HIV Epidemiology

Annual Report

2018

SEAL OF THE CITY AND COUNTY OF SAN FRANCISCO

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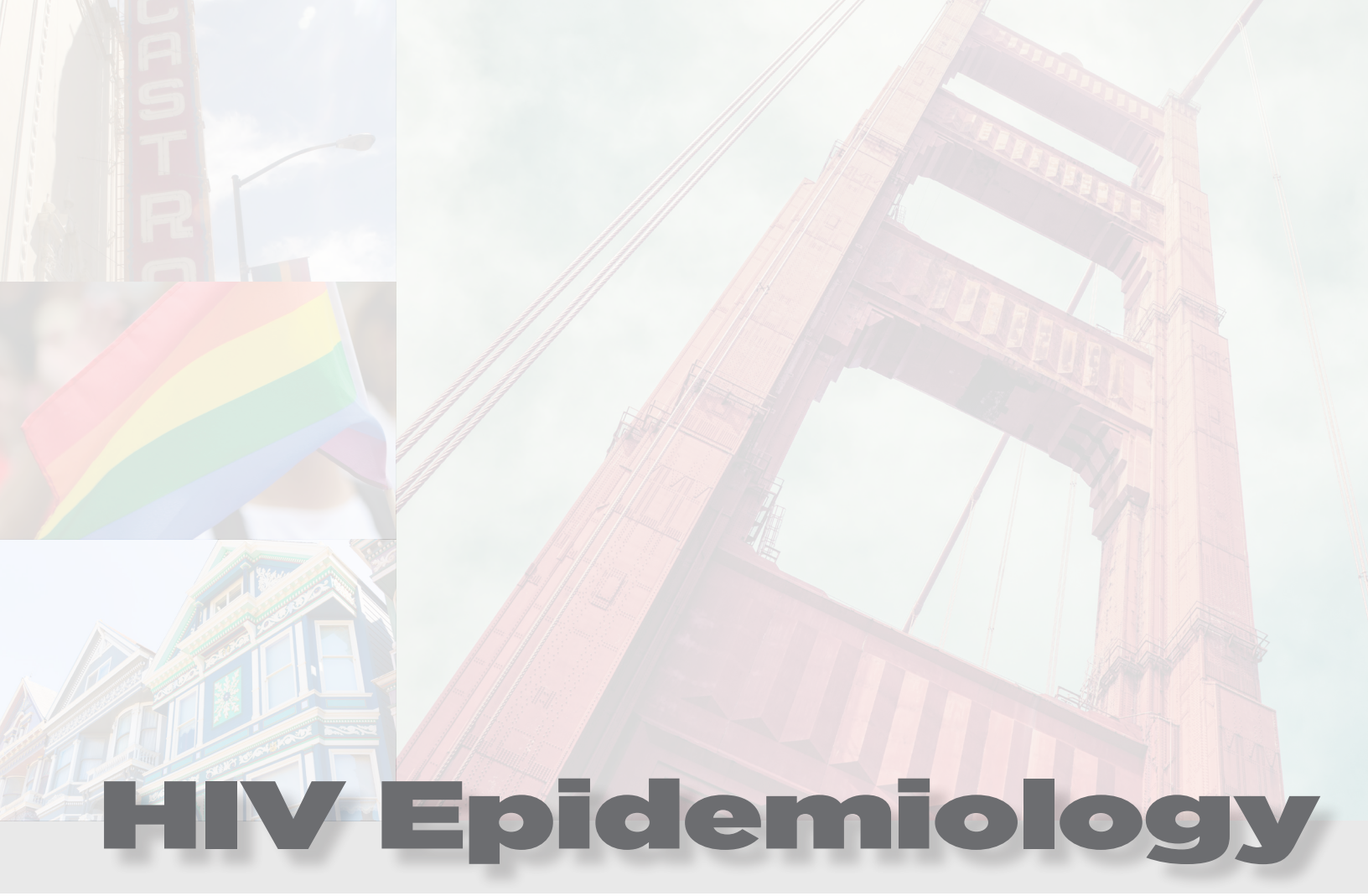
San Francisco
Department of Public Health
Population Health Division



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Abbreviations

ART	Antiretroviral therapy
CDC	Centers for Disease Control and Prevention
MMP	Medical Monitoring Project
MSM	Men who have sex with men
MSM-PWID	Men who have sex with men and who also inject drugs
NHBS	National HIV Behavioral Surveillance
OOJ	Out-of-jurisdiction
PLWH	Persons living with HIV
PrEP	Pre-exposure prophylaxis
PWID	People who inject drugs
SFDPH	San Francisco Department of Public Health
SRO	Single-Room Occupancy
STD	Sexually transmitted diseases
TWSM	Trans women who have sex with men
TWSM-PWID	Trans women who have sex with men and who also inject drugs

Executive Summary

This is an exciting time in HIV prevention and care for the city of San Francisco. Significant progress has been made and San Francisco is on track to meet its goal to be the first city in the United States to achieve zero new HIV infection. There are many encouraging trends, although some disparities and areas for improvement are evident in this 2018 report. Of note, the number of new diagnoses dropped below 200, to 197, the lowest number ever recorded.

Trends and Successes

- New HIV diagnoses declined 13% from 227 diagnoses in 2017 to 197 diagnoses in 2018.
- Overall, 94% of PLWH were aware of their HIV diagnosis.
- 67% of PLWH in San Francisco were over the age of 50; 30% were over age 60.
- No children (age <13) were diagnosed with HIV since 2005.
- The majority of persons newly diagnosed with HIV continue to be MSM.
- Most new diagnoses (31%) were among people aged 30-39 years.
- 91% of new diagnoses in 2018 were linked to care within one month of diagnosis.
- Median time from diagnosis to first care visit declined from 8 days in 2013 to 4 days in 2017.
- Median time from first care visit to initiation of antiretroviral therapy declined from 27 days in 2013 to 0 days in 2017.
- Median time from diagnosis to viral suppression has declined from 135 days in 2013 to 62 days is 2017.

Disparities and Health Inequities

- New diagnoses increased among African American and Latinx persons. For the first time, the number and proportion of new HIV diagnoses among Latinxs exceeded the number among whites.
- African American men and women had the highest HIV diagnosis rates by race, with rates per 100,000 population of 145 and 35, respectively, followed by Latinx men and women.
- Compared to the overall proportion of viral suppression among PLWH (74%), viral suppression was lower for women (66%), trans women (68%), African Americans (68%), PWID (65%), MSM-PWID (68%), TWSM-PWID (64%), and was particularly low among homeless individuals (33%).
- 27% of trans women, 23% of men and 15% of women had no insurance at time of diagnosis.
- The number and proportion of persons homeless at diagnosis has continued to rise; there were 40 (20%) new diagnoses in 2018 compared to 25 (11%) in 2016.
- The number and proportion of diagnoses among PWID has continued to rise; there were 27 (14%) new diagnoses in 2018 compared to 21 (9%) in 2016.
- Three-year survival following an AIDS diagnosis was lowest among African Americans (82%) compared to other races; and PWID (79%) compared to other transmission categories.

The overall decline in new HIV diagnoses and improvements in HIV care outcomes are encouraging. However, the disparities faced by our most vulnerable populations highlight the need to address and achieve the Getting to Zero goal of zero stigma and discrimination if we are to reach zero new HIV transmissions among everyone.

1 Overview of HIV in San Francisco

15,990
San Francisco residents were diagnosed and living with HIV as of 12/31/2018

12% **of PLWH in California**

2%
of PLWH in the United States

- San Francisco living HIV cases were more likely to be men and white, and men who have sex with men (MSM), including MSM who also inject drugs (MSM-PWID), compared to persons living with HIV (PLWH) in California and the United States.
- Newly diagnosed people with HIV in San Francisco were more likely to be men, Latinx or Asian/Pacific Islander compared to persons newly diagnosed with HIV nationally.
- Newly diagnosed people with HIV in San Francisco were more likely to be PWID (MSM and non-MSM) compared to persons newly diagnosed with HIV in California and the United States.
- Newly diagnosed persons in San Francisco in 2018 had a greater proportion of African Americans, Latinxs, and non-MSM PWID compared to all San Franciscans living with HIV.

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

		Living HIV Cases			Newly Diagnosed HIV Cases		
		San Francisco[1] 2018 (N = 15,990)	California[2] 2017 (N = 135,082)	United States[3] 2016 (N =1,008,929)	San Francisco[1] 2018 (N = 197)	California[2] 2017 (N = 4,791)	United States[3] 2017 (N = 38,739)
Gender[4]	Men	92%	87%	76%	88%	87%	81%
	Women	6%	12%	24%	9%	11%	19%
	Trans Women	2%	1%	--	3%	2%	--
	Trans Men	<1%	<1%	--	1%	<1%	--
Race/Ethnicity	White	58%	40%	30%	29%	26%	26%
	African American	12%	18%	41%	21%	17%	43%
	Latinx	20%	35%	23%	38%	47%	26%
	Asian/Pacific Islander	6%	4%	1%	8%	8%	3%
	Native American	<1%	<1%	<1%	<1%	<1%	<1%
	Other/Unknown	3%	2%	4%	3%	3%	2%
Transmission Category[5]	MSM	73%	67%	54%	63%	63%	66%
	TWSM	1%	--	--	2%	--	--
	PWID	6%	6%	13%	14%	5%	6%
	MSM-PWID	14%	7%	5%	10%	3%	3%
	TWSM-PWID	1%	--	--	1%	--	--
	Heterosexual	4%	15%	26%	5%	17%	24%
	Other/Unidentified	2%	5%	2%	6%	11%	<1%

1 San Francisco data are reported through April 12, 2019 for cases diagnosed through December 31, 2018. San Francisco 2018 new diagnoses may be revised due to case reporting delay. Death reporting not complete for 2018; San Francisco PLWH may be revised downward.

2 California data are reported through January 9, 2019 for cases diagnosed through December 31, 2017. California's new diagnosis case count does not include persons with unreported race and ethnicity.

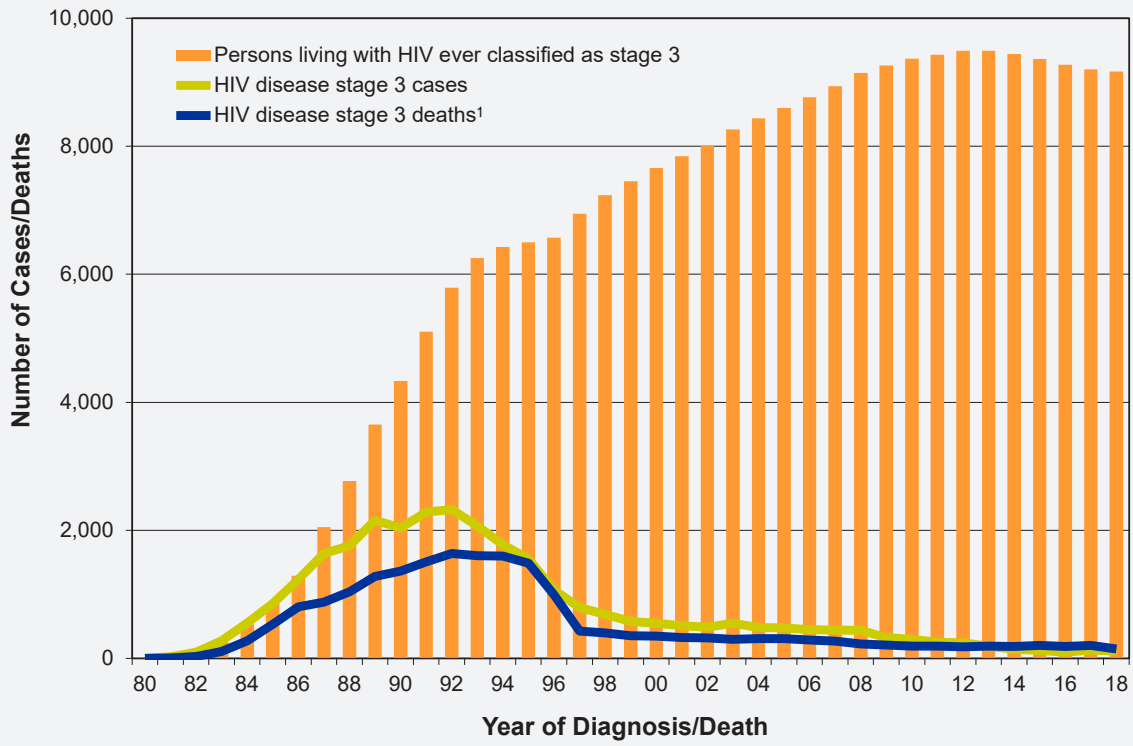
3 U.S. data are reported through June 30, 2018 and reflect cases diagnosed through December 31, 2017. U.S. living cases available through December 31, 2016 due to delays in death reporting. U.S. data reflect unadjusted numbers for 50 states and 6 dependent areas and may be found in the Centers for Disease Control and Prevention. HIV Surveillance Report, 2017; vol. 29. http://www.cdc.gov/hiv/library/reports/hiv-surveillance.html. Published November 2018. Accessed [May 1, 2019]. U.S. racial/ethnic group data for new diagnoses only reflect persons with racial/ethnic group information.

4 Data on trans women and trans men are not reported by the United States.

5 U.S. transmission category data for adults and adolescents have been statistically adjusted for missing values.

- The number of San Francisco residents at time of diagnosis with HIV stage 3 (AIDS) reached a peak in 1992 and has declined in all subsequent years.
- Beginning in 1995, the number of deaths among people ever classified as stage 3 has decreased dramatically due to antiretroviral therapies (ART).
- From 1999 the number of new stage 3 diagnoses and the number of deaths continued to decline but at a slower rate than from 1995 to 1998.
- There were 9,167 San Francisco residents at time of diagnosis living with HIV ever classified as stage 3 by the end of 2018.

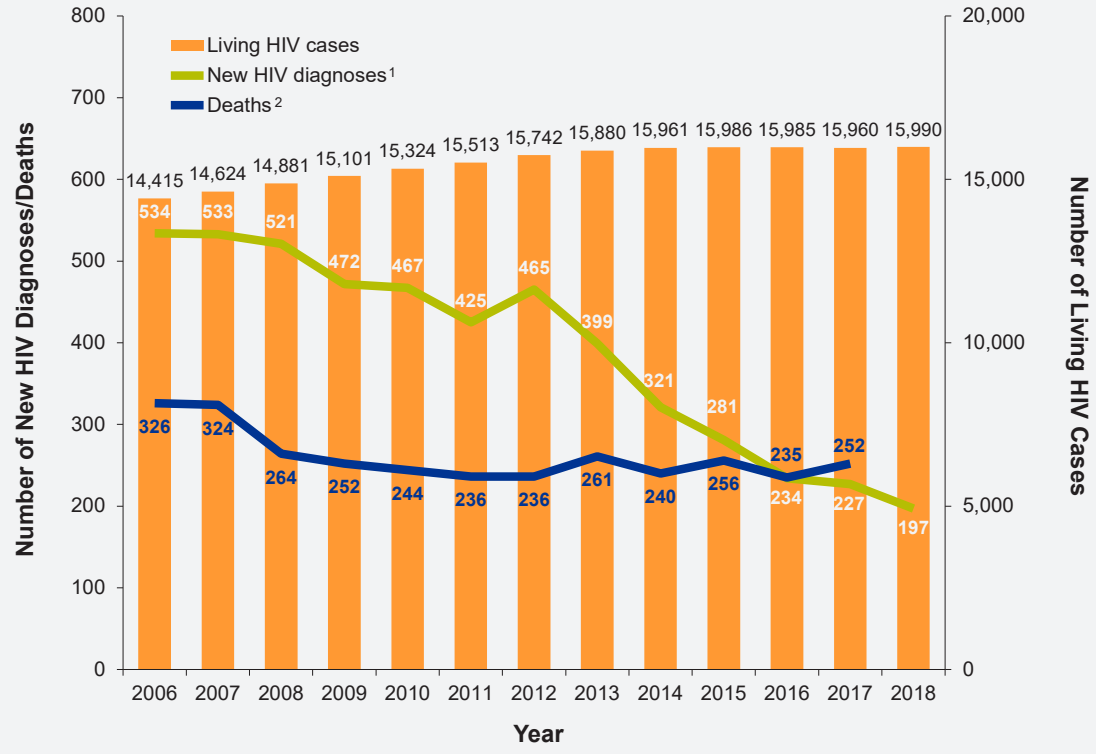
Figure 1.1 HIV disease stage 3 (AIDS) cases, deaths, and prevalence, 1980-2018, San Francisco



1 Death reporting for 2018 is not complete.

- The number of new HIV diagnoses declined from 534 in 2006 to 197 in 2018.
- The number of deaths each year fluctuated but remained relatively stable from 2008 to 2017.
- The number of PLWH increased each year until deaths in PLWH began to exceed new diagnoses in 2016.
- The provisional number of PLWH at the end of 2018 is 15,990; this will be revised when death reporting for 2018 is complete.

Figure 1.2 HIV diagnoses, deaths, and prevalence, 2006-2018, San Francisco



1 See Technical Notes "Date of Initial HIV Diagnosis."
2 Death data for 2018 not complete and not displayed.

- The majority of persons newly diagnosed with HIV between 2009 and 2018 were men and MSM.
- From 2012 to 2018, there have been increases in proportions of African Americans and Latinxs and declines in proportions of whites.
- From 2017 to 2018, the racial/ethnic group accounting for the largest proportion of annual diagnosed persons shifted from white to Latinx.
- Over time, most new diagnoses are among people aged 30-39 years.
- While the numbers are small, the proportion of women diagnosed trended upward in 2015 through 2018, compared to 2012 to 2014.
- No children (<13 years) were diagnosed with HIV during 2009 to 2018.

Table 1.2 Trends in persons newly diagnosed with HIV by demographic and risk characteristics, 2009-2018, San Francisco

		Year of Initial HIV Diagnosis[1]									
		2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
	Total Number	472	467	425	465	399	321	281	234	227	197
Gender	Men	89%	89%	87%	92%	91%	93%	88%	86%	85%	88%
	Women	6%	8%	10%	5%	6%	4%	10%	10%	12%	9%
	Trans Women	5%	4%	3%	3%	3%	3%	2%	3%	3%	3%
	Trans Men	0%	0%	0%	0%	0%	0%	0%	<1%	0%	1%
Race/Ethnicity	White	48%	48%	52%	49%	45%	42%	40%	38%	36%	29%
	African American	13%	13%	15%	11%	12%	10%	15%	15%	17%	21%
	Latinx	24%	23%	20%	24%	26%	29%	27%	29%	29%	38%
	Asian/Pacific Islander	9%	9%	8%	11%	12%	14%	12%	15%	13%	8%
	Native American	<1%	<1%	<1%	1%	1%	<1%	<1%	0%	1%	1%
	Multi-race	5%	6%	4%	3%	4%	4%	5%	3%	5%	3%
	Unknown	<1%	<1%	<1%	<1%	<1%	0%	<1%	0%	0%	0%
Age at HIV Diagnosis (years)	13 - 17	<1%	1%	0%	0%	0%	<1%	1%	0%	1%	1%
	18 - 24	13%	12%	10%	14%	15%	12%	14%	14%	10%	15%
	25 - 29	14%	14%	16%	16%	20%	18%	23%	23%	17%	20%
	30 - 39	30%	31%	27%	30%	29%	29%	30%	32%	35%	31%
	40 - 49	26%	28%	31%	28%	25%	23%	21%	16%	21%	20%
	50+	17%	14%	16%	12%	12%	17%	11%	15%	16%	13%
Transmission Category	MSM	67%	63%	69%	75%	75%	73%	73%	68%	60%	63%
	TWSM	3%	3%	2%	2%	3%	2%	2%	2%	1%	2%
	PWID	5%	8%	7%	5%	5%	8%	6%	9%	11%	14%
	MSM-PWID	15%	13%	12%	11%	12%	12%	9%	9%	12%	10%
	TWSM-PWID	2%	1%	1%	<1%	1%	1%	<1%	1%	1%	1%
	Heterosexual	5%	8%	7%	6%	4%	3%	7%	7%	7%	5%
	Other/Unidentified	3%	4%	2%	2%	1%	1%	2%	3%	7%	6%

1 Data include persons diagnosed with HIV in any stage and reported as of April 12, 2019. Percentages may not add to 100 due to rounding. See Technical Notes "Date of Initial HIV Diagnosis."

- Gender, racial/ethnic and risk distributions of PLWH remained mostly stable between 2014 and 2018; cases were predominately men, white, and MSM (including MSM-PWID).
- Persons living with HIV aged 40-49 years declined from 27% in 2014 to 20% in 2018.
- Persons living with HIV continued to shift into older age groups with the largest proportion among persons aged 50-59 years (36%) and a steady increase observed among persons aged 60-69 years (17% to 23% from 2014 to 2018).

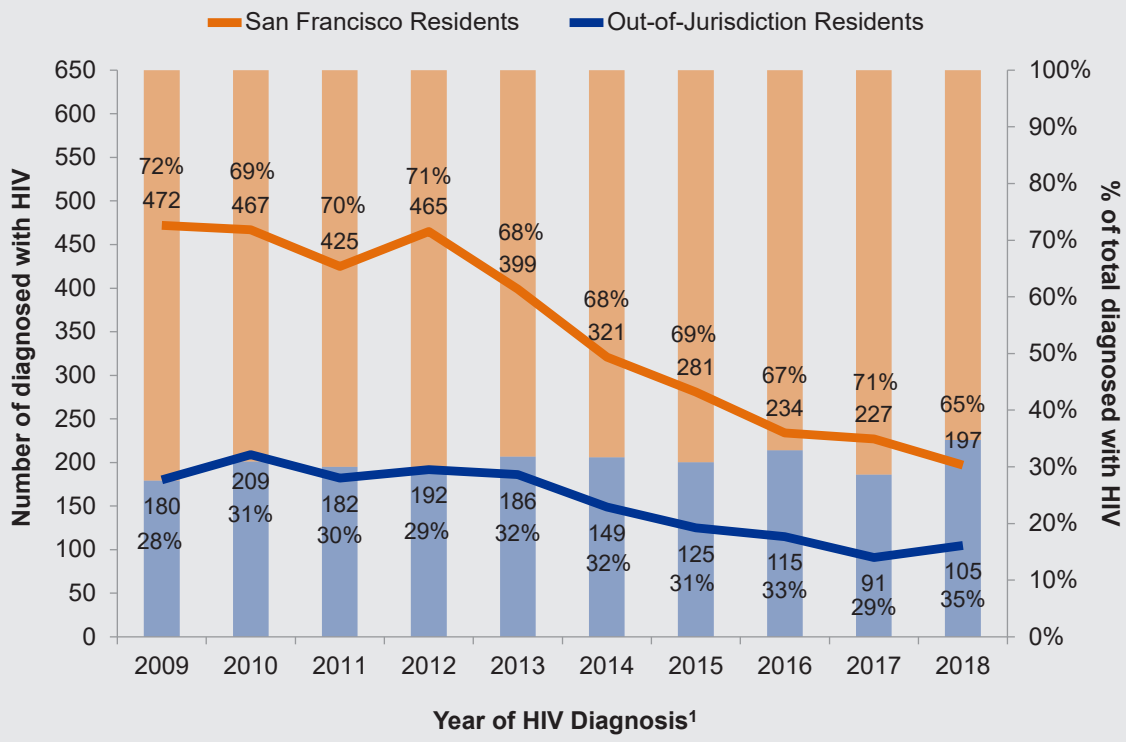
Table 1.3 Trends in persons living with HIV by demographic and risk characteristics, 2014-2018, San Francisco

		2014	2015	2016	2017	2018
		Number (%)				
	Total[1]	15,961	15,986	15,985	15,960	15,990
Gender	Men	14,660 (92)	14,679 (92)	14,683 (92)	14,655 (92)	14,684 (92)
	Women	901 (6)	901 (6)	898 (6)	904 (6)	903 (6)
	Trans Women	395 (2)	401 (3)	398 (2)	395 (2)	396 (2)
	Trans Men	5 (<1)	5 (<1)	6 (<1)	6 (<1)	7 (<1)
Race/Ethnicity	White	9,506 (1)	9,473 (59)	9,421 (59)	9,338 (59)	9,314 (58)
	African American	1,938 (12)	1,931 (12)	1,914 (12)	1,909 (12)	1,908 (12)
	Latinx	3,019 (19)	3,063 (19)	3,103 (19)	3,134 (20)	3,184 (20)
	Asian/Pacific Islander	900 (6)	927 (6)	958 (6)	984 (6)	993 (6)
	Native American	62 (<1)	63 (<1)	63 (<1)	65 (<1)	67 (<1)
	Multi-race	529 (3)	521 (3)	518 (3)	522 (3)	516 (3)
	Unknown	7 (<1)	8 (<1)	8 (<1)	8 (<1)	8 (<1)
Age in Years (at end of each year)	0 - 12	3 (<1)	3 (<1)	2 (<1)	0 (0)	0 (0)
	13 - 17	2 (<1)	4 (<1)	3 (<1)	5 (<1)	4 (<1)
	18 - 24	141 (1)	137 (1)	118 (1)	103 (1)	98 (1)
	25 - 29	491 (3)	467 (3)	438 (3)	398 (2)	346 (2)
	30 - 39	1,897 (12)	1,850 (12)	1,803 (11)	1,773 (11)	1,727 (11)
	40 - 49	4,330 (27)	3,942 (25)	3,638 (23)	3,360 (21)	3,124 (20)
	50 - 59	5,744 (36)	5,837 (37)	5,869 (37)	5,866 (37)	5,827 (36)
	60 - 69	2,781 (17)	3,067 (19)	3,305 (21)	3,504 (22)	3,750 (23)
	70+	572 (4)	679 (4)	809 (5)	951 (6)	1,114 (7)
Transmission Category	MSM	11,525 (72)	11,592 (73)	11,631 (73)	11,638 (73)	11,681 (73)
	TWSM	219 (1)	224 (1)	224 (1)	222 (1)	223 (1)
	PWID	940 (6)	914 (6)	900 (6)	888 (6)	887 (6)
	MSM-PWID	2,318 (15)	2,280 (14)	2,245 (14)	2,210 (14)	2,186 (14)
	TWSM-PWID	173 (1)	174 (1)	171 (1)	170 (1)	170 (1)
	Heterosexual	547 (3)	561 (4)	568 (4)	575 (4)	575 (4)
	Other/Unidentified	239 (1)	241 (2)	246 (2)	257 (2)	268 (2)

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

- The number and proportion of out-of-jurisdiction (OOJ) residents diagnosed in San Francisco increased in 2018.
- Among all cases reported by the San Francisco Department of Public Health each year, 28% to 35% resided outside of San Francisco at the time of diagnosis (blue bar).

Figure 1.3 San Francisco HIV cases and out-of-jurisdiction HIV cases diagnosed in San Francisco, 2009-2018, San Francisco



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

- As of December 31, 2018, 15,990 San Francisco residents at diagnosis were alive and 9,673 (60%) of these residents were still living in the city based on their most recent available address.
- More than 3,000 OOJ residents at diagnosis have a current San Francisco address and received care in San Francisco at some point after their diagnosis.
- The total number of PLWH with a current address of San Francisco is 12,749.
- Demographic and risk distributions of San Francisco residents at diagnosis who were still living in San Francisco were very similar to all living San Francisco residents at diagnosis.
- A greater proportion of OOJ residents at diagnosis now living in San Francisco were under 50 years and MSM.

Table 1.4 Characteristics of persons living with HIV[1] as of December 2018 by residence status, San Francisco

			PLWH who were SF residents based on most recent address (N=12,749)	
		PLWH who were SF residents at diagnosis	SF residents at diagnosis	OOJ residents at diagnosis
		Number (%)		
	Total	**15,990**	**9,673**	**3,076**
Gender[2]	Men	14,684 (92)	8,759 (91)	2,891 (94)
	Women	903 (6)	629 (7)	107 (3)
	Trans Women	396 (2)	279 (3)	78 (3)
Race/Ethnicity	White	9,314 (58)	5,283 (55)	1,648 (54)
	African American	1,908 (12)	1,191 (12)	426 (14)
	Latinx	3,184 (20)	2,146 (22)	668 (22)
	Asian/Pacific Islander	993 (6)	708 (7)	149 (5)
	Native American	67 (<1)	34 (<1)	13 (<1)
	Other/Unknown	524 (3)	311 (3)	172 (6)
Age in Years (as of 12/31/2018)	0 - 12	0 (0)	0 (0)	0 (0)
	13 - 17	4 (<1)	2 (<1)	0 (0)
	18 - 24	98 (1)	72 (1)	39 (1)
	25 - 29	346 (2)	218 (2)	169 (5)
	30 - 39	1,727 (11)	1,108 (11)	716 (23)
	40 - 49	3,124 (20)	1,857 (19)	720 (23)
	50 - 59	5,827 (36)	3,414 (35)	975 (32)
	60 - 69	3,750 (23)	2,286 (24)	388 (13)
	70+	1,114 (7)	716 (7)	69 (2)
Transmission Category	MSM	11,681 (73)	6,865 (71)	2,365 (77)
	TWSM	223 (1)	158 (2)	49 (2)
	PWID	887 (6)	625 (6)	125 (4)
	MSM-PWID	2,186 (14)	1,326 (14)	353 (11)
	TWSM-PWID	170 (1)	119 (1)	29 (1)
	Heterosexual	575 (4)	395 (4)	82 (3)
	Other/Unidentified	268 (2)	185 (2)	73 (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."

- White MSM (non-PWID) comprised half of men living with HIV in San Francisco.
- Among African American men, there was a higher proportion of PWID and MSM-PWID.
- White and African American men had similar age distributions at the end of 2018, while Latinx, Asian/Pacific Islander, Native American, and multi-racial men were younger than whites and African Americans.
- Injection drug use was the predominant transmission category for white, African American, and multi-racial women while heterosexual sex was the predominant transmission category for Latinx and Asian/Pacific Islander and Native American women combined.
- Latinxs and African Americans each accounted for 36% and 31%, respectively, of trans women living with HIV.

Table 1.5 Characteristics of persons living with HIV as of December 2018, San Francisco

			White	African American	Latinx	Asian/Pacific Islander & Native American	Multi-Race	Total Number[1]
			Number (%)					
Men	Transmission Category	MSM	7,340 (82)	869 (60)	2,332 (82)	810 (86)	329 (72)	11,681
		PWID	176 (2)	190 (13)	68 (2)	21 (2)	16 (3)	471
		MSM-PWID	1388 (15)	279 (19)	338 (12)	78 (8)	103 (22)	2,186
		Heterosexual	32 (<1)	71 (5)	53 (2)	21 (2)	7 (2)	184
		Other/Unidentified	52 (1)	37 (3)	47 (2)	16 (2)	5 (1)	162
	Age in Years (as of 12/31/2018)	0 - 12	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0
		13 - 17	0 (0)	0 (0)	1 (<1)	0 (0)	1 (0)	2
		18 - 24	18 (<1)	17 (1)	27 (1)	8 (1)	3 (1)	73
		25 - 29	89 (1)	57 (4)	112 (4)	44 (5)	9 (2)	311
		30 - 39	625 (7)	152 (11)	497 (18)	190 (20)	65 (14)	1529
		40 - 49	1,473 (16)	234 (16)	701 (25)	281 (30)	125 (27)	2,816
		50 - 59	3,481 (39)	484 (33)	987 (35)	281 (30)	157 (34)	5,392
		60 - 69	2,479 (28)	415 (29)	417 (15)	111 (12)	79 (17)	3,503
		70+	823 (9)	87 (6)	96 (3)	31 (3)	21 (5)	1,058
		Men Total	**8,988**	**1,446**	**2,838**	**946**	**460**	**14,684**
Women	Transmission Category	PWID	146 (58)	166 (49)	62 (31)	13 (18)	24 (71)	411
		Heterosexual	83 (33)	140 (41)	111 (55)	51 (70)	6 (18)	391
		Other/Unidentified	24 (9)	32 (9)	30 (15)	9 (12)	4 (12)	101
	Age in Years (as of 12/31/2018)	0 - 12	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0
		13 - 17	0 (0)	1 (<1)	1 (<1)	0 (0)	0 (0)	2
		18 - 24	3 (1)	8 (2)	5 (2)	0 (0)	4 (12)	20
		25 - 29	4 (2)	6 (2)	9 (4)	2 (3)	0 (0)	21
		30 - 39	26 (10)	33 (10)	36 (18)	10 (14)	4 (12)	109
		40 - 49	57 (23)	54 (16)	44 (22)	23 (32)	9 (26)	188
		50 - 59	100 (40)	122 (36)	56 (28)	24 (33)	12 (35)	314
		60 - 69	50 (20)	95 (28)	39 (19)	12 (16)	4 (12)	201
		70+	13 (5)	19 (6)	13 (6)	2 (3)	1 (3)	48
		Women Total	**253**	**338**	**203**	**73**	**34**	**903**
		Trans Women Total	**71**	**122**	**141**	**41**	**21**	**396**

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

Persons diagnosed with HIV disease stage zero

- Of the 1,135 San Francisco residents diagnosed with HIV in 2014 to 2017, 322 (28%) were diagnosed at stage 0 (an indicator of recent HIV acquisition), 708 (62%) at stage 1-3, and 105 (9%) could not be staged due to not having a documented CD4 T-lymphocyte test ≤ 3 months after HIV diagnosis.
- The proportion of stage 0 diagnoses was higher among men, trans women, whites, Latinxs, persons with other or unknown race/ethnicity, persons under age 30 years at time of diagnosis, MSM (including MSM-PWID) and persons with other or unidentified risk factor.

Table 1.6 Stage of HIV disease at diagnosis among persons newly diagnosed with HIV in 2014-2017, San Francisco

		New Diagnoses[1]	Stage at diagnosis[2]		
			Stage 0	Stage 1-3	Unknown
		Number (%[3])			
	Total	**1,135**	**322 (28)**	**708 (62)**	**105 (9)**
Year of HIV Diagnosis	2014	327	98 (30)	201 (61)	28 (9)
	2015	299	83 (28)	184 (62)	32 (11)
	2016	265	79 (30)	162 (61)	24 (9)
	2017	244	62 (25)	161 (66)	21 (9)
Gender[4]	Men	1,006	291 (29)	626 (62)	89 (9)
	Women	96	18 (19)	67 (70)	11 (11)
	Trans Women	32	13 (41)	14 (44)	5 (16)
Race/Ethnicity	White	445	139 (31)	275 (62)	31 (7)
	African American	150	26 (17)	104 (69)	20 (13)
	Latinx	324	96 (30)	200 (62)	28 (9)
	Asian/Pacific Islander	162	42 (26)	101 (62)	19 (12)
	Other/Unknown	54	19 (35)	28 (52)	7 (13)
Age at HIV Diagnosis (years)	13-24	144	61 (42)	69 (48)	14 (10)
	25-29	220	76 (35)	128 (58)	16 (7)
	30-39	358	95 (27)	218 (61)	45 (13)
	40-49	243	59 (24)	167 (69)	17 (7)
	50+	170	31 (18)	126 (74)	13 (8)
Transmission Category	MSM	794	241 (30)	480 (60)	73 (9)
	PWID	91	16 (18)	62 (68)	13 (14)
	MSM-PWID	114	34 (30)	75 (66)	5 (4)
	Heterosexual	75	10 (13)	60 (80)	5 (7)
	Other/Unidentified[5]	61	21 (34)	31 (51)	9 (15)

1 Includes persons diagnosed in the time period based on a confirmed laboratory HIV test regardless of whether the patient 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 Percent of new diagnoses.
4 Data on trans men are not released separately due to small numbers. See Technical Notes "Gender Status."
5 Includes TWSM, TWSM-PWID and persons with no identified risk factor.

Persons diagnosed with late stage HIV disease

- Late HIV diagnosis is defined as have a stage 3 (AIDS) diagnosis within three months of HIV diagnosis.
- The proportion of persons newly diagnosed with HIV whose diagnosis occurred late in the stage of HIV disease decreased from 18% in 2013 to 11% in 2016 and increased to 19% in 2017.
- In 2017, the proportion of new diagnoses that occurred late was higher among women, trans women, Asians/Pacific Islanders, persons aged 40 years or older at time of diagnosis, heterosexuals, and homeless persons.

