

San Francisco  
Department of Public Health

# HIV/AIDS Epidemiology Annual Report 2005

HIV/AIDS Statistics,  
Epidemiology, and  
Intervention Research Section

# HIV/AIDS Epidemiology Annual Report

# 2005

**SAN FRANCISCO**  
Department of Public Health



**HIV/AIDS Statistics, Epidemiology and  
Intervention Research Section**

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Dear Colleague,

**We want to call your attention to a recent change in how we present the San Francisco HIV/AIDS surveillance data. Beginning in 2005, publications of our data were changed to include only persons who were residents of San Francisco at the time they were diagnosed with HIV/AIDS. Prior to this change, our reports also included persons who were diagnosed with HIV/AIDS at a San Francisco medical facility, but who were residents elsewhere at the time of their diagnosis.**

**We decided to exclude non-San Francisco residents from the data presentations because HIV/AIDS case reporting practices result in our having a complete count of San Francisco residents with HIV/AIDS, but an incomplete record of non-San Francisco residents with HIV/AIDS. In order to provide consistent HIV/AIDS surveillance data, our surveillance quarterly and annual reports include only reports of persons diagnosed with HIV or AIDS who were residents of San Francisco at the time of their diagnosis. Consequently, the numbers in reports from 2005 and later differ from reports published prior to 2005.**

**You may contact the HIV/AIDS Statistics, Epidemiology, and Intervention Research Section of the San Francisco Department of Public Health at (415) 554-9050 if you have questions concerning our reports.**

Thank you for your interest,

**The HIV/AIDS Statistics, Epidemiology  
and Intervention Research Section Staff**

## E

# Executive Summary

The HIV epidemic is complex and we cannot rely on a single piece of research to determine infection rates. After reviewing trends from multiple data sources, following a resurgence in HIV incidence beginning in 1995, we see little evidence of continued increases from 2001 to the present. Limited evidence suggests that HIV infection rates have decreased, albeit to a modest degree, from an estimated 1,084 five years ago to 977 this year. While this decrease may be within measurement error, the good news is that the HIV epidemic does not appear to be accelerating in San Francisco. This assessment is based on over 50 data sources and the input of over 75 AIDS researchers, service providers, community members, and epidemiologists. This periodic synthesis of available information on the epidemic, a process we call the "HIV Consensus," was done in 1992, 1997, 2001, and 2006. Results of the 2006 HIV Consensus are presented in Table 1.5 of this report.

Our revised estimates take into account apparent growth in the size of some populations at risk. For example, consider men who have sex with men (MSM). Nine studies converge on an estimated 63,577 MSM (including 5,234 MSM-injection drug users [IDU]) in San Francisco. Yet, growth in the number of MSM has not translated to increased new HIV infections. The projected HIV incidence rate is 21% lower than estimated in 2001. Estimated HIV incidence rates also appear to be lower in MSM-IDU (by 44%), heterosexual male IDU (by 9%), female IDU (by 54%), and very low among heterosexual men and women. Estimates also account for persons living longer with HIV due to antiretroviral therapy. Among persons in care, we see relative stability in current rates of new AIDS diagnoses and deaths, use of antiretroviral therapy, and among patients with respect to gender, race/ethnicity, age, and risk category.

Skeptics of these estimates can correctly point out uncertainties in our data. We must also distinguish a reversal in trend from correction of a wrong conclusion made previously. Most likely, we overshot the estimated number of male-to-female transgendered persons (MTF) and the number of MTF infected in 2001. New data estimate number of MTF at 1,883 (including 449 MTF-IDU), with HIV incidence rates 59% lower for MTF and 61% lower for MTF-IDU. With our epidemic concentrated in hard to reach segments of society, we may be at the limits of our ability to make accurate projections. Nonetheless, with the high concentration of AIDS research in San Francisco, we feel our estimates are as robust as anywhere in the world.

In summary, the current HIV/AIDS epidemic is characterized by no apparent increases in HIV infection rates over the past five years, and with considerable decreases in some populations. A number of factors may account for these trends. San Francisco's community-based prevention and treatment responses deserve some credit, bringing our per capita rate of AIDS incidence down from the highest in America to its present rank as number seven. However, as we have warned in past reports, the present situation provides no cause for complacency. Rates of new HIV infection and morbidity due to AIDS are still unacceptably high. Moreover, the past 25 years have taught us that the epidemic can quickly and profoundly change.



## 1

# Overview of HIV/AIDS in San Francisco

## AIDS surveillance data

AIDS surveillance in San Francisco is conducted through a variety of methods and evaluated regularly (see Technical Notes, HIV/AIDS Surveillance Methods). As of December 31, 2005, a cumulative total of 26,609 San Francisco residents were diagnosed with AIDS (Table 1.1). This comprises 19% of California AIDS cases and three percent of cases reported nationally. As of December 2004, San Francisco was ranked third in the cumulative number of AIDS cases and ranked seventh in the AIDS incidence rate in 2004 among metropolitan areas nationwide. Compared to California and the United States as a whole, AIDS cases in San Francisco are more likely to be male, white, and to occur among men who have sex with men (MSM), including MSM who also inject drugs (MSM IDU).

**Table 1.1 Characteristics of cumulative AIDS cases in San Francisco, California, and the United States<sup>#</sup>**

	San Francisco (N = 26,609)		California (N = 139,449)	United States (N = 918,286)
	Number	%	%	%
<b>Gender</b>				
Male	25,220	95%	91%	81%
Female	1,054	4%	8%	19%
Transgender*	335	1%	<1%	--
<b>Race/Ethnicity</b>				
White	19,232	72%	57%	40%
African American	3,348	13%	18%	39%
Latino	3,051	11%	22%	18%
Asian/Pacific Islander	811	3%	2%	<1%
Native American	137	1%	<1%	<1%
Other/Unknown	30	<1%	<1%	<1%
<b>Exposure Category</b>				
MSM	19,970	75%	68%	44%
IDU	2,016	8%	10%	24%
MSM IDU	3,863	15%	9%	7%
Heterosexual	348	1%	6%	13%
Transfusion/Hemophilia	167	1%	1%	2%
Other/Unidentified	245	1%	5%	10%

<sup>#</sup> San Francisco data are reported through March 8, 2006 for cases diagnosed through December 2005; California data are reported through December 2005; U.S. data are reported through December 2004.

\* Transgender data are not reported by the United States. See Technical Notes "Transgender Status."

In San Francisco, MSM account for the majority of male AIDS cases within all race/ethnic groups (Table 1.2). Among African American men, heterosexual injection drug use is the second most frequent exposure category. Among men of all other race/ethnic groups, MSM IDU represents the second most frequent exposure category and is a particularly prominent exposure category among Native American men. One percent or less of men with AIDS acquired HIV infection through heterosexual contact.

Among women with AIDS, IDU is the most frequent exposure category for white, African American, Latina, and Native American women, followed by heterosexual contact. For Asian/Pacific Islander women, 38% acquired their infection through heterosexual contact, 37% through injection drug use, and 18% through transfusion of blood or blood products.

Injection drug use is prevalent among male to female transgender AIDS cases. Fifty-seven percent of white transgenders, 65% of African American transgenders, and 45% of Latino transgenders were IDU.

**Table 1.2 Cumulative AIDS cases by gender, exposure category, and race/ethnicity, diagnosed through December 2005, San Francisco**

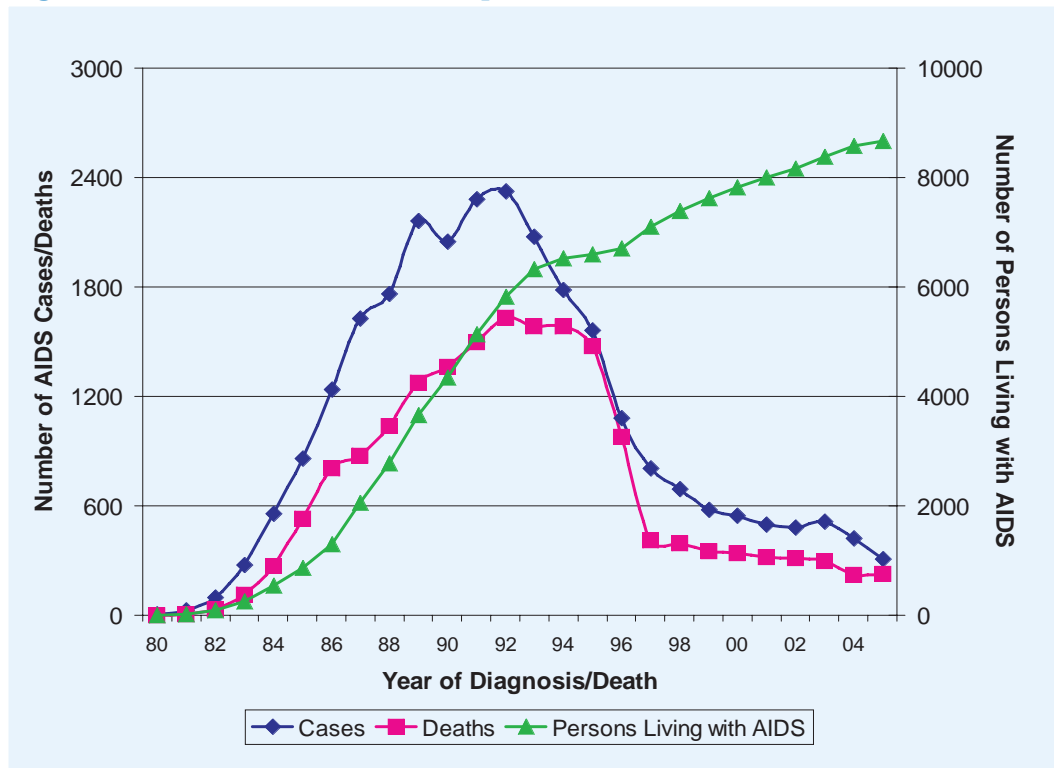
	<u>White</u> <u>Number ( % )</u>	<u>African</u> <u>American</u> <u>Number ( % )</u>	<u>Latino</u> <u>Number ( % )</u>	<u>Asian/Pacific</u> <u>Islander</u> <u>Number ( % )</u>	<u>Native</u> <u>American</u> <u>Number ( % )</u>
<b>Male</b>					
MSM	15,489 ( 82 )	1,452 ( 53 )	2,195 ( 78 )	609 ( 84 )	63 ( 52 )
IDU	482 ( 3 )	658 ( 24 )	159 ( 6 )	21 ( 3 )	10 ( 8 )
MSM IDU	2,684 ( 14 )	544 ( 20 )	353 ( 13 )	48 ( 7 )	45 ( 37 )
Heterosexual	29 ( <1 )	35 ( 1 )	20 ( 1 )	7 ( 1 )	1 ( 1 )
Transfusion/ Hemophilia	51 ( <1 )	17 ( 1 )	22 ( 1 )	14 ( 2 )	0 ( 0 )
Other/Unidentified	51 ( <1 )	50 ( 2 )	60 ( 2 )	24 ( 3 )	2 ( 2 )
<b>Male Subtotal</b>	<b>18,786</b>	<b>2,756</b>	<b>2,809</b>	<b>723</b>	<b>121</b>
<b>Female</b>					
IDU	229 ( 65 )	349 ( 72 )	68 ( 48 )	22 ( 37 )	11 ( 92 )
Heterosexual	80 ( 23 )	97 ( 20 )	52 ( 37 )	23 ( 38 )	1 ( 8 )
Transfusion/ Hemophilia	29 ( 8 )	13 ( 3 )	10 ( 7 )	11 ( 18 )	0 ( 0 )
Other/Unidentified	14 ( 4 )	27 ( 6 )	11 ( 8 )	4 ( 7 )	0 ( 0 )
<b>Female Subtotal</b>	<b>352</b>	<b>486</b>	<b>141</b>	<b>60</b>	<b>12</b>
<b>Transgender* (Male to Female Only)</b>					
IDU	54 ( 57 )	69 ( 65 )	45 ( 45 )	# ( 39 )	# ( 75 )
Non IDU	40 ( 43 )	37 ( 35 )	55 ( 55 )	# ( 61 )	# ( 25 )
<b>Transgender Subtotal</b>	<b>94</b>	<b>106</b>	<b>100</b>	<b>#</b>	<b>#</b>

\* See Technical Notes "Transgender Status."

# Data not released due to potential small population size.

The number of new AIDS cases diagnosed among San Francisco residents peaked in 1992 at 2,327 (Figure 1.1). There was a slight increase in the number of new AIDS cases between 2002 and 2003. Delays in reporting affect the number of cases for recent years; therefore, the numbers of cases for 2004 and 2005 may be revised upward in future reports. Deaths among persons with AIDS reached a plateau between 1992 and 1995, and declined thereafter. The sharpest decline in AIDS deaths occurred between 1995 and 1997, reflecting the impact of effective combination antiretroviral therapies. By the end of 2005, there were 8,666 San Francisco residents living with AIDS. Of note, mortality data for 2004 and 2005 is not yet complete.

**Figure 1.1 AIDS cases, deaths, and prevalence, San Francisco, 1980-2005**





### HIV non-AIDS case reporting data

The reporting of HIV non-AIDS cases was initially implemented in California on July 1, 2002 using a non-name code. On April 17, 2006, a new law (Senate Bill 699) requiring HIV reporting by name was enacted and the new reporting requirement took effect immediately. The HIV reporting system is a dual reporting system which requires both the health care providers to report their HIV-infected patients and the laboratories to report tests indicative of HIV infection, including confirmed HIV positive antibody tests and all viral load test results. Detailed information regarding California's HIV reporting regulations can be found at the California Department of Health Services website: [www.dhs.ca.gov/AIDS/HIVreporting](http://www.dhs.ca.gov/AIDS/HIVreporting).

HIV reporting data are not complete and have not been fully evaluated for accuracy. In addition, persons who are infected with HIV but have not been diagnosed are not included. Data presented here reflects persons diagnosed and reported with HIV among San Francisco residents using the non-name reporting system. For comparison, living AIDS cases as of December 31, 2005 are also presented.

Between July 2002 and March 2006, a total of 6,188 HIV non-AIDS cases among San Francisco residents were reported. The majority of these cases (67%) were known to be diagnosed prior to the implementation of HIV reporting (Table 1.3). Compared to HIV non-AIDS cases diagnosed before July 1, 2002, cases diagnosed on or after July 1, 2002 had higher percentages of people of color as well as persons with no risk information. Demographic and risk characteristics of HIV non-AIDS cases diagnosed before July 1, 2002 are similar to those for living AIDS cases.

**Table 1.3 Characteristics of persons reported with HIV non-AIDS, San Francisco, July 2002 - March 2006**

	Diagnosed* before 7/1/02		Diagnosed* after 7/1/02		Living AIDS cases (as of 12/31/2005)	
	Number	%	Number	%	Number	%
<b>Total</b>	<b>4,166</b>	<b>100%</b>	<b>2,022</b>	<b>100%</b>	<b>8,666</b>	<b>100%</b>
<b>Gender</b>						
Male	3,851	92%	1,813	90%	7,992	92%
Female	247	6%	154	7%	495	6%
Transgender	68	2%	55	3%	179	2%
<b>Race/ethnicity</b>						
White	2,829	68%	1,089	54%	5,698	66%
African American	601	14%	328	16%	1,211	14%
Latino	472	11%	342	17%	1,304	15%
Asian/Pacific Islander	155	4%	120	6%	385	4%
Native American	27	<1%	25	1%	50	<1%
Other/Unknown	82	2%	118	6%	18	<1%
<b>Exposure Category</b>						
MSM	3,096	74%	1,325	66%	6,318	73%
IDU	337	8%	179	9%	797	9%
MSM IDU	415	10%	189	9%	1,206	14%
Heterosexual	82	2%	67	3%	189	2%
Other	18	<1%	4	<1%	40	<1%
No Reported Risk	218	5%	258	13%	116	1%

\* HIV diagnosis date is based on the earliest date of antibody test, patient self-report of HIV infection, CD4, viral load test, or use of antiretroviral therapy.

As in AIDS cases, MSM account for the majority of male HIV non-AIDS cases within all race/ethnic groups (Table 1.4). Among African American men, heterosexual injection drug use is the second most frequent exposure category. MSM IDU represent the second most frequent exposure category among white, Latino, and Native American men.

Injection drug use is the most frequent exposure category among white, African American, Latina, and Native American women with HIV non-AIDS, followed by heterosexual contact. Among Asian/Pacific Islander women, heterosexual contact was the most frequent exposure category.

Among male to female transgender HIV non-AIDS cases, 43% of whites, 47% of African Americans, and 38% of Latinos were IDU.

Compared to AIDS cases, larger proportions of HIV non-AIDS cases are reported without risk information. This is due, in part, to reporting HIV non-AIDS cases by a non-name code which resulted in the inability to follow up and obtain complete case information.

**Table 1.4 Cumulative HIV non-AIDS cases by gender, exposure category and race/ethnicity<sup>§</sup>, reported through March 2006, San Francisco**

	White Number ( % )	African American Number ( % )	Latino Number ( % )	Asian/Pacific Islander Number ( % )	Native American Number ( % )
<b>Male</b>					
MSM	3,093 ( 82 )	356 ( 52 )	597 ( 81 )	210 ( 86 )	19 ( 53 )
IDU	152 ( 4 )	126 ( 18 )	28 ( 4 )	8 ( 3 )	5 ( 14 )
MSM IDU	372 ( 10 )	101 ( 15 )	50 ( 7 )	8 ( 3 )	11 ( 31 )
Heterosexual	9 ( <1 )	18 ( 3 )	12 ( 2 )	2 ( 1 )	0 ( 0 )
Other	5 ( <1 )	2 ( <1 )	4 ( <1 )	1 ( <1 )	0 ( 0 )
No Reported Risk	154 ( 4 )	83 ( 12 )	43 ( 6 )	15 ( 6 )	1 ( 3 )
<b>Male Subtotal</b>	<b>3,785</b>	<b>686</b>	<b>734</b>	<b>244</b>	<b>36</b>
<b>Female</b>					
IDU	63 ( 57 )	90 ( 48 )	20 ( 37 )	5 ( 28 )	9 ( 75 )
Heterosexual	19 ( 17 )	51 ( 27 )	17 ( 31 )	11 ( 61 )	3 ( 25 )
Other	3 ( 3 )	4 ( 2 )	0 ( 0 )	1 ( 6 )	0 ( 0 )
No Reported Risk	25 ( 23 )	43 ( 23 )	17 ( 31 )	1 ( 6 )	0 ( 0 )
<b>Female Subtotal</b>	<b>110</b>	<b>188</b>	<b>54</b>	<b>18</b>	<b>12</b>
<b>Transgender* (Male to Female Only)</b>					
IDU	10 ( 43 )	26 ( 47 )	10 ( 38 )	# ( 15 )	# ( 75 )
Non IDU	13 ( 57 )	29 ( 53 )	16 ( 62 )	# ( 85 )	# ( 25 )
<b>Transgender Subtotal</b>	<b>23</b>	<b>55</b>	<b>26</b>	<b>#</b>	<b>#</b>

§ Excludes 179 males, 19 females and 2 transgenders for whom race/ethnicity information is unknown.

