	12%	18%
	Trans Women	3%	2%	1%	6%	3%	2%
	Trans Men	<1%	<1%	<1%	1%	<1%	<1%
Race/Ethnicity	White	56%	35%	28%	29%	23%	25%
	Black/African American	11%	17%	40%	15%	18%	40%
	Latinx	22%	40%	25%	43%	52%	29%
	Asian/Pacific Islander	7%	4%	2%	10%	5%	2%
	Native American	<1%	<1%	<1%	2%	<1%	<1%
	Other/Unknown	4%	4%	5%	1%	2%	3%
Transmission Category⁴	MSM	74%	67%	57%	61%	57%	67%
	TWSM	2%	2%	--	6%	3%	--
	PWID	5%	5%	11%	8%	5%	7%
	MSM-PWID	13%	6%	5%	11%	3%	4%
	TWSM-PWID	1%	--	--	0%	--	--
	Heterosexual	4%	15%	25%	8%	20%	22%
	Other/Unidentified	1%	5%	2%	6%	11%	1%

1 San Francisco data are reported through May 1, 2023 for HIV diagnoses through December 31, 2022. San Francisco 2022 new diagnoses may be revised due to case reporting delay. Death reporting is incomplete for 2022; the number of San Francisco PLWH may be revised downward.

2 California data are reported through December 31, 2022 for HIV diagnoses through December 31, 2021. The number of California's new diagnoses does not include people with unreported race and ethnicity.

3 U.S. data are reported through December 31, 2022 and reflect HIV diagnoses through December 31, 2021. U.S. data for PLWH are available through December 31, 2021 due to delays in death reporting. U.S. data reflect unadjusted numbers for 50 states and 6 dependent areas and may be found in the Centers for Disease Control and Prevention, CDC. Diagnoses of HIV Infection in the United States and Dependent Areas, 2021. HIV Surveillance Report 2023; 34. <https://www.cdc.gov/hiv/library/reports/hiv-surveillance/vol-34/index.html>. Published May 2023. Accessed [July 4, 2023]. U.S. racial/ethnic group data for new diagnoses only reflect people with racial/ethnic group information.

4 U.S. transmission category data for adults and adolescents have been statistically adjusted for missing values and not released separately for transgender people.

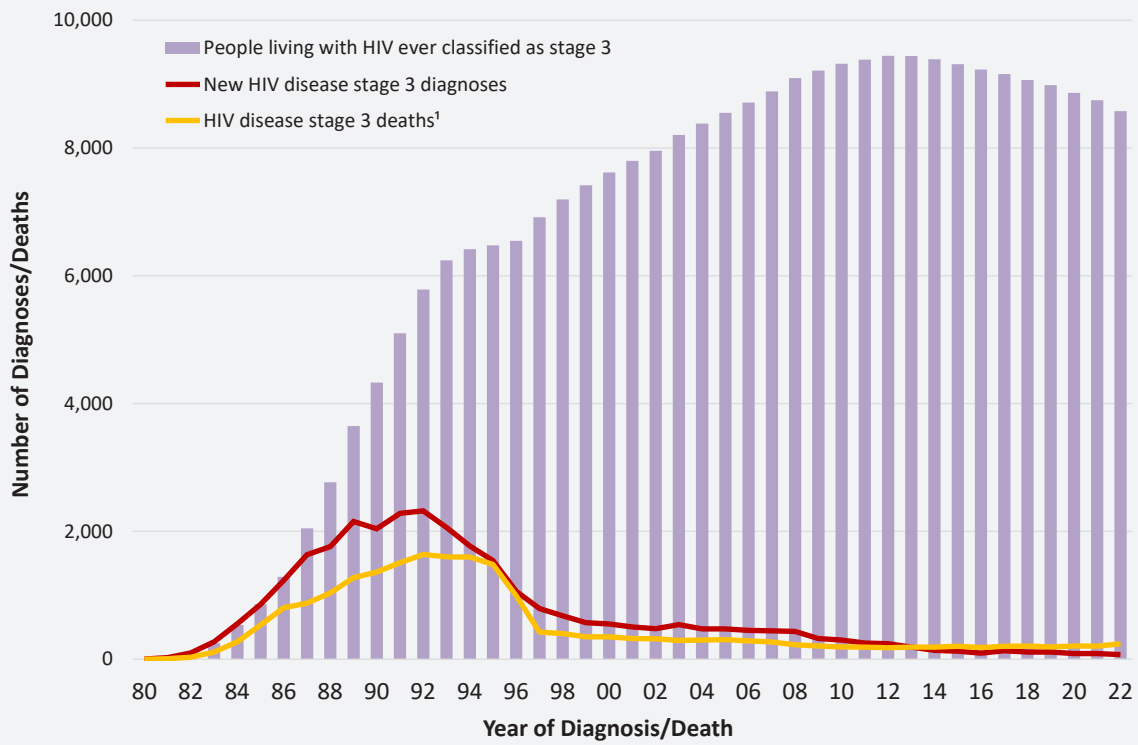
Table 1.2 Trends in people living with HIV by demographic and risk characteristics, 2018-2022, San Francisco

		2018	2019	2020	2021	2022 ²
		Number (%)				
Total ¹		16,029	15,945	15,805	15,692	15,537
Gender	Cis Men	14,695 (92)	14,605 (92)	14,467 (92)	14,354 (91)	14,213 (91)
	Cis Women	909 (6)	905 (6)	902 (6)	899 (6)	887 (6)
	Trans Women	419 (3)	427 (3)	427 (3)	429 (3)	427 (3)
	Trans Men	6 (<1)	8 (<1)	9 (<1)	10 (<1)	10 (<1)
Race/Ethnicity	White	9,185 (57)	9,098 (57)	8,960 (57)	8,855 (56)	8,721 (56)
	Black/African American	1,882 (12)	1,868 (12)	1,851 (12)	1,819 (12)	1,778 (11)
	Latinx	3,292 (21)	3,309 (21)	3,331 (21)	3,347 (21)	3,367 (22)
	Asian/Pacific Islander	1,009 (6)	1,017 (6)	1,024 (6)	1,039 (7)	1,044 (7)
	Native American	57 (<1)	60 (<1)	59 (<1)	60 (<1)	62 (<1)
	Multi-race	596 (4)	585 (4)	572 (4)	564 (4)	557 (4)
	Unknown	8 (<1)	8 (<1)	8 (<1)	8 (<1)	8 (<1)
Age in Years (at end of each year)	0 - 12	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
	13 - 17	4 (<1)	3 (<1)	3 (<1)	2 (<1)	0 (0)
	18 - 24	114 (1)	88 (1)	77 (<1)	54 (<1)	53 (<1)
	25 - 29	379 (2)	329 (2)	299 (2)	269 (2)	248 (2)
	30 - 39	1,799 (11)	1,760 (11)	1,643 (10)	1,566 (10)	1,473 (9)
	40 - 49	3,147 (20)	2,891 (18)	2,673 (17)	2,513 (16)	2,382 (15)
	50 - 59	5,775 (36)	5,682 (36)	5,509 (35)	5,249 (33)	4,911 (32)
	60 - 69	3,715 (23)	3,944 (25)	4,123 (26)	4,323 (28)	4,534 (29)
70+	1,096 (7)	1,248 (8)	1,478 (9)	1,716 (11)	1,936 (12)	
Transmission Category	MSM	11,666 (73)	11,633 (73)	11,570 (73)	11,504 (73)	11,421 (74)
	TWSM	241 (2)	247 (2)	254 (2)	258 (2)	263 (2)
	PWID	882 (6)	862 (5)	846 (5)	820 (5)	788 (5)
	MSM-PWID	2,227 (14)	2,180 (14)	2,115 (13)	2,077 (13)	2,028 (13)
	TWSM-PWID	174 (1)	176 (1)	169 (1)	167 (1)	160 (1)
	Heterosexual	643 (4)	649 (4)	652 (4)	660 (4)	664 (4)
	Other/Unidentified	196 (1)	198 (1)	199 (1)	206 (1)	213 (1)

1 People living with HIV at the end of each year.

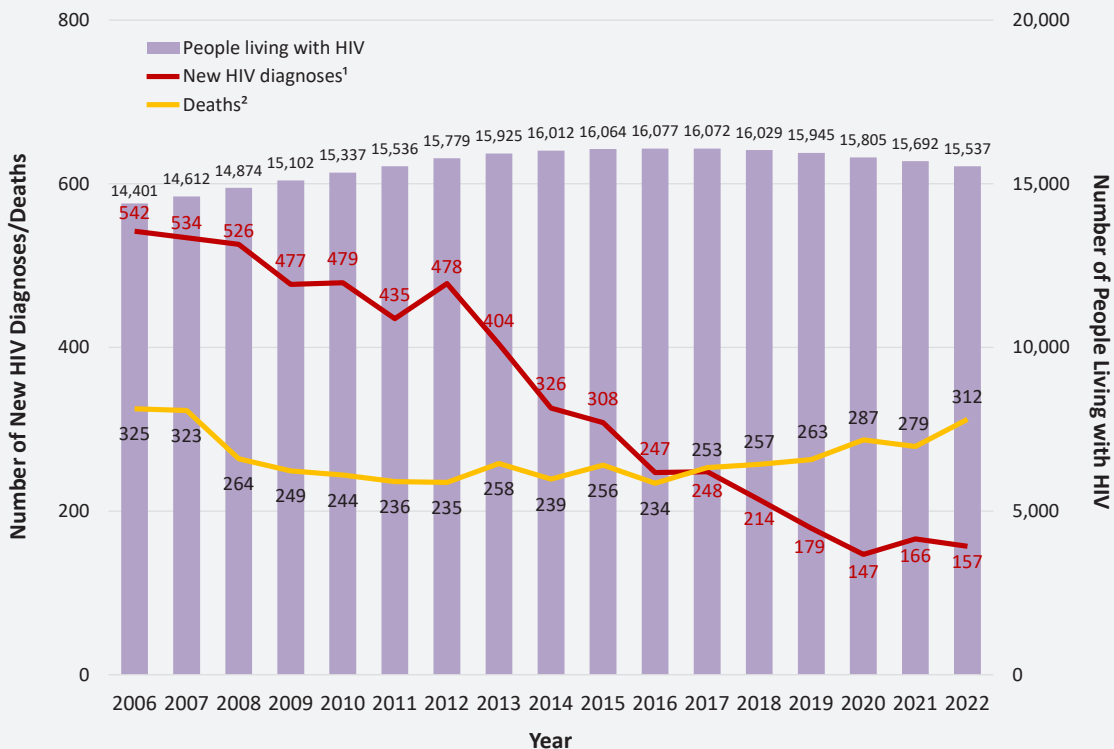
2 Provisional number will be revised when death reporting for 2022 is complete.

Figure 1.1 HIV disease stage 3 (AIDS) diagnoses, deaths, and prevalence, 1980-2022, San Francisco



1 Death reporting for 2022 is not complete.

Figure 1.2 HIV diagnoses, deaths, and prevalence, 2006-2022, San Francisco



1 See Technical Notes “Date of Initial HIV Diagnosis.”

2 Death reporting for 2022 is not complete..

Table 1.3 Characteristics of people living with HIV as of December 2022, San Francisco

		White	Black/African American	Latinx	Asian/Pacific Islander & Native American	Multi-Race	Total Number ¹	
		Number (%)						
Cis Men	Transmission Category	MSM	6,919 (82)	842 (63)	2,471 (83)	836 (85)	352 (72)	11,421
		PWID	154 (2)	154 (12)	66 (2)	22 (2)	19 (4)	415
		MSM-PWID	1,257 (15)	239 (18)	342 (11)	81 (8)	109 (22)	2,028
		Heterosexual	31 (<1)	63 (5)	54 (2)	19 (2)	7 (1)	174
		Other/Unidentified	53 (1)	39 (3)	53 (2)	20 (2)	5 (1)	175
	Age in Years (as of 12/31/2022)	0 - 12	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0
		13 - 17	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0
		18 - 24	2 (<1)	13 (1)	24 (1)	4 (<1)	1 (<1)	44
		25 - 29	39 (<1)	32 (2)	95 (3)	24 (2)	9 (2)	199
		30 - 39	444 (5)	154 (12)	483 (16)	168 (17)	41 (8)	1,290
40 - 49		953 (11)	168 (13)	622 (21)	246 (25)	109 (22)	2,099	
50 - 59		2,693 (32)	376 (28)	962 (32)	323 (33)	169 (34)	4,525	
60 - 69	2,884 (34)	430 (32)	622 (21)	158 (16)	119 (24)	4,216		
70+	1,399 (17)	164 (12)	178 (6)	55 (6)	44 (9)	1,840		
Cis Men Total		8,414	1,337	2,986	978	492	14,213	
Cis Women	Transmission Category	PWID	131 (56)	144 (46)	61 (28)	11 (14)	20 (51)	367
		Heterosexual	100 (43)	157 (50)	145 (66)	65 (81)	16 (41)	483
		Other/Unidentified	3 (1)	12 (4)	13 (6)	4 (5)	3 (8)	37
	Age in Years (as of 12/31/2022)	0 - 12	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0
		13 - 17	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0
		18 - 24	0 (0)	3 (1)	2 (1)	0 (0)	1 (3)	6
		25 - 29	1 (<1)	9 (3)	13 (6)	3 (4)	5 (13)	31
		30 - 39	23 (10)	28 (9)	35 (16)	7 (9)	4 (10)	97
		40 - 49	38 (16)	52 (17)	44 (20)	21 (26)	10 (26)	166
		50 - 59	79 (34)	88 (28)	56 (26)	26 (33)	12 (31)	261
60 - 69	74 (32)	102 (33)	44 (20)	17 (21)	5 (13)	243		
70+	19 (8)	31 (10)	25 (11)	6 (8)	2 (5)	83		
Cis Women Total		234	313	219	80	39	887	
Trans Women Total		71	127	156	48	25	427	
Total		8,721	1,778	3,367	1,106	557	15,537	

¹ Includes people whose racial/ethnic information is not available. Data on trans men are not released separately due to small numbers. See Technical Notes “Gender Status.”

Table 1.4 Characteristics of people living with HIV as of December 2022 by residence status, San Francisco

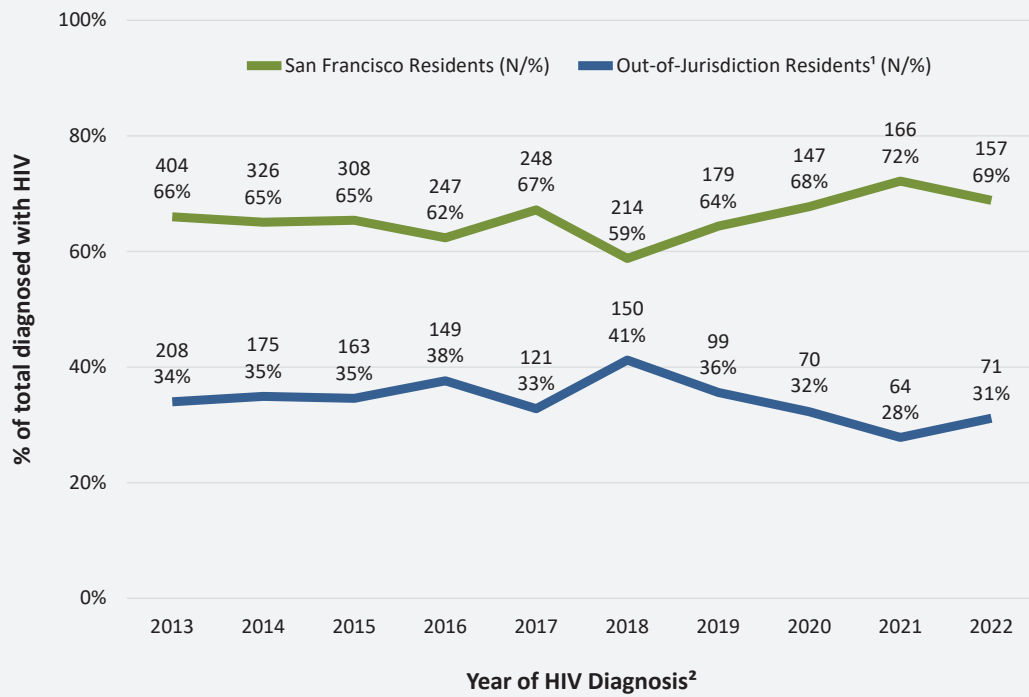
		PLWH who were SF residents based on most recent address ¹ (N=11,798)		
		PLWH who were SF residents at diagnosis	SF residents at diagnosis	OOJ residents at diagnosis
		Number (%)		
Total		15,537	8,745	3,053
Gender²	Cis Men	14,213 (91)	7,829 (90)	2,808 (92)
	Cis Women	887 (6)	600 (7)	124 (4)
	Trans Women	427 (3)	308 (4)	119 (4)
Race/Ethnicity	White	8,721 (56)	4,433 (51)	1,436 (47)
	Black/African American	1,778 (11)	1,084 (12)	454 (15)
	Latinx	3,367 (22)	2,173 (25)	798 (26)
	Asian/Pacific Islander	1,044 (7)	716 (8)	162 (5)
	Other/Unknown	627 (4)	339 (4)	203 (7)
Age in Years (as of 12/31/2022)	0 - 12	0 (0)	0 (0)	0 (0)
	13 - 17	0 (0)	0 (0)	0 (0)
	18 - 24	53 (<1)	39 (<1)	26 (1)
	25 - 29	248 (2)	175 (2)	109 (4)
	30 - 39	1,473 (9)	893 (10)	703 (23)
	40 - 49	2,382 (15)	1,398 (16)	709 (23)
	50 - 59	4,911 (32)	2,640 (30)	857 (28)
	60 - 69	4,534 (29)	2,443 (28)	516 (17)
70+	1,936 (12)	1,157 (13)	153 (5)	
Transmission Category	MSM	11,421 (74)	6,146 (70)	2,269 (74)
	TWSM	263 (2)	187 (2)	82 (3)
	PWID	788 (5)	537 (6)	118 (4)
	MSM-PWID	2,028 (13)	1,155 (13)	364 (12)
	TWSM-PWID	160 (1)	118 (1)	36 (1)
	Heterosexual ³	664 (4)	455 (5)	112 (4)
	Other/Unidentified	213 (1)	147 (2)	72 (2)

1 See Technical Notes “Residence and Receipt of Care for PLWH.”

2 Data on trans men are not released separately due to small numbers. See Technical Notes “Gender Status.”

3 Includes female presumed heterosexual.

Figure 1.3 San Francisco residents and out-of-jurisdiction residents diagnosed with HIV in San Francisco, 2013-2022

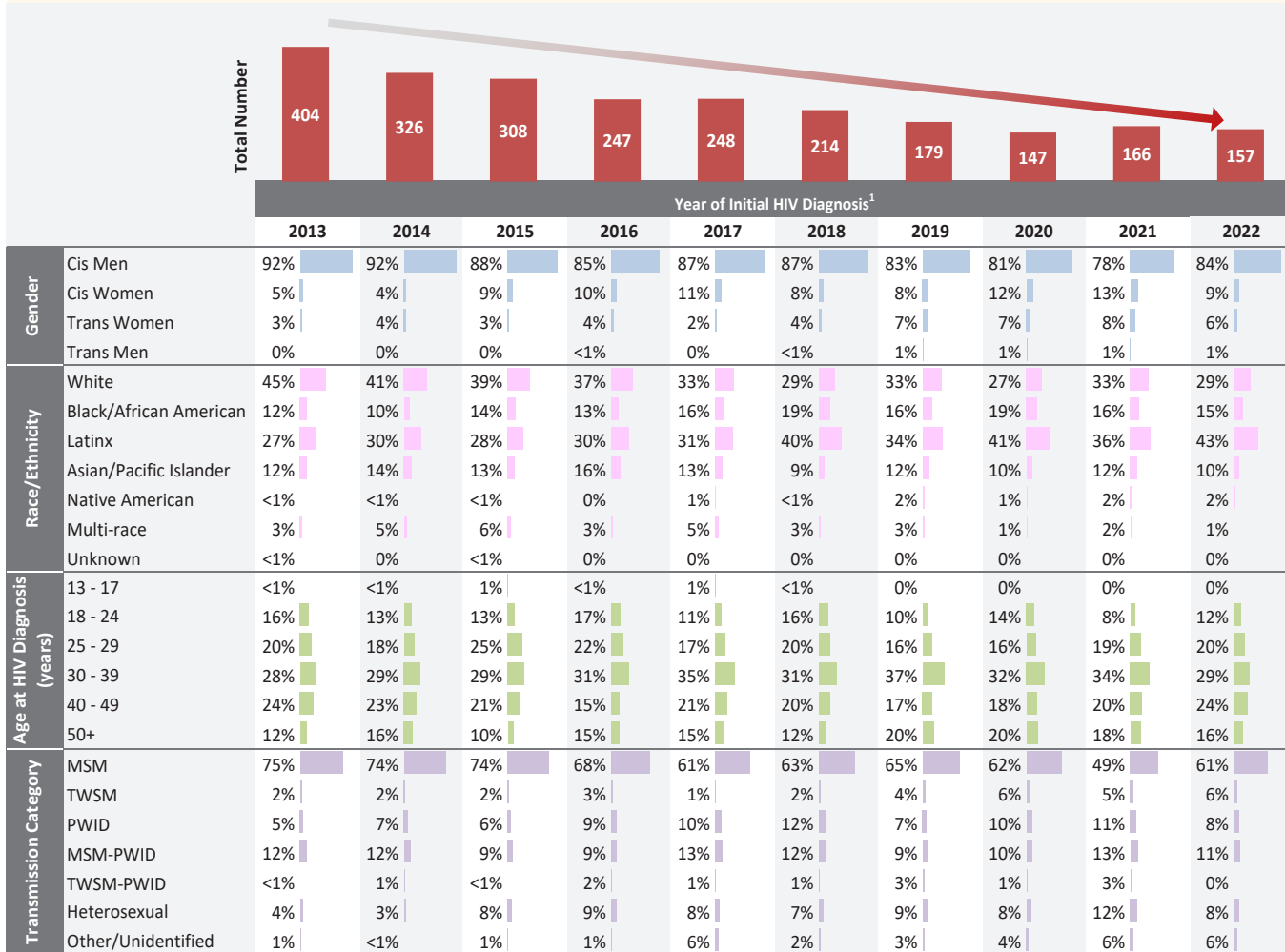


1 See Technical Notes “Out-of-Jurisdiction Residents Diagnosed with HIV.”

2 See Technical Notes “Date of Initial HIV Diagnosis.”



Table 1.5 Trends in people diagnosed with HIV by demographic and risk characteristics, 2013-2022, San Francisco



¹ Data include people diagnosed with HIV in any stage and reported as of May 1, 2023. Percentages may not add to 100 due to rounding. See Technical Notes “Date of Initial HIV Diagnosis.”



2

Trends in HIV Diagnoses

Since 2013, there has been an overall decline in the number of new HIV diagnoses for all racial/ethnic groups (Figure 2.1). Whites account for 36% of new diagnoses from 2013-2022. Since 2018, the highest number of new diagnoses have been among Latinx. When taking into account population size, HIV diagnosis rates (per 100,000) of cis men in 2022 were 84 among Latinos and 68 among Black/African Americans, compared to 19 for Whites (Figure 2.2). Cis women of all race/ethnic groups had substantially lower diagnosis rates compared to cis men of all racial/ethnic groups (Figure 2.3). Rates are highest for Black/African American cis women in all years since 2015.

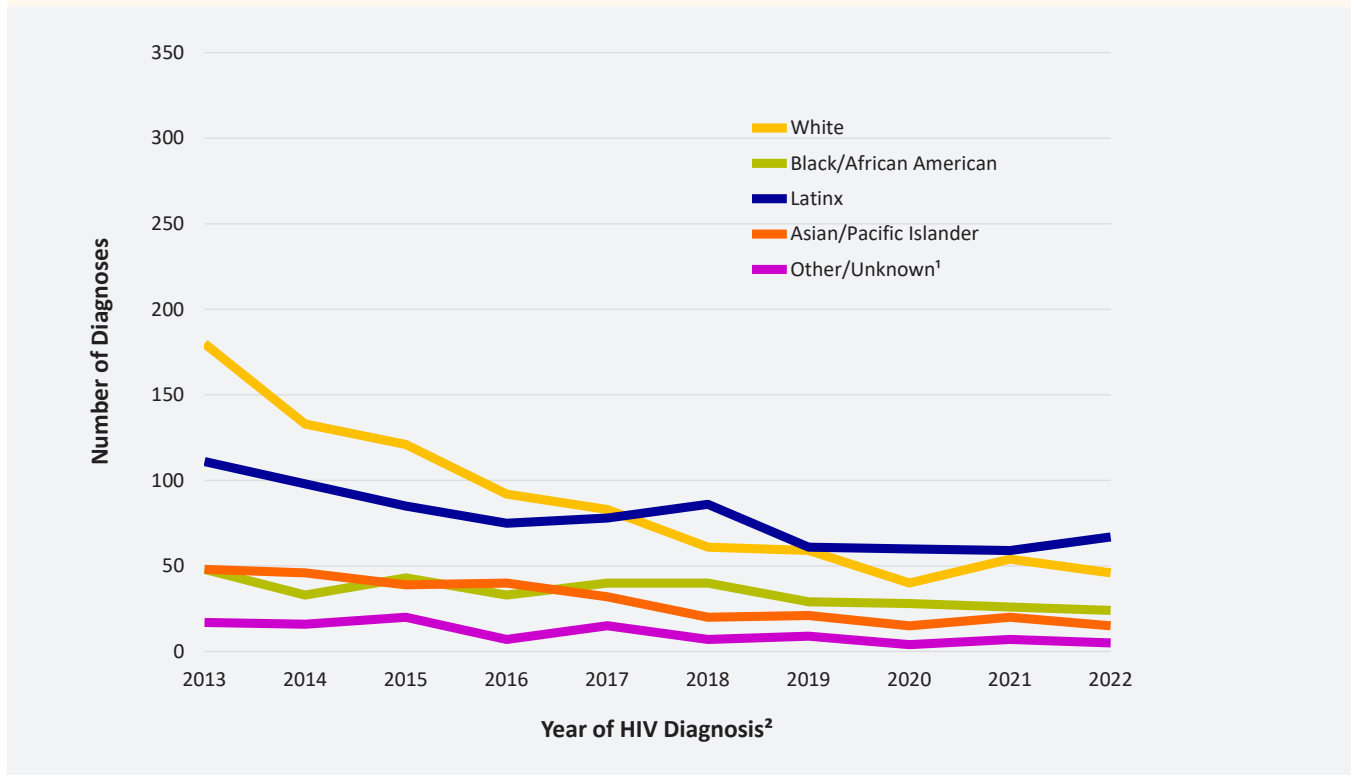
Most cis men (Figure 2.4) diagnosed with HIV during 2013 through 2022 were MSM. However, the number of diagnoses among MSM declined from 302 in 2013 to 95 in 2022. In 2020, there was a decline in the absolute number of diagnoses among cis men in all transmission categories, likely due to the impact of the COVID-19 pandemic. Since then, diagnoses among MSM, people who inject drugs (PWID), and MSM-PWID have increased. Among cis women since 2015, heterosexual contact has remained the most frequent transmission category.

Overall, the number of cis men diagnosed with HIV declined over time from 187 diagnoses in 2018 to 132 in 2022. Among cis women, diagnoses fluctuated between 17 in 2018 to 14 in 2022 (Table 2.1). By age among cis men, most diagnoses were in those aged 30 to 39 years with declines over time in diagnoses among younger age groups. This may be an impact of higher pre-exposure prophylaxis uptake among younger cis men (see Section 16 Pre-Exposure Prophylaxis). The number of diagnoses among cis women were much lower relative to cis men, and fluctuated by age group.

Of the 1,007 San Francisco residents diagnosed with HIV during 2018 through 2022, 234 (23%) were diagnosed at stage 0 (an indicator of recent HIV acquisition) and 717 (71%) at stages 1-3. Fifty-six (6%) could not be staged due to not having a documented CD4 T-lymphocyte (CD4) test \leq 3 months after their HIV diagnosis (Table 2.2). The proportion of stage 0 diagnoses was highest among trans women, people aged 13-24 years at time of diagnosis, and MSM-PWID. Late HIV diagnosis is defined as having a stage 3 (AIDS) diagnosis within three months of HIV diagnosis. The proportion of people newly diagnosed with late-stage HIV was consistent between 2018 and 2022, ranging from a high of 17% in 2018 and 2020 to 14% in 2022 (Table 2.3). In 2022, the proportion of late diagnoses was highest among people aged 50 years and older and among PWID.

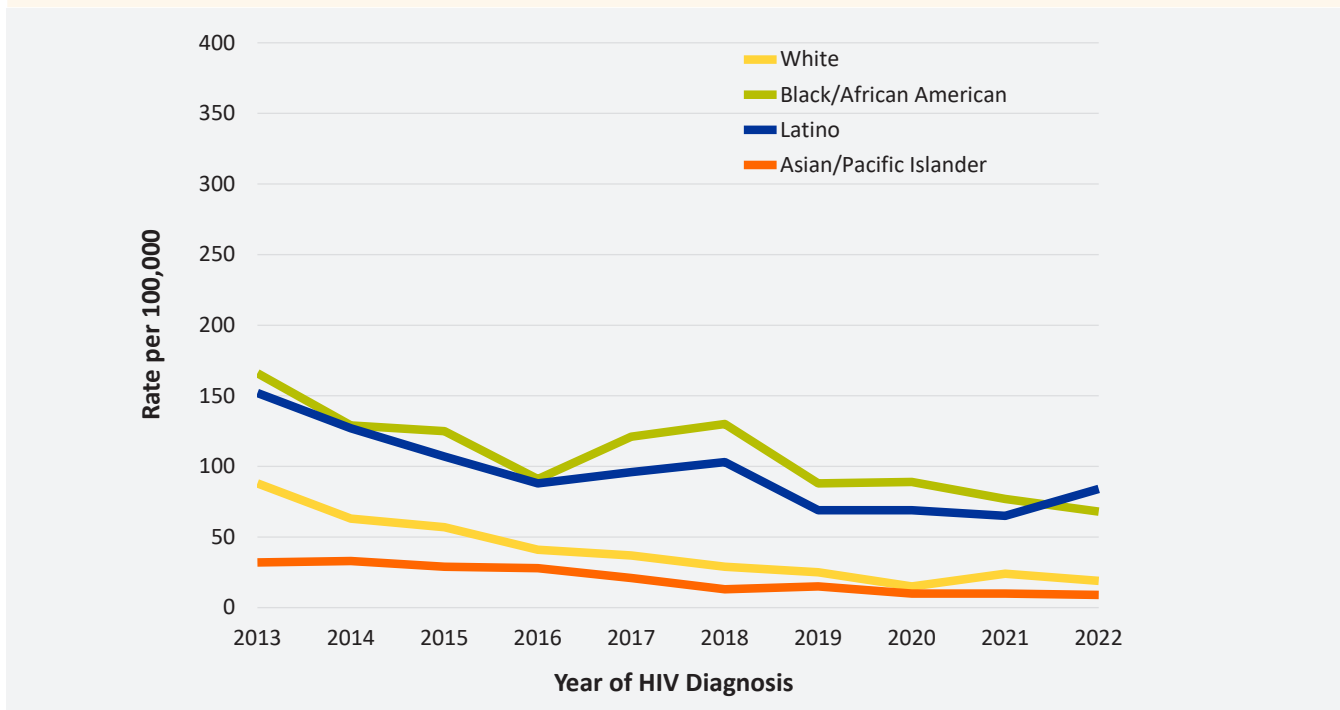
Race/ethnicity

Figure 2.1 Number of people diagnosed with HIV by race/ethnicity, 2013-2022, San Francisco



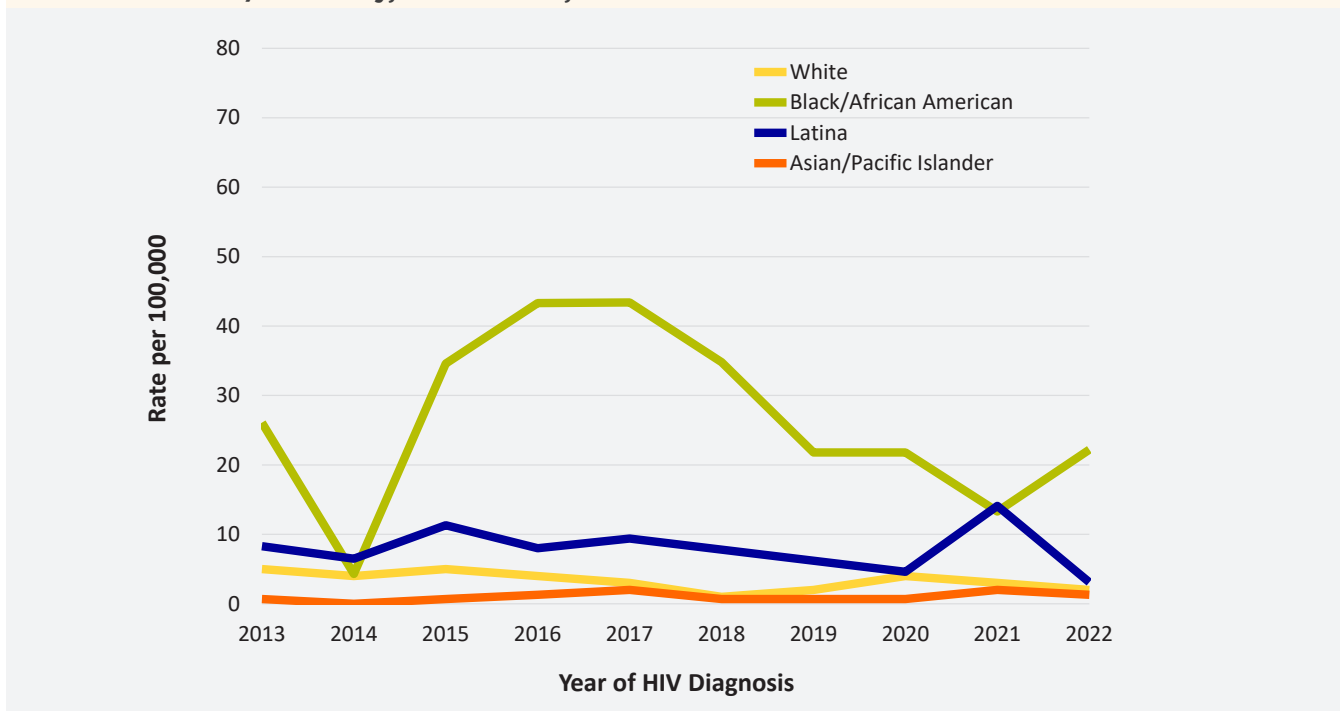
1 HIV diagnoses in the “Other/Unknown” racial/ethnic category include 18% Native Americans, 79% multi-race, and 2% unknown.
 2 See Technical Notes “Date of Initial HIV Diagnosis.”

Figure 2.2 Annual rates¹ of cis men diagnosed with HIV per 100,000 population by race/ethnicity, 2013-2022, San Francisco



¹ See Technical Notes “HIV Case Rates and HIV Mortality Rates.” Includes people with HIV by year of their initial HIV diagnosis. Rates for Native Americans and multi-racial new diagnoses are not calculated due to small numbers.

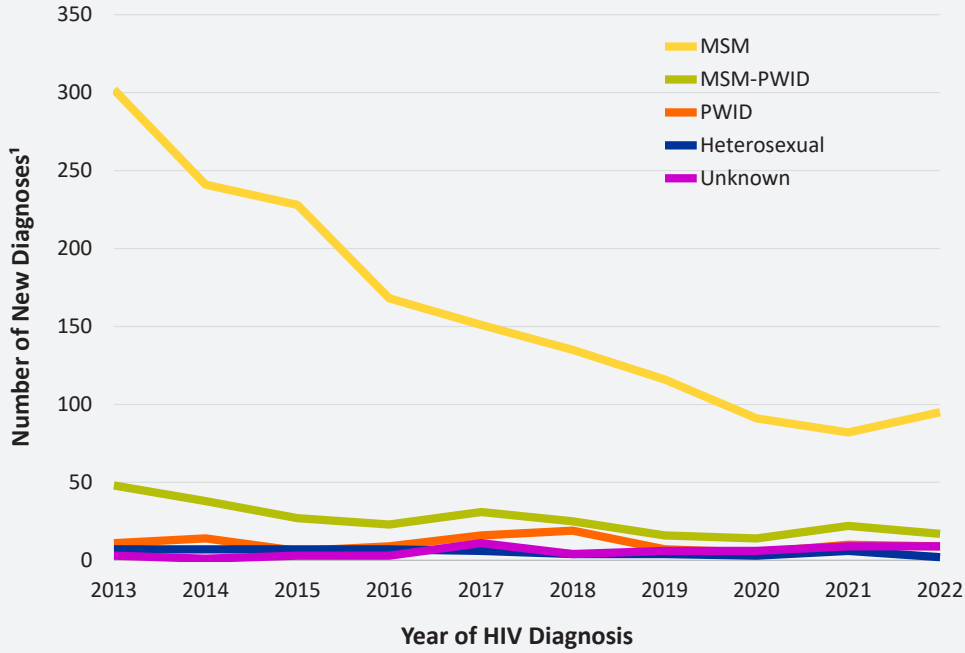
Figure 2.3 Annual rates¹ of cis women diagnosed with HIV per 100,000 population by race/ethnicity, 2013-2022, San Francisco



¹ See Technical Notes “HIV Case Rates and HIV Mortality Rates.” Includes people with HIV by year of their initial HIV diagnosis. Rates for Native Americans and multi-racial new diagnoses are not calculated due to small numbers.

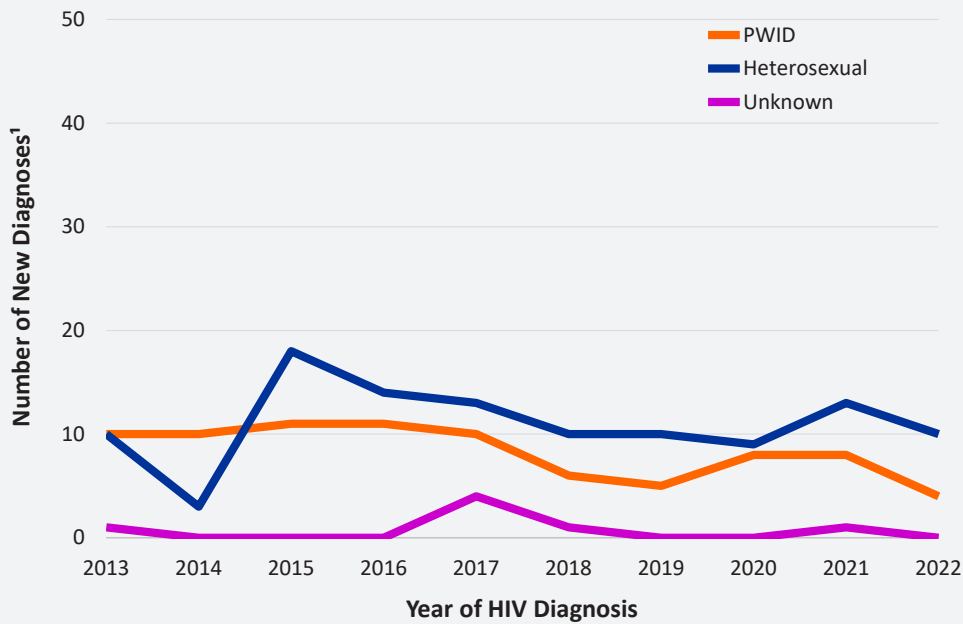
Transmission category

Figure 2.4 Number of cis men diagnosed with HIV by transmission category, 2013-2022, San Francisco



1 Includes people with HIV by year of their initial HIV diagnosis.

Figure 2.5 Number of cis women diagnosed with HIV by transmission category, 2013-2022, San Francisco



1 Includes people with HIV by year of their initial HIV diagnosis.

Table 2.1 Number of people diagnosed with HIV by gender¹ and age at diagnosis, 2018-2022, San Francisco

		Year of Initial HIV Diagnosis ²				
		2018	2019	2020	2021	2022
		Number (%)				
Cis Men (Age in years)	0 - 12	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
	13 - 17	1 (1)	0 (0)	0 (0)	0 (0)	0 (0)
	18 - 24	30 (16)	14 (9)	19 (16)	11 (9)	18 (14)
	25 - 29	42 (22)	27 (18)	20 (17)	21 (16)	27 (20)
	30 - 39	54 (29)	53 (36)	36 (30)	46 (36)	39 (30)
	40 - 49	39 (21)	25 (17)	21 (18)	26 (20)	28 (21)
	50+	21 (11)	30 (20)	23 (19)	25 (19)	20 (15)
	Cis Men Total	187	149	119	129	132
Cis Women (Age in years)	0 - 12	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
	13 - 17	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
	18 - 24	2 (12)	2 (13)	0 (0)	1 (5)	1 (7)
	25 - 29	0 (0)	0 (0)	3 (18)	7 (32)	2 (14)
	30 - 39	7 (41)	7 (47)	5 (29)	6 (27)	4 (29)
	40 - 49	3 (18)	3 (20)	4 (24)	3 (14)	4 (29)
	50+	5 (29)	3 (20)	5 (29)	5 (23)	3 (21)
	Cis Women Total	17	15	17	22	14

1 Data on trans women and trans men by age are not presented due to small numbers and small population size.

2 See Technical Notes "Date of Initial HIV Diagnosis."

People diagnosed with HIV disease stage 0

Table 2.2 Stage of HIV disease at diagnosis among people diagnosed with HIV, 2018-2022, San Francisco

		New Diagnoses ¹	Stage at Diagnosis ²		
			Stage 0	Stage 1-3	Unknown
		Number (row % of new diagnoses)			
Total		1,007	234 (23)	717 (71)	56 (6)
Year of HIV Diagnosis	2018	241	74 (31)	149 (62)	18 (7)
	2019	209	47 (22)	154 (74)	8 (4)
	2020	155	41 (26)	110 (71)	4 (3)
	2021	189	41 (22)	134 (71)	14 (7)
	2022	213	31 (15)	170 (80)	12 (6)
Gender ³	Cis Men	846	190 (22)	608 (72)	48 (6)
	Cis Women	96	19 (20)	72 (75)	5 (5)
	Trans Women	59	21 (36)	35 (59)	3 (5)
Race/Ethnicity	White	298	75 (25)	205 (69)	18 (6)
	Black/African American	156	39 (25)	104 (67)	13 (8)
	Latinx	403	95 (24)	291 (72)	17 (4)
	Asian/Pacific Islander	119	17 (14)	97 (82)	5 (4)
	Other/Unknown	31	8 (26)	20 (65)	3 (10)
Age at HIV Diagnosis (years)	13-24	96	31 (32)	62 (65)	3 (3)
	25-29	181	47 (26)	121 (67)	13 (7)
	30-39	356	90 (25)	242 (68)	24 (7)
	40-49	212	37 (17)	166 (78)	9 (4)
	50+	162	29 (18)	126 (78)	7 (4)
Transmission Category	MSM	641	149 (23)	462 (72)	30 (5)
	PWID	84	18 (21)	58 (69)	8 (10)
	MSM-PWID	94	31 (33)	56 (60)	7 (7)
	Heterosexual	86	13 (15)	69 (80)	4 (5)
	Other/Unidentified ⁴	102	23 (23)	72 (71)	7 (7)

1 Includes people diagnosed in the time period based on a confirmed laboratory HIV test regardless of whether they had an earlier self-report of HIV positive date.