Table 1.7 Late diagnoses among persons newly diagnosed with HIV in 2013-2017 by demographic and risk characteristics, San Francisco

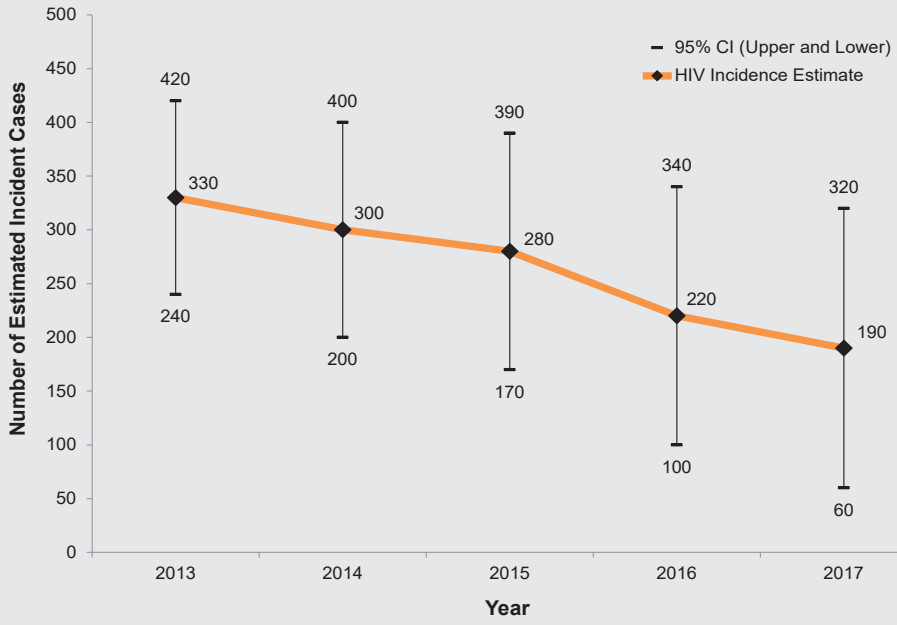
		Year of diagnosis[1]				
		2013	2014	2015	2016	2017
		Number of new diagnoses (% of who had a late diagnosis[2])				
	Total	**398 (18)**	**327 (17)**	**299 (17)**	**265 (11)**	**244 (19)**
Gender[3]	Men	359 (18)	302 (18)	264 (16)	228 (11)	212 (19)
	Women	27 (22)	14 (7)	27 (22)	28 (11)	27 (22)
	Trans Women	12 (17)	11 (0)	8 (13)	8 (0)	5 (20)
Race/Ethnicity	White	180 (17)	141 (13)	118 (18)	96 (10)	90 (18)
	African American	50 (20)	35 (23)	41 (12)	38 (16)	36 (17)
	Latinx	101 (14)	94 (16)	85 (19)	73 (7)	72 (19)
	Asian/Pacific Islander	50 (30)	41 (22)	38 (11)	51 (12)	32 (25)
	Other/Unknown	17 (12)	16 (25)	17 (24)	7 (14)	14 (21)
Age at Diagnosis	13-24	51 (10)	35 (6)	47 (6)	34 (3)	29 (7)
	25-29	79 (11)	54 (9)	60 (7)	60 (10)	44 (16)
	30-39	114 (17)	98 (19)	95 (16)	86 (10)	80 (11)
	40-49	100 (24)	80 (19)	65 (26)	45 (16)	53 (34)
	50+	54 (28)	60 (22)	32 (34)	40 (13)	38 (29)
Transmission Category	MSM	289 (16)	241 (17)	221 (15)	180 (12)	152 (17)
	PWID	24 (25)	23 (17)	19 (32)	22 (9)	27 (19)
	MSM-PWID	44 (16)	36 (6)	23 (17)	25 (4)	30 (17)
	Heterosexual	22 (41)	13 (46)	23 (22)	23 (17)	16 (31)
	Other/Unidentified[4]	19 (16)	14 (0)	13 (15)	15 (0)	19 (32)
Housing Status	Housed	348 (19)	276 (18)	261 (16)	230 (10)	205 (18)
	Homeless	31 (13)	36 (8)	28 (21)	27 (15)	30 (30)
	Unknown	19 (16)	15 (7)	10 (10)	8 (0)	9 (11)

1 Date of HIV diagnosis is based on a confirmed laboratory HIV test and does not take into account patient self-report of HIV positive.
2 Percent of 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 Includes TWSM, TWSM-PWID and persons with no identified risk factor.

HIV incidence estimates

- Estimates of new HIV infections track the leading edge of the HIV epidemic and are critical for allocating resources and evaluating effectiveness of prevention programs. The SFDPH adopted the CD4-based model (see Technical Notes "CD4-based Model"), developed by the Centers for Disease Control and Prevention (CDC), to estimate new infections during 2013-2017 in San Francisco.
- Overall, the estimated number of new HIV infections has declined since 2013, however, the confidence intervals overlap from year to year indicating a relatively stable trend.

Figure 1.4 Estimated number of new HIV infections, 2013-2017, San Francisco



CI: Confidence Interval.

- The rate of new infections among MSM and MSM-PWID is disproportionately high: 405 infections per 100,000 MSM in 2015 compared to an overall rate of 36 in San Francisco.
- With caution given to the large margin of error, the data suggest higher incidence among Latinx individuals compared to whites for the years we are able to provide an estimate.

Table 1.8 Estimated rate of new HIV infections per 100,000 population[1] by demographic and risk characteristics, 2013-2017, San Francisco

		2013	2014	2015	2016	2017
		Rate per 100,000 (95% Confidence Interval)				
Overall		44 (32 - 56)	39 (26 - 53)	36 (22 - 51)	29 (13 - 44)	24 (7 - 41)
Sex at Birth	Male	81 (58 - 103)	73 (48 - 98)	63 (63- 90)	50 (21 - 78)	**
	Female	**	**	**	**	**
Age (years)	13-24	81 (35 - 127)	**	**	**	**
	25-34	88 (53 - 123)	78 (39 - 116)	77 (32 - 122)	**	**
	35-44	71 (36 - 106)	**	**	**	**
	45-54	**	**	**	**	**
	55+	**	**	**	**	**
Race/Ethnicity	White	43 (25 - 60)	35 (17 - 52)	**	**	**
	African American	**	**	**	**	**
	Latinx	84 (39 - 129)	88 (37 - 140)	**	**	**
	Other	**	**	**	**	**
Transmission Category	MSM & MSM-PWID	488 (346 - 630)	449 (290 - 607)	405 (230 - 579)	**	**
	Non-MSM	**	**	**	**	**

1 The population data by year, sex, race/ethnicity, and age are obtained from California Department of Finance. Demographic Research Unit. 2017. State and county population projections 2010-2060 [P-3: State and County Projections Dataset]. Sacramento: California Department of Finance. February 2, 2017. Revised June 20, 2017. The MSM population data are obtained from Hughes AJ, Chen YH, Scheer S, et al. A novel modeling approach for estimating patterns of migration into and out of San Francisco by HIV status and race among men who have sex with men. J Urban Health (2017). doi:10.1007/s11524-017-0145-2.

** Incidence estimate with the relative standard error (RSE)>=30% is not displayed due to high estimation error.

2 Trends in HIV Diagnoses

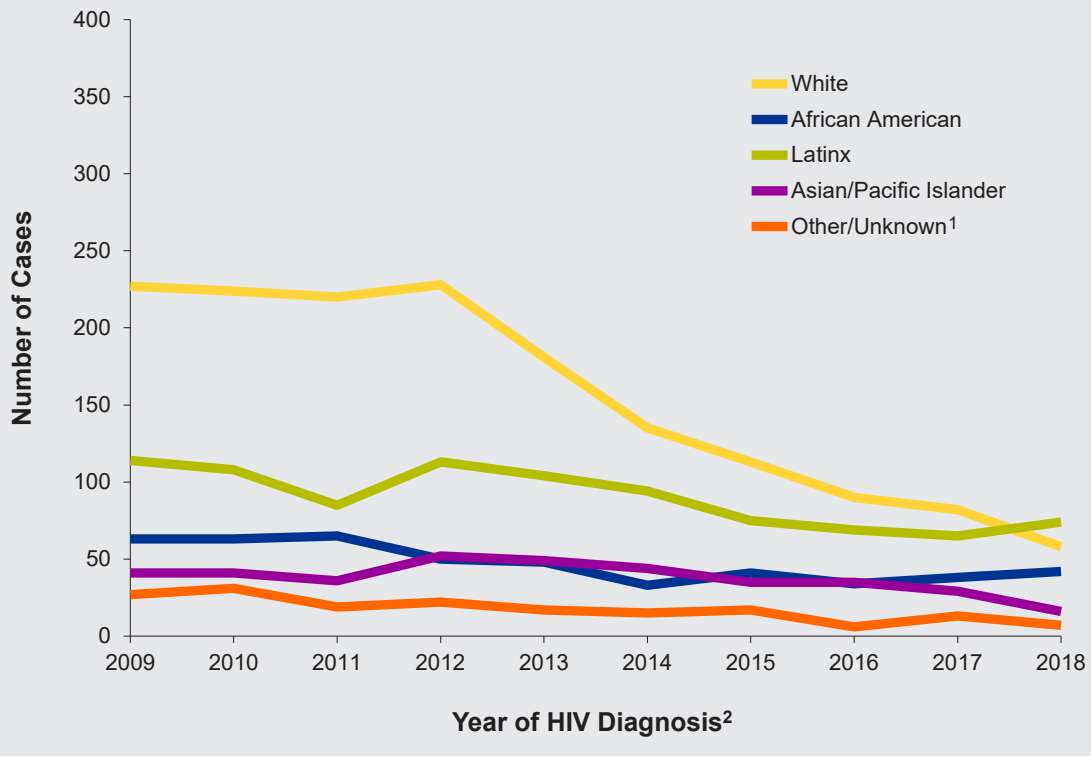
Race/ethnicity

Whites
ACCOUNTED FOR THE LARGEST NUMBER OF NEWLY DIAGNOSED CASES FROM 2009-2017

Latinx
DIAGNOSES SURPASSED DIAGNOSES FOR WHITES IN 2018

- Diagnoses among whites were stable from 2009 to 2012 and declined from 2013 through 2018.
- Overall, diagnoses among African Americans and Latinxs declined from 2009 to 2016 but slightly increased between 2017 and 2018.
- Diagnoses among Asians/Pacific Islanders have been declining slightly starting in 2013.

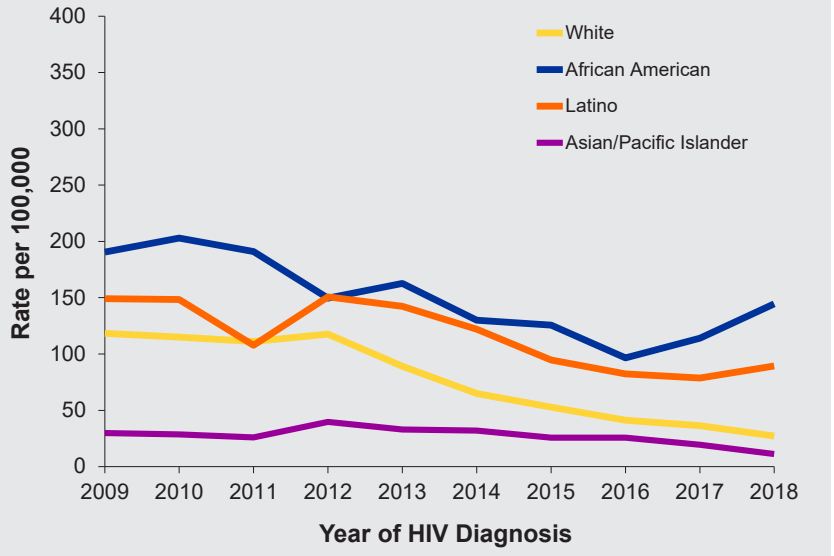
Figure 2.1 Number of persons newly diagnosed with HIV by race/ethnicity, 2009-2018, San Francisco



1 Cases in the "Other/Unknown" racial/ethnic category include 9% Native Americans, 87% multi-race, and 3% unknown.
2 See Technical Notes "Date of Initial HIV Diagnosis."

- Among men, annual population-specific rates of HIV diagnosis declined for most racial/ethnic groups from 2009 through 2018; the decline was most sustained for whites.
- African American men had the highest annual HIV diagnosis rates, followed by Latino men, between 2013 and 2018.
- Both African American and Latino men's diagnosis rates increased in 2018 (145 and 89 per 100,000, respectively).
- From 2009 through 2018, Asian and Pacific Islander men had a peak diagnosis rate of 40 per 100,000 in 2012; the diagnosis rate dipped to 11 per 100,000 in 2018.

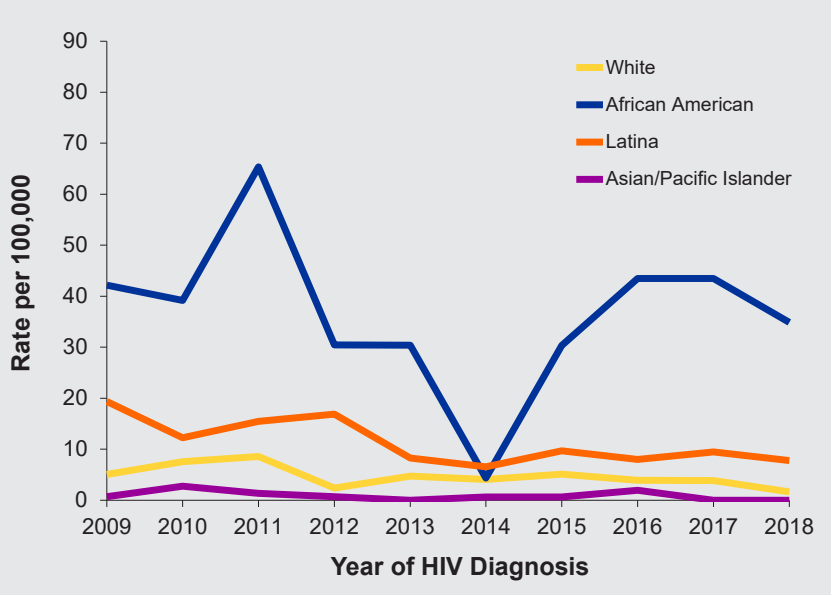
Figure 2.2 Annual rates[1] of men newly diagnosed with HIV per 100,000 population by race/ethnicity, 2009-2018, San Francisco



1 See Technical Notes "HIV Case Rates and HIV Mortality Rates." Includes persons with HIV by year of their initial HIV diagnosis. Excludes transfemale cases. Rates for Native American and multi-racial cases are not calculated due to small numbers.

- From 2009 through 2018, the annual population-specific rates of HIV diagnosis were substantially lower for women in all racial/ethnic groups, compared to men.
- Except for 2014, the annual rates of HIV diagnosis were higher for African American women compared to all other racial/ethnic groups.

Figure 2.3 Annual rates[1] of women newly diagnosed with HIV per 100,000 population by race/ethnicity, 2009-2018, San Francisco

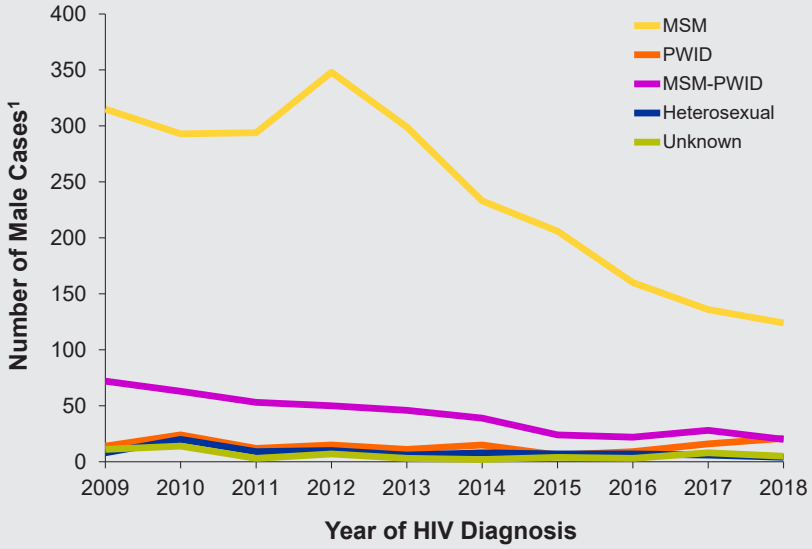


1 See Technical Notes "HIV Case Rates and HIV Mortality Rates." Includes persons with HIV by year of their initial HIV diagnosis. Excludes transmale cases. Rates for Native American and multi-racial cases are not calculated due to small numbers.

Transmission category

- The majority of men newly diagnosed with HIV during 2009 through 2018 were MSM (non-PWID), and while the annual number fluctuated, the overall trend declined.
- The annual number of MSM-PWID diagnoses also declined overall.
- Diagnoses among heterosexual PWID have been increasing in recent years starting in 2016.
- Annual diagnoses among men due to heterosexual contact have been low and fairly stable during this time period.

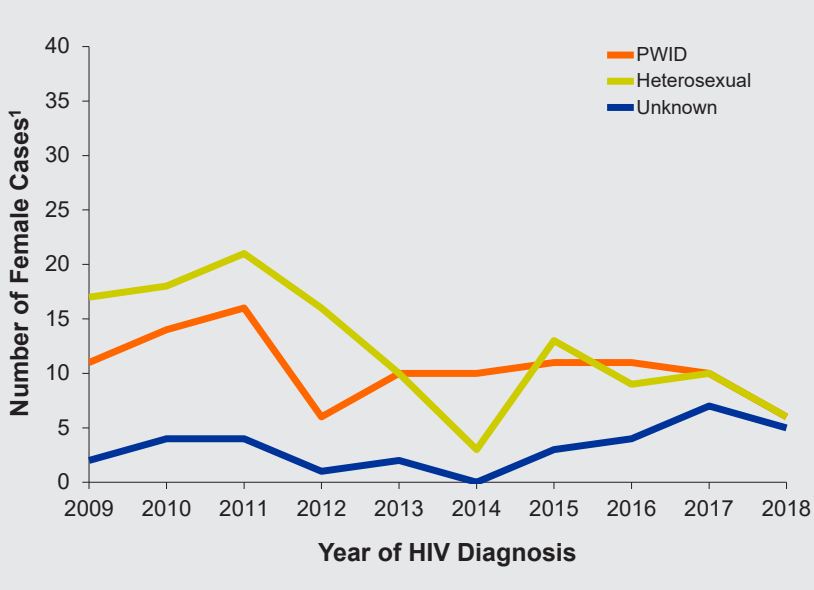
Figure 2.4 Number of men newly diagnosed with HIV by transmission category, 2009-2018, San Francisco



1 Excludes trans women diagnosed with HIV. Includes persons with HIV by year of their initial HIV diagnosis.

- The number of women newly diagnosed with HIV due to heterosexual contact was similar to that for female PWID.
- The number of diagnoses each year among female PWID has been stable from 2013 to 2017.

Figure 2.5 Number of women newly diagnosed with HIV by transmission category, 2009-2018, San Francisco



1 Excludes trans men diagnosed with HIV. Includes persons with HIV by year of their initial HIV diagnosis.

Age

- The annual number of men diagnosed declined from 297 in 2014 to 174 in 2018, while the number of women was small and fluctuated.
- In this time period, among men, the 30-39 age group had the highest number of new diagnoses, followed by men 25-29 years of age.
- During this time period there were no new diagnoses among those under 13 years of age.

Table 2.1 Number of persons newly diagnosed with HIV by gender[1] and age at diagnosis, 2014-2018, San Francisco

		Year of Initial HIV Diagnosis[2]				
		2014	2015	2016	2107	2018
		Number (%)				
Men (Age in years)	0 - 12	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
	13 - 17	0 (0)	2 (1)	0 (0)	1 (1)	1 (1)
	18 - 24	35 (12)	36 (15)	29 (14)	19 (10)	26 (15)
	25 - 29	54 (18)	60 (24)	46 (23)	37 (19)	40 (23)
	30 - 39	90 (30)	71 (29)	66 (33)	72 (37)	50 (29)
	40 - 49	70 (24)	52 (21)	33 (16)	36 (19)	36 (21)
	50+	48 (16)	26 (11)	27 (13)	29 (15)	21 (12)
	Men Total	**297**	**247**	**201**	**194**	**174**
Women (Age in years)	0 - 12	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
	13 - 17	0 (0)	1 (4)	0 (0)	2 (7)	0 (0)
	18 - 24	2 (15)	1 (4)	2 (8)	3 (11)	2 (12)
	25 - 29	1 (8)	5 (19)	5 (21)	1 (4)	0 (0)
	30 - 39	1 (8)	11 (41)	6 (25)	5 (19)	7 (41)
	40 - 49	4 (31)	4 (15)	4 (17)	9 (33)	3 (18)
	50+	5 (38)	5 (19)	7 (29)	7 (26)	5 (29)
	Women Total	**13**	**27**	**24**	**27**	**17**

1 Data on trans women and trans men by age are not presented due to small numbers and potential small population.
2 See Technical Notes "Date of Initial HIV Diagnosis."

3 Spectrum of Engagement in HIV Prevention and Care

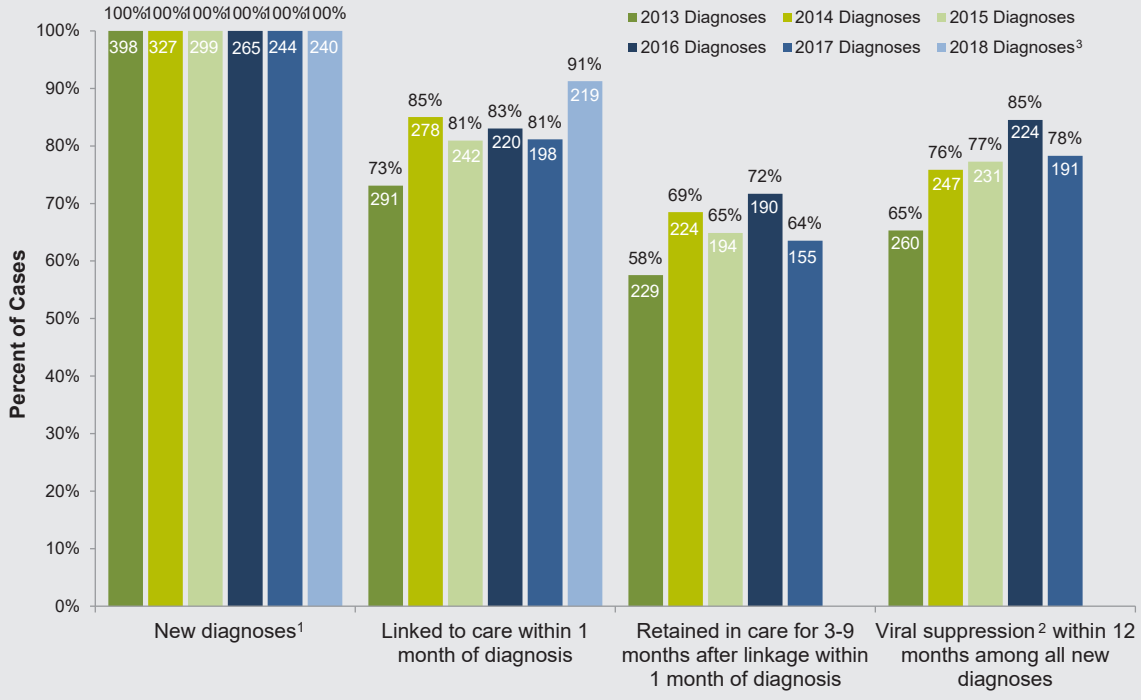
Continuum of HIV care among persons newly diagnosed with HIV

- Between 2013 through 2018, the proportion of newly diagnosed persons who entered care within one month increased between 73% and 91%.
- Not all persons who entered care continued to receive care; 58%-72% of persons diagnosed in 2013 to 2017 remained in care three to nine months after initial linkage to care.
- The proportion of newly diagnosed persons who achieved viral suppression within 12 months showed an overall upward trend between 2013 and 2017 with the highest proportion virally suppressed among persons diagnosed in 2016 (85%).

91%
OF PERSONS NEWLY DIAGNOSED IN 2018 ENTERED CARE WITHIN ONE MONTH

78%
OF PERSONS NEWLY DIAGNOSED IN 2017 ACHIEVED VIRAL SUPPRESSION WITHIN 12 MONTHS

Figure 3.1 Continuum of HIV care among persons newly diagnosed with HIV, 2013-2018, San Francisco

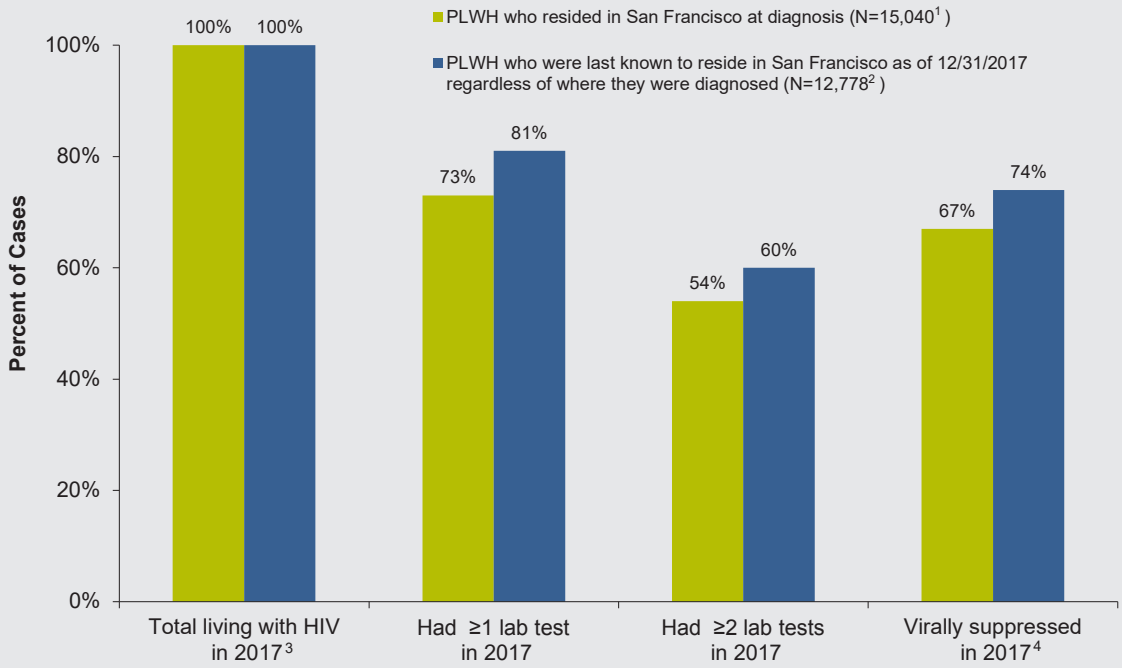


1 Number of new diagnoses shown each year is based on evidence of a confirmed HIV test and does not take into account patient self-report of HIV infection.
2 Defined as the latest viral load test within 12 months of HIV diagnosis <200 copies/mL. See Technical Notes "HIV Care Outcomes and Definitions."
3 Retention in care and viral suppression data are not available yet for persons diagnosed in 2018.

Continuum of HIV care among persons living with HIV

- As of December 31, 2017 there were 15,040 persons living with HIV (PLWH) who were diagnosed through the end of 2016 and who resided in San Francisco at time of diagnosis. Of these, 73% had at least one CD4, viral load or genotype test (received care), 54% had two or more laboratory tests at least three months apart (retained in care), and 67% were virally suppressed in 2017.
- Of the 12,778 PLWH who resided in San Francisco based on their most recent address (9,722 San Francisco residents at diagnosis and still in San Francisco, 3,056 out-of-jurisdiction (OOJ) residents at diagnosis who moved to San Francisco after diagnosis), 81% received care, 60% were retained in care and 74% were virally suppressed in 2017.

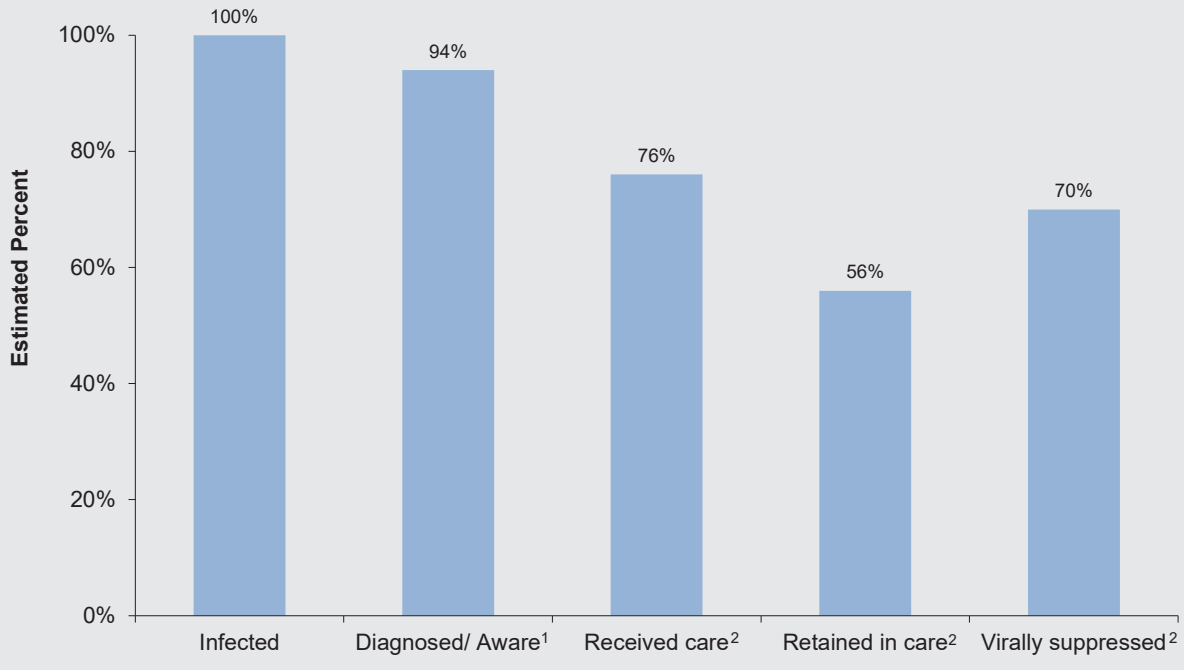
Figure 3.2 Continuum of HIV care among persons living with HIV, 2017, San Francisco



1 Excludes persons who were non-San Francisco residents at time of HIV diagnosis but San Francisco residents at stage 3 HIV (AIDS) diagnosis.
2 See Technical Notes "Residence and Receipt of Care for PLWH."
3 Includes persons living with HIV at the end of 2017 (≥ 13 years old) and diagnosed by the end of 2016.
4 Defined as the latest viral load in 2017 <200 copies/mL.

- Among all persons with HIV (diagnosed and undiagnosed), it is estimated that 94% were aware of their HIV diagnosis, 76% received care, 56% were retained in care, and 70% were virally suppressed in 2017.

Figure 3.3 Continuum of HIV care among persons living with diagnosed or undiagnosed HIV infection, 2017, San Francisco



1 The estimated percent aware of HIV diagnosis for San Francisco was 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 infected was derived by applying the 94% diagnosed/aware to the 81% who had ≥1 lab tests, 60% who had ≥2 lab tests, and 74% who were virally suppressed among persons living with HIV who were last known to reside in San Francisco as shown in Figure 3.2, respectively.

HIV care and prevention indicators

- The proportion of late stage HIV diagnosis, defined as a new case who developed HIV disease stage 3 (AIDS) within three months of HIV diagnosis decreased from 18% in 2013 to 11% in 2016 and then increased in 2017 to 19%.
- The median time from HIV diagnosis to viral suppression shortened from 135 days in 2013 to 62 days in 2017.
- All care indicators from diagnosis to viral suppression improved over time including time from HIV diagnosis to first care (from 8 days in 2013 to 4 days in 2017), time from receipt of care to antiretroviral therapy (ART) initiation (from 27 days in 2013 to 0 day in 2017) and time from ART initiation to viral suppression (from 76 days in 2013 to 46 days in 2017).
- Among PLWH who resided in San Francisco based on their last known address at the end of each year, the proportion of those received care (81-82%), as well as the proportion of those were virally suppressed (74%), remained relatively stable in recent years.

Table 3.1 Care and prevention indicators among persons newly diagnosed with HIV and living with HIV, 2013-2017, San Francisco

		Year				
		2013	2014	2015	2016	2017
Indicators	**New HIV diagnoses[1]**	**N=398**	**N=327**	**N=299**	**N=265**	**N=244**
	Proportion developed AIDS within 3 months of diagnosis	18%	17%	17%	11%	19%
	Proportion linked to care within 1 month of diagnosis	73%	85%	81%	83%	81%
	Proportion virally suppressed[2] within 12 months of diagnosis	65%	76%	77%	85%	78%
	Median time (days) from HIV diagnosis to first viral suppression	135	94	79	65	62
	Median time (days) from HIV diagnosis to first care	8	7	7	5	4
	Median time (days) from first care to ART initiation[3]	27	19	7	1	0
	Median time (days) from ART initiation to first viral suppresssion[3]	76	54	53	42	46
	Median CD4 count (cells/µL) at treatment initiation among those diagnosed with a CD4 count>500 cells/µL	675	660	672	688	702
	Living HIV cases[4] (≥13 years old)	**N=14,227**	**N=13,242**	**N=13,717**	**N=13,054**	**N=12,778**
	Proportion of cases who had ≥1 CD4/viral load test	76%	82%	82%	82%	81%
	Proportion received ≥2 tests among those with ≥1 test	79%	76%	76%	76%	74%
	Proportion virally suppressed[2] among living cases	66%	72%	74%	74%	74%
	Proportion virally suppressed among those with ≥1 viral load test	89%	90%	91%	92%	92%

1 Includes persons diagnosed each year based on a confirmed HIV test and does not take into account patient self-report of HIV infection.
2 Defined as the latest viral load test within 12 months of HIV diagnosis <200 copies/mL. For living cases viral suppression is measured using the latest test in the year.
3 Calculation is limited to persons 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 persons with HIV by demographic and risk characteristics

- There are noticeable differences in care outcomes among persons diagnosed with HIV in 2017 by demographic and risk characteristics.
- African Americans had a lower proportion of linkage to care and viral suppression.
- Linkage to care, retention in care, and viral suppression were lower among persons who inject drugs (PWID), homeless persons, and persons born in the U.S.

Table 3.2 Care indicators[1] among persons newly diagnosed with HIV in 2017 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 12 months of diagnosis[3]
	Total	**244**	**81%**	**64%**	**78%**
Gender[4]	Men	212	81%	62%	79%
	Women	27	81%	74%	70%
	Trans Women	5	80%	80%	80%
Race/Ethnicity	White	90	80%	54%	80%
	African American	36	75%	64%	69%
	Latinx	72	81%	65%	75%
	Asian/Pacific Islander	32	94%	81%	91%
	Other/Unknown	14	79%	71%	79%
Age at Diagnosis	13-24	29	76%	72%	79%
	25-29	44	91%	64%	84%
	30-39	80	79%	63%	79%
	40-49	53	77%	62%	74%
	50+	38	84%	61%	76%
Transmission Category	MSM	152	84%	65%	86%
	PWID	27	63%	37%	48%
	MSM-PWID	30	80%	60%	67%
	Heterosexual	16	88%	75%	75%
	Other/Unidentified[5]	19	84%	84%	84%
Housing Status at Diagnosis	Housed	205	83%	68%	83%
	Homeless	30	73%	40%	53%
	Unknown	9	67%	44%	44%
Country of Birth	US	91	74%	56%	76%
	Non-US	72	86%	74%	85%
	Unknown	81	85%	63%	75%

1 See Technical Notes "HIV Care Outcomes and Definitions."
2 Includes persons diagnosed in 2017 based on a confirmed HIV test and does not take into account patient 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 Includes TWSM, TWSM-PWID and persons with no identified risk factor.

- Among PLWH in 2017 who were San Francisco residents at the time of diagnosis, 67% were virally suppressed; among those who received care in 2017, 92% were virally suppressed.
- The proportion who were virally suppressed was lower among women, trans women, African Americans, persons younger than 50 years, PWID, and homeless persons.

Table 3.3 Care indicators among persons living with HIV in 2017 who resided in San Francisco at diagnosis, by demographic and risk characteristics

		Number of living cases[1]	% with >= 1 laboratory test in 2017[2]	% with >= 2 laboratory tests in 2017[2]	% Virally suppressed (most recent viral load test in 2017 <200 copies/mL)	
					among all living cases	among those with >= 1 laboratory test in 2017
	Total	**15,040**	**73%**	**54%**	**67%**	**92%**
Gender[3]	Men	13,839	73%	53%	67%	92%
	Women	845	78%	58%	65%	84%
	Trans Women	351	79%	58%	65%	82%
Race/Ethnicity	White	8,916	73%	53%	68%	93%
	African American	1,760	74%	57%	64%	86%
	Latinx	2,919	71%	53%	64%	90%
	Asian/Pacific Islander	917	75%	54%	71%	94%
	Other/Unknown	528	78%	54%	71%	91%
Age in Years (as of 12/31/2017)	13-24	75	76%	61%	68%	89%
	25-29	329	74%	50%	64%	86%
	30-39	1,555	69%	46%	59%	85%
	40-49	3,113	69%	47%	61%	88%
	50-59	5,617	72%	53%	67%	92%
	60-69	3,412	78%	62%	74%	95%
	70+	939	79%	67%	76%	96%
Transmission Category	MSM	11,064	73%	53%	68%	94%
	TWSM	198	83%	63%	69%	82%
	PWID	825	75%	57%	61%	82%
	MSM-PWID	2,024	75%	55%	64%	86%
	TWSM-PWID	151	73%	50%	60%	82%
	Heterosexual	542	78%	56%	69%	88%
	Other/Unidentified	236	53%	37%	48%	91%
Housing Status, Most Recent	Housed	14,736	74%	54%	68%	92%
	Homeless	304	53%	38%	35%	66%
Country of Birth	US	11,432	74%	54%	67%	91%
	Non-US	2,415	68%	52%	64%	94%
	Unknown	1,193	78%	55%	72%	92%

1 Includes San Francisco residents at diagnosis living with HIV at the end of 2017 (≥13 years old) and diagnosed by the end of 2016. Excludes persons who were non-San Francisco residents at time of HIV diagnosis but San Francisco residents at stage 3 HIV (AIDS) diagnosis. See Technical Notes "Residence and Receipt of Care for PLWH."

2 Percent of total living cases.

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

- Among PLWH who were San Francisco residents as of the end of 2017, 74% were virally suppressed; among those who received care in 2017, 91% were virally suppressed.
- The proportion who were virally suppressed was lower among women, trans women, African Americans, persons younger than 50 years, PWID, and homeless persons.