\* See Technical Notes "Transgender Status."

# Data not released due to potential small population size.

## The 2006 HIV Consensus Estimates

The HIV/AIDS Statistics, Epidemiology, and Intervention Research Section periodically examines all known data and consults experts in the field in order to arrive at the best estimates of HIV prevalence and incidence for San Francisco. These estimates are called the "HIV Consensus Estimates" and were previously produced in 1992, 1997, and 2001.

From June 2005 through April 2006, we reviewed over 50 different sources of data and solicited the opinions of approximately 75 HIV/AIDS researchers, service providers, public health officials, and epidemiologists. Table 1.5 shows the resulting estimated population sizes of persons at risk for HIV and the number living with HIV/AIDS as of January 1, 2006. The table also shows the projected number acquiring HIV in 2006.

Compared to the 2001 HIV Consensus Estimates, there is a decrease in the projected number of new HIV infections among adults (975 vs. 1,082).

**Table 1.5 The 2006 HIV Consensus Estimates: population size, HIV prevalence, and HIV incidence by behavioral risk population, San Francisco**

	Population size on 1/1/2006	Number HIV+ on 1/1/2006	% HIV+	New infections during 2006	Incidence rate (% per year)
<b>Population</b>					
MSM	58,343	14,205	24.3%	772	1.75%
MTF (non IDU)	1,434	327	22.8%	42	3.78%
MSM IDU	5,234	2,196	42.0%	79	2.58%
FSMF IDU	4,030	423	10.5%	18	0.51%
MSF IDU	7,076	954	13.5%	31	0.51%
MTF IDU	449	194	43.2%	16	6.08%
FSMF (at risk population)	8,999	298	3.3%	12	0.14%
MSF (at risk population)	2,585	82	3.2%	5	0.19%
Blood	N/A	29	N/A	0	N/A
<b>Total</b>	<b>N/A</b>	<b>18,708*</b>	<b>N/A</b>	<b>975*</b>	<b>N/A</b>

MSM: Men who have sex with men

MTF: Male to female transgender persons

MSM IDU: MSM who also inject drugs

FSMF/F IDU: Female injection drug users who have sex with males/females

MSF IDU: Heterosexual male injection drug users

MTF IDU: MTF who also inject drugs

FSMF/F: Adult females estimated to be at risk through heterosexual contact with HIV+ male or female partners

MSF: Adult males estimated to be at risk through heterosexual contact with HIV+ female partners

Blood: Persons exposed through transfusion of blood or blood products

\* These figures do not include estimate for infants and children.

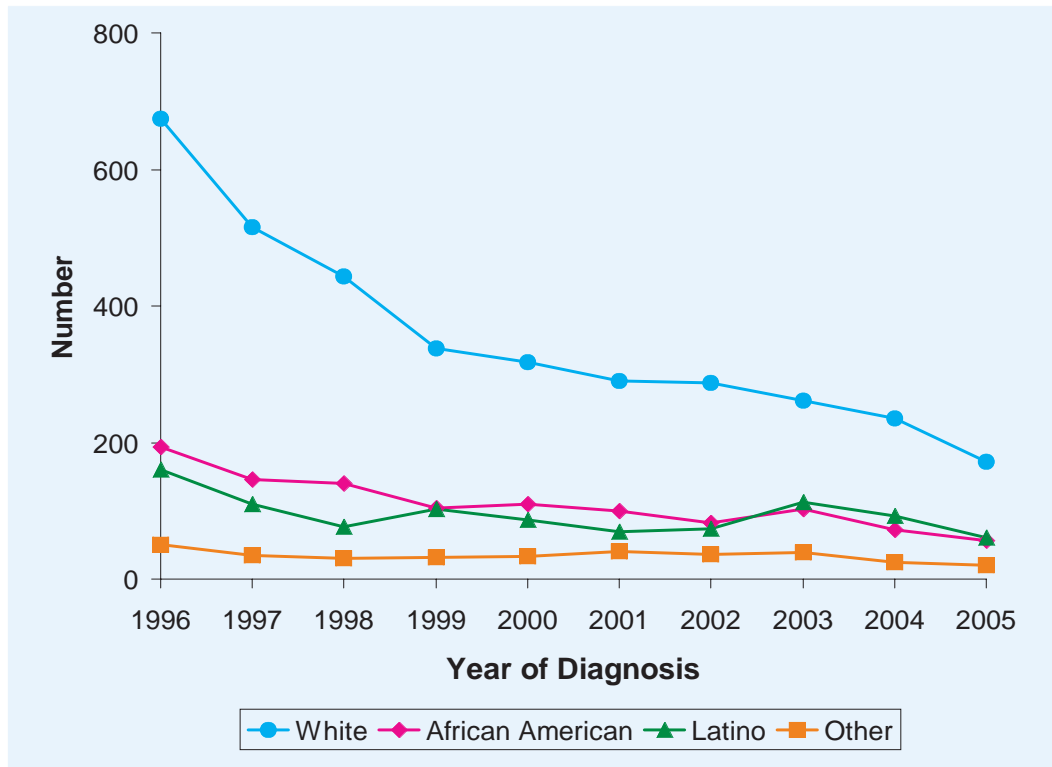
## 2

## Trends in AIDS Incidence

## Race/ethnicity

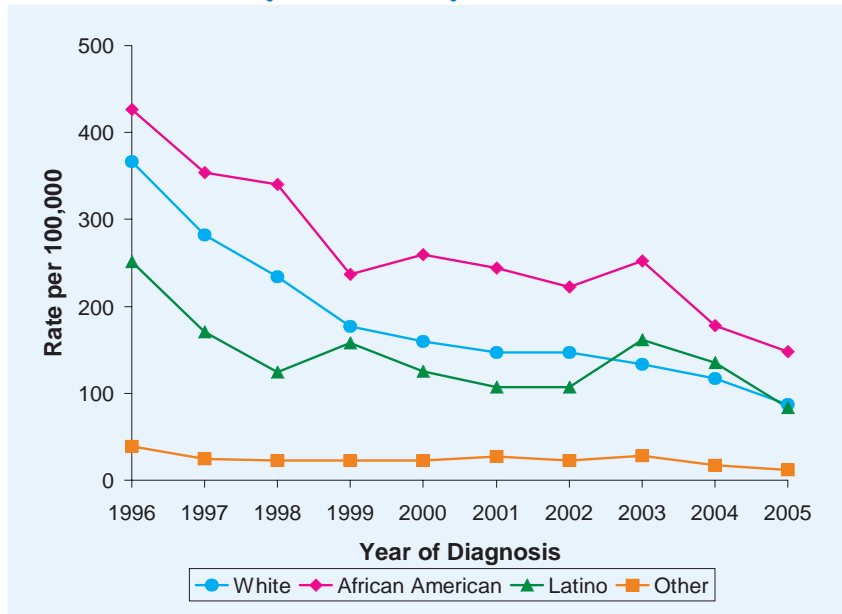
In absolute numbers, AIDS cases in San Francisco have occurred predominantly among whites (Figure 2.1). In general, the number of AIDS cases has declined over the last 10 years. There was an increase in cases among people of color between 2002 and 2003. Delays in reporting affect the numbers of cases for recent years, particularly for 2004 and 2005.

**Figure 2.1** Number of AIDS cases by race/ethnicity, San Francisco, 1996-2005



Since 1996, the incidence rates of AIDS among African American men have consistently been higher than for men of all other race/ethnic groups. The incidence rate for Latino men exceeded that of white men in 2003 and 2004. In 2005, the incidence rate of AIDS per 100,000 population was 148 among African American men, 87 for white men, and 84 for Latino men (Figure 2.2). Delays in reporting affect estimates for recent years, particularly 2004 and 2005.

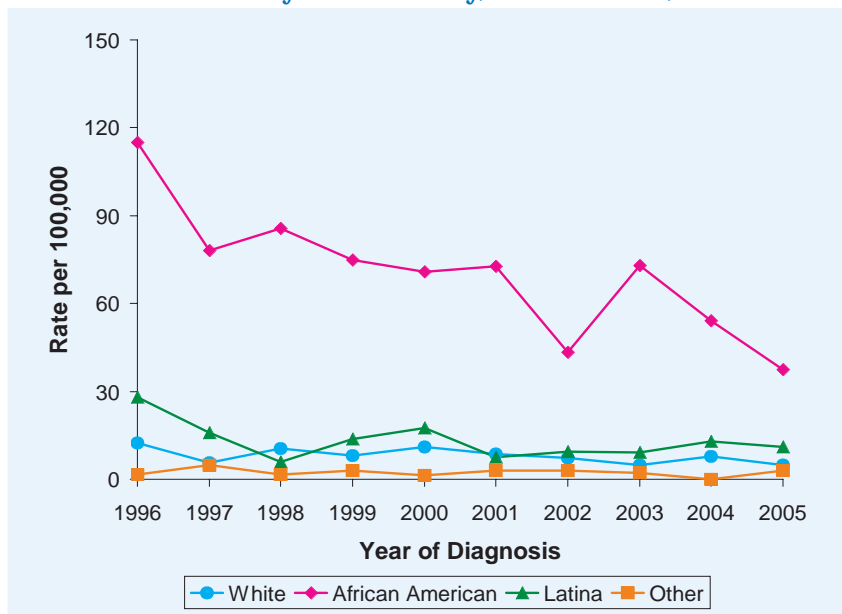
**Figure 2.2 Male annual AIDS incidence rates\* per 100,000 population by race/ethnicity, San Francisco, 1996-2005**



\* See Technical Notes "AIDS Incidence Rates."

The incidence rate of AIDS among women is considerably lower than that among men. African American women have been disproportionately impacted by AIDS throughout the epidemic compared to women of other race/ethnicities. The incidence rate among African American women was 37 per 100,000 in 2005 (Figure 2.3).

**Figure 2.3 Female annual AIDS incidence rates\* per 100,000 population by race/ethnicity, San Francisco, 1996-2005**

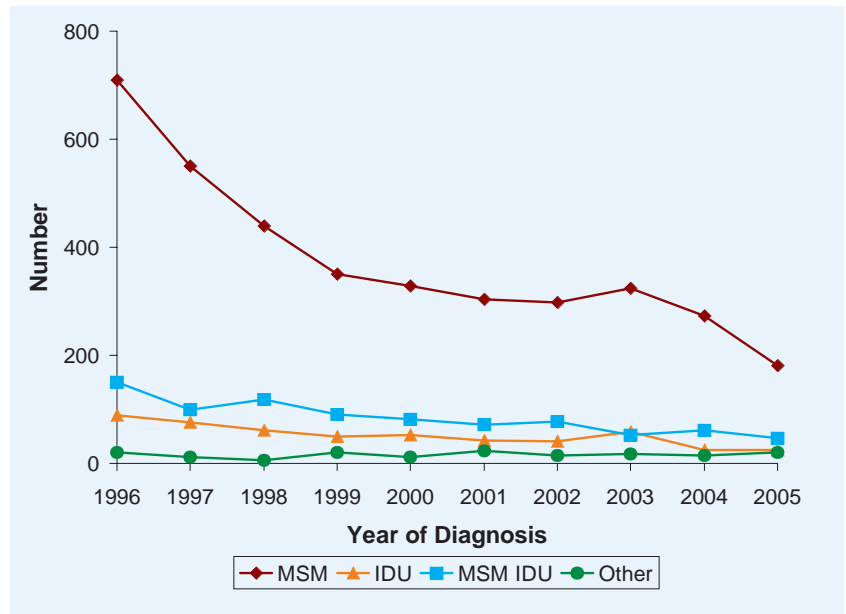


\* See Technical Notes "AIDS Incidence Rates."

## Exposure category

The majority of male AIDS cases have occurred among MSM (Figure 2.4). The number of male heterosexual IDU AIDS cases increased from 41 to 59 between 2002 and 2003. In 2005, 66% of male AIDS cases were MSM, 17% were MSM IDU, and 9% were heterosexual IDU.

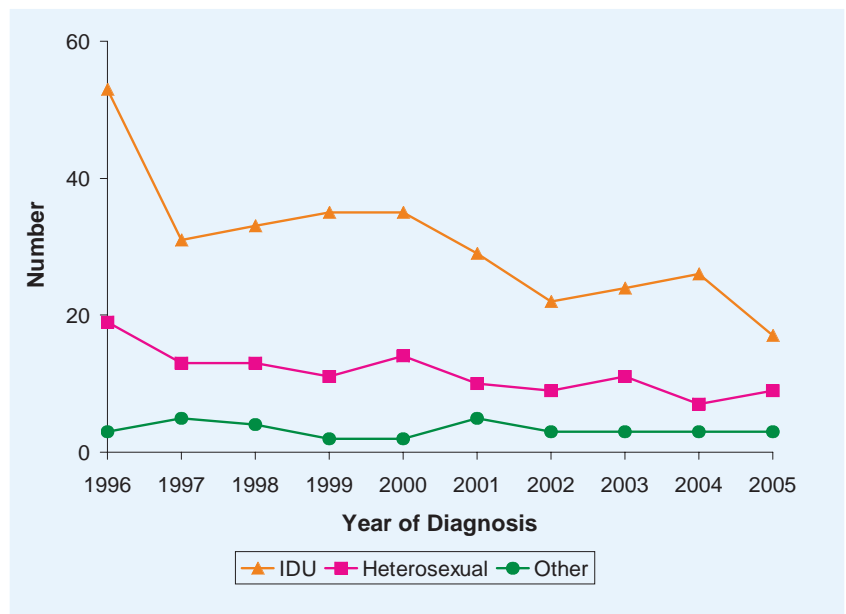
**Figure 2.4** Number of male AIDS cases\* by exposure category, San Francisco, 1996-2005



\* Excludes male-to-female transgender AIDS cases.

The predominant exposure category of AIDS cases among women is injection drug use, followed by heterosexual transmission (Figure 2.5). Between 2003 and 2004, the percentage of female AIDS cases attributed to injection drug use increased from 63% to 72%, while the percentage of cases attributed to heterosexual contact decreased from 29% to 19%. In 2005, 59% of female AIDS cases were IDU and 31% were heterosexual. Nationwide, heterosexual contact was the predominant exposure for female AIDS cases.

**Figure 2.5** Number of female AIDS cases\* by exposure category, San Francisco, 1996-2005



\* Excludes female-to-male transgender AIDS cases.

## Age

The largest number of men, women and transgender persons with AIDS were diagnosed between ages 30 and 39 years (Table 2.1). Younger persons (under the age of 30) made up a larger proportion of female and transgender AIDS cases than male AIDS cases. In recent years, there was an increase in the percentage of women diagnosed with AIDS in the over 50 years age group, as well as the percentage of men in the over 40 years age groups. This may reflect the use of more effective drug therapies which have extended the time from acquiring HIV infection to the development of AIDS.

**Table 2.1 AIDS cases by gender and age at diagnosis, diagnosed 1995-2005, San Francisco**

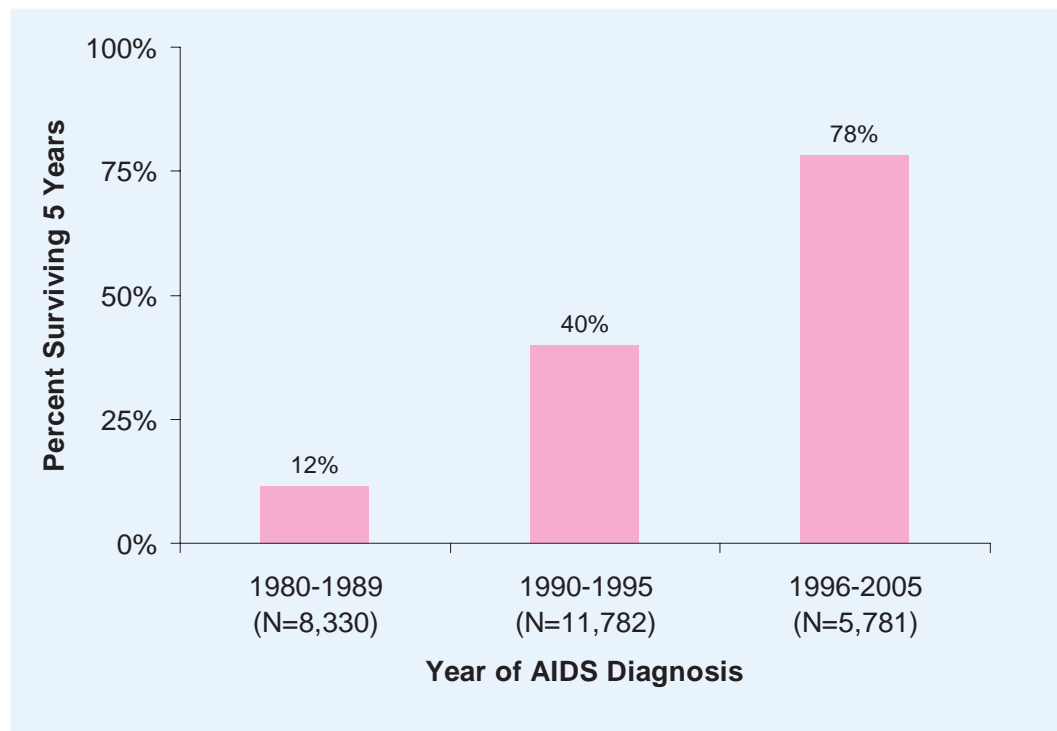
	1995-1997		1998-2001		2002-2005		Cumulative Totals	
	Number	(%)	Number	(%)	Number	(%)	Number	(%)
<b>Male</b>								
0 - 19	3	( <1 )	3	( <1 )	5	( <1 )	45	( <1 )
20 - 29	324	( 10 )	177	( 9 )	120	( 8 )	2,835	( 11 )
30 - 39	1,412	( 44 )	886	( 43 )	555	( 36 )	11,491	( 46 )
40 - 49	1,034	( 33 )	687	( 33 )	551	( 36 )	7,905	( 31 )
50+	402	( 13 )	300	( 15 )	301	( 20 )	2,944	( 12 )
<b>Male Subtotal</b>	<b>3,175</b>	<b>( 100 )</b>	<b>2,053</b>	<b>( 100 )</b>	<b>1,532</b>	<b>( 100 )</b>	<b>25,220</b>	<b>( 100 )</b>
<b>Female</b>								
0 - 19	4	( 2 )	3	( 2 )	1	( 1 )	23	( 2 )
20 - 29	27	( 14 )	18	( 9 )	22	( 16 )	152	( 14 )
30 - 39	80	( 41 )	75	( 39 )	40	( 29 )	415	( 39 )
40 - 49	66	( 34 )	70	( 36 )	45	( 33 )	311	( 30 )
50+	20	( 10 )	27	( 14 )	29	( 21 )	153	( 15 )
<b>Female Subtotal</b>	<b>197</b>	<b>( 100 )</b>	<b>193</b>	<b>( 100 )</b>	<b>137</b>	<b>( 100 )</b>	<b>1,054</b>	<b>( 100 )</b>
<b>Transgender</b>								
13 - 29	17	( 23 )	13	( 19 )	6	( 10 )	81	( 24 )
30 - 39	37	( 49 )	27	( 40 )	30	( 51 )	154	( 46 )
40+	21	( 28 )	28	( 41 )	23	( 39 )	100	( 30 )
<b>Transgender Subtotal</b>	<b>75</b>	<b>( 100 )</b>	<b>68</b>	<b>( 100 )</b>	<b>59</b>	<b>( 100 )</b>	<b>335</b>	<b>( 100 )</b>

## 3

# Survival among Persons with AIDS

Survival after AIDS diagnosis has improved over time. Survival was poor for persons diagnosed between 1980-1989. During that time only 12% of persons diagnosed with AIDS survived five years or more (Figure 3.1). For persons diagnosed between 1990 and 1995, 40% survived at least five years after their AIDS diagnosis. It is estimated that 78% of persons diagnosed with AIDS between 1996 and 2005 survived at least five years. This proportion may change as more follow-up time is allowed and vital status is updated. Improvements in survival among persons diagnosed with AIDS after 1995 are attributable to more effective antiretroviral therapies.