2 The surveillance case definition includes five HIV stages at diagnosis. See Technical Notes “Stage of Disease at HIV Diagnosis.”

3 Data on trans men are not released separately due to small numbers. See Technical Notes “Gender Status.”

4 Includes TWSM, TWSM-PWID and people with no identified risk factor.

People diagnosed with late-stage HIV disease

Table 2.3 Late diagnoses among people diagnosed with HIV by demographic and risk characteristics, 2018-2022, San Francisco

		Year of Diagnosis ¹				
		2018	2019	2020	2021	2022
		Number of new diagnoses (% who had a late diagnosis ²)				
Total		241 (17)	209 (16)	155 (17)	189 (15)	213 (14)
Gender³	Cis Men	210 (17)	176 (16)	127 (19)	150 (15)	183 (14)
	Cis Women	21 (24)	17 (12)	17 (12)	23 (13)	18 (17)
	Trans Women	9 (0)	14 (21)	10 (10)	15 (13)	11 (0)
Race/Ethnicity	White	71 (15)	67 (12)	43 (23)	64 (14)	53 (17)
	Black/African American	42 (7)	33 (21)	28 (11)	28 (14)	25 (12)
	Latinx	95 (17)	73 (8)	63 (16)	66 (14)	106 (12)
	Asian/Pacific Islander	26 (27)	28 (36)	17 (18)	24 (21)	24 (17)
	Other/Unknown	7 (43)	8 (25)	4 (25)	7 (14)	5 (0)
Age at HIV Diagnosis (Years)	13-24	30 (7)	15 (13)	18 (11)	12 (0)	21 (10)
	25-29	44 (20)	33 (6)	24 (8)	33 (12)	47 (9)
	30-39	85 (11)	82 (16)	51 (20)	71 (8)	67 (10)
	40-49	51 (18)	41 (12)	32 (13)	40 (25)	48 (17)
	50+	31 (35)	38 (29)	30 (30)	33 (24)	30 (27)
Transmission Category⁴	MSM	158 (17)	137 (13)	97 (18)	105 (17)	144 (13)
	PWID	25 (16)	14 (29)	15 (13)	17 (24)	13 (31)
	MSM-PWID	24 (8)	17 (12)	15 (20)	21 (0)	17 (12)
	Heterosexual	17 (29)	19 (21)	12 (8)	21 (14)	17 (12)
	Other/Unidentified	17 (12)	22 (23)	16 (25)	25 (12)	22 (14)
Housing Status	Homeless	53 (15)	42 (19)	30 (13)	41 (10)	32 (13)
	Housed	181 (18)	163 (15)	122 (19)	144 (17)	178 (13)
	Unknown	7 (0)	4 (0)	3 (0)	4 (0)	3 (33)
Country of Birth	US	114 (11)	78 (15)	72 (17)	91 (20)	79 (16)
	Non-US	91 (23)	72 (15)	48 (21)	56 (13)	95 (11)
	Unknown	36 (19)	59 (17)	35 (14)	42 (7)	39 (15)

1 Date of HIV diagnosis is based on a confirmed laboratory HIV test and does not take into account self-report of HIV infection.

2 Percent of people with new diagnoses in the year who developed AIDS within 3 months of HIV diagnosis.

3 Data on trans men are not released separately due to small numbers. See Technical Notes "Gender Status."

4 Heterosexual includes heterosexual and female presumed heterosexual. Other/Unidentified includes TWSM, TWSM-PWID and persons with no identified risk factor.

3

Spectrum of Engagement in HIV Prevention and Care

During the five-year period, 2018 through 2022, the proportion of newly diagnosed people who entered care within one month of diagnosis remained high (90% or higher; Figure 3.1). Not all people who entered care continued to receive care; 65%-72% of people remained in care three to nine months after initial linkage to care. The proportion of newly diagnosed people who achieved viral suppression within six months and 12 months of diagnosis was 75% or higher and 80% or higher, respectively.


Using data through the end of 2022, there were 14,643 PLWH who were diagnosed through December 31, 2021 and who resided in San Francisco at time of diagnosis. Of these, 68% received care, 45% were retained in care, and 63% were virally suppressed in 2022 (Figure 3.2). Of the 11,586 PLWH who resided in San Francisco based on their most recent address, 79% received care, 52% were retained in care, and 73% were virally suppressed in 2022.

Among all PLWH (including those unaware of their HIV status, see Technical Notes “People Living with HIV”), it is estimated that 97% were aware of their HIV diagnosis, 77% received care, 51% were retained in care, and 71% were virally suppressed in 2022 (Figure 3.3).

Care outcomes among people diagnosed with HIV were consistent in the 2018 to 2022 time period (Table 3.1). This includes the proportion of late-stage HIV diagnosis within three months of initial HIV diagnosis, the proportion of linked to care within one month of diagnosis, the proportion virally suppressed within 12 months of diagnosis, and the median time from HIV diagnosis to viral suppression. Notably, the median number of days from HIV diagnosis to first care was one day and the median time from first care to ART initiation was zero days in each time period. Among people diagnosed with HIV in 2021, cis women, PWID, and people experiencing homelessness (PEH) at diagnosis had the poorest outcomes on all three care indicators (linkage to care, retention in care, and viral suppression) (Table 3.2). In 2022, trans women and Black/African Americans had lower rates of linkage within one month and viral suppression within 6 months (Table 3.3); however, these percentages must be interpreted with caution due to small numbers. In both 2021 and 2022, MSM, including MSM-PWID had the highest rate of linkage to care within one month at 90% or greater.

Among PLWH who were San Francisco residents as of the end of 2022, approximately three-quarters (73%) were virally suppressed; among those who received care in 2022, 93% were virally suppressed (Table 3.4). The proportion virally suppressed was lower among cis women, trans women, Black/African Americans, people aged 30-39 years, PWID (including MSM-PWID and TWSM-PWID), heterosexuals, and PEH.

During 2021, 81 PLWH were enrolled in and ultimately received assistance through the SFDPH-run Linkage, Integration, Navigation and Comprehensive Services program (LINCS; Table 3.5). This number was comparable to the 2020 total (N=84) and lower than the 2019 total (N=141) due to the COVID-19 pandemic’s effects on staffing levels and locating efforts. Overall, 75% of these 81 clients linked to care within three months of LINCS initiation, 49% were retained in care, and 64% showed evidence of viral suppression at most recent test within 12 months after LINCS enrollment. The retention and viral suppression totals were also lower when compared to 2019, which may be partially attributable to pandemic-related disruptions in care availability. Some notable disparities were seen: LINCS clients experiencing homelessness at intake were less likely to reach viral suppression - only about half (57%) were suppressed at most recent test in the period, versus 74% of clients who were housed. PWID, including MSM-PWID, had the lowest rate of viral suppression by transmission category at 46% and 55%, respectively.



San Francisco exceeded the California and United States metrics on all HIV prevention and care indicators (Table 3.6). Notably, 76% of people with an indication for PrEP were on PrEP in San Francisco compared to 30% for California and nationally. San Francisco is making progress towards the 95-95-95 UNAIDS goal (95% of PLWH know their HIV status, 95% of those who know their status on ART, and 95% of those on ART virally suppressed) for awareness of HIV status at 97% aware. Estimates of ART use also approached or exceeded the 95% target: an estimated 92%-99% of PLWH as of December 2022 and those newly diagnosed in 2021 received ART (Table 3.7).

Overall and among people diagnosed with HIV during 2017 through 2021, the time from HIV diagnosis to ART initiation declined but differed by socio-demographic characteristics (Table 3.8). This was also true for the median time from HIV diagnosis to viral suppression (Figure 3.4).

Using a measure called cumulative viral load to quantify the mean percent time spent above three viral thresholds (>200 copies/mL, >1,500 copies/mL, and >10,000 copies/mL) during the 12 months after HIV diagnosis (See Technical Notes “Cumulative Viral Load”), there was a downward trend indicating a reduction in the cumulative viral load from the year 2012 to 2021 (Figure 3.5). Decreases in viremic levels over time suggests an overall trend towards early diagnosis and linkage to treatment among persons newly diagnosed with HIV, which may contribute to reduced HIV transmission and lower HIV incidence. The mean percent time spent >200 copies/mL during the 12 months after HIV diagnosis was relatively stable from 2017 to 2021. In the most recent year of data, PWID (including MSM-PWID) and PEH spent a longer percent time viremic compared to MSM and housed persons, respectively (Figure 3.6).

Among 15,537 PLWH in 2022 who resided in San Francisco at time of diagnosis, 68% were known to receive HIV care in 2022 (49% received care in San Francisco, 19% received care outside of San Francisco) and 32% did not receive HIV care (Figure 3.7). Of the 32% not known to be in care, 12% had a current San Francisco address and represent a high priority population for re-engagement into care. Of the 11,579 PLWH who received care in San Francisco in 2022, 34% were originally diagnosed elsewhere and 22% currently reside outside of San Francisco (Figure 3.8). The majority of these 11,579 people were cis men, White, over 50 years old, and MSM (Table 3.9).

Figure 3.9 includes four major laboratories with complete reporting of positive and negative screening tests (HIV-1/2 Antigen/Antibody 4th generation and pooled HIV RNA tests) conducted within San Francisco. Two of these laboratories (SFDPH and Zuckerberg San Francisco General) represent screening conducted within the San Francisco Health Network, as well as by municipal counseling and testing sites. Point-of-care tests, which are not conducted by laboratories, are not included in these data.

HIV screening dropped markedly during the San Francisco shelter-in-place order (Figure 3.9). The lowest monthly screening total was in April 2020, 62% lower than the 2019 monthly average. From March 2020 onward, monthly screening test totals remained below the 2019 average, increasing notably in March 2021 and finally exceeding the 2019 average in July 2021 by 3%. This increase in HIV testing corresponds with a decrease in COVID-19 test positivity and the rollout of COVID-19 vaccines to the general public. Monthly HIV screening test totals have generally remained near or above the 2019 average since March 2021, with a slight but noticeable dip (11%) in January 2022 corresponding with the surge of the Omicron variant.



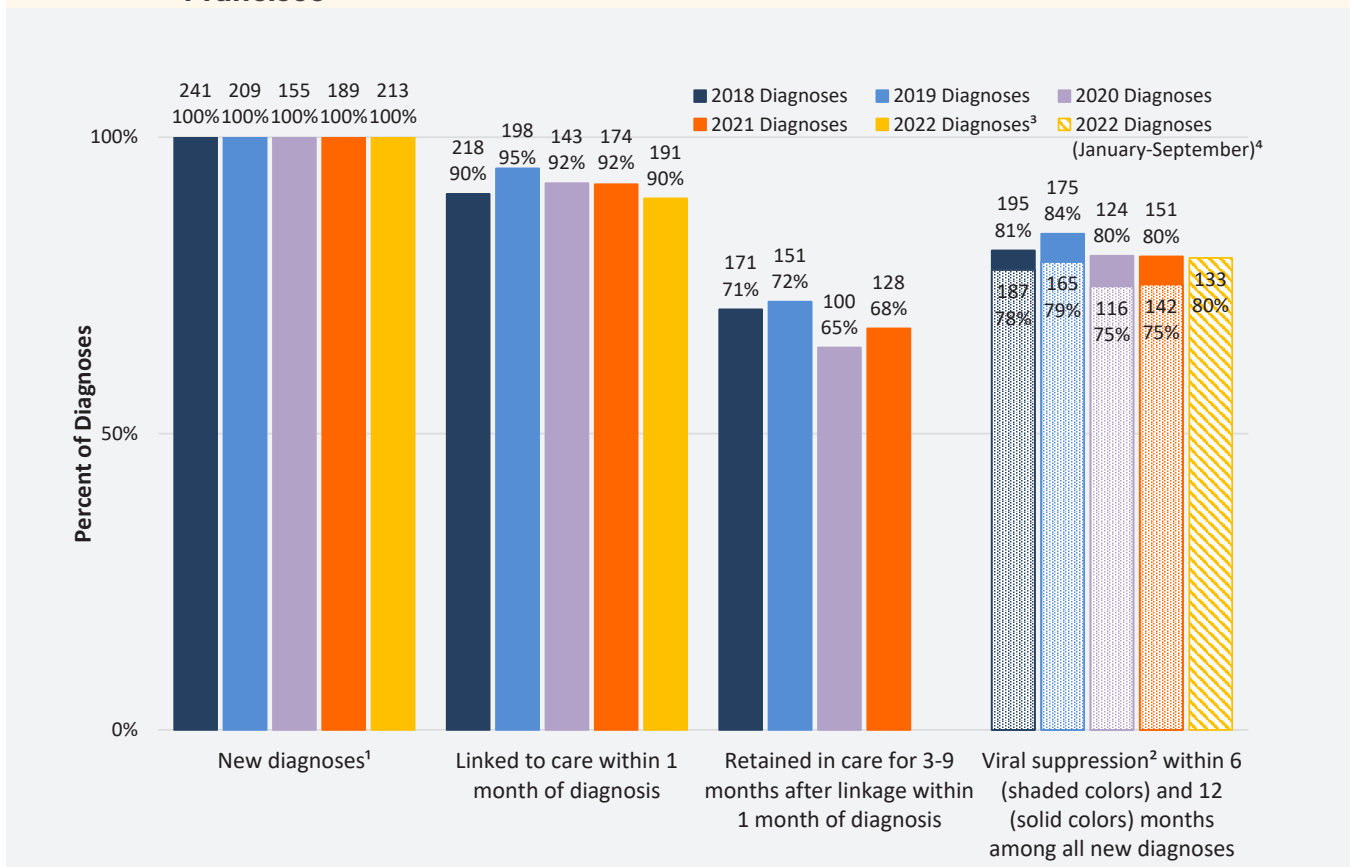
The San Franciscan HIV/STI Home Testing Program (Take Me Home) launched in March 2020 to offer HIV/STI home test kits online and deliver them to San Francisco residents (see Technical Notes “San Francisco HIV/STI Home Testing Program”).

Compared to 2021, the number of test kit orders doubled, and the specimen return rates improved in 2022 (Table 3.10). In both 2021 and 2022, most people who ordered the HIV/STI home test kits were men and reported more than three sex partners in the past 12 months. In 2021, the specimen return rate was higher among men, Whites, people aged 13-29 years, and people who had one sex partner in the past 12 months. In 2022, the specimen return rate was higher among women, Whites, people aged 50-59 years, and people who had more than three partners in the past 12 months.

In 2022, of 295 individuals who returned at least one sample for chlamydia and gonorrhea testing, 14 (5%) had at least one anatomic site that tested positive for chlamydia and 11 (79%) were confirmed to have been treated; 15 (5%) had at least one anatomic site that tested positive for gonorrhea and 11 (73%) were confirmed to have been treated (data not shown). Overall, among individuals who returned at least one specimen in 2022, 31 (11%) were found to have gonorrhea, chlamydia, syphilis and/or HIV, and no new HCV cases were identified.

Continuum of HIV care among people newly diagnosed with HIV

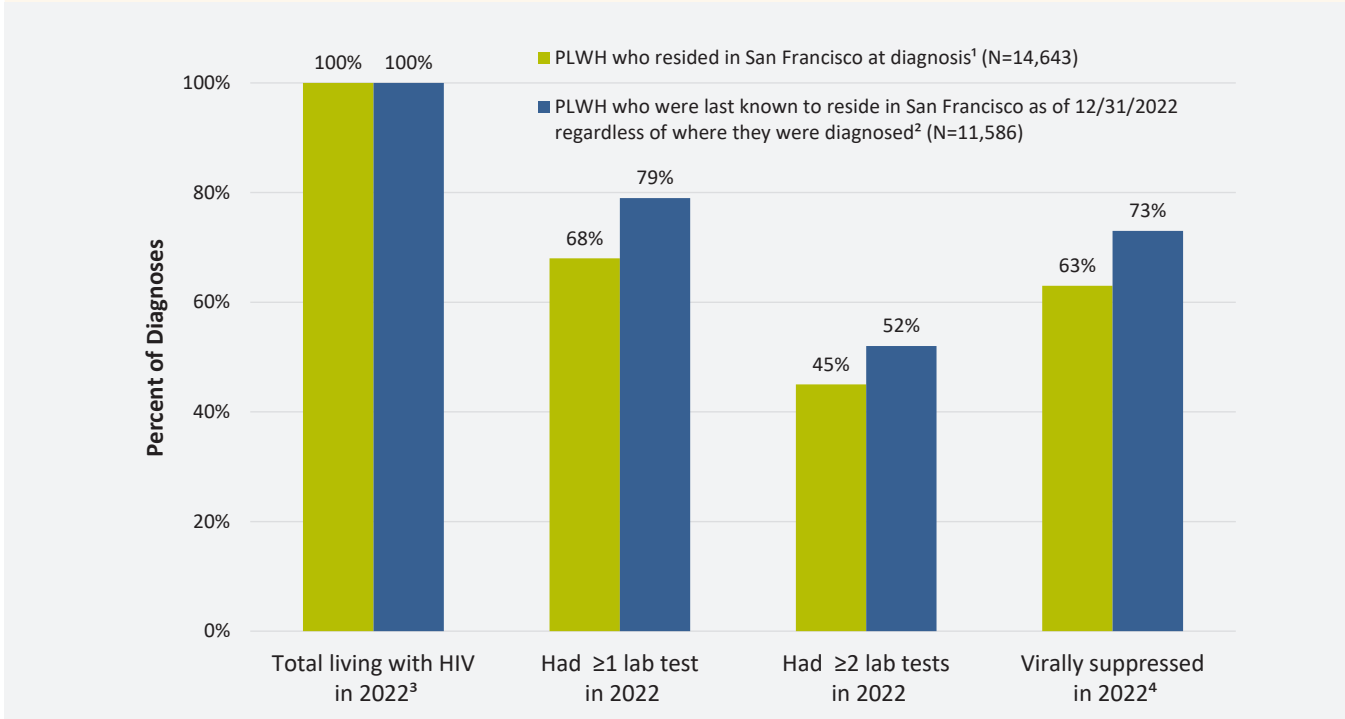
Figure 3.1 Continuum of HIV care among people diagnosed with HIV, 2018-2022, San Francisco



1 Number of new diagnoses shown each year is based on evidence of a confirmed HIV test and does not take into account self-report of HIV infection.
 2 Defined as the latest viral load test within 6 and 12 months of HIV diagnosis <200 copies/mL. See Technical Notes “HIV Care Outcomes and Definitions.”
 3 Retention in care and viral suppression data are not available yet for the entire year of 2022.
 4 People who were diagnosed between January and September 2022 (N=167) and virally suppressed within 6 months of HIV diagnosis.

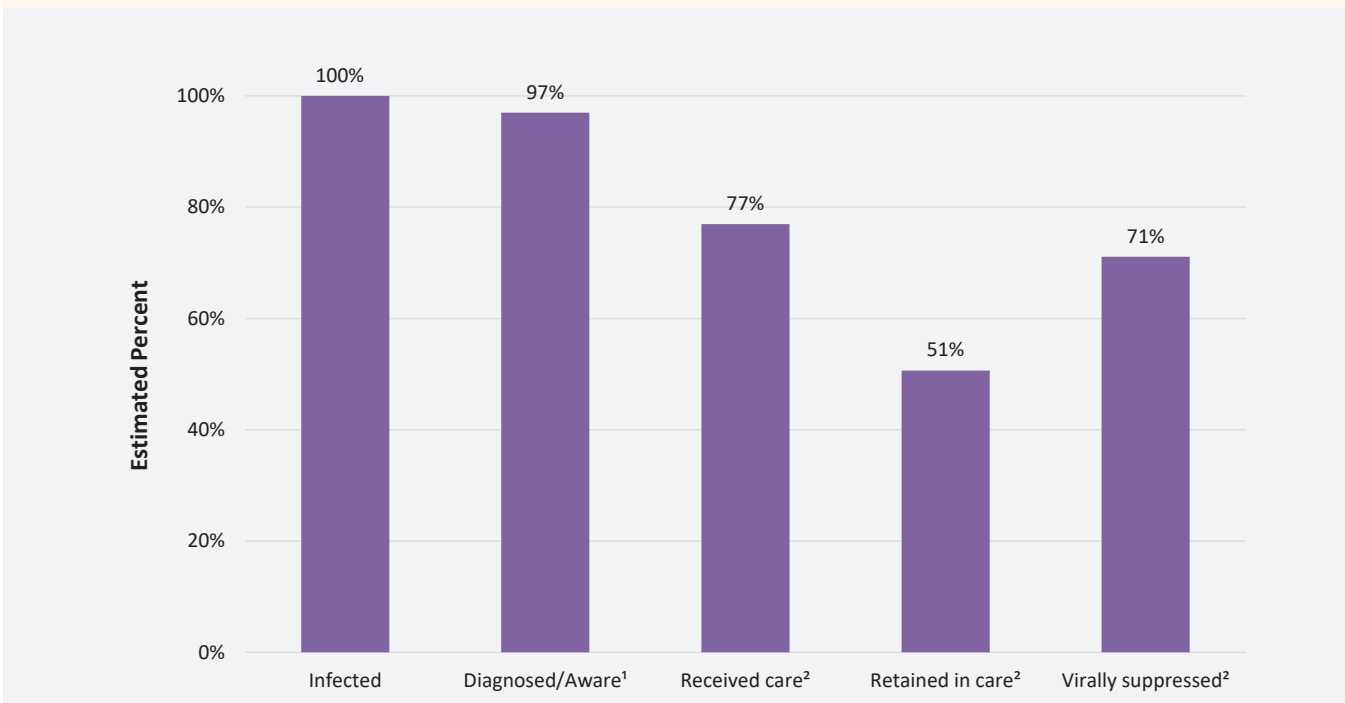
Continuum of HIV care among people living with HIV

Figure 3.2 Continuum of HIV care among people living with HIV, 2022, San Francisco



- 1 Excludes people who were non-San Francisco residents at time of HIV diagnosis but San Francisco residents at HIV stage 3 (AIDS) diagnosis.
- 2 See Technical Notes “Residence and Receipt of Care for PLWH.”
- 3 Includes people living with HIV at the end of 2022 (≥ 13 years old) and diagnosed by the end of 2021.
- 4 Defined as the latest viral load in 2022 <200 copies/mL.

Figure 3.3 Continuum of HIV care among people living with diagnosed or undiagnosed HIV infection, 2022, San Francisco



- 1 The estimated percent aware of HIV diagnosis for San Francisco was based on 2021 and derived from the CD4 depletion model. See Technical Notes “CD4-based Model.”
- 2 The estimated percent received care, retained in care, and virally suppressed among all PLWH (diagnosed and undiagnosed) was derived by applying the 97% diagnosed/aware to the 79% who had ≥1 lab tests, 52% who had ≥2 lab tests, and 73% who were virally suppressed among people living with diagnosed HIV who were last known to reside in San Francisco as shown in Figure 3.2, respectively.

Trends in HIV care and prevention indicators

Table 3.1 Care and prevention indicators among people newly diagnosed with HIV and living with HIV, 2018-2022, San Francisco

		Year				
		2018	2019	2020	2021	2022
Indicators	New HIV diagnoses¹	N=241	N=209	N=155	N=189	N=213
	Proportion developed HIV stage 3 (AIDS) within 3 months of diagnosis	17%	16%	17%	15%	14%
	Proportion linked to care within 1 month of diagnosis	90%	95%	92%	92%	90%
	Proportion virally suppressed ² within 12 months of diagnosis	81%	84%	80%	80%	NA
	Median time (days) from HIV diagnosis to first viral suppression	46	42	47	42	NA
	Median time (days) from HIV diagnosis to first care	1	1	1	1	NA
	Median time (days) from first care to ART initiation ³	0	0	0	0	NA
	Median time (days) from ART initiation to first viral suppression ³	37	37	42	35	NA
	People living with HIV⁴ (≥13 years old)	N=12,437	N=12,279	N=12,012	N=11,679	N=11,586
	Proportion of cases who had ≥1 CD4/viral load test	81%	81%	77%	79%	79%
Proportion received ≥2 tests among those with ≥1 test	72%	72%	61%	67%	66%	
Proportion virally suppressed ² among living cases	74%	75%	71%	72%	73%	
Proportion virally suppressed among those with ≥1 viral load test	93%	93%	94%	94%	94%	

1 Includes people diagnosed each year based on a confirmed HIV test and does not take into account self-report of HIV infection.

2 Defined as the latest viral load test within 12 months of HIV diagnosis <200 copies/mL. Viral suppression among PLWH is measured using the latest test in the year.

3 Calculation is limited to people diagnosed with HIV who were known to have started ART. See Technical Notes “Estimate of ART Use.”

4 Includes PLWH who were alive and resided in San Francisco as of the end of each year and diagnosed as of the previous year. See Technical Notes “Residence and Receipt of Care for PLWH.”

Care indicators among people with HIV by demographic and risk characteristics

Table 3.2 Care indicators¹ among people diagnosed with HIV in 2021 by demographic and risk characteristics, San Francisco

		Number of diagnoses ²	% Linked to care within 1 month of diagnosis ³	% Retained in care 3-9 months after linkage ³	% Virally suppressed within 6 months of diagnosis ³	% Virally suppressed within 12 months of diagnosis ³
Total		189	92%	68%	75%	80%
Gender⁴	Cis Men	150	93%	69%	78%	84%
	Cis Women	23	87%	57%	61%	57%
	Trans Women	15	93%	73%	67%	73%
Race/Ethnicity	White	64	94%	63%	67%	78%
	Black/African American	28	86%	61%	79%	86%
	Latinx	66	94%	71%	85%	80%
	Asian/Pacific Islander	24	88%	75%	67%	79%
	Other/Unknown	7	100%	86%	71%	71%
Age at Diagnosis (Years)	13-24	12	92%	67%	92%	100%
	25-29	33	91%	67%	70%	79%
	30-39	71	93%	69%	77%	73%
	40-49	40	95%	73%	70%	85%
	50+	33	88%	61%	76%	82%
Transmission Category⁵	MSM	105	96%	70%	85%	89%
	PWID	17	88%	47%	41%	53%
	MSM-PWID	21	90%	76%	67%	76%
	Heterosexual	21	86%	71%	71%	76%
	Other/Unidentified	25	84%	64%	68%	68%
Housing Status at Diagnosis	Homeless	41	90%	54%	56%	63%
	Housed	144	92%	72%	80%	84%
	Unknown	4	100%	75%	100%	100%
Country of Birth	US	91	96%	66%	68%	78%
	Non-US	56	89%	77%	88%	84%
	Unknown	42	88%	60%	74%	79%

1 See Technical Notes “HIV Care Outcomes and Definitions.”

2 Includes people diagnosed in 2021 based on a confirmed HIV test and does not take into account self-report of HIV infection.

3 Percent of total diagnoses.

4 Data on trans men are not released separately due to small numbers. See Technical Notes “Gender Status.”

5 Heterosexual includes female presumed heterosexual. Other/Unidentified includes TWSM, TWSM-PWID and people with no identified risk factor.

Table 3.3 Care indicators¹ among people diagnosed with HIV in 2022 by demographic and risk characteristics, San Francisco

		Number of diagnoses ²	% Linked to care within 1 month of diagnosis ³	% Virally suppressed within 6 months of diagnosis among people diagnosed in January-September 2022 (N=167)
Total		213	90%	80%
Gender⁴	Cis Men	183	93%	81%
	Cis Women	18	72%	94%
	Trans Women	11	64%	45%
Race/Ethnicity	White	53	89%	71%
	Black/African American	25	72%	60%
	Latinx	106	94%	88%
	Asian/Pacific Islander	24	92%	89%
	Other/Unknown	5	80%	67%
Age at Diagnosis (Years)	13-24	21	86%	70%
	25-29	47	96%	84%
	30-39	67	88%	82%
	40-49	48	90%	73%
	50+	30	87%	81%
Transmission Category	MSM	144	93%	83%
	PWID	13	85%	82%
	MSM-PWID	17	94%	57%
	Heterosexual	17	82%	94%
	Other/Unidentified ⁵	22	73%	59%
Housing Status at Diagnosis	Homeless	32	75%	64%
	Housed	178	93%	83%
	Unknown	3	67%	0%
Country of Birth	US	79	87%	73%
	Non-US	95	94%	88%
	Unknown	39	85%	74%

1 See Technical Notes “HIV Care Outcomes and Definitions.” Retention in care and viral suppression data are not available yet for the entire year of 2022.

2 Includes people diagnosed in 2022 based on a confirmed HIV test and does not take into account self-report of HIV infection.

3 Percent of total diagnoses.

4 Data on trans men are not released separately due to small numbers. See Technical Notes “Gender Status.”

5 Other/Unidentified includes TWSM, TWSM-PWID and people with no identified risk factor.



Table 3.4 Care indicators among people living with HIV in 2022 who were known to reside in San Francisco as of December 2022, by demographic and risk characteristics

		Number of PLWH ¹	% with ≥ 1 laboratory test in 2022 ²	% with ≥ 2 laboratory tests in 2022 ²	% Virally suppressed (most recent viral load test in 2022 <200 copies/mL)	
					among all PLWH	among PLWH with ≥ 1 laboratory test in 2022
	Total	11,586	79%	52%	73%	93%
Gender³	Cis Men	10,458	79%	52%	74%	94%
	Cis Women	702	81%	54%	70%	86%
	Trans Women	416	84%	56%	72%	86%
Race/Ethnicity	White	5,820	81%	52%	76%	95%
	Black/African American	1,512	79%	54%	69%	87%
	Latinx	2,864	76%	51%	70%	92%
	Asian/Pacific Islander	854	77%	50%	73%	95%
	Other/Unknown	536	83%	53%	75%	91%
Age in Years (as of 12/31/2022)	13-24	46	83%	50%	76%	92%
	25-29	245	80%	51%	71%	90%
	30-39	1,518	77%	46%	67%	87%
	40-49	2,060	76%	46%	69%	90%
	50-59	3,478	78%	50%	73%	92%
	60-69	2,953	82%	56%	79%	96%
	70+	1,286	81%	62%	78%	96%
Transmission Category	MSM	8,272	79%	52%	75%	95%
	TWSM	258	86%	57%	78%	91%
	PWID	642	78%	52%	66%	84%
	MSM-PWID	1,503	80%	52%	70%	88%
	TWSM-PWID	154	80%	56%	64%	80%
	Heterosexual	549	78%	52%	70%	89%
	Other/Unidentified	208	60%	38%	52%	87%
Housing Status, Most Recent	Homeless	636	70%	42%	52%	74%
	Non-Homeless ⁴	10,950	80%	52%	75%	94%
Country of Birth	US	7,953	82%	54%	75%	92%
	Non-US	2,337	70%	47%	67%	95%
	Unknown	1,296	79%	49%	73%	92%

1 Includes San Francisco residents living with HIV as of the end of 2022 (≥13 years old) and diagnosed by the end of 2021. See Technical Notes “Residence and Receipt of Care for PLWH.”

2 Percent of total PLWH.

3 Data on trans men are not released separately due to small numbers. See Technical Notes “Gender Status.”

4 Includes people whose most recent residence in San Francisco was unknown.

Table 3.5 Care indicators among people who accepted and completed LINC services in 2021 by demographic and risk characteristics, San Francisco

		Number who received LINC services	% Linked to care within 3 months of LINC initiation ¹	% Retained in care 3-9 months after linkage ¹	% Virally suppressed at most recent test in 12 months after LINC initiation ¹
Total		81	75%	49%	64%
Gender²	Cis Men	63	76%	49%	65%
	Cis Women	12	75%	58%	42%
	Trans Women	6	67%	33%	100%
Race/Ethnicity	White	26	81%	62%	58%
	Black/African American	17	76%	35%	71%
	Latinx	28	75%	46%	68%
	Asian/Pacific Islander	5	60%	40%	60%
	Other/Unknown	5	60%	60%	60%
Age in Years (as of 12/31/2021)	13-24	3	33%	0%	67%
	25-29	10	60%	30%	70%
	30-39	22	77%	50%	68%
	40-49	26	81%	54%	50%
	50+	20	80%	60%	75%
Transmission Category	MSM	24	75%	42%	75%
	PWID	13	69%	46%	46%
	MSM-PWID	31	74%	48%	55%
	Heterosexual	6	83%	83%	67%
	Other/Unidentified ³	7	86%	57%	100%
Housing Status⁴	Homeless	46	72%	54%	57%
	Housed	35	80%	43%	74%

1 Percent of people who received LINC.

2 Data on trans men are not released separately due to small numbers. See Technical Notes “Gender Status.”

3 Includes TWSM, TWSM-PWID and people with no identified risk factor.

4 Housing status is based on the most recent residence at time of LINC initiation in 2021.

HIV prevention and care indicators in San Francisco, California and the United States

Table 3.6 Comparison of HIV prevention and care indicators for San Francisco, California, and the United States, 2021

		San Francisco 2021	California ¹ 2021	United States ¹ 2021
Indicators	Awareness of HIV status			
	Estimated % people living with HIV who know their serostatus	97%	88% ²	87% ²
	Pre-exposure prophylaxis coverage^{1,3}			
	Estimated % people with PrEP indications who have been prescribed PrEP	76%	30%	30%
	Late HIV diagnosis			
	% people diagnosed with AIDS within 3 months of HIV diagnosis	15%	21%	21%
	HIV care access and outcome			
	% newly diagnosed people linked to care within 1 month of HIV diagnosis	92%	83%	82%
	% newly diagnosed people virally suppressed within 6 months of HIV diagnosis	75%	68%	69%
	% PLWH who are in care (≥1 laboratory tests)	79%	75%	75%
	% PLWH who are virally suppressed	72%	67%	66%
	HIV mortality			
Death rate per 1,000 people with HIV (all stages) diagnosis	17.3	15.5	18.0	
Death rate per 1,000 people with HIV stage 3 (AIDS) diagnosis	22.5	23.1	27.0	

1 CDC. Monitoring selected national HIV prevention and care objectives by using HIV surveillance data—United States and 6 dependent areas, 2021. HIV Surveillance Supplemental Report 2023; 28 (No. 4). <http://www.cdc.gov/hiv/library/reports/hiv-surveillance.html>. Published May 2023. Accessed June 12, 2023.

2 CDC. Estimated HIV incidence and prevalence in the United States, 2017–2021. HIV Surveillance Supplemental Report 2023; 28 (No. 3). <http://www.cdc.gov/hiv/library/reports/hiv-surveillance.html>. Published May 2023. Accessed June 13, 2023.

3 PrEP coverage, reported as a percentage, is defined as the number of people aged ≥16 years classified as having been prescribed PrEP during the specified year divided by the estimated number of people aged ≥16 years who had indications for PrEP during the specified year.

Use of antiretroviral therapy

Table 3.7 Estimate of ART use¹ among people living with HIV as of December 2022 and diagnosed in 2021 by demographic and risk characteristics, San Francisco

		People living with HIV ² , December 2022		People newly diagnosed with HIV, 2021
		Percent receiving ART, ever		Percent receiving ART
		Lower level estimate (N=14,634)	Upper level estimate (N=1,694)	(N=189)
Overall		92%	99%	92%
Gender³	Cis Men	92%	99%	94%
	Cis Women	92%	97%	87%
	Trans Women	92%	97%	80%
Race/Ethnicity	White	92%	99%	92%
	Black/African American	89%	99%	100%
	Latinx	92%	99%	97%
	Asian/Pacific Islander	90%	96%	75%
	Other/Unknown	89%	97%	71%
Age⁴	13 - 24	97%	100%	100%
	25 - 29	95%	97%	94%
	30 - 39	89%	95%	89%
	40 - 49	88%	99%	100%
	50 +	93%	99%	85%
Transmission Category	MSM	92%	99%	96%
	PWID	87%	97%	94%
	MSM-PWID	93%	99%	90%
	Heterosexual	94%	98%	86%
	Other/Unidentified ⁵	85%	96%	80%
Housing Status⁶	Homeless	80%	96%	88%
	Non-Homeless	92%	99%	93%
Insurance at Diagnosis	Private	95%	99%	93%
	Public	94%	99%	94%
	None	88%	99%	96%

1 See Technical Notes “Estimate of ART use.”

2 Includes people living with HIV at the end of 2022 and diagnosed by the end of 2021. Excludes people who did not reside in San Francisco at time of HIV diagnosis but resided in San Francisco at time of HIV stage 3 (AIDS) diagnosis.

3 Data on trans men are not released separately due to small numbers. See Technical Notes “Gender Status.”

4 Age as of December 31, 2022 for PLWH. Age at HIV diagnosis for people newly diagnosed with HIV.

5 Includes TWSM, TWSM-PWID and people with no identified risk factor.

6 Housing status is based on the most recent residence as of December 31, 2022 for PLWH and the residence at HIV diagnosis for people newly diagnosed with HIV. Non-homeless PLWH include people whose most recent residence was unknown or in other jurisdiction. Non-homeless people newly diagnosed with HIV include people whose residence at HIV diagnosis was unknown.