Table 3.4 Care indicators among persons living with HIV in 2017 who were known to reside in San Francisco as of the end of 2017, by demographic and risk characteristics

		Number of living cases[1]	% with >= 1 laboratory test in 2017[2]	% with >= 2 laboratory tests in 2017[2]	% Virally suppressed (most recent viral load test in 2017 <200 copies/mL) among all living cases	% Virally suppressed (most recent viral load test in 2017 <200 copies/mL) among those with >= 1 laboratory test in 2017
	Total	**12,778**	**81%**	**60%**	**74%**	**91%**
Gender[3]	Men	11,688	81%	60%	74%	92%
	Women	725	81%	60%	66%	82%
	Trans Women	360	84%	64%	68%	81%
Race/Ethnicity	White	7,095	81%	60%	76%	93%
	African American	1,606	81%	62%	68%	84%
	Latinx	2,742	78%	58%	70%	91%
	Asian/Pacific Islander	815	81%	61%	77%	95%
	Other/Unknown	520	84%	60%	74%	89%
Age in Years (as of 12/31/2017)	13-24	83	87%	66%	80%	92%
	25-29	382	80%	51%	69%	87%
	30-39	1,715	77%	53%	67%	87%
	40-49	2,804	77%	53%	67%	88%
	50-59	4,542	81%	60%	75%	92%
	60-69	2,548	86%	70%	81%	95%
	70+	704	85%	73%	83%	97%
Transmission Category	MSM	9,263	81%	60%	76%	94%
	TWSM	207	88%	67%	71%	81%
	PWID	745	82%	62%	65%	80%
	MSM-PWID	1,719	81%	61%	68%	85%
	TWSM-PWID	151	78%	60%	64%	81%
	Heterosexual	470	81%	59%	70%	87%
	Other/Unidentified	223	56%	42%	51%	92%
Housing Status, Most Recent	Housed	12,447	81%	60%	75%	92%
	Homeless	331	51%	38%	33%	64%
Country of Birth	US	9,321	82%	61%	75%	91%
	Non-US	2,201	73%	57%	69%	94%
	Unknown	1,256	83%	59%	76%	91%

1 Includes San Francisco residents living with HIV as of the end of 2017 (≥13 years old) and diagnosed by the end of 2016. See Technical Notes "Residence and Receipt of Care for PLWH."
2 Percent of total living cases.
3 Data on trans men are not released separately due to small numbers. See Technical Notes "Gender Status."

- From January 1, 2017 through December 31, 2017, 120 PLWH were referred, accepted, and completed Linkage Integration Navigation Comprehensive Services (LINCS; see Technical Notes "Linkage Integration Navigation Comprehensive Services").
- 85% of those who completed LINCS had a viral load, CD4 test or genotyping test within three months of LINCS initiation.
- 62% of persons who completed LINCS had additional testing in the three to nine months after linkage, indicating retention in care.
- 58% of persons who completed LINCS showed evidence of viral suppression at their most recent viral load in the 12 month period after they began the LINCS program.
- By age, persons 30-39 years old who completed LINCS had the highest proportion achieving viral suppression; by transmission category, MSM non-PWID had the highest proportion achieving viral suppression.

Table 3.5 Care indicators among persons who accepted and completed LINCS services in 2017 by demographic and risk characteristics, San Francisco

		Number of accepted and completed LINCS	% Linked to care within 3 months of LINCS initiation[1]	% Retained in care 3-9 months after linkage[1]	% Virally suppressed at most recent test in 12 months after LINCS initiation[1]
	Total	**120**	**85%**	**62%**	**58%**
Gender	Men	95	86%	61%	59%
	Women	14	71%	64%	57%
	Trans Women	11	91%	64%	55%
Race/Ethnicity	White	46	85%	61%	57%
	African American	32	84%	66%	59%
	Latinx	29	83%	55%	52%
	Asian/Pacific Islander	8	88%	75%	88%
	Other/Unknown	5	100%	60%	60%
Age in Years (as of 12/31/17)	13-24	2	100%	50%	50%
	25-29	15	100%	87%	60%
	30-39	37	84%	65%	73%
	40-49	33	82%	52%	39%
	50+	33	82%	58%	61%
Transmission Category	MSM	51	90%	63%	69%
	PWID	22	77%	55%	55%
	MSM-PWID	38	87%	66%	50%
	Heterosexual	9	67%	56%	44%
Housing Status	Housed	68	84%	62%	60%
	Homeless	52	87%	62%	56%

1 Percent of persons who accepted and completed LINCS.

Comparison of HIV prevention and care indicators in San Francisco to California and the United States

- Awareness of HIV status in San Francisco is high (94%) compared to all of California and the U.S. (86%).
- The proportions of PLWH who received care and were virally suppressed were higher in San Francisco than in California and the U.S.
- The death rates per 1,000 persons with HIV or stage 3 HIV (AIDS) in San Francisco were slightly higher than that in California but lower than in the U.S.

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

		San Francisco	California[2]	United States[2]
Indicators	**Awareness of HIV status[1]**			
	Estimated % persons living with HIV who know their serostatus	94% (2017)	86% (2016)	86% (2016)
	Late HIV diagnosis			
	% persons diagnosed with AIDS within 3 months of HIV diagnosis	19% (2017)	19% (2017)	21% (2017)
	HIV care access and outcome[3]			
	% newly diagnosed persons linked to care within 1 month of HIV diagnosis	81% (2017)	75% (2017)	78% (2017)
	% PLWH who are in care (≥1 laboratory tests)	81% (2017)	76% (2016)	74% (2016)
	% PLWH who are retained in care (≥2 laboratory tests)	60% (2017)	58% (2016)	58% (2016)
	% PLWH who are virally suppressed	74% (2017)	66% (2016)	62% (2016)
	% PLWH aged 13-24 years who are virally suppressed	80% (2017)	NA	54% (2016)
	% PLWH PWID who are virally suppressed	65% (2017)	NA	54% (2016)
	HIV mortality			
	Death rate per 1,000 persons with HIV (including AIDS) diagnosis	14.9 (2017)	13.9 (2016)	16.3 (2016)
	Death rate per 1,000 persons with AIDS diagnosis	21.8 (2017)	20.4 (2016)	24.1 (2016)

1 The estimated percent aware of HIV infection for San Francisco was derived using the CD4 depletion model. See Technical Notes "CD4-based Model." Reference for California and U.S. estimates: CDC HIV Surveillance Supplemental Report 2019;24(No. 1). http://www.cdc.gov/hiv/library/reports/hiv-surveillance.html. Published February 2019.

2 CDC HIV Surveillance Supplemental Report 2019;24(No. 3). http://www.cdc.gov/hiv/library/reports/hiv-surveillance.html. Published June 2019.

3 The percentages of persons living with HIV diagnosis who are in care, retained in care, and virally suppressed are calculated among those diagnosed and last known to be living in San Francisco and California, respectively. See Technical Notes "Residence and Receipt of Care for PLWH."

NA: Not Available.

Use of antiretroviral therapy

- Persons with a medical record indicating that they were prescribed ART were assumed to have received and used it (See Technical Notes "Estimate of ART Use"). Overall, 91%-98% of PLWH received ART. ART use was lower among women, African Americans, persons under 30 years, PWID, and the homeless.
- Among 244 persons newly diagnosed with HIV in 2017, 86% received ART. ART use was lower among women, whites and African Americans, persons aged 40 or older, PWID, heterosexuals, the homeless, and persons who were publicly insured at time of diagnosis.

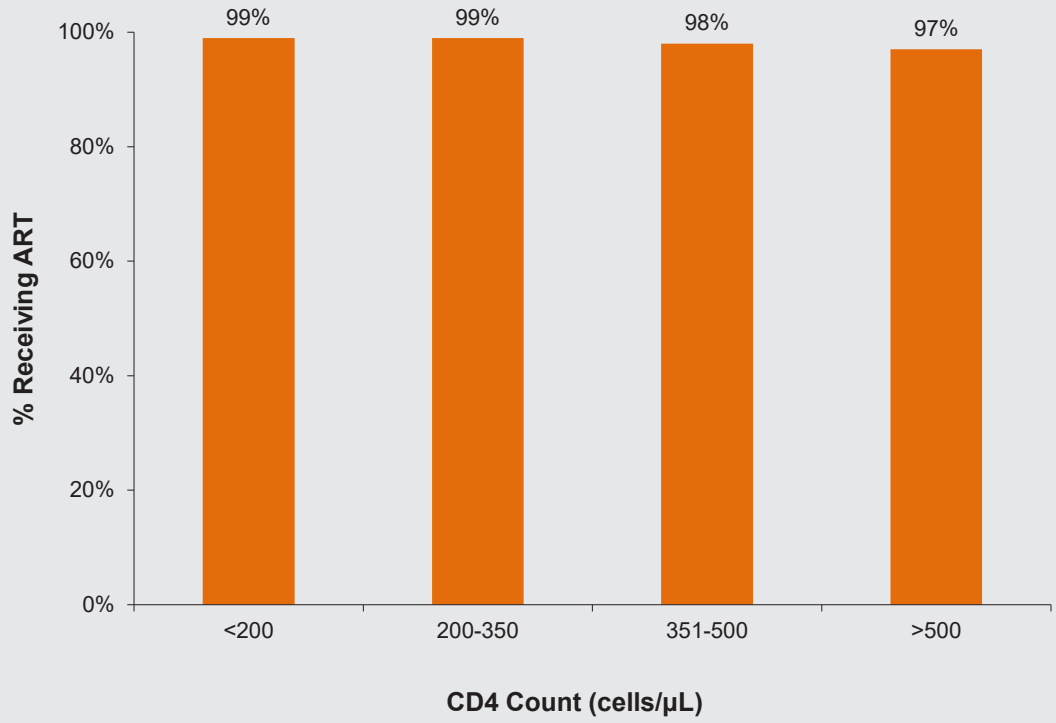
Table 3.7 Estimate of ART use among persons living with HIV as of December 2018 and diagnosed in 2017 by demographic and risk characteristics, San Francisco

		Persons living with HIV[1], December 2018 Percent receiving ART, ever		Persons newly diagnosed with HIV[1], 2017 Percent receiving ART
		Lower level estimate (N=15,327)	Upper level estimate (N=6,658)	(N=244)
	Overall	**91%**	**98%**	**86%**
Gender[2]	Men	91%	99%	87%
	Women	91%	95%	78%
	Trans Women	91%	99%	100%
Race/Ethnicity	White	92%	99%	82%
	African American	88%	96%	81%
	Latinx	90%	98%	86%
	Asian/Pacific Islander	89%	99%	97%
	Other/Unknown	89%	99%	100%
Age[3]	13 - 24	90%	92%	92%
	25 - 29	86%	95%	88%
	30 - 39	84%	97%	89%
	40 - 49	87%	97%	80%
	50 +	93%	99%	84%
Transmission Category	MSM	91%	99%	88%
	TWSM	91%	99%	100%
	PWID	86%	95%	67%
	MSM-PWID	91%	99%	90%
	TWSM-PWID	92%	99%	100%
	Heterosexual	94%	97%	81%
Housing Status[4]	Housed	91%	99%	86%
	Homeless	79%	93%	84%
Insurance at Diagnosis	Private	95%	99%	93%
	Public	92%	97%	83%
	None	87%	98%	88%

1 Excludes persons who did not reside in San Francisco at time of HIV diagnosis but reside in San Francisco at time of HIV stage 3 (AIDS) diagnosis.
2 Data on trans men are not released separately due to small numbers. See Technical Notes "Gender Status."
3 Age as of December 31, 2018 for PLWH. Age at HIV diagnosis for persons newly diagnosed with HIV.
4 Housing status is based on the most recent residence for PLWH and the residence at HIV diagnosis for persons newly diagnosed with HIV.

- The proportion receiving ART was slighter higher among persons with a lower CD4 count: 99% of cases with a nadir CD4 count below 200 cells/µL, 99% with a nadir CD4 count between 200-350 cells/µL, 98% with a nadir CD4 count between 351-500 cells/µL, and 97% with a nadir CD4 count above 500 cells/µL received ART.

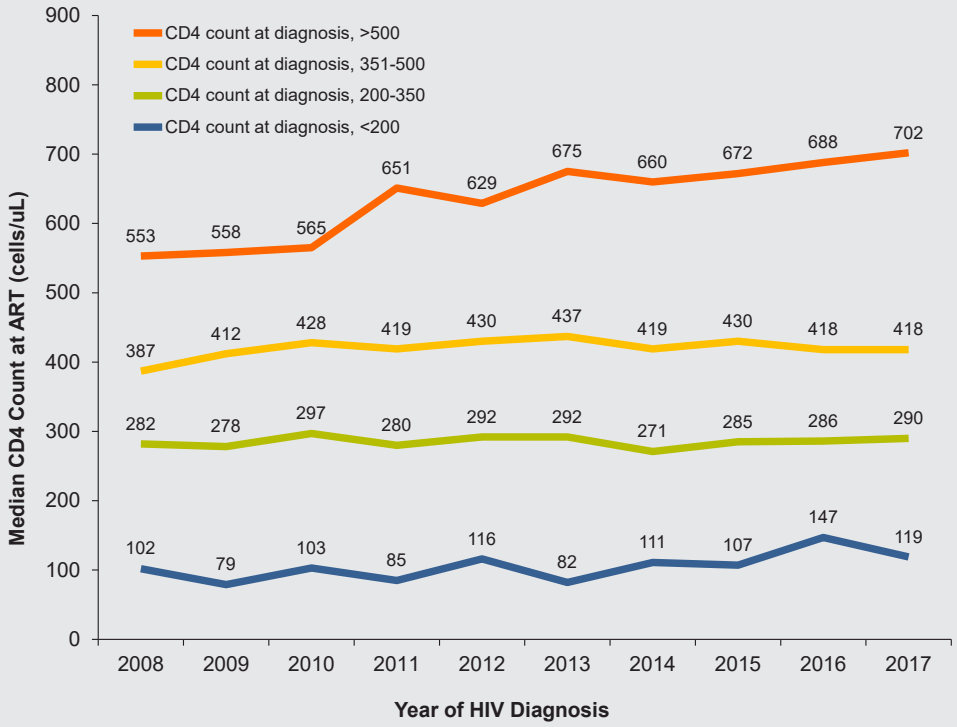
Figure 3.4 Estimate of ART use[1] among persons living with HIV[2] and with chart review, by nadir CD4 level, December 2018, San Francisco



1 See Technical Notes "Estimate of ART Use."
2 Excludes persons who did not reside in San Francisco at time of HIV diagnosis but reside in San Francisco at time of HIV stage 3 (AIDS) diagnosis.

- Among persons newly diagnosed with HIV between 2008 and 2017 whose CD4 count at diagnosis was >500 cells/μL, the median CD4 count at ART initiation increased from 553 cells/μL in 2008 to 702 cells/μL in 2017.
- Among persons whose CD4 count at diagnosis was between 200 and 500 cells/μL, the median CD4 count at ART initiation remained relatively stable over time.
- The median CD4 count at ART initiation among persons whose CD4 count at diagnosis <200 cells/μL fluctuated between 79 and 147 cells/μL during 2008 and 2017.

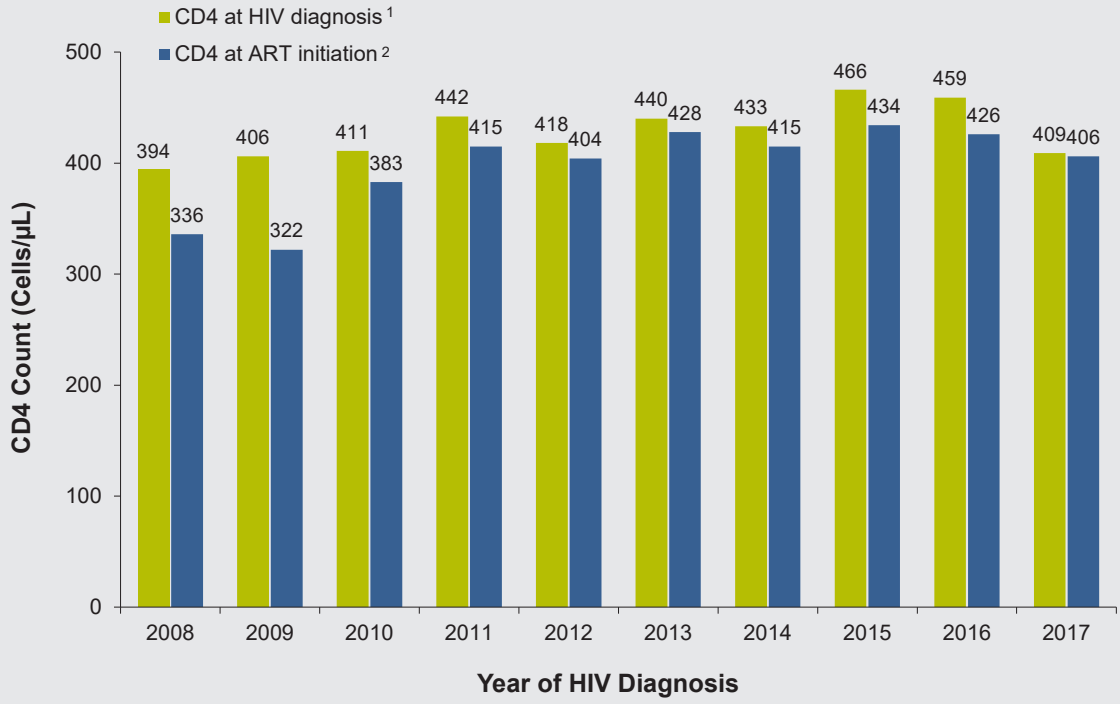
Figure 3.5 Trends in median CD4 count at time of ART initiation[1] by CD4 count at time of diagnosis, 2008-2017, San Francisco



1 Median CD4 count at ART initiation was calculated among persons who started ART and whose CD4 count at HIV diagnosis and CD4 count at ART initiation were available (N=2,732).

- Among persons newly diagnosed with HIV between 2008 and 2017, the median CD4 count at HIV diagnosis increased from 394 cells/μL in 2008 to 466 cells/μL in 2015 and then decreased to 409 cells/μL in 2017.
- Among those newly diagnosed who started ART, the median CD4 count at ART initiation followed a similar trend as the median CD4 count at HIV diagnosis; increased from 336 cells/μL in 2008 to 434 cells/μL in 2015 and then decreased to 406 cells/μL in 2017.
- The increasing CD4 count at diagnosis and a smaller difference between the CD4 count at diagnosis and CD4 count at ART initiation suggest a trend towards earlier HIV diagnosis and timely ART initiation between 2008 and 2017.

Figure 3.6 Trends in median CD4 count at time of diagnosis and at time of ART initiation among persons newly diagnosed with HIV, 2008-2017, San Francisco



1 Median CD4 count at HIV diagnosis was calculated among persons whose CD4 count at HIV diagnosis was available (N=3,350).
2 Median CD4 count at ART initiation was calculated among persons who started ART and whose CD4 count at HIV diagnosis and CD4 count at ART initiation were available (N=2,732).

- San Francisco launched a pilot RAPID (Rapid ART Program Initiative for HIV Diagnoses) program in 2013 and adopted a citywide RAPID protocol in 2015 with the goal to link persons newly diagnosed with HIV to care within 5 working days (or 7 calendar days) of diagnosis and start ART at the first care visit.
- Among persons diagnosed with HIV between 2013 and 2017, the proportion who started ART within 7 days of diagnosis (rapid ART initiation) increased from 8% in 2013 to 44% in 2017.
- A higher proportion of rapid ART initiation was observed among Latinx (29%), persons 13-24 years (28%), heterosexuals (29%), persons born outside the U.S. (27%), and those with public insurance (27%).
- Trans women had the lowest proportion of rapid ART initiation (7%) although the number of new diagnoses among trans women is small.

Table 3.8 Time from HIV diagnosis to ART initiation among persons diagnosed with HIV in 2013-2017 by demographic and risk characteristics, San Francisco

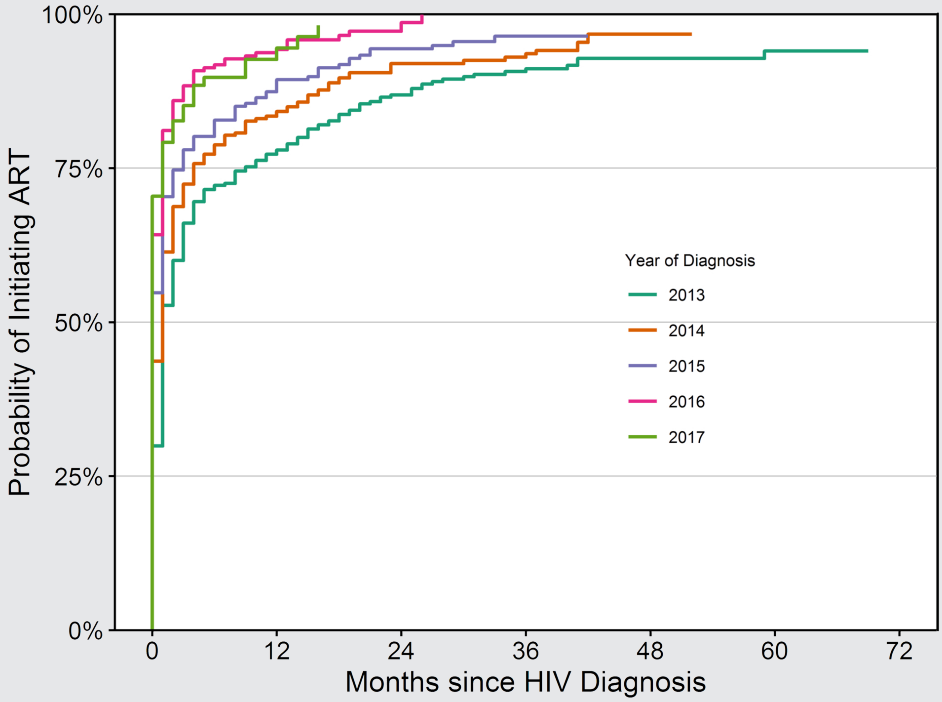
		Number of diagnoses[1]	% Started ART within 7 days of diagnosis	% Started ART 8-30 days after diagnosis	% Started ART > 30 days after diagnosis or not known to have started ART
	Total	**1,374**	**23%**	**27%**	**50%**
Year of Diagnosis	2013	361	8%	23%	70%
	2014	300	16%	28%	55%
	2015	274	25%	30%	45%
	2016	226	35%	29%	35%
	2017	213	44%	26%	30%
Gender	Men	1,224	24%	27%	49%
	Women	108	22%	24%	54%
	Trans Women	41	7%	29%	63%
Race/Ethnicity	White	584	21%	27%	52%
	African American	185	22%	22%	56%
	Latinx	366	29%	26%	45%
	Asian/Pacific Islander	174	21%	30%	48%
	Other/Unknown	65	22%	32%	46%
Age at Diagnosis	13-24	178	28%	28%	45%
	25-29	269	22%	28%	50%
	30-39	420	25%	27%	49%
	40-49	303	22%	26%	51%
	50+	204	20%	27%	53%
Transmission Category	MSM	966	24%	28%	48%
	PWID	105	21%	20%	59%
	MSM-PWID	149	20%	24%	56%
	Heterosexual	85	29%	27%	44%
	Other/Unidentified[2]	69	17%	26%	57%
Housing Status at Diagnosis	Housed	1,166	23%	28%	50%
	Homeless	130	24%	20%	56%
	Unknown	78	28%	31%	41%
Country of Birth	US	719	20%	26%	54%
	Non-US	365	27%	31%	42%
	Unknown	290	27%	24%	49%
Insurance at Diagnosis	Private	521	22%	30%	48%
	Public	402	27%	26%	48%
	None	329	24%	24%	52%
	Unknown	122	16%	27%	57%

1 Includes persons diagnosed with HIV who were in care. Excludes 106 persons with an invalid ART initiation date.
2 Includes TWSM, TWSM-PWID and persons with no identified risk factor.

Trends in time from HIV diagnosis to ART initiation

- Among persons diagnosed with HIV between 2013 and 2017 who were in care, the median time from diagnosis to ART initiation significantly decreased from 50 days in 2013 to 11 days in 2017.

Figure 3.7 Kaplan-Meier estimates of time from HIV diagnosis to ART initiation among persons diagnosed with HIV by year of diagnosis, 2013-2017, San Francisco



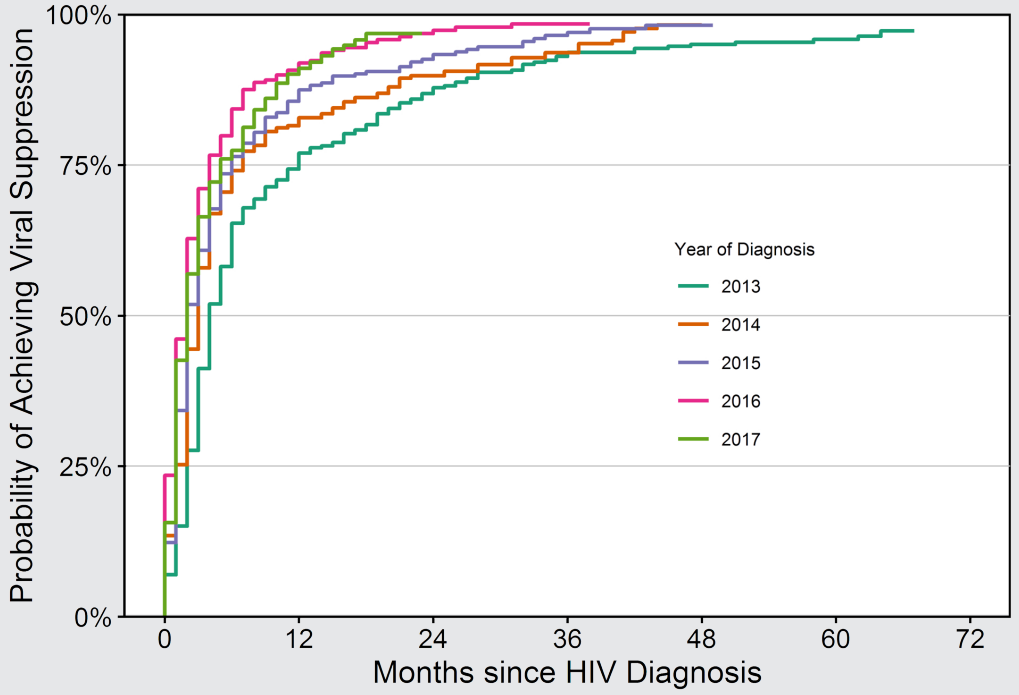
	Median time between diagnosis and ART initiation (months/days)	Total cases included[1]	No. initiated ART as of 04/12/2019	No. (%) censored at the last follow-up date
2013	1 / 50	361	306	55 (15%)
2014	1 / 34	300	269	31 (10%)
2015	<1 / 22	274	247	27 (10%)
2016	<1 / 14	226	214	12 (5%)
2017	<1 / 11	213	186	27 (13%)

1 Includes persons diagnosed with HIV who were in care. Excludes 106 persons with an invalid ART initiation date. Time between HIV diagnosis and ART initiation was calculated using full dates (month, day, year).

Trends in time from HIV diagnosis to viral suppression

- Among persons diagnosed with HIV who were in care, the median time from diagnosis to viral suppression (HIV viral load less than 200 copies/mL) steadily decreased from four months in 2013 to two months in 2015 and remained relatively stable thereafter.

Figure 3.8 Kaplan-Meier estimates of time from HIV diagnosis to viral suppression among persons diagnosed with HIV by year of diagnosis, 2013-2017, San Francisco



	Median time between diagnosis and viral suppression (months/days)	Total cases included[1]	No. virally suppressed as of 4/12/2019	No. (%) censored at the last lab test date
2013	4 / 145	372	335	37 (10%)
2014	3 / 102	319	298	21 (7%)
2015	2 / 83	292	272	20 (7%)
2016	2 / 66	260	248	12 (5%)
2017	2 / 71	237	209	28 (12%)

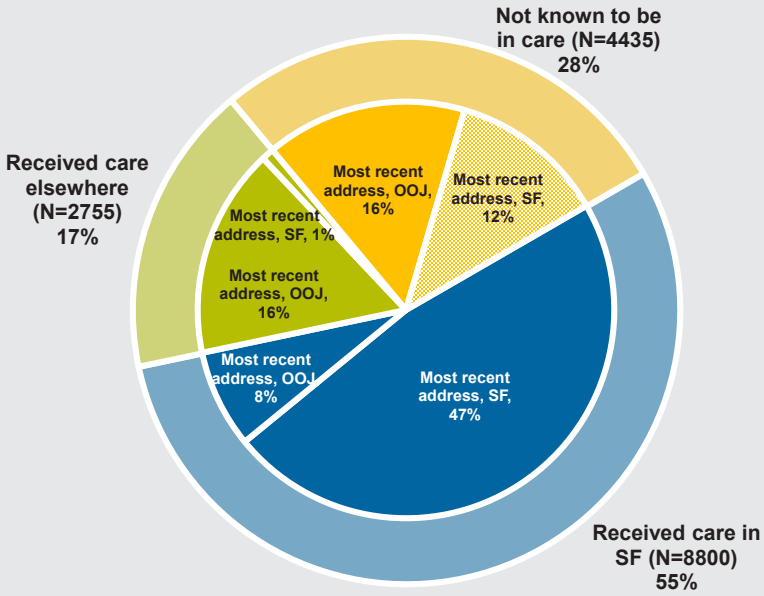
1 Includes persons diagnosed with HIV who were in care. Time between HIV diagnosis and viral suppression was calculated using full dates (month, day, year).

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

- Among 15,990 PLWH in 2018 who resided in San Francisco at time of diagnosis, 72% were known to receive HIV care in 2018 (55% received care in San Francisco, 17% received care outside of San Francisco) and 28% did not receive HIV care.
- Of the 28% not known to be in care, 12% had a San Francisco current address and should be a high priority to be reengaged back into care.

Figure 3.9 Persons living with HIV in 2018 who resided in San Francisco at diagnosis by care and most recent residence status

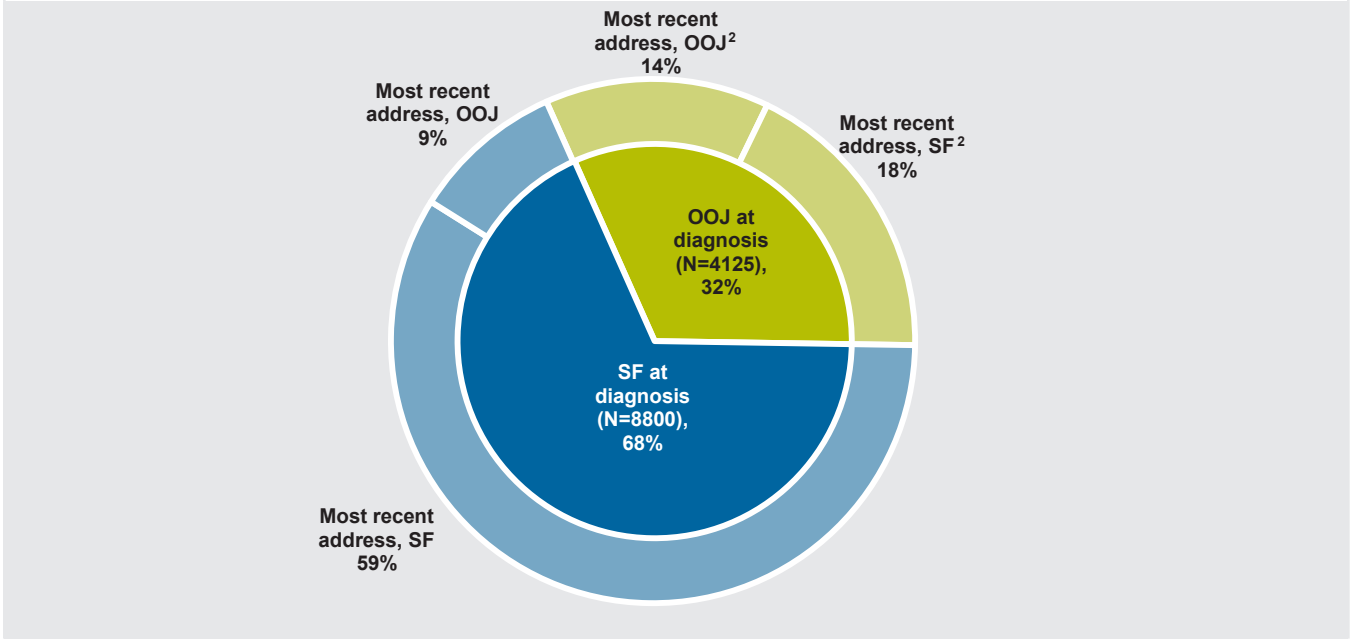
N=15,990[1]



1 Includes persons who resided in San Francisco at diagnosis and were alive as of December 2018 to assess where they live based on the most recent available address and where they receive care in 2018. See Technical Notes "Residence and Receipt of Care for PLWH."

- Of the 12,925 PLWH who received care in San Francisco in 2018, 32% were originally diagnosed elsewhere and 27% currently reside outside of San Francisco.

Figure 3.10 Persons living with HIV who received care in San Francisco in 2018 by residence at diagnosis and most recent residence status



1 Includes persons who received HIV care in San Francisco in 2018 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 address information is not conducted regularly or consistently.

- The majority of PLWH who received care in 2018 in San Francisco were male, white, over 50 years old, and men who have sex with men.
- The distribution of characteristics among those currently known to live in San Francisco and those known to live in another jurisdiction was similar.

Table 3.9 Characteristics of persons living with HIV who received care in San Francisco in 2018 by most recent residence status

		Persons receiving HIV care in San Francisco[1]		
		Total cases receiving care in 2018	Most recent residence in San Francisco[2]	Most recent residence outside San Francisco[2]
		Number (%)		
	Total	**12,925 (100)**	**9,919 (100)**	**3,006 (100)**
Gender	Men	11,815 (91)	9,041 (91)	2,774 (92)
	Women	762 (6)	593 (6)	169 (6)
	Trans Women	340 (3)	280 (3)	60 (2)
Race/Ethnicity	White	7,125 (55)	5,442 (55)	1,683 (56)
	African American	1,741 (13)	1,294 (13)	447 (15)
	Latinx	2,663 (21)	2,111 (21)	552 (18)
	Asian/Pacific Islander	849 (7)	654 (7)	195 (6)
	Other/Unknown	547 (4)	418 (4)	129 (4)
Age in Years (as of 12/31/2018)	0-12	3 (<1)	0 (0)	3 (<1)
	13-24	152 (1)	91 (1)	61 (2)
	25-29	431 (3)	296 (3)	135 (4)
	30-39	1,759 (14)	1,347 (14)	412 (14)
	40-49	2,479 (19)	1,873 (19)	606 (20)
	50-59	4,405 (34)	3,424 (35)	981 (33)
	60-69	2,881 (22)	2,242 (23)	639 (21)
	70+	815 (6)	646 (7)	169 (6)
Transmission Category	MSM	9,466 (73)	7,196 (73)	2,270 (76)
	TWSM	206 (2)	167 (2)	39 (1)
	PWID	706 (5)	587 (6)	119 (4)
	MSM-PWID	1,632 (13)	1,333 (13)	299 (10)
	TWSM-PWID	131 (1)	111 (1)	20 (1)
	Heterosexual	511 (4)	376 (4)	135 (4)
	Other/Unidentified	273 (2)	149 (2)	124 (4)

1 Includes persons living with HIV at end of 2018 who received care in San Francisco in 2018 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."

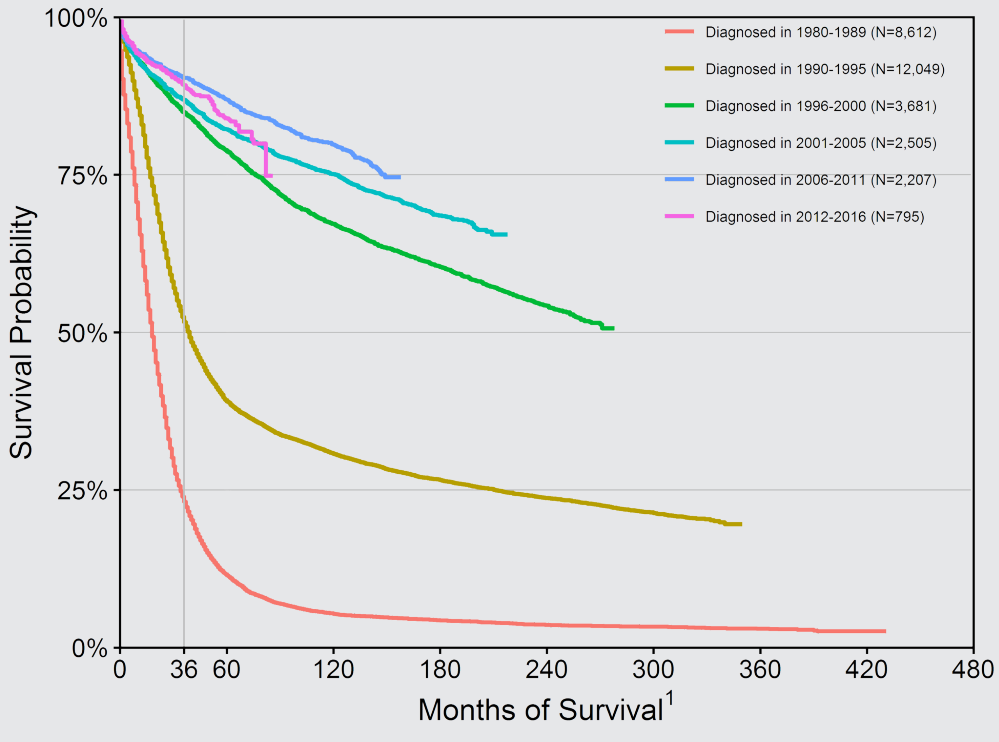
4 Survival among Persons with HIV Disease Stage 3 (AIDS)

- Stage 3 HIV (AIDS) survival time was poor for persons diagnosed in the first ten years of the epidemic (1980-1989) with a median survival time of 18 months after stage 3 HIV diagnosis.
- The median survival time increased to 39 months for persons diagnosed between 1990 and 1995.
- The median stage 3 HIV survival time has not yet been reached for those diagnosed in the more recent time periods (1996-2000, 2001-2005, and 2006-2011, 2012-2016).
- The survival probability at three years among persons diagnosed with stage 3 HIV increased from 23% in the period 1980-1989 to 52% in the period 1990-1995 followed by an increase to 85% in the period 1996-2000 and smaller but continued increase in more recent years' diagnoses (87% in 2001-2005, 90% in 2006-2011, and 89% in 2012-2016).