**Figure 3.1** Proportion surviving five years for persons diagnosed with AIDS in 1980-1989, 1990-1995, and 1996-2005, San Francisco



\* See Technical Notes "AIDS Survival."

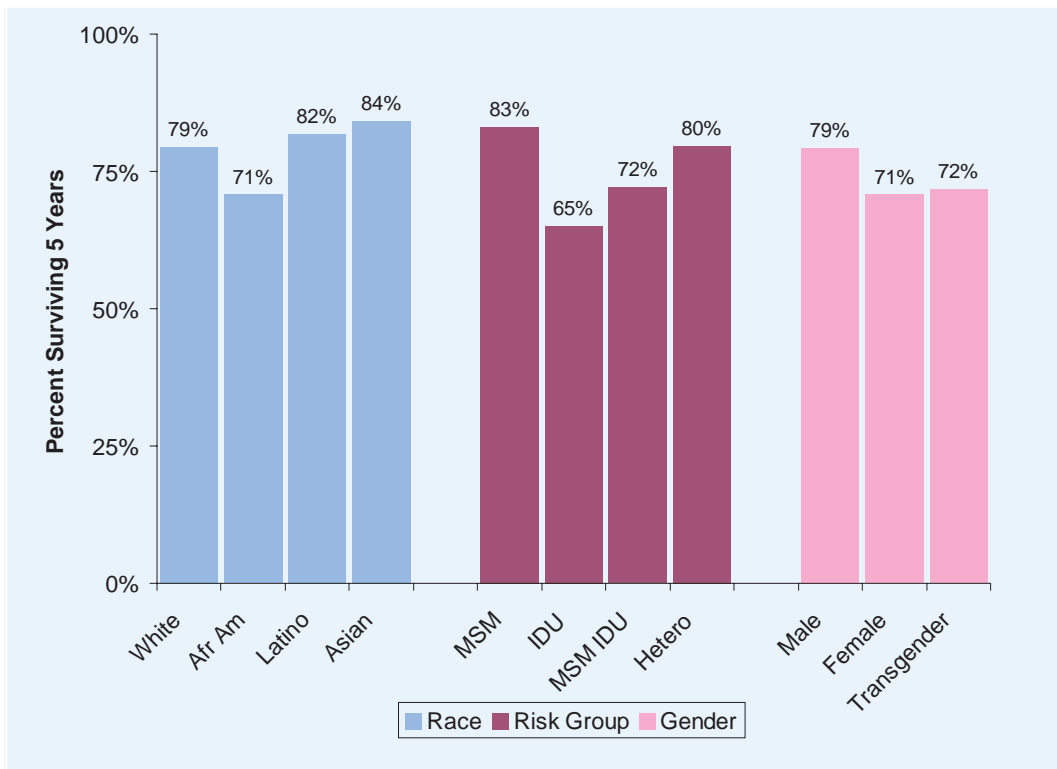


Disparities in survival have occurred across race/ethnicity, risk, and gender groups. For persons diagnosed with AIDS between 1996 and 2005, African Americans had lower proportion surviving five years after AIDS compared to other racial/ethnic groups. The 5-year survival rate was 79% for whites, 71% for African Americans, 82% for Latinos, and 84% for Asians (Figure 3.2).

Men who have sex with men (MSM) and heterosexuals had better survival compared to heterosexual injection drug users (IDU) and MSM IDU. Eighty-three percent of MSM and 80% of heterosexuals survived five years after AIDS diagnosis, compared to only 72% of MSM IDU and 65% of other IDU. Worse survival among IDU partly reflects higher death rates from causes associated with drug use such as overdose, liver disease, and other infections.

Seventy-nine percent of men, 71% of women, and 72% of transgenders survived five years after AIDS diagnosis. These differences are consistent with lower use of antiretroviral therapy among women and transgenders compared to men.

**Figure 3.2 Proportion surviving five years for persons diagnosed with AIDS between 1996 and 2005 by race/ethnicity, exposure category, and gender, San Francisco**



\* See Technical Notes "AIDS Survival."

## 4

## Trends in AIDS Mortality

A total of 17,943 deaths have occurred among San Francisco AIDS cases as of December 31, 2005 (Table 4.1). The number of AIDS deaths declined between 2002 and 2004; however, reporting of deaths in recent years is not yet complete. Cumulatively, the most deaths occurred in the 30-39 year old age group; but in recent years, the largest number of deaths occurred in the 40-49 year old age group.

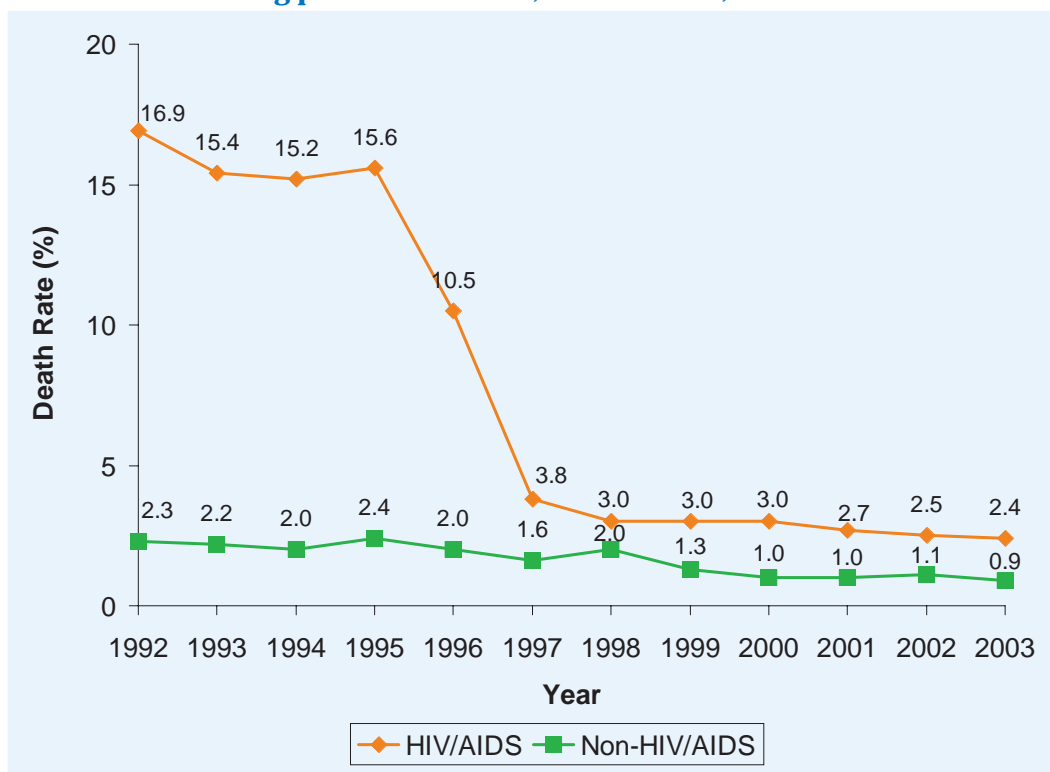
**Table 4.1 Deaths in persons with AIDS, by gender, race/ethnicity, and exposure category, San Francisco, 2002-2005**

	Year of Death				Cumulative Totals as of 12/31/2005
	2002	2003	2004*	2005*	
	Number (%)	Number (%)	Number (%)	Number (%)	
<b>Gender</b>					
Male	278 ( 88 )	261 ( 88 )	200 ( 89 )	198 ( 87 )	17,227
Female	29 ( 9 )	28 ( 9 )	15 ( 7 )	23 ( 10 )	559
Transgender	9 ( 3 )	8 ( 3 )	9 ( 4 )	7 ( 3 )	157
<b>Race/Ethnicity</b>					
White	192 ( 61 )	191 ( 64 )	128 ( 57 )	132 ( 58 )	13,534
African American	74 ( 23 )	65 ( 22 )	49 ( 22 )	64 ( 28 )	2,137
Latino	42 ( 13 )	31 ( 10 )	31 ( 14 )	22 ( 10 )	1,747
Other	8 ( 3 )	10 ( 3 )	16 ( 7 )	10 ( 4 )	525
<b>Exposure Category</b>					
MSM	177 ( 56 )	154 ( 52 )	114 ( 51 )	112 ( 49 )	13,652
IDU	58 ( 18 )	60 ( 20 )	45 ( 20 )	52 ( 23 )	1,219
MSM IDU	67 ( 21 )	73 ( 25 )	53 ( 24 )	51 ( 22 )	2,657
Heterosexual	9 ( 3 )	6 ( 2 )	5 ( 2 )	4 ( 2 )	159
Other/Unknown	5 ( 2 )	4 ( 1 )	7 ( 3 )	9 ( 4 )	256
<b>Age at death</b>					
0-29	4 ( 1 )	5 ( 2 )	3 ( 1 )	2 ( 1 )	1,061
30-39	64 ( 20 )	51 ( 17 )	34 ( 15 )	28 ( 12 )	7,033
40-49	152 ( 48 )	129 ( 43 )	90 ( 40 )	100 ( 44 )	6,738
50-59	79 ( 25 )	78 ( 26 )	57 ( 25 )	66 ( 29 )	2,329
60+	17 ( 5 )	34 ( 11 )	41 ( 18 )	32 ( 14 )	782
<b>Total</b>	<b>316 ( 100 )</b>	<b>297 ( 100 )</b>	<b>224 ( 100 )</b>	<b>228 ( 100 )</b>	<b>17,943</b>

\* Data is incomplete due to reporting delay. In addition, deaths that occurred outside of San Francisco are primarily identified through matches with the National Death Index (NDI) which are complete only through 2003.

The trend in death rates in persons with AIDS was examined by their single, underlying cause of death. The death rate due to HIV/AIDS-related causes plateaued between 1992 and 1995, and then decreased from 15.6 per 100 persons with AIDS in 1995 to 2.4 per 100 persons with AIDS in 2003 (Figure 4.1). The drop in death rates beginning in 1996 reflects the impact of highly active antiretroviral therapies. For non-HIV/AIDS-related causes, the death rate in 1992 was 2.3 per 100 persons with AIDS, declining to 0.9 per 100 persons with AIDS in 2003.

**Figure 4.1** Death rates\* due to HIV/AIDS-related and non-HIV/AIDS-related causes among persons with AIDS, San Francisco, 1992-2003



\* Death rates are calculated as the number of persons with AIDS who died each year divided by the number of total AIDS cases for that year. See Technical Notes for "Causes of Death."

The proportion of deaths in which HIV/AIDS was listed as the underlying cause of death decreased from 88% of AIDS deaths occurring between 1992-1995 to 72% in 2000-2003 (Table 4.2). Other frequently occurring underlying causes of death in 2000-2003 include non-AIDS cancer (6.7%), heart disease (5.2%), and liver disease (2.3%), diseases that may be due to HIV-related risk behaviors or tobacco use. The proportion of persons with AIDS who died of these non-HIV/AIDS-related conditions increased over time.

**Table 4.2 Underlying causes of death among persons with AIDS, San Francisco, 1992-2003**

Underlying Cause of Death*	Year of Death		
	1992-1995	1996-1999	2000-2003
	N= 5,673 No. ( % )	N= 2,102 No. ( % )	N=1,235 No. ( % )
HIV/AIDS	4,964 ( 87.5 )	1,563 ( 74.4 )	892 ( 72.2 )
Non-AIDS cancer	72 ( 1.3 )	87 ( 4.1 )	83 ( 6.7 )
Lung cancer	26 ( 0.5 )	21 ( 1.0 )	27 ( 2.2 )
Liver cancer	3 ( 0.1 )	16 ( 0.8 )	13 ( 1.1 )
Anal cancer	0 ( 0.0 )	6 ( 0.3 )	5 ( 0.4 )
Heart disease	54 ( 1.0 )	53 ( 2.5 )	64 ( 5.2 )
Coronary heart disease	18 ( 0.3 )	21 ( 1.0 )	44 ( 3.6 )
Cardiomyopathy	3 ( 0.1 )	11 ( 0.5 )	5 ( 0.4 )
Liver disease	63 ( 1.1 )	27 ( 1.3 )	28 ( 2.3 )
Liver cirrhosis	15 ( 0.3 )	10 ( 0.5 )	13 ( 1.1 )
Alcoholic liver disease	18 ( 0.3 )	14 ( 0.7 )	12 ( 1.0 )
Drug overdose	42 ( 0.7 )	53 ( 2.5 )	25 ( 2.0 )
Suicide	58 ( 1.0 )	29 ( 1.4 )	19 ( 1.5 )
Mental disorders due to substance use	16 ( 0.3 )	16 ( 0.8 )	17 ( 1.4 )
Chronic obstructive lung disease	20 ( 0.4 )	12 ( 0.6 )	16 ( 1.3 )
Viral hepatitis	60 ( 1.1 )	57 ( 2.7 )	7 ( 0.6 )
Pneumonia	49 ( 0.9 )	24 ( 1.1 )	0 ( 0.0 )
Aspergillosis	52 ( 0.9 )	34 ( 1.6 )	0 ( 0.0 )

\* See Technical Notes "Causes of Death."

Table 4.3 summarizes both underlying and contributory causes of death among persons with AIDS. Although persons with AIDS predominantly died of HIV/AIDS-related causes, the increasing proportion of deaths due to non-HIV/AIDS-related causes suggests that certain highly prevalent risk behaviors in this population are playing an important role in mortality trends. Co-infection with HIV and hepatitis viruses may be related to deaths associated with liver disease, viral hepatitis, and liver cancer. Smoking may be related to deaths associated with lung cancer, obstructive lung disease, and coronary heart disease. Use of illicit drugs contributes to deaths due to drug overdoses and mental disorders.

**Table 4.3 Multiple causes of death among persons with AIDS, San Francisco, 1992-2003**

Multiple Causes of Death*	Year of Death					
	1992-1995		1996-1999		2000-2003	
	No.	( % )	No.	( % )	No.	( % )
HIV/AIDS	5,409	( 95.3 )	1,877	( 89.3 )	1,064	( 86.2 )
Heart disease	956	( 16.9 )	334	( 15.9 )	253	( 20.5 )
Coronary heart disease	39	( 0.7 )	39	( 1.9 )	70	( 5.7 )
Cardiomyopathy	56	( 1.0 )	39	( 1.9 )	23	( 1.9 )
Liver disease	306	( 5.4 )	189	( 9.0 )	193	( 15.6 )
Liver cirrhosis	74	( 1.3 )	67	( 3.2 )	79	( 6.4 )
Alcoholic liver disease	30	( 0.5 )	20	( 1.0 )	16	( 1.3 )
Pneumonia	880	( 15.5 )	300	( 14.3 )	187	( 15.1 )
Viral hepatitis	107	( 1.9 )	124	( 5.9 )	164	( 13.3 )
Septicemia	352	( 6.2 )	149	( 7.1 )	134	( 10.9 )
Non-AIDS cancer	326	( 5.7 )	167	( 7.9 )	117	( 9.5 )
Lung cancer	27	( 0.5 )	25	( 1.2 )	31	( 2.5 )
Liver cancer	4	( 0.1 )	20	( 1.0 )	16	( 1.3 )
Anal cancer	1	( <1 )	8	( 0.4 )	8	( 0.6 )
Renal disease	189	( 3.3 )	112	( 5.3 )	106	( 8.6 )
Mental disorders due to substance use	66	( 1.2 )	63	( 3.0 )	70	( 5.7 )
Chronic obstructive lung disease	60	( 1.1 )	44	( 2.1 )	49	( 4.0 )
Drug overdose	47	( 0.8 )	65	( 3.1 )	35	( 2.8 )
Cerebrovascular disease	72	( 1.3 )	43	( 2.0 )	35	( 2.8 )
Suicide	58	( 1.0 )	29	( 1.4 )	19	( 1.5 )
Aspergillosis	80	( 1.4 )	52	( 2.5 )	14	( 1.1 )

\* Includes underlying and contributory causes of death. Individuals may have more than one cause of death. See Technical Notes "Causes of Death."

## 5

## Persons Living with HIV/AIDS

## HIV/AIDS surveillance data

Ongoing incidence of HIV, coupled with the increase in survival after AIDS, has resulted in an increasing number of persons living with HIV/AIDS. As of December 31, 2005, there were 14,748 San Francisco residents recorded as living with HIV/AIDS (Table 5.1). The estimated total number of persons living with HIV, over 18,708 (Table 1.5), suggests that almost 4,000 or 21% of infected persons are unaware of their status or not in care. The demographic and risk characteristics of persons living with HIV/AIDS have remained relatively stable between 2002 and 2005; most are white, aged 40-49 years, and MSM (including MSM IDU).