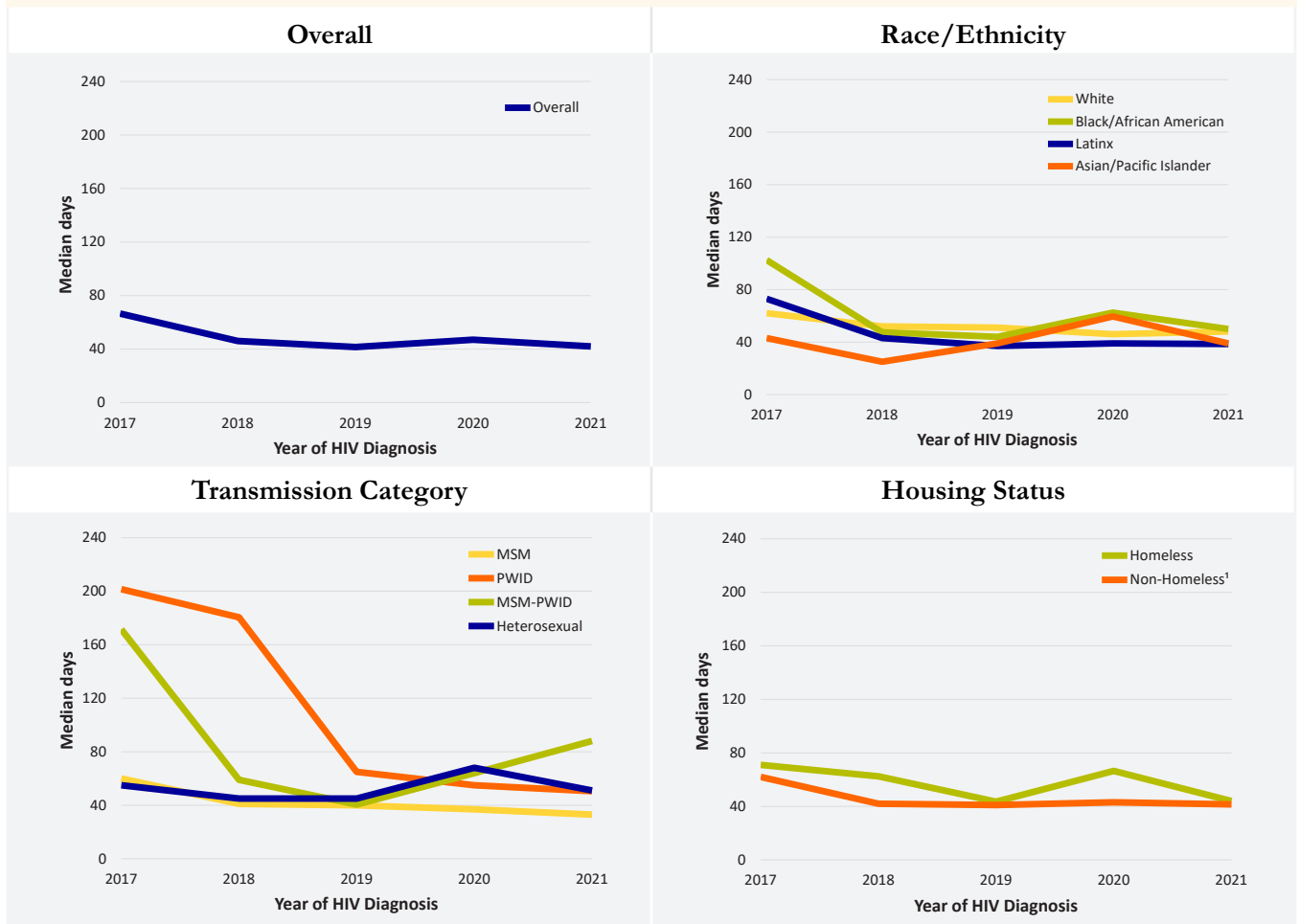
Table 3.8 Time from HIV diagnosis to ART initiation among people diagnosed with HIV by demographic and risk characteristics, 2017-2021, San Francisco

		Number of diagnoses ¹	% Started ART within 7 days of diagnosis (rapid ART initiation)	% Started ART 8-30 days after diagnosis	% Started ART > 30 days after diagnosis	% Not known to have started ART
Total		919	57%	22%	12%	9%
Year of Diagnosis²	2017	212	44%	27%	21%	8%
	2018	214	57%	23%	10%	10%
	2019	180	64%	19%	8%	8%
	2020	142	67%	15%	8%	11%
	2021	171	60%	23%	9%	8%
Gender³	Cis Men	770	58%	21%	11%	9%
	Cis Women	95	53%	22%	16%	9%
	Trans Women	49	57%	27%	6%	10%
Race/Ethnicity	White	297	51%	26%	12%	12%
	Black/African American	153	58%	21%	14%	7%
	Latinx	321	63%	21%	9%	7%
	Asian/Pacific Islander	108	58%	20%	12%	9%
	Other/Unknown	40	60%	13%	18%	10%
Age at Diagnosis	13-24	92	65%	21%	10%	4%
	25-29	154	58%	24%	10%	7%
	30-39	331	56%	21%	12%	11%
	40-49	189	55%	22%	15%	8%
	50+	153	58%	24%	7%	12%
Transmission Category⁴	MSM	558	60%	21%	11%	8%
	PWID	90	49%	14%	18%	19%
	MSM-PWID	104	57%	21%	14%	8%
	Heterosexual	83	57%	33%	6%	5%
	Other/Unidentified	84	54%	25%	12%	10%
Housing Status at Diagnosis	Homeless	175	53%	16%	14%	17%
	Housed	720	59%	23%	11%	7%
	Unknown	24	42%	38%	13%	8%
Country of Birth	US	438	62%	21%	10%	7%
	Non-US	261	60%	20%	12%	9%
	Unknown	220	45%	27%	14%	13%
Insurance at Diagnosis	Private	376	58%	21%	13%	8%
	Public	276	57%	28%	9%	6%
	None	205	62%	15%	12%	11%
	Unknown	62	39%	23%	16%	23%

1 Excludes people who were not in care (N=21) or people who reported taking ART prior to diagnosis (N=96).
 2 Year of diagnosis is based on a confirmed HIV test and does not take into account patient self-report of HIV infection.
 3 Data on trans men are not released separately due to small numbers. See Technical Notes “Gender Status.”
 4 Heterosexual includes female presumed heterosexual. Other/Unidentified includes TWSM, TWSM-PWID and people with no identified risk factor.

Trends in time from HIV diagnosis to viral suppression

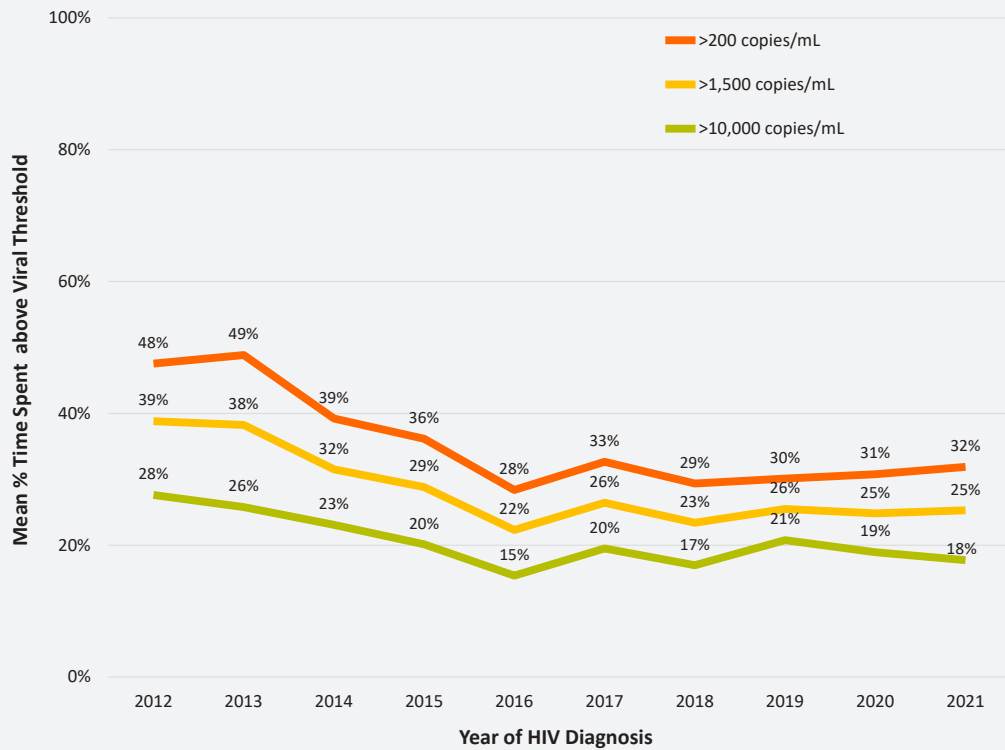
Figure 3.4 Trends in median time from HIV diagnosis to viral suppression by race/ethnicity, transmission category, and housing status, 2017-2021, San Francisco



1 Includes people whose addresses at diagnosis were unknown.

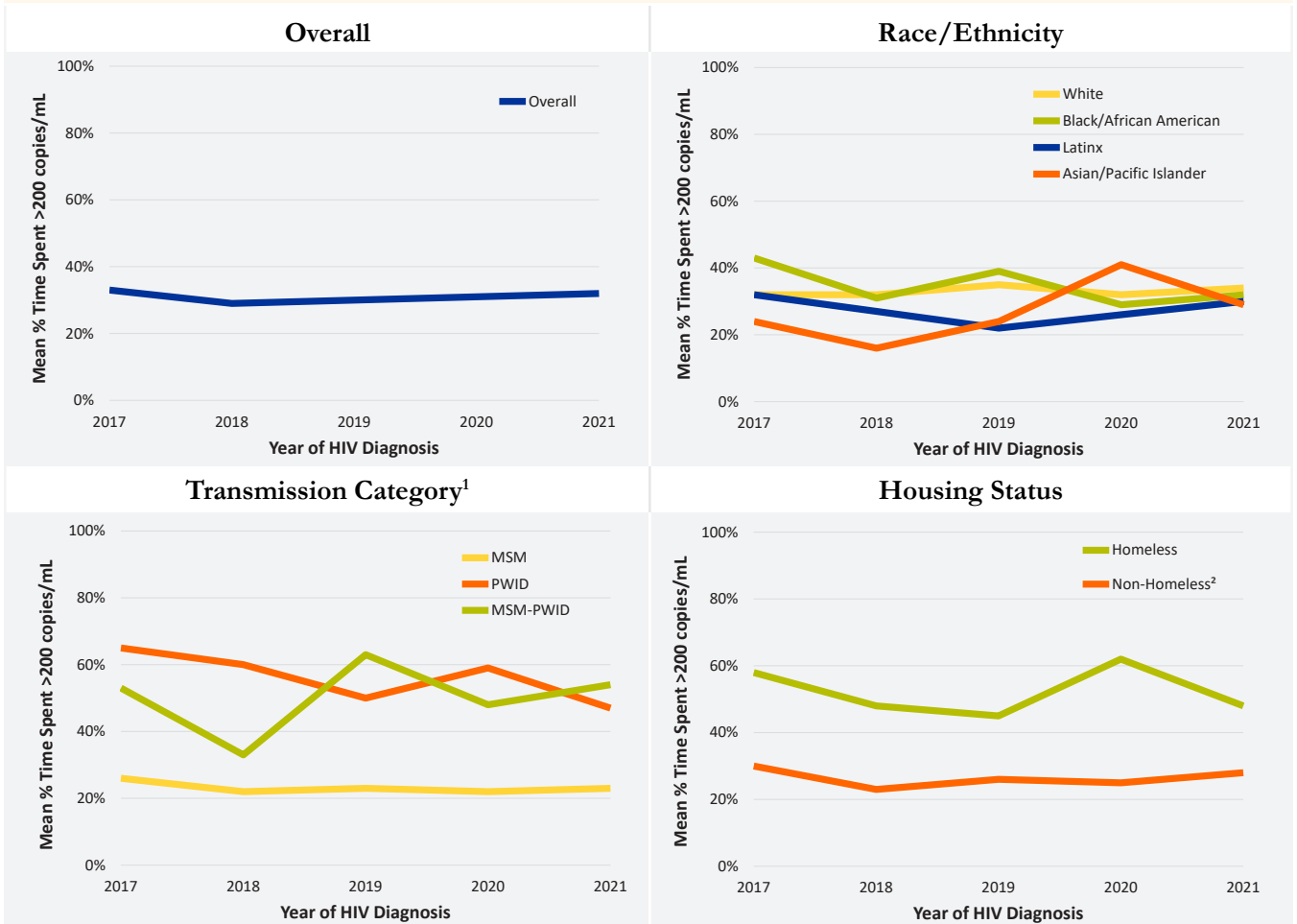
Trends in time spent viremic after HIV diagnosis

Figure 3.5 Trends in mean percent time spent above three viral thresholds¹ during the 12 months after HIV diagnosis, 2012-2021, San Francisco



¹ Note these three groups are not mutually exclusive. See Technical Notes “Cumulative Viral Load.”

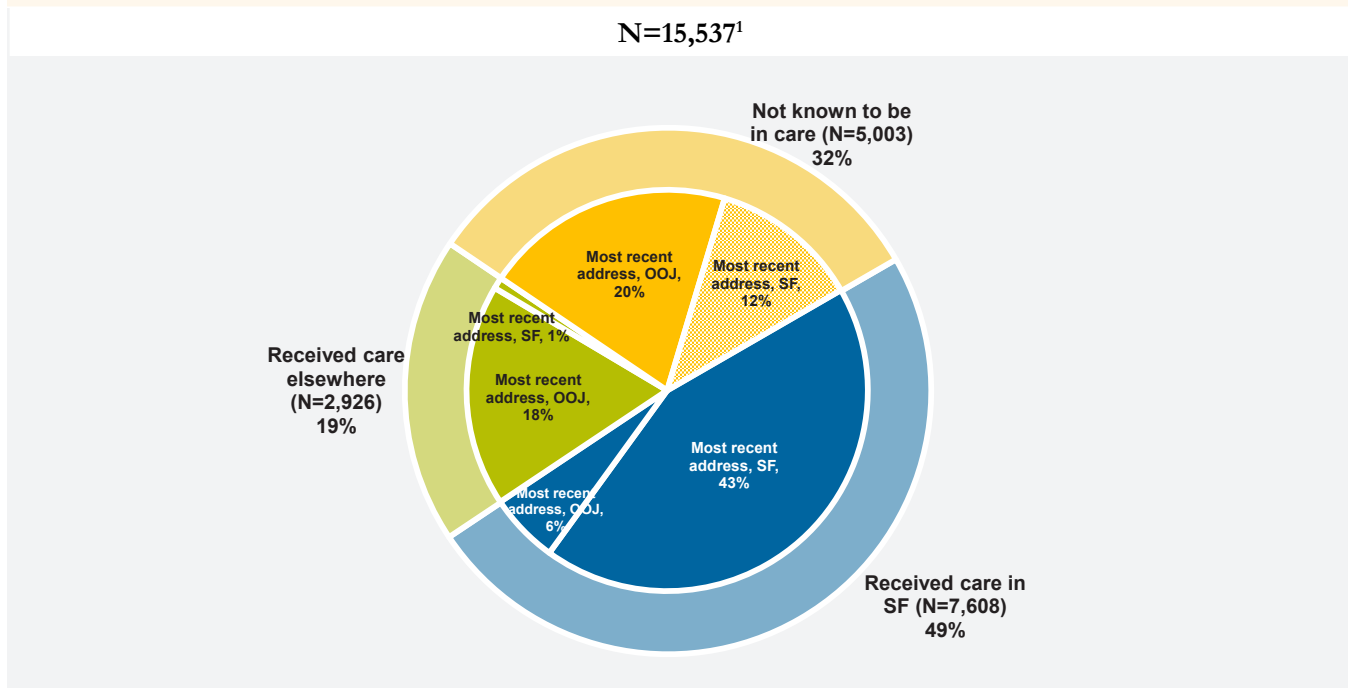
Figure 3.6 Trends in mean percent time spent >200 copies/mL during the 12 months after HIV diagnosis by race/ethnicity, transmission category, and housing status, 2017-2021, San Francisco



1 Data on heterosexuals are not displayed due to small numbers.
 2 Includes people whose addresses at diagnosis were unknown.

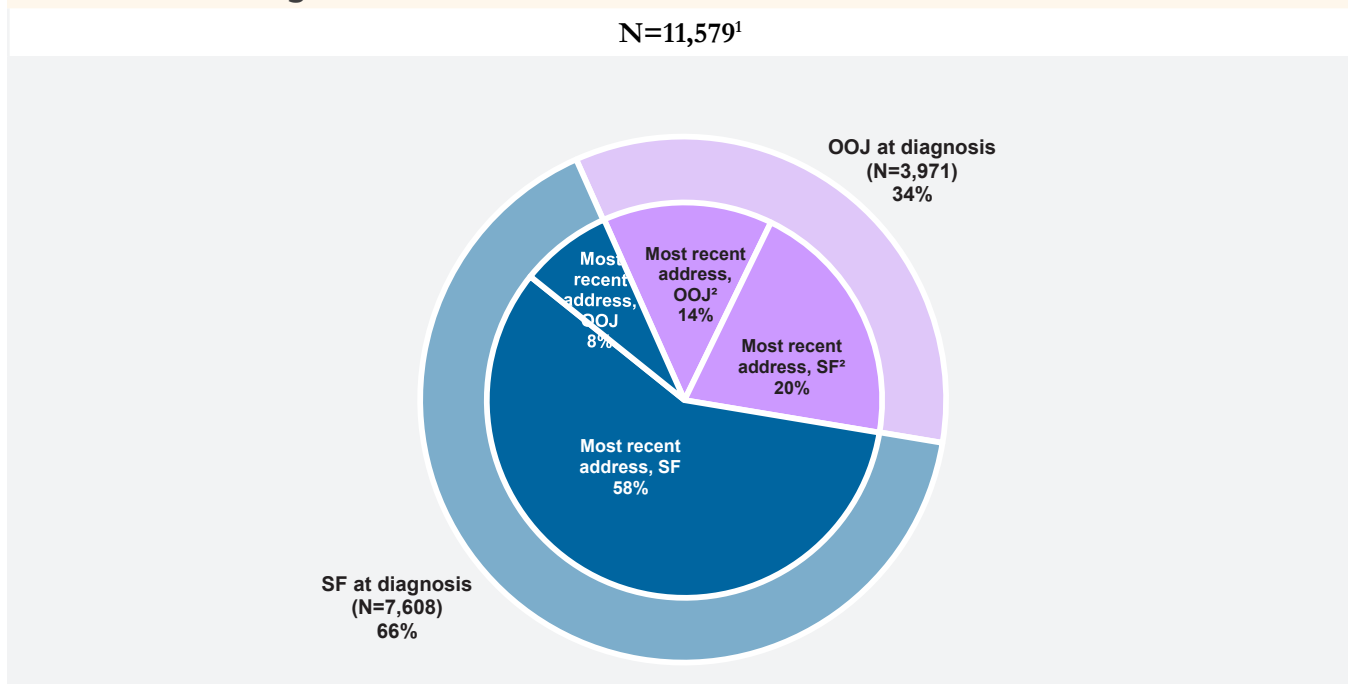
Receipt of HIV care among people living with HIV by residence status

Figure 3.7 People living with HIV in 2022 who resided in San Francisco at diagnosis by care and most recent residence status



¹ Includes people who resided in San Francisco at diagnosis and were alive as of December 2022. See Technical Notes “Residence and Receipt of Care for PLWH.”

Figure 3.8 People living with HIV who received care in San Francisco in 2022 by residence at diagnosis and most recent residence status



¹ Includes people who received HIV care in San Francisco in 2022 regardless of where they were initially diagnosed with HIV. Receipt of care in San Francisco is defined as having at least one CD4, viral load, or genotype test ordered by San Francisco HIV providers. See Technical Notes “Residence and Receipt of Care for PLWH.”

² Most recent address for OoJ residents at diagnosis is less complete because the update on their address information is not conducted regularly or consistently.

Table 3.9 Characteristics of people living with HIV who received care in San Francisco in 2022 by most recent residence status

		People receiving HIV care in San Francisco ¹		
		Total people receiving care in 2022	Most recent residence in San Francisco ²	Most recent residence outside San Francisco ²
		Number (%)		
Total		11,579 (100)	9,096 (100)	2,483 (100)
Gender³	Cis Men	10,378 (90)	8,158 (90)	2,220 (89)
	Cis Women	800 (7)	576 (6)	224 (9)
	Trans Women	388 (3)	353 (4)	35 (1)
Race/Ethnicity	White	5,852 (51)	4,586 (50)	1,266 (51)
	Black/African American	1,585 (14)	1,201 (13)	384 (15)
	Latinx	2,764 (24)	2,210 (24)	554 (22)
	Asian/Pacific Islander	818 (7)	657 (7)	161 (6)
	Other/Unknown	560 (5)	442 (5)	118 (5)
Age in Years (as of 12/31/2022)	0-12	0 (0)	0 (0)	0 (0)
	13-17	3 (<1)	0 (0)	3 (<1)
	18-24	84 (1)	54 (1)	30 (1)
	25-29	325 (3)	222 (2)	103 (4)
	30-39	1,572 (14)	1,194 (13)	378 (15)
	40-49	1,959 (17)	1,571 (17)	388 (16)
	50-59	3,326 (29)	2,675 (29)	651 (26)
	60-69	3,013 (26)	2,351 (26)	662 (27)
70+	1,297 (11)	1,029 (11)	268 (11)	
Transmission Category	MSM	8,346 (72)	6,482 (71)	1,864 (75)
	TWSM	255 (2)	227 (2)	28 (1)
	PWID	614 (5)	507 (6)	107 (4)
	MSM-PWID	1,379 (12)	1,195 (13)	184 (7)
	TWSM-PWID	129 (1)	123 (1)	6 (<1)
	Heterosexual ⁴	626 (5)	433 (5)	193 (8)
	Other/Unidentified	230 (2)	129 (1)	101 (4)

1 Includes people living with HIV at end of 2022 who received care in San Francisco in 2022 regardless of where they were initially diagnosed with HIV. Receipt of care in San Francisco is defined as having at least one CD4, viral load, or genotype test ordered by San Francisco HIV providers. See Technical Notes “Residence and Receipt of Care for PLWH.”

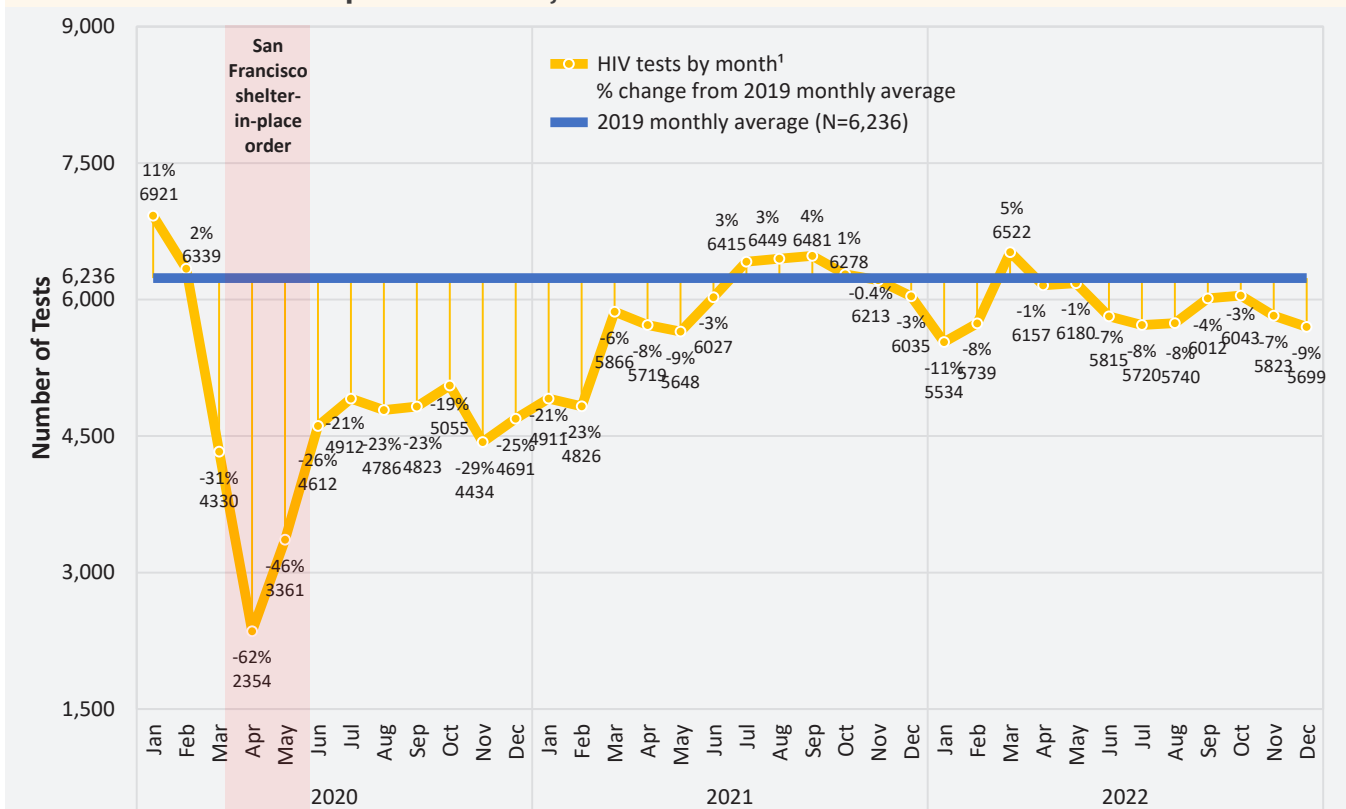
2 Based on most recent available address.

3 Data on trans men are not released separately due to small numbers. See Technical Notes “Gender Status.”

4 Includes female presumed heterosexual.

Impact of COVID-19 (SARS CoV-2) Pandemic on HIV testing

Figure 3.9 HIV screening tests at select medical facilities during January 2020 to December 2022 compared to 2019, San Francisco



1 Includes reporting of positive and negative HIV-1/2 Antigen/Antibody (4th generation) and pooled viral load test results from ZSFG, UCSF, SFDPH and CPMC laboratories. Data span to December 2022 for the purpose of tracking effects of the COVID-19 pandemic.

San Francisco HIV/STI Home Testing Program: Take Me Home

Table 3.10 Number of home test kits ordered and number of people who ordered the kits by select characteristics, Take Me Home, January 2021 - December 2022, San Francisco

		2021		2022	
		Orders/Test kits ¹	Returned Specimens ²	Orders/Test kits ¹	Returned Specimens ²
		Number	Number (Row %)	Number	Number (Row %)
Total Orders		249	117 (47)	621	325 (52)
Test Type	HIV OraQuick	8	--	0	--
	HIV	203	95 (47)	534	265 (50)
	Hepatitis C	183	84 (46)	270	135 (50)
	Chlamydia (3 Sites)	236	115 (49)	527	295 (56)
	Gonorrhea (3 Sites)	236	115 (49)	527	295 (56)
	Syphilis	208	97 (47)	475	239 (50)
		Unique Persons ³	Returned Specimens ²	Unique Persons ³	Returned Specimens ²
		Number (% of Total)	Number (Row %)	Number (% of Total)	Number (Row %)
Total		235	114 (49)	569	288 (51)
Sex at Birth	Male	205 (87)	103 (50)	416 (73)	207 (50)
	Female	30 (13)	11 (37)	153 (27)	81 (53)
Gender ⁴	Men	170 (72)	84 (49)	297 (52)	149 (50)
	Women	23 (10)	9 (39)	107 (19)	59 (55)
	Transgender	7 (3)	1 (14)	7 (1)	2 (29)
	Other	9 (4)	3 (33)	27 (5)	13 (48)
	Unknown	26 (11)	17 (65)	131 (23)	65 (50)
Race/Ethnicity	White	92 (39)	49 (53)	191 (34)	114 (60)
	Black/African American	17 (7)	6 (35)	30 (5)	10 (33)
	Latinx	45 (19)	22 (49)	79 (14)	28 (35)
	Asian/Pacific Islander	39 (17)	15 (38)	107 (19)	55 (51)
	Other/Unknown	42 (18)	22 (52)	162 (28)	81 (50)
Age in Years	13-24	28 (12)	17 (61)	91 (16)	47 (52)
	25-29	43 (18)	27 (63)	159 (28)	86 (54)
	30-39	97 (41)	46 (47)	175 (31)	86 (49)
	40-49	33 (14)	12 (36)	78 (14)	30 (38)
	50-59	23 (10)	6 (26)	55 (10)	35 (64)
	60+	11 (5)	6 (55)	11 (2)	4 (36)
Number of Sex Partners in Past 12 months	0	0 (0)	0 (0)	4 (1)	1 (25)
	1	33 (14)	23 (70)	66 (12)	27 (41)
	2	31 (13)	13 (42)	66 (12)	33 (50)
	≥3	125 (53)	55 (44)	276 (49)	151 (55)
	Missing	46 (20)	23 (50)	157 (28)	76 (48)
Region ⁵	Ballpark/Mission Bay	25 (11)	12 (48)	43 (8)	23 (53)
	Bayview	6 (3)	3 (50)	15 (3)	6 (40)
	Castro	26 (11)	12 (46)	37 (7)	21 (57)
	Civic Center	19 (8)	8 (42)	38 (7)	20 (53)
	Downtown	7 (3)	3 (43)	24 (4)	11 (46)
	Lake Merced	6 (3)	3 (50)	7 (1)	2 (29)
	Mission	16 (7)	13 (81)	64 (11)	28 (44)
	Outer Mission/Ingleside	10 (4)	4 (40)	27 (5)	12 (44)
	Pacific Heights/Marina	30 (13)	14 (47)	94 (17)	45 (48)
	Panhandle/Haight Ashbury	12 (5)	6 (50)	34 (6)	23 (68)
	Richmond/Presidio	18 (8)	8 (44)	40 (7)	22 (55)
	South of Market	28 (12)	13 (46)	70 (12)	37 (53)
	Sunset	18 (8)	9 (50)	39 (7)	22 (56)
	Treasure Island	1 (<1)	0 (0)	1 (<1)	0 (0)
	Twin Peaks	9 (4)	3 (33)	18 (3)	7 (39)
	Visitacion Valley	1 (<1)	0 (0)	11 (2)	6 (55)
West Portal	3 (1)	3 (100)	7 (1)	3 (43)	

1 Data were reported as of August 1, 2023. Each order may contain different combination of test kits; total number of test kits does not equal to the number of orders. See Technical Notes “San Francisco HIV/STI Home Testing Program.”

2 HIV QraQuick test is a self-administered rapid test and does not require returning specimens for results. At least one specimen from 3-site Chlamydia/Gonorrhea test kit was returned. Same people who returned more than one specimens are counted once.

3 Included persons who ordered self-collected test kits within same year and were de-duplicated by name and date of birth.

4 Other gender includes queer and non-binary.

5 Region is grouped by zip codes where the test kits were mailed. It is assumed that the person lived in the zip code where the test kit was mailed.

4

Survival among People with HIV Disease Stage 3 (AIDS)

23%

OF PEOPLE DIAGNOSED WITH HIV STAGE 3 IN 1980-1989 SURVIVED FOR THREE YEARS



88%

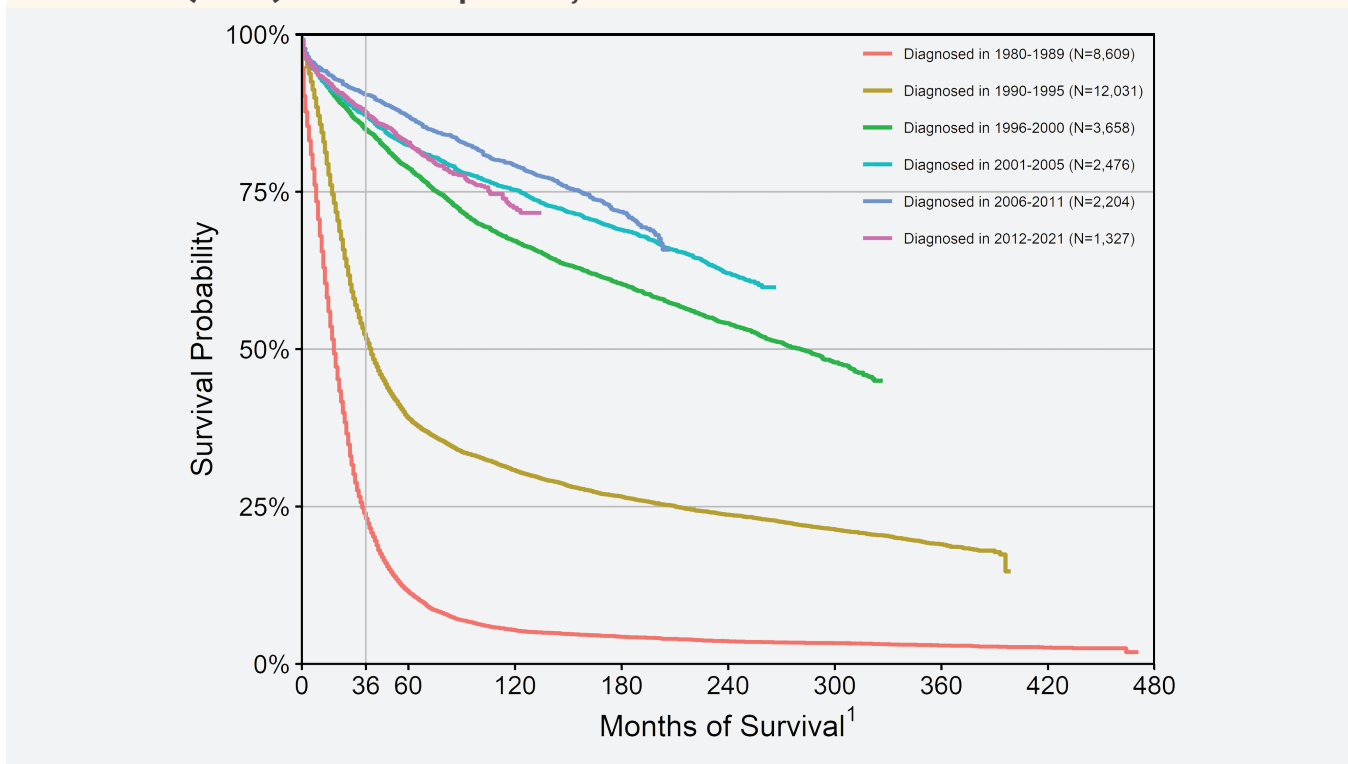
OF PEOPLE DIAGNOSED WITH HIV STAGE 3 IN 2012-2021 SURVIVED FOR THREE YEARS

For people diagnosed with HIV after 1989, survival time with HIV stage 3 (AIDS) has increased (Figure 4.1). For the first ten years of the epidemic (1980-1989) survival time was poor, with a median survival time of 18 months (1.5 years) after stage 3 diagnosis. This increased to 39 months (3.25 years) among those diagnosed in 1990-1995 and to 280 months (23.33 years) among those diagnosed in 1996-2000. The median stage 3 survival time has not been reached for people diagnosed in the more recent time periods.

The probability of surviving at 36 months (three years) increased from 23% among people diagnosed in 1980-1989 to 52% among people diagnosed in 1990-1995, and to 85% among people diagnosed in 1996-2000, with smaller increases in the last three time periods (87%, 90%, 88%, respectively).

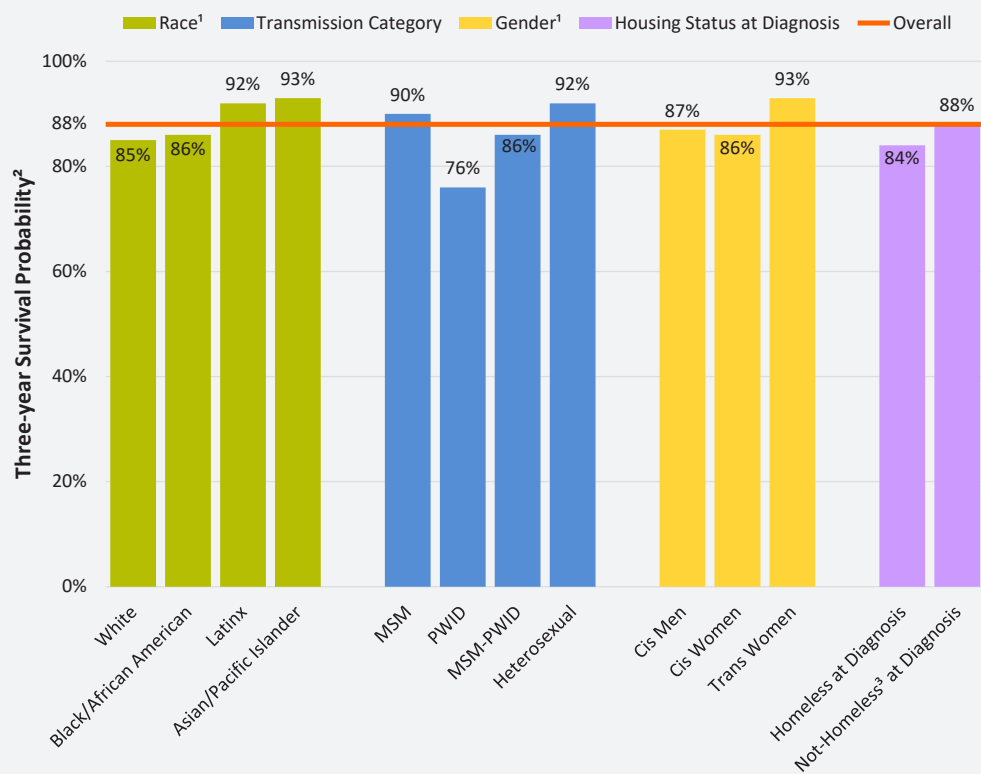
The overall three-year survival probability after HIV stage 3 for people diagnosed during 2012 to 2021 was 88% (Figure 4.2). By racial/ethnic group, transmission category, gender and homeless status, Whites (85%), PWID (76%), cis women (86%) and PEH (84%) had the lowest three-year survival probability, respectively.

Figure 4.1 Kaplan-Meier survival curves for people diagnosed with HIV disease stage 3 (AIDS) in six time periods, San Francisco



¹ See Technical Notes “HIV Disease Stage 3 (AIDS) Survival.”

Figure 4.2 Three-year survival probabilities for people diagnosed with HIV disease stage 3 (AIDS) by race/ethnicity, transmission category, gender, and housing status at diagnosis, 2012-2021, San Francisco



1 Native American, multiracial, and trans men data are not released separately due to small numbers.

2 Calculated from Kaplan-Meier method.

3 Includes people whose addresses at diagnosis were unknown.



5

Trends in HIV Mortality

77%


**OF DEATHS IN 2021
WERE DUE TO NON-
HIV-RELATED CAUSES**

As of December 31, 2021, the cumulative number of deaths from all causes among people diagnosed with HIV in San Francisco was 22,599 (Table 5.1). The total number of deaths among people diagnosed with HIV increased each year from 2017 to 2020, likely due to the aging of the people living with HIV, but the proportion of deaths due to HIV has decreased each year, mostly likely due to effective ART. Similarly, from 2012 to 2021, the case-fatality rates per 1,000 due to non-HIV-related causes increased among all people diagnosed with HIV and among those with HIV stage 3 (AIDS), and the case-fatality rates for HIV-related causes decreased (Table 5.2). Increases in all-cause mortality for 2020 and 2021 are likely due to COVID-related deaths (N=12 and N=14, respectively). The age-adjusted mortality rates among people diagnosed with HIV aged 18 and older varied by gender and racial/ethnic group with the highest rates for trans women (unadjusted rate) and Black/African American cis men (Figure 5.1).

Underlying causes of death were assessed among decedents with HIV from 2010 to 2021 (Table 5.3). The National Death Index began coding for COVID-19 deaths in 2020, therefore COVID-19 deaths were evaluated for 2020 and 2021 and accounted for the underlying cause for 3% of deaths in those years. HIV as the underlying cause of death continued to decline while deaths due to accidents, non-AIDS cancer and heart disease increased during this time period. HIV was the most frequent, yet declining, underlying cause of death for cis men from 2010 to 2021 (Table 5.4). Latinx decedents had the highest proportion of deaths attributed to HIV as the underlying cause in all three time periods compared to Black/African American and White decedents, and White decedents had the highest proportion of deaths attributed to suicide in all three time periods (Table 5.5). The proportion of deaths where HIV was the underlying cause of death declined across three time periods for MSM, PWID, and MSM-PWID (Table 5.6).

Deaths due to accidental causes rose sharply in the recent time period (2018-2021) to account for one-fifth of deaths, primarily due to drug overdoses which increased from 10% to 18% between the first and last time periods (Table 5.3). While deaths where accidents (including drug overdose) were the underlying cause increased for cis men, the increase was stark for women: in 2018-2021 accidents accounted for 34% of deaths among cis women and 41% of deaths among trans women, becoming the most common underlying cause of death for women (Table 5.4). Drug overdose was the most common underlying cause of death among PWID at over a third (35%) of deaths (Table 5.6).

When multiple causes of death are considered, which include both underlying and contributory causes, the proportion of deaths due to HIV declined from 63% in the period 2010-2013 to less than half of deaths (48%) in 2018-2021 (Table 5.7). Heart disease was the second most common cause contributing to 37% of deaths in 2018-2021. Deaths due to accidents increased to 22% in 2018-2021 with those due to drug overdoses increasing to 19%. Similar to the rise in drug overdose deaths, deaths caused by mental disorders due to substance use became the fifth most common, after non-AIDS cancers in 2018-2021. For 2020 and 2021, COVID-19 was a contributory cause of death for 5% of decedents with HIV.



Among cis men, cis women and trans women, HIV was the most frequent underlying or contributory cause of death in all time periods (Table 5.8). Heart disease was the second most frequent underlying or contributory cause of death in cis men across three time periods; for cis women and trans women, accidents were the second most frequent cause of death in the most recent time period. Trans women had higher proportions of accident-related deaths compared to cis men and cis women in the second and third time periods. In 2018-2021, drug overdoses increased for cis men (18%), cis women (31%), and trans women (41%).

When multiple causes of death were compared for Latinx, Black/African American, and White decedents, the proportion of deaths HIV contributed to decreased across three time periods for all racial/ethnic groups; this decrease was the most pronounced for Latinx and Black/African American decedents (Table 5.9). Deaths due to liver disease declined substantially for these three racial/ethnic groups in the last time period. When multiple causes of death were considered by transmission categories (MSM, PWID, and MSM-PWID), heart disease was observed as the second most frequent underlying or contributory cause of death, following HIV (Table 5.10). Drug overdose-related deaths increased dramatically among PWID from 17% in 2010-2013 to 36% in 2018-2021. Compared to MSM who did not inject drugs, MSM-PWID had higher proportions of deaths where liver disease and accidents (including drug overdoses) were a cause.

Among 2,965 deaths during 2010 through 2021, 23% were among people who were ever homeless from time of HIV diagnosis to death (Table 5.11). When examining multiple causes of death among decedents who were ever homeless, a higher proportion of deaths were due to AIDS opportunistic infections, accidents (including drug overdoses), renal disease, mental disorders due to substance abuse, liver disease, viral hepatitis, septicemia, chronic obstructive pulmonary disease, and assault.