23%
OF HIV STAGE 3 CASES DIAGNOSED IN 1980-1989 SURVIVED FOR THREE YEARS

89%
OF HIV STAGE 3 CASES DIAGNOSED IN 2012-2016 SURVIVED FOR THREE YEARS

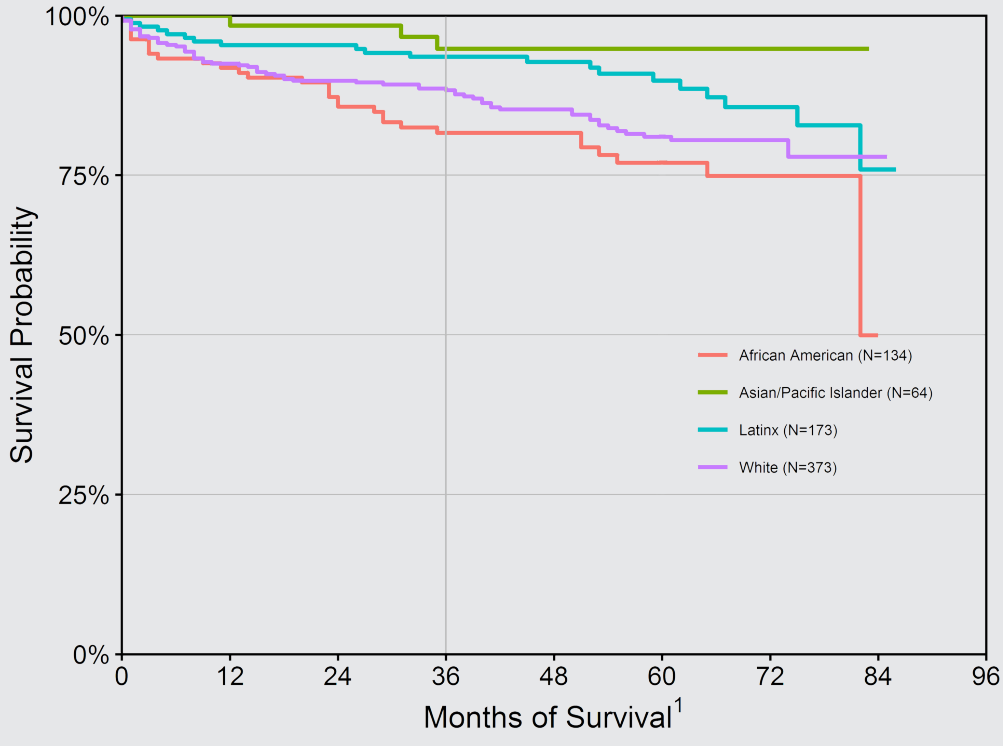
Figure 4.1 Kaplan-Meier survival curves for persons diagnosed with stage 3 HIV (AIDS) in five time periods, San Francisco



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

- Among persons diagnosed with stage 3 HIV (AIDS) in the years 2012-2016, survival probability at three years was lower among African Americans compared to whites, Latinxs, and Asians/Pacific Islanders.
- The three-year survival probability for African Americans after HIV stage 3 diagnosis was 82%, compared to 88% among whites, 94% among Latinx individuals, and 95% among Asians/Pacific Islanders.

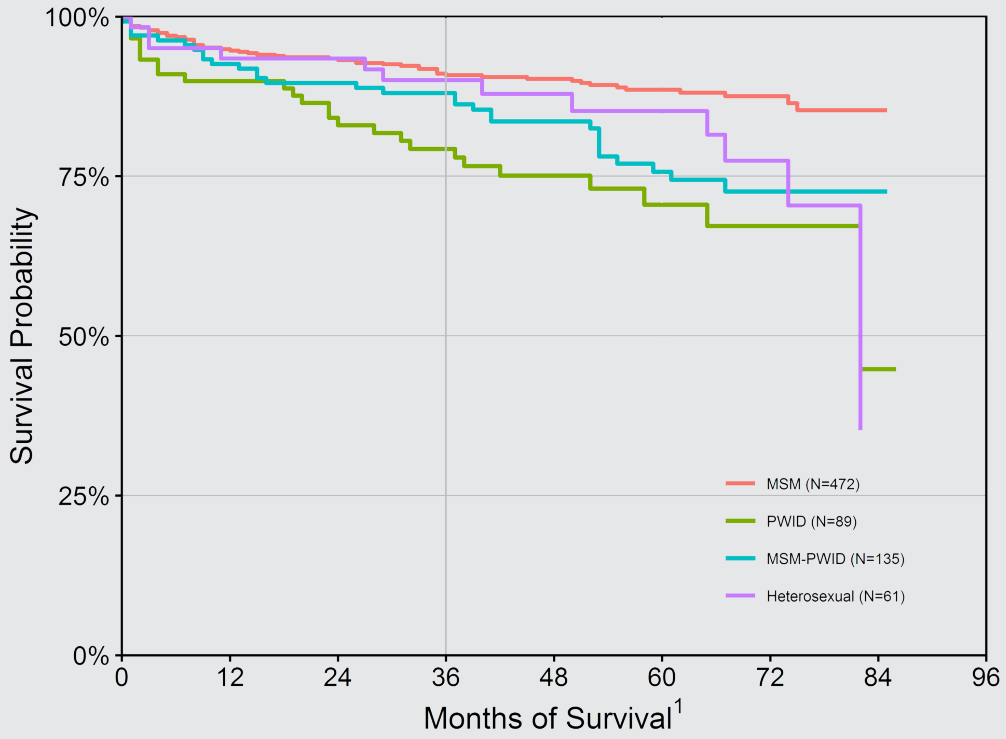
Figure 4.2 Kaplan-Meier survival curves for persons diagnosed with stage 3 HIV (AIDS) between 2012 and 2016 by racial/ethnic group, San Francisco



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

- Among persons diagnosed with stage 3 HIV (AIDS) between 2012 through 2016, the three-year survival probability after stage 3 HIV diagnosis was highest for men who have sex with men (91%) and lowest for heterosexual persons who inject drugs (79%).

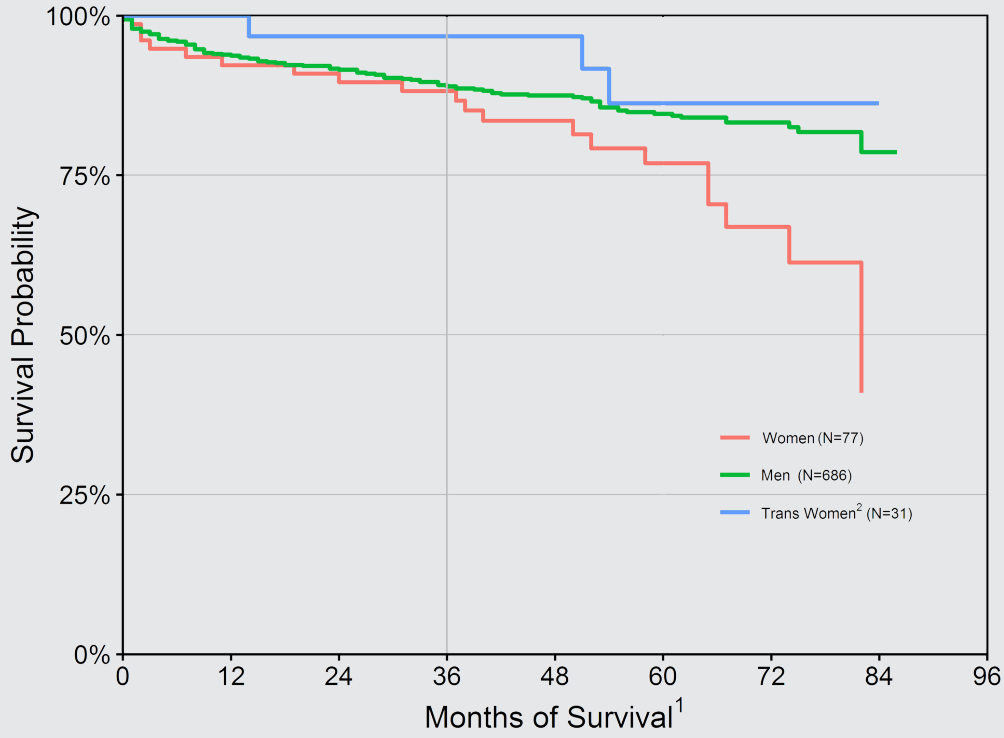
Figure 4.3 Kaplan-Meier survival curves for persons diagnosed with stage 3 HIV (AIDS) between 2012 and 2016 by transmission category, San Francisco



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

- From 2012 through 2016, survival time among women with a stage 3 HIV (AIDS) diagnosis was shorter than survival among men and trans women.
- The three-year survival probability among women was 88% compared to 89% among men and 98% among trans women.

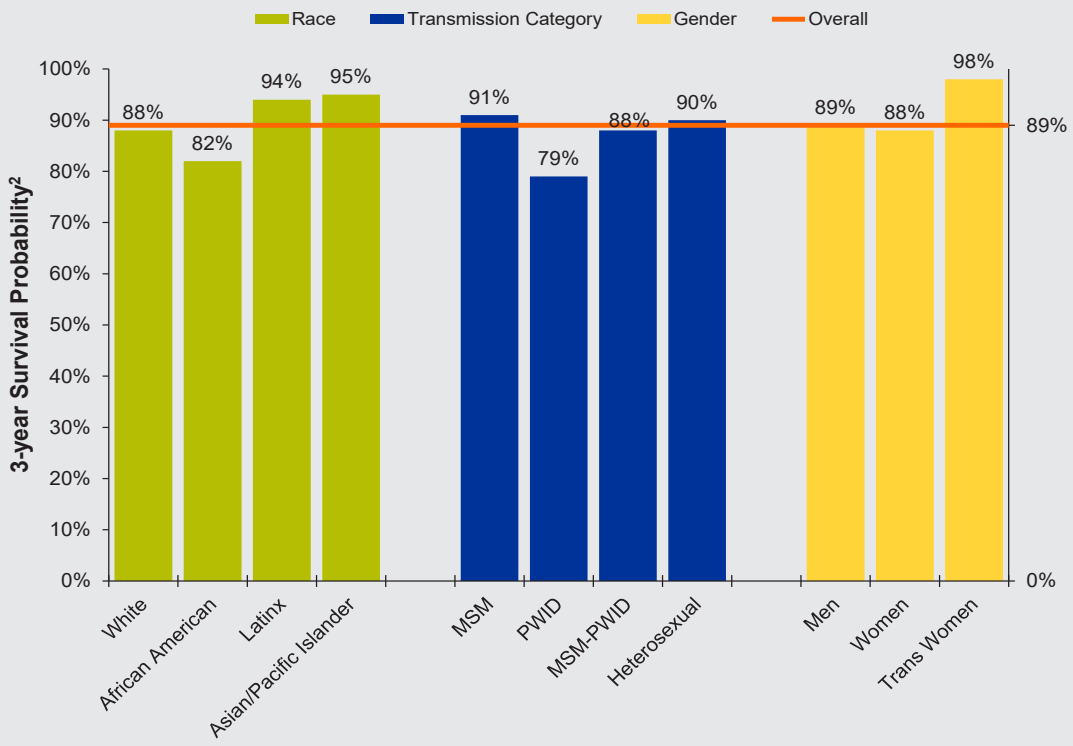
Figure 4.4 Kaplan-Meier survival curves for persons diagnosed with stage 3 HIV (AIDS) between 2012 and 2016 by gender, San Francisco



1 See Technical Notes "HIV Disease Stage 3 (AIDS) Survival."
2 Data on trans men are not released separately due to small numbers. See Technical Notes "Gender Status."

- Overall three-year survival probability (Kaplan-Meier method) after stage 3 HIV (AIDS) for persons diagnosed during 2012 to 2016 was 89%.
- African Americans (82%), PWID (79%), and women (88%) had lower three-year survival probabilities compared to other groups.

Figure 4.5 Three-year survival probability after stage 3 HIV (AIDS) for persons diagnosed between 2012 and 2016 by racial/ethnic group[1], transmission category, and gender[1], San Francisco



1 Native American, multi-racial, trans men data are not released separately due to small numbers.
2 Calculated from Kaplan-Meier method.

5 Trends in HIV Mortality

- As of December 31, 2017, the cumulative number of deaths among San Francisco HIV cases was 21,289.
- From 2013 to 2017 the proportions of death by gender were relatively stable and the proportions of death in whites and men who have sex with men and who also inject drugs (MSM-PWID) increased.
- The majority of deaths occurred among persons aged 50 years and older (72% to 79%) with an increase in both number and proportion of death in persons aged 70 years and older in 2017.

33%
OF DEATHS IN 2017 WERE DUE TO HIV-RELATED CAUSES

Table 5.1 Deaths among persons diagnosed with HIV, by demographic and risk characteristics, 2013-2017, San Francisco

		Year of Death					Cumulative Totals as of 12/31/2017
		2013	2014	2015	2016	2017	
		Number (%)					
Gender[1]	Men	222 (85)	208 (87)	228 (89)	197 (84)	222 (88)	20,132
	Women	29 (11)	20 (8)	27 (11)	27 (11)	21 (8)	878
	Trans Women	10 (4)	12 (5)	1 (<1)	11 (5)	9 (4)	279
Race/Ethnicity	White	147 (56)	138 (58)	146 (57)	142 (60)	165 (65)	15,468
	African American	49 (19)	53 (22)	48 (19)	51 (22)	43 (17)	2,730
	Latinx	40 (15)	35 (15)	31 (12)	29 (12)	34 (13)	2,244
	Asian/Pacific Islander/ Native American	9 (3)	4 (2)	8 (3)	4 (2)	3 (1)	547
	Multi-Race	16 (6)	10 (4)	23 (9)	9 (4)	7 (3)	300
Transmission Category	MSM	145 (56)	137 (57)	139 (54)	121 (51)	129 (51)	15,370
	PWID	49 (19)	39 (16)	43 (17)	35 (15)	38 (15)	1,775
	MSM-PWID	49 (19)	44 (18)	62 (24)	57 (24)	63 (25)	3,299
	Heterosexual	5 (2)	8 (3)	6 (2)	9 (4)	9 (4)	245
	Other/Unidentified[2]	13 (5)	12 (5)	6 (2)	13 (6)	13 (5)	600
Age at Death (years)	0 - 29	3 (1)	4 (2)	7 (3)	1 (0)	4 (2)	1,112
	30 - 39	12 (5)	11 (5)	15 (6)	11 (5)	12 (5)	7,354
	40 - 49	57 (22)	36 (15)	37 (14)	39 (17)	38 (15)	7,671
	50 - 59	101 (39)	90 (38)	100 (39)	76 (32)	83 (33)	3,482
	60 - 69	66 (25)	70 (29)	66 (26)	78 (33)	66 (26)	1,283
	70+	22 (8)	29 (12)	31 (12)	30 (13)	49 (19)	387
HIV Disease Stage	Stage 0, 1, 2, or unknown	55 (21)	41 (17)	42 (16)	38 (16)	40 (16)	583
	Stage 3 (AIDS)	206 (79)	199 (83)	214 (84)	197 (84)	212 (84)	20,706
Cause of Death[3]	HIV/AIDS-related	103 (39)	105 (44)	102 (40)	76 (32)	83 (33)	--
	Non-HIV/AIDS-related	150 (57)	132 (55)	149 (58)	156 (66)	159 (63)	--
	Unknown	8 (3)	3 (1)	5 (2)	3 (1)	10 (4)	--
Total		**261 (100)**	**240 (100)**	**256 (100)**	**235 (100)**	**252 (100)**	**21,289**

1 Data on trans men are not released separately due to small numbers. See Technical Notes "Gender Status."
2 Includes TWSM, TWSM-PWID and persons with no identified risk factor.
3 Underlying cause of death obtained from the NDI is available through 2017. See Technical Notes "Death Ascertainment."

- The case-fatality rate due to underlying HIV-related causes among persons with HIV stage 3 diagnosis declined from 13.01 per 1,000 persons in 2008 to 7.87 per 1,000 persons for 2017.
- Non-HIV-related causes of death among persons with HIV stage 3 diagnosis fluctuated during this time period and increased to the highest annual rate of 13.93 deaths per 1,000 persons in 2017.
- When deaths in all stages of HIV disease were evaluated, case-fatality rates for HIV-related causes declined from 8.72 per 1,000 persons in 2008 to 5.12 per 1,000 persons in 2017 and the case-fatality rates for non-HIV causes increased slightly to near 10 deaths per 1,000 persons in both 2016 and 2017.

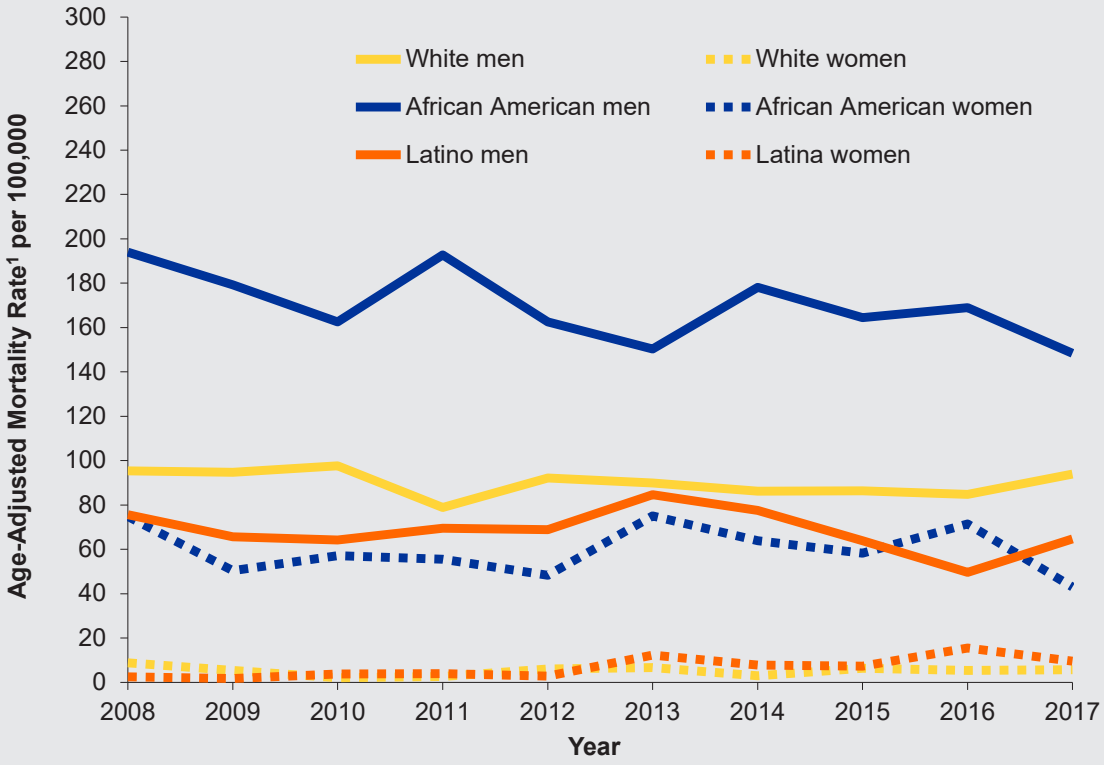
Table 5.2 Case-fatality rates per 1,000 due to HIV-related and non-HIV-related causes among persons diagnosed with HIV, 2008-2017, San Francisco

		Persons with HIV (all stages)		Persons with HIV Stage 3 (AIDS)	
		HIV-related cause of death	Non-HIV-related cause of death	HIV-related cause of death	Non-HIV-related cause of death
		Case-fatality rate[1] per 1,000			
Year	2008	8.72	8.32	13.01	11.41
	2009	8.08	8.01	12.46	10.35
	2010	6.68	8.61	9.62	11.29
	2011	6.41	7.87	9.87	10.19
	2012	5.19	9.39	7.96	11.99
	2013	6.38	9.29	9.30	11.26
	2014	6.48	8.15	9.76	10.70
	2015	6.28	9.17	9.83	12.23
	2016	4.69	9.62	7.51	13.00
	2017	5.12	9.81	7.87	13.93

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

- The age-adjusted HIV mortality rate among African American men dropped 24% from 194 per 100,000 in 2008 to 148 per 100,000 in 2017.
- The mortality rate among African American men in 2017 rate was 1.6 times higher than white men (94 per 100,000) and 2.3 times higher than Latino men (65 per 100,000).
- HIV mortality rates for women were much lower than the rates for men.
- African American women experience not only higher HIV mortality rates but also a larger magnitude difference compared to white women and Latina women.
- In 2017, African American women had a mortality rate of 43 deaths per 100,000, which was 4.3 times higher than Latina women and 7.2 times higher than white women.

Figure 5.1 Age-adjusted mortality rates among persons aged 18 and older with HIV per 100,000 by sex and race/ethnicity, 2008-2017, San Francisco



1 Age-adjusted mortality rates are calculated for persons 18 and over. For each race/ethnicity and sex group, the number of HIV cases who died each year was divided by projected San Francisco population estimates across seven age groups (18-29, 30-39, 40-49,50-59,60-69,70-79, 80+) 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."

- HIV as the underlying cause of death declined from 51.7% in 2006-2009 to 38.0% of deaths in 2014-2017.
- Non-AIDS cancers continued to account for the second most frequent underlying cause of death in persons with HIV with lung cancer as the most frequently occurring non-AIDS cancer cause.
- Accidents, including drug overdose, and other traumatic injury deaths (suicide and assault) are preventable and relatively frequent causes of death among people with HIV.

Table 5.3 Underlying causes of death among persons diagnosed with HIV, 2006-2017, San Francisco

		Year of Death		
		2006-2009 N=1,143	2010-2013 N=949	2014-2017 N=962
		Number (%)		
Underlying Cause of Death[1]	HIV	591 (51.7)	391 (41.2)	366 (38.0)
	Non-AIDS cancer	123 (10.8)	136 (14.3)	144 (15.0)
	Lung cancer	47 (4.1)	31 (3.3)	34 (3.5)
	Liver cancer	18 (1.6)	22 (2.3)	14 (1.5)
	Anal cancer	5 (0.4)	9 (0.9)	12 (1.2)
	Colon cancer	9 (0.8)	5 (0.5)	6 (0.6)
	Pancreatic cancer	4 (0.3)	8 (0.8)	6 (0.6)
	Rectal cancer	4 (0.3)	4 (0.4)	3 (0.3)
	Hodgkins lymphoma	2 (0.2)	2 (0.2)	1 (0.1)
	Leukemia	0 (0.0)	6 (0.6)	1 (0.1)
	Accidents	121 (10.6)	112 (11.8)	120 (12.5)
	Drug overdose	93 (8.1)	97 (10.2)	100 (10.4)
	Heart disease	87 (7.6)	83 (8.7)	103 (10.7)
	Coronary heart disease	45 (3.9)	42 (4.4)	49 (5.1)
	Cardiomyopathy	6 (0.5)	4 (0.4)	7 (0.7)
	Suicide	50 (4.4)	37 (3.9)	32 (3.3)
	Liver disease	27 (2.4)	21 (2.2)	25 (2.6)
	Alcoholic liver disease	11 (1.0)	6 (0.6)	15 (1.6)
	Liver cirrhosis	14 (1.2)	14 (1.5)	7 (0.7)
	Chronic obstructive pulmonary disease	25 (2.2)	17 (1.8)	23 (2.4)
	Assault	8 (0.7)	9 (0.9)	14 (1.5)
	Cerebrovascular disease	8 (0.7)	10 (1.1)	13 (1.4)
	Diabetes	1 (0.1)	11 (1.2)	11 (1.1)
	Mental disorders due to substance use	22 (1.9)	10 (1.1)	11 (1.1)
	Viral hepatitis	10 (0.9)	7 (0.7)	7 (0.7)
	Renal disease	9 (0.8)	3 (0.3)	7 (0.7)
	Pneumonitis	2 (0.2)	2 (0.2)	5 (0.5)
	Septicemia	2 (0.2)	2 (0.2)	5 (0.5)
	Diseases of arteries	2 (0.2)	3 (0.3)	4 (0.4)
	Hyperlipidemia	2 (0.2)	2 (0.2)	4 (0.4)
	Undetermined intent	4 (0.3)	6 (0.6)	0 (0.0)

1 See Technical Notes "Death Ascertainment." Deceased HIV cases that lack cause of death information are not represented in this table.

- The most frequent, yet declining, underlying cause of death for males and females was HIV.
- In 2006-2009 and 2010-2013, men with HIV had a higher proportion of deaths due to non-AIDS cancers than women.
- In all three time periods, men had a higher proportion of deaths due to heart disease and suicide as the underlying cause and women had a higher proportion of underlying causes of death due to accidents and chronic obstructive pulmonary disease than did men.

Table 5.4 Underlying causes of death among persons diagnosed with HIV by sex, 2006-2017, San Francisco

		Year of Death					
		2006-2009		2010-2013		2014-2017	
		Male	Female	Male	Female	Male	Female
		Number (%)					
	Total	**1,024**	**119**	**862**	**87**	**870**	**92**
Underlying Cause of Death[1]	HIV	530 (51.8)	61 (51.3)	357 (41.4)	34 (39.1)	327 (37.6)	39 (42.4)
	Non-AIDS cancer	118 (11.5)	5 (4.2)	131 (15.2)	5 (5.7)	130 (14.9)	14 (15.2)
	Accidents	104 (10.2)	17 (14.3)	94 (10.9)	18 (20.7)	106 (12.2)	14 (15.2)
	Heart disease	81 (7.9)	6 (5.0)	76 (8.8)	7 (8.0)	99 (11.4)	4 (4.3)
	Suicide	48 (4.7)	2 (1.7)	37 (4.3)	0 (0.0)	32 (3.7)	0 (0.0)
	Liver disease	22 (2.1)	5 (4.2)	19 (2.2)	2 (2.3)	23 (2.6)	2 (2.2)
	Chronic obstructive pulmonary disease	18 (1.8)	7 (5.9)	14 (1.6)	3 (3.4)	19 (2.2)	4 (4.3)
	Assault	8 (0.8)	0 (0.0)	8 (0.9)	1 (1.1)	12 (1.4)	2 (2.2)
	Cerebrovascular disease	8 (0.8)	0 (0.0)	8 (0.9)	2 (2.3)	12 (1.4)	1 (1.1)
	Diabetes	1 (0.1)	0 (0.0)	10 (1.2)	1 (1.1)	10 (1.1)	1 (1.1)
	Mental disorders due to substance use	16 (1.6)	6 (5.0)	9 (1.0)	1 (1.1)	10 (1.1)	1 (1.1)

1 See Technical Notes "Death Ascertainment." Deceased HIV cases that lack cause of death information are not represented in this table.

- Latinx decedents had the highest proportion of deaths due to HIV as the underlying cause, compared to African Americans and whites, and the proportion of deaths where HIV was the underlying cause declined across time periods among Latinxs, African Americans and whites.
- The proportion of deaths due to non-AIDS cancers increased across all time periods for African Americans.
- The proportion of deaths due to heart disease increased among Latinxs and whites.
- The proportion of deaths due to accidents decreased slightly among African Americans yet increased among Latinxs and whites.

Table 5.5 Underlying causes of death among persons diagnosed with HIV by race/ethnicity, 2006-2017, San Francisco

		Year of Death								
		2006-2009			2010-2013			2014-2017		
		Latinx	African American	White	Latinx	African American	White	Latinx	African American	White
		Number (%)								
	Total	131	244	695	123	190	559	125	191	579
Underlying Cause of Death[1]	HIV	89 (67.9)	119 (49.2)	341 (49.1)	66 (53.7)	79 (41.6)	212 (37.9)	57 (45.6)	75 (39.3)	204 (35.2)
	Non-AIDS cancer	5 (3.8)	21 (8.7)	88 (12.7)	14 (11.4)	24 (12.6)	91 (16.3)	13 (10.4)	38 (19.9)	86 (14.9)
	Accidents	4 (3.1)	33 (13.6)	78 (11.2)	11 (8.9)	25 (13.2)	64 (11.4)	13 (10.4)	22 (11.5)	76 (13.1)
	Heart disease	6 (4.6)	17 (7.0)	57 (8.2)	8 (6.5)	17 (8.9)	54 (9.7)	10 (8.0)	14 (7.3)	73 (12.6)
	Suicide	8 (6.1)	2 (0.8)	36 (5.2)	3 (2.4)	2 (1.1)	29 (5.2)	4 (3.2)	1 (0.5)	23 (4.0)
	Chronic obstructive pulmonary disease	1 (0.8)	7 (2.9)	17 (2.4)	3 (2.4)	5 (2.6)	9 (1.6)	1 (0.8)	5 (2.6)	17 (2.9)
	Liver disease	3 (2.3)	7 (2.9)	16 (2.3)	3 (2.4)	2 (1.1)	13 (2.3)	6 (4.8)	4 (2.1)	13 (2.2)
	Cerebrovascular disease	2 (1.5)	3 (1.2)	2 (0.3)	1 (0.8)	2 (1.1)	6 (1.1)	2 (1.6)	2 (1.0)	9 (1.6)
	Mental disorders due to substance use	3 (2.3)	9 (3.7)	9 (1.3)	1 (0.8)	1 (0.5)	7 (1.3)	2 (1.6)	2 (1.0)	6 (1.0)
	Assault	0 (0.0)	1 (0.4)	7 (1.0)	1 (0.8)	2 (1.1)	5 (0.9)	2 (1.6)	6 (3.1)	5 (0.9)
	Diabetes	0 (0.0)	0 (0.0)	1 (0.1)	1 (0.8)	6 (3.2)	4 (0.7)	3 (2.4)	2 (1.0)	5 (0.9)

1 See Technical Notes "Death Ascertainment." Deceased HIV cases that lack cause of death information are not represented in this table. Asian, Pacific Islander, Native American, and multi-racial decedents were not displayed due to small cell sizes.

- The proportion of deaths where HIV was the underlying cause of death declined for MSM, PWID, and MSM-PWID across three time periods.
- The proportion of deaths where heart disease was the underlying cause of death increased for MSM, PWID, and MSM-PWID across three time periods.
- The proportion of deaths due to accidents was higher among PWID and MSM-PWID compared to MSM in all time periods; the proportion of deaths due to accidents among MSM-PWID increased across all time periods.
- The majority of deaths due to accidents in each transmission group were due to drug overdoses.

Table 5.6 Underlying causes of death among persons diagnosed with HIV by select transmission categories, 2006-2017, San Francisco

		Year of Death								
		2006-2009			2010-2013			2014-2017		
		MSM	PWID	MSM-PWID	MSM	PWID	MSM-PWID	MSM	PWID	MSM-PWID
		Number (%)								
	Total	591	189	257	509	161	206	516	150	223
Underlying Cause of Death[1]	HIV	298 (50.4)	89 (47.1)	140 (54.5)	213 (41.8)	62 (38.5)	78 (37.9)	194 (37.6)	55 (36.7)	79 (35.4)
	Non-AIDS cancer	85 (14.4)	11 (5.8)	22 (8.6)	96 (18.9)	14 (8.7)	19 (9.2)	91 (17.6)	23 (15.3)	25 (11.2)
	Heart disease	55 (9.3)	9 (4.8)	17 (6.6)	51 (10.0)	12 (7.5)	16 (7.8)	60 (11.6)	17 (11.3)	22 (9.9)
	Accidents	45 (7.6)	31 (16.4)	35 (13.6)	38 (7.5)	29 (18.0)	37 (18.0)	38 (7.4)	24 (16.0)	46 (20.6)
	Drug overdose	31 (5.3)	27 (14.3)	29 (11.3)	29 (5.7)	27 (16.8)	35 (17.0)	29 (5.6)	21 (14.0)	42 (18.9)
	Suicide	34 (5.8)	3 (1.6)	11 (4.3)	23 (4.5)	2 (1.2)	11 (5.3)	21 (4.1)	0 (0.0)	11 (4.9)
	Liver disease	16 (2.7)	5 (2.6)	4 (1.6)	11 (2.2)	4 (2.5)	5 (2.4)	17 (3.3)	3 (2.0)	4 (1.8)
	Chronic obstructive lung disease	7 (1.2)	9 (4.8)	7 (2.7)	11 (2.2)	4 (2.5)	1 (0.5)	13 (2.5)	6 (4.0)	3 (1.3)
	Mental disorders due to substance use	4 (0.7)	11 (5.8)	4 (1.6)	4 (0.8)	1 (0.6)	4 (1.9)	9 (1.7)	1 (0.7)	1 (0.4)
	Assault	4 (0.7)	1 (0.5)	2 (0.8)	5 (1.0)	1 (0.6)	2 (1.0)	8 (1.6)	4 (2.7)	1 (0.4)
	Cerebrovascular disease	4 (0.7)	2 (1.1)	0 (0.0)	6 (1.2)	3 (1.9)	0 (0.0)	7 (1.4)	1 (0.7)	4 (1.8)
	Diabetes	1 (0.2)	0 (0.0)	0 (0.0)	6 (1.2)	2 (1.2)	2 (1.0)	6 (1.2)	1 (0.7)	2 (0.9)

1 See Technical Notes "Death Ascertainment." Deceased HIV cases that lack cause of death information are not represented in this table.

- The proportion of deaths in which HIV was either the underlying or contributory cause declined from 69.6% in the period 2006-2009 to 63.1% during 2010 to 2013, and then to 59.8% in the years 2014-2017.
- Heart disease was the second most common cause of death when underlying and contributory causes were considered.
- Non-AIDS cancers remained a frequent cause of death; lung, liver, and anal cancers were the most common.

Table 5.7 Multiple causes of death among persons diagnosed with HIV, 2006-2017, San Francisco

		Year of Death		
		2006-2009 N=1,143	2010-2013 N=949	2014-2017 N=962
		Number (%)		
Multiple Causes of Death[1]	HIV	796 (69.6)	599 (63.1)	575 (59.8)
	Heart disease	264 (23.1)	262 (27.6)	295 (30.7)
	Coronary heart disease	76 (6.6)	85 (9.0)	90 (9.4)
	Cardiomyopathy	18 (1.6)	22 (2.3)	29 (3.0)
	Non-AIDS cancer	168 (14.7)	182 (19.2)	200 (20.8)
	Lung cancer	50 (4.4)	37 (3.9)	42 (4.4)
	Anal cancer	7 (0.6)	12 (1.3)	16 (1.7)
	Liver cancer	24 (2.1)	29 (3.1)	16 (1.7)
	Colon cancer	10 (0.9)	5 (0.5)	9 (0.9)
	Pancreatic cancer	5 (0.4)	10 (1.1)	7 (0.7)
	Rectal cancer	6 (0.5)	5 (0.5)	7 (0.7)
	Leukemia	3 (0.3)	9 (0.9)	5 (0.5)
	Hodgkin lymphoma	9 (0.8)	6 (0.6)	3 (0.3)
	Accidents	134 (11.7)	116 (12.2)	131 (13.6)
	Drug overdose	101 (8.8)	98 (10.3)	103 (10.7)
	Liver disease	146 (12.8)	119 (12.5)	112 (11.6)
	Liver cirrhosis	65 (5.7)	70 (7.4)	65 (6.8)
	Alcoholic liver disease	12 (1.0)	6 (0.6)	17 (1.8)
	Renal disease	113 (9.9)	94 (9.9)	112 (11.6)
	Viral hepatitis	132 (11.5)	121 (12.8)	105 (10.9)
	Septicemia	110 (9.6)	94 (9.9)	96 (10.0)
	Mental disorders due to substance use	108 (9.4)	92 (9.7)	95 (9.9)
	Chronic obstructive pulmonary disease	78 (6.8)	62 (6.5)	68 (7.1)
	Cerebrovascular disease	38 (3.3)	28 (3.0)	52 (5.4)
	Diabetes	41 (3.6)	56 (5.9)	45 (4.7)
	Suicide	50 (4.4)	37 (3.9)	32 (3.3)
	Pneumonitis	14 (1.2)	10 (1.1)	19 (2.0)
	Diseases of arteries	12 (1.0)	9 (0.9)	14 (1.5)
	Assault	8 (0.7)	9 (0.9)	14 (1.5)
	Hyperlipidemia	7 (0.6)	8 (0.8)	14 (1.5)
	Undetermined intent	4 (0.3)	7 (0.7)	0 (0.0)

1 Includes underlying and contributory causes of death. Individuals may have more than one cause of death. See Technical Notes "Death Ascertainment." Deceased HIV cases that lack cause of death information are not represented in this table.

- Among both women and men, HIV was the most frequent underlying or contributory cause of death in all time periods, however the proportions of deaths attributed to HIV declined over the three time periods for males but not females.
- Heart disease was the second most frequent underlying or contributory cause of death in both women and men, and increased from 22.9% of deaths in 2006-2009 to 31.3% of deaths in 2014-2017 for men.
- Deaths from non-AIDS cancers accounted for a greater proportion of deaths in men than in women during the first two time periods but accounted for similar proportions of deaths in both sexes by the third time period; the proportion of female deaths due to non-AIDS cancers increased over the three time periods.
- All accident-related deaths in females in 2014-2017 were due to drug overdoses.
- The proportion of deaths from mental disorders due to substance use declined for females across three time periods but increased for males.
- In the most recent time period, HIV, drug overdose, renal disease, viral hepatitis, septicemia, and chronic obstructive pulmonary disease accounted for a higher proportion of deaths in women than in men.