**Table 5.1 Persons living with HIV/AIDS by demographic and risk characteristics, San Francisco, 2002-2005\***

	2002		2003		2004		2005	
	Number	(%)	Number	(%)	Number	(%)	Number	(%)
<b>Gender</b>								
Male	11,690	( 92 )	12,402	( 92 )	13,096	( 92 )	13,567	( 92 )
Female	726	( 6 )	780	( 6 )	837	( 6 )	884	( 6 )
Transgender	242	( 2 )	273	( 2 )	288	( 2 )	297	( 2 )
<b>Race/Ethnicity</b>								
White	8,484	( 67 )	8,870	( 66 )	9,296	( 65 )	9,557	( 65 )
African American	1,822	( 14 )	1,961	( 15 )	2,048	( 14 )	2,116	( 14 )
Latino	1,643	( 13 )	1,813	( 13 )	1,977	( 14 )	2,103	( 14 )
Asian/Pacific Islander	506	( 4 )	566	( 4 )	625	( 5 )	657	( 4 )
Native American	79	( 1 )	87	( 1 )	95	( 1 )	101	( <1 )
Other/Unknown	124	( 1 )	158	( 1 )	180	( 1 )	214	( 2 )
<b>Age (at end of each year)</b>								
0 - 19	38	( <1 )	42	( <1 )	41	( <1 )	34	( <1 )
20 - 29	482	( 4 )	517	( 4 )	579	( 4 )	588	( 4 )
30 - 39	3,578	( 28 )	3,511	( 26 )	3,344	( 24 )	3,112	( 21 )
40 - 49	5,290	( 42 )	5,618	( 42 )	5,933	( 42 )	6,190	( 42 )
50+	3,270	( 26 )	3,767	( 28 )	4,324	( 30 )	4,824	( 33 )
<b>Risk</b>								
MSM	9,210	( 73 )	9,746	( 72 )	10,335	( 73 )	10,697	( 73 )
IDU	1,138	( 9 )	1,219	( 9 )	1,263	( 9 )	1,278	( 9 )
MSM IDU	1,648	( 13 )	1,704	( 13 )	1,756	( 12 )	1,791	( 12 )
Heterosexual	253	( 2 )	279	( 2 )	303	( 2 )	337	( 2 )
Transfusion/Hemophilia	36	( <1 )	38	( <1 )	37	( <1 )	37	( <1 )
Other/Unknown	373	( 3 )	469	( 3 )	527	( 4 )	608	( 4 )
<b>Total</b>	<b>12,658</b>		<b>13,455</b>		<b>14,221</b>		<b>14,748</b>	

\* Persons living with HIV/AIDS at the end of each year.

## Unmet need estimate

An analysis was conducted to estimate unmet need for primary medical care for persons living with HIV/AIDS in San Francisco. Persons with HIV/AIDS were considered to have a met need for care if they had received antiretroviral therapy or had at least one CD4 or viral load test during the 12-month period from July 1, 2003 through June 30, 2004. Care information was obtained from laboratory reporting of viral load and CD4 test results, medical record reviews, and data from Medi-Cal, AIDS Drug Assistance Program (ADAP) and Kaiser Permanente Northern California. Using all available data sources, the total number of persons living with AIDS (PLWA), the total number of persons living with HIV/non-AIDS (PLWH), the proportion of PLWA who did not receive care based on chart reviews, and the number of PLWH who did not receive care were determined.

It was estimated that a total of 909 PLWA (10%) and 1,675 PLWH (22%) did not receive primary medical care during July 2003 and June 2004 (Table 5.2). Among PLWA, unmet need was similar across all categories examined. Persons aged 20 to 29 years were found to have the greatest proportion of unmet need for medical care (39%) among those living with HIV/non-AIDS.

**Table 5.2 Unmet need by demographic characteristics among persons living with HIV/AIDS, San Francisco, July 2003-June 2004**

	Persons with AIDS N=8,878		Persons with HIV/non-AIDS N=7,568		ALL N=16,446	
	with unmet need		with unmet need		with unmet need	
	Number	%	Number	%	Number	%
<b>Total</b>	909	10%	1,675	22%	2,584	16%
<b>Gender</b>						
Male	863	10%	1,545	22%	2,408	16%
Female	46	9%	130	19%	176	15%
<b>Race/Ethnicity*</b>						
White	627	11%	999	21%	1,626	16%
African American	129	10%	291	24%	420	17%
Latino	116	9%	226	23%	342	15%
Asian/Pacific Islander	30	8%	78	20%	108	14%
Other	7	8%	33	14%	40	12%
<b>Age (as of 6/30/04)</b>						
0-19	1	8%	12	21%	13	17%
20-29	13	8%	221	39%	234	32%
30-39	209	12%	613	26%	822	20%
40-49	413	10%	563	19%	976	14%
50+	273	9%	266	16%	539	11%

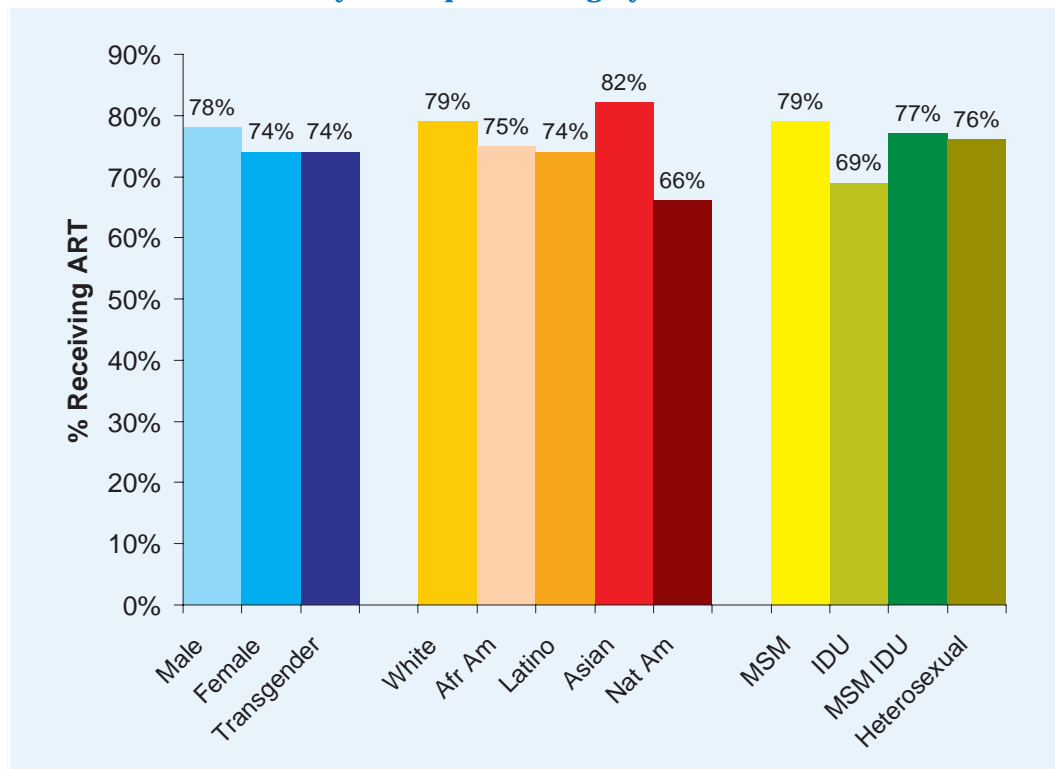
\* Persons with unknown race/ethnicity were included in the total count but not listed in this category.

## 6

# Use of Antiretroviral Therapy among Persons with AIDS

Use of antiretroviral therapy (ART) was assessed among persons living with AIDS as of December 31, 2005, including those who moved outside of San Francisco or were lost to follow-up. Overall, 77% of persons living with AIDS received ART. A greater percent of men have used ART compared to women or transgender persons (Figure 6.1). Use of ART was higher among Asians/Pacific Islanders and whites compared to African Americans, Latinos, and Native Americans. ART use was more common among MSM than among heterosexual injection drug users.

**Figure 6.1 Use of antiretroviral therapy among persons living with AIDS by gender, race/ethnicity, and exposure category, San Francisco, December 2005**



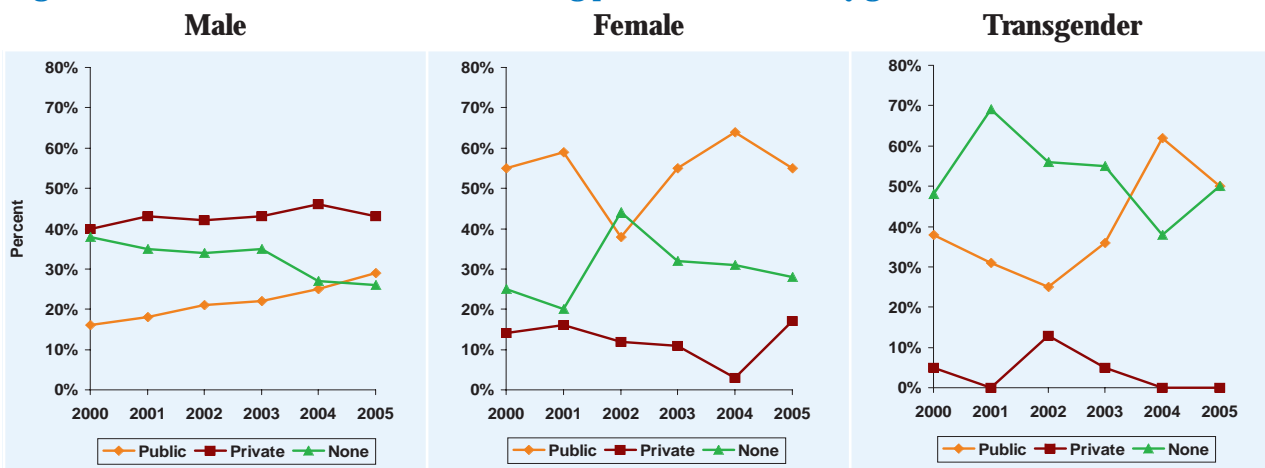


# 7

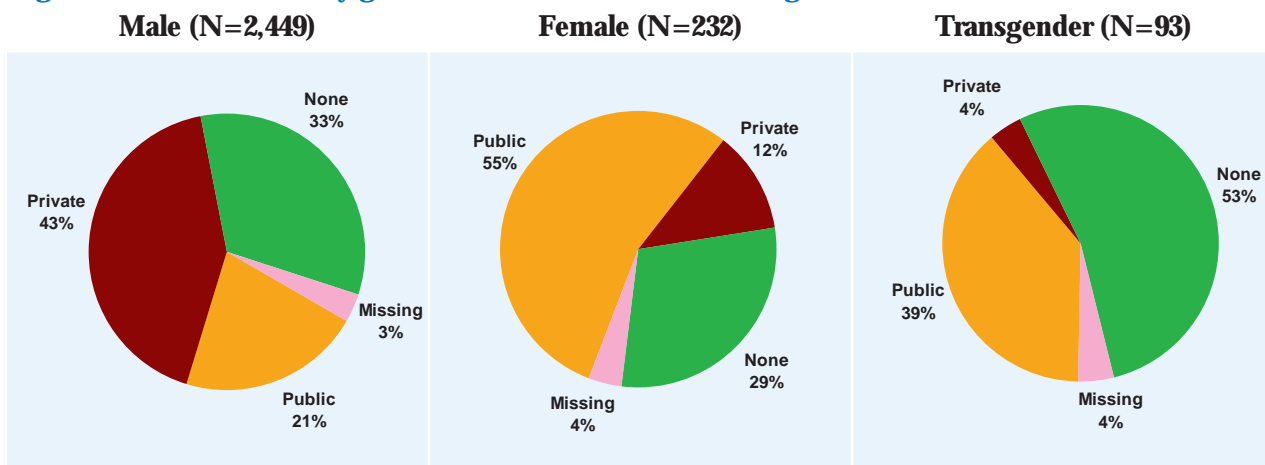
## Insurance Status at Time of AIDS Diagnosis

Insurance status at the time of AIDS diagnosis differs by gender. Between 2000 and 2005, the proportion of men who were insured at the time of AIDS diagnosis increased, with the proportion using public insurance increasing from 16% in 2000 to 29% in 2005 (Figure 7.1). In women, the proportion of uninsured has been declining since 2002. Among transgender AIDS cases diagnosed in 2005, 50% had public insurance and 50% had no insurance. For AIDS cases diagnosed between 2000 and 2005, 92% of transgenders and 84% of women were under-insured (i.e. no insurance or with public insurance), compared to 54% of men (Figure 7.2).

**Figure 7.1 Trends in insurance status among persons with AIDS by gender, San Francisco, 2000-2005**



**Figure 7.2 AIDS cases by gender and insurance status at diagnosis, San Francisco, 2000-2005**



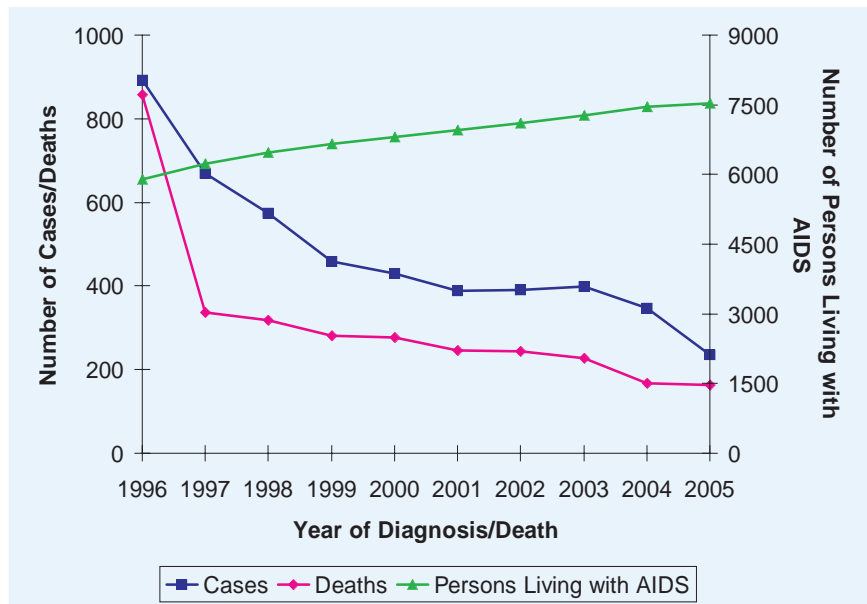
# 8

## HIV/AIDS among Men Who Have Sex with Men

### AIDS surveillance data

While the number of new AIDS cases and AIDS deaths among MSM has continued to decline, the number of MSM living with AIDS continues to increase (Figure 8.1). This is due in part to improved treatment for persons with AIDS. In 2005, there were 7,524 MSM living with AIDS in San Francisco.

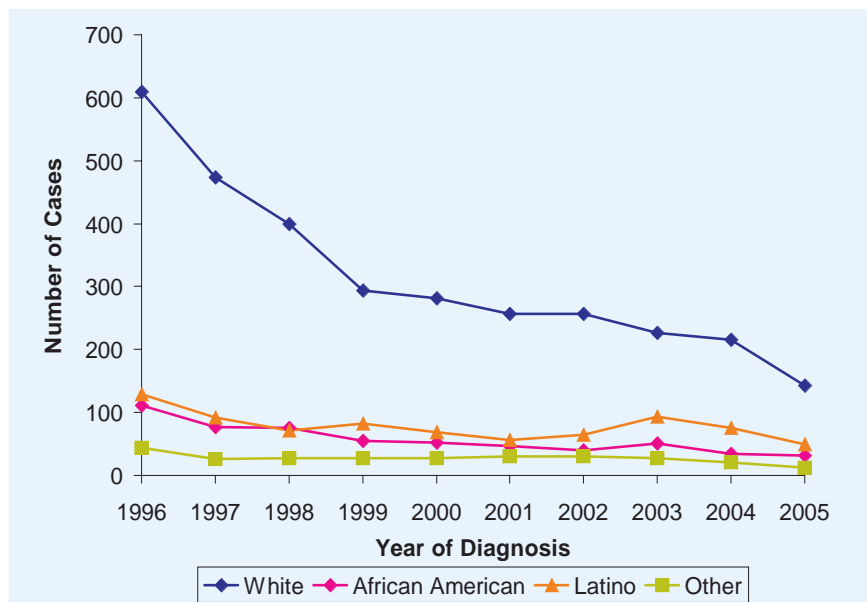
**Figure 8.1** AIDS cases, deaths, and prevalence among MSM\*, San Francisco, 1996-2005



\* Includes MSM and MSM IDU.

The majority of San Francisco AIDS cases have occurred among white MSM (Figure 8.2). Although the number of AIDS cases has declined among all MSM, whites still account for the greatest number of MSM cases followed by Latino MSM.

**Figure 8.2** AIDS cases among MSM\* by race/ethnicity, San Francisco, 1996-2005



\* Includes MSM and MSM IDU.

## HIV behavioral and prevalence data

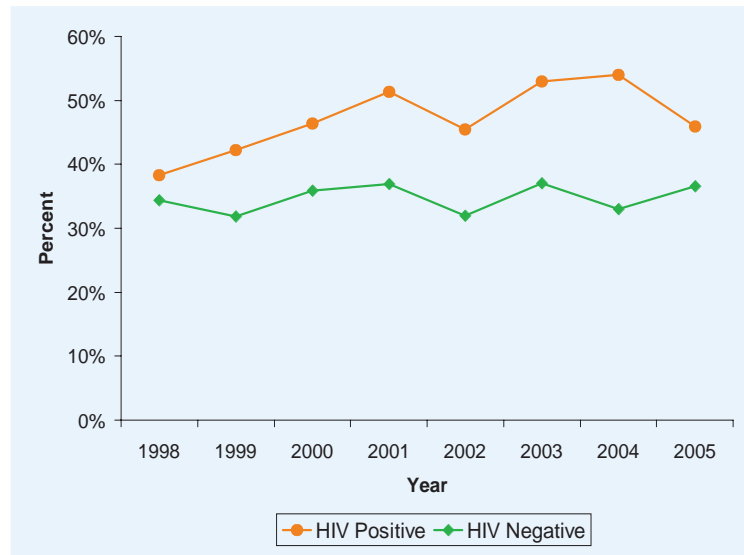
### *The Stop AIDS Project*

The Stop AIDS Project collects information on sexual behavior and self-reported HIV status through the course of outreach HIV prevention activities for MSM in San Francisco. Their data provide an opportunity to track annual trends in HIV-related risk behavior in a large, community-recruited sample of MSM.