Table 5.1 Deaths occurring in 2017-2021 among people diagnosed with HIV, by demographic and risk characteristics, San Francisco

		Year of Death					Cumulative Totals as of 12/31/2021
		2017	2018	2019	2020	2021	
		Number (%)					
Gender ¹	Cis Men	223 (88)	229 (89)	239 (91)	257 (90)	242 (87)	21,297
	Cis Women	21 (8)	22 (9)	19 (7)	20 (7)	25 (9)	983
	Trans Women	9 (4)	5 (2)	5 (2)	10 (3)	12 (4)	319
Race/Ethnicity	White	165 (65)	133 (52)	146 (56)	178 (62)	159 (57)	16,232
	Black/African American	43 (17)	57 (22)	43 (16)	45 (16)	58 (21)	2,969
	Latinx	25 (14)	38 (15)	44 (17)	38 (13)	43 (15)	2,438
	Asian/Pacific Islander/ Native American	3 (1)	15 (6)	14 (5)	11 (4)	8 (3)	598
	Multi-Race	7 (3)	13 (5)	16 (6)	15 (5)	11 (4)	362
Transmission Category	MSM	130 (51)	146 (57)	149 (57)	154 (54)	148 (53)	16,081
	PWID	39 (15)	32 (13)	32 (12)	30 (10)	44 (16)	1,946
	MSM-PWID	63 (25)	60 (23)	63 (24)	79 (28)	60 (22)	3,620
	Heterosexual	8 (3)	13 (5)	10 (4)	9 (3)	12 (4)	355
	Other/Unidentified ²	13 (5)	5 (2)	9 (3)	15 (5)	15 (5)	597
Age at Death (years)	0 - 29	4 (2)	4 (2)	3 (1)	0 (0)	5 (2)	1,128
	30 - 39	12 (5)	8 (3)	13 (5)	20 (7)	13 (5)	7,414
	40 - 49	38 (15)	29 (11)	28 (11)	31 (11)	33 (12)	7,820
	50 - 59	84 (33)	79 (31)	81 (31)	88 (31)	72 (26)	3,876
	60 - 69	66 (26)	91 (36)	82 (31)	90 (31)	92 (33)	1,704
	70+	49 (19)	45 (18)	56 (21)	58 (20)	64 (23)	657
HIV Disease Stage	Stage 0, 1, 2, or unknown	40 (16)	36 (14)	64 (24)	54 (19)	62 (22)	836
	Stage 3 (AIDS)	213 (84)	220 (86)	199 (76)	233 (81)	217 (78)	21,763
Cause of Death ³	HIV-related	83 (33)	73 (29)	70 (27)	72 (25)	62 (22)	--
	Non-HIV-related	161 (64)	171 (67)	188 (71)	208 (72)	214 (77)	--
	Unknown	9 (4)	12 (5)	5 (2)	7 (2)	3 (1)	--
Total		253 (100)	256 (100)	263 (100)	287 (100)	279 (100)	22,599

1 Data on trans men are not released separately due to small numbers. See Technical Notes “Gender Status.”

2 Includes TWSM, TWSM-PWID and people with no identified risk factor.

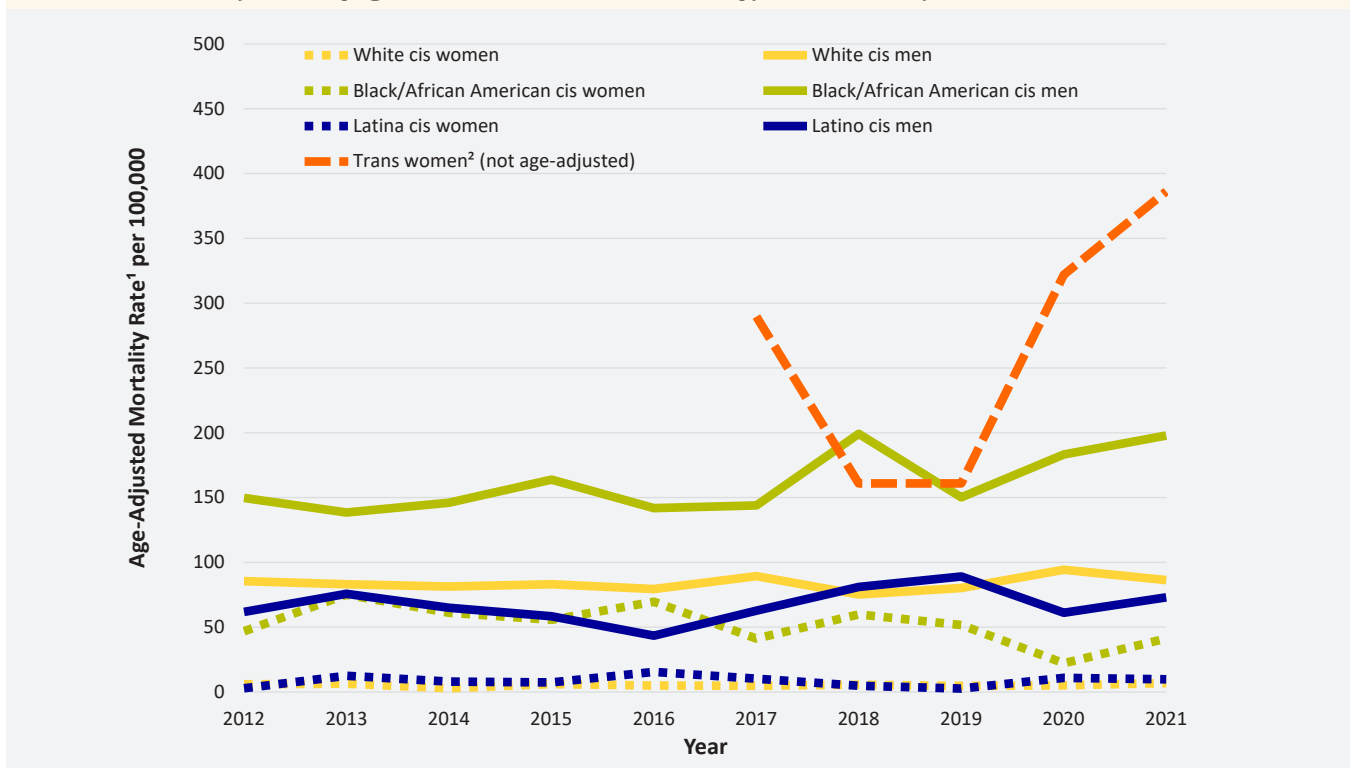
3 Underlying cause of death obtained from the NDI is available through 2021. See Technical Notes “Death Ascertainment.”

Table 5.2 Case-fatality rates per 1,000 due to HIV-related and non-HIV-related causes among people diagnosed with HIV, 2012-2021, San Francisco

Year	People with HIV (all stages)			People with HIV Stage 3 (AIDS)		
	HIV-related cause of death	Non-HIV-related cause of death	All-cause mortality	HIV-related cause of death	Non-HIV-related cause of death	All-cause mortality
	Case-fatality rate ¹ per 1,000 PLWH			Case-fatality rate ¹ per 1,000 people with HIV Stage 3		
2012	5.18	9.30	14.49	7.64	11.41	19.04
2013	6.18	9.27	15.45	8.60	10.78	19.38
2014	6.40	8.12	14.52	9.22	10.22	19.44
2015	6.25	9.13	15.38	9.37	11.66	21.03
2016	4.66	9.44	14.10	7.14	12.17	19.31
2017	5.08	9.86	14.95	7.48	13.24	20.71
2018	4.48	10.56	15.04	7.03	14.66	21.69
2019	4.32	11.60	15.92	5.96	14.07	20.03
2020	4.47	12.93	17.40	6.74	16.90	23.64
2021	3.88	13.40	17.28	5.89	16.61	22.49

¹ Case-fatality rates are calculated as the number of people diagnosed with HIV (all disease stages) or HIV stage 3 (AIDS) who died each year divided by the number of total people living with HIV or HIV stage 3 (AIDS), during that year. See Technical Notes for “Death Ascertainment.”

Figure 5.1 Age-adjusted mortality rates among people aged 18 and older with HIV per 100,000 by gender and race/ethnicity, 2012-2021, San Francisco



¹ Age-adjusted mortality rates are calculated for people 18 years and older. For each race/ethnicity and gender, the number of people with HIV who died each year was divided by projected San Francisco population estimates across fourteen age groups (18-24, 25-29, 30-34, 35-39, 40-44, 45-49, 50-54, 55-59, 60-64, 65-69, 70-74, 75-79, 80-84, 85+) to generate crude rates applied to the standard population, defined using the California population estimates from the Department of Finance. See Technical Notes for “HIV Case Rates and HIV Mortality Rates.”

² Mortality rates for trans women are not age-adjusted. Due to small numbers, trans women are not stratified by race/ethnicity and mortality rates for trans men are not calculated. San Francisco trans women population estimate from Raymond HF, Wilson EC, McFarland W. Transwoman Population Size. Am J Public Health. 2017 Sep;107(9):e12. doi: 10.2105/AJPH.2017.303964. PMID: 28787216; PMCID: PMC5551612.

Table 5.3 Underlying causes of death among people diagnosed with HIV, 2010-2021, San Francisco

	Year of Death		
	2010-2013	2014-2017	2018-2021
	N=945	N=961	N=1,059
	Number (%)		
HIV	388 (41.1)	365 (38.0)	277 (26.2)
Accidents	112 (11.9)	119 (12.4)	216 (20.4)
Drug overdose	97 (10.3)	99 (10.3)	191 (18.0)
Non-AIDS cancer	135 (14.3)	144 (15.0)	171 (16.1)
Liver cancer	22 (2.3)	14 (1.5)	21 (2.0)
Lung cancer	31 (3.3)	34 (3.5)	21 (2.0)
Pancreatic cancer	8 (0.8)	6 (0.6)	16 (1.5)
Anal cancer	9 (1.0)	12 (1.2)	15 (1.4)
Rectal cancer	3 (0.3)	3 (0.3)	9 (0.8)
Colon cancer	5 (0.5)	6 (0.6)	8 (0.8)
Leukemia	6 (0.6)	1 (0.1)	4 (0.4)
Hodgkins lymphoma	2 (0.2)	1 (0.1)	1 (0.1)
Heart disease	83 (8.8)	104 (10.8)	156 (14.7)
Coronary heart disease	42 (4.4)	50 (5.2)	103 (9.7)
Cardiomyopathy	4 (0.4)	7 (0.7)	7 (0.7)
Chronic obstructive pulmonary disease	17 (1.8)	23 (2.4)	32 (3.0)
Suicide	37 (3.9)	32 (3.3)	23 (2.2)
Cerebrovascular disease	10 (1.1)	14 (1.5)	19 (1.8)
COVID-19 ²	0 (0.0)	0 (0.0)	17 (3.0)
Liver disease	21 (2.2)	25 (2.6)	17 (1.6)
Alcoholic liver disease	6 (0.6)	15 (1.6)	13 (1.2)
Liver cirrhosis	14 (1.5)	7 (0.7)	3 (0.3)
Diabetes	11 (1.2)	11 (1.1)	14 (1.3)
Mental disorders due to substance use	10 (1.1)	11 (1.1)	13 (1.2)
Pneumonitis	2 (0.2)	5 (0.5)	9 (0.8)
Septicemia	2 (0.2)	5 (0.5)	7 (0.7)
Assault	9 (1.0)	14 (1.5)	5 (0.5)
Renal disease	3 (0.3)	7 (0.7)	5 (0.5)
Diseases of arteries	3 (0.3)	4 (0.4)	4 (0.4)
Viral hepatitis	7 (0.7)	7 (0.7)	4 (0.4)

1 See Technical Notes “Death Ascertainment.” Deaths among people with HIV that lack cause of death information are not represented in this table.

2 The National Death Index began coding deaths due to COVID-19 in 2020. The number and percent of COVID-19 as the underlying cause of death are among 556 decedents with HIV in the years of 2020 and 2021.

Table 5.4 Underlying causes of death among people diagnosed with HIV by gender, 2010-2021, San Francisco

	Year of Death								
	2010-2013			2014-2017			2018-2021		
	Cis Men	Cis Women	Trans Women	Cis Men	Cis Women	Trans Women	Cis Men	Cis Women	Trans Women
	Number (%)								
Total	825	87	33	836	92	33	944	85	29
Underlying Cause of Death¹									
HIV	339 (41.1)	34 (39.1)	15 (45.5)	313 (37.4)	39 (42.4)	13 (39.4)	243 (25.7)	26 (30.6)	8 (27.6)
Accidents (including drug overdose)	89 (10.8)	18 (20.7)	5 (15.2)	95 (11.4)	14 (15.2)	10 (30.3)	174 (18.4)	29 (34.1)	12 (41.4)
Non-AIDS cancer	127 (15.4)	5 (5.7)	3 (9.1)	129 (15.4)	14 (15.2)	--	161 (17.1)	8 (9.4)	2 (6.9)
Heart disease	74 (9.0)	7 (8.0)	2 (6.1)	98 (11.7)	4 (4.3)	2 (6.1)	150 (15.9)	3 (3.5)	3 (10.3)
Chronic obstructive pulmonary disease	13 (1.6)	3 (3.4)	--	19 (2.3)	4 (4.3)	0 (0.0)	26 (2.8)	6 (7.1)	0 (0.0)
Suicide	36 (4.4)	0 (0.0)	--	32 (3.8)	0 (0.0)	0 (0.0)	23 (2.4)	0 (0.0)	0 (0.0)
Cerebrovascular disease	8 (1.0)	2 (2.3)	0 (0.0)	13 (1.6)	1 (1.1)	0 (0.0)	19 (2.0)	0 (0.0)	0 (0.0)
Liver disease	18 (2.2)	2 (2.3)	--	22 (2.6)	2 (2.2)	--	16 (1.7)	0 (0.0)	--
Diabetes	10 (1.2)	1 (1.1)	0 (0.0)	10 (1.2)	1 (1.1)	0 (0.0)	12 (1.3)	1 (1.2)	--
Mental disorders due to substance use	8 (1.0)	1 (1.1)	--	10 (1.2)	1 (1.1)	0 (0.0)	11 (1.2)	2 (2.4)	0 (0.0)

¹ See Technical Notes “Death Ascertainment.” Deaths among people with HIV that lack cause of death information are not represented in this table.
 -- Data are not displayed due to small number of deaths among trans women and population size.

Table 5.5 Underlying causes of death among people diagnosed with HIV by race/ethnicity, 2010-2021, San Francisco

	Year of Death								
	2010-2013			2014-2017			2018-2021		
	Latinx	Black/African American	White	Latinx	Black/African American	White	Latinx	Black/African American	White
	Number (%)								
Total	121	189	557	125	190	579	155	199	605
Underlying Cause of Death¹									
HIV	64 (52.9)	79 (41.8)	211 (37.9)	57 (45.6)	74 (38.9)	204 (35.2)	38 (24.5)	44 (22.1)	165 (27.3)
Accidents (including drug overdose)	11 (9.1)	25 (13.2)	64 (11.5)	13 (10.4)	21 (11.1)	76 (13.1)	30 (19.4)	47 (23.6)	112 (18.5)
Non-AIDS cancer	14 (11.6)	24 (12.7)	90 (16.2)	13 (10.4)	38 (20.0)	86 (14.9)	27 (17.4)	26 (13.1)	104 (17.2)
Heart disease	8 (6.6)	17 (9.0)	54 (9.7)	10 (8.0)	14 (7.4)	74 (12.8)	17 (11.0)	34 (17.1)	95 (15.7)
Chronic obstructive pulmonary disease	3 (2.5)	5 (2.6)	9 (1.6)	1 (0.8)	5 (2.6)	17 (2.9)	2 (1.3)	11 (5.5)	17 (2.8)
Suicide	3 (2.5)	1 (0.5)	29 (5.2)	4 (3.2)	1 (0.5)	23 (4.0)	3 (1.9)	2 (1.0)	16 (2.6)
Cerebrovascular disease	1 (0.8)	2 (1.1)	6 (1.1)	2 (1.6)	3 (1.6)	9 (1.6)	2 (1.3)	5 (2.5)	11 (1.8)
Diabetes	1 (0.8)	6 (3.2)	4 (0.7)	3 (2.4)	2 (1.1)	5 (0.9)	2 (1.3)	2 (1.0)	9 (1.5)
Liver disease	3 (2.5)	2 (1.1)	13 (2.3)	6 (4.8)	4 (2.1)	13 (2.2)	3 (1.9)	3 (1.5)	9 (1.5)
Septicemia	0 (0.0)	1 (0.5)	1 (0.2)	1 (0.8)	3 (1.6)	1 (0.2)	0 (0.0)	0 (0.0)	7 (1.2)

¹ See Technical Notes “Death Ascertainment.” Deaths among people with HIV that lack cause of death information are not represented in this table. Asian, Pacific Islander, Native American, and multiracial decedents were not displayed due to small numbers.



Table 5.6 Underlying causes of death among people diagnosed with HIV by transmission category, 2010-2021, San Francisco

	Year of Death								
	2010-2013			2014-2017			2018-2021		
	MSM	PWID	MSM-PWID	MSM	PWID	MSM-PWID	MSM	PWID	MSM-PWID
	Number (%)								
Total	507	158	207	516	150	222	576	139	260
HIV	211 (41.6)	61 (38.6)	78 (37.7)	194 (37.6)	56 (37.3)	78 (35.1)	149 (25.9)	42 (30.2)	60 (23.1)
Non-AIDS cancer	96 (18.9)	13 (8.2)	19 (9.2)	91 (17.6)	23 (15.3)	25 (11.3)	113 (19.6)	13 (9.4)	36 (13.8)
Heart disease	51 (10.1)	12 (7.6)	16 (7.7)	61 (11.8)	17 (11.3)	22 (9.9)	99 (17.2)	7 (5.0)	37 (14.2)
Accidents	38 (7.5)	28 (17.7)	38 (18.4)	38 (7.4)	23 (15.3)	46 (20.7)	67 (11.6)	53 (38.1)	76 (29.2)
Drug overdose	29 (5.7)	26 (16.5)	36 (17.4)	29 (5.6)	20 (13.3)	42 (18.9)	54 (9.4)	49 (35.3)	69 (26.5)
Chronic obstructive pulmonary disease	11 (2.2)	4 (2.5)	1 (0.5)	13 (2.5)	6 (4.0)	3 (1.4)	18 (3.1)	5 (3.6)	5 (1.9)
Suicide	23 (4.5)	2 (1.3)	11 (5.3)	21 (4.1)	0 (0.0)	11 (5.0)	17 (3.0)	0 (0.0)	6 (2.3)
Diabetes	6 (1.2)	2 (1.3)	2 (1.0)	6 (1.2)	1 (0.7)	2 (0.9)	12 (2.1)	1 (0.7)	0 (0.0)
Liver disease	11 (2.2)	4 (2.5)	5 (2.4)	17 (3.3)	3 (2.0)	4 (1.8)	12 (2.1)	1 (0.7)	3 (1.2)
Cerebrovascular disease	6 (1.2)	3 (1.9)	0 (0.0)	7 (1.4)	1 (0.7)	4 (1.8)	12 (2.1)	0 (0.0)	5 (1.9)
Mental disorders due to substance use	4 (0.8)	1 (0.6)	4 (1.9)	9 (1.7)	1 (0.7)	1 (0.5)	7 (1.2)	3 (2.2)	2 (0.8)

1 See Technical Notes “Death Ascertainment.” Deaths among people with HIV that lack cause of death information are not represented in this table.

Table 5.7 Multiple causes of death among people diagnosed with HIV, 2010-2021, San Francisco

	Year of Death		
	2010-2013	2014-2017	2018-2021
	N=945	N=961	N=1,059
	Number (%)		
HIV	596 (63.1)	576 (59.9)	506 (47.8)
Heart disease	263 (27.8)	295 (30.7)	396 (37.4)
Coronary heart disease	85 (9.0)	92 (9.6)	163 (15.4)
Cardiomyopathy	24 (2.5)	29 (3.0)	34 (3.2)
Accidents	116 (12.3)	132 (13.7)	235 (22.2)
Drug overdose	98 (10.4)	102 (10.6)	204 (19.3)
Non-AIDS cancer	181 (19.2)	201 (20.9)	220 (20.8)
Lung cancer	37 (3.9)	42 (4.4)	30 (2.8)
Liver cancer	29 (3.1)	16 (1.7)	25 (2.4)
Anal cancer	12 (1.3)	17 (1.8)	19 (1.8)
Pancreatic cancer	10 (1.1)	7 (0.7)	17 (1.6)
Colon cancer	5 (0.5)	9 (0.9)	12 (1.1)
Rectal cancer	4 (0.4)	7 (0.7)	10 (0.9)
Leukemia	9 (1.0)	5 (0.5)	8 (0.8)
Hodgkin lymphoma	6 (0.6)	3 (0.3)	2 (0.2)
Mental disorders due to substance use	94 (9.9)	95 (9.9)	139 (13.1)
Renal disease	94 (9.9)	113 (11.8)	134 (12.7)
Chronic obstructive lung disease	61 (6.5)	72 (7.5)	98 (9.3)
Septicemia	92 (9.7)	97 (10.1)	89 (8.4)
Liver disease	119 (12.6)	111 (11.6)	76 (7.2)
Liver cirrhosis	71 (7.5)	65 (6.8)	47 (4.4)
Alcoholic liver disease	6 (0.6)	17 (1.8)	17 (1.6)
Diabetes	55 (5.8)	46 (4.8)	69 (6.5)
Viral hepatitis	121 (12.8)	108 (11.2)	69 (6.5)
Cerebrovascular disease	28 (3.0)	54 (5.6)	47 (4.4)
COVID-19 ²	0 (0.0)	0 (0.0)	26 (4.6)
Pneumonitis	10 (1.1)	19 (2.0)	23 (2.2)
Suicide	37 (3.9)	32 (3.3)	23 (2.2)
Diseases of arteries	9 (1.0)	14 (1.5)	19 (1.8)
Hyperlipidemia	8 (0.8)	14 (1.5)	13 (1.2)
Assault	9 (1.0)	14 (1.5)	5 (0.5)

¹ Includes underlying and contributory causes of death. Individuals may have more than one cause of death. See Technical Notes “Death Ascertainment.” Deaths among people with HIV that lack cause of death information are not represented in this table.

² The National Death Index began coding deaths due to COVID-19 in 2020. The number and percent of COVID-19 as a cause of death are among 556 decedents with HIV in the years 2020 and 2021.

Table 5.8 Multiple causes of death among people diagnosed with HIV by gender, 2010-2021, San Francisco

	Year of Death									
	2010-2013			2014-2017			2018-2021			
	Cis Men	Cis Women	Trans Women	Cis Men	Cis Women	Trans Women	Cis Men	Cis Women	Trans Women	
	Number (%)									
Total	825	87	33	836	92	33	944	85	29	
Multiple Causes of Death ¹	HIV	520 (63.0)	53 (60.9)	23 (69.7)	493 (59.0)	64 (69.6)	19 (57.6)	445 (47.1)	47 (55.3)	14 (48.3)
	Heart disease	219 (26.5)	32 (36.8)	12 (36.4)	262 (31.3)	23 (25.0)	10 (30.3)	363 (38.5)	23 (27.1)	10 (34.5)
	Non-AIDS cancer	168 (20.4)	7 (8.0)	6 (18.2)	181 (21.7)	19 (20.7)	--	200 (21.2)	15 (17.6)	5 (17.2)
	Accidents	92 (11.2)	18 (20.7)	6 (18.2)	107 (12.8)	15 (16.3)	10 (30.3)	193 (20.4)	29 (34.1)	12 (41.4)
	Drug overdose	78 (9.5)	15 (17.2)	5 (15.2)	80 (9.6)	15 (16.3)	7 (21.2)	165 (17.5)	26 (30.6)	12 (41.4)
	Mental disorders due to substance	78 (9.5)	12 (13.8)	--	84 (10.0)	9 (9.8)	--	117 (12.4)	18 (21.2)	--
	Renal disease	80 (9.7)	12 (13.8)	--	89 (10.6)	18 (19.6)	6 (18.2)	115 (12.2)	15 (17.6)	--
	Chronic obstructive pulmonary disease	48 (5.8)	12 (13.8)	--	57 (6.8)	13 (14.1)	--	81 (8.6)	16 (18.8)	--
	Septicemia	79 (9.6)	9 (10.3)	--	83 (9.9)	11 (12.0)	--	77 (8.2)	11 (12.9)	--
	Liver disease	103 (12.5)	12 (13.8)	--	97 (11.6)	10 (10.9)	--	71 (7.5)	3 (3.5)	--
	Diabetes	49 (5.9)	5 (5.7)	--	41 (4.9)	2 (2.2)	--	62 (6.6)	4 (4.7)	--
	Viral hepatitis	97 (11.8)	18 (20.7)	6 (18.2)	91 (10.9)	13 (14.1)	--	61 (6.5)	5 (5.9)	--

1 Includes underlying and contributory causes of death. Individuals may have more than one cause of death. See Technical Notes “Death Ascertainment.” Deaths among people with HIV that lack cause of death information are not represented in this table.

-- Data are not displayed due to small number of deaths among trans women and population size.

Table 5.9 Multiple causes of death among people diagnosed with HIV by race/ethnicity, 2010-2021, San Francisco

	Year of Death									
	2010-2013			2014-2017			2018-2021			
	Latinx	Black/African American	White	Latinx	Black/African American	White	Latinx	Black/African American	White	
	Number (%)									
Total	121	189	557	125	190	579	155	199	605	
Multiple Causes of Death ¹	HIV	90 (74.4)	129 (68.3)	331 (59.4)	81 (64.8)	122 (64.2)	333 (57.5)	70 (45.2)	92 (46.2)	300 (49.6)
	Heart disease	27 (22.3)	66 (34.9)	152 (27.3)	33 (26.4)	61 (32.1)	182 (31.4)	49 (31.6)	82 (41.2)	233 (38.5)
	Non-AIDS cancer	17 (14.0)	35 (18.5)	117 (21.0)	21 (16.8)	47 (24.7)	121 (20.9)	32 (20.6)	38 (19.1)	132 (21.8)
	Accidents	11 (9.1)	26 (13.8)	66 (11.8)	17 (13.6)	22 (11.6)	84 (14.5)	33 (21.3)	49 (24.6)	123 (20.3)
	Drug overdose	11 (9.1)	23 (12.2)	52 (9.3)	10 (8.0)	19 (10.0)	65 (11.2)	28 (18.1)	45 (22.6)	104 (17.2)
	Mental disorders due to substance use	6 (5.0)	23 (12.2)	60 (10.8)	18 (14.4)	10 (5.3)	58 (10.0)	22 (14.2)	30 (15.1)	72 (11.9)
	Renal disease	11 (9.1)	33 (17.5)	43 (7.7)	13 (10.4)	38 (20.0)	54 (9.3)	18 (11.6)	42 (21.1)	63 (10.4)
	Chronic obstructive pulmonary disease	4 (3.3)	20 (10.6)	36 (6.5)	4 (3.2)	18 (9.5)	46 (7.9)	10 (6.5)	28 (14.1)	49 (8.1)
	Septicemia	19 (15.7)	18 (9.5)	44 (7.9)	17 (13.6)	19 (10.0)	53 (9.2)	16 (10.3)	15 (7.5)	47 (7.8)
	Liver disease	23 (19.0)	25 (13.2)	64 (11.5)	21 (16.8)	16 (8.4)	64 (11.1)	12 (7.7)	10 (5.0)	46 (7.6)
	Diabetes	6 (5.0)	19 (10.1)	28 (5.0)	8 (6.4)	11 (5.8)	24 (4.1)	12 (7.7)	12 (6.0)	42 (6.9)

1 Includes underlying and contributory causes of death. Individuals may have more than one cause of death. See Technical Notes “Death Ascertainment.” Deaths among people with HIV that lack cause of death information are not represented in this table.

Table 5.10 Multiple causes of death among people diagnosed with HIV by transmission category, 2010-2021, San Francisco

	Year of Death								
	2010-2013			2014-2017			2018-2021		
	MSM	PWID	MSM-PWID	MSM	PWID	MSM-PWID	MSM	PWID	MSM-PWID
	Number (%)								
Total	507	158	207	516	150	222	576	139	260
Multiple Causes of Death¹									
HIV	331 (65.3)	95 (60.1)	119 (57.5)	305 (59.1)	102 (68.0)	119 (53.6)	288 (50.0)	69 (49.6)	103 (39.6)
Heart disease	138 (27.2)	45 (28.5)	52 (25.1)	158 (30.6)	42 (28.0)	67 (30.2)	231 (40.1)	40 (28.8)	94 (36.2)
Non-AIDS cancer	123 (24.3)	19 (12.0)	25 (12.1)	121 (23.4)	32 (21.3)	40 (18.0)	143 (24.8)	24 (17.3)	40 (15.4)
Accidents	38 (7.5)	30 (19.0)	39 (18.8)	44 (8.5)	24 (16.0)	51 (23.0)	80 (13.9)	54 (38.8)	80 (30.8)
Drug overdose	29 (5.7)	26 (16.5)	36 (17.4)	29 (5.6)	21 (14.0)	44 (19.8)	61 (10.6)	50 (36.0)	73 (28.1)
Renal disease	42 (8.3)	28 (17.7)	18 (8.7)	56 (10.9)	21 (14.0)	19 (8.6)	73 (12.7)	25 (18.0)	25 (9.6)
Mental disorders due to substance use	40 (7.9)	21 (13.3)	27 (13.0)	47 (9.1)	15 (10.0)	29 (13.1)	63 (10.9)	26 (18.7)	38 (14.6)
Septicemia	42 (8.3)	20 (12.7)	21 (10.1)	45 (8.7)	18 (12.0)	24 (10.8)	48 (8.3)	14 (10.1)	21 (8.1)
Diabetes	38 (7.5)	6 (3.8)	7 (3.4)	28 (5.4)	5 (3.3)	8 (3.6)	47 (8.2)	9 (6.5)	8 (3.1)
Liver disease	47 (9.3)	30 (19.0)	36 (17.4)	51 (9.9)	19 (12.7)	34 (15.3)	38 (6.6)	9 (6.5)	26 (10.0)
Chronic obstructive pulmonary disease	26 (5.1)	21 (13.3)	12 (5.8)	34 (6.6)	18 (12.0)	13 (5.9)	37 (6.4)	29 (20.9)	26 (10.0)

¹ Includes underlying and contributory causes of death. Individuals may have more than one cause of death. See Technical Notes “Death Ascertainment.” Deaths among people with HIV that lack cause of death information are not represented in this table.

Table 5.11 Multiple causes of death among people diagnosed with HIV by housing status, 2010-2021, San Francisco

		Housing status from HIV diagnosis to death	
		Ever homeless	Consistently housed
		Number (%)	
Total		689	2,276
Multiple Causes of Death¹	HIV	365 (53.0)	1,313 (57.7)
	AIDS opportunistic infections	157 (22.8)	462 (20.3)
	AIDS cancer	35 (5.1)	111 (4.9)
	Heart disease	173 (25.1)	781 (34.3)
	Non-AIDS cancer	73 (10.6)	529 (23.2)
	Accidents	191 (27.7)	292 (12.8)
	Drug overdose	171 (24.8)	233 (10.2)
	Renal disease	84 (12.2)	257 (11.3)
	Mental disorders due to substance abuse	103 (15.0)	225 (9.9)
	Liver disease	78 (11.3)	228 (10.0)
	Viral hepatitis	90 (13.1)	208 (9.1)
	Septicemia	74 (10.7)	204 (9.0)
	Chronic obstructive pulmonary disease	59 (8.6)	172 (7.6)
	Diabetes	17 (2.5)	153 (6.7)
	Cerebrovascular disease	24 (3.5)	105 (4.6)
	Suicide	14 (2.0)	78 (3.4)
	Pneumonitis	11 (1.6)	41 (1.8)
	Diseases of arteries	7 (1.0)	35 (1.5)
	Hyperlipidemia	3 (<1.0)	32 (1.4)
	Assault	15 (2.2)	13 (<1.0)

¹ Includes underlying and contributory causes of death. Individuals may have more than one cause of death. See Technical Notes “Death Ascertainment.” Deaths among people with HIV that lack cause of death information are not represented in this table.

6

Health Insurance Status at Time of HIV Diagnosis

69%

**OF PEOPLE NEWLY DIAGNOSED IN
2018-2022 HAD HEALTH INSURANCE
WHILE**

25%

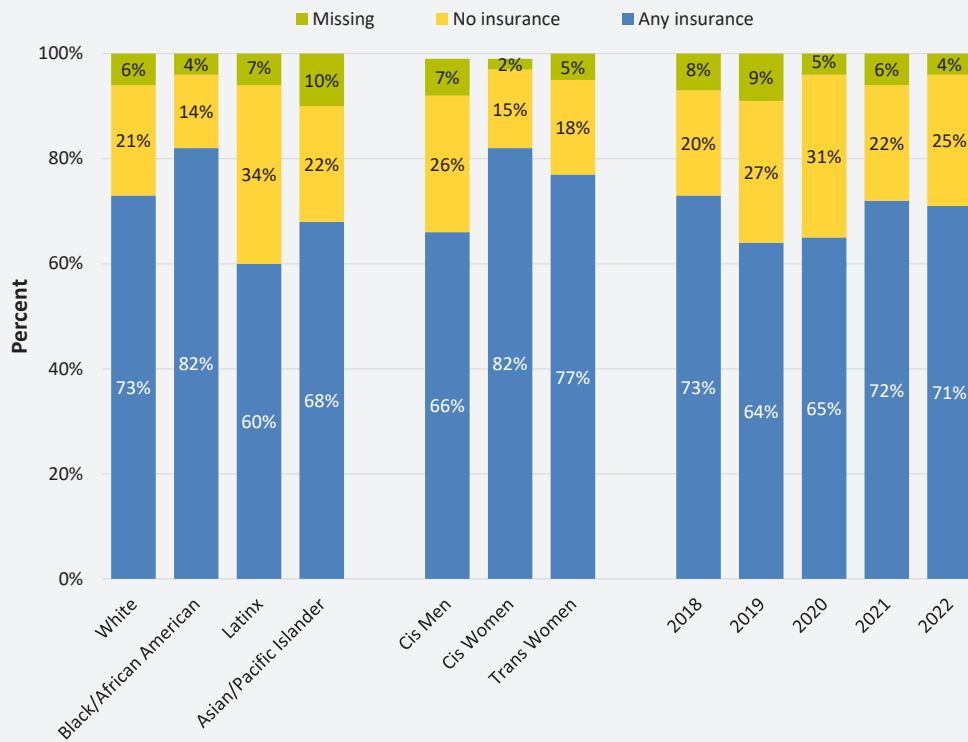
**DID NOT HAVE
HEALTH INSURANCE**

Health insurance status at time of HIV diagnosis was assessed by racial/ethnic group, gender, and year of diagnosis between 2018-2022 (Figure 6.1). By racial/ethnic group, 73% of Whites, 82% of Black/African Americans, 60% of Latinx, and 68% of APIs had health insurance at time of diagnosis. Latinx were most likely to be uninsured at HIV diagnosis (34%). By gender, cis men had the highest proportion with no insurance at diagnosis (26%). Overall, from 2018 to 2022, the proportion of people with health insurance ranged from 64% to 73%. The highest proportion of people without insurance was in 2020 (31%) when health insurance status and retention of health coverage may have been impacted by the shelter-in-place period and other factors related to the first year of the COVID-19 pandemic.

For Whites, Black/African Americans and Latinx, public insurance was the most common source of coverage at time of diagnosis between 2018-2022 (Figure 6.2). In 2022, private insurance was the most common source of insurance for APIs and 42% of Latinx had no insurance at diagnosis, the only race/ethnic group for whom no insurance was most common. These trends are similar when aggregating years 2018-2022 (Figure 6.3). MediCal, California's Medicaid program (a state-sponsored insurance for people meeting financial criteria), was the most common public insurance source for all race/ethnic groups at diagnosis, except APIs, covering 50% of Black/African Americans, 35% of Whites and 31% of Latinx. By gender (Figure 6.4), 61% of cis women and 51% of trans women were covered by MediCal at diagnosis, compared to 31% cis men. Cis men, on the other hand, were more likely to be privately insured (29%) or have no insurance (26%) at diagnosis.



Figure 6.1 Health insurance status at time of HIV diagnosis by race/ethnicity, gender¹, and year of diagnosis, 2018-2022, San Francisco



¹ Data on trans men are not presented due to small numbers and small population size. See Technical Notes “Gender Status.”

Figure 6.2 Trends in health insurance status at time of HIV diagnosis by race/ethnicity, 2018-2022, San Francisco



Figure 6.3 Health insurance status at time of HIV diagnosis by race/ethnicity, 2018-2022, San Francisco

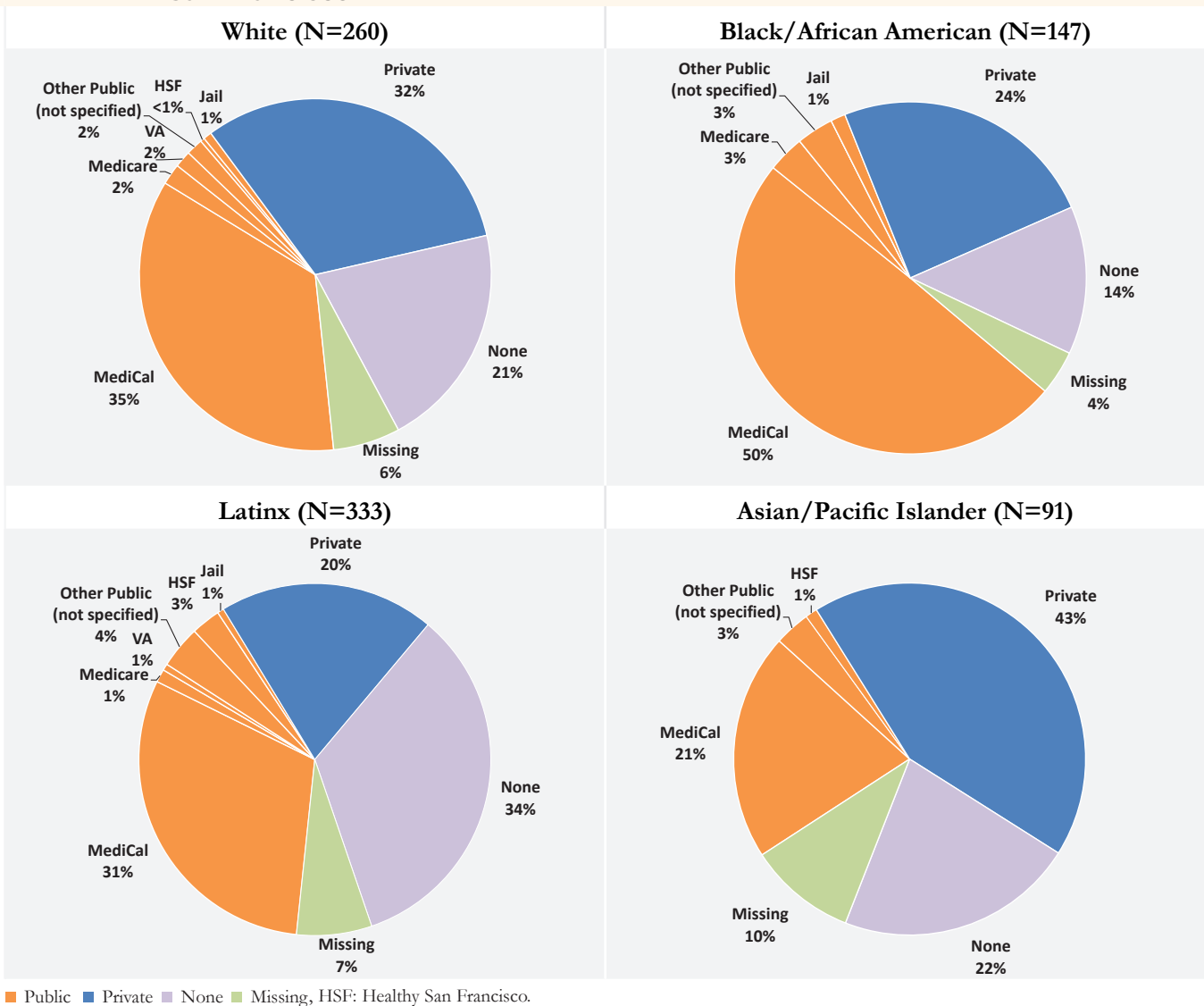
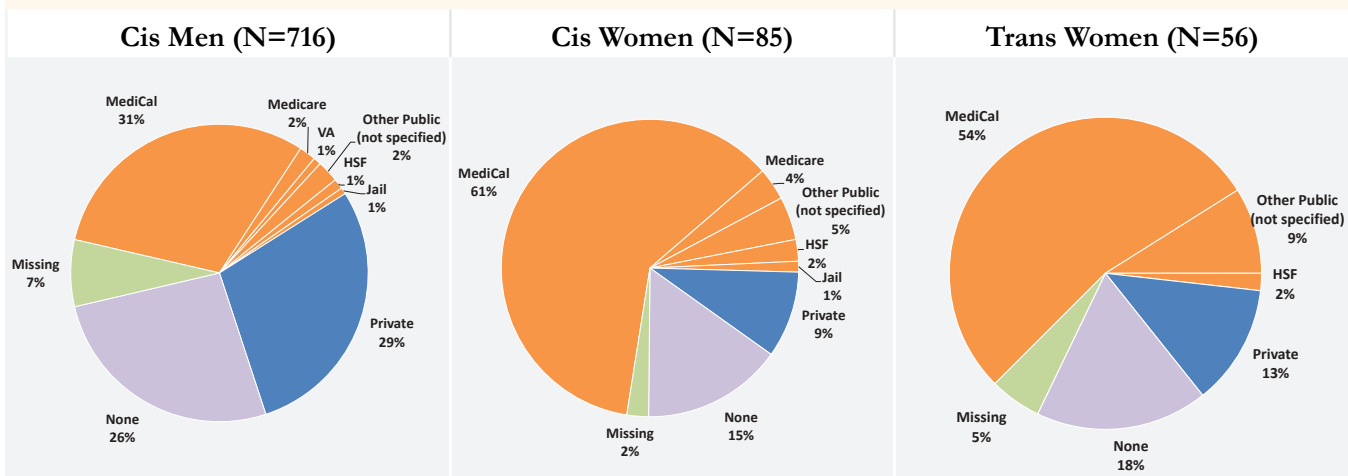


Figure 6.4 Health insurance status at time of HIV diagnosis by gender¹, 2018-2022, San Francisco



¹ Data on trans men are not presented due to small numbers. See Technical Notes “Gender Status.”

7

HIV among Men who Have Sex with Men

Latinos

ACCOUNTED FOR THE HIGHEST
PROPORTION OF NEWLY DIAG-
NOSED MSM STARTING IN 2018

Overall and from 2013 to 2022, the number of MSM newly diagnosed with HIV in all racial/ethnic groups declined (Figure 7.1). Annual diagnoses among Latino MSM exceeded all other racial/ethnic groups starting in 2018.