Table 5.8 Multiple causes of death among persons diagnosed with HIV by sex, 2006-2017, San Francisco

		Year of Death					
		2006-2009		2010-2013		2014-2017	
		Male	Female	Male	Female	Male	Female
		Number (%)					
	Total	**1,024**	**118**	**862**	**87**	**870**	**92**
Multiple Causes of Death[1]	HIV	713 (69.6)	83 (69.7)	546 (63.3)	53 (60.9)	511 (58.7)	64 (69.6)
	Heart disease	235 (22.9)	29 (24.4)	231 (26.8)	31 (35.6)	272 (31.3)	23 (25.0)
	Non-AIDS cancer	160 (15.6)	8 (6.7)	175 (20.3)	7 (8.0)	181 (20.8)	19 (20.7)
	Accidents	114 (11.1)	20 (16.8)	98 (11.4)	18 (20.7)	116 (13.3)	15 (16.3)
	Drug overdose	85 (8.3)	16 (13.4)	83 (9.6)	15 (17.2)	88 (10.1)	15 (16.3)
	Liver disease	125 (12.2)	21 (17.6)	108 (12.5)	11 (12.6)	102 (11.7)	10 (10.9)
	Renal disease	99 (9.7)	14 (11.8)	82 (9.5)	12 (13.8)	94 (10.8)	18 (19.6)
	Viral hepatitis	117 (11.4)	15 (12.6)	103 (11.9)	18 (20.7)	92 (10.6)	13 (14.1)
	Mental disorders due to substance use	88 (8.6)	20 (16.8)	80 (9.3)	12 (13.8)	86 (9.9)	9 (9.8)
	Septicemia	97 (9.5)	13 (10.9)	85 (9.9)	9 (10.3)	85 (9.8)	11 (12.0)
	Chronic obstructive pulmonary disease	63 (6.2)	15 (12.6)	50 (5.8)	12 (13.8)	57 (6.6)	11 (12.0)
	Cerebrovascular disease	30 (2.9)	8 (6.7)	23 (2.7)	5 (5.8)	47 (5.4)	5 (5.4)

1 Includes underlying and contributory causes of death. Individuals may have more than one cause of death. See Technical Notes "Death Ascertainment." Deceased HIV cases that lack cause of death information are not represented in this table.

- When multiple causes of death were compared for Latinx, African American, and white decedents, HIV contributed to more than half of deaths in each racial/ethnic group for all time periods.
- African American decedents were also more likely to die from renal disease, chronic obstructive pulmonary disease, and cerebrovascular disease than were Latinx and white decedents.

Table 5.9 Multiple causes of death among persons diagnosed with HIV by race/ethnicity, 2006-2017, San Francisco

		Year of Death								
		2006-2009			2010-2013			2014-2017		
		Latinx	African American	White	Latinx	African American	White	Latinx	African American	White
		Number (%)								
	Total	131	242	695	123	190	559	125	191	579
Multiple Causes of Death[1]	HIV	100 (76.3)	170 (70.2)	473 (68.1)	92 (74.8)	129 (67.9)	332 (59.4)	80 (64.0)	122 (63.9)	333 (57.5)
	Heart disease	26 (19.8)	73 (30.2)	145 (20.9)	28 (22.8)	64 (33.7)	152 (27.2)	33 (26.4)	61 (31.9)	182 (31.4)
	Non-AIDS cancer	10 (7.6)	29 (12.0)	115 (16.5)	17 (13.8)	35 (18.4)	118 (21.1)	21 (16.8)	47 (24.6)	121 (20.9)
	Accidents	5 (3.8)	37 (15.3)	85 (12.2)	11 (8.9)	26 (13.7)	66 (11.8)	17 (13.6)	23 (12.0)	82 (14.2)
	Drug overdose	4 (3.1)	28 (11.6)	65 (9.4)	11 (8.9)	23 (12.1)	52 (9.3)	10 (8.0)	20 (10.5)	65 (11.2)
	Liver disease	23 (17.6)	32 (13.2)	84 (12.1)	24 (19.5)	25 (13.2)	63 (11.3)	21 (16.8)	17 (8.9)	64 (11.1)
	Mental disorders due to substance use	9 (6.9)	33 (13.6)	63 (9.1)	6 (4.9)	23 (12.1)	58 (10.4)	18 (14.4)	12 (6.3)	56 (9.7)
	Viral hepatitis	16 (12.2)	24 (9.9)	83 (11.9)	17 (13.8)	41 (21.6)	53 (9.5)	17 (13.6)	22 (11.5)	54 (9.3)
	Renal disease	11 (8.4)	47 (19.4)	48 (6.9)	11 (8.9)	33 (17.4)	43 (7.7)	13 (10.4)	38 (19.9)	53 (9.2)
	Septicemia	25 (19.1)	23 (9.5)	54 (7.8)	20 (16.3)	18 (9.5)	45 (8.1)	17 (13.6)	19 (9.9)	52 (9.0)
	Chronic obstructive lung disease	2 (1.5)	25 (10.3)	48 (6.9)	4 (3.3)	20 (10.5)	37 (6.6)	4 (3.2)	18 (9.4)	43 (7.4)
	Cerebrovascular disease	6 (4.6)	13 (5.4)	16 (2.3)	3 (2.4)	7 (3.7)	16 (2.9)	8 (6.4)	14 (7.3)	28 (4.8)

1 Includes underlying and contributory causes of death. Individuals may have more than one cause of death. See Technical Notes "Death Ascertainment." Deceased HIV cases that lack cause of death information are not represented in this table.

- When multiple causes of death were considered for decedents who were MSM, PWID, or MSM-PWID, heart disease was the second most frequent underlying or contributory cause of death, behind HIV.
- Compared to MSM, PWID and MSM-PWID had higher proportions of deaths from liver disease, mental disorders due to substance use, septicemia, and accidents (including drug overdoses).

Table 5.10 Multiple causes of death among persons diagnosed with HIV by select transmission categories, 2006-2017, San Francisco

		Year of Death								
		2006-2009			2010-2013			2014-2017		
		MSM	PWID	MSM-PWID	MSM	PWID	MSM-PWID	MSM	PWID	MSM-PWID
		Number (%)								
	Total	591	189	257	509	161	206	516	150	223
Multiple Causes of Death[1]	HIV	409 (69.2)	124 (65.6)	183 (71.2)	332 (65.2)	97 (60.2)	119 (57.8)	305 (59.1)	101 (67.3)	119 (53.4)
	Heart disease	135 (22.8)	42 (22.2)	63 (24.5)	139 (27.3)	43 (26.7)	52 (25.2)	158 (30.6)	42 (28.0)	67 (30.0)
	Non-AIDS cancer	113 (19.1)	15 (7.9)	33 (12.8)	123 (24.2)	20 (12.4)	25 (12.1)	121 (23.4)	32 (21.3)	39 (17.5)
	Renal disease	51 (8.6)	23 (12.2)	27 (10.5)	42 (8.3)	28 (17.4)	18 (8.7)	55 (10.7)	21 (14.0)	19 (8.5)
	Liver disease	53 (9.0)	32 (16.9)	46 (17.9)	48 (9.4)	29 (18.0)	36 (17.5)	51 (9.9)	19 (12.7)	35 (15.7)
	Mental disorders due to substance use	42 (7.1)	31 (16.4)	25 (9.7)	38 (7.5)	21 (13.0)	27 (13.1)	45 (8.7)	16 (10.7)	30 (13.5)
	Septicemia	51 (8.6)	22 (11.6)	24 (9.3)	43 (8.4)	21 (13.0)	21 (10.2)	44 (8.5)	18 (12.0)	24 (10.8)
	Accidents	51 (8.6)	34 (18.0)	38 (14.8)	38 (7.5)	31 (19.3)	38 (18.4)	42 (8.1)	25 (16.7)	51 (22.9)
	Drug overdose	34 (5.8)	29 (15.3)	32 (12.5)	29 (5.7)	27 (16.8)	35 (17.0)	29 (5.6)	22 (14.7)	44 (19.7)
	Chronic obstructive lung disease	25 (4.2)	22 (11.6)	23 (8.9)	26 (5.1)	23 (14.3)	11 (5.3)	33 (6.4)	17 (11.3)	13 (5.8)
	Cerebrovascular disease	17 (2.9)	7 (3.7)	5 (1.9)	15 (2.9)	9 (5.6)	2 (1.0)	30 (5.8)	10 (6.7)	9 (4.0)
	Diabetes	17 (2.9)	9 (4.8)	10 (3.9)	38 (7.5)	7 (4.3)	7 (3.4)	27 (5.2)	5 (3.3)	8 (3.6)

1 Includes underlying and contributory causes of death. Individuals may have more than one cause of death. See Technical Notes "Death Ascertainment." Deceased HIV cases that lack cause of death information are not represented in this table.

- Among persons who died during 2006 to 2017, 20% were homeless at some point between time of HIV diagnosis and death.
- Among decedents who were ever homeless, a higher proportion of deaths were due to liver disease, viral hepatitis, accidents (including drug overdoses), mental disorders due to substance abuse, renal disease, chronic obstructive lung disease, and assault.

Table 5.11 Multiple causes of death among persons diagnosed with HIV by housing status, 2006-2017, San Francisco

		Housing status from HIV diagnosis to death	
		Ever homeless	Consistently housed
		Number (%)	
	Total	615	2,439
Multiple Causes of Death[1]	HIV	385 (62.6)	1,585 (65.0)
	AIDS Opportunistic illness	175 (28.5)	624 (25.6)
	AIDS Cancer	40 (6.5)	167 (6.8)
	Heart disease	139 (22.6)	682 (28.0)
	Non-AIDS cancer	55 (8.9)	495 (20.3)
	Liver disease	85 (13.8)	292 (12.0)
	Viral hepatitis	93 (15.1)	265 (10.9)
	Accidents	119 (19.3)	262 (10.7)
	Drug overdose	100 (16.3)	202 (8.3)
	Renal disease	82 (13.3)	237 (9.7)
	Septicemia	64 (10.4)	236 (9.7)
	Mental disorders due to substance abuse	90 (14.6)	205 (8.4)
	Chronic obstructive lung disease	48 (7.8)	160 (6.6)
	Diabetes	11 (1.8)	131 (5.4)
	Suicide	16 (2.6)	103 (4.2)
	Cerebrovascular disease	16 (2.6)	102 (4.2)
	Pneumonitis	5 (0.8)	38 (1.6)
	Diseases of arteries	5 (0.8)	30 (1.2)
	Hyperlipidemia	1 (0.2)	28 (1.1)
	Assault	15 (2.4)	16 (0.7)

1 Includes underlying and contributory causes of death. Individuals may have more than one cause of death. See Technical Notes "Death Ascertainment." Deceased HIV cases that lack cause of death information are not represented in this table.

6 Health Insurance Status at Time of HIV Diagnosis

- Among HIV diagnoses in 2014 to 2018, 72% of whites, 73% of African Americans, 65% of Latinxs, and 56% of Asians/Pacific Islanders (APIs) were insured at time of diagnosis.
- Latinxs and APIs had higher proportions uninsured at diagnosis. APIs also had highest proportion missing health insurance status information (15%).
- By gender, trans women had the highest proportion uninsured at diagnosis.
- Trend data suggest that access to health insurance improved for persons diagnosed with HIV in 2014 to 2008, with 65% insured in 2014 and 75% insured in 2018. This may be attributed, in part, to implementation of the Affordable Care Act in 2014 and MediCal expansion programs in California.

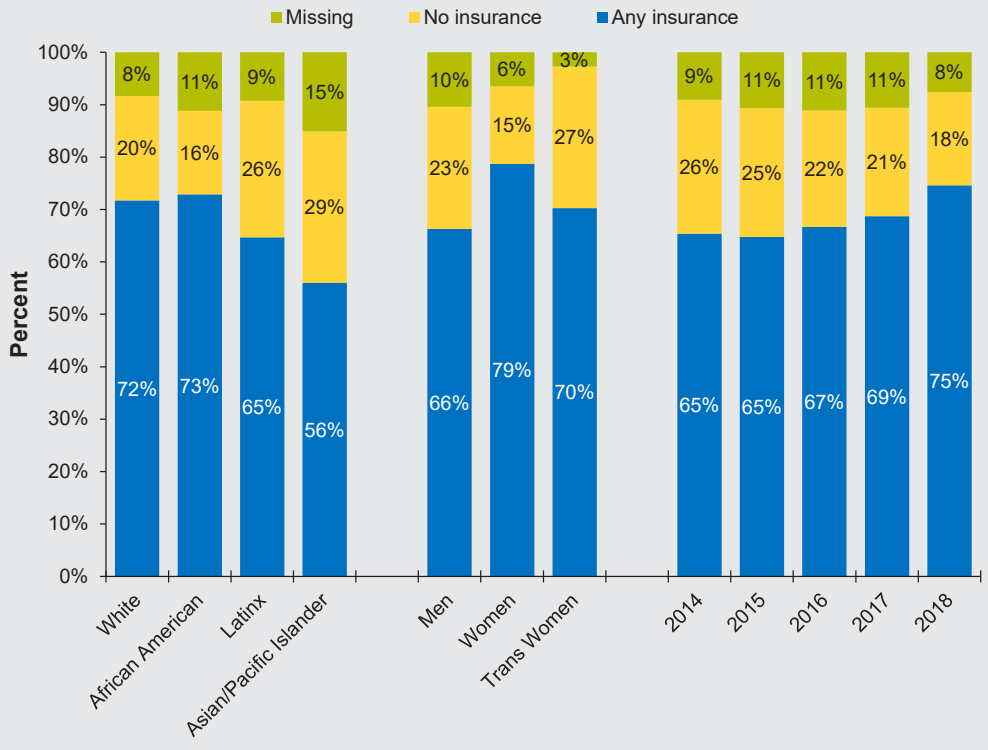
75%

OF NEW DIAGNOSES IN 2018 HAD HEALTH INSURANCE AT TIME OF DIAGNOSIS

>25%

OF LATINX, APIS, AND TRANS WOMEN WERE UNINSURED AT TIME OF DIAGNOSIS, 2014-2018

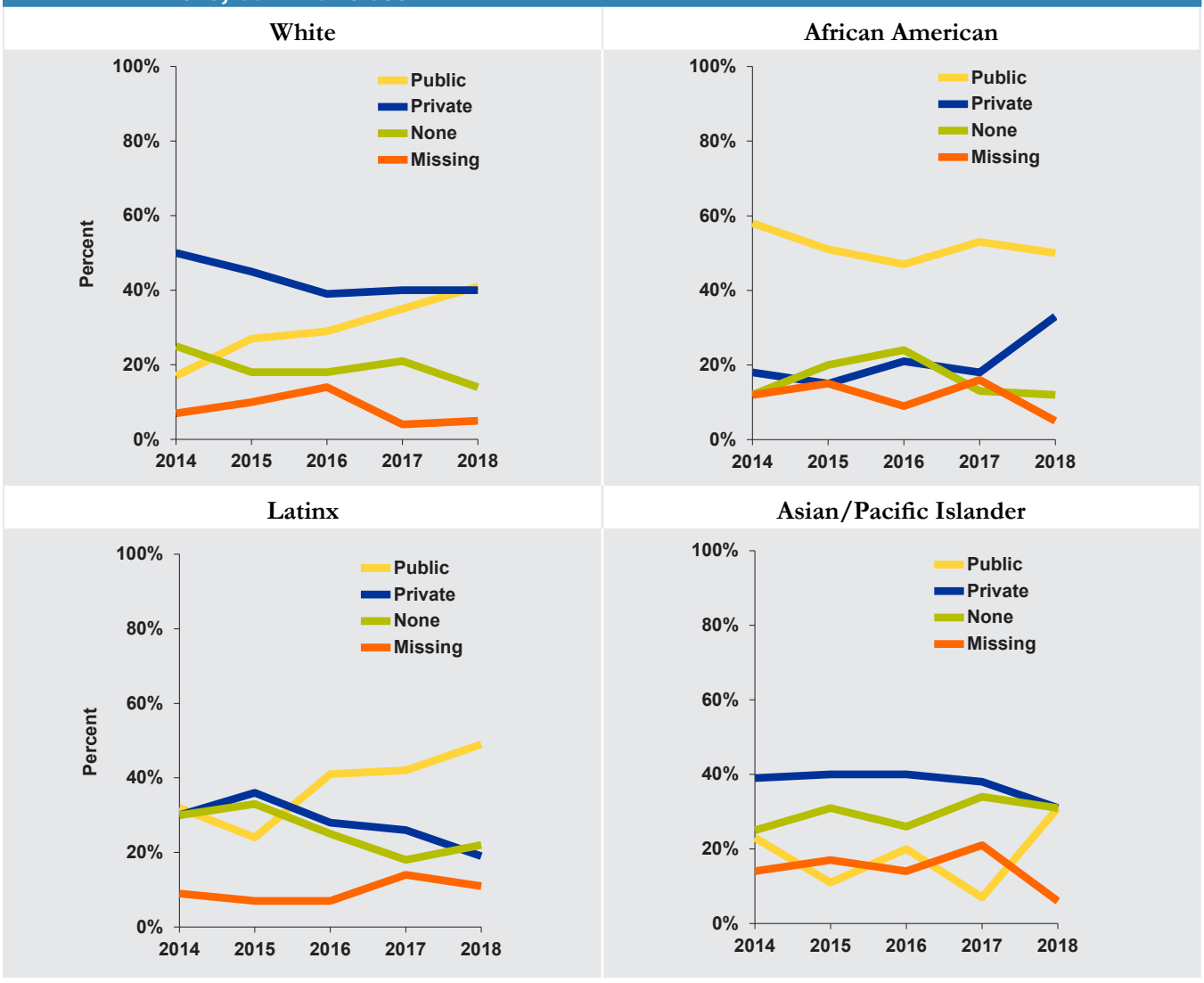
Figure 6.1 Health insurance status at time of HIV diagnosis by race/ethnicity, gender[1], and year of diagnosis, 2014-2018, San Francisco



1 Data on trans men are not presented due to small number and potential small population size. See Technical Notes "Gender Status."

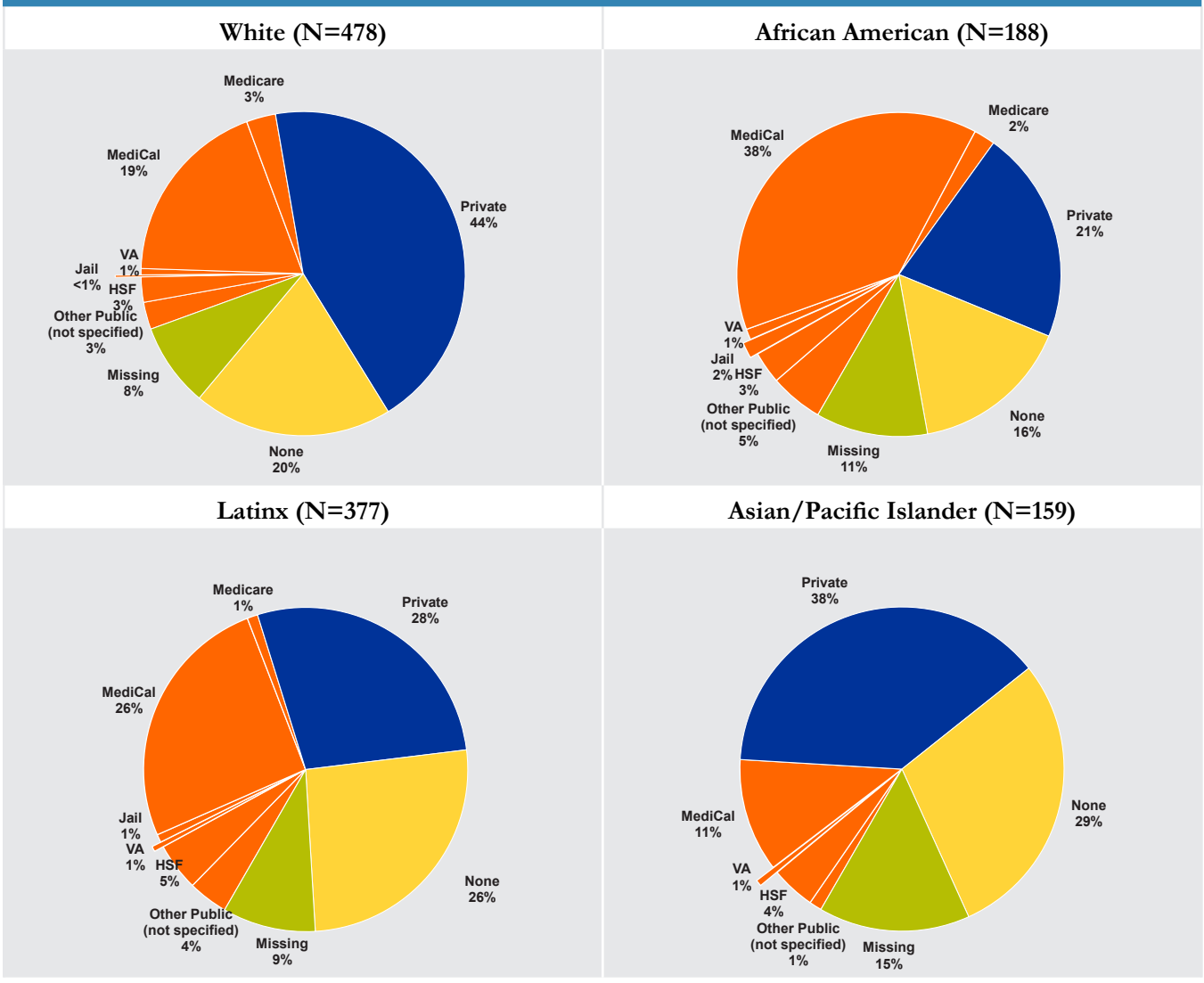
- Among whites, the proportion on public forms of insurance increased steadily from 17% in 2014 to 41% in 2018; in 2018 similar proportions of whites were on public insurance as private insurance.
- The predominant health insurance status for whites and APIs diagnosed each year was private insurance.
- In contrast, 47% or greater of African Americans diagnosed each year were publicly insured.
- Beginning 2016 the proportion of Latinxs with no health insurance declined while the proportion of Latinxs with public forms of insurance increased.

Figure 6.2 Trends in health insurance status at time of HIV diagnosis by race/ethnicity, 2014-2018, San Francisco



- From 2014 to 2018, African Americans diagnosed with HIV had the highest proportion with publicly-funded insurance types compared to other racial/ethnic groups.
- Across racial ethnic groups, there were similar proportions using Healthy San Francisco for health care coverage at time of diagnosis (3%-5%).

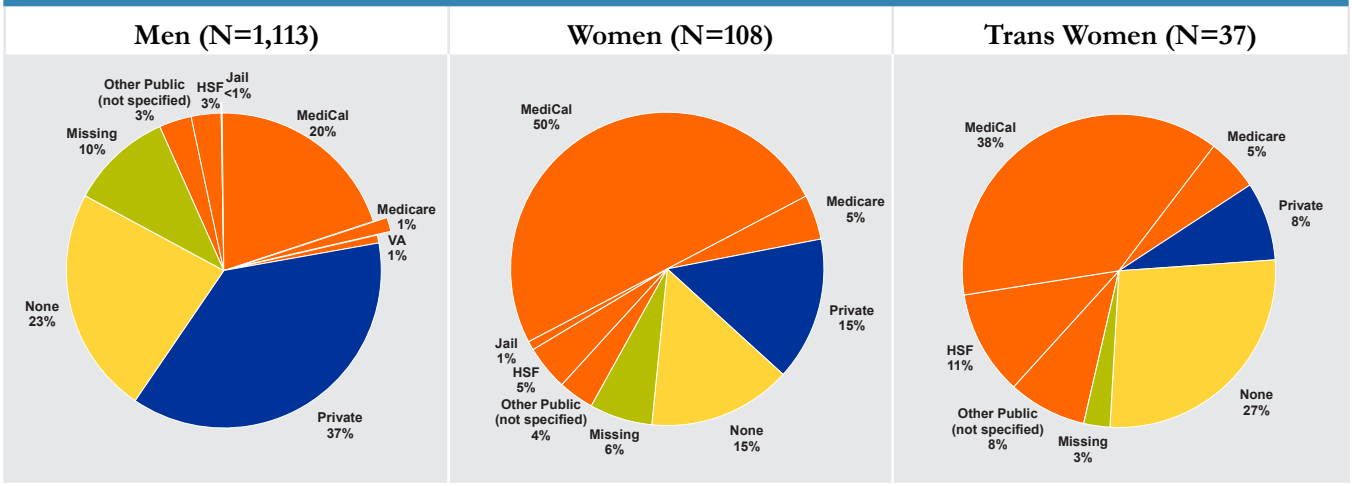
Figure 6.3 Health insurance status at time of HIV diagnosis by race/ethnicity, 2014-2018, San Francisco



HSF: Healthy San Francisco.

- Compared to men at the time of HIV diagnosis, women and trans women had higher proportions with public insurance (including MediCal, Medicare, Healthy San Francisco, Veteran Administration, county jail, and other unspecified public insurance).
- For 2014 to 2018 diagnoses, 50% of women and 38% of trans women reported using MediCal, a state-sponsored insurance for persons meeting financial criteria.
- Healthy San Francisco, the county-sponsored health access program for residents, was used by 3% of men, 5% of women, and 11% of trans women at time of diagnosis.
- 23% of men, 15% of women, and 27% of trans women had no health insurance coverage at time of diagnosis.

Figure 6.4 Health insurance status at time of HIV diagnosis by gender[1], 2014-2018, San Francisco



1 Data on trans men are not presented due to small number and potential small population size. See Technical Notes "Gender Status."
HSF: Healthy San Francisco.

7 HIV among Men who Have Sex with Men

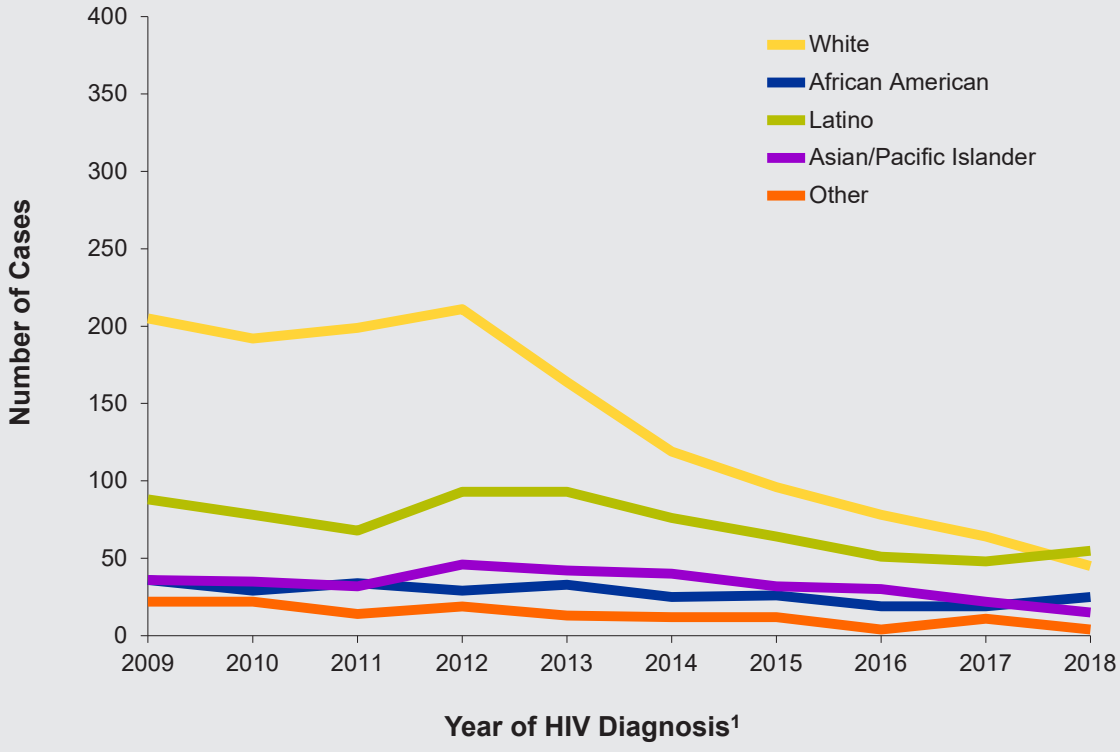
HIV surveillance data

- Among MSM newly diagnosed with HIV from 2009 through 2018, whites accounted for the largest number of diagnoses in San Francisco.
- The number of MSM newly diagnosed with HIV from 2009 to 2018 declined in whites and Latino persons.
- Annual number of Latino MSM diagnosed exceeded the number of white MSM in 2018.
- The annual number of Asian/Pacific Islander MSM diagnosed increased from 36 in 2009 to a high of 46 in 2012 and then decreased to 15 in 2018.
- Among MSM, whites made up 31%, African Americans 17%, Latino persons 38% and Asian/Pacific Islanders 10% of new diagnoses in 2018.

Whites
ACCOUNTED FOR THE LARGEST NUMBER OF NEWLY DIAGNOSED MSM, 2009-2018

Latino
MSM DIAGNOSED WITH HIV EXCEEDED WHITE MSM IN 2018

Figure 7.1 Number of MSM newly diagnosed with HIV by race/ethnicity, 2009-2018, San Francisco

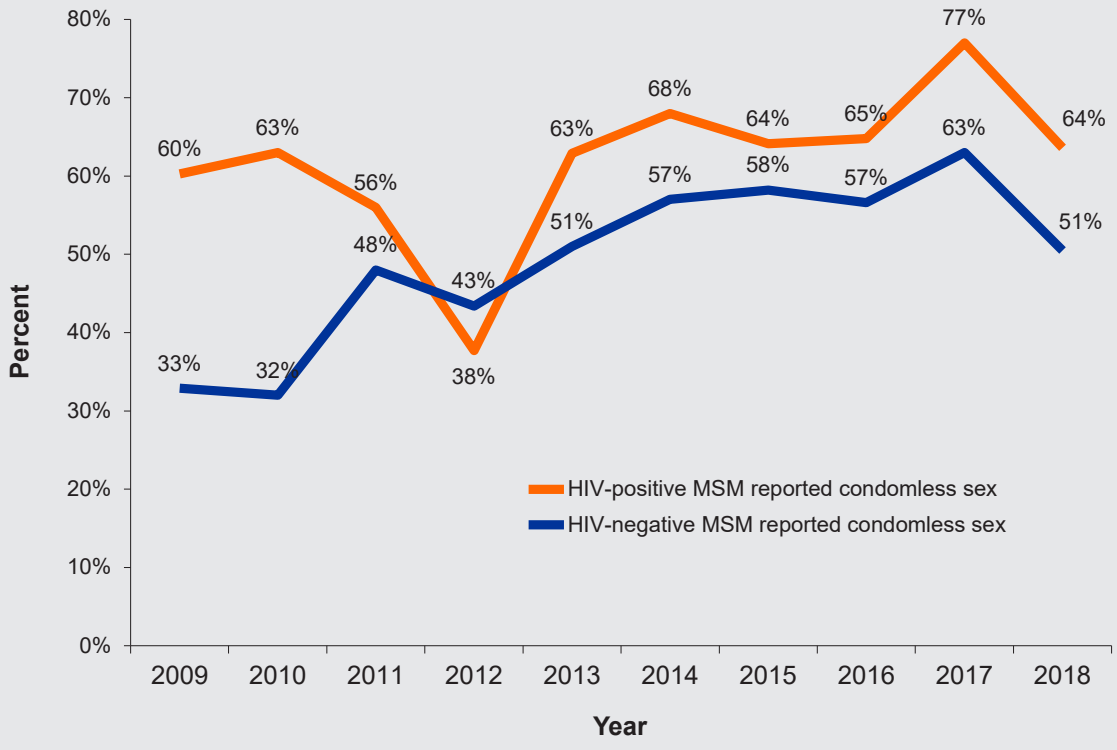


1 Includes MSM and MSM-PWID with HIV by year of their initial HIV diagnosis. See Technical Notes "Date of Initial HIV Diagnosis."

HIV sexual behavior data

- Data from the STOP AIDS project show that the percent of HIV-negative MSM who reported any condomless anal intercourse increased from 43% in 2012 to 63% in 2017, and decreased to 51% in 2018.
- The proportion of HIV-positive MSM reporting any condomless anal intercourse has generally remained above 60%, with a high of 77% in 2017.

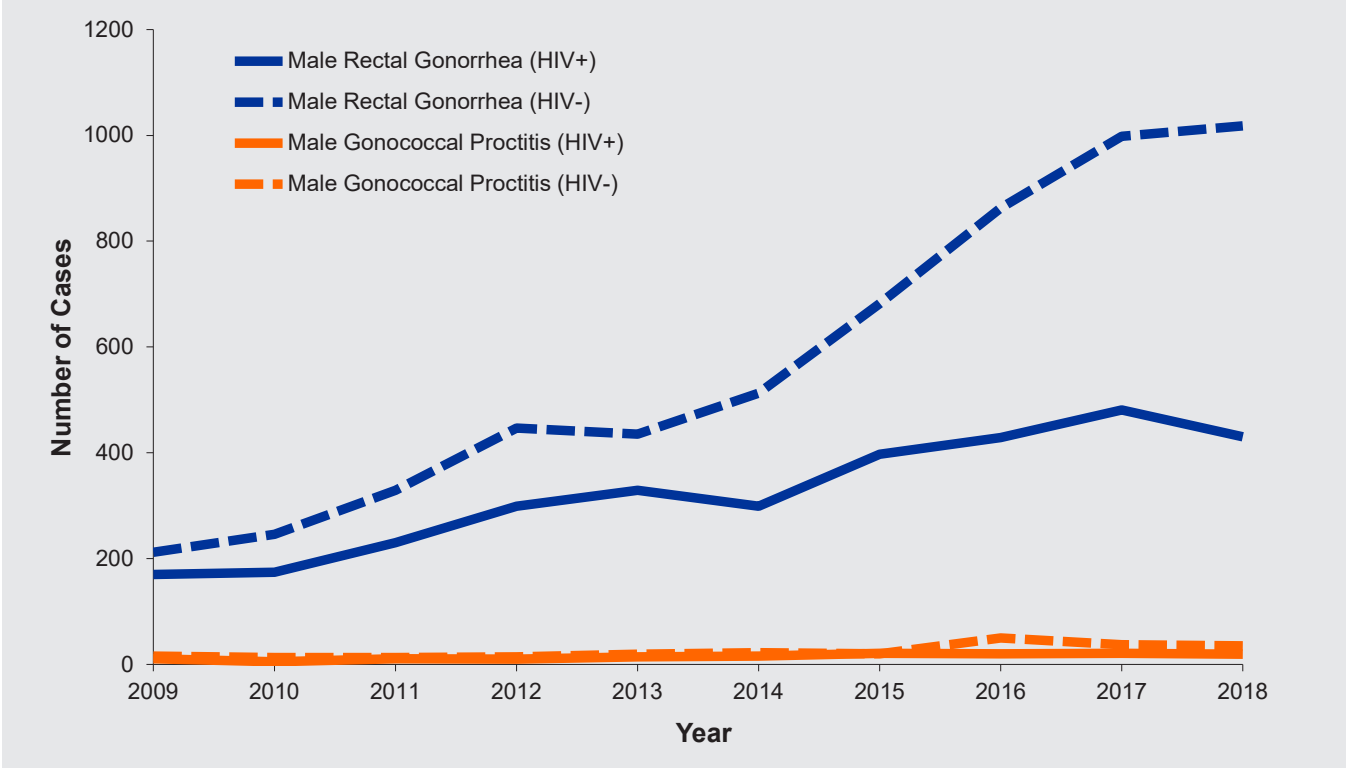
Figure 7.2 Percent of MSM reporting condomless anal intercourse in the last six months by self-reported HIV status, the STOP AIDS Project, 2009-2018, San Francisco



Sexually transmitted diseases among MSM

- The last decade has seen an increase in reported cases of male rectal gonorrhea irrespective of HIV serostatus.
- The number of reported cases of male rectal gonorrhea has been higher among HIV-negative men than among HIV-positive men from 2009 through 2018.
- The number of male gonococcal proctitis cases is notably lower, likely due to differences in how the data are reported, and has been relatively stable.

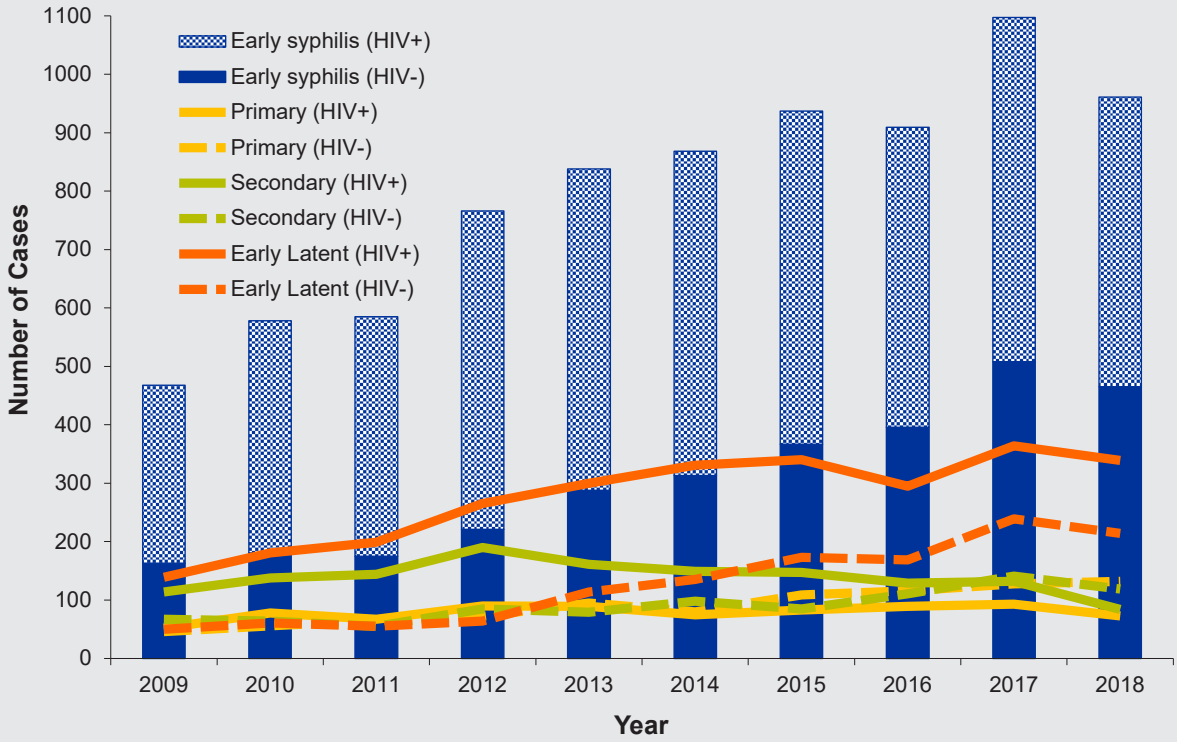
Figure 7.3 Male rectal gonorrhea and male gonococcal proctitis among MSM by HIV serostatus[1], 2009-2018, San Francisco



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

- The increase from 2009 to 2018 in early latent syphilis is dramatic, especially among HIV-positive MSM who account for a greater proportion of early syphilis cases than HIV-negative MSM.