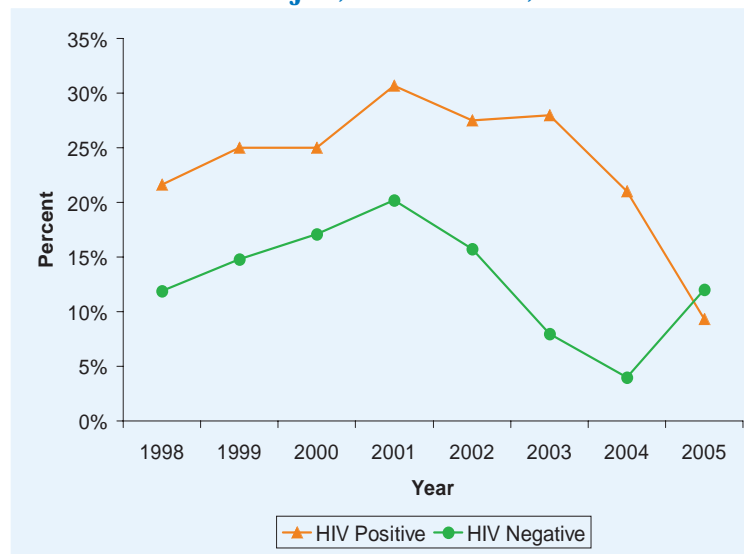
Figure 8.3 illustrates trends in unprotected anal intercourse (UAI) from 1998 through 2005 by self-reported HIV serostatus. An overall trend of increasing UAI is apparent among HIV-positive MSM for the whole time period. Figure 8.3 also illustrates that UAI is most commonly reported by HIV-positive MSM.

Figure 8.4 shows the proportion of MSM who report having UAI with one or more sex partners whose HIV status was not known to them. This measure most closely gauges the potential for HIV transmission to occur by excluding sex between individuals known to be of the same HIV status. Overall UAI with potentially HIV-serodiscordant men peaked in 2001. The downward trend continues among HIV-positive men.

**Figure 8.3** Percent of MSM reporting unprotected anal intercourse by self-reported HIV status in the last six months, the Stop AIDS Project, San Francisco, 1998-2005



**Figure 8.4** Percent of MSM reporting unprotected anal intercourse with at least one partner of unknown HIV status\* in the last six months, the Stop AIDS Project, San Francisco, 1998-2005



\* For MSM who did not know or report their HIV status, any UAI was considered potentially serodiscordant.

**Telephone Survey of MSM**

Among the 492 MSM who were included in a telephone survey in 2002, 92% reported having received HIV-specific medical care (Table 8.1). This proportion was somewhat lower among African American and younger men. Receipt of antiretroviral therapy was highest among Asians/Pacific Islanders and lowest among African Americans. Use of antiretroviral therapy was lowest among men without health insurance and younger men. However, many men may not have been clinically eligible for antiretroviral therapy. Pneumococcal vaccine is recommended for HIV-infected persons yet only a relatively small proportion (26.7%) of men in the survey reported receiving this vaccine. A greater proportion of Asians/Pacific Islanders received the vaccine while a lower proportion of Latinos or men of mixed race had been vaccinated. Receipt of vaccine was reported less frequently among men with private insurance or without health insurance and younger men. Screening for tuberculosis (TB) is also recommended for HIV-infected persons yet, with the exception of African American men, the proportion of men who had been screened for TB was relatively low. Men with private health insurance and younger men reported TB screening less frequently.

**Table 8.1 Receipt of HIV-related medical care among HIV-infected MSM, Telephone Survey of MSM, 2002**

	Services received in the past 12 months*			
	Ever Received HIV-specific Care	Antiretroviral Therapy	Pneumonia Vaccine	Tuberculosis Screening
<b>Total</b>	<b>92.1%</b>	<b>76.9%</b>	<b>26.7%</b>	<b>56.6%</b>
<b>Race</b>				
Asian/Pacific Islander	91.1%	91.1%	51.2%	52.6%
African American	86.7%	57.9%	36.9%	74.0%
Latino	89.9%	69.9%	22.2%	58.7%
Mixed	97.8%	82.0%	16.2%	59.9%
White	92.9%	79.6%	26.9%	55.6%
<b>Insurance</b>				
Public	95.3%	79.4%	32.1%	77.4%
Private	90.8%	75.7%	22.2%	41.6%
None	93.2%	28.1%	27.9%	78.4%
<b>Age (years)</b>				
25-39	88.5%	65.6%	25.0%	55.7%
40-54	93.7%	80.8%	26.8%	56.1%
55-70	92.5%	83.4%	29.3%	60.3%

\* Results are weighted for survey design.

### *National Behavioral Surveillance Survey*

In 2003, the CDC initiated a national behavioral surveillance system in the largest US metropolitan areas (see Technical Notes, National Behavioral Surveillance). A total of 1,574 MSM in San Francisco were surveyed in 2003 through 2004, and those men described 3,789 sexual partnerships that they had had in the previous six months, including the place where they met their partners and the HIV status of their partners. Table 8.2 shows the places where people met their sexual partners. The largest number of MSM met their partners at bars, cafes, nightclubs or restaurants followed by the Internet. The highest risk of having unprotected anal sex with a partner of potentially HIV-serodiscordant status were those met at sex clubs or bathhouses (7.5%). Of note, unprotected potentially serodiscordant sex was significantly more likely to occur with partners met on the Internet compared to those met at bars (6.7% vs. 4.7%, respectively).

**Table 8.2 Partnerships among MSM by venue where partnerships were initiated, the National Behavioral Surveillance Survey, San Francisco, 2003-2004**

	No. of partnerships initiated at venue	No. and percent of potentially discordant, unprotected anal sex partnerships
<b>Total</b>	<b>3,408</b>	<b>171 ( 5.0% )</b>
<b>Venue where partnerships were initiated</b>		
Dating services, newspaper ads	18	0 ( 0.0% )
Church, political function or club	32	2 ( 6.3% )
Gym, athletic activity	108	3 ( 2.8% )
Private party, social club	123	3 ( 2.4% )
Work or school	146	3 ( 2.1% )
Some other way	162	12 ( 7.4% )
Sex club, bathhouse	293	22 ( 7.5% )
Street, park, library, public transport	294	21 ( 7.1% )
Introduced by friends	403	10 ( 2.5% )
Internet	611	41 ( 6.7% )
Bar, café, nightclub, restaurant	1,121	53 ( 4.7% )

Racial disparities in HIV prevalence are present throughout the United States and in San Francisco. In the National Behavioral Surveillance Survey, African-American MSM had the highest HIV prevalence (31.8%), followed by whites (26.3%), Latinos (23.1%) and Asians (10.0%). Paradoxically, the prevalence of many risk behaviors of African-American MSM in the survey tends to be the lowest of all racial groups (Table 8.3). African American MSM were less likely to have UAI with a partner of an unknown or different HIV status. HIV-negative African-American MSM were also significantly less likely to have unprotected receptive anal intercourse with an HIV-positive or unknown partner. The reasons behind the racial disparities in HIV prevalence need to be studied further.

**Table 8.3 HIV prevalence among MSM by race/ethnicity, the National Behavioral Surveillance Survey, San Francisco, 2003-2004**

Race	HIV prevalence	Risk Behavior		
		Serodiscordant/ potentially discordant unprotected anal sex	Unprotected receptive anal sex with potential HIV-positives among HIV- negative respondents	Unprotected insertive anal sex with potential HIV-negatives among HIV-positive respondents
African American	31.8%	7.2%	0.5%	6.1%
White	26.3%	12.2%	3.3%	8.8%
Latino	23.1%	10.0%	2.4%	9.4%
Asian	10.0%	11.0%	2.3%	10.0%

## Sexually transmitted diseases among MSM

Figure 8.5 shows trends in male rectal gonorrhea and male gonococcal proctitis in San Francisco from 1997 through 2005. Data on male rectal gonorrhea originate from case reporting from laboratories and health providers throughout the city. Data on male gonococcal proctitis originate from the municipal STD clinic only. Infection with gonorrhea is a biological marker for high risk sexual behavior as well as a factor that enhances the acquisition and spread of HIV. Among men, rectal gonorrhea is a marker for unprotected receptive anal sex.

The last several years have seen a steady increase in reported cases of male rectal gonorrhea. Male gonococcal proctitis are cases with symptomatic infection. Data on male gonococcal proctitis suggest that some of the increase in reported male rectal gonorrhea may be due to increased screening.

Data may underestimate true levels of infections due to several factors, including lack of rectal screening by many health providers, under reporting, delayed reporting, and a large proportion of cases that do not manifest symptoms.

**Figure 8.5 Male rectal gonorrhea and male gonococcal proctitis among MSM, San Francisco, 1997-2005**

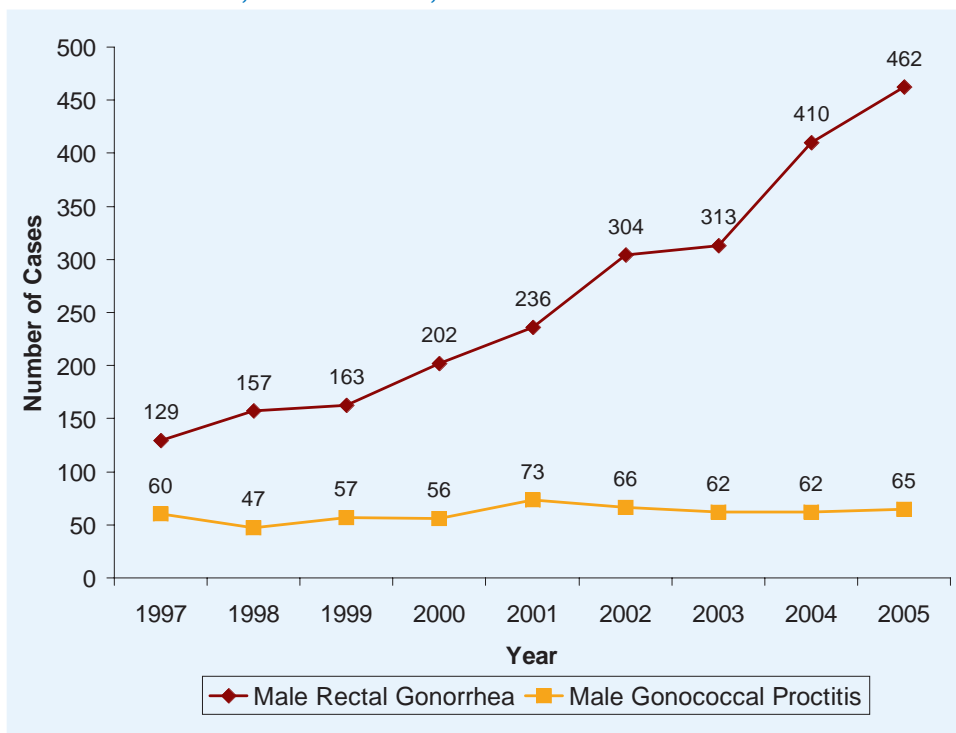
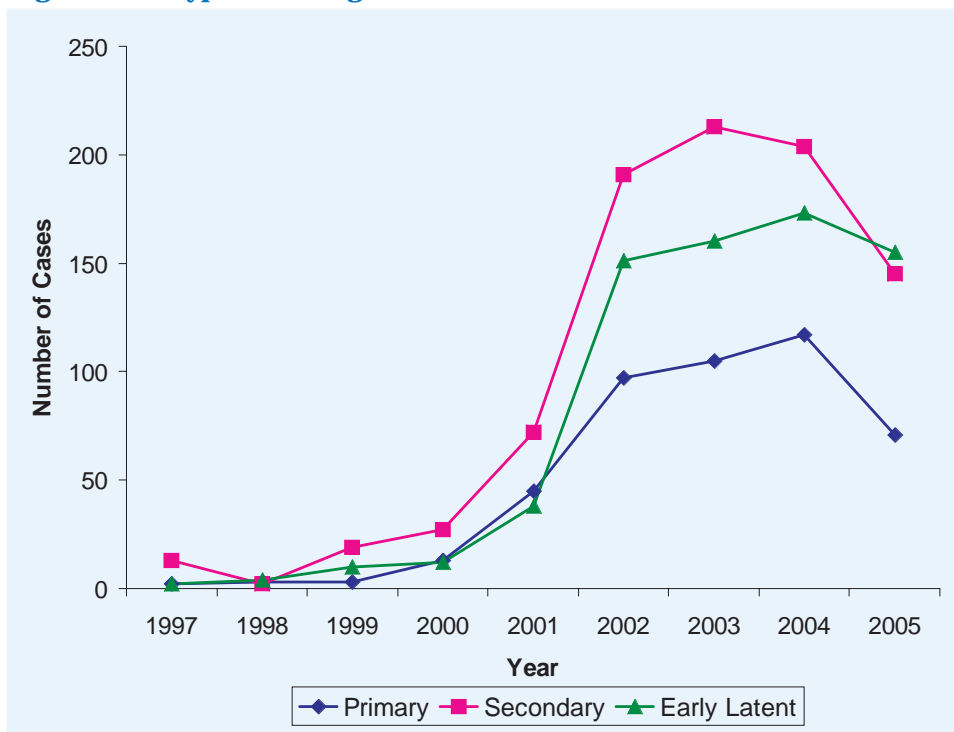


Figure 8.6 shows trends in primary, secondary, and early latent cases of syphilis among MSM in San Francisco from 1997 through 2005. Data originate from case reporting from laboratories and health providers throughout the city, although the majority are patients seen at the municipal STD clinic. Like gonorrhea, syphilis is a biological marker for high-risk sexual behavior as well as a factor that enhances the acquisition and spread of HIV. The increase in early syphilis among MSM in San Francisco since 1998 is dramatic. However, in 2005, for the first time since this rapid rise, early syphilis among MSM has declined.

**Figure 8.6 Syphilis among MSM, San Francisco, 1997-2005**





# 9

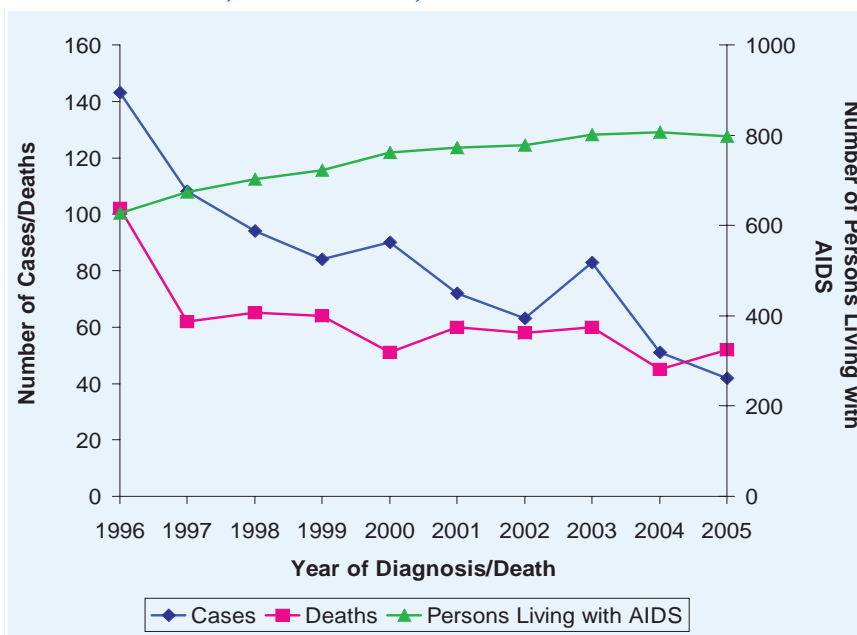
## HIV/AIDS among Injection Drug Users

### AIDS surveillance data

Injection drug use by non-MSM is the third most frequent exposure group among cumulative AIDS cases in San Francisco, after MSM and MSM IDU. This is in contrast to the national data on male AIDS cases in which non-MSM IDU comprise the second most frequent exposure group. The number of new AIDS cases among non-MSM IDU has declined (Figure 9.1). The number of deaths in this group declined substantially in 1997 and more modestly thereafter. The number of non-MSM IDU living with AIDS has decreased slightly in 2005. As of December 31, 2005 there were 797 non-MSM IDU living with AIDS in San Francisco.

From 1996 to 2004, the greatest number of AIDS cases among non-MSM IDU occurred among African Americans (Figure 9.2). Whites accounted for the second greatest number of cases in this risk group during this time period.

**Figure 9.1** AIDS cases, deaths, and prevalence among non-MSM IDU, San Francisco, 1996-2005



**Figure 9.2** AIDS cases among non-MSM IDU by race/ethnicity, San Francisco, 1996-2005

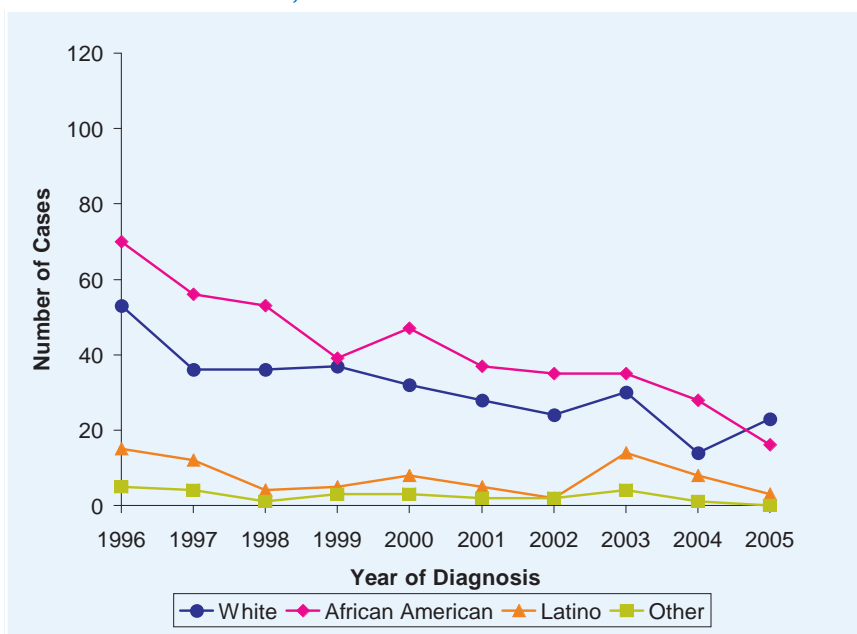


Table 9.1 shows the risk and race/ethnicity distribution of AIDS cases directly or indirectly associated with injection drug use. MSM IDU account for the majority (64%) of IDU-associated AIDS cases followed by male heterosexual IDU (22%). Of the MSM IDU cases, 71% are white and 16% are African American. This differs markedly from the heterosexual male and female IDU AIDS cases in which 50% and 53% respectively, are African American.