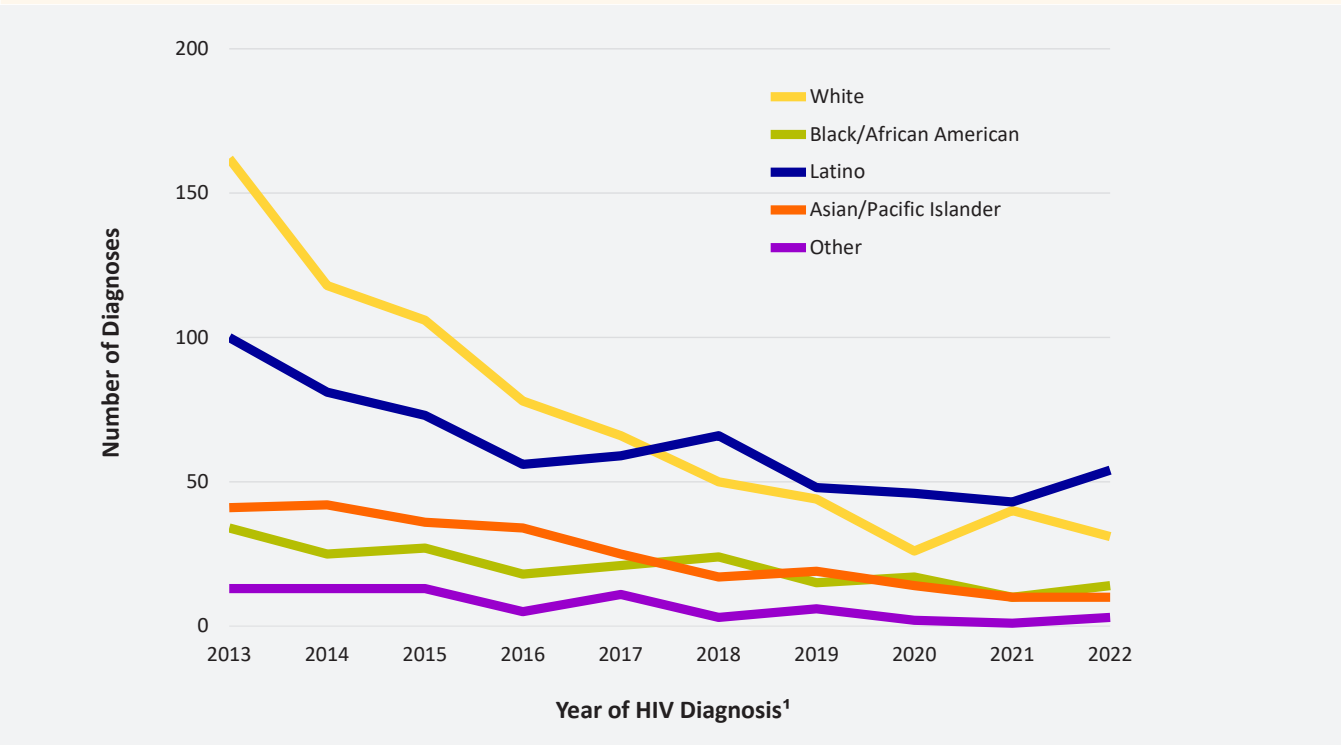
Data from the MSM Intercept Survey showed that from 2013 to 2022 the percent of people who reported any condomless anal intercourse in the past six months increased among MSM living with and without HIV (Figure 7.2). These data provided an overall estimate of condomless sex in a small sample of MSM and do not consider other factors related to HIV prevention, such as use of pre-exposure prophylaxis (PrEP), viral suppression or serosorting (having sex with only those who have the same HIV status). For example, in recent years the amount of condomless sex may be lower among MSM who are not on PrEP or have partners who are not on PrEP.

During 2013 to 2022 the number of reported rectal gonorrhea diagnoses among MSM with HIV has been relatively stable, while the number of diagnoses among MSM without HIV has increased overall (Figure 7.3). The number of male gonococcal proctitis diagnoses was notably lower, likely due to differences in how the data were reported, and has been relatively stable.

The number of early syphilis diagnoses, including primary, secondary, and early latent, increased from 2013 to 2017 and declined in recent years irrespective of HIV serostatus (Figure 7.4).

Data from the MSM Intercept Survey showed that among drugs in the survey, popper use was the most common among MSM for every year between 2013 and 2022 (Figure 7.5). Methamphetamine use surpassed cocaine use in 2020 but has declined in the most recent two years, and fewer than 20% of MSM reported use of either substance in 2022.

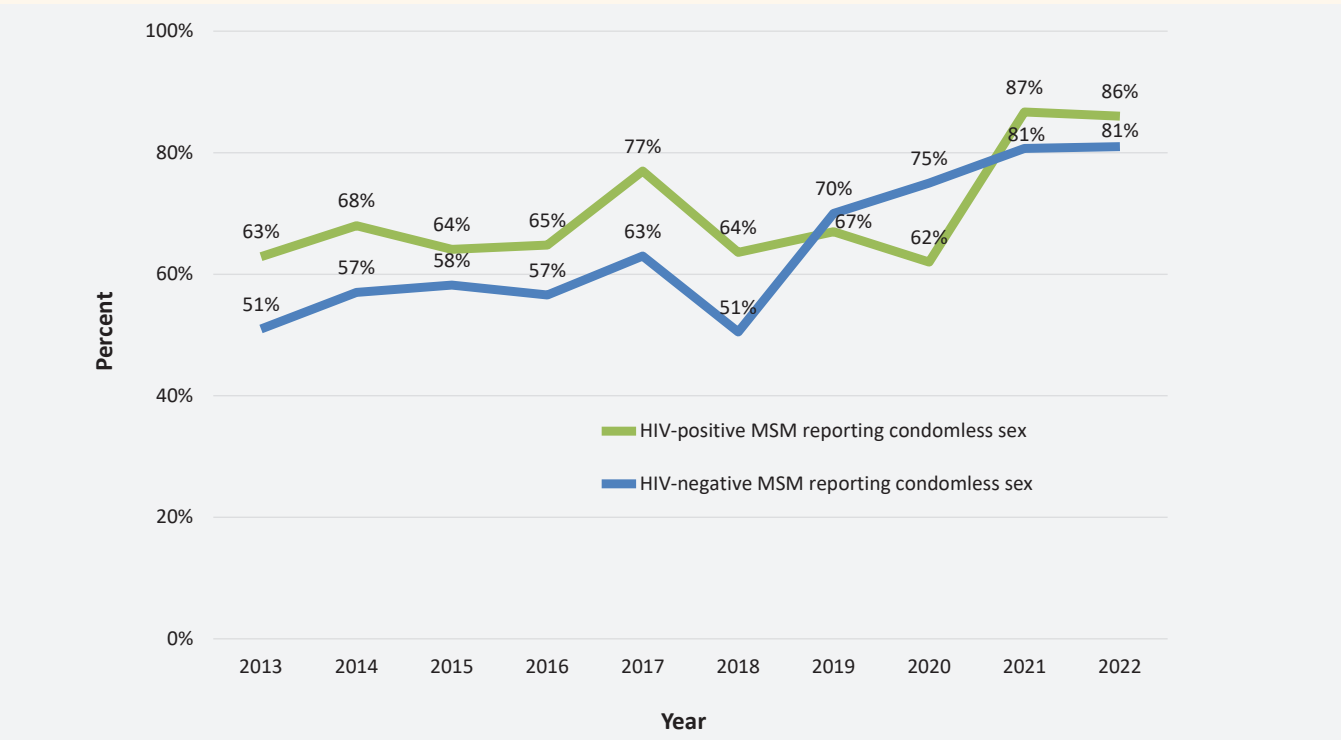
Figure 7.1 Number of MSM diagnosed with HIV by race/ethnicity, 2013-2022, San Francisco



1 Includes MSM and MSM-PWID with HIV by year of their initial HIV diagnosis. See Technical Notes “Date of Initial HIV Diagnosis.”

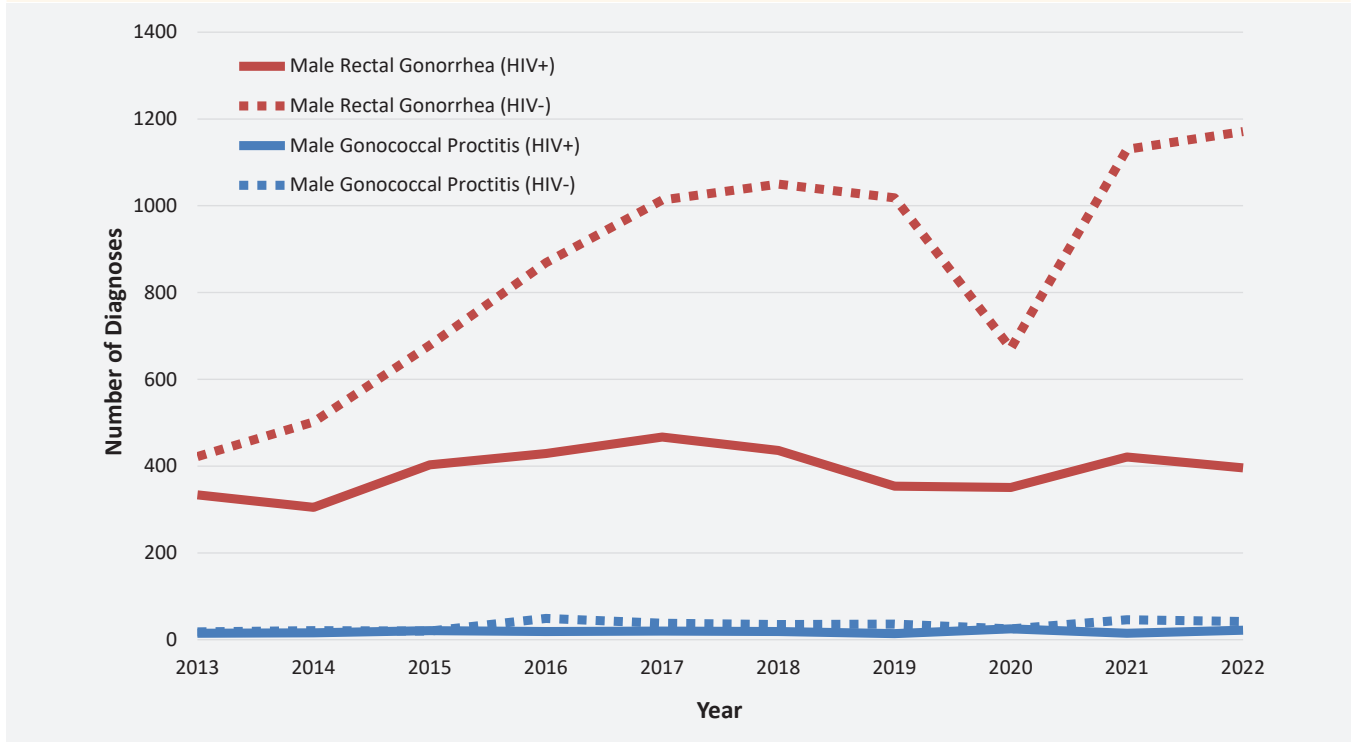
HIV sexual behavior data

Figure 7.2 Percent of MSM reporting condomless anal intercourse in the last six months by self-reported HIV status, the MSM Intercept Survey, 2013-2022, San Francisco



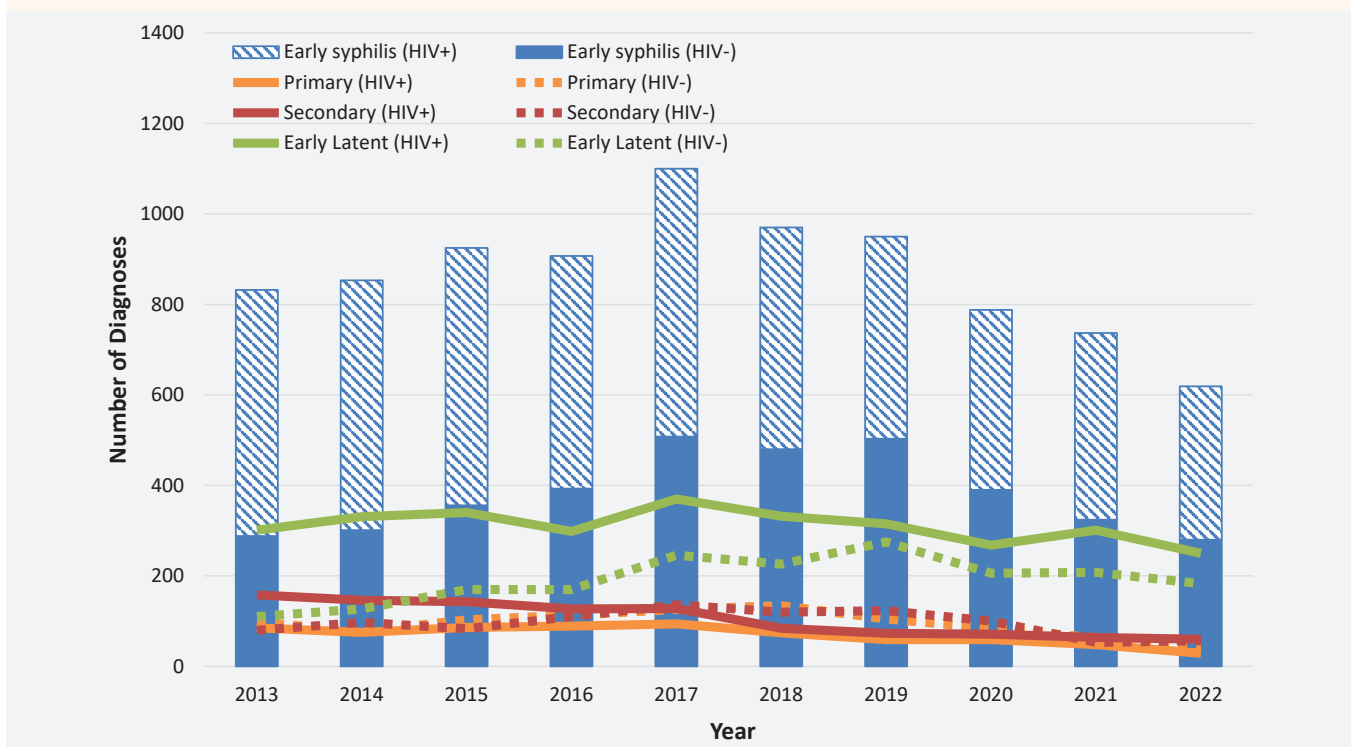
Sexually transmitted infections among MSM

Figure 7.3 Male rectal gonorrhea and male gonococcal proctitis among MSM by HIV serostatus¹, 2013-2022, San Francisco



¹ Data on male rectal gonorrhea and gonococcal proctitis originate from San Francisco Department of Public Health STI case registry.

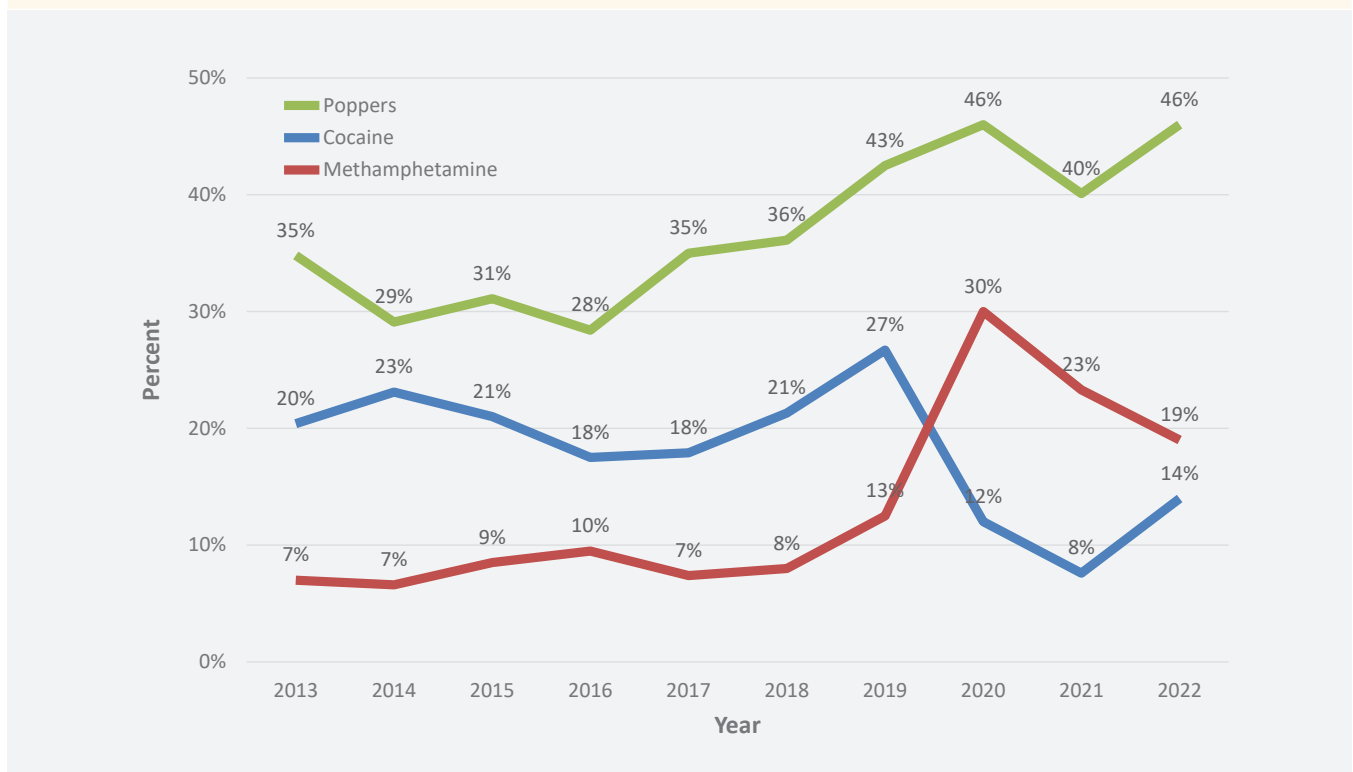
Figure 7.4 Early syphilis among MSM by HIV serostatus¹, 2013-2022, San Francisco



¹ Data on early syphilis originate from San Francisco Department of Public Health STI case registry.

Substance use

Figure 7.5 Substance use among MSM, the MSM Intercept Survey, 2013-2022, San Francisco





8

HIV among People who Inject Drugs

Whites

ACCOUNTED FOR **46% OF**
PWID NEWLY DIAGNOSED WITH
HIV FROM 2013-2022

From 2013 to 2022, Whites accounted for 46% of PWID (not including MSM-PWID or TWSM-PWID) diagnosed with HIV, Black/African Americans 22%, and Latinx 19%. Over time, the total annual number of PWID who were diagnosed with HIV has remained steady with increases seen between 2016 to 2018 (Figure 8.1). Though the number of new diagnoses is small, the only racial/ethnic group that experienced an increase in diagnoses among PWID from 2021-2022 was Latinx. By age, people who were aged 40-49 years made up 29% of newly diagnosed PWID, and similarly, 29% were aged 50 years and older. The annual numbers of HIV diagnoses among PWID aged 13-24 years have remained low; there were no diagnoses among PWID under 25 years old in 2019 to 2022.

Among PLWH in San Francisco who had a medical chart review in 2020-2022 that collected substance use history (See Technical Notes “Substance Use Data Abstraction”), 1,837 (62%) PLWH reported no drug use, 649 (22%) reported non-injection drug use, and 457 (16%) reported injection drug use. PLWH who used drugs were more likely to be cis men, White, 50-59 years old, stably housed, and used tobacco (Table 8.1). The proportions of PLWH who used drugs and were virally suppressed were lower than PLWH who did not report drug use.

Among the 1,106 PLWH who had illicit substance use reported in their medical chart review, methamphetamine was reported most often (67%), followed by cocaine (26%), polysubstance use (23%), and opioids (22%) (Figure 8.3). Methamphetamine was also the most commonly injected substance (26%), followed by opioids (13%) (Figure 8.2).



Figure 8.1 Number of PWID diagnosed with HIV by race/ethnicity and age group at HIV diagnosis, 2013-2022, San Francisco



1 Includes PWID (who are not MSM-PWID or TWSM-PWID) by year of their initial HIV diagnosis. See Technical Notes “Date of Initial HIV Diagnosis.”

Table 8.1 Characteristics of people living with HIV by substance use behavior at most recent medical chart review, 2020-2022, San Francisco

		PLWH with a Substance Use Data Abstraction ¹ as of 12/31/2022		
		No Drug Use	Non-Injection Drug Use	Injection Drug Use
		Number (%)		
	Total	1,837	649	457
Gender	Cis Men	1,644 (89)	536 (83)	354 (77)
	Cis Women	141 (8)	68 (10)	66 (14)
	Transgender ²	52 (3)	45 (7)	37 (8)
Race/Ethnicity	White	992 (54)	276 (43)	216 (47)
	Black/African American	214 (12)	129 (20)	115 (25)
	Latinx	432 (24)	177 (27)	79 (17)
	Asian/Pacific Islander	140 (8)	35 (5)	13 (3)
	Other/Unknown	59 (3)	32 (5)	34 (7)
Age Group	18 - 29	46 (3)	22 (3)	11 (2)
	30 - 39	166 (9)	111 (17)	77 (17)
	40 - 49	285 (16)	135 (21)	93 (20)
	50 - 59	618 (34)	223 (34)	155 (34)
	60+	722 (39)	158 (24)	121 (26)
Unstable Housing ³	No	1,730 (94)	515 (79)	326 (71)
	Yes	107 (6)	134 (21)	131 (29)
Tobacco Use	No	1,347 (73)	199 (31)	48 (11)
	Yes	490 (27)	450 (69)	409 (89)
Virally Suppressed ⁴	No	77 (4)	95 (15)	70 (15)
	Yes	1,760 (96)	554 (85)	387 (85)

1 See Technical Notes “Substance Use Data Abstraction.”

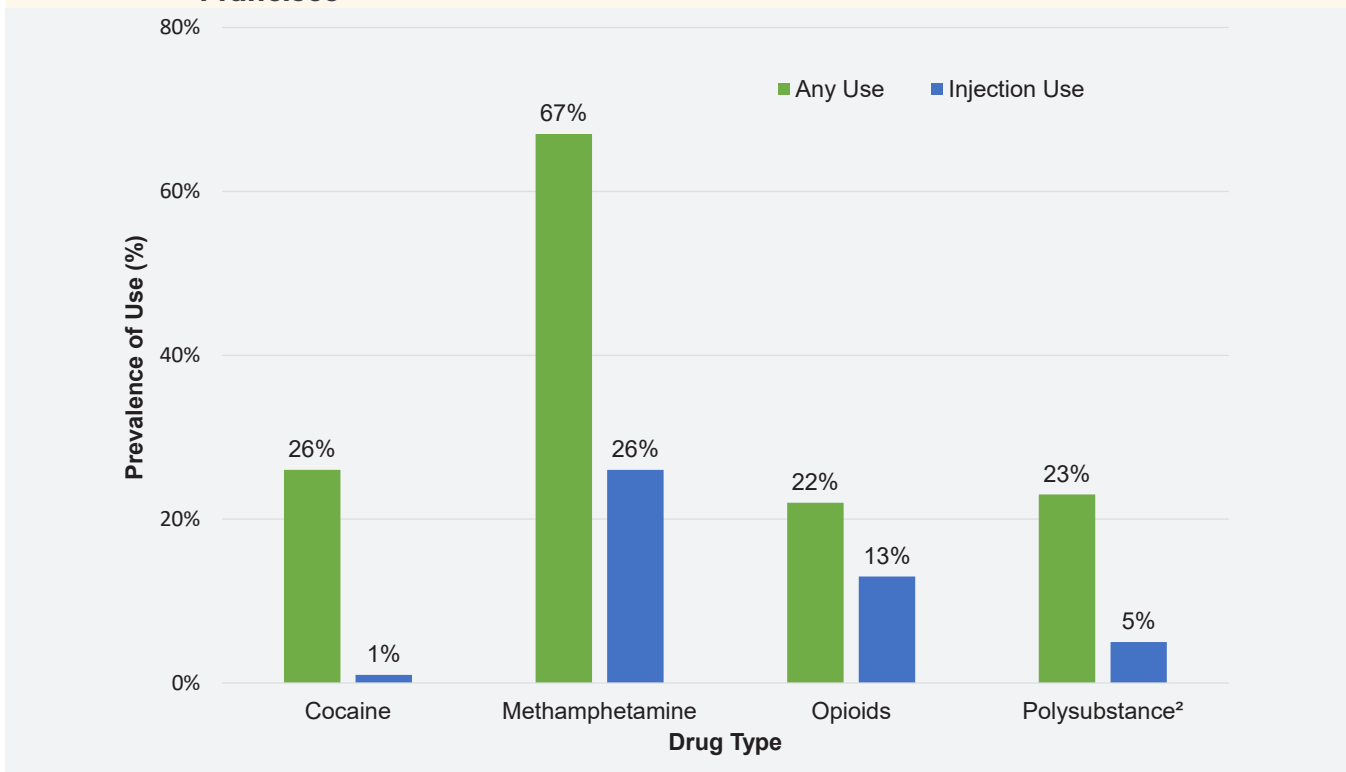
2 Data on trans men and trans women were aggregated in this analysis.

3 Unstable housing includes unhoused people and people living in single-room occupancy housing.

4 Based on the first viral load test available following medical chart review.



Figure 8.2 Distribution of illicit substance use among people living with HIV with substance use reported at their most recent chart review¹, 2020-2022, San Francisco



1 See Technical Notes “Substance Use Data Abstraction.”

2 Includes cases where the term “polysubstance” use was identified in chart review without information about specific substances.

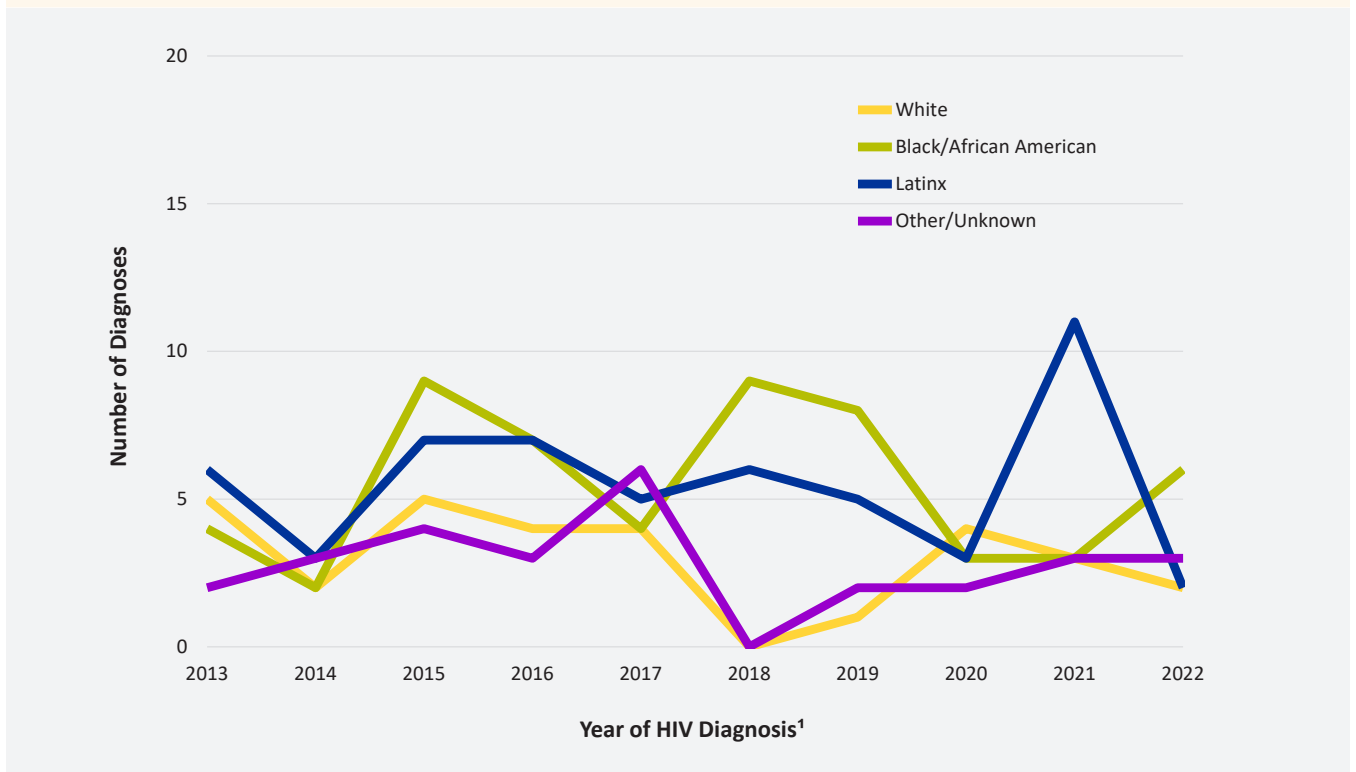
9

HIV among Heterosexuals

The number of heterosexuals (see Technical Notes “HIV Transmission Category Heterosexual Contact”) newly diagnosed with HIV fluctuated between the years 2013 to 2022 and in all racial/ethnic groups (Figure 9.1). In 2022, 13 people acquired HIV through heterosexual contact.

Overall, the number of early syphilis diagnoses among heterosexual cis men, regardless of HIV status, has increased over time and reached a high of 124 in 2020 (Figure 9.2). For most years, there was a higher number of early latent syphilis diagnoses compared to primary and secondary syphilis diagnoses. Among cis women, regardless of HIV status, the number of early syphilis diagnoses also increased over time and reached a peak of 99 in 2019 (Figure 9.3). The number of early syphilis diagnoses among cis women was lower relative to cis men.

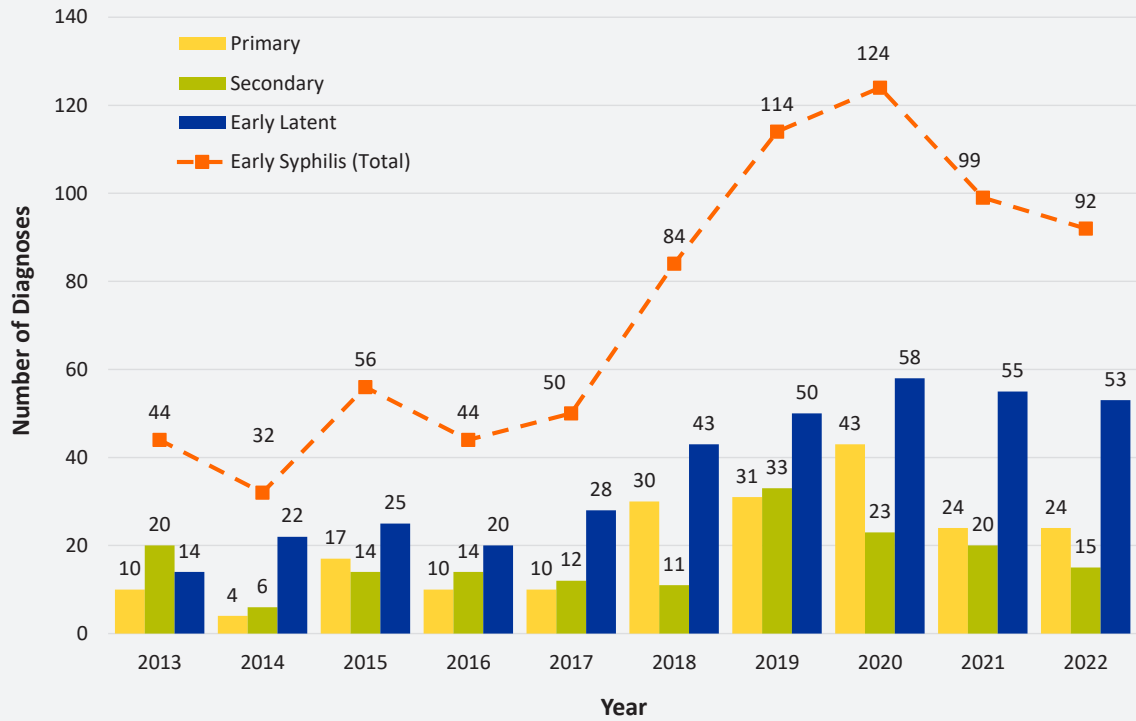
Figure 9.1 Number of heterosexuals diagnosed with HIV by race/ethnicity, 2013-2022, San Francisco



1 Includes people with HIV by year of their initial HIV diagnosis. See Technical Notes “Date of Initial HIV Diagnosis.”

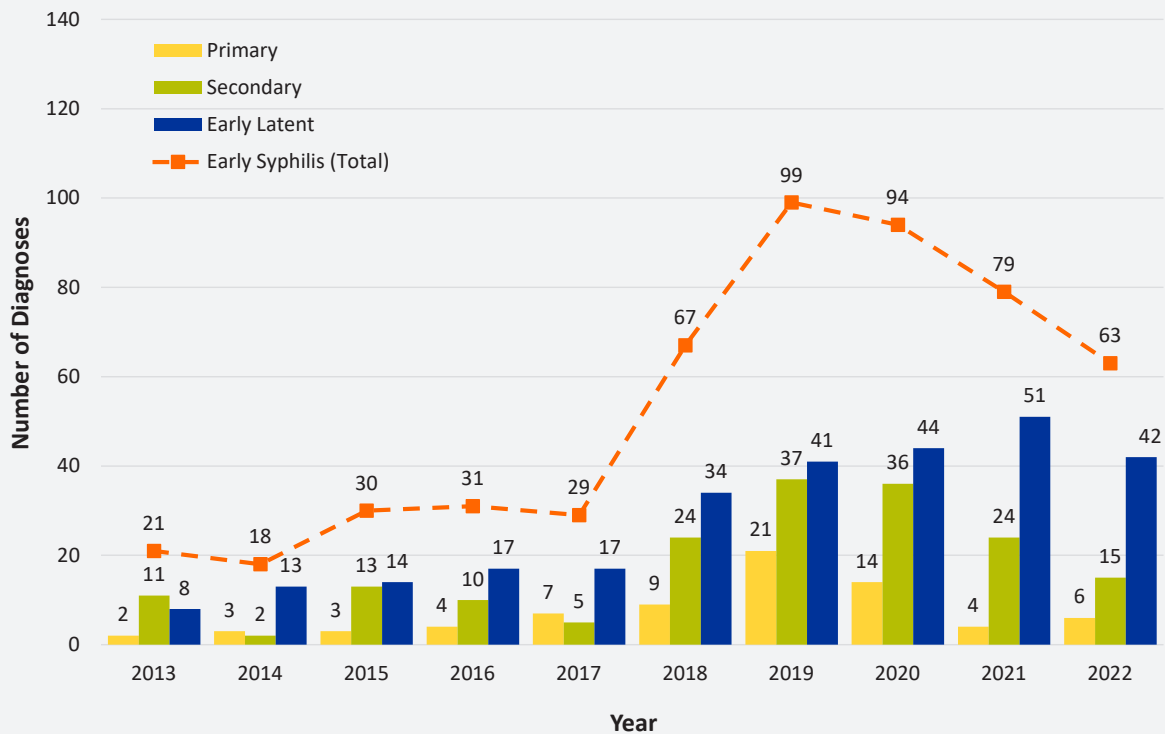
Sexually transmitted infections among heterosexuals

Figure 9.2 Early syphilis among heterosexual cis men¹, 2013-2022, San Francisco



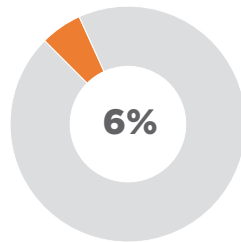
¹ Data on early syphilis originate from San Francisco Department of Public Health STI case registry.

Figure 9.3 Early syphilis among cis women¹, 2013-2022, San Francisco



¹ Data on early syphilis originate from San Francisco Department of Public Health STI case registry.

10 HIV among Cis Women

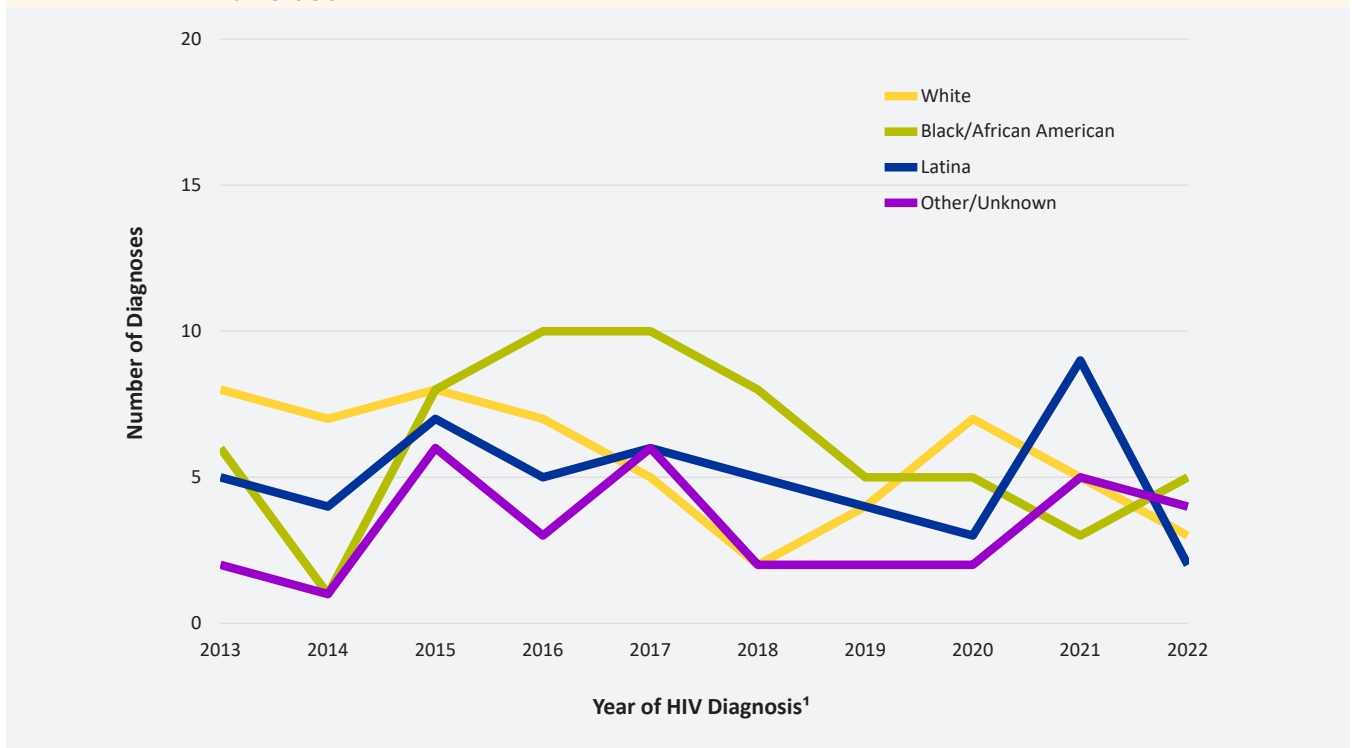


OF PLWH WERE CIS WOMEN AS OF 12/31/2022

Among cis women diagnosed with HIV during 2013 through 2022, 31% were Black/African Americans, 28% Whites and 25% Latinas. There were five or fewer new diagnoses in each racial/ethnic group in 2022 (Figure 10.1).

Despite making up only 5% of the total female population in San Francisco, Black/African American women made up a third (35%) of cis women living with HIV (Figure 10.2). Latinas were also overrepresented; 25% of cis women living with HIV were Latinas but were only 15% of the overall population. About half (53%) of women living with HIV acquired HIV through heterosexual sex (See Technical Notes “HIV Transmission Category Heterosexual Contact”) and 41% through injection drug use (Figure 10.3).

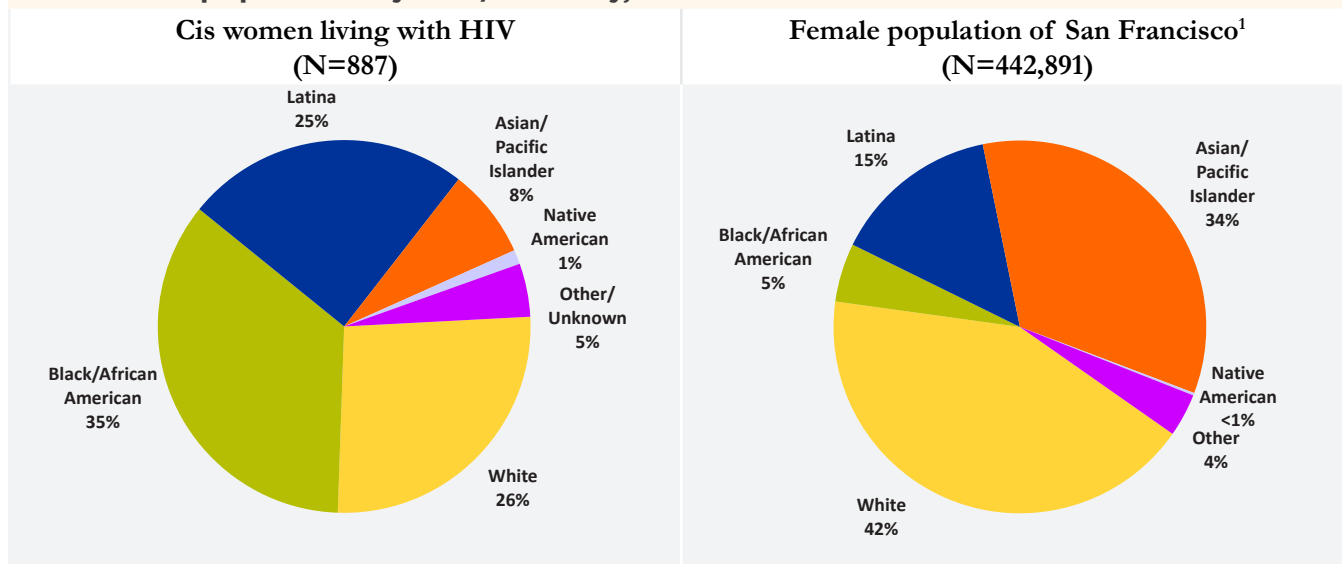
Figure 10.1 Number of cis women diagnosed with HIV by race/ethnicity, 2013-2022, San Francisco



¹ Includes cis women with HIV by year of their initial HIV diagnosis. See Technical Notes “Date of Initial HIV Diagnosis.”