Figure 7.4 Early syphilis among MSM by HIV serostatus[1], 2009-2018, San Francisco

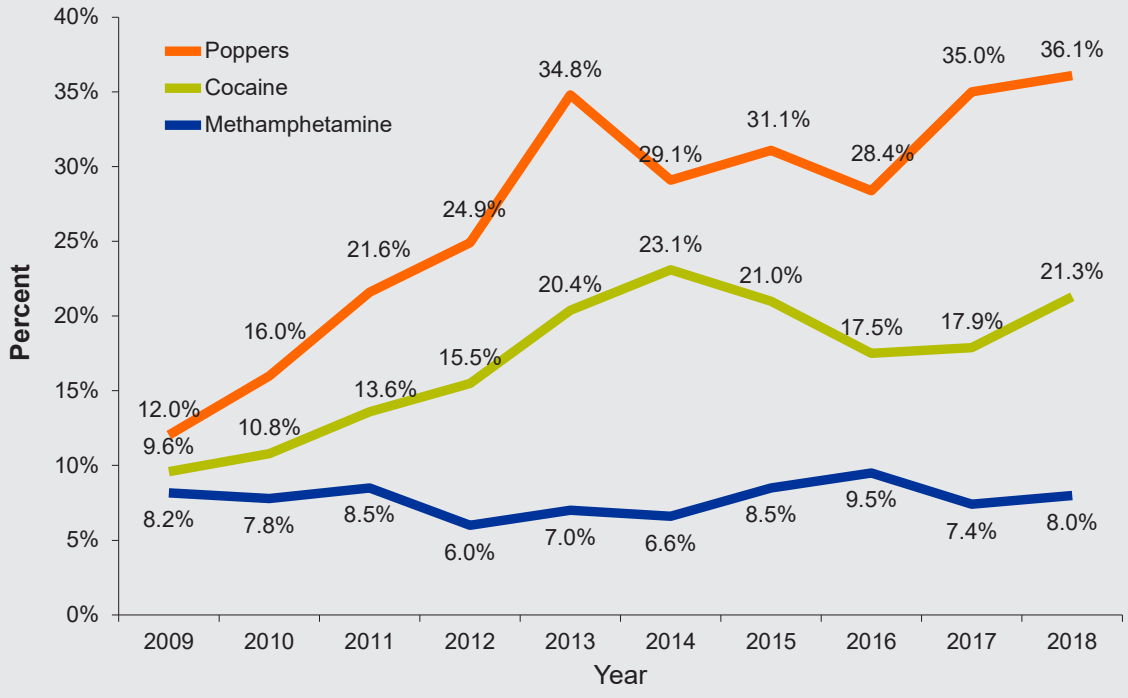


1 Data on early syphilis originate from San Francisco Department of Health STD case registry.

Substance use

- Data from the STOP AIDS Project show an increase, from 2009 to 2014, and then a decrease, from 2014 to 2017, in cocaine use.
- Poppers use increased from a low in 2009 to a high in 2018.
- Methamphetamine use has remained relatively stable since 2009.

Figure 7.5 Substance use among MSM, the STOP AIDS Project, 2009-2018, San Francisco



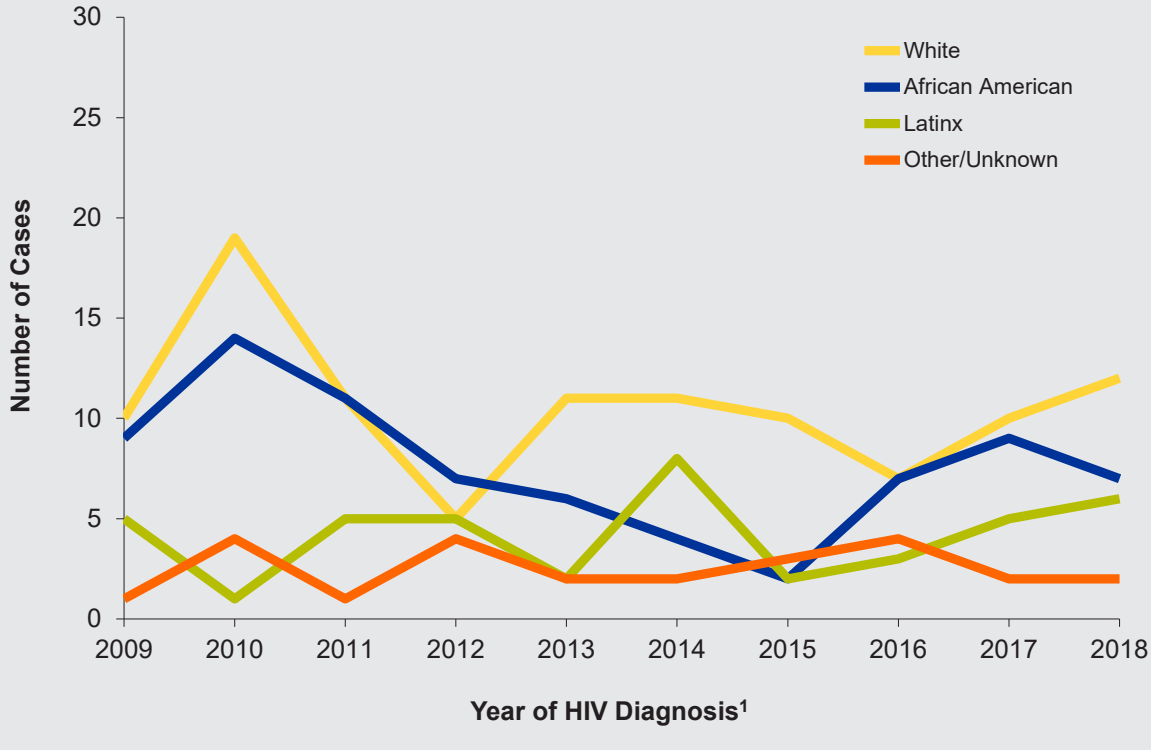
8 HIV among People who Inject Drugs

Whites

ACCOUNTED FOR 43% OF NON-MSM PWID NEWLY DIAGNOSED WITH HIV FROM 2009-2018

- From 2009 to 2018, whites accounted for 43% of non-MSM PWID cases, African Americans 31%, and Latinxs 17%.
- The total number of non-MSM PWID diagnoses each year decreased to 17 in 2015 and increased in 2016 to 2018 (21, 26, 27, respectively).

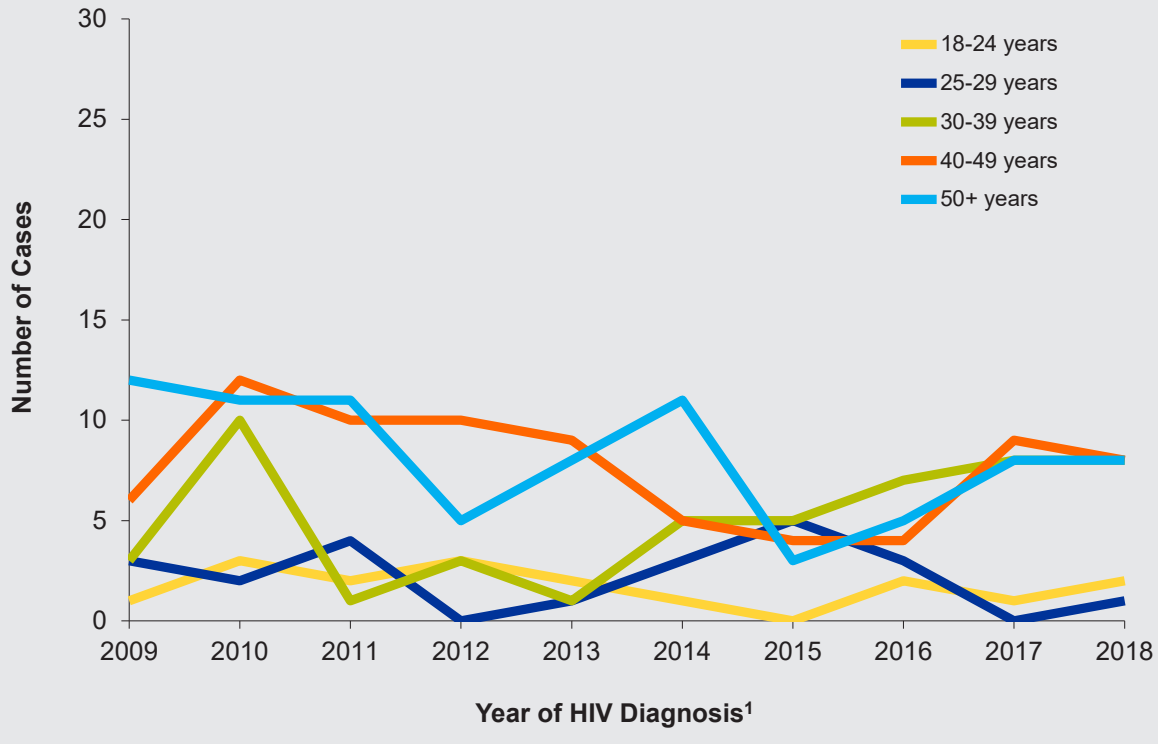
Figure 8.1 Number of non-MSM PWID newly diagnosed with HIV by race/ethnicity, 2009-2018, San Francisco



1 Includes persons with HIV by year of their initial HIV diagnosis. See Technical Notes "Date of Initial HIV Diagnosis."

- The majority of non-MSM PWID newly diagnosed with HIV between 2009 and 2018 were over 29 years old and 33% were aged 50 years and older.
- Although numbers are small, annual diagnoses among PWID who were 30-39 years suggest a gradual increasing trend from 2014 to 2018.
- The numbers of annual HIV diagnoses among non-MSM PWID aged 18-24 years remained low.

Figure 8.2 Number of non-MSM PWID newly diagnosed with HIV by age group at HIV diagnosis, 2009-2018, San Francisco



1 Includes persons with HIV by year of their initial HIV diagnosis. See Technical Notes "Date of Initial HIV Diagnosis."

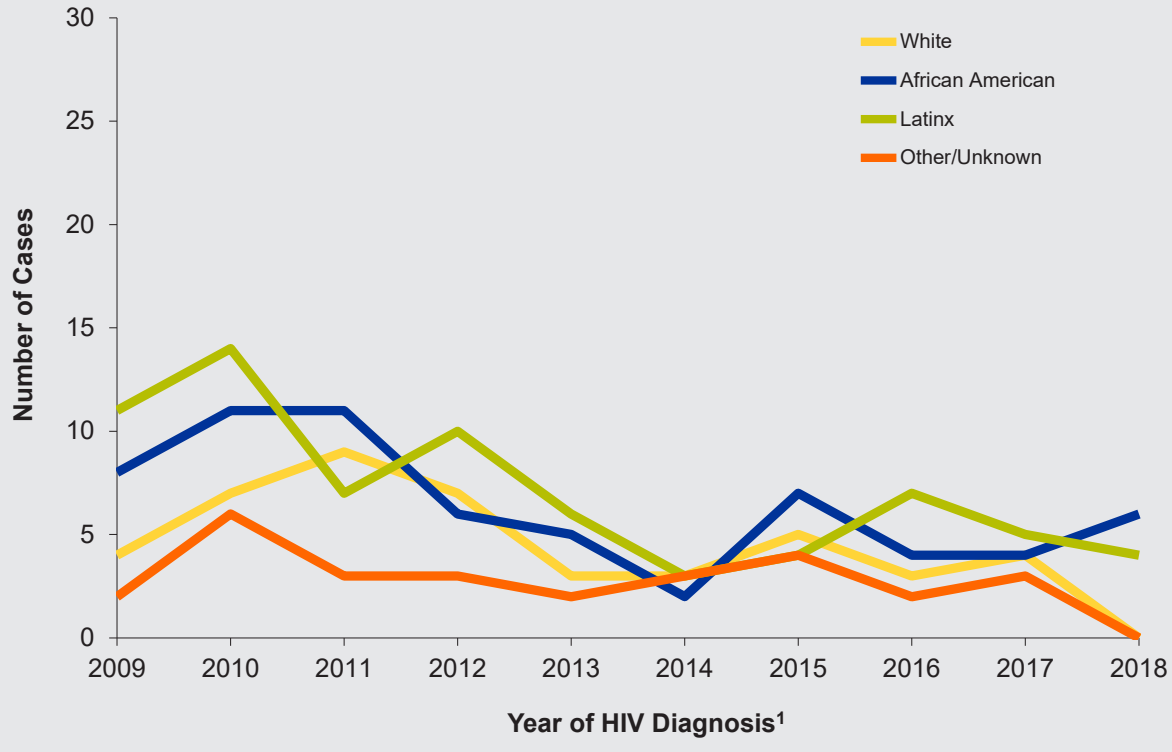
9 HIV among Heterosexuals

HIV surveillance data

- Among persons who acquired HIV through heterosexual contact in 2009 to 2018, Latinxs accounted for 34%, African Americans accounted for 31%, and whites accounted for 22%.
- The number of persons who acquired HIV through heterosexual contact was small; there were no clear temporal trends by race/ethnicity.

Latinxs
ACCOUNTED FOR MORE THAN 1/3 OF HETEROSEXUALS NEWLY DIAGNOSED WITH HIV FROM 2009-2018

Figure 9.1 Number of heterosexuals newly diagnosed with HIV by race/ethnicity, 2009-2018, San Francisco

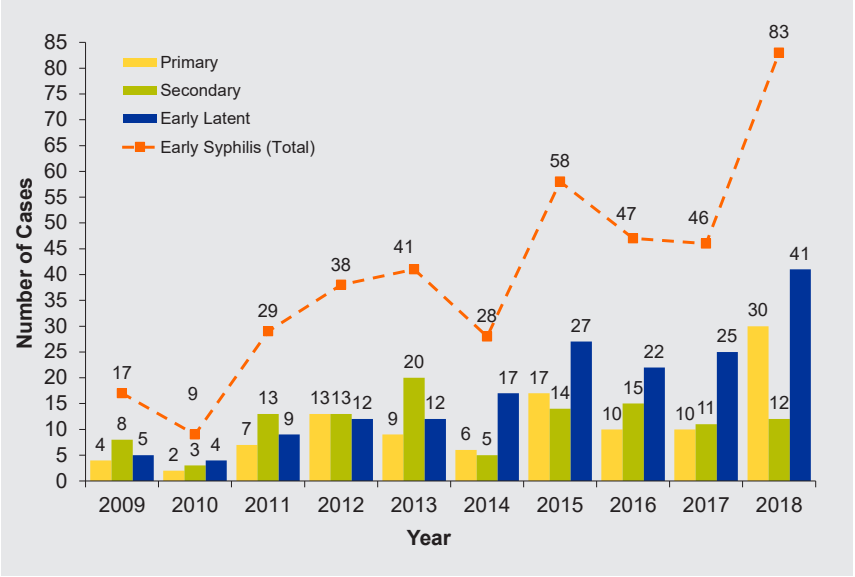


1 Includes persons with HIV by year of their initial HIV diagnosis. See Technical Notes "Date of Initial HIV Diagnosis."

Sexually transmitted diseases among heterosexuals

- Overall, the number of early syphilis cases among heterosexual men has increased over time reaching a peak at 83 cases in 2018.

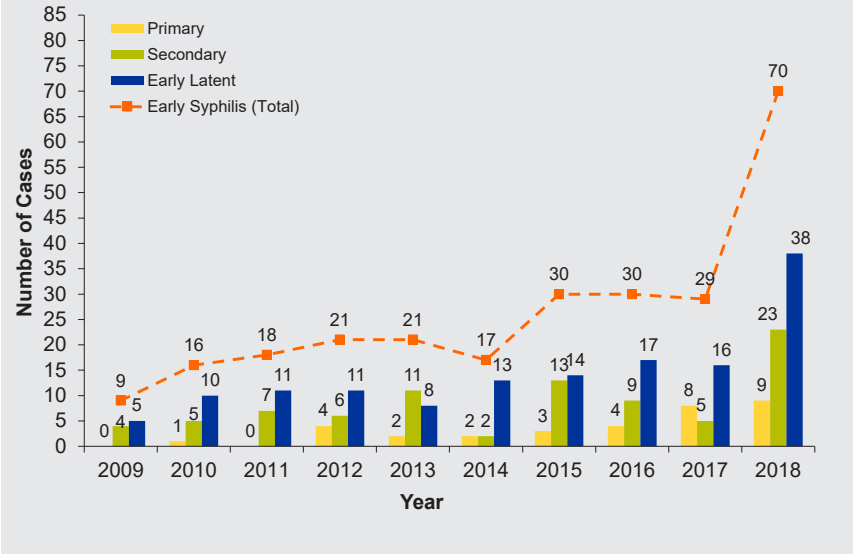
Figure 9.2 Early syphilis among heterosexual men[1], 2009-2018, San Francisco



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

- Among women, syphilis cases are low relative to men, although the numbers of secondary and early latent syphilis cases are increasing in recent years.

Figure 9.3 Early syphilis among women[1], 2009-2018, San Francisco



1 Data on early sypillis originate from San Francisco Department of Health STD case registry.

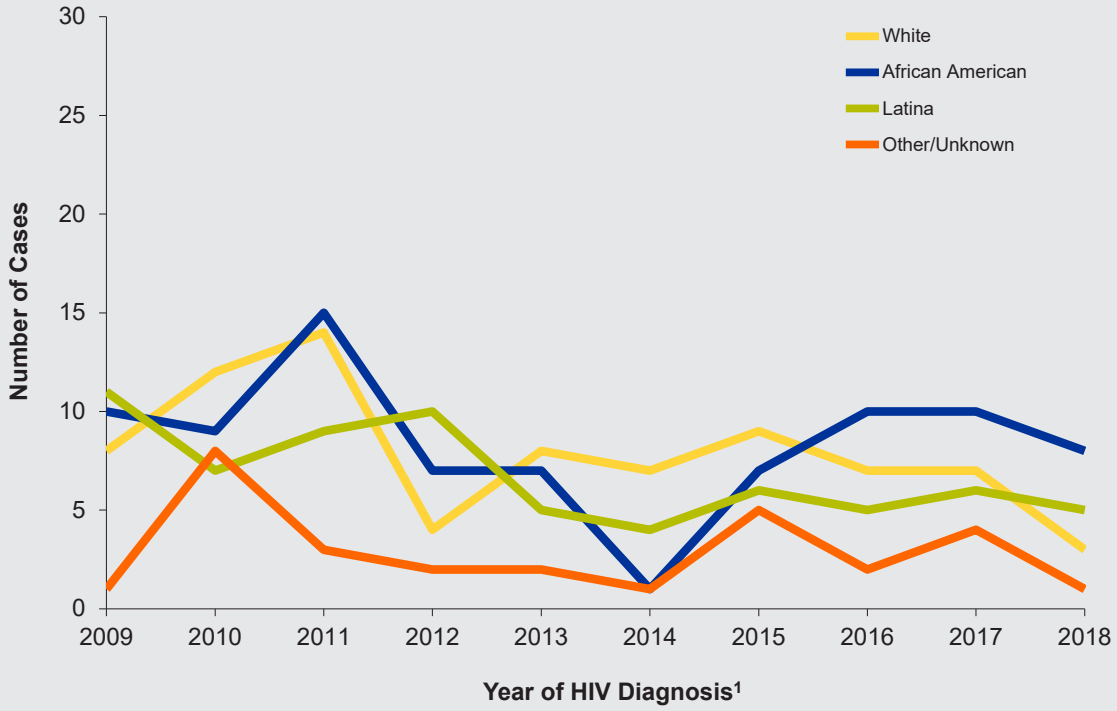
10 HIV among Women

- Among women newly diagnosed with HIV from 2009 to 2018, whites accounted for 30% of diagnoses, African Americans accounted for 32%, and Latinas accounted for 26%.
- Annual number of diagnoses among African American women was higher than white and Latina women for 2016 to 2018.

African Americans

ACCOUNTED FOR A GREATER NUMBER OF WOMEN NEWLY DIAGNOSED WITH HIV FROM 2009-2018

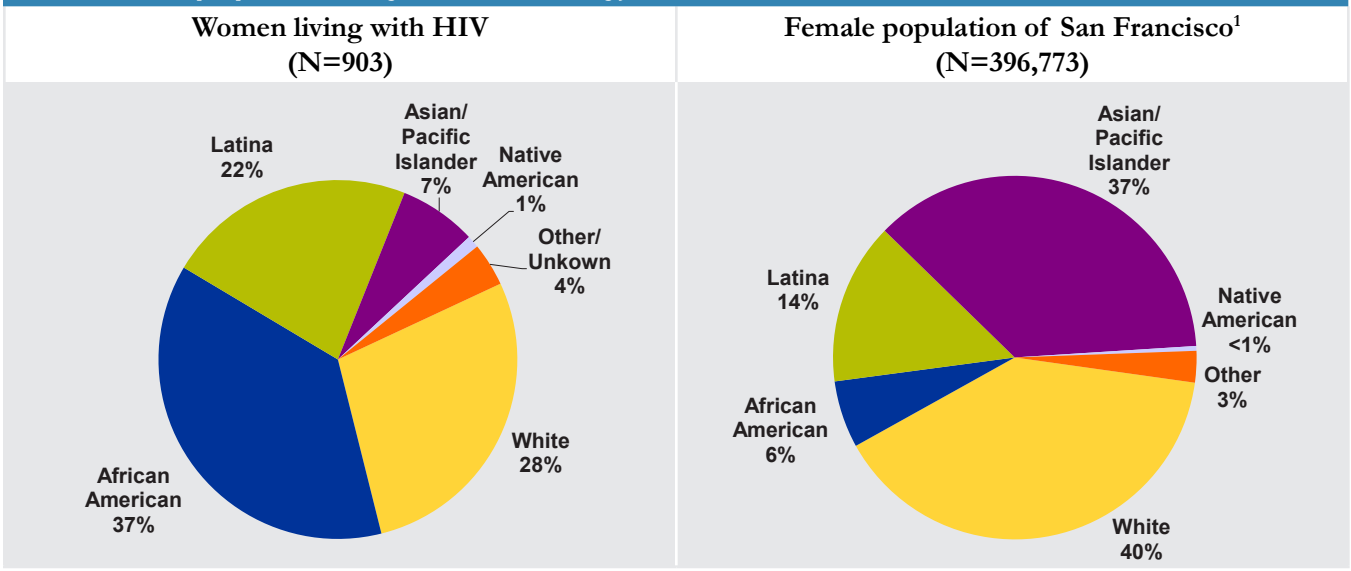
Figure 10.1 Number of women newly diagnosed with HIV by race/ethnicity, 2009-2018, San Francisco



1 Includes persons with HIV by year of their initial HIV diagnosis. See Technical Notes "Date of Initial HIV Diagnosis."

- Although African American women represent 6% of the total female population in San Francisco (pie chart on the right), as of December 31, 2018 they accounted for 37% of women living with HIV in San Francisco (pie chart on the left).

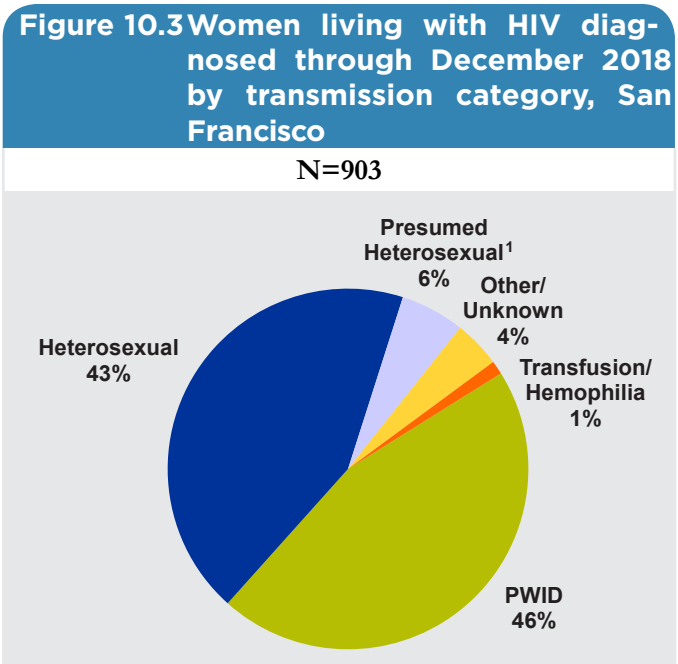
Figure 10.2 Women living with HIV diagnosed through December 2018 and female population by race/ethnicity, San Francisco



1 United States 2010 Census data.

- Among women diagnosed and living with HIV in San Francisco through the end of 2018, 46% acquired HIV through injecting drugs and 49% through heterosexual contact.

Figure 10.3 Women living with HIV diagnosed through December 2018 by transmission category, San Francisco



1 See Technical Notes "Female Presumed Heterosexual Contact."

11 HIV among Children, Adolescents and Young Adults

Latinxs

ACCOUNTED FOR 36% OF YOUNG ADULTS LIVING WITH HIV AS OF 12/31/2018

- Adolescents (current age 13-17 years) or young adults (current age 18-24 years) living with HIV in San Francisco make up less than 1% of persons living with HIV in the city.
- As of December 31, 2018 there were fewer than ten adolescents and 98 young adults living with HIV.
- Among young adults living with HIV, three-quarters were men who have sex with men (either with or without a history of injecting drugs).
- 36% of young adults living with HIV were Latinx, 27% were African American, 22% were white, and 8% were Asian/Pacific Islander.

Table 11.1 Young adults living with HIV by transmission category, gender[1], and race/ethnicity, December 2018, San Francisco

		18 - 24 Years Old
		Number (%)
	Total	**98 (100)**
Transmission Category	MSM	66 (67)
	PWID	4 (4)
	MSM-PWID	8 (8)
	Heterosexual	7 (7)
	Perinatal	9 (9)
	Other/Unidentified[1]	4 (4)
Gender[2]	Men	73 (74)
	Women	20 (20)
Race/Ethnicity	White	22 (22)
	African American	26 (27)
	Latinx	35 (36)
	Asian/Pacific Islander	8 (8)
	Multi-race	7 (7)

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

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

- For the years 2014-2018 and compared to the U.S. data, San Francisco had lower proportions of adolescents and young adults diagnosed with HIV.
- Annual diagnoses among persons who were age 20-24 years old show a declining trend from 2014 to 2017 and increased in 2018.

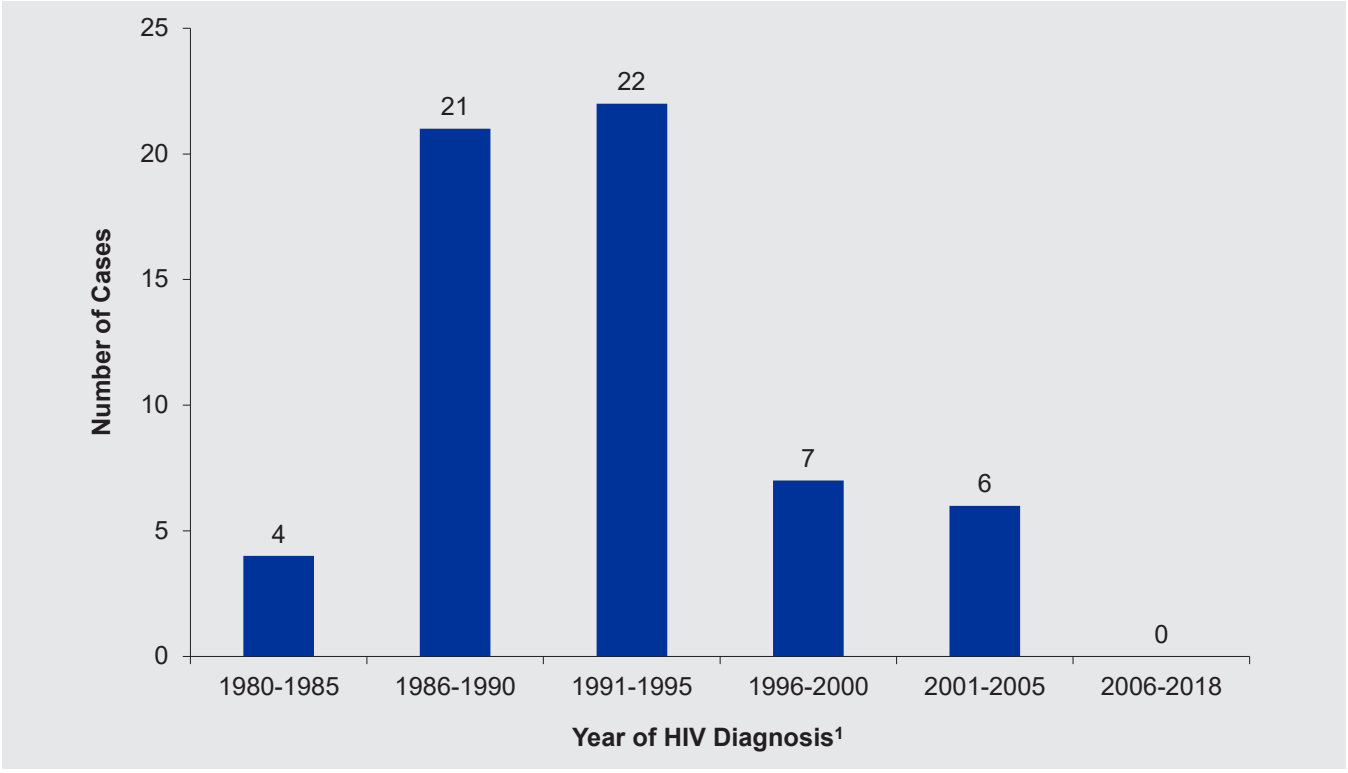
Table 11.2 Number of adolescents and young adults newly diagnosed with HIV, 2014-2018, San Francisco and the United States

		Year of HIV Diagnosis				
		2014	2015	2016	2017	2018
		Number (%)				
San Francisco	**All ages**	321	281	234	227	197
	Age 13-19 years at HIV diagnosis	1 (<1)	5 (2)	4 (2)	8 (4)	5 (3)
	Age 20-24 years at HIV diagnosis	39 (12)	36 (13)	29 (12)	18 (8)	25 (13)
U.S.[1]	**All ages**	40,888	40,534	40,142	38,739	
	Age 13-19 years at HIV diagnosis	1,786 (4)	1,773 (4)	1,734 (4)	1,748 (5)	N/A
	Age 20-24 years at HIV diagnosis	7,486 (18)	7,358 (18)	6,942 (17)	6,416 (17)	N/A

1 U.S. data are based on reported case counts from the 50 states and 6 dependent areas with confidential name-based HIV reporting in CDC HIV Surveillance Report, 2017 (volume 29).

- As of December 31, 2018, there were 60 cumulative pediatric HIV cases (children less than 13 years old) who resided in San Francisco at time of diagnosis.
- The number of pediatric HIV cases peaked between 1986 and 1995, and has declined over time, with zero pediatric HIV cases diagnosed among residents of San Francisco since 2005.
- Of the 60 reported pediatric HIV cases, 26 (43%) had died as of December 2018 and 34 (57%) have survived beyond childhood (current age ≥13 years).

Figure 11.1 Number of children diagnosed with HIV by time period of HIV diagnosis, 1980-2018, San Francisco



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

12 HIV among Persons Aged 50 Years and Older

- As of December 31, 2018, 67% (N=10,691) of persons living with HIV were aged 50 years and older.
- In this age group, 75% were between the ages of 50-64 years old.
- Among those aged 50 years and older, 65% were white and 15% were Latinx compared to 44% and 29%, respectively, among those under age 50.

67%
OF PLWH WERE AGED 50 YEARS AND OLDER AS OF 12/31/2018

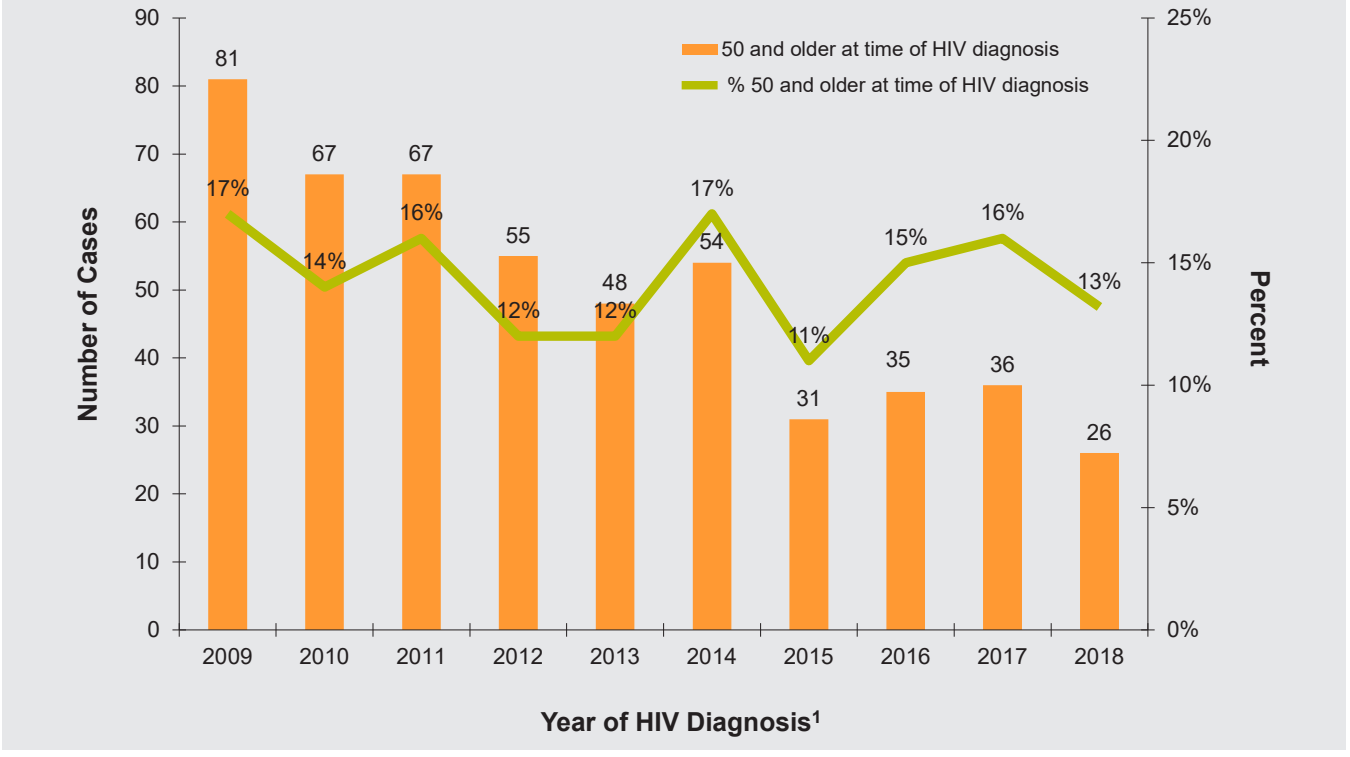
Table 12.1 Characteristics of persons living with HIV by age group, December 2018, San Francisco

		Age ≥ 50 years as of 12/31/2018	Age < 50 years as of 12/31/2018
		Number (%)	
	Total	10,691	5,299
Gender[1]	Men	9,953 (93)	4,731 (89)
	Women	563 (5)	340 (6)
	Trans Women	172 (2)	224 (4)
Race/Ethnicity	White	6,983 (65)	2,331 (44)
	African American	1,283 (12)	625 (12)
	Latinx	1,657 (15)	1,527 (29)
	Asian/Pacific Islander	438 (4)	555 (10)
	Native American	39 (0)	28 (1)
	Other/Unknown	291 (3)	233 (4)
Transmission Category	MSM	7,994 (75)	3,687 (70)
	TWSM	73 (1)	150 (3)
	PWID	650 (6)	237 (4)
	MSM-PWID	1,411 (13)	775 (15)
	TWSM-PWID	97 (1)	73 (1)
	Heterosexual	333 (3)	242 (5)
	Other/Unidentified	133 (1)	135 (3)
Age in Years	50-54	2,826 (26)	
	55-59	3,001 (28)	
	60-64	2,233 (21)	
	65+	2,631 (25)	

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

- While the overall number of new diagnoses decreased, the number of persons aged 50 years and older at time of diagnosis has oscillated and accounted for as much as 17% in 2009 and 2014, and as few as 11% in 2015.

Figure 12.1 Number and percent of persons newly diagnosed with HIV at age 50 years and older, 2009-2018, San Francisco



1 Includes persons with HIV by year of their initial HIV diagnosis. See Technical Notes "Date of Initial HIV Diagnosis."

- Between 2009 and 2018, a higher proportion of women, whites, African Americans, PWID, and heterosexuals were diagnosed at the age of 50 years and older compared to those who were younger at time of diagnosis.
- Of those diagnosed at the age of 50 and older, 47% were 50-54 years old, 26% were 55-59 years old, 17% were 60-64 years old, and 10% were 65 years or older.