**Table 9.1 Injection drug use-associated AIDS cases by exposure category and race/ethnicity, diagnosed through December 2005, San Francisco**

Exposure Category	Race/Ethnicity Distribution by Percent				
	Total Number	White	African American	Latino	Other
Male heterosexual IDU	1,335	36%	50%	12%	2%
Female heterosexual IDU	638	33%	53%	10%	5%
MSM IDU	3,863	71%	16%	10%	3%
Lesbian IDU	43	49%	33%	12%	7%
Heterosexual contact with IDU	141	35%	42%	15%	9%
Children whose mothers are IDUs or mother's sex partners are IDUs	23	22%	43%	17%	17%

## HIV behavioral data

### *National Behavioral Surveillance Survey*

Injection drug users (IDU) are at high-risk of becoming infected with HIV through sharing injection equipment or by engaging in unprotected sex with HIV-infected persons. In 2005, National HIV Behavioral Surveillance Survey sampled IDU. Data on a total of 569 injection drug users in San Francisco were acquired through respondent-driven sampling (RDS) in which IDU were interviewed and then asked to recruit up to three members of their social network who also inject drugs. RDS analysis provided estimates for the entire IDU population from data collected during sampling.

Overall, the self-reported HIV infection rate among IDU in San Francisco is high (13.8%). Nearly half had at least one act of unprotected sex in the last six months, and many (30.3%) inject with a needle that has been used by someone else at least half the time (Table 9.2). Needle exchange programs were the most common source of needles for IDU; 81% had received needles from a needle exchange site in the last 12 months (Table 9.3).

**Table 9.2** Estimated proportion of injection drug users engaging in risk behaviors, the National Behavioral Surveillance Survey, San Francisco, 2005

Variable	Proportion
Drug use (at least once a month)	
Methamphetamines	37.7%
Heroin	37.3%
Speedball	28.2%
Cocaine	21.6%
Crack	8.8%
Needle sharing <sup>1</sup>	
Shared needles half the time	30.3%
Never shared needles	19.5%
Always shared needles	0.6%
Sexual behavior	
Unprotected sex <sup>2</sup>	48.6%
Traded sex for goods <sup>3</sup>	6.0%

1 Inject with needles that may have been used by someone else in the past 12 months.

2 Any unprotected vaginal or anal sex with at least one of 5 most recent partners in the last 6 months.

3 Any sexual partnership where at least one partner received money or other goods in exchange for sex.

**Table 9.3** Estimated proportion of injection drug users engaging in protective behaviors, the National Behavioral Surveillance Survey, San Francisco, 2005

Protective behavior	Proportion
Source of clean needles in last 12 months	
Needle Exchange	81.0%
Friend	66.0%
Dealer	45.7%
Pharmacy	17.4%
Ever tested for HIV	97.4%
Tested in the last 12 months	76.1%
Ever been in detoxification	66.8%

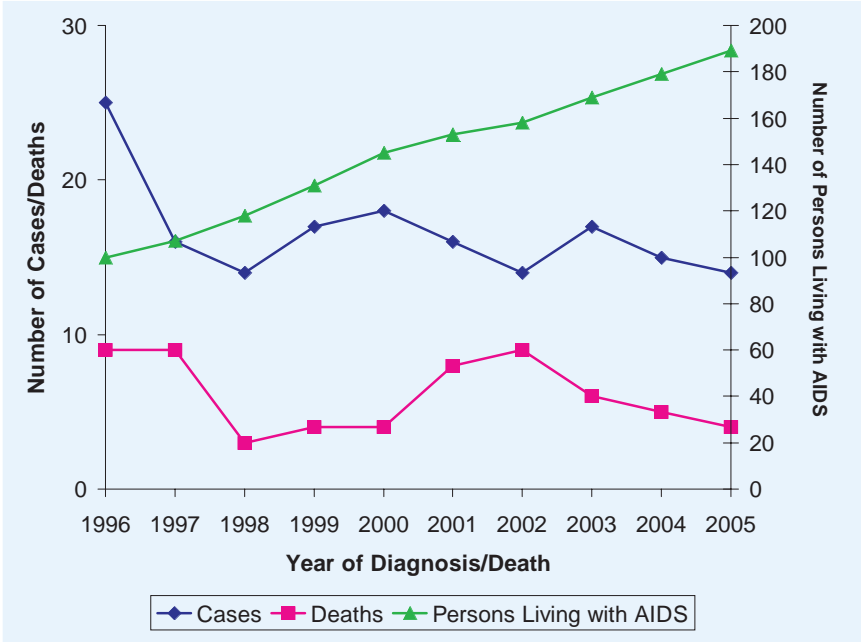
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## HIV/AIDS among Heterosexuals

### AIDS surveillance data

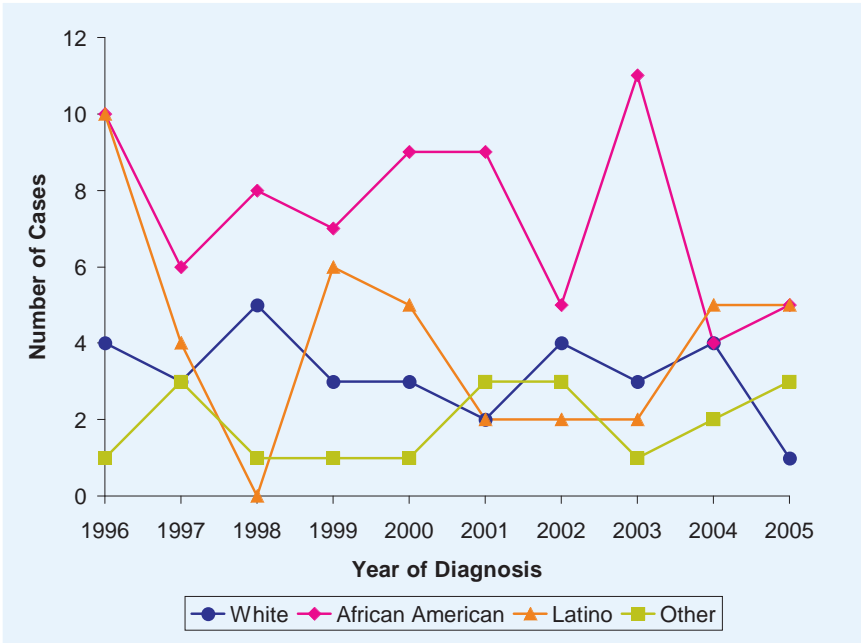
The number of AIDS cases among persons who acquired HIV infection through heterosexual contact is small relative to other risk groups. The number of new AIDS cases in this group has declined (Figure 10.1). The number of deaths among heterosexual non-IDU has also declined. The number of heterosexual non-IDU living with AIDS has increased to a total of 189 by December 31, 2005.

**Figure 10.1** AIDS cases, deaths, and prevalence among heterosexuals, San Francisco, 1996-2005



Trends in heterosexual AIDS cases by race/ethnicity fluctuate from year to year due to small numbers (Figure 10.2). Overall, African Americans account for the largest number of heterosexual AIDS cases since 1996.

**Figure 10.2** AIDS cases among heterosexuals by race/ethnicity, San Francisco, 1996-2005



The majority of heterosexually acquired AIDS cases are women (Table 10.1). Among women in this risk group, sex with an IDU partner was the most frequent exposure category, while among men, sex with an HIV-infected partner of unknown risk was the most frequent exposure category.

**Table 10.1 AIDS cases among heterosexuals by exposure category and gender, diagnosed through December 2005, San Francisco**

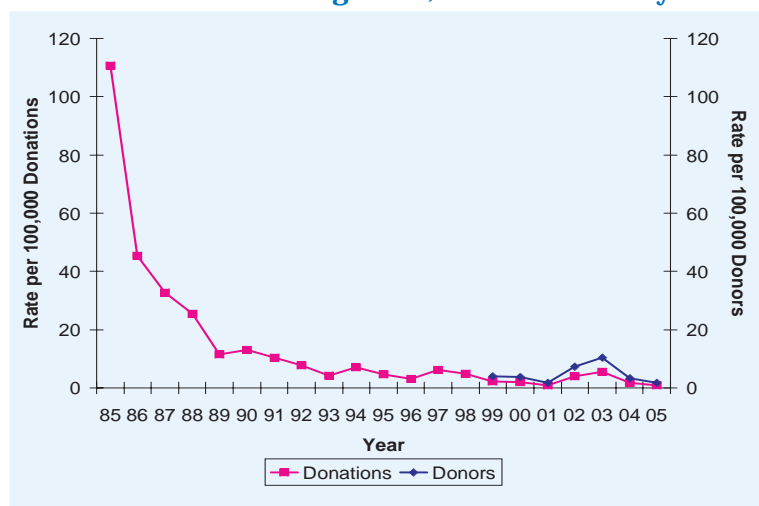
Exposure Category	Men		Women	
	Number	%	Number	%
Sex with injection drug user	33	35%	108	43%
Sex with bisexual men	N/A	N/A	44	17%
Sex with HIV+ transfusion recipient	<5	-	<5	-
Sex with HIV+ persons of unknown risk	58	62%	99	39%

## HIV prevalence data

### Blood Donations

HIV prevalence data among blood donations (keeping in mind that multiple donations can be made by one donor) are available from 1985 to 2005, and the data among individual donors are available from 1999 to 2005. The proportion of blood donors and blood donations testing HIV-positive has remained low and stable since the early 1990s (Figure 10.3). Blood donation is voluntary and donors are pre-screened for risk factors associated with HIV infection prior to giving blood. Although blood donors constitute a large population of heterosexual, non-injection drug users, interpretation of these data must take into account that only persons at lowest risk for HIV are encouraged to donate blood.

**Figure 10.3 HIV prevalence rate among blood donations and donors through 2005, San Francisco Bay Area**



### Sexually transmitted diseases among heterosexuals

Figure 10.4 shows the annual number of primary, secondary, and early latent cases of syphilis among heterosexual men in San Francisco from 1997 through 2005. Data originate from case reporting from laboratories and health providers throughout the city, although the majority are patients seen at the municipal STD clinic. Compared to MSM, syphilis among heterosexual men remains relatively low in recent years.

**Figure 10.4 Syphilis among heterosexual men, San Francisco, 1997-2005**

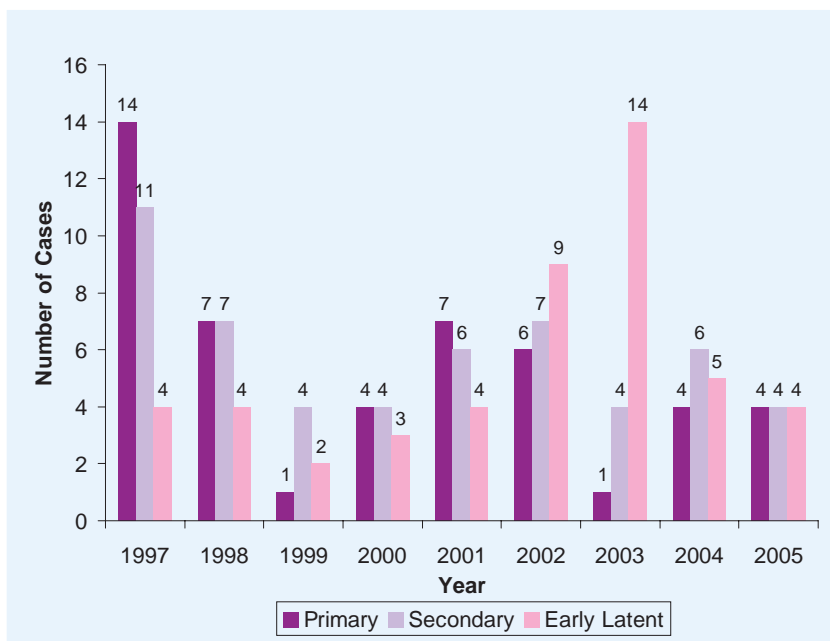
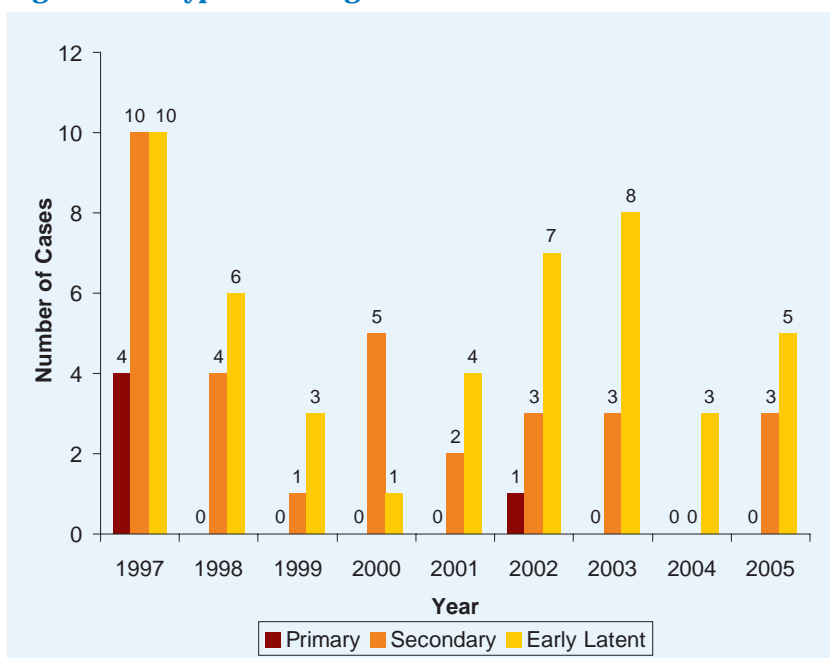


Figure 10.5 shows the annual number of primary, secondary, and early latent cases of syphilis among women in San Francisco from 1997 through 2005. Data originate from case reporting from laboratories and health providers throughout the city, although the majority are patients seen at the municipal STD clinic. Among women, syphilis cases are low and stable in recent years.

**Figure 10.5 Syphilis among women, San Francisco, 1997- 2005**



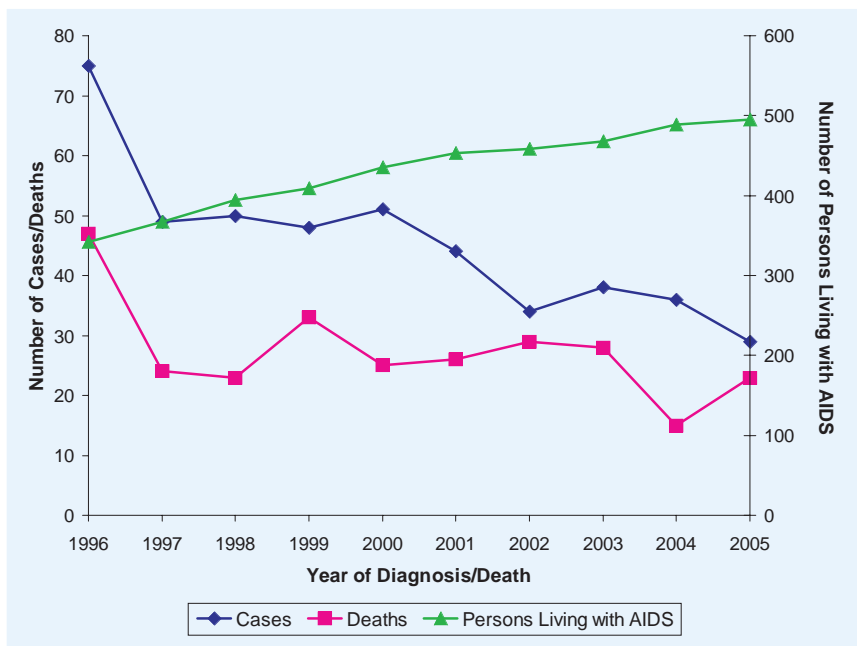
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## HIV/AIDS among Women

### AIDS surveillance data

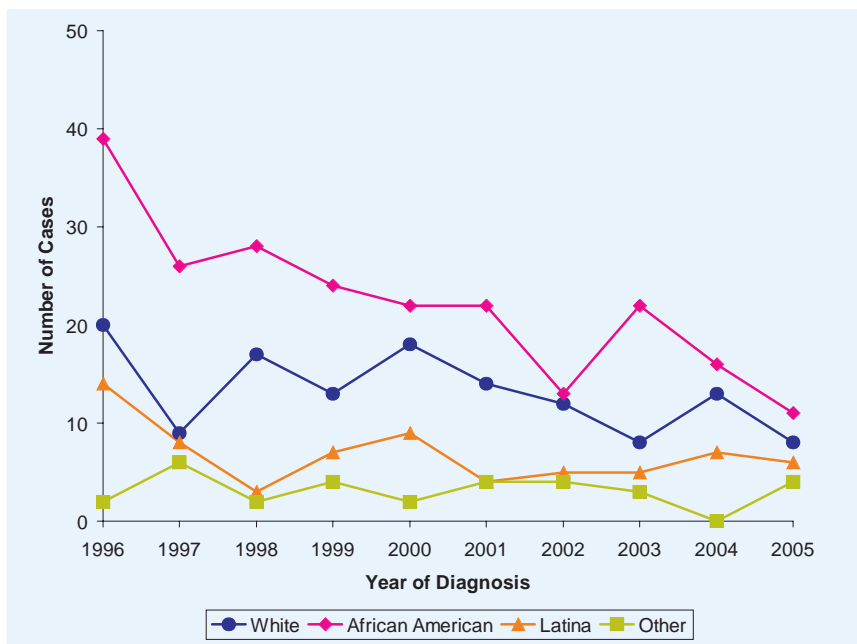
The number of AIDS cases and deaths among women in San Francisco has declined through 2005 (Figure 11.1). As of December 31, 2005 there were 495 women living with AIDS.