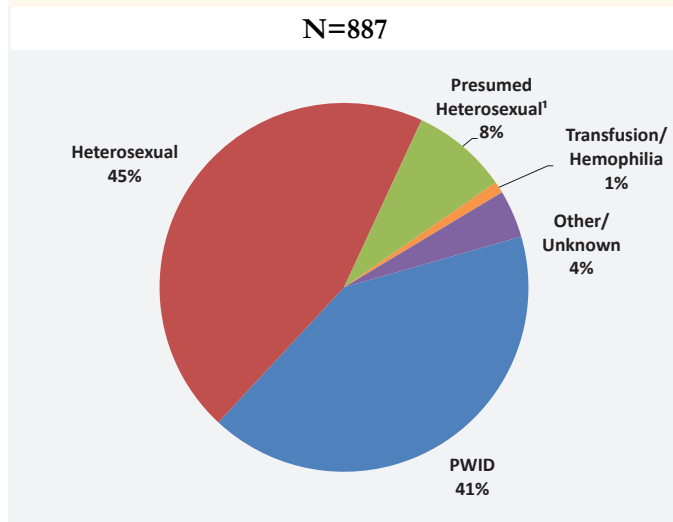


Figure 10.2 Cis women living with HIV diagnosed through December 2022 and female population by race/ethnicity, San Francisco



¹ California Department of Finance estimates of San Francisco female population 2022.

Figure 10.3 Cis Women living with HIV diagnosed through December 2022 by transmission category, San Francisco



¹ See Technical Notes “HIV Transmission Category Heterosexual Contact.”

11 HIV among Children, Adolescents and Young Adults

Latinx

ACCOUNTED FOR 51% OF YOUNG ADULTS LIVING WITH HIV AS OF 12/31/2022

Youth aged 24 and under made up fewer than 1% of PLWH in San Francisco (Table 11.1). As of December 31, 2022, there were no adolescents (aged 13-17) and 53 young adults (aged 18-24) living with HIV. Among young adults living with HIV, about three-quarters (72%) were MSM and 6% were MSM-PWID. As with other adults, young adult persons of color were overrepresented in the population of PLWH: half (51%) of young adults living with HIV were Latinx and almost a third (32%) were Black/African American. The number of pediatric (children less than 13 years old) HIV diagnoses peaked during 1986 through 1995, and has declined over time, with zero pediatric HIV diagnoses among residents of San Francisco during 2006 to 2022 (Figure 11.1).

Table 11.1 Characteristics of young adults living with HIV, December 2022, San Francisco

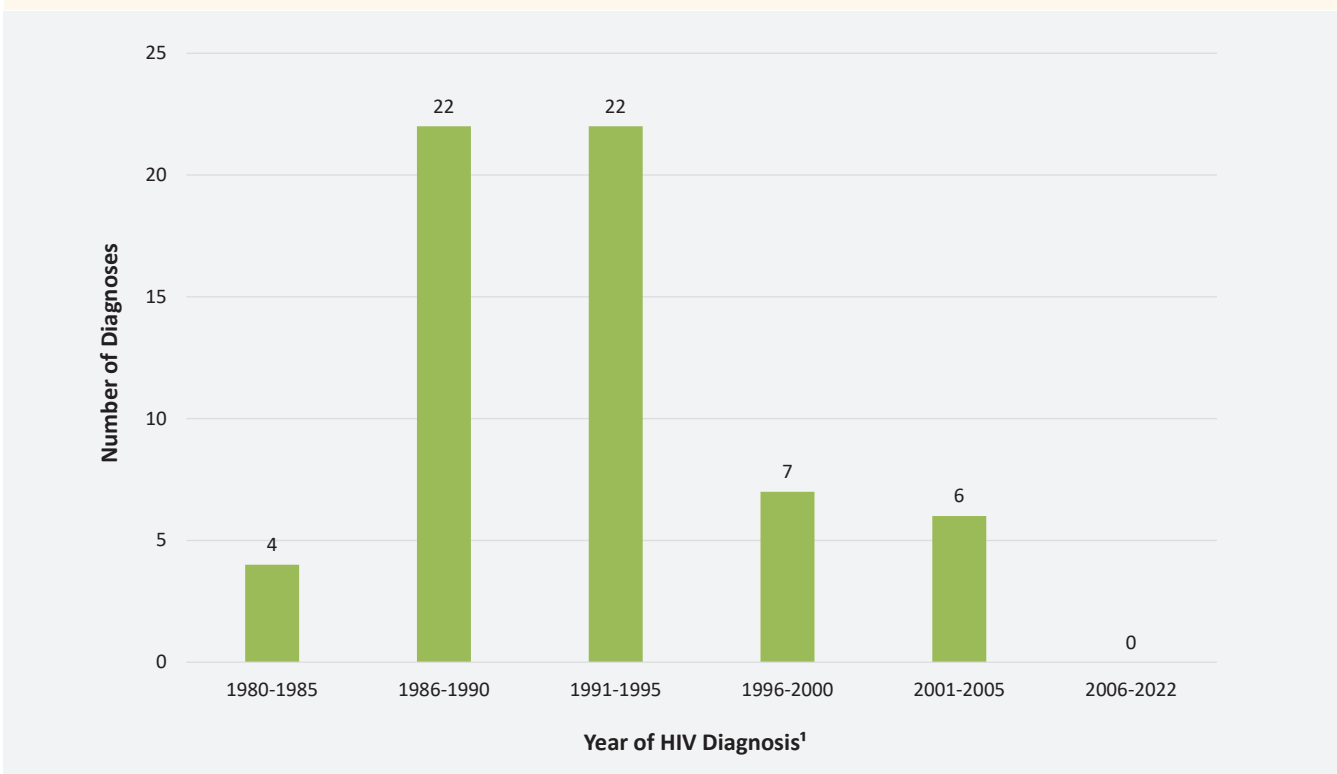
		18 - 24 Years Old	
		Number (%)	
Total		53	
Transmission Category	MSM	38 (72)	
	MSM-PWID	3 (6)	
	Heterosexual	4 (8)	
	Perinatal	4 (8)	
	Other/Unidentified ¹	4 (8)	
Gender²	Cis Men	44 (83)	
	Cis and Trans Women	9 (17)	
Race/Ethnicity	White	3 (6)	
	Black/African American	17 (32)	
	Latinx	27 (51)	
	Asian/Pacific Islander	4 (8)	
	Other/Unknown	2 (4)	

¹ Includes TWSM, TWSM-PWID, and people with no identified risk factor.

² Data on cis and trans women are not released separately due to small numbers. See Technical Notes “Gender Status.”

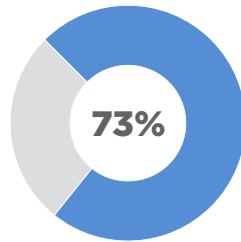


Figure 11.1 Number of children diagnosed with HIV, 1980-2022, San Francisco



¹ See Technical Notes “Date of Initial HIV Diagnosis.”

12 HIV among People Aged 50 Years and Older



OF PLWH WERE AGED 50 YEARS AND OLDER AS OF 12/31/2022

As of December 31, 2022, 73% of PLWH were aged 50 years and older and 25% aged 65 years old and older (Table 12.1). Among those aged 50 years and older, 63% were White, 17% were Latinx, 11% were Black/African American, and 5% were Asian/Pacific Islander (Table 12.1). Most (88%) of older PLWH (50 years and older) were MSM including MSM-PWID.

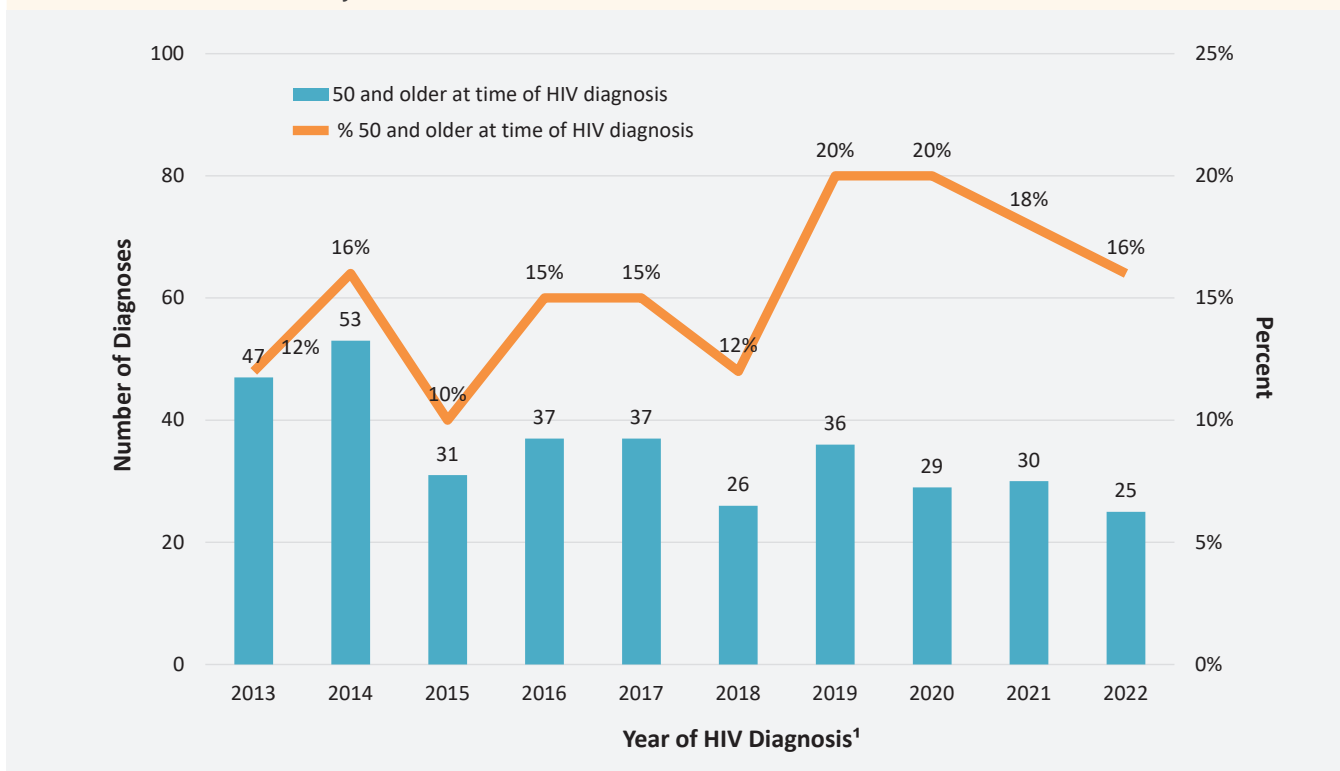
While the overall number of diagnoses during 2013 to 2022 has decreased, the proportion of total diagnoses among people aged 50 years and older has increased in recent years (2019-2022, Figure 12.1). During 2013-2022, 408 people aged 50 years and older were diagnosed with HIV, including 43 who were 65 years and older. A higher proportion of cis women, Whites, Black/African Americans, PWID, and heterosexuals aged 50 years and older were diagnosed with HIV compared to those who were younger at time of diagnosis (Table 12.2). Of all people diagnosed at age 50 years and older, 44% were 50-54 years old, 27% were 55-59 years old, 19% were 60-64 years old, and 11% were 65 years and older.

Table 12.1 Characteristics of people living with HIV by age group, December 2022, San Francisco

		As of 12/31/2022		
		Age < 50 years	Age ≥ 50 years	Age ≥ 65 years
		Number (%)		
Total		4,156	11,381	3,826
Gender¹	Cis Men	3,632 (87)	10,581 (93)	3,615 (94)
	Cis Women	300 (7)	587 (5)	178 (5)
	Trans Women	215 (5)	212 (2)	32 (1)
Race/Ethnicity	White	1,526 (37)	7,195 (63)	2,676 (70)
	Black/African American	527 (13)	1,251 (11)	457 (12)
	Latinx	1,409 (34)	1,958 (17)	458 (12)
	Asian/Pacific Islander	477 (11)	567 (5)	123 (3)
	Native American	23 (1)	39 (<1)	6 (<1)
	Other/Unknown	194 (5)	371 (3)	106 (3)
Transmission Category	MSM	2,849 (69)	8,572 (75)	3,043 (80)
	TWSM	156 (4)	107 (1)	18 (<1)
	PWID	179 (4)	609 (5)	217 (6)
	MSM-PWID	559 (13)	1,469 (13)	375 (10)
	TWSM-PWID	58 (1)	102 (1)	14 (<1)
	Heterosexual	210 (5)	363 (3)	107 (3)
	Other/Unidentified	145 (3)	159 (1)	52 (1)
Age in Years	50-54		2,067 (18)	
	55-59		2,844 (25)	
	60-64		2,644 (23)	
	65+		3,826 (34)	3,826 (100)

¹ Data on trans men are not released separately due to small numbers. See Technical Notes “Gender Status.”

Figure 12.1 Number and percent of people diagnosed with HIV at age 50 years and older, 2013-2022, San Francisco



1 Includes people with HIV by year of their initial HIV diagnosis. See Technical Notes “Date of Initial HIV Diagnosis.”



Table 12.2 Characteristics of people diagnosed with HIV by age at diagnosis, 2013-2022, San Francisco

		Age < 50 years at diagnosis	Age ≥ 50 years at diagnosis	Age ≥ 65 years at diagnosis
		Number (%)		
Total		2,466	408	43
Gender ¹	Cis Men	2,186 (89)	336 (82)	35 (81)
	Cis Women	163 (7)	64 (16)	8 (19)
	Trans Women	110 (4)	8 (2)	0 (0)
Race/Ethnicity	White	878 (36)	219 (54)	21 (49)
	Black/African American	332 (13)	65 (16)	7 (16)
	Latinx	833 (34)	65 (16)	9 (21)
	Asian/Pacific Islander	316 (13)	34 (8)	4 (9)
	Other/Unknown	107 (4)	25 (6)	2 (5)
Transmission Category ²	MSM	1,724 (70)	238 (58)	25 (58)
	PWID	153 (6)	60 (15)	4 (9)
	MSM-PWID	279 (11)	35 (9)	2 (5)
	Heterosexual	115 (5)	41 (10)	7 (16)
	Other/Unidentified	195 (8)	34 (8)	5 (12)
Age in Years	50-54		178 (44)	
	55-59		109 (27)	
	60-64		78 (19)	
	65+		43 (11)	43 (100)

1 Data on trans men are not released separately due to small numbers. See Technical Notes “Gender Status.”

2 Heterosexual includes female presumed heterosexual. Other/Unidentified includes TWSM, TWSM-PWID and people with no identified risk factor.

13 HIV among Trans Women

4%
OF HIV DIAGNOSES
DURING 2013-2022
WERE TRANS WOMEN

From 2013 through 2022, there were 105 trans women diagnosed with HIV in San Francisco (Table 13.1). Compared to people diagnosed with HIV in this time period who were not trans women, trans women were more likely to be Black/African American (23%) or Latinx (41%). Among the 427 trans women living with HIV in San Francisco as of December 31, 2022, Latinx (37%) and Black/African Americans (30%) accounted for the largest proportions (Table 13.2). In terms of transmission risk factor, newly diagnosed trans women were more likely than people of other genders to be PWID (28%), and 38% of all trans women living with HIV were PWID. Finally, trans women were also more likely to be younger among both the newly diagnosed and PLWH.

Table 13.1 Characteristics of trans women diagnosed with HIV, 2013-2022, San Francisco

		New HIV Diagnoses, 2013-2022	
		Trans Women ¹	Others
		Number (%)	
Total		105	2,291
Race/Ethnicity	White	17 (16)	852 (37)
	Black/African American	24 (23)	320 (14)
	Latinx	43 (41)	737 (32)
	Asian/Pacific Islander	14 (13)	282 (12)
	Other/Unknown	7 (7)	100 (4)
People who Inject Drugs	Yes	29 (28)	452 (20)
	No	76 (72)	1,839 (80)
Age at Diagnosis (Years)	13 - 24	18 (17)	311 (14)
	25 - 29	17 (16)	457 (20)
	30 - 39	38 (36)	707 (31)
	40 - 49	24 (23)	473 (21)
	50+	8 (8)	343 (15)

¹ See Technical Notes "Gender Status."

Table 13.2 Characteristics of trans women living with HIV, December 2022, San Francisco

		PLWH, December 2022	
		Trans Women ¹	Others
		Number (%)	
Total		427	15,110
Race/Ethnicity	White	71 (17)	8,650 (57)
	Black/African American	127 (30)	1,651 (11)
	Latinx	156 (37)	3,211 (21)
	Asian/Pacific Islander	44 (10)	1,000 (7)
	Other/Unknown	29 (7)	598 (4)
People who Inject Drugs	Yes	163 (38)	2,813 (19)
	No	264 (62)	12,297 (81)
Age in Years (at end of 2022)	13 - 17	0 (0)	0 (0)
	18 - 24	3 (1)	50 (<1)
	25 - 29	17 (4)	231 (2)
	30 - 39	82 (19)	1,391 (9)
	40 - 49	113 (26)	2,269 (15)
	50+	212 (50)	11,169 (74)

¹ See Technical Notes "Gender Status."

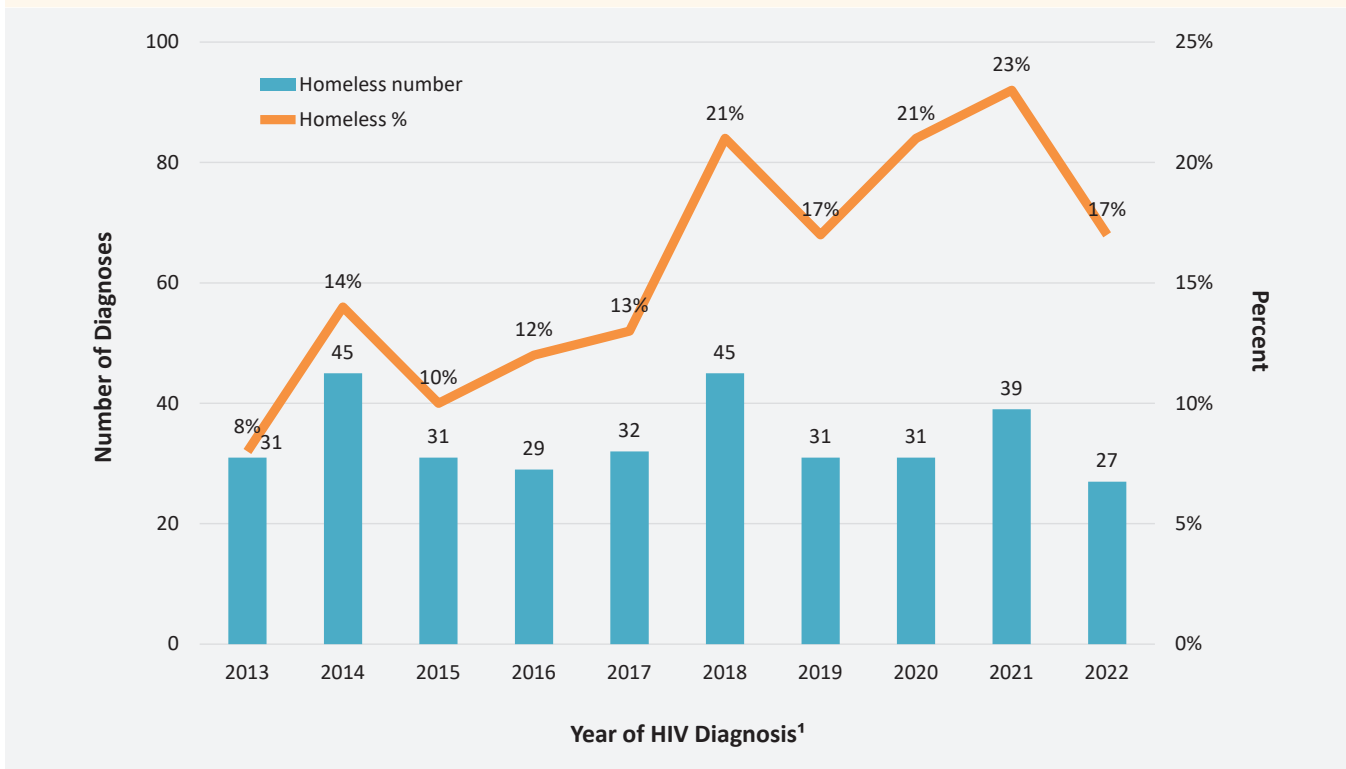
14 HIV among People Experiencing Homelessness

From 2013 through 2022, the proportion of HIV diagnoses among people experiencing homelessness (PEH) increased over time with a high of 23% in 2021 and declined to 17% in 2022 (Figure 14.1).

Among people diagnosed from 2013 to 2022, 341 people were homeless at HIV diagnosis (Table 14.1). PEH at time of diagnosis were more likely to be cis women or trans women and Black/African Americans. In terms of transmission risk, PEH were more likely to be PWID, including MSM-PWID and TWSM-PWID compared to people who were not homeless. Fifty-one percent of the diagnoses among PEH were among PWID, including MSM-PWID and TWSM-PWID.

Of the 8,163 PLWH with a San Francisco residential housing status or address information, 438 (5%) were homeless or lived in a single-room occupancy (SRO) facility in 2022 (Table 14.2). Cis women, transgender people, Black/African Americans, Latinx, PWID (including MSM-PWID and TWSM-PWID), and people in younger age groups (13-49 years), were more likely to be homeless or live in a SRO facility/shelter during 2022.

Figure 14.1 Number and percent of people experiencing homelessness diagnosed with HIV, 2013-2022, San Francisco



¹ Includes people with HIV by year of their initial HIV diagnosis. See Technical Notes “Date of Initial HIV Diagnosis.”

Table 14.1 Characteristics of people diagnosed with HIV who were homeless compared to people who were not homeless, 2013-2022, San Francisco

		New HIV Diagnoses, 2013-2022	
		Homeless	Non-Homeless
		Number (%)	
Total		341	2,055
Gender¹	Cis Men	269 (79)	1,815 (88)
	Cis Women	48 (14)	152 (7)
	Trans Women	24 (7)	81 (4)
Race/Ethnicity	White	127 (37)	742 (36)
	Black/African American	76 (22)	268 (13)
	Latinx	104 (30)	676 (33)
	Asian/Pacific Islander	10 (3)	286 (14)
	Other/Unknown	24 (7)	83 (4)
Transmission Category	MSM	116 (34)	1,493 (73)
	TWSM	14 (4)	62 (3)
	PWID	90 (26)	102 (5)
	MSM-PWID	74 (22)	187 (9)
	TWSM-PWID	9 (3)	19 (1)
	Heterosexual	27 (8)	141 (7)
	Other/Unidentified	11 (3)	51 (2)
Age at Diagnosis (Years)	13 - 24	38 (11)	291 (14)
	25 - 29	60 (18)	414 (20)
	30 - 39	117 (34)	628 (31)
	40 - 49	75 (22)	422 (21)
	50+	51 (15)	300 (15)

¹ Trans men data are not released separately due to small numbers. See Technical Notes “Gender Status.”



Table 14.2 Characteristics of people living with HIV who were homeless or lived in a SRO facility during 2022 compared to people who were not homeless and did not live in a SRO facility, San Francisco

		PLWH as of 12/31/2022 ¹	
		Ever homeless or SRO in 2022	Non-homeless/non-SRO in 2022
		Number (%)	
	Total	438	7,725
Gender²	Cis Men	335 (76)	7,116 (92)
	Cis Women	47 (11)	404 (5)
	Transgender	56 (13)	205 (3)
Race/Ethnicity	White	165 (38)	4,351 (56)
	Black/African American	102 (23)	832 (11)
	Latinx	109 (25)	1,671 (22)
	Asian/Pacific Islander	25 (6)	557 (7)
	Other	30 (8)	314 (4)
Transmission category	MSM	166 (38)	5,783 (75)
	TWSM	28 (6)	131 (2)
	PWID	74 (17)	332 (4)
	MSM-PWID	102 (23)	1,025 (13)
	TWSM-PWID	26 (6)	65 (1)
	Heterosexual	33 (8)	314 (4)
	Other/Unidentified	9 (2)	75 (1)
Age in years (as of 12/31/2022)	13-24	9 (2)	28 (<1)
	25-29	20 (5)	156 (2)
	30-39	85 (19)	769 (10)
	40-49	90 (21)	1,222 (16)
	50-59	120 (27)	2,484 (32)
	60-69	84 (19)	2,227 (29)
	70+	30 (7)	839 (11)

1 PLWH as of 12/31/2022 diagnosed in San Francisco at any HIV stage with residential housing status or address information in 2022.

2 Trans men and trans women not displayed separately due to small cell sizes and small denominators.

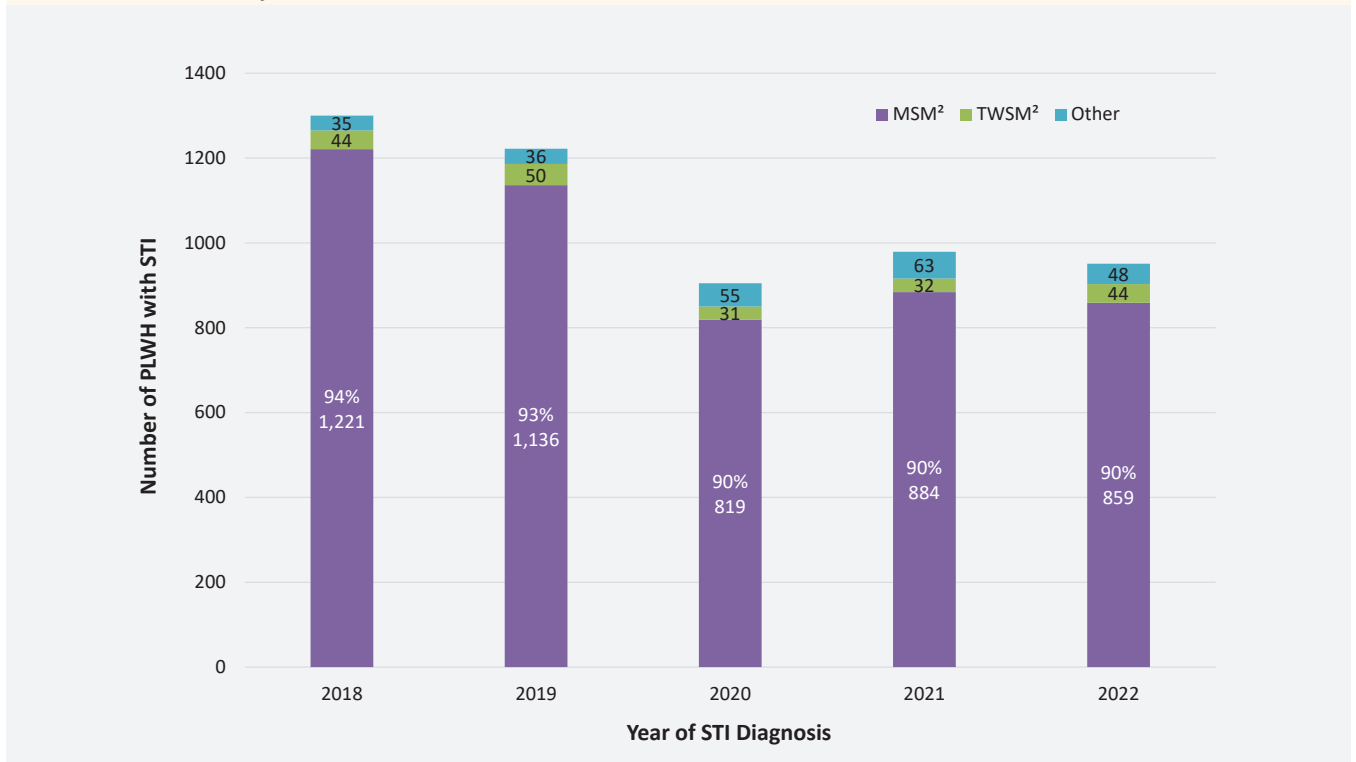
15 Sexually Transmitted Infections among People with HIV

92%

OF STI DIAGNOSES AMONG PLWH WERE AMONG MSM FROM 2018-2022

The number of sexually transmitted infection (STI) diagnoses among PLWH declined from 1,300 in 2018 to 951 in 2022 (Figure 15.1). The majority of STI diagnoses (92%) were among MSM. The majority of PLWH diagnosed with an STI from 2018 through 2022 were cis men and White (Table 15.1). From 2018 to 2022 there were increasing proportions of trans women, Latinx, and persons aged 50 years and older at time of STI diagnosis.

Figure 15.1 STI diagnoses¹ among people living with HIV by year of STI diagnosis, 2018-2022, San Francisco



1 See Technical Notes “HIV and STI Diagnosis.”

2 MSM includes MSM-IDU and TWSM excludes TWSM-PWID.



Table 15.1 Demographic characteristics of people living with HIV who were diagnosed with an STI¹, 2018-2022, San Francisco

		Year of STI diagnosis				
		2018	2019	2020	2021	2022
		Number (%)				
Total		1,300	1,222	905	979	951
Gender²	Cis Men	1,232 (95)	1,154 (94)	837 (92)	913 (93)	872 (92)
	Cis Women	23 (2)	18 (1)	20 (2)	20 (2)	19 (2)
	Trans Women	44 (3)	50 (4)	46 (5)	45 (5)	58 (6)
Race/Ethnicity	White	647 (50)	591 (48)	401 (44)	419 (43)	385 (40)
	Black/African American	125 (10)	101 (8)	89 (10)	95 (10)	94 (10)
	Latinx	345 (27)	369 (30)	284 (31)	325 (33)	343 (36)
	Asian/Pacific Islander	119 (9)	109 (9)	89 (10)	99 (10)	96 (10)
	Other/Unknown	64 (5)	52 (4)	42 (5)	41 (4)	33 (3)
Age at STI Diagnosis (years)	13 - 29	121 (9)	90 (7)	62 (7)	68 (7)	71 (7)
	30 - 39	306 (24)	305 (25)	237 (26)	240 (25)	240 (25)
	40 - 49	359 (28)	335 (27)	236 (26)	236 (24)	229 (24)
	50 - 59	373 (29)	359 (29)	268 (30)	311 (32)	288 (30)
	60 +	141 (11)	133 (11)	102 (11)	124 (13)	123 (13)

1 See Technical Notes “HIV and STI Diagnosis.”

2 Data on trans men are not released separately due to small numbers. See Technical Notes “Gender Status.”

16 Pre-Exposure Prophylaxis

PrEP use among MSM living without HIV has increased for all race/ethnicities from 2015 to 2022 among San Francisco City Clinic (SFCC) patients (Figure 16.1). In 2015, PrEP use ranged from 23%-27% among MSM living without HIV across all race/ethnicities and increased to 67%-82% in 2022. Black/African American MSM had the lowest proportions of PrEP use compared to MSM of all other race/ethnicities since 2016.

From 2015 through 2022, PrEP use increased among MSM living without HIV in every age group (Figure 16.2). In 2022, PrEP use was highest among MSM aged 25-34 years and 35-44 years and lowest among MSM 55 years and older compared to other age groups.

SFCC offered patients various regimens for PrEP (See Technical Notes “HIV Pre-exposure Prophylaxis Regimens”): daily PrEP which consisted of taking PrEP medication once per day or PrEP 2-1-1 which involves taking PrEP medication before and after sexual intercourse instead of daily. Individuals were able to change which regimen they used from visit to visit.

The proportion of MSM who received PrEP from SFCC who selected 2-1-1 PrEP at enrollment or a follow-up visit increased from 6.4% in 2019 to 8.6% in 2021. Asian and White MSM had the highest numbers on PrEP 2-1-1 from 2019 to 2021, with the proportion on PrEP 2-1-1 increasing among Asians from 2019 to 2021 and the proportions declining for Whites. Among cis women and trans women, the number on PrEP 2-1-1 was low; one, two and three in years 2019, 2020 and 2021, respectively.

The number of clients screened for PrEP at the San Francisco AIDS Foundation (SFAF) ranged from 1,321 in 2020, 1,922 in 2021, to 1,759 in 2022 (Figure 16.3). Of those screened, both the number and percent who scheduled an appointment increased from 2020 (716, 54%) to 2022 (1,145, 65%). Enrollment in PrEP services ranged from 42% in 2020 and 2021 to 47% in 2022. Thirty-one percent of those enrolled in 2020-2022 were still on PrEP at their 3-month follow-up. At 6-month follow-up, 28% and 29% were still on PrEP in 2020 and 2021, respectively.

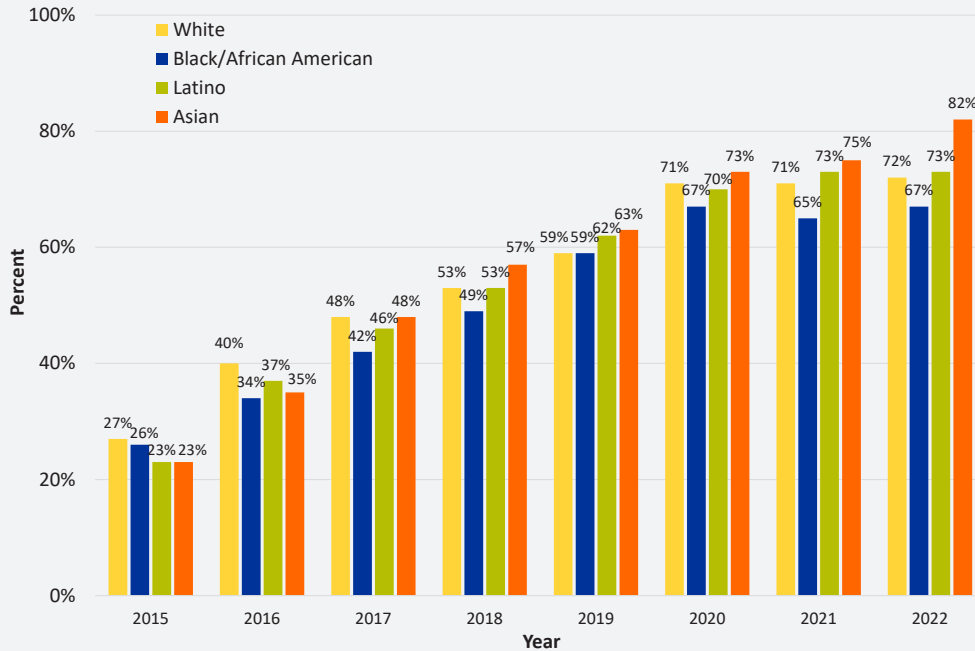
Figure 16.4 displays the numbers and proportion of PrEP screenings, appointments, enrollments and continued PrEP use at 3-month and 6-month follow-up by priority populations at the SFAF in 2021 and 2022. In 2021, Latino MSM had the highest proportions of appointments (64%), enrollments (48%) and continued PrEP use at six months (32%) of all populations. Black/African American MSM had the lowest proportion of enrollments (38%). At 6-month follow-up, continued PrEP use was low for both Black/African American MSM (23%) and trans women (23%). In 2022, although the number of trans women screened for PrEP was low compared to other priority groups, trans women had the highest proportion of scheduled appointments and enrollments but the lowest proportion continuing PrEP at 3-month follow-up.

Clients enrolled in PrEP at the SFAF in 2020 and 2021 were prescribed one of two PrEP regimens (See Technical Notes “HIV Pre-exposure Prophylaxis Regimens”): daily PrEP or PrEP 2-1-1 (Table 16.2). Among all clients enrolled in PrEP in 2021, 80% were enrolled to use daily PrEP and 20% were enrolled to use PrEP 2-1-1 similar to clients in 2020. White MSM had the highest proportion (20%) using PrEP 2-1-1.

In 2021, 71% of clients enrolled on daily PrEP and 56% of clients on PrEP 2-1-1 were still enrolled at 6-month follow-up. For Black/African American MSM, the percentage still on PrEP at 6-month follow-up was higher among those using PrEP 2-1-1 than daily PrEP.

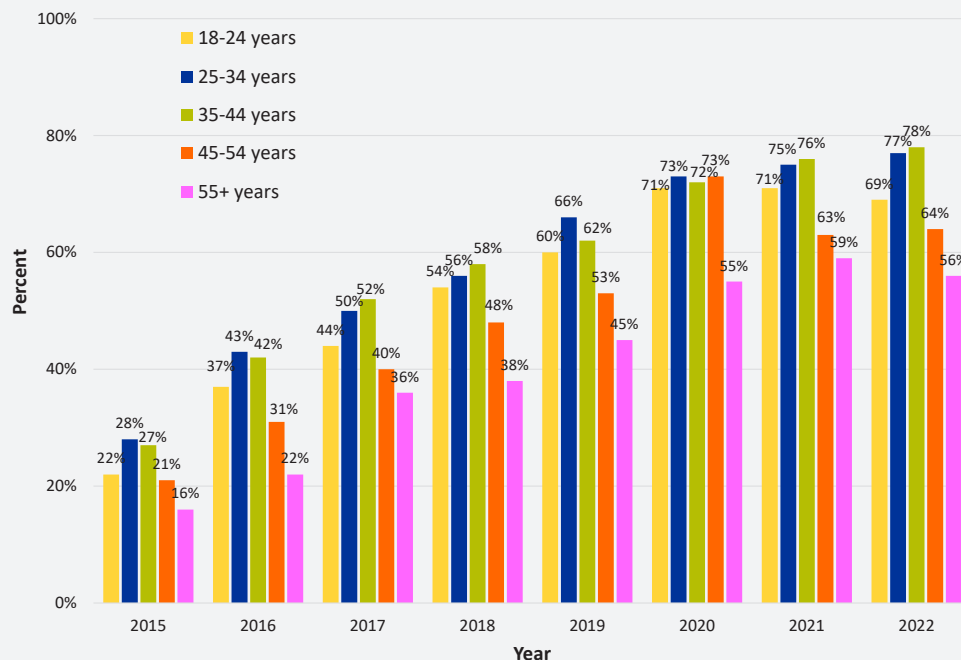
San Francisco City Clinic data

Figure 16.1 Proportion of MSM currently on PrEP¹ by race/ethnicity, San Francisco City Clinic patients, 2015-2022



¹ On PrEP at visit: (1) Answer 'yes' to are you currently on PrEP or (2) Enrolled in PrEP as of visit. Due to continuous quality improvement of data cleaning and management processes, data are subject to change and might be different in previous reports.

Figure 16.2 Proportion of MSM currently on PrEP¹ by age, San Francisco City Clinic patients, 2015-2022



¹ On PrEP at visit: (1) Answer 'yes' to are you currently on PrEP or (2) Enrolled in PrEP as of visit. Due to continuous quality improvement of data cleaning and management processes, data are subject to change and might be different in previous reports.