Table 12.2 Characteristics of persons newly diagnosed with HIV in 2009-2018 by age at diagnosis, San Francisco

		Age ≥ 50 years at diagnosis	Age < 50 years at diagnosis
		Number (%)	
	Total	**500**	**2,988**
Gender[1]	Men	414 (83)	2,699 (90)
	Women	81 (16)	179 (6)
	Trans Women	5 (1)	108 (4)
Race/Ethnicity	White	273 (55)	1,285 (43)
	African American	102 (20)	375 (13)
	Latinx	75 (15)	826 (28)
	Asian/Pacific Islander	26 (5)	352 (12)
	Other/Unknown	24 (5)	150 (5)
Transmission Category	MSM	284 (57)	2,124 (71)
	PWID	82 (16)	167 (6)
	MSM-PWID	47 (9)	370 (12)
	Heterosexual	55 (11)	153 (5)
	Other/Unidentified[2]	32 (6)	174 (6)
Age in Years	50-54	237 (47)	
	55-59	132 (26)	
	60-64	83 (17)	
	65+	48 (10)	

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

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

13 HIV among Trans Women

3%

OF ALL NEW HIV DIAGNOSES FROM 2009-2018 WERE AMONG TRANS WOMEN

- From 2009 through 2018, there were 113 trans women newly diagnosed with HIV in San Francisco comprising 3% of all persons diagnosed with HIV in this time period.
- Compared to all persons diagnosed with HIV in this time period, trans women were more likely to be non-white, persons who inject drugs (PWID), and younger; 44% of newly diagnosed trans women were 18-29 years old.

Table 13.1 Characteristics of trans women compared to all persons newly diagnosed with HIV in 2009-2018, San Francisco

		Trans Women HIV Cases[1]	All HIV Cases
		2009 - 2018	
		Number (%)	
	Total	**113**	**3,488**
Race/Ethnicity	White	18 (16)	1,558 (45)
	African American	31 (27)	477 (14)
	Latina	43 (38)	901 (26)
	Asian/Pacific Islander	13 (12)	378 (11)
	Other/Unknown	8 (7)	174 (5)
People who Inject Drugs	Yes	35 (31)	701 (20)
	No	78 (69)	2,787 (80)
Age at Diagnosis (Years)	13 - 17	1 (1)	12 (<1)
	18 - 24	28 (25)	448 (13)
	25 - 29	22 (19)	614 (18)
	30 - 39	38 (34)	1,049 (30)
	40 - 49	19 (17)	865 (25)
	50+	5 (4)	500 (14)

1 See Technical Notes "Gender Status."

- As of December 31, 2018, 31% of the 396 trans women living with HIV in San Francisco were African Americans and 36% were Latinas.
- 43% of trans women living with HIV were PWID.
- Similar to trans women newly diagnosed with HIV in 2009 to 2018, trans women living with HIV were more likely to be non-white, PWID, and younger ages when compared to all persons living with HIV in San Francisco.

Table 13.2 Characteristics of trans women living with HIV compared to all persons living with HIV, December 2018, San Francisco

		Trans Women PLWH[1]	All PLWH
		Number (%)	
	Total	**396**	**15,990**
Race/Ethnicity	White	71 (18)	9,314 (58)
	African American	122 (31)	1,908 (12)
	Latina	141 (36)	3,184 (20)
	Asian/Pacific Islander	39 (10)	993 (6)
	Other/Unknown	23 (6)	591 (4)
People who Inject Drugs	Yes	172 (43)	3,243 (20)
	No	224 (57)	12,747 (80)
Age in Years (at end of 2018)	13 - 17	0 (0)	4 (<1)
	18 - 24	5 (1)	98 (1)
	25 - 29	14 (4)	346 (2)
	30 - 39	85 (21)	1,727 (11)
	40 - 49	120 (30)	3,124 (20)
	50+	172 (43)	10,691 (67)

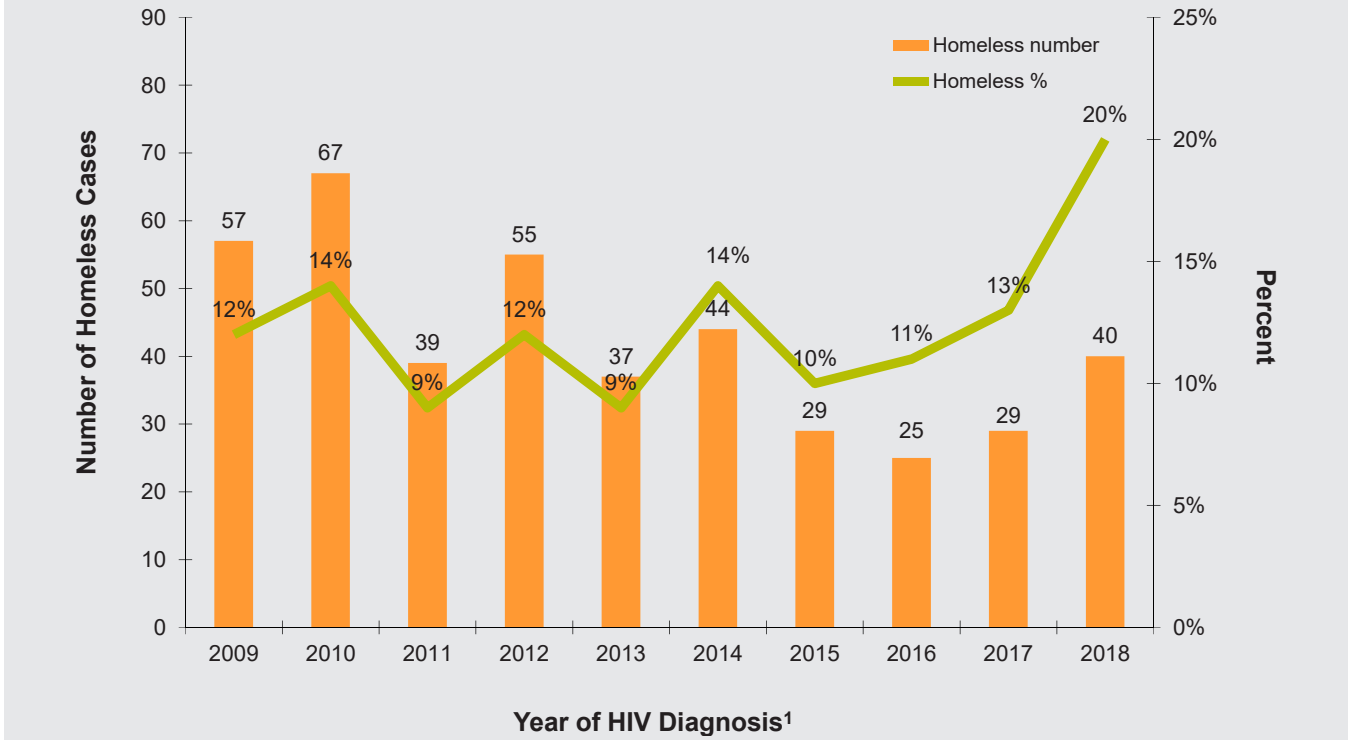
1 See Technical Notes "Gender Status."

14 Housing Status among Persons Living with HIV

- Among homeless persons newly diagnosed with HIV (See Technical Notes "Housing Status and Current Address") from 2009 through 2018, the number of diagnoses peaked at 67 in 2010, and in 2018 the number was 40.
- The proportion of new diagnoses among homeless individuals fluctuated but showed an overall increasing trend in the more recent years: 11% in 2016, 13% in 2017, and 20% in 2018 which was the highest during the 2009 to 2018 time period.

20%
OF NEW DIAGNOSES IN 2018 WERE HOMELESS

Figure 14.1 Number and percent of homeless persons newly diagnosed with HIV by year of diagnosis, 2009-2018, San Francisco



1 Includes persons with HIV by year of their initial HIV diagnosis. See Technical Notes "Date of Initial HIV Diagnosis."

- Compared to all persons diagnosed with HIV in 2009 to 2018, persons who were homeless at time of HIV diagnosis were more likely to be women or trans women, African American, persons who inject drugs (PWID), and men who have sex with men and who also inject drugs (MSM-PWID).

Table 14.1 Characteristics of homeless persons compared to all persons newly diagnosed with HIV in 2009-2018, San Francisco

		HIV Cases, 2009-2018	
		Homeless	All
		Number (%)	
	Total	422	3,488
Gender[1]	Men	328 (78)	3,113 (89)
	Women	56 (13)	260 (7)
	Trans Women	38 (9)	115 (3)
Race/Ethnicity	White	173 (41)	1,558 (45)
	African American	104 (25)	477 (14)
	Latinx	102 (24)	901 (26)
	Asian/Pacific Islander	10 (2)	378 (11)
	Other/Unknown	33 (8)	174 (5)
Transmission Category	MSM	127 (30)	2,408 (69)
	TWSM	25 (6)	78 (2)
	PWID	108 (26)	249 (7)
	MSM-PWID	106 (25)	417 (12)
	TWSM-PWID	13 (3)	35 (1)
	Heterosexual	32 (8)	208 (6)
	Other/Unidentified	11 (3)	93 (3)
Age at Diagnosis (Years)	13 - 17	1 (<1)	12 (<1)
	18 - 24	67 (16)	448 (13)
	25 - 29	82 (19)	614 (18)
	30 - 39	117 (28)	1,049 (30)
	40 - 49	89 (21)	865 (25)
	50+	66 (16)	500 (14)

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

- A total of 7,849 persons living with HIV (PLWH) had residential housing status or address information collected or updated in 2018.
- Eight percent of PLWH with housing status or address in 2018 were homeless or lived in a Single-Room Occupancy (SRO) facility during 2018.
- Among persons who were homeless or lived in a SRO facility during 2018, there were higher proportions of women, trans women, African Americans, Latinx persons, PWID, MSM-PWID, and persons in younger age groups (25-29 years, 30-39 years, 40-49 years), compared to all PLWH.

Table 14.2 Characteristics of persons who were homeless or lived in SRO facility during 2018 compared to all PLWH

		PLWH as of 12/31/2018[1]	
		Ever homeless or SRO in 2018	All
		Number (%)	
	Total	**601**	**7,849**
Gender	Men	485 (81)	7,142 (91)
	Women	70 (12)	509 (6)
	Trans Women	46 (8)	198 (3)
Race/Ethnicity	White	261 (43)	4,516 (58)
	African American	127 (21)	970 (12)
	Latinx	152 (25)	1,548 (20)
	Asian/Pacific Islander	31 (5)	505 (6)
	Other	30 (5)	310 (4)
Transmission category	MSM	242 (40)	5,723 (73)
	TWSM	25 (4)	117 (1)
	PWID	110 (18)	456 (6)
	MSM-PWID	165 (27)	1,055 (13)
	TWSM-PWID	20 (3)	74 (1)
	Heterosexual	30 (5)	309 (4)
	Other/Unidentified	9 (1)	115 (1)
Age in years (as of 12/31/2018)	13-24	7 (1)	69 (1)
	25-29	34 (6)	224 (3)
	30-39	134 (22)	899 (11)
	40-49	130 (22)	1,522 (19)
	50-59	192 (32)	2,781 (35)
	60-69	87 (14)	1,830 (23)
	70+	17 (3)	524 (7)

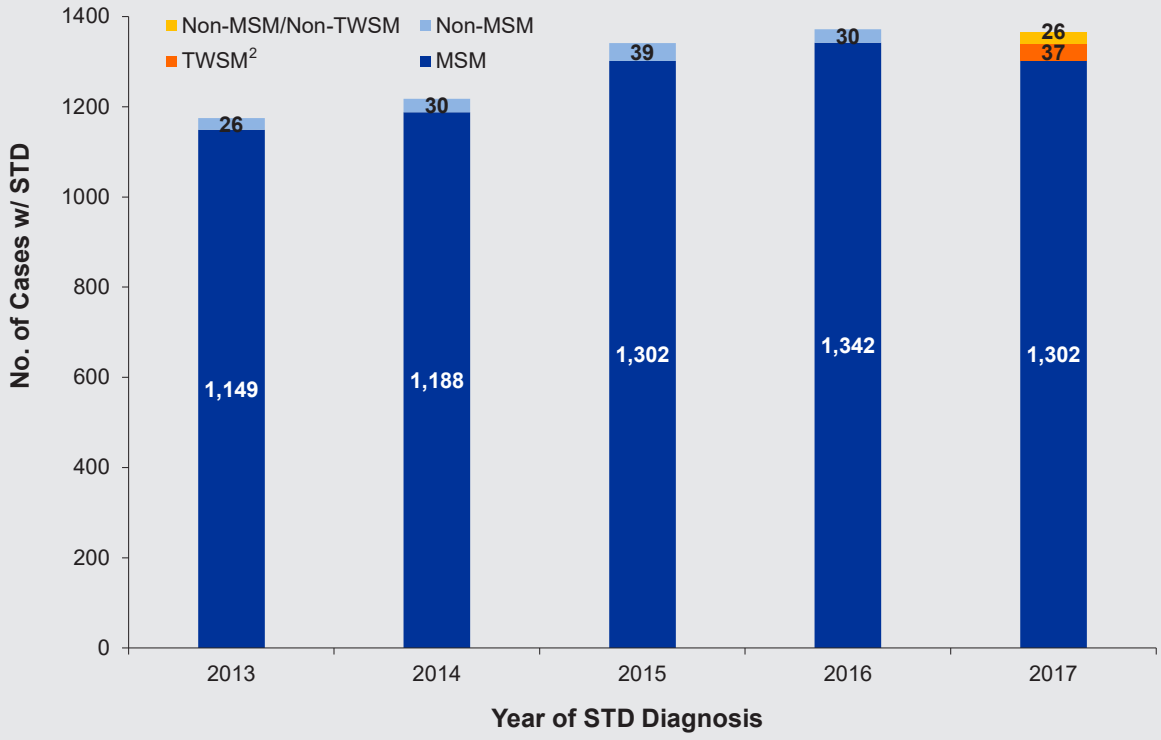
1 PLWH as of 12/31/2018 diagnosed in San Francisco at any HIV stage with residential housing status or address information in 2018.

15 Persons Co-infected with HIV and Sexually Transmitted Diseases

>95%
OF STD DIAGNOSES AMONG PLWH WERE MSM FROM 2013-2017

- From 2013 to 2017, the number of sexually transmitted disease (STD) diagnoses among persons living with HIV (PLWH) rose from 1,175 in 2013 to 1,365 in 2017. The majority of cases (>95%) were among men who have sex with men (MSM).
- Overall, the increase coincided with the upward trend shown in early syphilis (Figure 7.4 on page 60) and in male gonorrhea (Figure 7.3 on page 59) reported from 2006 through 2017 among MSM diagnosed with HIV.

Figure 15.1 Number of STD diagnoses[1] among persons living with HIV by year of STD diagnosis, 2013-2017, San Francisco



1 See Technical Notes "HIV and STD Co-infection."
2 TWSM were included in MSM transmission category from 2013 to 2016 and were shown separately beginning in 2017.

- The majority of PLWH diagnosed with an STD from 2013 through 2017 were men, white, and aged 40-49 years at time of STD diagnosis.
- There were small increases in the proportions of Latinx and declines in the proportions of whites who were diagnosed with an STD.
- The proportion of PLWH diagnosed with an STD at age 50 or older increased from 24% in 2013 to 34% in 2017, while the proportion of those aged 40-49 declined during the same period of time.

Table 15.1 Demographic characteristics of persons living with HIV who were diagnosed with STD[1], 2013-2017, San Francisco

		Year of STD diagnosis				
		2013	2014	2015	2016	2017
		Number (%)				
Gender[2]	Men	1,147 (98)	1,181 (97)	1,286 (96)	1,312 (96)	1,311 (96)
	Women	6 (1)	12 (1)	19 (1)	14 (1)	16 (1)
	Trans Women	22 (2)	25 (2)	36 (3)	46 (3)	37 (3)
Race/Ethnicity	White	690 (59)	702 (58)	738 (55)	728 (53)	715 (52)
	African American	104 (9)	103 (8)	118 (9)	119 (9)	114 (8)
	Latinx	269 (23)	284 (23)	331 (25)	366 (27)	366 (27)
	Asian/Pacific Islander	80 (7)	85 (7)	94 (7)	107 (8)	112 (8)
	Other/Unknown	32 (3)	44 (4)	60 (4)	52 (4)	58 (4)
Age at STD Diagnosis (years)	13 - 29	141 (12)	155 (13)	157 (12)	166 (12)	135 (10)
	30 - 39	291 (25)	287 (24)	300 (22)	312 (23)	326 (24)
	40 - 49	471 (40)	460 (38)	486 (36)	440 (32)	433 (32)
	50 - 59	230 (20)	247 (20)	326 (24)	361 (26)	356 (26)
	60 +	42 (4)	69 (6)	72 (5)	93 (7)	115 (8)
Total		1,175	1,218	1,341	1,372	1,365

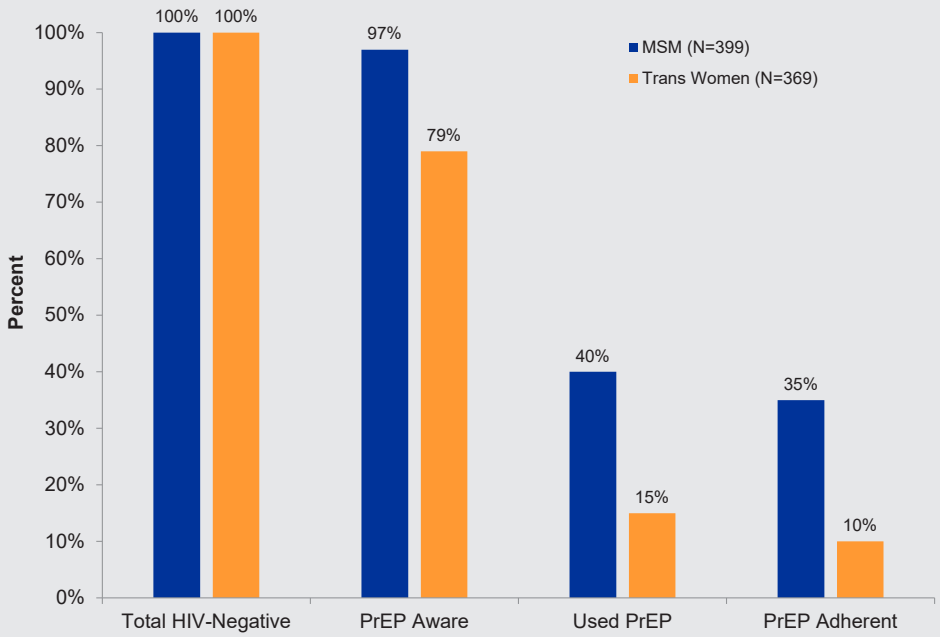
1 See Technical Notes "HIV and STD Co-infection."

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

16 Pre-Exposure Prophylaxis

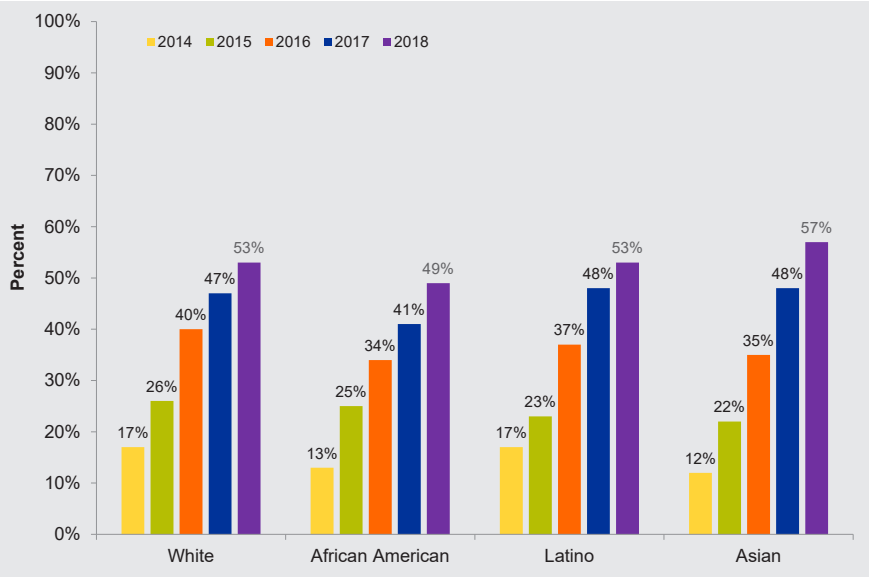
- Key indicators of the PrEP continuum were evaluated from two population-based studies; 369 HIV-negative trans women from Trans*National Study, 2016-2018 and 399 men who have sex with men (MSM) from National HIV Behavioral Surveillance System, 2017
- Compared to MSM, trans women were less likely to be aware of PrEP, less likely to have used PrEP in the past 6 months, and less likely to report being PrEP adherent (defined as using PrEP daily or almost daily).

Figure 16.1 PrEP Cascade among MSM and trans women, 2016-2018, San Francisco



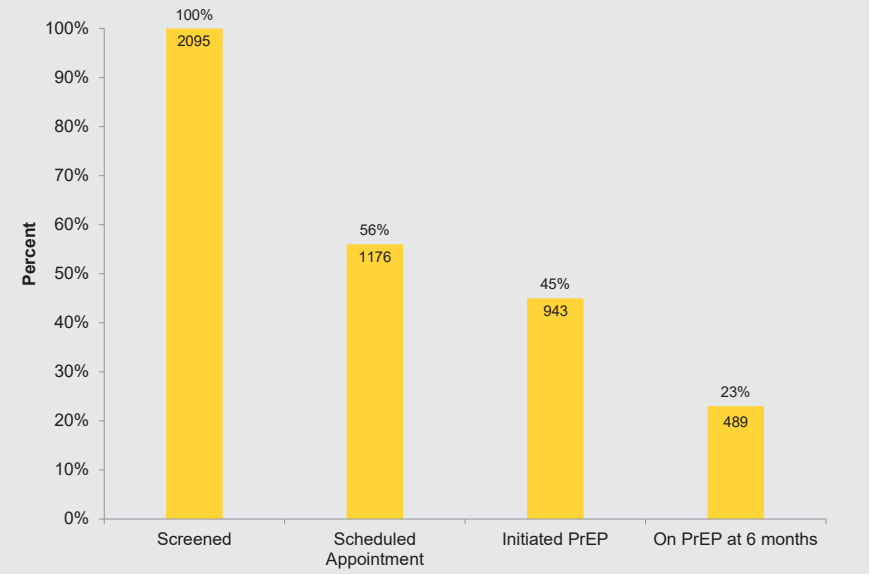
- PrEP use among MSM increased over time among all races. However, in recent years, African-American MSM had lower proportions of PrEP use compared to MSM of all other races.

Figure 16.2 Proportion of MSM currently on PrEP by race/ethnicity, San Francisco City Clinic patients, 2014-2018



- Between August 2016 and March 2019, 2,095 clients were screened for PrEP eligibility at selected community based organizations in San Francisco, 56% (N=1,176) were scheduled an appointment to discuss PrEP, 45% (N=943) initiated PrEP, and 23% (N=489) were on PrEP at six months follow-up.

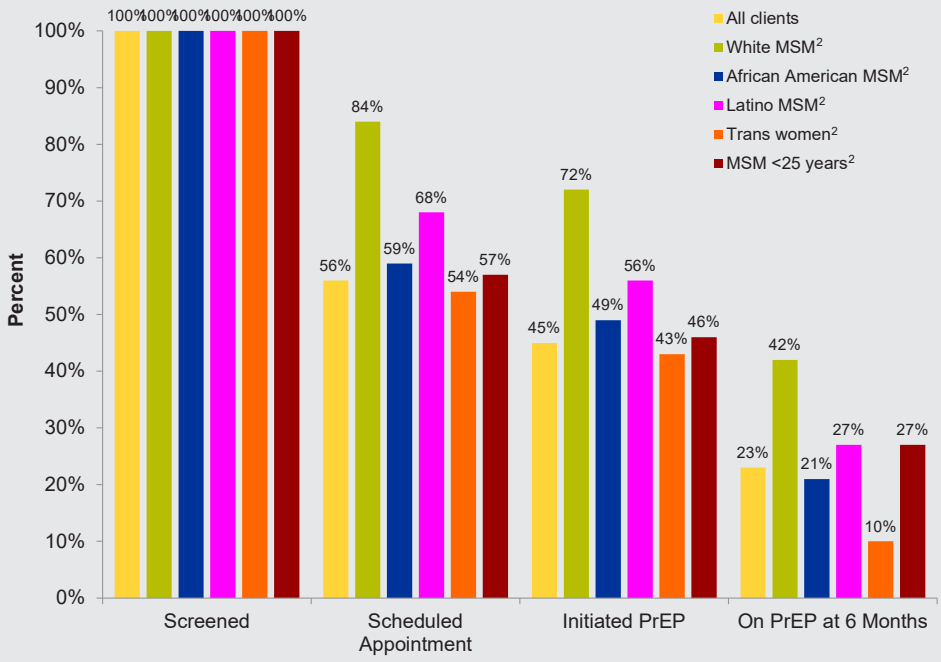
Figure 16.3 PrEP screening, appointments and PrEP initiation among clients being served by selected community based organizations[1], San Francisco, August 2016 - March 2019



1 Community Based Organizations included API Wellness, Lyric, San Francisco AIDS Foundation, Instituto de la Raza, and Alliance Health Project.

- Of the 2,905 clients screened for PrEP, white MSM were most likely to schedule an appointment (84%) followed by Latino MSM (68%). Trans women (54%) and young MSM under the age of 25 (57%) were less likely to schedule an appointment. PrEP initiation was highest among white MSM (72%) and Latino MSM (56%) and lowest among trans women (43%) and young MSM (46%). White MSM (42%) were most likely to be on PrEP at six months and trans women (10%) were least likely to be on PrEP.

Figure 16.4 PrEP Cascade among clients being served by selected community based organizations[1], San Francisco, August 2016 - March 2019



1 Community Based Organizations included API Wellness, Lyric, San Francisco AIDS Foundation, Instituto de la Raza, and Alliance Health Project.
2 These groups are priority populations and not mutually exclusive.

17 Stigma among Persons with HIV

- Data from the 2015-2017 cycles of the Medical Monitoring Project (see Technical Notes "Medical Monitoring Project") were used to measure prevalence of four dimensions of HIV stigma since HIV diagnosis: disclosure concerns, concerns with public attitudes about HIV, personalized HIV stigma and negative self-image.
- The most common types of stigma were disclosure concerns (68%) and personalized stigma (49%).
- Trans women had higher disclosure concerns and personalized stigma compared to men and women.
- All four stigma dimensions were lower for those 55 years of age and older.
- Concerns with public attitudes, personalized stigma and negative self-image were lowest in persons self-identifying as lesbian or gay compared to other sexual orientations.
- Individuals experiencing homelessness reported higher levels of stigma for all four stigma dimensions.

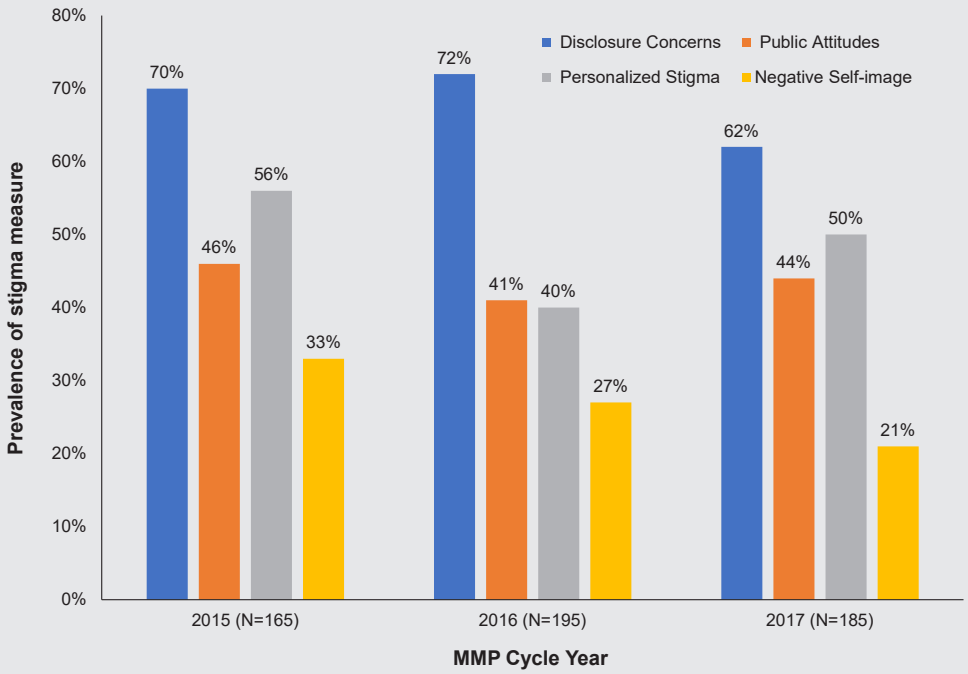
Table 17.1 Prevalence of stigma measures[1] by demographic factors, Medical Monitoring Project, 2015-2017, San Francisco

			Disclosure Concerns[2]	Public Attitudes[3]	Personalized Stigma[4]	Negative Self-image[5]
		Number	Row %			
	Total	**545**	**68%**	**44%**	**49%**	**27%**
Gender Identity[6]	Men	505	68%	43%	48%	27%
	Women	30	74%	56%	52%	29%
	Trans Women	9	88%	52%	55%	20%
Age (years)	18 - 34	48	78%	55%	48%	27%
	35 - 44	81	74%	51%	60%	40%
	45 - 54	173	68%	42%	55%	27%
	55+	243	64%	40%	39%	22%
Race/Ethnicity	White	301	66%	37%	54%	24%
	African American	71	72%	49%	41%	23%
	Latinx	110	70%	51%	43%	30%
	Asian/Pacific Islander	30	87%	52%	41%	25%
	Multi-race/Other	33	62%	57%	45%	51%
Self-identified Sexual Orientation	Lesbian or gay	419	68%	41%	48%	25%
	Straight or heterosexual	66	74%	52%	51%	31%
	Bisexual	40	58%	55%	49%	34%
	Other	17	87%	58%	63%	30%
Education	Less than college	297	62%	46%	49%	29%
	Bachelors degree or higher	244	76%	41%	49%	24%
Country of Birth	US or Puerto Rico	438	67%	41%	50%	26%
	Foreign born	103	75%	56%	46%	33%
Time since HIV Diagnosis	<5 years	61	76%	48%	36%	25%
	5 - 9 years	86	80%	51%	59%	37%
	≥ 10 years	398	64%	42%	48%	25%
Housing Status[7]	Housed	452	67%	41%	46%	25%
	Homeless	93	74%	56%	62%	34%
Poverty Level	Above poverty level	375	69%	39%	46%	24%
	At or below poverty level	161	68%	55%	58%	33%

1 Stigma prevalence counted as "agree" or "strongly agree" to each stigma dimension as outlined below.
2 "I am very careful who I tell that I have HIV" or "I worry that people who know I have HIV will tell others."
3 "Most people think that a person with HIV is disgusting" or "Most people with HIV are rejected when others find out."
4 "I have been hurt by how people reacted to learning I have HIV" or "I have stopped socializing with some people because of their reactions of my having HIV" or "I have lost friends by telling them I have HIV."
5 "I feel that I am not as good a person as others because I have HIV" or "Having HIV makes me feel unclean" or "Having HIV makes me feel that I'm a bad person."
6 Gender identity is measured by self-reported sex at birth and current gender identity. Data for trans men not shown in order to protect confidentiality due to small cell count.
7 Homeless defined as living in a single room occupancy hotel (SRO), in a shelter, on the street or in a car at any point in the past 12 months.

- Figure 17.1 shows that disclosure concerns among persons living with HIV in San Francisco went from 70% in 2015 to 62% in 2017.
- Concerns with public attitudes about HIV and personalized stigma stayed relatively stable from 2015 to 2017.
- The prevalence of negative self-image was 33% in 2015 and 21% in 2017.
- Trends for stigma are difficult to assess because these measures account for any stigma experienced since time of HIV diagnosis.

Figure 17.1 Prevalence of stigma measures[1] by Medical Monitoring Project, 2015-2017, San Francisco

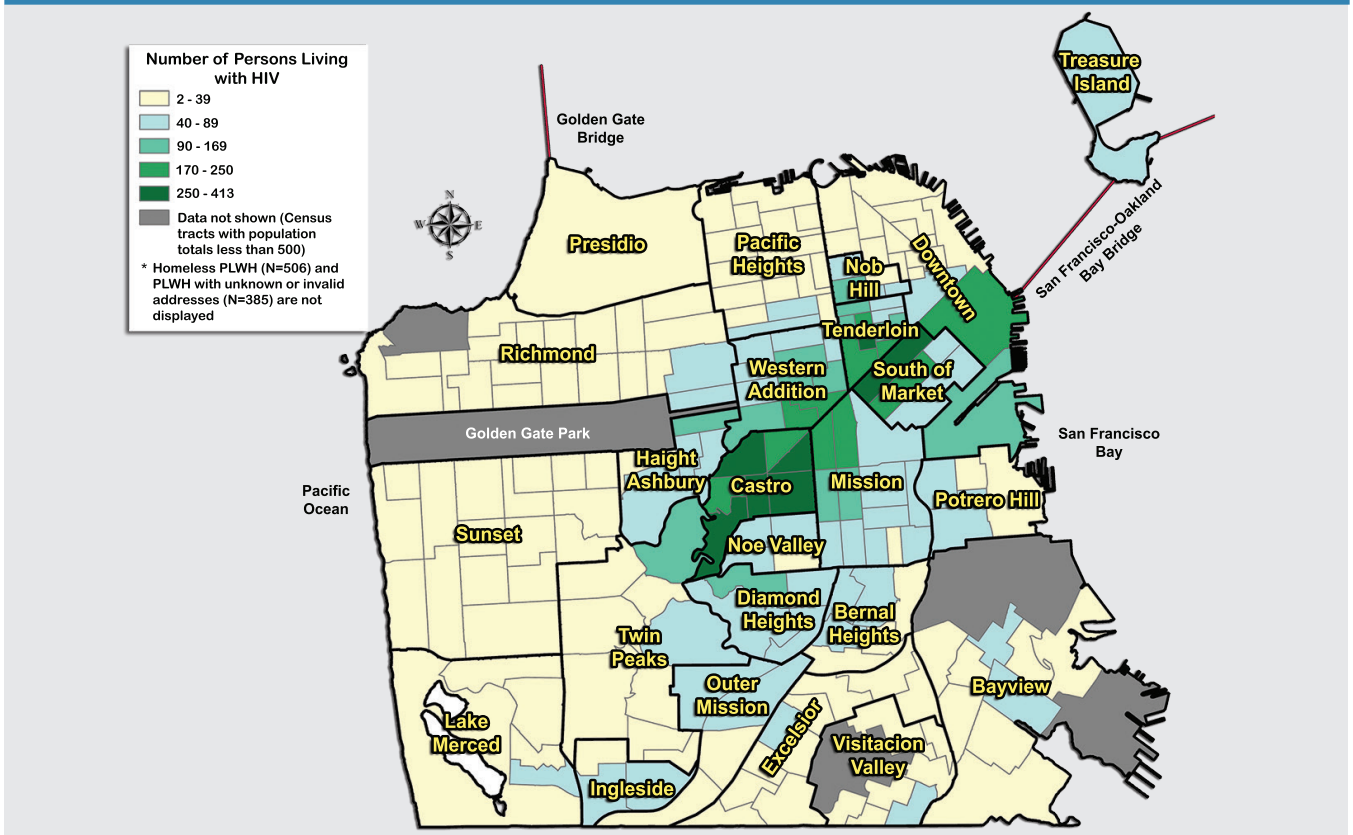


1 Stigma prevalence counted as "agree" or "strongly agree" to each stigma dimension as outlined below.
2 "I am very careful who I tell that I have HIV" or "I worry that people who know I have HIV will tell others."
3 "Most people think that a person with HIV is disgusting" or "Most people with HIV are rejected when others find out."
4 "I have been hurt by how people reacted to learning I have HIV" or "I have stopped socializing with some people because of their reactions of my having HIV" or "I have lost friends by telling them I have HIV."
5 "I feel that I am not as good a person as others because I have HIV" or "Having HIV makes me feel unclean" or "Having HIV makes me feel that I'm a bad person."

18 Geographic Distribution of Persons with HIV

- Approximately 38% of persons living with HIV (PLWH) who resided in San Francisco at time of diagnosis have since moved out of the city.
- There were 12,754 current San Francisco residents living with HIV as of December 31, 2018, regardless of their residence at HIV diagnosis. By neighborhood, Castro had the highest number of PLWH (N=1,944) followed by Tenderloin (N=1,562) and Western Addition (N=1,341).
- The Castro, Tenderloin, and South of Market neighborhoods had census tracts with the highest numbers of PLWH (shown in the darker shades of green). The South of Market census tract along Market Street had the largest number of PLWH (N=413) followed by four census tracts in the Castro. The Tenderloin also contains smaller census tracts with a high number of PLWH, a reminder of the higher density of persons in these areas.