**Figure 11.1** AIDS cases, deaths, and prevalence among women, San Francisco, 1996-2005



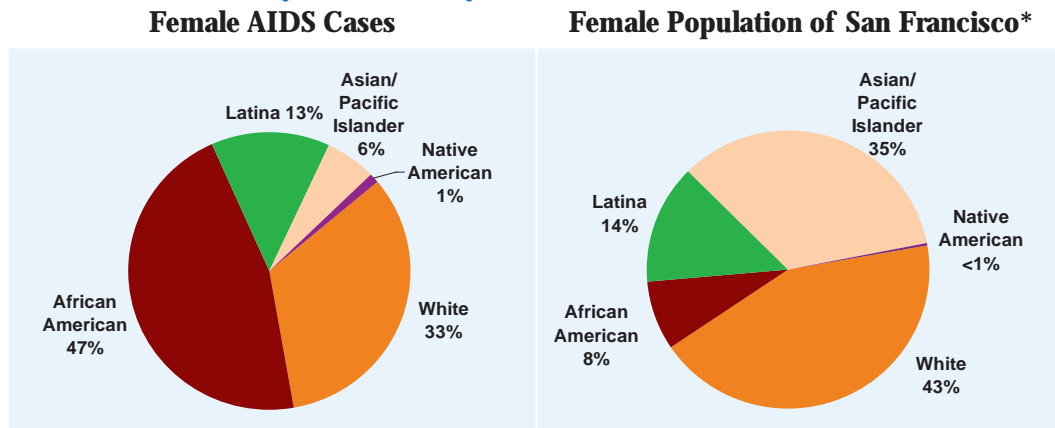
The number of new AIDS cases among African American women has been higher than women of other racial/ethnic groups between 1996 and 2005 (Figure 11.2).

**Figure 11.2** Female AIDS cases by race/ethnicity, San Francisco, 1996-2005



African American women comprise a disproportionate percentage of women with AIDS in San Francisco. Among female AIDS cases, 47% occurred among African Americans even though African American women comprise only 8% of the San Francisco female population (Figure 11.3).

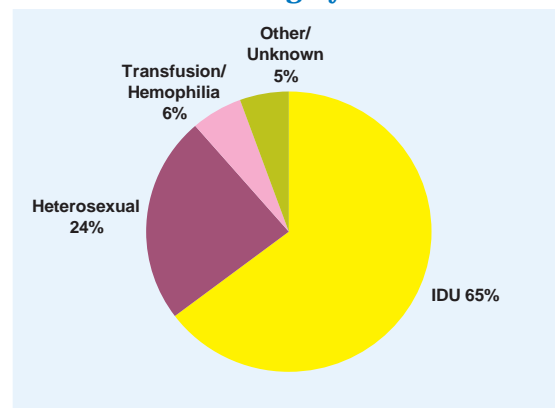
**Figure 11.3 Female AIDS cases diagnosed through December 2005 and female population by race/ethnicity, San Francisco**



\* United States 2000 Census data.

Injection drug use (65%) is the most prominent risk exposure for women with AIDS, followed by heterosexual contact (24%) (Figure 11.4).

**Figure 11.4 Female AIDS cases diagnosed through December 2005 by exposure category, San Francisco**





## 12

# HIV/AIDS among Adolescents and Young Adults

## AIDS surveillance data

As of December 31, 2005, a cumulative total of 33 adolescents (age 13-19 years) and 527 young adults (aged 20-24 years) were diagnosed with AIDS in San Francisco (Table 12.1). The characteristics of young adults with AIDS are similar to other adults; the majority are MSM, white, and male. In both adolescents and young adults, MSM IDU is the second most frequent risk group.

**Table 12.1 Adolescent and young adult AIDS cases by exposure category, gender, and race/ethnicity, diagnosed through December 2005, San Francisco**

	13-19 Years Old (N=33)	20-24 Years Old (N=527)
<b>Exposure Category</b>		
MSM	39%	58%
IDU	0%	10%
MSM IDU	27%	27%
Transfusion/Hemophilia	9%	1%
Heterosexual	12%	4%
Perinatal	3%	0%
Other/Unknown	9%	1%
<b>Gender</b>		
Male	88%	93%
Female	12%	7%
<b>Race/Ethnicity</b>		
White	30%	59%
African American	3%	15%
Latino	58%	20%
Asian/Pacific Islander	3%	5%
Native American	6%	1%

## 13

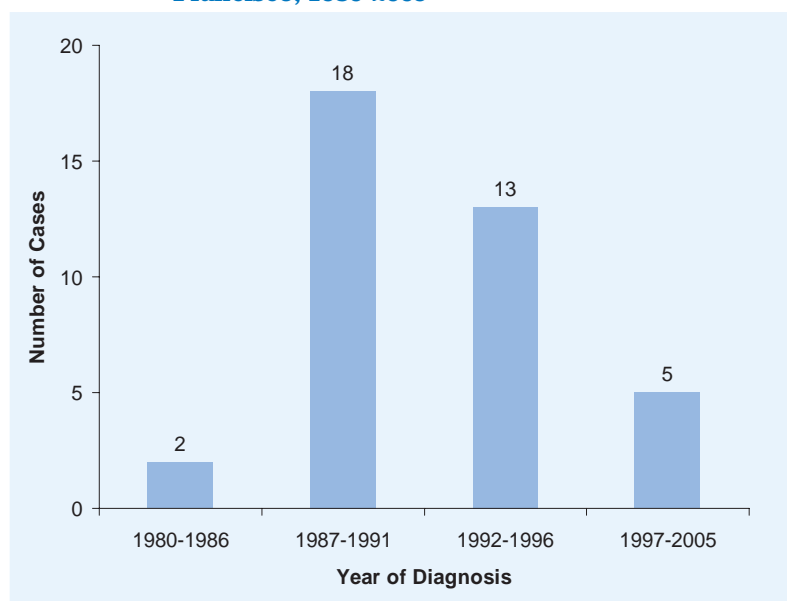
## HIV/AIDS among Children

## AIDS surveillance data

As of December 31, 2005, a cumulative total of 38 pediatric AIDS cases (less than 13 years old) were diagnosed and resided in San Francisco at the time of diagnosis. The first pediatric case was diagnosed in San Francisco in 1980 and there were only two cases diagnosed before 1987 (Figure 13.1). The number of new pediatric AIDS cases peaked between 1987 and 1991. Between 1992 and 1996 there were 13 pediatric AIDS cases, and five pediatric cases were diagnosed between 1997 and 2005.

Data collected on pediatric AIDS cases show that, as of December 2005, 24 cases are deceased. The majority of living pediatric AIDS cases are children of a high-risk or AIDS-diagnosed parent. Living pediatric AIDS cases are entirely children of color (Table 13.1).

**Figure 13.1** Pediatric AIDS cases by year of diagnosis, San Francisco, 1980-2005



**Table 13.1** Living pediatric AIDS cases by exposure category, gender, and race/ethnicity, diagnosed through December 2005, San Francisco

N= 14	
<b>Exposure Category</b>	
Transfusion/Hemophilia	7%
Child of High Risk/AIDS parent	93%
<b>Gender</b>	
Male	43%
Female	57%
<b>Race/Ethnicity</b>	
White	0%
African American	29%
Latino	36%
Asian/Pacific Islander	21%
Native American	7%

## Perinatal HIV data

Data on children with HIV in San Francisco are gathered through the Pediatric Spectrum of Disease (PSD) project. The PSD project was established in 1989 by the Centers for Disease Control and Prevention and collects data from eight areas throughout the United States. In Northern California, hospital surveillance for children under 13 years old infected with HIV or infants born to infected mothers has occurred at eight pediatric hospitals (including University of California at San Francisco and San Francisco General Hospital). Records from HIV positive pediatric patients cared for through the California Children's Services program, a state agency providing funding and case management for HIV-positive children, are also included in the PSD project. Data presented here include infants who were San Francisco residents and born to mothers documented to have HIV before delivery without a history of blood or blood product transfusion before 1985.

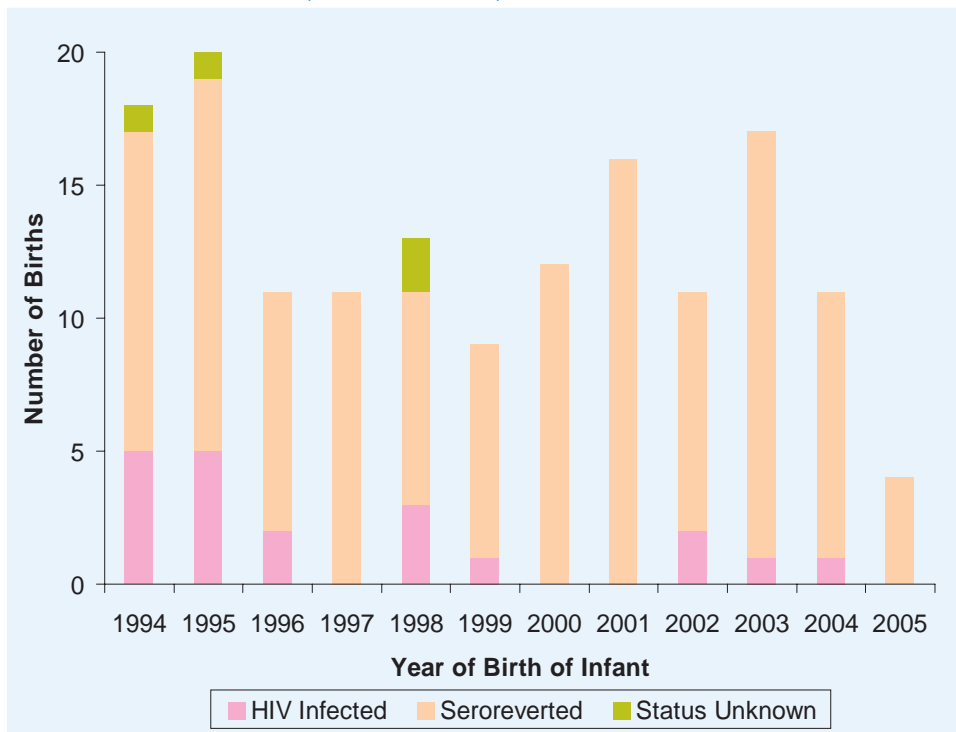
Through December 31, 2005, 290 infants were born to HIV-infected mothers who were residents of San Francisco (Table 13.2). Sixty-one (21%) of these infants were confirmed to be HIV-infected, 218 (75%) seroreverted (were determined to be uninfected after maternal antibodies disappeared), and 11 (4%) were of unknown serostatus. Of the 61 HIV-infected infants, nine are living with AIDS, 30 are living with HIV non-AIDS, and 22 have died of AIDS. Fifty-two percent of perinatally exposed infants were African American, while whites and Latinos each accounted for 19% of these infants.

**Table 13.2 Infants born to HIV-infected mothers by infant HIV status and race/ethnicity, San Francisco, December 2005**

	<u>N ( % )</u>
<b>Total</b>	<b>290</b>
<b>Infant HIV Status</b>	
HIV-infected	61 ( 21 )
AIDS (alive)	9 ( 3 )
AIDS (dead)	22 ( 8 )
HIV only (alive)	30 ( 10 )
HIV only (dead)	0 ( 0 )
Seroreverted (HIV-)	218 ( 75 )
Unknown	11 ( 4 )
<b>Race/Ethnicity</b>	
White	56 ( 19 )
African American	151 ( 52 )
Latino	55 ( 19 )
Asian/Pacific Islander	20 ( 7 )
Other/Unknown	8 ( 3 )

The number of perinatally exposed infants who were confirmed as HIV-infected has remained low since 1996 (Figure 13.2). Declines in perinatal transmission of HIV are due to the improved therapies for mothers throughout pregnancy and for infants to prevent perinatal transmission. In 2005, four infants born to HIV-infected mothers have been reported so far; all have seroreverted.

**Figure 13.2** Infants born to HIV-infected mothers by year of birth and infant HIV status, San Francisco, 1994-2005



## 14

# HIV/AIDS among Transgender Persons

## HIV/AIDS surveillance data

Persons are categorized as transgender if information regarding gender identity is present in the medical record. Information on transgender status has been collected since 1996. As of December 31, 2005, a total of 458 transgender HIV (non-AIDS) and AIDS cases were diagnosed (Table 14.1). Seventy-four percent of transgender cases were non-white compared to 29% of total HIV (non-AIDS) and AIDS cases. Transgender persons were more likely to inject drugs and be younger compared to all HIV (non-AIDS) and AIDS cases.

**Table 14.1 Characteristics of transgender\* HIV/AIDS cases and cumulative HIV/AIDS cases diagnosed through December 2005, San Francisco**

	Transgender HIV/AIDS Cases Diagnosed Through December 2005		All HIV/AIDS Cases Diagnosed Through December 2005	
<b>Total</b>	458		32,794	
<b>Race/Ethnicity</b>				
White	117	26%	23,150	71%
African American	161	35%	4,277	13%
Latino	127	28%	3,863	12%
Other/Unknown	53	11%	1,504	4%
<b>Injection Drug Use</b>				
Yes	241	53%	6,999	21%
No	217	47%	25,795	79%
<b>Age at Diagnosis</b>				
13 - 29	127	28%	4,343	14%
30 - 39	201	44%	14,841	45%
40 - 49	106	23%	9,951	30%
50+	24	5%	3,659	11%

\* See Technical Notes "Transgender Status."

# 15

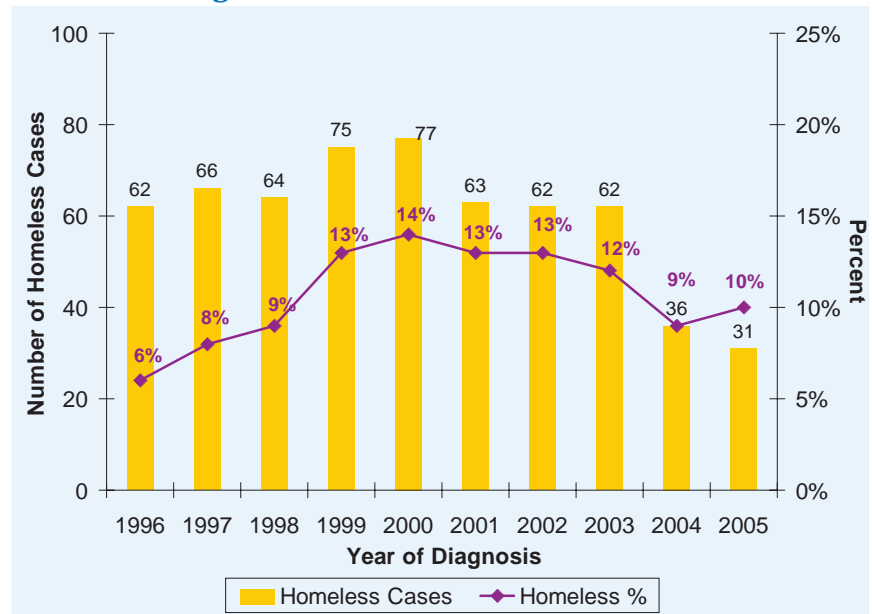
## HIV/AIDS among Homeless Persons

### AIDS surveillance data

A case is classified as homeless if, at the time of AIDS diagnosis, the medical record states that the patient is homeless or the patient's address is one of the following: (1) a known homeless shelter, (2) a health care clinic, or (3) a free postal address not connected to a residence ('general delivery'). Persons for whom information on residence is missing are not classified as homeless. The proportion of homeless AIDS cases increased between 1996 and 2000, and declined between 2000 and 2005 (Figure 15.1). For 2005, 10% of AIDS cases were homeless at the time of diagnosis.

Compared to the total number of AIDS cases diagnosed between 1996 and 2005, homeless persons with AIDS were more likely to be women, African American, injection drug users (including MSM IDU), and younger (Table 15.1).

**Figure 15.1** Number and percent of homeless AIDS cases by year of diagnosis, San Francisco, 1996-2005



**Table 15.1** Characteristics of homeless AIDS cases and AIDS cases diagnosed between 1996 and 2005, San Francisco

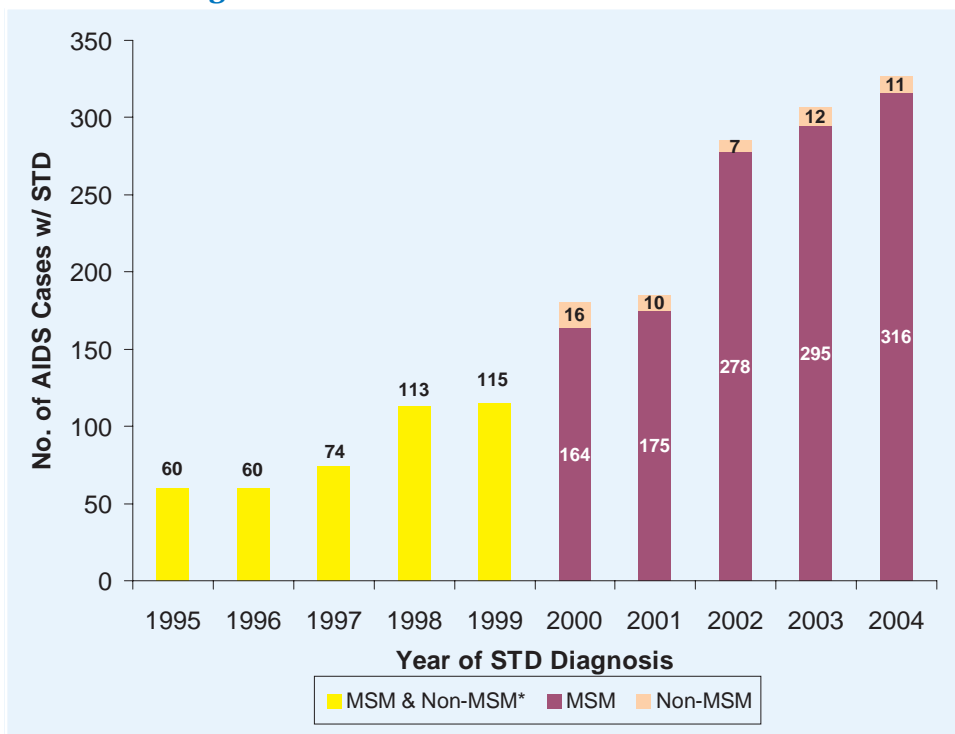
	Homeless AIDS Diagnosed 1996-2005 (N=598)	AIDS Cases Diagnosed 1996-2005 (N=5,330)
<b>Gender</b>		
Male	85%	92%
Female	15%	8%
<b>Race/Ethnicity</b>		
White	42%	60%
African American	40%	19%
Latino	15%	16%
Other	3%	6%
<b>Exposure Category</b>		
MSM	21%	65%
IDU	42%	14%
MSM IDU	32%	16%
Heterosexual	3%	3%
Other	2%	2%
<b>Age at Diagnosis</b>		
0 - 19	1%	<1%
20 - 29	13%	9%
30 - 39	39%	41%
40 - 49	36%	34%
50+	11%	15%

# 16

## Sexually Transmitted Diseases among Persons with AIDS

Diagnosis of sexually transmitted diseases (STD) occurring among persons with AIDS was determined through a computerized match of the AIDS and STD case registries through 2004. A match was verified by name, date of birth, and gender. The STD registry included persons reported with gonorrhea, chlamydia, non-gonococcal urethritis, or infectious syphilis. Cases of STDs among persons with AIDS have steadily risen since 1995 with a dramatic jump in 2002 (Figure 16.1). This jump in STDs among persons with AIDS could be expected due to steep increases in male rectal gonorrhea (see Figure 8.5) and syphilis (see Figure 8.6), particularly among MSM, reported in 2002. All STDs occurred after the AIDS diagnosis, indicating unprotected sex among persons known to be HIV-infected.