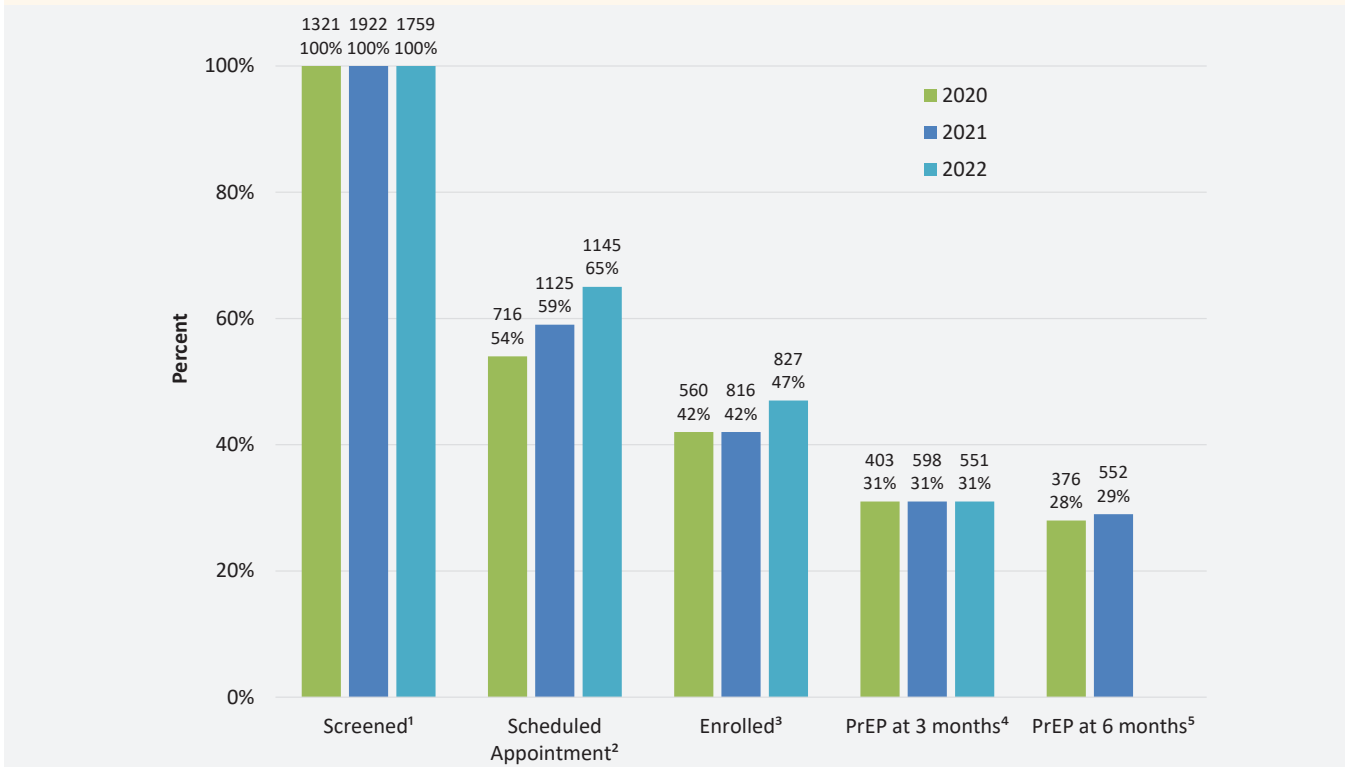
Table 16.1 MSM, cis women, and trans women on PrEP by race/ethnicity, age group, and PrEP regimen, San Francisco City Clinic patients, 2019-2021

		2019	2020	2021	
		Number ¹ (%)			
MSM	All Patients	708	625	654	
	Daily PrEP	660 (93.2)	577 (92.3)	591 (90.4)	
	PrEP 2-1-1	45 (6.4)	46 (7.4)	56 (8.6)	
	White	270	252	244	
	Daily PrEP	243 (90.0)	230 (91.3)	224 (91.8)	
	PrEP 2-1-1	25 (9.3)	21 (8.3)	18 (7.4)	
	Black/African American	66	57	55	
	Daily PrEP	64 (97.0)	54 (94.7)	50 (90.9)	
	PrEP 2-1-1	1 (1.5)	2 (3.5)	5 (9.1)	
	Latino	197	170	198	
	Daily PrEP	193 (98.0)	163 (95.9)	184 (92.9)	
	PrEP 2-1-1	12 (6.1)	7 (4.1)	9 (4.5)	
	Asian	144	108	107	
	Daily PrEP	132 (91.7)	95 (88.0)	88 (82.2)	
	PrEP 2-1-1	12 (8.3)	13 (12.0)	19 (17.8)	
	Other/Unknown	31	38	50	
	Daily PrEP	28 (90.3)	35 (92.1)	45 (90.0)	
	PrEP 2-1-1	3 (9.7)	3 (7.9)	5 (10.0)	
	Age in Years (at beginning of year)	18-24	87	70	82
		Daily PrEP	83 (95.4)	67 (95.7)	73 (89.0)
		PrEP 2-1-1	2 (2.3)	3 (4.3)	9 (11.0)
		25-34	348	348	295
		Daily PrEP	326 (93.7)	326 (93.7)	265 (89.8)
		PrEP 2-1-1	22 (6.3)	22 (6.3)	24 (8.1)
35-44		157	145	180	
Daily PrEP		148 (94.3)	131 (90.3)	166 (92.2)	
PrEP 2-1-1		8 (5.1)	14 (9.7)	13 (7.2)	
45-54		72	72	60	
Daily PrEP		63 (87.5)	69 (95.8)	54 (90.0)	
PrEP 2-1-1		9 (12.5)	3 (4.2)	6 (10.0)	
55+		44	40	37	
Daily PrEP		40 (90.9)	36 (90.0)	33 (89.2)	
PrEP 2-1-1		4 (9.1)	4 (10.0)	4 (10.8)	
Cis Women and Trans Women		All Patients	78	52	66
	Daily PrEP	77 (98.7)	50 (96.2)	61 (92.4)	
	PrEP 2-1-1	1 (1.3)	2 (3.8)	3 (4.5)	

1 Numbers in each sub-group may not add up to the total due to patients without PrEP regimen information.

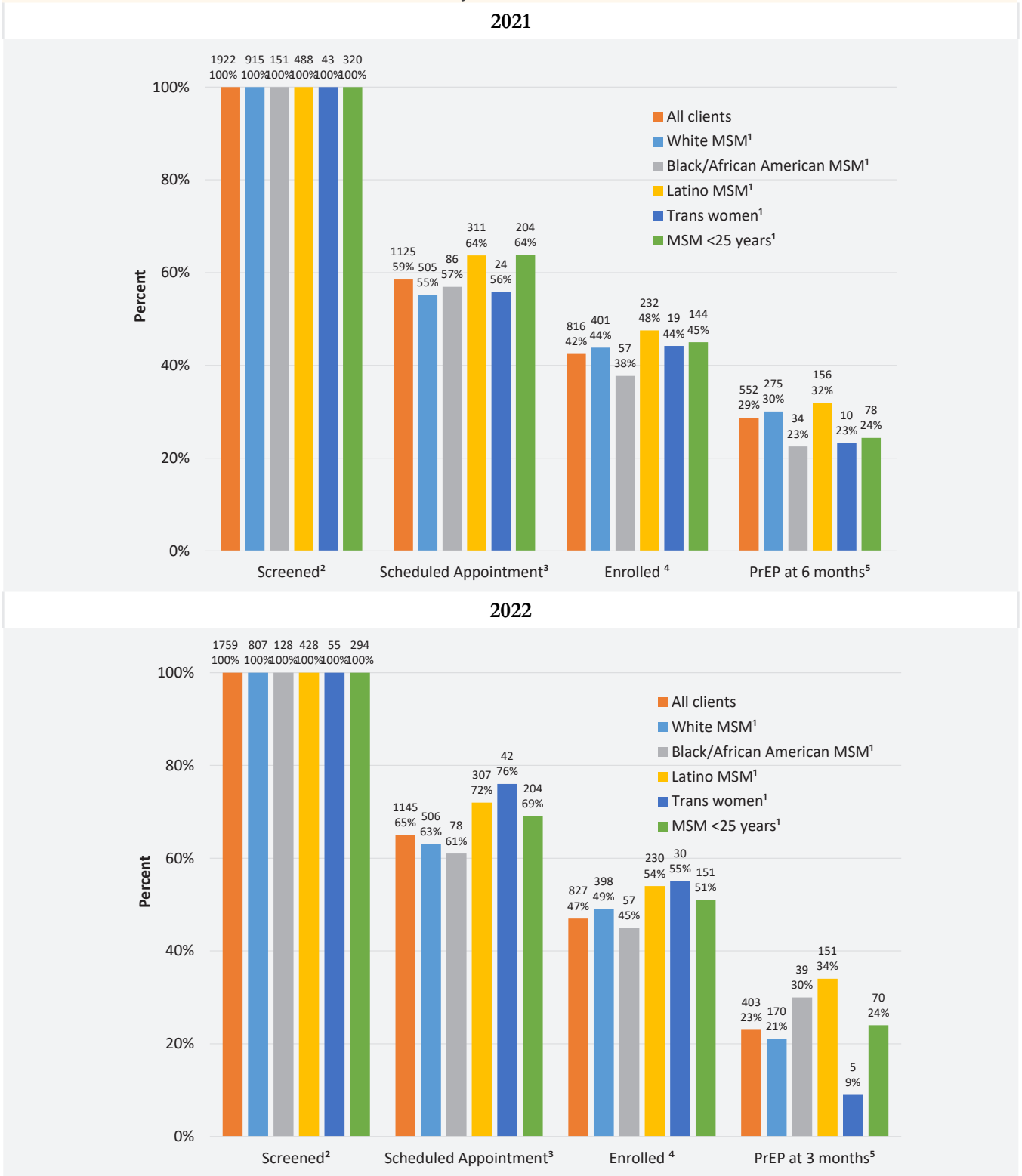
San Francisco AIDS Foundation data

Figure 16.3 PrEP screening, appointments, enrollment, and PrEP at three- and six-month follow-ups among clients being served by the San Francisco AIDS Foundation, 2020-2022



- 1 PrEP screening was defined as all people who were seen for sexual health care at the SFAF, were HIV-negative, and did not report current PrEP use on screening date.
- 2 Scheduled appointment for PrEP was defined as scheduling an appointment for PrEP enrollment.
- 3 Enrolled in PrEP was defined as attending a PrEP enrollment visit and having a PrEP prescription.
- 4 PrEP at three months was defined as still being enrolled in the SFAF PrEP program at three-month follow-up.
- 5 PrEP at six months was defined as still being enrolled in the SFAF PrEP program at six-month follow-up. Data on PrEP at six months are incomplete because not all PrEP enrollees in 2022 had completed six months of follow-up after enrollment.

Figure 16.4 PrEP screening, appointments, enrollment, and PrEP at three- and six-month follow-ups by priority populations among clients being served by the San Francisco AIDS Foundation, 2021-2022



1 These groups are priority populations and not mutually exclusive.
 2 PrEP screening was defined as all people who were seen for sexual health care at the SFAF, were HIV-negative, and did not report current PrEP use on screening date.
 3 Scheduled appointment for PrEP was defined as scheduling an appointment for PrEP enrollment.
 4 Enrolled in PrEP was defined as attending a PrEP enrollment visit and having a PrEP prescription.
 5 PrEP at three or six months was defined as still being enrolled in the SFAF PrEP program at three- or six-month follow-up.



Table 16.2 PrEP enrollment and PrEP at six-month follow-up by priority population clients and PrEP regimen, San Francisco AIDS Foundation, 2020-2021

		2020		2021	
		Enrolled ¹	PrEP at Six Months ²	Enrolled ¹	PrEP at Six Months ²
		Number (Column %)	Number (row % of Enrolled PrEP Regimen)	Number (Column %)	Number (row % of Enrolled PrEP Regimen)
Priority Populations/ PrEP Regimens	All Clients	560	376	816	552
	Daily PrEP	456 (81)	306 (67)	651 (80)	459 (71)
	PrEP 2-1-1	104 (19)	70 (67)	165 (20)	93 (56)
	White MSM	240	158	401	275
	Daily PrEP	193 (80)	127 (66)	322 (80)	231 (72)
	PrEP 2-1-1	47 (20)	31 (66)	79 (20)	44 (56)
	Black/African American MSM	55	35	57	34
	Daily PrEP	43 (78)	27 (63)	49 (86)	29 (59)
	PrEP 2-1-1	12 (22)	8 (67)	8 (14)	5 (63)
	Latino MSM	193	140	232	156
	Daily PrEP	161 (83)	113 (70)	199 (86)	140 (70)
	PrEP 2-1-1	32 (17)	27 (84)	33 (14)	16 (48)
	MSM <25 years	100	65	144	78
	Daily PrEP	83 (83)	53 (64)	118 (82)	68 (58)
	PrEP 2-1-1	17 (17)	12 (71)	26 (18)	10 (38)

1 Enrolled in PrEP was defined as attending a PrEP enrollment visit and having a PrEP prescription.

2 PrEP at six months was defined as still being enrolled in the SFAF PrEP program at six month follow-up.

3 These groups are priority populations and not mutually exclusive. Data on trans women are not displayed due to small numbers.

17 Geographic Distribution of People with HIV

There were 11,798 current San Francisco residents living with HIV as of December 31, 2022, regardless of their residence at HIV diagnosis. By neighborhood, the Castro had the highest number of PLWH (N=1,640), followed by the Tenderloin (N=1,369) and the Western Addition (N=1,160) (Map 17.1). The Castro, Diamond Heights, Mission, South of Market, Tenderloin, and Western Addition neighborhoods included census tracts with the highest numbers of PLWH (shown in blue). Three census tracts in the Castro had the largest number of PLWH followed by census tracts in the South of Market and Western Addition neighborhoods. The Tenderloin census tracts are smaller in geographic area but have similarly high numbers of PLWH, a reminder of the high density of PLWH by geographic area in this neighborhood.

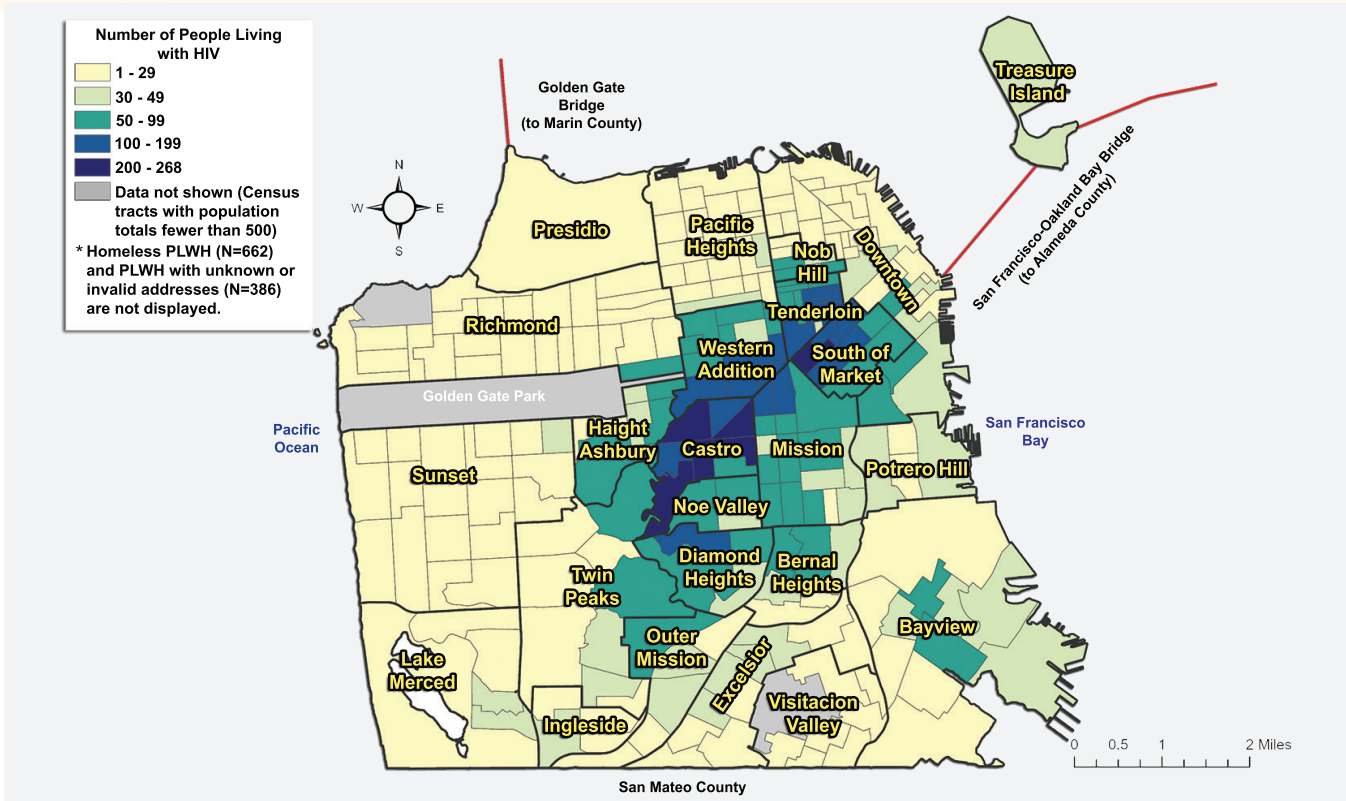
When accounting for population size, the Castro had the highest HIV prevalence (6,129 PLWH per 100,000), followed by the Tenderloin (3,126 per 100,000), South of Market (2,901 per 100,000), and the Western Addition (2,568 per 100,000) (Map 17.2). The Tenderloin had the highest cumulative rate of new diagnoses in 2021-2022 (116 per 100,000), followed by the Castro (90 per 100,000) and South of Market (60 per 100,000) (Map 17.3).

The Tenderloin had the highest mortality rate (from all causes) in 2022 among PLWH (98 deaths per 100,000), followed by the Castro (75 deaths per 100,000), the Western Addition (60 deaths per 100,000), and South of Market (53 deaths per 100,000) (Map 17.4). Although HIV prevalence in the Castro was nearly twice as high as in the neighborhoods with the next highest HIV prevalence rates (Map 17.2), the Tenderloin's mortality rate approached 100 deaths per 100,000, which far surpassed mortality rates of other neighborhoods. Noe Valley had no deaths among PLWH in 2022.

Citywide, 73% of PLWH in San Francisco who were diagnosed through December 2021 were virally suppressed as of December 2022 (Map 17.5). Only three neighborhoods had a viral suppression prevalence more than one percentage point below the city-wide level: Visitacion Valley (70%), the Tenderloin (68%), and Treasure Island (53%). At 52% virally suppressed, unhoused PLWH had a much lower prevalence of viral suppression compared to PLWH with a residential address in any neighborhoods.

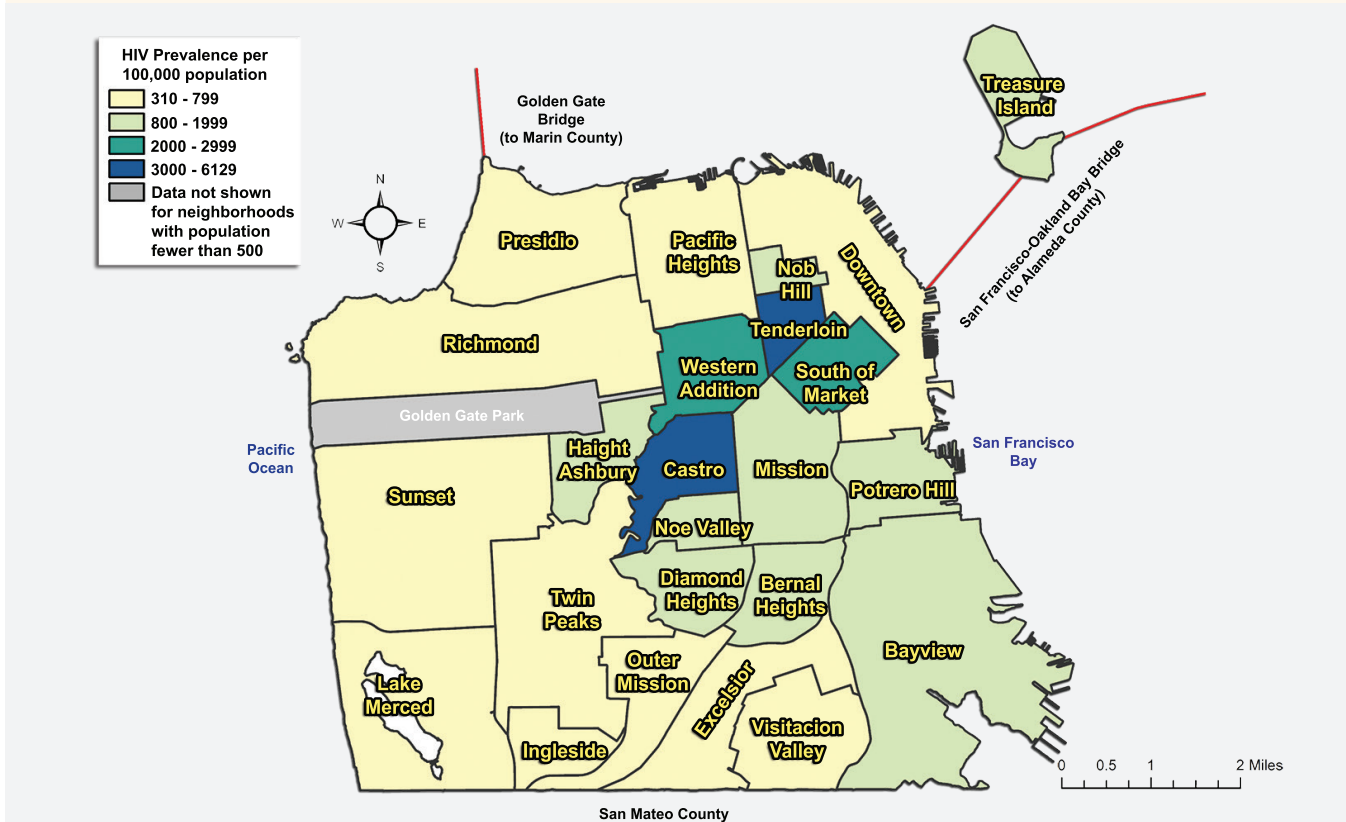
When contrasting San Francisco's out-migration to in-migration of PLWH and during 2021-2022, more PLWH left San Francisco than PLWH who migrated into the city (Table 17.1). Among PLWH who migrated out, most were White (53%). A larger percentage of Black/African American (16%) or Latinx (30%) PLWH moved out of the city compared to those who moved in (12% and 24%, respectively). A higher proportion of persons who migrated out were MSM (79%) compared to persons who migrated into San Francisco (71%). Persons who migrated out were generally older, compared to persons who migrated in.

Map 17.1 Geographic distribution¹ of people living with HIV who resided in San Francisco as of December 2022

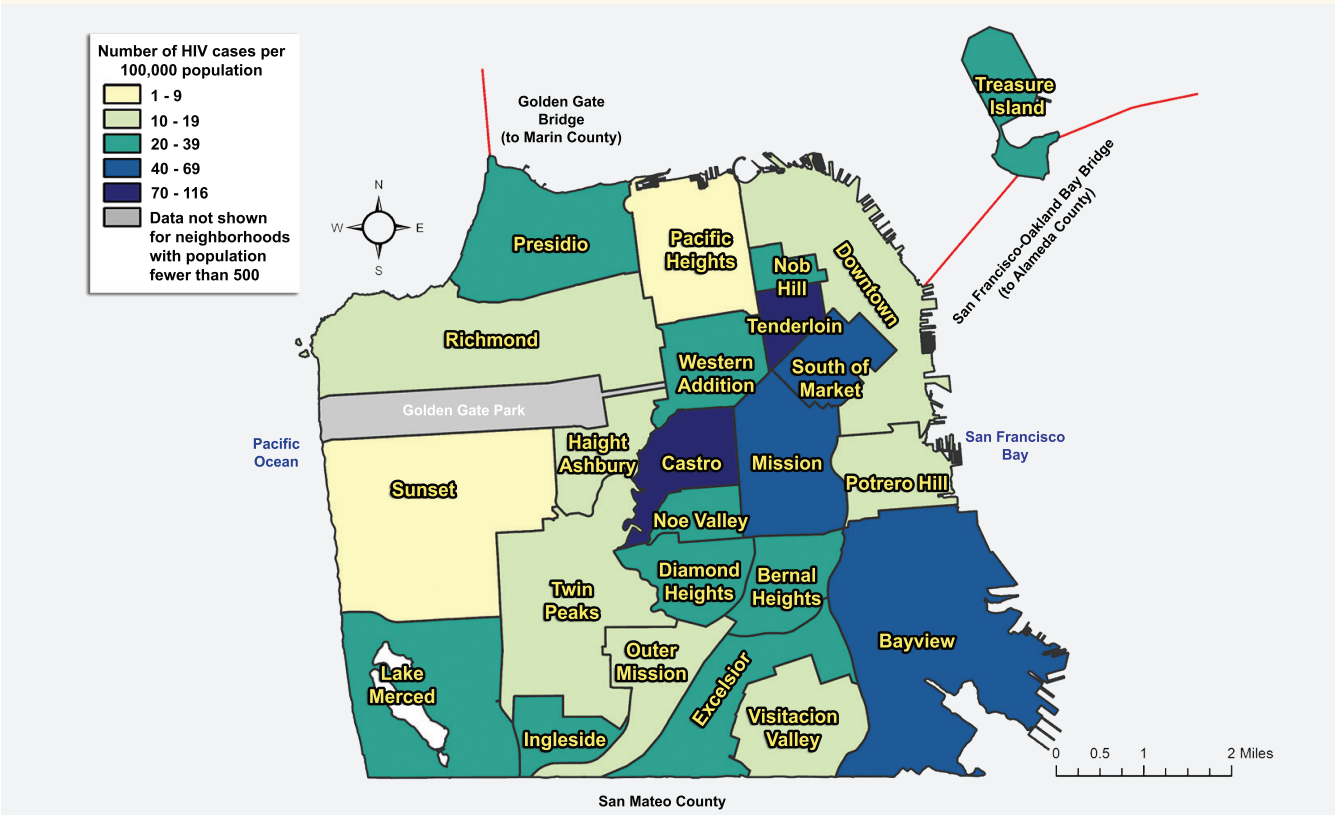


¹ The most recently reported address for PLWH as of December 31, 2022 was geocoded and displayed at census tract and neighborhood level on the map. Addresses are obtained through chart review, laboratory reports, and communications with other jurisdictions. 2020 U.S. Census data from DataSF: <https://data.sfgov.org/Geographic-Locations-and-Boundaries/Census-2020-Tracts-for-San-Francisco/tmph-tgz9>.

Map 17.2 HIV prevalence per 100,000 population by neighborhood, 2022, San Francisco

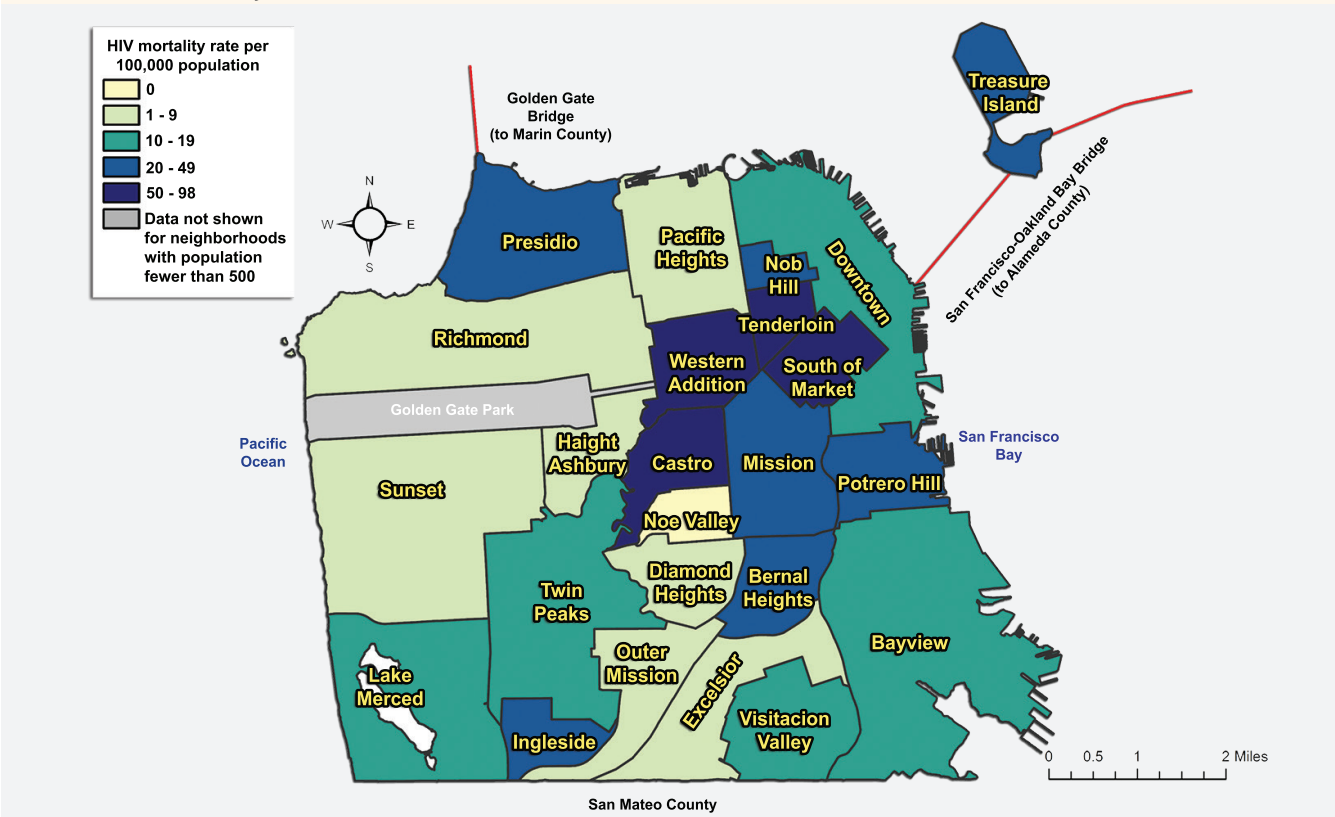


Map 17.3 Rates¹ of HIV diagnosis per 100,000 population for people diagnosed with HIV by neighborhood, 2021-2022, San Francisco



¹ Two-year diagnosis rate numerators represent two years of new diagnoses. Residence at time of diagnosis is used for this map.

Map 17.4 Mortality rates among people with HIV per 100,000 population by neighborhood¹, 2022, San Francisco



¹ The usual residence reported on the death certificate is used for this map.



Map 17.5 Geographic distribution of proportion of people living with HIV as of December 2022 and diagnosed through 2021 who were virally suppressed in 2022, San Francisco

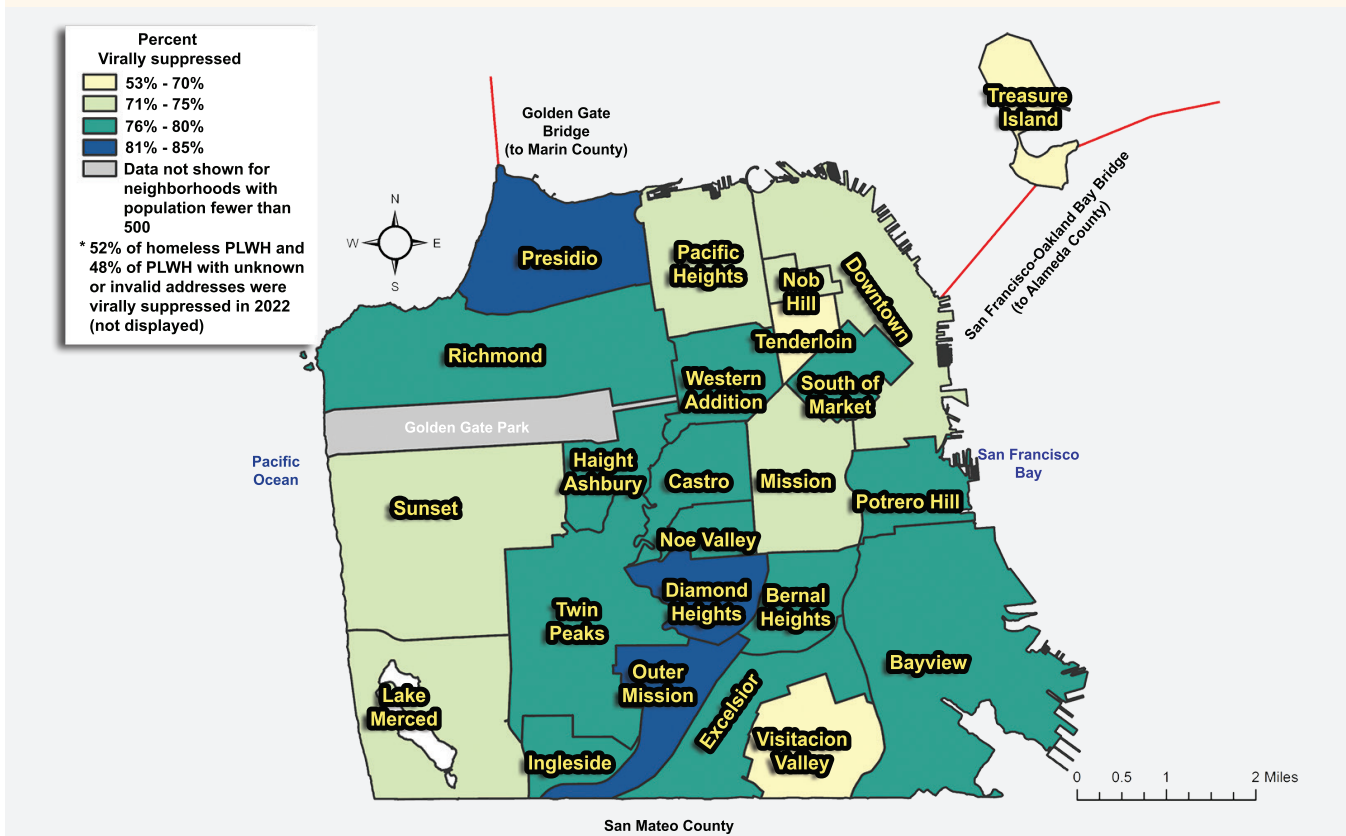


Table 17.1 Characteristics of people living with HIV who migrated out of or into San Francisco, 2021-2022

		Out-migrating PLWH ¹		In-migrating PLWH ¹	
		Number (%)			
Total		1,304		942	
Gender ²	Cis Men	1,228 (94)		863 (92)	
	Cis Women	45 (3)		37 (4)	
	Trans Women	31 (2)		41 (4)	
Race/Ethnicity	White	694 (53)		395 (42)	
	Black/African American	155 (12)		153 (16)	
	Latinx	313 (24)		278 (30)	
	Asian/Pacific Islander	70 (5)		60 (6)	
	Other/Unknown	72 (6)		56 (6)	
Transmission Category	MSM	1,030 (79)		666 (71)	
	TWSM	23 (2)		28 (3)	
	PWID	43 (3)		37 (4)	
	MSM-PWID	142 (11)		131 (14)	
	TWSM-PWID	8 (1)		12 (1)	
	Heterosexual	33 (3)		38 (4)	
	Other/Unidentified	25 (2)		30 (3)	
Age in Years	18-24	6 (<1)		16 (2)	
	25-29	67 (5)		70 (7)	
	30-39	306 (23)		284 (30)	
	40-49	271 (21)		235 (25)	
	50-59	366 (28)		214 (23)	
	60-69	235 (18)		94 (10)	
	70+	53 (4)		29 (3)	

1 See Technical Notes “Migration of PLWH.”

2 Data on trans men are not released separately due to small numbers. See Technical Notes “Gender Status.”

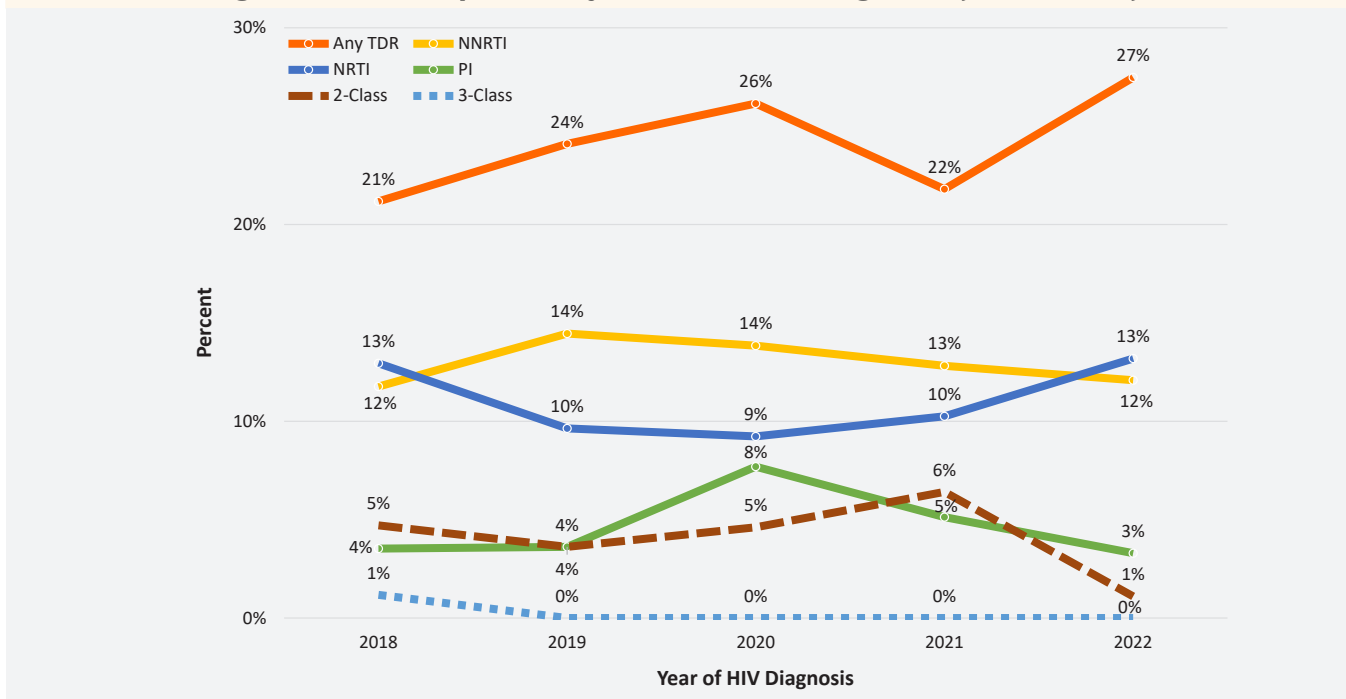
18

Transmitted Drug Resistance

HIV-1 Transmitted drug resistance (TDR) occurs when a drug-resistant HIV-1 strain is transmitted to a treatment naïve person. TDR is of concern as it has a potential to compromise the effectiveness of ART. The proportion of new diagnoses with a sequence that met the inclusion criteria for TDR analyses (see Technical Notes “Transmitted Drug Resistance”) was largely dependent upon the proportion who were linked to care, received genotypic testing, and had sequences reported to the HIV case registry. From 2018 through 2022, the proportion of people newly diagnosed with an eligible HIV sequence for TDR analysis increased from 35% to 43%.

The proportion with TDR to any of nucleoside reverse transcriptase inhibitors (NRTI), non-nucleoside reverse transcriptase inhibitors (NNRTI), and protease inhibitor (PI) drug classes ranged from 21% in 2018 to 27% in 2022. For most years, TDR occurred most frequently for NNRTI, followed by NRTI and PI. In 2022, the proportion with TDR to NNRTI, NRTI, and PI was 12%, 13%, and 3%, respectively. TDR to more than one of NRTI, NNRTI, PI drug classes was relatively low. Between 2018-2022, the proportion with TDR for two drug classes was 6% or lower and the proportion with TDR for three drug classes was 1% or lower. TDR to integrase strand transfer inhibitors (INSTI) drug class was uncommon during 2018 to 2022. Only 2% (N=1) in 2018 had INSTI TDR (data not shown).

Figure 18.1 Transmitted drug resistance among people diagnosed with HIV and with eligible PR/RT sequence¹ by antiretroviral drug class², 2018-2022, San Francisco



1 Limited to people with a PR/RT sequence collected within 3 months of diagnosis and able to be interpreted for the presence of drug class mutation, and who had no evidence of antiretroviral drug use prior to the date of sequence collection. See Technical Notes “Transmitted Drug Resistance.” Sequence reporting and ART data collected for those diagnosed in 2022 may be incomplete.

2 Antiretroviral drug classes include non-nucleoside reverse transcriptase inhibitors (NNRTI), nucleoside reverse transcriptase inhibitors (NRTI), and protease inhibitors (PI).

T Technical Notes

(in alphabetic order by topic)

CD4-based Model (Updated 07/22/2024)

The CD4 cell count can be used to estimate how long someone has been infected with HIV. HIV targets CD4 cells and without treatment, HIV reduces the number of CD4 cells in a person's body. When no treatment has been received, the CD4 cell count can be used to estimate the time since infection at the date of CD4 test. The CD4-based model uses HIV surveillance data and the first CD4 value after diagnosis to estimate HIV incidence (new infections in people with diagnosed and undiagnosed HIV), HIV prevalence (existing HIV infections among people with diagnosed and undiagnosed with HIV), and the percentage of new and existing HIV infections that are undiagnosed.

The CD4 data for people who had no evidence of antiretroviral therapy (ART) use and no viral suppression (viral load result <200 copies/mL) prior to their first CD4 test result are included in this model. The date of HIV acquisition is estimated for each person with a CD4 test by using a CD4 depletion model¹. To account for people without a CD4 test result, people with CD4 test results are assigned a weight based on the year of HIV diagnosis, sex, race/ethnicity, transmission category, age at diagnosis, disease classification, and vital status at the end of the analytic year. Then, based on the estimated time from HIV infection to diagnosis, the diagnosis delay distribution can be estimated by using standard survival analysis for right truncated data and used to estimate annual HIV incidence (new infections), which includes people with diagnosed and undiagnosed infection.

The annual estimates of the number of new HIV infections (incidence, diagnosed and undiagnosed), HIV prevalence (diagnosed and undiagnosed), and the percentage of persons with undiagnosed infection in this report were generated from the CD4 Model SAS programs (version 4.1)² developed by CDC which applied the CD4 depletion model to estimate the distribution of delay from infection to diagnosis and use prevalence of diagnosed infection and data on deaths among persons aged 13 years and older with HIV in San Francisco.

The number of people with undiagnosed HIV infection at the end of a given year is estimated by subtracting the number of cumulative reported diagnoses from cumulative infections. HIV prevalence, which represents counts of people with diagnosed or undiagnosed HIV infection who were alive at the end of a given year, is estimated by adding the number of persons with undiagnosed HIV infection to the number of persons living with diagnosed HIV infection reported.

The percentage of diagnosed (or undiagnosed) infections is determined by dividing the number of people living with diagnosed (or undiagnosed) infections by the total prevalence for each year.

The CD4 model relies on a series of assumptions: (1) the CD4 depletion model is accurate; (2) individuals received no ART treatment before their first CD4 test; (3) all data adjustments (e.g., multiple imputation for missing values of transmission category, weighting to account for those without a CD4 test) are unbiased (the error is random and not systematic); and (4) a person's infection, diagnosis, and death occur in a "closed" population (no migration) or balanced population (approximately the same number of infected people moved into or out of the area under consideration).

1 Song R, Hall HI, Green TA, Szwarcwald CL, Pantazis N. Using CD4 Data to Estimate HIV Incidence, Prevalence, and Percent of Undiagnosed Infections in the United States. *J Acquir Immune Defic Syndr*. 2017 Jan 1; 74(1):3-9.