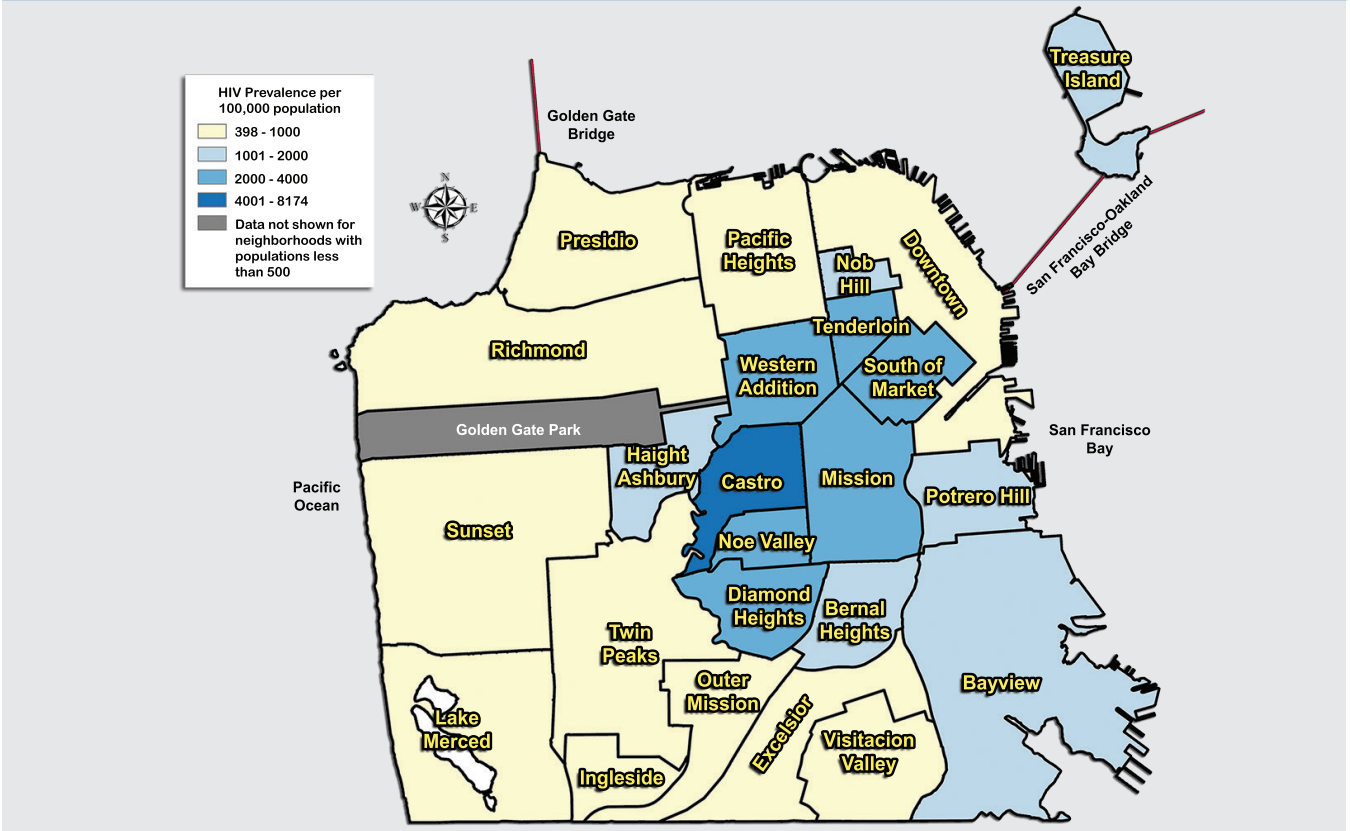
Map 18.1 Geographic distribution[1] of persons living with HIV who resided in San Francisco as of December 2018



1 The current address for PLWH was geocoded and displayed at census tract and neighborhood level on the map. The most current address is taken from the dataset dated on April 15, 2019 and may reflect addresses after December 31, 2018. Last known addresses are obtained through chart review, laboratory reports, and communications with other jurisdictions.

- The Castro had the highest HIV prevalence of 8,174 per 100,000, followed by the Tenderloin (3,982 per 100,000), South of Market (3,841 per 100,000) and Western Addition (3,312 per 100,000).

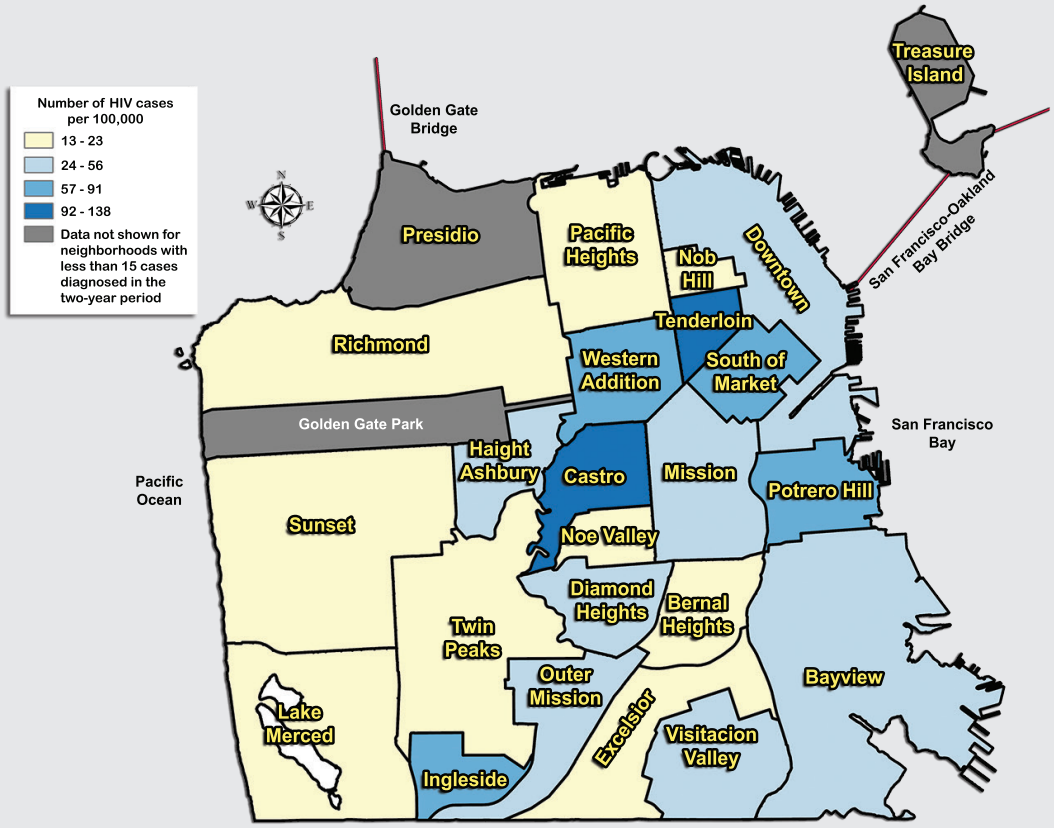
Map 18.2 HIV prevalence per 100,000 population by neighborhood, 2018, San Francisco



- The Tenderloin had the highest rate of new diagnoses[1] in 2017-2018 (138 per 100,000), followed by the Castro (126 per 100,000) and South of Market neighborhoods (91 per 100,000).

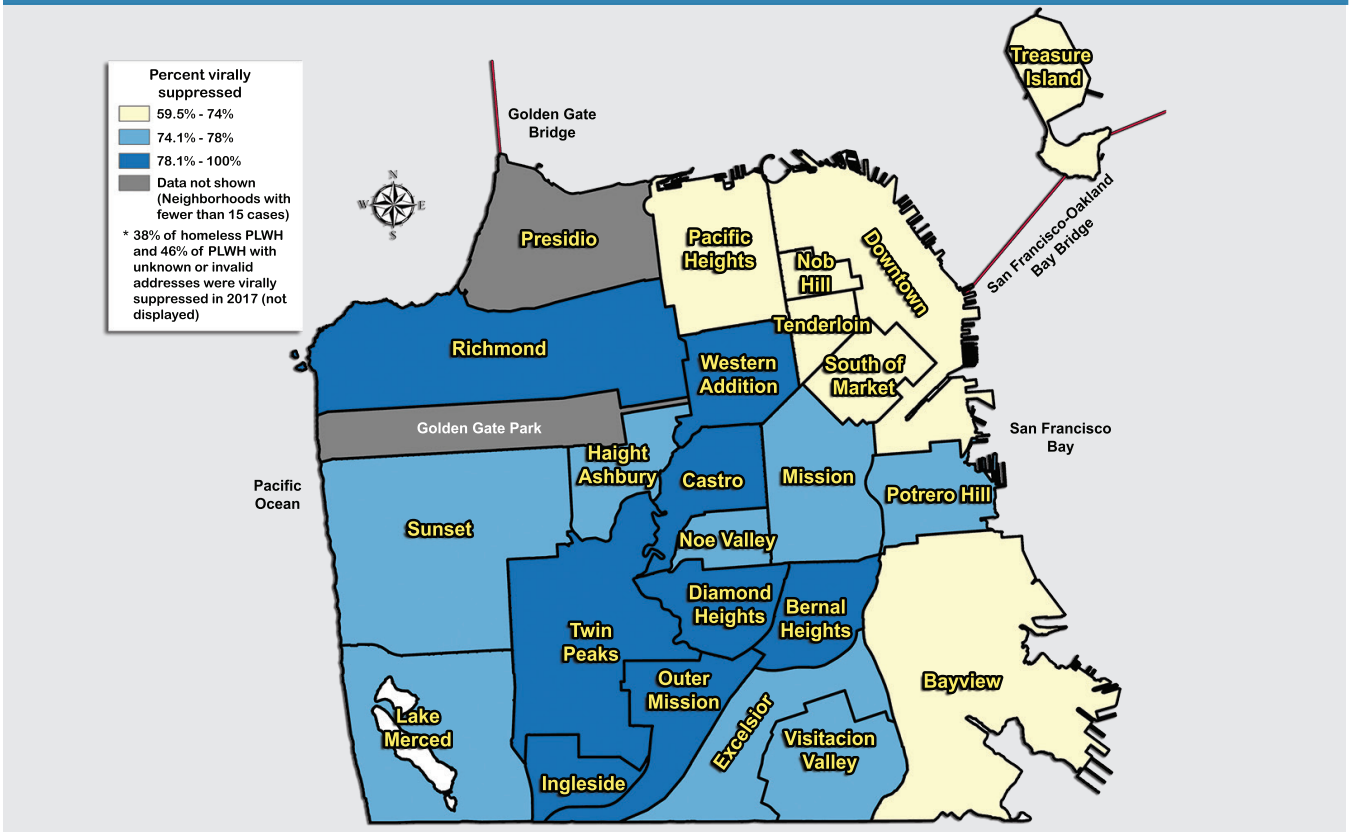
1 Two-year diagnosis rate numerators represent two years of diagnosed cases.

Map 18.3 Geographic distribution of rates of HIV diagnosis per 100,000 population per two years for persons newly diagnosed in 2017-2018, San Francisco



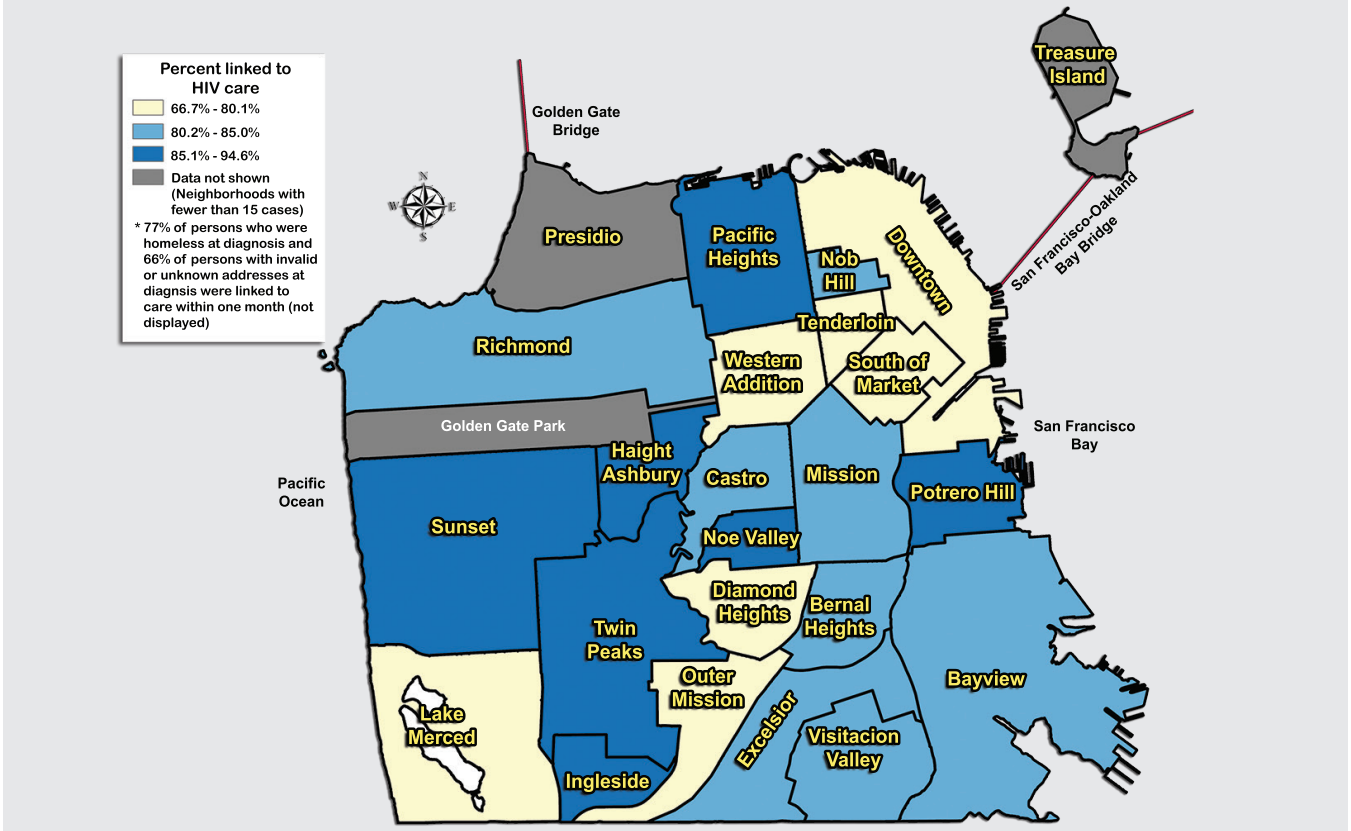
- Overall, 74% of PLWH were virally suppressed in 2017. All but seven neighborhoods were above this overall mark. These seven neighborhoods include Treasure Island (60%), Tenderloin (69%), Pacific Heights (71%), South of Market (72%), Bayview and Nob Hill (73% each), and Downtown (74%).

Map 18.4 Geographic distribution of proportion of persons living with HIV as of December 2017 and diagnosed through 2016 who were virally suppressed in 2017, San Francisco



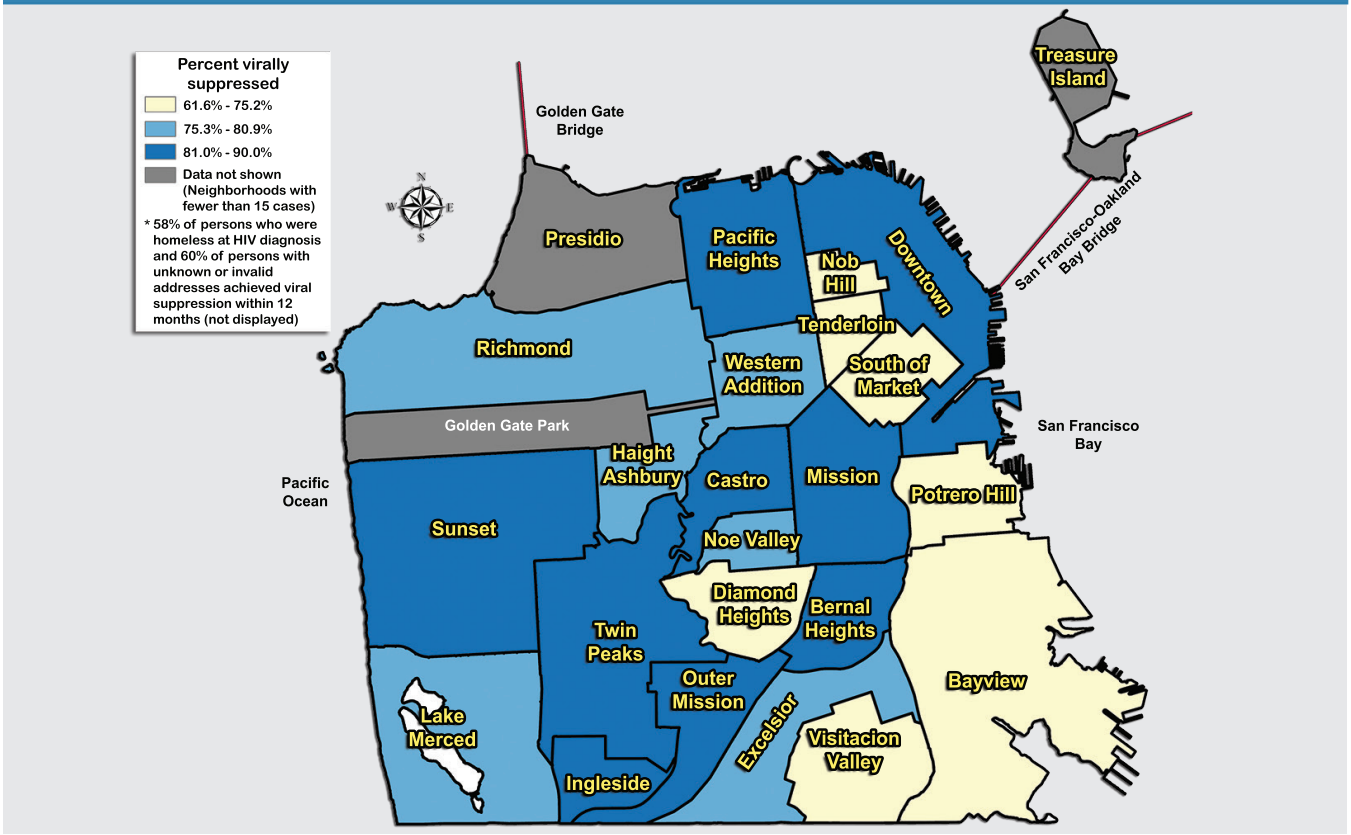
- From 2013 to 2017, 80% of the 1,533 newly diagnosed San Francisco residents were linked into care within one month of their diagnosis.
- Lake Merced had the lowest linkage to care proportion (67%) followed by South of Market (71%) and Diamond Heights (72%).

Map 18.5 Geographic distribution of proportion of persons newly diagnosed with HIV in 2013-2017 who were linked to care within one month of diagnosis, San Francisco



- Among newly diagnosed San Francisco residents from 2013 to 2017, 75% reached viral suppression within 12 months after HIV diagnosis.
- Seven neighborhoods had viral suppression below this overall level. The Visitacion Valley neighborhood had the lowest proportion virally suppressed (62%), followed by Diamond Heights (64%), Potrero Hill (65%), and South of Market (67%).
- Despite showing high linkage in care after diagnosis, newly diagnosed residents of Potrero Hill did not successfully achieved viral suppression.

Map 18.6 Geographic distribution of proportion of persons newly diagnosed with HIV in 2013-2017 who achieved viral suppression within 12 months of diagnosis, San Francisco



Technical Notes
(in alphabetic order by topic)

CD4-based Model

The CD4-based model uses HIV surveillance data and the first CD4 value after diagnosis to estimate HIV incidence (diagnosed and undiagnosed persons newly acquired HIV), HIV prevalence (diagnosed and undiagnosed persons living with HIV), and percentage of undiagnosed infections.

The date of HIV acquisition is estimated for each person with a CD4 test by using a CD4 depletion model[1]. To account for persons without a CD4 test result, persons with CD4 test results are assinged 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 specified 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, which includes persons with diagnosed and undiagnosed infection.

HIV prevalence, which represents counts of persons with diagnosed or undiagnosed HIV infection who were alive at the end of a given year, is estimated by subtracting reported cumulative deaths from cumulative infections. The number of persons with undiagnosed HIV infection is estimated by subtracting the number of persons living with diagnosed infection from total prevalence. The percentage of diagnosed (or undiagnosed) infections is determined by dividing the number of persons 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) persons received no treatment before the first CD4 test; (3) all data adjustments (e.g., multiple imputation for missing values of transmission category, weighting to account for cases without a CD4 test) are unbiased; 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).

Date of Initial HIV Diagnosis

The date of HIV diagnosis for newly diagnosed cases is determined 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. The date of initial HIV diagnosis for assessing trends in new HIV diagnoses in this report 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 cases diagnosed may be underestimated due to reporting delays.

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 DeficSyndr. 2017 Jan 1; 74(1):3-9.

Death Ascertainment

Death information among persons reported with HIV is obtained through the following mechanisms: (1) monthly matches with local vital statistics registry, (2) Social Security Death Master File (3) National Death Index (NDI), (4) medical record review, (5) notification from other health department, and (6) matches with other disease registry databases. Matches to the NDI occur twice per calendar year, once through the NDI Early Release Program (https://www.cdc.gov/nchs/ndi/ndi_early_release.htm), and once through 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 (https://www.cdc.gov/nchs/ndi/index.htm [accessed August 14, 2019]). 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 2017. Decedents through 2017 have been matched to the NDI final file; cause of death information in this report is available for deaths through 2017. NDI information for 2018 decedents was not available at the time of this report's preparation. Data for deaths in 2018 are provisional.

Deaths classified as B20-B24 and all 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 in the NDI Early Release file may later be reclassified in the NDI final file.

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

Estimate of ART Use

Information on ART use is obtained from medical chart review. Using surveillance data to estimate use of ART will most likely result in an underestimate of ART use. The underestimate occurs because use of ART is collected at the time a person with HIV infection is reported (which is often close to the time that they are diagnosed), a time when some people have not yet begun treatment. The San Francisco Department of Public Health (SFDPH) collects follow-up information from selected health care facilities. For persons who receive care at these sites, treatment data are likely to be more complete because it allows us to capture the use of ART after diagnosis and the date the case report was completed. Follow-up information is not available for persons who have moved away from San Francisco or who receive ongoing care outside of the city. Surveillance data

provide information that indicates when a person was prescribed ART but does not provide information on adherence. Persons whose medical records indicate that they were prescribed ART are assumed to have received it.

The lower level estimate of ART use (Table 3.7 on page 26) was calculated among all cases living with HIV. The upper level estimate (Table 3.7 on page 26, Figure 3.4 on page 27) was calculated among cases who had follow-up information within the last two years, whose chart review was completed between January 2017 and April 2019, and who were not known to have moved out of San Francisco.

Female Presumed Heterosexual Contact

In 2010 the CDC HIV Incidence and Case Surveillance Branch accepted a definition for female presumed heterosexual contact to reclassify the transmission category for adult female cases who would otherwise be reported with no identified risk. The definition for female presumed heterosexual contact was first proposed by the Council of State and Territorial Epidemiologists[2]. 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 is 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.

Gender Status

As part of routine HIV case surveillance, sex at birth is collected. People who are classified as female at birth and have no other gender identity noted are classified as women. People who are classified as male at birth and have no other gender identity noted are classified as men. In September 1996, SFDPH began collecting transgender status when this information is contained in the medical record. Transgender individuals are listed as either trans women or trans men. Due to the small number of cases among trans men and small population size, data on trans men are sometimes suppressed in this report to protect confidentiality. We believe that our report likely underestimates the number of trans women and trans men affected by HIV because data collected for HIV reporting are derived from the medical record. Consequently, information that may be discussed with the health care provider but not recorded in the medical record is 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 persons 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 Asian/Pacific Islander, Native American, and

2 Council of State and Territorial Epidemiologists Positions statements 2007: Heterosexual HIV transmission classification. Available from http://c.ymcdn.com/sites/www.cste.org/resource/resmgr/PS/07-ID-09.pdf

people of multiple race. Whenever possible, this report presents 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, persons acquiring HIV perinatally, or persons of unidentified risk.

HIV and STD Co-infection

The diagnosis of STD among PLWH was determined through a computerized match of the SFDPH HIV and STD case registries. The data from the STD registry included persons reported with gonorrhea, chlamydia, non-gonococcal urethritis, or infectious syphilis. All STD occurred after the HIV diagnosis.

HIV Care Outcomes and Definitions

The SFDPH monitors engagement in care and care outcomes among persons newly diagnosed and living with HIV using reports of CD4, 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 12 months of diagnosis were assessed. For PLWH, receipt of care (one laboratory test), retention in care (two laboratory tests) and viral suppression in the specified calendar year were assessed.

Complete laboratory reporting of HIV-related test results is critical to evaluating care outcomes and data-to-care activities (using HIV surveillance and other data sources to identify persons with HIV who may not be in care, conduct outreach, and provide linkage to care and other support or prevention services). Incomplete care information may result for persons who received care outside of San Francisco or participated in research studies in which the test results were not reported to SFDPH (Note California laws require laboratory 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 but do not have any laboratory tests performed in the time period assessed.

HIV Case Rates and HIV Mortality Rates

Annual race-specific rates are calculated as the number of cases diagnosed for a particular racial/ethnic group during each year divided by the San Francisco population for that race/ethnicity, multiplied by 100,000. Age-adjusted mortality rates are calculated for persons 18 and over. For each race/ethnicity and sex group, the number of HIV cases who died each year was divided by projected San Francisco population estimates across seven age groups (18-29, 30-39, 40-49,50-59,60-69,70-79, 80+) to generate crude rates applied to the standard population, defined using the California population estimates from the Department of Finance. These rates are calculated separately for males and females. The annual populations are not available for transgender

persons. Population denominators by year are obtained from the State of California, Department of Finance, Demographic Research Unit, in two sources: the California Intercensal Population Estimates[3] and California Population Projections[4] (http://www.dof.ca.gov/Forecasting/Demographics/Projections/).

HIV Disease Stage 3 (AIDS) Survival

Survival was calculated as the time between the date of HIV stage 3 (AIDS) diagnosis and the date of death. This analysis included persons 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 other health departments, 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, 2017. Survival reflects deaths that are HIV as well as non-HIV related. Persons not known to have died were censored on the date of their last known follow-up or on December 31, 2017, whichever was more recent.

HIV Surveillance Methods

San Francisco HIV cases are 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 report forms. HIV cases are also identified through passive reporting, 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 are routinely de-duplicated with other California counties, states, and U.S. territories. The surveillance system is evaluated regularly for completeness, timeliness, and accuracy.

The completeness of case reporting of HIV diagnoses in 2017 was evaluated (at 12 months after the diagnosis year) and found to be 98% (using CDC-developed reporting delay model). In terms of timeliness, an estimated 97% of 2017 diagnoses were reported within six months of HIV diagnosis.

The HIV data in this report include persons who were residents of San Francisco at the time they were diagnosed with HIV (all disease stages) including San Francisco residents who were diagnosed in other jurisdictions. Within Section One and Three, this report also describes counts of cases who resided outside San Francisco but were diagnosed by a provider or facility within San Francisco (out-of-jurisdiction, OOJ, residents) or cases who were diagnosed elsewhere but moved to San Francisco after their diagnosis. San Francisco started name-based case reporting for HIV cases in April 2006, as mandated by California law. Beginning in 2009 case surveillance and reporting of OOJ residents newly diagnosed with HIV was conducted in the same manner as San Francisco residents. All cases included in this report were reported confidentially by name.

3 State of California, Department of Finance, Race/Hispanics Population with Age and Gender Detail, 2000–2010. Sacramento, California, September 2012.
4 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, December 2014.

Housing Status and Current Address

The housing status for HIV cases is 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 is 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.

Persons with missing address information are not classified as homeless. Persons are also considered "not homeless" if they reside in (1) single room occupancy (SRO) facility, (2) transitional housing, (3) partner's, family member's, or other non-family member's residence, (4) institutional facility (examples: hospice, inpatient drug/alcohol recovery facility, facility housing physically/mentally disabled, residential treatment program, correctional facility, long-term care facility).

Linkage Integration Navigation Comprehensive Services

Linkage Integration Navigation Comprehensive Services (LINCS) is a program maintained by SFDPH that helps PLWH re-engage with care. Since 2011, health care navigators on the LINCS team have worked at San Francisco City Clinic and other SFDPH sites to address patient needs, including difficulties in finding insurance, attending care appointments and adhering to medication. Patients may come to LINCS through direct referral by a provider or, more recently, through not-in-care lists generated from HIV surveillance or medical record databases. LINCS programmatic data were used to define patient's gender, race/ethnicity and housing status. Trans women were defined as either being transgender in HIV surveillance or in LINCS programmatic data. Transmission category was determined from HIV surveillance data.

Medical Monitoring Project

The Medical Monitoring Project (MMP) is an ongoing CDC-funded national HIV/AIDS supplemental surveillance project. San Francisco is one of 23 project areas currently conducting MMP. Two-stage sampling is used to sample adults with diagnosed HIV and a most recent address reported in the National HIV Surveillance System of San Francisco. Information about care utilization, clinical outcomes, resource needs, and HIV risk behaviors is collected through patient interviews and medical chart review. Interview and medical record abstraction data from 545 participants from the 2015-2017 San Francisco MMP cycles were used in this report. Data were weighted for the probability of selection, non-response and reporting delay. Prevalence estimates are weighted percentages and might not sum to 100 because of rounding.

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 occur and the residence at time of diagnosis may differ from the current residence among PLWH, SFDPH collects and updates 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 receive care in San Francisco.

Care indicators (defined by using CD4, viral load, or genotype tests) were assessed for both PLWH who were San Francisco residents at diagnosis (Table 3.3 on page 22) and PLWH known to reside in San Francisco, based on their most recent available residence at the end of the calendar year assessed, regardless of their residence at time of diagnosis (Table 3.4 on page 22). The latter excludes San Francisco residents at diagnosis who subsequently moved outside of San Francisco and includes persons who resided elsewhere at time of HIV diagnosis and moved to San Francisco after diagnosis.

The extent of care utilization and HIV case migration patterns cannot be fully understood until more complete laboratory and residence information is collected and shared between jurisdictions.

Stage of Disease at HIV Diagnosis

In 2014, the United States surveillance case definition[5] 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 to five stages of HIV infection as described below. With the new case definition, stages 1-3 are classified on the basis of the first CD4 T-lymphocyte count and age on date of CD4 T-lymphocyte test, unless there is a stage-3-defining opportunistic illness. The CD4 T-lymphocyte percentage of total lymphocytes is only used when the corresponding CD4 T-lymphocyte count is unknown.

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

	Age on date of CD4 T-lymphocyte test					
	<1 year		1-5 years		≥6 years	
Stage	Cells/ μL	%	Cells/ μL	%	Cells/ μL	%
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 persons with HIV infection, stage 3 (AIDS) include persons 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).

Data Tables

Year	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989
HIV disease stage 3 cases	3	26	99	274	557	859	1237	1636	1763	2158
HIV disease stage 3 deaths	0	8	32	111	273	534	807	878	1038	1279
Persons living with HIV ever classified as stage 3	3	21	88	251	535	860	1290	2048	2773	3652

Year	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
HIV disease stage 3 cases	2042	2284	2326	2065	1777	1555	1069	795	690	575
HIV disease stage 3 deaths	1363	1512	1639	1603	1600	1485	994	424	401	353
Persons living with HIV ever classified as stage 3	4331	5103	5790	6252	6429	6499	6574	6945	7234	7456

Year	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
HIV disease stage 3 cases	552	510	487	551	480	477	451	445	435	324
HIV disease stage 3 deaths	350	324	322	297	307	312	288	270	227	209
Persons living with HIV ever classified as stage 3	7658	7844	8009	8263	8436	8601	8764	8939	9147	9262

Year	2010	2011	2012	2013	2014	2015	2016	2017	2018
HIV disease stage 3 cases	300	252	243	190	139	126	97	128	113
HIV disease stage 3 deaths	193	190	182	192	189	203	186	202	146
Persons living with HIV ever classified as stage 3	9369	9431	9492	9490	9440	9363	9274	9200	9167

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
White	227	224	220	228	181	135	113	90	82	58
African American	63	63	65	50	48	33	41	34	38	42
Latinx	114	108	85	113	104	94	75	69	65	74
Asian/Pacific Islander	41	41	36	52	49	44	35	35	29	16
Other/Unknown	27	31	19	22	17	15	17	6	13	7

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
White	118	115	111	118	89	65	53	41	36	27
African American	191	203	191	150	163	130	126	97	114	145
Latino	149	148	108	151	142	122	95	82	79	89
Asian/Pacific Islander	30	29	26	40	33	32	26	26	19	11

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
White	5	8	9	2	5	4	5	4	4	2
African American	42	39	65	30	30	4	30	43	44	35
Latina	19	12	15	17	8	7	10	8	9	8
Asian/Pacific Islander	1	3	1	1	0	1	1	2	0	0

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
MSM	315	293	294	348	299	233	206	160	136	124
PWID	14	24	12	15	11	15	6	9	16	21
MSM-PWID	72	63	53	50	46	39	24	22	28	20
Heterosexual	8	20	9	10	6	8	7	7	6	4
Unknown	11	14	3	7	3	2	4	3	8	5

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
PWID	11	14	16	6	10	10	11	11	10	6
Heterosexual	17	18	21	16	10	3	13	9	10	6
Unknown	2	4	4	1	2	0	3	4	7	5

Figure 5.1 Age-adjusted mortality rates among persons aged 18 and older with HIV per 100,000 by sex and race/ethnicity, 2008-2017, San Francisco. . . 43

	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
White men	95	95	98	79	92	90	86	86	85	94
African American men	194	179	163	193	163	150	178	165	169	148
Latino men	76	66	64	70	69	85	78	64	50	65
White women	9	5	2	3	6	7	3	6	5	6
African American women	75	50	57	55	48	75	64	58	71	43
Latina women	2	2	4	4	3	12	8	7	15	10

Figure 6.2 Trends in health insurance status at time of HIV diagnosis by race/ethnicity, 2014-2018, San Francisco 54

White	2014	2015	2016	2017	2018
Public	17%	27%	29%	35%	41%
Private	50%	45%	39%	40%	40%
None	25%	18%	18%	21%	14%
Missing	7%	10%	14%	4%	5%

African American	2014	2015	2016	2017	2018
Public	58%	51%	47%	53%	50%
Private	18%	15%	21%	18%	33%
None	12%	20%	24%	13%	12%
Missing	12%	15%	9%	16%	5%

Latinx	2014	2015	2016	2017	2018
Public	32%	24%	41%	42%	49%
Private	30%	36%	28%	26%	19%
None	30%	33%	25%	18%	22%
Missing	9%	7%	7%	14%	11%

API	2014	2015	2016	2017	2018
Public	23%	11%	20%	7%	31%
Private	39%	40%	40%	38%	31%
None	25%	31%	26%	34%	31%
Missing	14%	17%	14%	21%	6%

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
White	205	192	199	211	164	119	96	78	64	45
African American	36	29	34	29	33	25	26	19	19	25
Latino	88	78	68	93	93	76	64	51	48	55
Asian/Pacific Islander	36	35	32	46	42	40	32	30	22	15
Other	22	22	14	19	13	12	12	4	11	4

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Male Rectal Gonorrhea (HIV+)	170	174	230	299	329	299	397	429	481	430
Male Rectal Gonorrhea (HIV-)	212	246	329	447	435	513	682	863	998	1018
Male Gonococcal Proctitis (HIV+)	11	5	11	10	14	16	21	20	21	19
Male Gonococcal Proctitis (HIV-)	16	13	13	14	19	22	20	50	37	35

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Early syphilis (HIV+)	305	397	410	545	550	555	570	513	589	496
Early syphilis (HIV-)	163	181	175	221	288	313	367	396	508	465
Primary (HIV+)	52	78	67	90	89	75	83	89	93	73
Primary (HIV-)	46	56	65	72	95	80	109	116	128	132
Secondary (HIV+)	114	138	144	190	161	149	147	129	132	84
Secondary (HIV-)	67	64	55	85	79	98	85	111	141	119
Early Latent (HIV+)	139	181	199	265	300	331	340	295	364	339
Early Latent (HIV-)	50	61	55	64	114	135	173	169	239	214

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
White	10	19	11	5	11	11	10	7	10	12
African American	9	14	11	7	6	4	2	7	9	7
Latinx	5	1	5	5	2	8	2	3	5	6
Other/Unknown	1	4	1	4	2	2	3	4	2	2

Age in years	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
18-24	1	3	2	3	2	1	0	2	1	2
25-29	3	2	4	0	1	3	5	3	0	1
30-39	3	10	1	3	1	5	5	7	8	8
40-49	6	12	10	10	9	5	4	4	9	8
50+	12	11	11	5	8	11	3	5	8	8

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
White	4	7	9	7	3	3	5	3	4	0
African American	8	11	11	6	5	2	7	4	4	6
Latinx	11	14	7	10	6	3	4	7	5	4
Other	2	6	3	3	2	3	4	2	3	0

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
White	8	12	14	4	8	7	9	7	7	3
African American	10	9	15	7	7	1	7	10	10	8
Latina	11	7	9	10	5	4	6	5	6	5
Other/Unknown	1	8	3	2	2	1	5	2	4	1

Map 18 Geographic distribution of persons with HIV 84

Neighborhood	**Map 18.1** Number of PLWH	**Map 18.2** HIV prevalence per 100,000	**Map 18.3** Two-year rate of new diagnoses per 100,000	**Map 18.4** % of PLWH virally suppressed	**Map 18.5** % of new diagnoses linked to care	**Map 18.6** % of new diagnoses virally suppressed
Bayview	369	1028	53	73%	82%	71%
Bernal Heights	280	1197	13	79%	81%	84%
Castro	1944	8174	126	79%	83%	83%
Diamond Heights	345	2063	24	84%	72%	64%
Downtown	629	916	39	74%	76%	83%
Excelsior	276	574	23	76%	81%	81%
Haight Ashbury	316	1495	38	77%	95%	78%
Ingleside	127	794	63	79%	90%	90%
Lake Merced	86	517	18	78%	67%	79%
Mission	1168	2038	56	77%	81%	82%
Nob Hill	294	1608	22	73%	85%	73%
Noe Valley	249	2013	16	78%	90%	76%
Outer Mission	206	709	48	81%	77%	83%
Pacific Heights	310	600	14	71%	86%	83%
Potrero Hill	196	1618	66	78%	88%	65%
Presidio	16	495	n/a	n/a	n/a	n/a
Richmond	464	504	13	79%	82%	80%
South of Market	763	3841	91	72%	71%	67%
Sunset	354	398	21	76%	88%	84%
Tenderloin	1562	3982	138	69%	80%	71%
Treasure Island	42	1458	n/a	60%	n/a	n/a
Twin Peaks	359	860	19	83%	92%	86%
Visitacion Valley	167	658	35	74%	81%	62%
Western Addition	1341	3312	84	79%	75%	81%
Homeless	506	n/a	n/a	38%	77%	58%
Unknown	385	n/a	n/a	46%	66%	60%

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