2 SAS Programs: Estimating HIV Incidence and Prevalence using the CD4-Based Model and eHARS Data, User Guide Version 4.1, November 2022



Cumulative Viral Load

People were included in this measurement if they were diagnosed with HIV during the specified time period, were a San Francisco resident at HIV diagnosis, alive 12 months after HIV diagnosis and had ≥ 2 viral load tests within 12 months after diagnosis. Consecutive viral load pairs were used to calculate time spent >200 copies/mL, $>1,500$ copies/mL and $>10,000$ copies/mL for the 12 months after HIV diagnosis, where the one-year follow-up period was divided into time segments using consecutive viral load pairs. If both viral load values were above/below the viral threshold within each segment, it was assumed all days in the segment were also above/below the threshold. The difference between the two viral load values and the time in days of the segment were used to calculate a rate of viral load change over time in instances where a segment contained one value above the viral threshold and one value below the threshold. This rate was used to calculate how many days in the segment were spent above the viral threshold. The time spent above the threshold for each segment was summed across all observed segments to yield a single measurement for each individual. The percentage of time spent above each viral threshold was calculated by dividing the number of days spent above by the total time observed. If an individual did not have a viral load measure on the date of HIV diagnosis, the first viral load after HIV diagnosis was used as the beginning of the observation period, and the last viral load test in the 12-month follow-up was used as the end of the observation period. Data for small subpopulations are not reported due to concerns about the stability and accuracy of the cumulative viral load measurement.


Date of Initial HIV Diagnosis

The date of HIV diagnosis for newly diagnosed people is based on the earliest date of any of the following: positive HIV antibody test, positive HIV antigen/antibody combination test, detectable viral load test, or physician-documented diagnosis in absence of sufficient laboratory evidence. In this report, the date of initial HIV diagnosis for assessing trends in new HIV diagnoses takes into account patient self-report of a positive HIV test as noted in the medical record that was prior to the confirmed HIV diagnosis made by laboratory or clinical evidence. However, CD4 or undetectable viral load tests prior to the confirmed HIV diagnosis are not used to determine date of initial HIV diagnosis. Data for the most recent year should be interpreted with caution as the number of diagnoses may be underestimated due to reporting delays.

Death Ascertainment

Death information among people reported with HIV is obtained through the following mechanisms: (1) monthly matches with local vital statistics registry, (2) annual matches with the Social Security Death Master File, (3) annual matches with the National Death Index (NDI), (4) routine medical record review, (5) notification from other health departments, and (6) matches with other disease registry databases. Matches to the NDI include matches to both the NDI Early Release Program (https://www.cdc.gov/nchs/ndi/ndi_early_release.htm) and the NDI final file.

Cause of death information on death certificates is summarized and coded using the International Classification of Diseases, 10th revision (ICD-10) for deaths that occurred since 1999. A single cause of death is identified from all reported conditions that began the chain of events that resulted in death; this is known as the underlying cause of death. All conditions (including the underlying cause of death) listed on the death certificate are known



as the multiple causes of death (<http://www.cdc.gov/nchs/icd/icd10.htm>). We obtained the ICD codes from annual matches to the NDI from 1999 to 2021. Decedents through 2021 have been matched to the NDI final file. NDI information for 2022 decedents was not available at the time of this report's preparation.

Deaths classified as B20-B24 and all Stage 3 (AIDS)-related opportunistic infections and cancers listed on the death certificate were included in the HIV-related classification. Deaths classified as R99 (ill-defined and unknown cause of mortality) were included in the non-HIV-related classification.

Cause of death information for racial subgroups such as Asian, Pacific Islander, Native American, and multiracial decedents was not displayed due to small numbers.

Case-fatality rates in people diagnosed with HIV are calculated using the single, underlying cause of death for each person.


Estimate of ART Use

Surveillance data provided information that indicated when a person was prescribed ART but did not provide information on use or adherence. Information on the date ART is prescribed was obtained from medical chart reviews or reported by health care providers. People whose medical records indicated that they were prescribed ART were assumed to have received and used it. Surveillance data may overestimate ART use in some individuals because not everyone who is prescribed ART will begin taking it and, if they do, they may start at a later date. However, surveillance data may underestimate ART use because the initial case report may not capture ART information. The San Francisco Department of Public Health (SFDPH) collected follow-up information from selected health care facilities. For people who received care at these sites, treatment prescription data were likely more complete because it allowed capture of ART prescriptions after the case report was completed. Follow-up information was not available for people who have moved out of San Francisco or who received ongoing medical care outside of the city.

We calculated both lower- and upper- estimate of ART use (Table 3.7 on page 27). The lower-level estimate of ART use was calculated among all people living with HIV. The upper-level estimate was calculated among people who had follow-up information within the last two years, whose chart review was completed between January 2021 and April 2023, and who were not known to have moved out of San Francisco.

Gender Status

Sex at birth is collected as part of routine HIV case surveillance. People who were classified as female at birth and have no other gender identity noted were classified as cis women. People who were classified as male at birth and have no other gender identity noted were classified as cis men. In September 1996, SFDPH began collecting transgender status when this information is contained in the medical record. Transgender individuals were listed as either trans women or trans men and reported through active and passive surveillance methods (see Technical Notes “HIV Surveillance Methods”). Due to the small number of trans men diagnosed with HIV and small population size, data on trans men were sometimes suppressed in this report to protect confidentiality. We believe this report likely underestimates the number of trans women and trans men affected by HIV because



gender status information may not be complete in HIV surveillance data sources, such as the medical record. Information that may be discussed with the health care provider but not recorded in the medical record was generally not available for the purposes of HIV case reporting.

Grouping of Data Categories

Data in certain racial/ethnic or risk categories are grouped together when the number of people with HIV in that particular group is small and/or does not present significant trends. For example, “Other” in the race/ethnicity breakdown in some tables or figures represents API, Native American, and people of multiple race/ethnicities. Whenever possible, this report presented the expanded racial/ethnic categories rather than aggregating into the group “Other.” The label “Other” in the Transmission Category breakdown may include transfusion recipients, hemophiliacs, heterosexuals, people acquiring HIV perinatally, or people of unidentified risk.

HIV and STI Diagnosis

The diagnosis of an STI among PLWH was determined through a computerized match of the SFDPH HIV and STI case registries. The data from the STI registry included data reported through May 30, 2023 for people diagnosed with gonorrhea, chlamydia, non-gonococcal urethritis, or infectious syphilis. People with STIs included in this report were diagnosed after their HIV diagnosis.


HIV Care Outcomes and Definitions

The SFDPH monitors engagement in care and care outcomes among people newly diagnosed and living with HIV using reports of CD4, HIV viral load and genotype tests as indicators of care, and viral load test results to measure viral suppression, defined as a viral load less than 200 copies/mL. For new diagnoses, linkage to care within 30 days of diagnosis, retention in care 3-9 months after linkage, and viral suppression within 6 and 12 months of diagnosis were assessed. For PLWH, receipt of care (one laboratory test), retention in care (two laboratory tests at least three months apart) and viral suppression (suppressed at most recent viral load in a 12-month period) were assessed.

Complete laboratory reporting of HIV-related test results is critical to evaluating care outcomes and data-to-care activities (see Technical Notes “Linkage Integration Navigation Comprehensive Services”). Gaps in care information may exist for people who received care outside of San Francisco (Note: California law requires laboratories to report all HIV-related test results to the local health department where the provider is located). In addition, some patients may be in care—in the sense of being adherent to ART and having a regular provider—and simply not have any laboratory tests performed in the time period assessed.

HIV Case Rates and HIV Mortality Rates

Annual race-specific diagnosis rates were calculated as the number of people diagnosed with HIV for a particular racial/ethnic group during each year divided by the San Francisco population for that racial/ethnic group, multiplied by 100,000. Age-adjusted mortality rates were calculated for people 18 years and older. For each racial/ethnic and gender group, the number of deaths among people with HIV each year was divided by



annual projected San Francisco population estimates across 14 age groups (18-24, 25-29, 30-34, 35-39, 40-44, 45-49, 50-54, 55-59, 60-64, 65-69, 70-74, 75-79, 80-84, 85+ years) to generate crude rates which were applied to the standard population, defined using the annual California population estimates from the Department of Finance. Population denominators by year were obtained from the State of California, Department of Finance, Demographic Research Unit: California Population Projections³ (<http://www.dof.ca.gov/Forecasting/Demographics/Projections/>). The annual population estimates were not available for transgender people. The San Francisco trans women population estimate used was from Raymond HF, Wilson EC, McFarland W. Transwoman Population Size. *Am J Public Health*. 2017 Sep;107(9):e12. doi: 10.2105/AJPH.2017.303964. PMID: 28787216; PMCID: PMC5551612.

HIV Disease Stage 3 (AIDS) Survival

Survival time was calculated as the time between the date of HIV disease stage 3 (AIDS) diagnosis and the date of death. This analysis included people who met the case definition for HIV disease stage 3 (AIDS). The follow-up information for cases was obtained through retrospective and prospective reviews of laboratory records and medical charts. Dates of death were obtained through review of local death certificates, reports from the California State Office of AIDS, and matches with the National Death Index (NDI) and Social Security death files. The most recent NDI and Social Security death file matches included deaths that occurred through December 31, 2021. Survival time estimates reflect deaths that were HIV- and non-HIV related. People not known to have died were censored on the date of their last known follow-up or on December 31, 2021, whichever was more recent.

HIV Pre-exposure Prophylaxis (PrEP) Regimens

For people without HIV and at risk for acquisition, PrEP is an effective HIV prevention method offered through various medical providers in San Francisco. PrEP may be prescribed using different formularies with various dosing schedules. One of the PrEP regimens involves taking oral medication once per day, every day.

The PrEP 2-1-1 regimen schedules taking oral medication around times of sex: two pills 2-24 hours before sex, one pill 24 hours after the first dose, and one final pill 24 hours after second dose. People who have sex more than 24 hours after taking the first dose, or have sex over multiple days, continue taking one pill every day until two doses have been taken following the last time of sex.


For San Francisco City Clinic PrEP data, each participant's regimen was identified according to the first documented regimen in each calendar year; if that information was missing, their regimen was defined by the selected regimen at the time of enrollment (which might have been in a prior year).

Other PrEP regimens are not evaluated in this report.

HIV Surveillance Methods

San Francisco HIV cases were reported primarily through active surveillance activities in which public health personnel review laboratory and pathology reports and medical records to identify cases and complete the case

³ State of California, Department of Finance, Report P-3: State and County Population Projections by Race/Ethnicity, Detailed Age, and Gender, 2010-2060. Sacramento, California, July 2021.



report forms. HIV cases were also identified through passive reporting from HIV medical and testing providers, review of death certificates, validation studies using secondary data sources such as hospital billing records or other disease registries, and reports from other health departments. HIV cases were routinely de-duplicated (removing duplicate cases) with other California counties, states, and U.S. territories. The surveillance system was evaluated regularly for completeness, timeliness, and accuracy.

The completeness of case reporting of HIV diagnoses in 2021 was evaluated (on 12/31/2022) and found to be 98% (using CDC developed reporting delay model). In terms of timeliness of reporting, an estimated 97% of 2021 diagnoses were reported within six months of HIV diagnosis.

The HIV data in this report included people who were residents of San Francisco at the time they were diagnosed with HIV (all stages of infection) including San Francisco residents who were diagnosed in other jurisdictions. This report also included data in some sections for out-of-jurisdiction residents who were diagnosed or received care in San Francisco (see Technical Notes “Out-of-Jurisdiction Residents Diagnosed with HIV”) or who moved to San Francisco after HIV diagnosis (see Technical Notes “Residence and Receipt of Care for PLWH”). San Francisco started confidential name-based case reporting for HIV cases in April 2006, as mandated by California law.

HIV Transmission Category Heterosexual Contact

In 2010, the CDC HIV Incidence and Case Surveillance Branch implemented a definition for female presumed heterosexual contact to reclassify the transmission category for women diagnosed with HIV who would otherwise be reported with no identified risk⁴. Like other transmission categories, the definition uses patient history variables collected on the HIV adult case report form. The female presumed heterosexual contact definition includes the following components: (1) the patient’s sex at birth was female, (2) the patient had sex with male(s), (3) the patient had no indication of injection drug use, and (4) there is no other known information that would suggest a likely alternative source of HIV infection.


Beginning with this report, the transmission category “Heterosexual” includes persons whose transmission category met the “female presumed heterosexual contact” definition.

Housing Status

Housing status for people with HIV was determined through collection of address at time of diagnosis and current address through laboratory reports, passive case reports, medical record review, death certificates, and reports from other health departments. A person was defined as homeless if: (1) the medical record states that the patient is homeless or not housed or (2) the person’s address is a known homeless shelter or Navigation Center.

People with missing address information are not classified as homeless. Individuals were also considered “not homeless” if they reside in (1) single room occupancy (SRO) facility, (2) transitional housing, including shelter-in-place (SIP) shelters, (3) partner’s, family member’s, or other non-family member’s residence, or (4) institutional facility (examples: hospice, inpatient drug/alcohol recovery facility, facility housing physically/mentally disabled persons, residential treatment program, correctional facility, long-term care facility).

⁴ Council of State and Territorial Epidemiologists Position statements 2007: Heterosexual HIV transmission classification. Available from <https://cdn.ymaws.com/www.cste.org/resource/resmgr/ps/07-id-09.pdf>.



People were classified as living in a SRO if the residential addresses matched a known SRO facility in San Francisco. A list of SRO facility addresses is maintained and updated annually using data from the Department of Building Inspections.

The HIV surveillance definition for homelessness excludes marginalized or unstable housing, and therefore our findings may differ from other Department of Public Health or City and County of San Francisco programs.

Linkage Integration Navigation Comprehensive Services

Linkage, Integration, Navigation and Comprehensive Services (LINCS) is a SFDPH program that helps PLWH re-engage with care. Since 2011, health care navigators on the LINCS team have worked at the San Francisco City Clinic and other SFDPH sites to address patient needs, including finding insurance, attending care appointments and maintaining adherence to medication. Patients may have come to LINCS through direct referral by a provider, self-referral, or, since 2015, not-in-care lists generated from HIV surveillance or medical record databases. The housing status of LINCS clients was defined through LINCS programmatic data, which encompasses several sources, including STI surveillance records and patient self-attestation during interview. Trans women were classified as being transgender per HIV surveillance records or LINCS data. Transmission category is determined from HIV surveillance data.

Care outcomes for LINCS clients, including receipt of care (one laboratory test), retention in care (presence of a second test 3-6 months after the first), and viral suppression (suppressed on most recent viral load result in a 12-month period), were assessed.

LINCS outcomes varied from year to year due to staffing capacity and which referral sources were predominantly used. Provider referrals included patients who had no evidence of care after diagnosis, did not access care over many months, or were not adherent to medication. The Data to Care (DTC) program began in 2016 and included people reported in the San Francisco HIV case registry who had never had an HIV lab record after their HIV diagnosis, or had no evidence of a care visit (defined as a HIV viral load, CD4 or genotype test) in 12 months or longer. Only current San Francisco residents who are confirmed to be out of care are eligible for LINCS. People referred to the LINCS program who were not eligible for navigation services included those already in HIV care, not being locatable, or being deceased or incarcerated. In addition, potential LINCS clients may refuse services or become lost to follow-up after LINCS enrollment.

Migration of PLWH

The migration status of PLWH was determined using the most recently reported addresses at the end of calendar years 2020, 2021, and 2022. PLWH were required to have a valid address reported for at least two of the three years to have migration assessed. Valid addresses for assessing migration included unhoused addresses that could be mapped to a specific California county (e.g., “Homeless in San Francisco County”) or out-of-state jurisdiction. Out-migrating PLWH (i.e., those who moved out of San Francisco) in 2021-2022 were those with a San Francisco address for 2020 or 2021, later followed by an out-of-jurisdiction (OOJ) address for 2021 or 2022. In-migrating PLWH (i.e., those who moved into San Francisco) in 2021-2022 were those individuals with



an OOJ address for 2020 or 2021 and later followed by a San Francisco address for 2021 or 2022.

Out-of-Jurisdiction (OOJ) Residents Diagnosed with HIV

Routine HIV case surveillance assigns case ownership by residence at diagnosis. People with HIV who resided in San Francisco at time of diagnosis were considered San Francisco cases. People with HIV who were diagnosed or received care in San Francisco but resided elsewhere at time of diagnosis were considered OOJ cases. In 2009, the California Department of Public Health upgraded the surveillance database and updated procedures, and since then case reporting for OOJ cases has been conducted and reported in the same manner as San Francisco cases.

People Living with HIV (PLWH)

We recognize that not all people living with HIV have been diagnosed as having HIV infection. In San Francisco, the proportion unaware of their HIV infection is estimated to be 3%. Therefore, in this report we use the term “people living with HIV” to mean those who have been diagnosed with HIV except where we discuss those who are unaware of their HIV diagnosis.

Residence and Receipt of Care for PLWH


The overall number of PLWH in San Francisco is affected by 1) out-migration: San Francisco residents at the time of diagnosis who later moved out of San Francisco, and 2) in-migration: OOJ residents at the time of diagnosis who moved to and received care in San Francisco. Because in- and out-migration occurred and the residence at time of diagnosis may have differed from the current residence among PLWH, SFDPH collected and updated information regarding current residence for PLWH who resided in San Francisco at time of diagnosis as well as PLWH who resided elsewhere at time of diagnosis but received care in San Francisco.

Care indicators (defined by using CD4, viral load, or genotype tests) were assessed for PLWH known to reside in San Francisco, based on their most recent available residence at the end of the calendar year, regardless of their residence at time of diagnosis (Table 3.4 on page 24). San Francisco residents at diagnosis who subsequently moved outside of San Francisco were excluded, and people who resided elsewhere at time of HIV diagnosis and moved to San Francisco after diagnosis were included.

San Francisco HIV/STI Home Testing Program

The San Francisco HIV/STI Home Testing Program ([Take Me Home](#)) is a partnership between the SFDPH Community Health Equity & Promotion (CHEP) Branch, Disease Prevention and Control (DPC) Branch, and the National Mailed HIV Testing Program developed by Building Healthy Online Communities (BHOC) and the Emory University, Rollins School of Public Health. The goal of the program is to provide a low-barrier, confidential, home-based HIV/STI testing option to reach individuals who are not accessing HIV/STI testing locations.

The free HIV/STI Home Testing Program was promoted via online social networking apps (Instagram, Facebook & Grindr), mobile platforms (Text “Good” to 21201), the [San Francisco City Clinic website](#), traditional media



(television & radio advertisements), social marketing campaign(s) ([Have Good Sex](#), PrEP Supports), Community Engagement Partnerships (Local dating mixer events, Black Joy Parade, Viva La Vulva Podcast, Adult Happy Hour Podcast, Coffee & Conversation-Amplifying Black Voices, Gold Beams Eargasm social event, Second Saturday's-pop-up Village Bayview Hunter's Point) and direct community outreach. Clients were directed to the home testing portal, where they could order free home test kits if they had a San Francisco mailing address. Clients without a San Francisco mailing address were directed to the Centers for Disease Control (CDC) National Free Home Testing program.

The program was piloted from March to December 2020 and offered only the HIV OraQuick rapid test in this period. This was a self-administered test that allowed clients to collect their saliva sample, perform the test, and interpret the test result themselves at their location of choice based on the instructions provided in the test kit. Outcomes of this pilot phase were published in the 2020 HIV Epidemiology Annual Report.

In January 2021, the program was expanded to include hepatitis C virus (HCV), syphilis, gonorrhea, and chlamydia testing. Clients were able to self-collect rectal and throat swabs and a urine sample for “3-site” gonorrhea and chlamydia testing. Clients were offered a laboratory-based HIV antibody test (fingerstick dried blood spot) instead of a self-administered HIV OraQuick (oral swab). The specimen collection kits were mailed to clients and contained supplies and instructions to collect samples for tests they ordered. The samples were then mailed to a designated laboratory for processing. Clients were able to access the results through a secure portal. Clients who tested positive for HIV, HCV or an STI were contacted by a disease intervention specialist from SFDPH's LINCS program and were connected to treatment and care.

Stage of Disease at HIV Diagnosis

In 2014, the United States surveillance case definition⁵ for HIV infection among adults and adolescents aged ≥ 13 years and children age < 13 years was revised to expand the HIV infection classification staging system into five stages of HIV infection as described below. Using this case definition, stages 1-3 were classified based on the first CD4 T-lymphocyte count and age on date of CD4 T-lymphocyte test, unless there was a stage-3-defining opportunistic illness. The CD4 T-lymphocyte percentage of total lymphocytes was only used when the corresponding CD4 T-lymphocyte count was unknown. This change in definition may have reduced the number of people diagnosed with stage 3 from 2014 onward.

- **HIV infection stage 0:** This stage is early HIV infection and is established by a sequence of discordant HIV test results indicative of early HIV infection. The criteria for stage 0 infection can be established by a testing history of 1) a confirmed HIV positive test that occurs 180 days or less after a negative or indeterminate test for HIV infection, 2) a negative or indeterminate HIV antibody test on or less than 180 days before a positive HIV virologic test and on or less than 60 days after a positive HIV antibody test, or 3) a negative or indeterminate HIV antibody test on or less than 60 days after a positive HIV virologic test. This sequence of discordant results may be based on testing history (previous laboratory documented or patient's self-report of negative/indeterminate results), or by a HIV testing algorithm. If the criteria for stage 0 are met, the stage is 0 (supersedes other stages) regardless of criteria for other stages (CD4 T-lymphocyte test results and opportunistic illness diagnoses).

⁵ Selik RE, Mokotoff ED, Branson B, Owen SM, Whitmore S, Hall HI. Revised Surveillance Case Definitions for HIV Infection -- United States, 2014. MMWR 2014;63(No. RR-3):1-10.

- **HIV infection stages 1-3:** HIV infection stages 1-3 are based on age-specific CD4 T-lymphocyte count or CD4 T-lymphocyte percentage of total lymphocytes.

Stage	Age on date of CD4 T-lymphocyte test					
	<1 year		1-5 years		≥6 years	
	Cells/ μ L	%	Cells/ μ L	%	Cells/ μ L	%
1	≥1,500	≥34	≥1,000	≥30	≥500	≥26
2	750-1,499	26-33	500-999	22-29	200-499	14-25
3	<750	<26	<500	<22	<200	<14

Data on people with HIV infection stage 3 (AIDS) include people whose infection has ever been classified as stage 3 (AIDS).

- **HIV infection, stage unknown:** No information available on CD4 count or percentage and no reported information on AIDS-defining conditions (every effort is made to collect CD4 counts or percentages at time of diagnosis).

Substance Use Data Abstraction

People in the HIV case registry with a documented ART prescription, a medical chart review in 2020-2022, and a viral load lab reported after that review were assessed for substance use behaviors and viral suppression. Routine medical chart reviews collected tobacco and illicit substance use history, including injection or non-injection of illicit substances, in the 12-18 months prior to their latest medical visit. This analysis included PLWH aged ≥18 years at the start of the analysis period and was restricted to those diagnosed by June 30, 2022 to allow a minimum six months of follow-up to achieve viral suppression (viral load <200 copies/mL in 2020-2022). We compared viral suppression (using the first viral load after the medical chart abstraction) for PLWH with no drug use, only non-injection drug use, and injection drug use reported. Non-injection drug use was assigned to PLWH whose drug use was reported without details about route of use (i.e., “Unknown” route). Among PLWH who used drugs, we assessed the prevalence of cocaine, methamphetamine, opioid, and polysubstance use.

Transmitted Drug Resistance

The presence of HIV drug resistance-associated mutations (DRAMs) was determined using the Secure HIV Transmission Cluster Engine (Secure HIV-TRACE) Homology Module. The Secure HIV-TRACE is a web-based application developed collaboratively by the CDC, University of California, San Diego, and Temple University to allow local health agencies to securely conduct data quality checks, determine subtype, identify the DRAMs, and construct molecular clusters. The CDC mutation list for surveillance was applied to determine transmitted drug resistance (TDR)⁶.

HIV protease (PR) and reverse transcriptase (RT) drug sequences collected from routine laboratory reporting were used to assess TDR associated with three drug classes -nucleoside reverse transcriptase inhibitors (NRTI),

⁶ McClung RP, Oster AM, Ocfemia MCB et al. Transmitted Drug Resistance Among Human Immunodeficiency Virus (HIV)-1 Diagnoses in the United States, 2014-2018. *Clin Infect Dis*;74(6):1055–62.



non-nucleoside reverse transcriptase inhibitors (NNRTI), and protease inhibitors (PI). HIV integrase (IN) sequences were used to assess TDR to integrase strand transfer inhibitors (INSTI).

PR/RT or IN sequences were included in the TDR analyses if they were obtained from HIV genotypic testing performed within three months of HIV diagnosis and from people with no evidence of prior antiretroviral treatment. For people with multiple sequences, the earliest and longest sequence was used. HIV sequences were excluded from the analysis if they 1) were possible HXB2, the wild-type reference strain, or were a contaminant, 2) did not have all amino acid positions specified in the CDC mutation list, or 3) have not been classified as the following HIV subtypes: A, B, C, D, F, G, CRF01_AE and CRF02_AG as listed in the CDC mutation list.

D Data Tables

Figure 1.1 HIV disease stage 3 (AIDS) diagnoses, deaths, and prevalence, 1980-2022, San Francisco 4

Year	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989
HIV disease stage 3 diagnoses	3	26	99	274	557	859	1236	1636	1762	2157
HIV disease stage 3 deaths	0	8	32	111	273	534	807	878	1038	1278
Persons living with HIV ever classified as stage 3	3	21	88	251	535	860	1289	2047	2771	3650
Year	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
HIV disease stage 3 diagnoses	2043	2284	2322	2062	1774	1546	1061	792	681	573
HIV disease stage 3 deaths	1363	1512	1639	1603	1599	1486	992	424	401	352
Persons living with HIV ever classified as stage 3	4330	5102	5785	6244	6419	6479	6548	6916	7196	7417
Year	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
HIV disease stage 3 diagnoses	551	505	478	542	476	475	450	443	434	324
HIV disease stage 3 deaths	349	324	320	293	300	307	287	269	227	207
People living with HIV ever classified as stage 3	7619	7800	7958	8207	8383	8551	8714	8888	9095	9212
Year	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
HIV disease stage 3 diagnoses	301	252	243	188	139	125	97	132	114	112
HIV disease stage 3 deaths	193	190	181	191	188	203	183	202	208	192
People living with HIV ever classified as stage 3	9320	9382	9444	9441	9392	9314	9228	9158	9064	8984
Year	2020	2021	2022							
HIV disease stage 3 diagnoses	88	89	72							
HIV disease stage 3 deaths	208	204	242							
People living with HIV ever classified as stage 3	8864	8749	8579							

Figure 2.1 Number of people diagnosed with HIV by race/ethnicity, 2013-2022, San Francisco 10

	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
White	180	133	121	92	83	61	59	40	54	46
Black/African American	48	33	43	33	40	40	29	28	26	24
Latinx	111	98	85	75	78	86	61	60	59	67
Asian/Pacific Islander	48	46	39	40	32	20	21	15	20	15
Other/Unknown	17	16	20	7	15	7	9	4	7	5

Figure 2.2 Annual rates of cis men diagnosed with HIV per 100,000 population by race/ethnicity, 2013-2022, San Francisco 11

	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
White	88	63	57	41	37	29	25	15	24	19
Black/African American	166	129	125	91	121	130	88	89	77	68
Latino	152	127	107	88	96	103	69	69	65	84
Asian/Pacific Islander	32	33	29	28	21	13	15	10	10	9

Figure 2.3 Annual rates of cis women diagnosed with HIV per 100,000 population by race/ethnicity, 2013-2022, San Francisco. 11

	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
White	5	4	5	4	3	1	2	4	3	2
Black/African American	26	4	35	43	43	35	22	22	13	22
Latina	8	7	11	8	9	8	6	5	14	3
Asian/Pacific Islander	1	0	1	1	2	1	1	1	2	1

Figure 2.4 Number of cis men diagnosed with HIV by transmission category, 2013-2022, San Francisco 12

	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
MSM	302	241	228	168	151	135	116	91	82	95
PWID	11	14	6	9	16	19	7	5	10	9
MSM-PWID	48	38	27	23	31	25	16	14	22	17
Heterosexual	7	7	7	7	6	4	4	3	6	2
Unknown	3	1	3	3	11	4	6	6	9	9



Figure 2.5 Number of cis women diagnosed with HIV by transmission category, 2013-2022, San Francisco. 12

	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
PWID	10	10	11	11	10	6	5	8	8	4
Heterosexual	10	3	18	14	13	10	10	9	13	10
Unknown	1	0	0	0	4	1	0	0	1	0

Figure 3.4 Trends in median time from HIV diagnosis to viral suppression by race/ethnicity, transmission category, and housing status, 2017-2021, San Francisco 29

	2017	2018	2019	2020	2021
Overall	67	46	42	47	42

	2017	2018	2019	2020	2021
White	62	52	51	46	48
Black/African American	103	48	44	63	50
Latinx	73	43	37	39	39
Asian/Pacific Islander	43	25	39	60	39

	2017	2018	2019	2020	2021
MSM	60	41	40	37	33
PWID	202	181	65	55	51
MSM-PWID	172	59	41	64	88
Heterosexual	55	45	45	68	51

	2017	2018	2019	2020	2021
Homeless	71	63	44	67	44
Non-Homeless	62	42	41	43	42

Figure 3.6 Trends in mean percent time spent >200 copies/mL during the 12 months after HIV diagnosis by race/ethnicity, transmission category, and housing status, 2017-2021, San Francisco. 31

	2017	2018	2019	2020	2021
Overall	33%	29%	30%	31%	32%

	2017	2018	2019	2020	2021
White	32%	32%	35%	32%	34%
Black/African American	43%	31%	39%	29%	32%
Latinx	32%	27%	22%	26%	30%
Asian/Pacific Islander	24%	16%	24%	41%	29%

	2017	2018	2019	2020	2021
MSM	26%	22%	23%	22%	23%
PWID	65%	60%	50%	59%	47%
MSM-PWID	53%	33%	63%	48%	54%

	2017	2018	2019	2020	2021
Homeless	58%	48%	45%	62%	48%
Non-Homeless	30%	23%	26%	25%	28%



Figure 5.1 Age-adjusted mortality rates among people aged 18 and older with HIV per 100,000 by gender and race/ethnicity, 2012-2021, San Francisco 41

	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
White cis men	86	83	81	83	79	89	75	80	94	86
Black/African American cis men	150	139	146	164	142	144	199	150	183	198
Latino cis men	62	76	65	58	43	63	81	89	61	73
White cis women	6	6	3	6	5	5	6	5	5	7
Black/African American cis women	47	75	61	56	70	41	60	52	22	41
Latina cis women	3	13	8	7	16	10	5	3	11	10
Trans women (not age-adjusted)	N/A	N/A	N/A	N/A	N/A	290	161	161	322	386

Figure 6.2 Trends in health insurance status at time of HIV diagnosis by race/ethnicity, 2018-2022, San Francisco 51

White	2018	2019	2020	2021	2022	Black/ African American	2018	2019	2020	2021	2022
Public	36%	37%	48%	46%	43%	Public	53%	62%	46%	62%	71%
Private	38%	25%	35%	28%	33%	Private	35%	21%	14%	27%	21%
None	18%	31%	15%	22%	15%	None	10%	17%	25%	12%	4%
Missing	8%	7%	3%	4%	9%	Missing	3%	0%	14%	0%	4%

Latinx	2018	2019	2020	2021	2022	Asian/ Pacific Islander	2018	2019	2020	2021	2022
Public	45%	28%	42%	47%	34%	Public	30%	10%	27%	35%	27%
Private	20%	23%	15%	19%	22%	Private	30%	76%	33%	20%	53%
None	23%	36%	42%	29%	42%	None	30%	5%	40%	25%	13%
Missing	12%	13%	2%	5%	1%	Missing	10%	10%	0%	20%	7%



Figure 7.1 Number of MSM diagnosed with HIV by race/ethnicity, 2013-2022, San Francisco 54

	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
White	162	118	106	78	66	50	44	26	40	31
Black/African American	34	25	27	18	21	24	15	17	10	14
Latino	100	81	73	56	59	66	48	46	43	54
Asian/Pacific Islander	41	42	36	34	25	17	19	14	10	10
Other	13	13	13	5	11	3	6	2	1	3

Figure 7.3 Male rectal gonorrhea and male gonococcal proctitis among MSM by HIV serostatus, 2013-2022, San Francisco 55

	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Male Rectal Gonorrhea (HIV+)	334	305	403	429	467	436	354	351	421	396
Male Rectal Gonorrhea (HIV-)	422	502	679	869	1013	1050	1018	671	1130	1171
Male Gonococcal Proctitis (HIV+)	15	16	21	19	20	19	14	25	15	22
Male Gonococcal Proctitis (HIV-)	18	21	20	49	38	35	36	25	46	42

Figure 7.4 Early syphilis among MSM by HIV serostatus, 2013-2022, San Francisco 55

	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Early syphilis (HIV+)	544	552	569	514	592	490	447	398	413	339
Early syphilis (HIV-)	288	301	356	393	508	480	503	390	324	280
Primary (HIV+)	85	75	86	89	94	74	59	59	48	29
Primary (HIV-)	98	77	103	113	126	134	105	84	63	40
Secondary (HIV+)	158	146	143	127	128	84	73	71	64	60
Secondary (HIV-)	80	97	83	110	136	120	123	100	53	57
Early Latent (HIV+)	301	331	340	298	370	332	315	268	301	250
Early Latent (HIV-)	110	127	170	170	246	226	275	206	208	183



Figure 8.1 Number of PWID diagnosed with HIV by race/ethnicity and age group at HIV diagnosis, 2013-2022, San Francisco 58

	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
White	11	10	8	7	10	10	8	8	9	8
Black/African American	6	4	2	7	9	7	1	3	4	0
Latinx	2	8	2	3	5	6	3	3	1	3
Other/Unknown	2	2	5	4	2	3	0	0	4	2

Age in years	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
13-24 years	2	1	0	2	1	2	0	0	0	0
25-29 years	1	2	5	3	0	1	0	1	8	2
30-39 years	1	5	5	7	8	7	7	4	4	3
40-49 years	9	5	4	4	9	8	4	2	5	5
50+ years	8	11	3	5	8	8	1	7	1	3

Figure 9.1 Number of heterosexuals diagnosed with HIV by race/ethnicity, 2013-2022, San Francisco 61

	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
White	5	2	5	4	4	0	1	4	3	2
Black/African American	4	2	9	7	4	9	8	3	3	6
Latinx	6	3	7	7	5	6	5	3	11	2
Other/Unknown	2	3	4	3	6	0	2	2	3	3

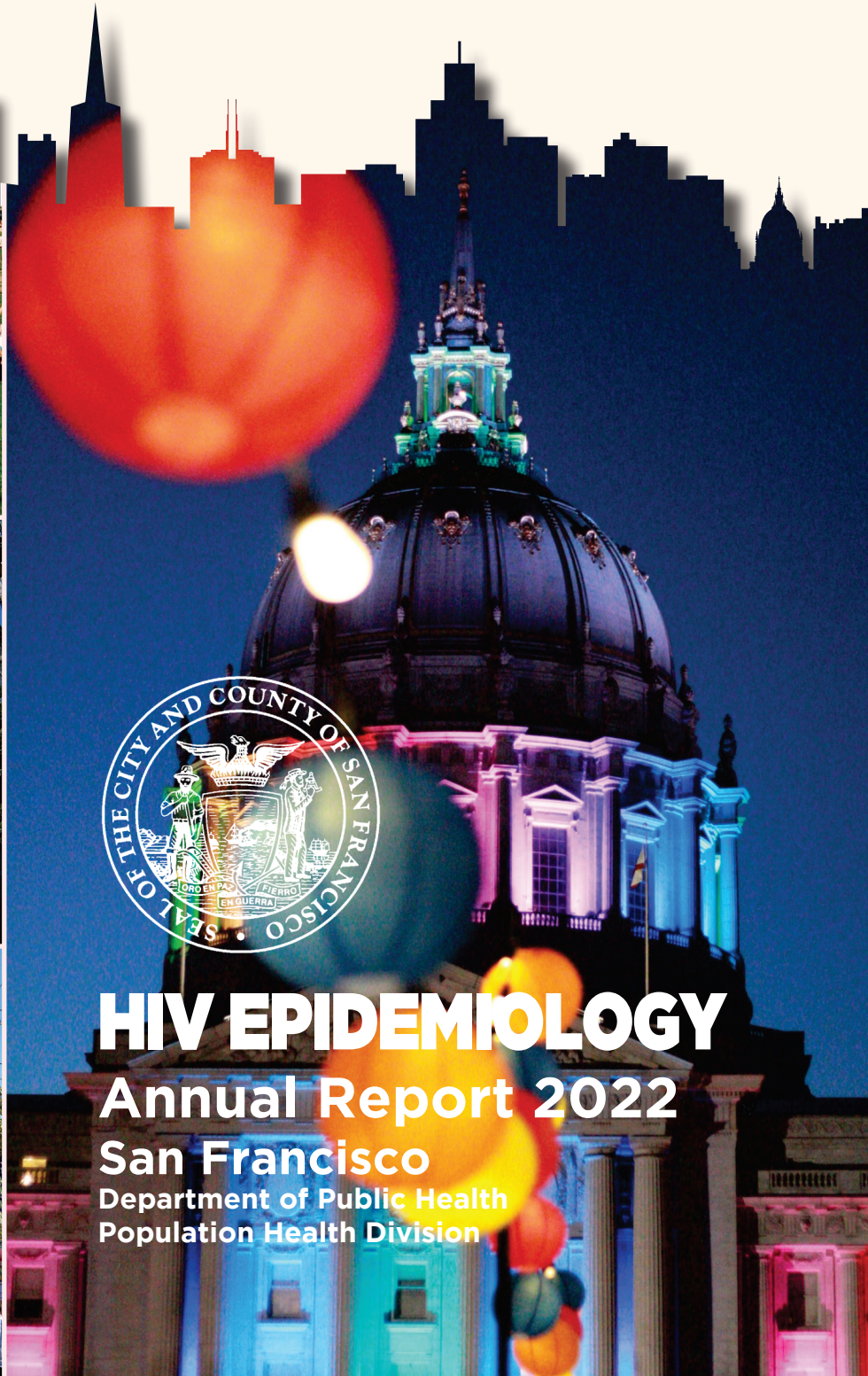
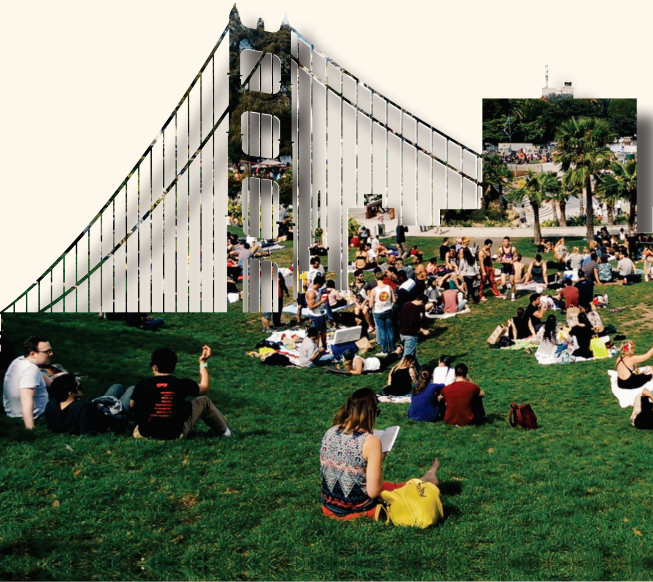
Figure 10.1 Number of cis women diagnosed with HIV by race/ethnicity, 2013-2022, San Francisco 63

	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
White	8	7	8	7	5	2	4	7	5	3
Black/African American	6	1	8	10	10	8	5	5	3	5
Latina	5	4	7	5	6	5	4	3	9	2
Other/Unknown	2	1	6	3	6	2	2	2	5	4



Map 17.1 Geographic distribution of people with HIV in San Francisco as of December 2022 **84**

Neighborhood	Map 17.1	Map 17.2	Map 17.3	Map 17.4	Map 17.5
	Number of PLWH	HIV prevalence per 100,000	Two-year rate of new diagnoses per 100,000	HIV mortality rate per 100,000	Percent of PLWH virally suppressed
Bayview	349	810	46	14	79%
Bernal Heights	235	997	25	25	80%
Castro	1640	6129	90	75	78%
Diamond Heights	280	1560	28	6	81%
Downtown	654	746	17	14	72%
Excelsior	278	594	26	9	76%
Haight Ashbury	283	1223	17	9	76%
Ingleside	96	575	24	24	77%
Lake Merced	102	641	25	19	74%
Mission	1145	1980	42	24	74%
Nob Hill	275	1407	31	20	72%
Noe Valley	239	1813	23	0	79%
Outer Mission	178	621	17	3	82%
Pacific Heights	296	519	9	4	72%
Potrero Hill	186	1106	12	24	77%
Presidio	13	352	27	27	85%
Richmond	410	426	14	3	79%
South Of Market	827	2901	60	53	77%
Sunset	279	310	7	2	72%
Tenderloin	1369	3126	116	98	68%
Treasure Island	34	1238	36	36	53%
Twin Peaks	298	683	14	11	80%
Visitacion Valley	124	492	12	16	70%
Western Addition	1160	2568	29	60	79%
Homeless	662	N/A	N/A	N/A	52%
Unknown	386	N/A	N/A	N/A	48%



HIV EPIDEMIOLOGY

Annual Report 2022

San Francisco

Department of Public Health
Population Health Division