**Figure 16.1** Number of AIDS cases diagnosed with an STD by year of STD diagnosis, San Francisco, 1995-2004



\* Prior to 2000, data for MSM and non-MSM was not separated.

## 17

## Late HIV Testing

Persons diagnosed late in the course of HIV infection may be unknowingly transmitting infection and, once diagnosed, may have worse outcomes and greater medical expenses. We examined HIV testing histories of persons diagnosed with AIDS in San Francisco to determine the prevalence, trends, and characteristics of persons who were diagnosed with HIV late in the course of disease. Late testers were defined as persons whose diagnosis of HIV occurred 12 months or less before their AIDS diagnosis. Almost 40% of AIDS cases diagnosed between 2001 and 2005 were late testers and this proportion has not declined in recent years (Table 17.1). Late testing was more likely among younger persons, heterosexuals, persons without a reported risk, persons without health insurance, born outside of the USA, and whose initial AIDS diagnosis was an opportunistic infection. Characteristics of late testers suggest that these people may not be aware of their risk for HIV infection or may not have sufficient access to testing services.

**Table 17.1 Characteristics of late HIV testers, San Francisco, 2001-2005**

Characteristic	Total Number	Late tester Number	(%)
<b>Total</b>	<b>2139*</b>	<b>830</b>	<b>( 38.8 )</b>
<b>Gender</b>			
Female	174	71	( 40.8 )
Male	1,894	733	( 38.7 )
Transgender	71	26	( 36.6 )
<b>Age group (years)</b>			
13-29	186	106	( 57.0 )
30-39	793	297	( 37.5 )
40-49	757	275	( 36.3 )
50+	403	152	( 37.7 )
<b>Race/Ethnicity</b>			
White	1,191	411	( 34.5 )
African American	397	162	( 40.8 )
Hispanic	402	180	( 44.8 )
Other	149	77	( 51.7 )
<b>Risk group</b>			
MSM	1,353	527	( 39.0 )
IDU	300	115	( 38.3 )
MSM IDU	340	94	( 27.7 )
Heterosexual	75	44	( 58.7 )
No reported risk	71	50	( 70.4 )
<b>Insurance at time of AIDS diagnosis</b>			
Public	564	163	( 28.9 )
Private	849	340	( 40.0 )
None	726	327	( 45.0 )
<b>Homeless at time of AIDS diagnosis</b>	238	92	( 38.7 )
<b>Country of birth</b>			
United States	1,743	635	( 36.4 )
Outside of USA	302	168	( 55.6 )
Unknown	94	27	( 28.7 )
<b>Initial AIDS diagnosis</b>			
Low CD4 count/percent	1,775	628	( 35.4 )
Opportunistic Illness	364	202	( 55.5 )
<b>Year of AIDS Diagnosis</b>			
2001	455	187	( 41.1 )
2002	450	170	( 37.8 )
2003	499	183	( 36.7 )
2004	413	161	( 39.0 )
2005	322	129	( 40.1 )

\* Excludes two transfusion-associated cases and 40 cases with missing insurance information.



## 18

## Substance Use

Substance use has been associated with HIV infection and HIV risk behavior. We present frequency of substance use among San Francisco MSM participants in the 2003-2004 National HIV Behavioral Surveillance (see Technical Notes, National Behavioral Surveillance). Data presented here is from the 1,574 MSM in the sample, of whom 559 (37%) reported no illicit substance use. The frequency of use in the past 12 months by HIV status is shown in Table 18.1.

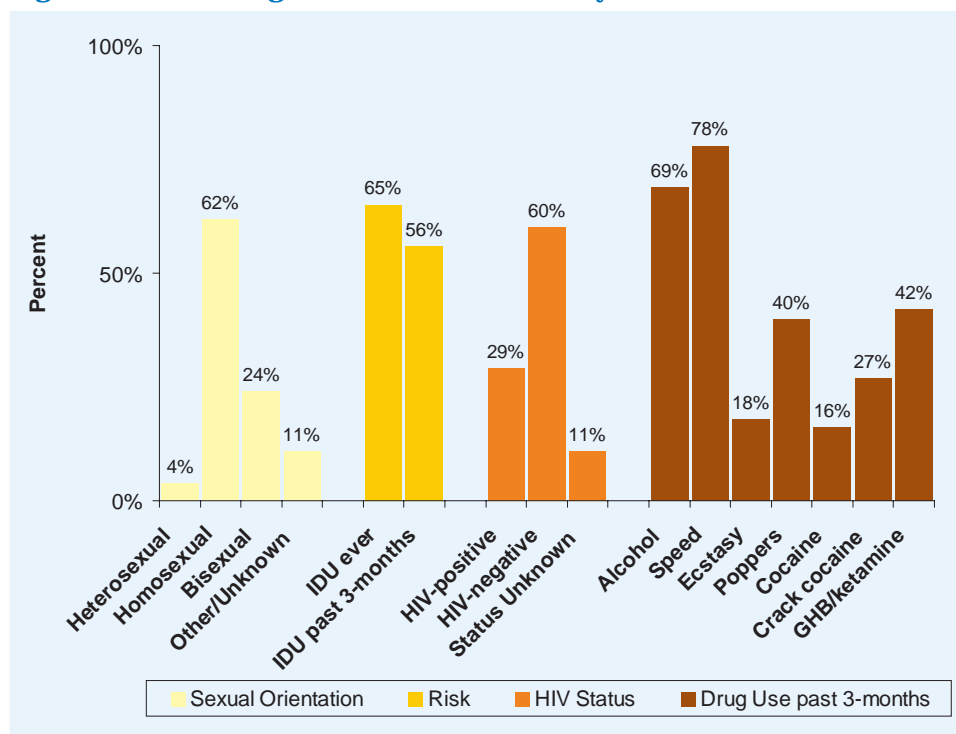
**Table 18.1 Substance use among MSM, the National Behavioral Surveillance Survey, San Francisco, 2004-2005**

	HIV(-)* (N = 816)	HIV(+) (N = 179)
<b>Methamphetamine</b>		
Once a month or less	14.0%	25.0%
About weekly	4.5%	8.8%
About daily	<1%	1.6%
None in past 12 months	81.5%	64.6%
<b>Crack cocaine</b>		
Once a month or less	2.3%	5.2%
About weekly	1.0%	1.2%
About daily	<1%	0.0%
None in past 12 months	96.7%	93.6%
<b>Cocaine</b>		
Once a month or less	14.2%	16.7%
About weekly	2.4%	1.2%
About daily	0.0%	<1%
None in past 12 months	83.4%	81.3%
<b>Downers (includes valium, xanax)</b>		
Once a month or less	6.2%	4.0%
About weekly	1.0%	2.0%
About daily	0.0%	1.0%
None in past 12 months	92.8%	93.0%
<b>Pain killers (includes oxycontin, percocet)</b>		
Once a month or less	5.4%	3.2%
About weekly	<1%	<1%
About daily	0.0%	<1%
None in past 12 months	94.6%	96.3%
<b>Ecstasy</b>		
Once a month or less	21.0%	18.0%
About weekly	1.5%	1.2%
About daily	0.0%	0.0%
None in past 12 months	78.5%	80.8%
<b>Gamma Hydroxy Butyrate (GHB)/Ketamine</b>		
Once a month or less	9.2%	9.2%
About weekly	1.0%	2.4%
About daily	0.0%	0.0%
None in past 12 months	89.8%	88.4%
<b>Marijuana</b>		
Once a month or less	23.0%	21.0%
About weekly	15.3%	21.0%
About daily	7.3%	13.5%
None in past 12 months	54.4%	44.5%
<b>Poppers (nitric oxide)</b>		
Once a month or less	14.3%	20.7%
About weekly	3.7%	8.8%
About daily	<1%	2.0%
None in past 12 months	82.0%	68.5%
<b>Heroin</b>		
Once a month or less	<1%	0.0%
About weekly	0.0%	0.0%
About daily	0.0%	0.0%
None in past 12 months	99.5%	100.0%

\* HIV(-) included HIV negatives and unknown HIV status.

In 2004, the San Francisco Department of Public Health (SFDPH) conducted a late night survey of hard-to-reach MSM who were not being served through conventional HIV prevention programs that operate during normal business hours. This survey, called the Late Night Breakfast Buffet, provided harm reduction services in a mobile van and extended the hours of outreach to five o'clock in the morning. Harm reduction and prevention services incorporated intervention lessons learned from successful projects initiated by the SFDPH (i.e., the Party-n-Play study, behavioral surveillance, Neighborhood Health on Wheels [NHOW]) demonstrating the effectiveness of delivering services to hard-to-reach populations via mobile vans. Below are data showing the sexual orientation, HIV serostatus, and drug use of the sample recruited in 2004 (Figure 18.1).

**Figure 18.1 Late Night Breakfast Buffet Survey, San Francisco, 2004**

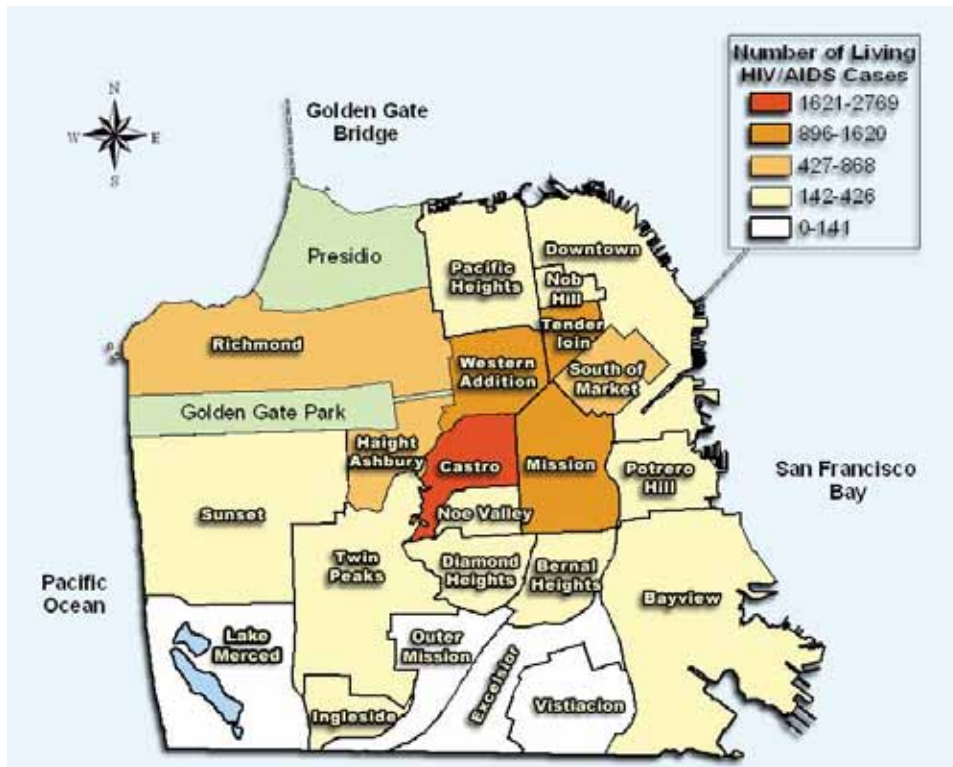


# 19

## Geographic Distribution of HIV/AIDS

Map 19.1 shows the geographic distribution of persons living with HIV/AIDS by neighborhood in San Francisco. Data include persons who were residents of San Francisco at the time of either their HIV non-AIDS or AIDS diagnosis and who were known to be alive on December 31, 2005. The most severely affected neighborhoods are the Castro, Mission, Tenderloin and Western Addition. The adjacent areas including South of Market, Haight Ashbury and the western side of the Richmond, also have large numbers of persons living with HIV/AIDS.

**Map 19.1** Distribution of persons living with HIV/AIDS by neighborhood, San Francisco, December 2005





# Technical Notes

## HIV/AIDS Surveillance Methods

San Francisco HIV/AIDS 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/AIDS 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. The surveillance system is evaluated regularly for completeness, timeliness, and accuracy. AIDS case reporting has found to be very complete (over 95%) while HIV case reporting is less complete due to an immature reporting system.

## AIDS Incidence Rates

Annual race-specific rates are calculated as the number of cases diagnosed for a particular race/ethnic group during each year divided by the population for that race/ethnicity, multiplied by 100,000. These rates are calculated separately for males and females. The annual populations are not available for transgenders. Population denominators for the years 1996-2005 are obtained from the State of California, Department of Finance, Race/Ethnic Population with Age and Sex Detail, 1990-1999 and 2000-2050 data files, May 2004 ([www.dof.ca.gov](http://www.dof.ca.gov)).

## AIDS Survival

Survival was calculated as the time between the date of initial AIDS diagnosis and the date of death. This includes persons with low CD4 (count < 200 or percent < 14%) and persons diagnosed with AIDS opportunistic illnesses. The follow-up information of cases was obtained through retrospective and prospective reviews of laboratory records and medical charts. Dates of death were obtained through review of local death certificates, reports from the State Office of AIDS, and matches with the National Death Index (NDI). The most recent NDI match included deaths that occurred through December 31, 2003. Persons not known to have died were censored at the date of their last known follow-up or at December 31, 2003, whichever was more recent.

## Causes of Death

Cause of death information on death certificates is coded using the International Classification of Diseases, 10th revision (ICD-10) for deaths occurring in 1999 or after, and the 9th revision (ICD-9) for deaths occurring prior to 1999. These codes are then processed and evaluated using a computer system to determine the underlying and contributory causes of death ([www.cdc.gov/nchs/about/major/dvs/im.htm](http://www.cdc.gov/nchs/about/major/dvs/im.htm)). We obtained the ICD coded causes of death from the California multiple-cause-of-death computer tape for persons with AIDS who died prior to 1996. For AIDS deaths that occurred in 1996 and after, the cause

of death information was obtained through the match with the National Death Index. Deaths attributable to HIV infection or AIDS are coded as 042-044 under ICD-9 and B20-B24 under ICD-10. In addition, the AIDS opportunistic illnesses, if listed on death certificates, are included in the category of "HIV/AIDS" cause of death.

### Grouping of Data Categories

Data regarding certain racial/ethnic or risk categories are grouped together when the number of persons with HIV/AIDS in that particular group is small and/or does not present significant trends. For example, "Other" in the Race/Ethnicity breakdown represents Asian/Pacific Islander, Native American and people of mixed race; "Other" in the Exposure Category breakdown may include transfusion, hemophilia, heterosexual, perinatal AIDS, or persons of unidentified risk.

### National Behavioral Surveillance

In 2003, the CDC initiated a national behavioral surveillance system in the largest US metropolitan areas. Each year, a survey is conducted among one of the populations at highest risk for HIV. In 2003-2004, MSM were surveyed using a Time-Space Sampling methodology. The methodology entails construction of a list of venues (e.g., gay bars, dance clubs, parks, neighborhoods, etc.) where MSM are concentrated in high numbers. Using this list, venues are selected at random for recruitment of MSM. Persons attending the venues are approached, assessed for eligibility, and invited to participate in an anonymous survey on HIV-related behavior. A sub-sample was also invited to test for HIV. Limitations of the approach include potential selection biases in who attends the venues and who elects to do the survey. In 2004-2005, IDU were surveyed using Respondent-Driven Sampling. The method entails using IDU participants to recruit up to three other IDU. Data analysis adjusts for recruitment patterns.

### Transgender Status

In September 1996, the San Francisco Department of Public Health began noting transgender status when this information is contained in the medical record. Transgender individuals are listed as either male-to-female or female-to-male. The majority of transgender HIV/AIDS cases are male-to-female. There are less than five female-to-male transgender cases reported in the case registry. Please note that there are several limitations to our transgender data. We believe that our report likely underestimates the number of transgender persons affected by HIV/AIDS because data collected for HIV/AIDS 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/AIDS case reporting. Because information about transgender status was not collected in a uniform way until September 1996, we have limited data on transgender cases prior to this, and therefore cannot perform valid time trend analysis for this group.

## D

## Data Tables

Figure 1.1 AIDS cases, deaths, and prevalence, San Francisco, 1980-2005 . . . . .3

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992
<b>Cases</b>	3	26	99	274	557	859	1236	1629	1762	2161	2048	2281	2327
<b>Deaths</b>	0	8	32	111	272	531	807	876	1036	1273	1362	1495	1633
<b>Persons Living with AIDS</b>	3	21	88	251	536	864	1293	2046	2772	3660	4346	5132	5826

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
<b>Cases</b>	2074	1784	1561	1079	807	691	577	547	499	481	514	423	310
<b>Deaths</b>	1584	1584	1475	981	413	395	352	340	318	316	297	224	228
<b>Persons Living with AIDS</b>	6316	6516	6602	6700	7094	7390	7615	7822	8003	8168	8385	8584	8666

Figure 2.1 Number of AIDS cases by race/ethnicity, San Francisco, 1996-2005 . . . . .7

	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
<b>White</b>	674	516	443	338	318	290	288	261	235	172
<b>African American</b>	194	146	140	104	110	99	83	102	72	57
<b>Latino</b>	160	110	77	103	86	70	74	112	92	61
<b>Other</b>	51	35	31	32	33	40	36	39	24	20

Figure 2.2 Male annual AIDS incidence rates per 100,000 population by race/ethnicity, San Francisco, 1996-2005 . . . . .8

	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
<b>White</b>	367	282	234	177	160	147	147	133	117	87
<b>African American</b>	426	354	340	237	259	244	223	253	178	148
<b>Latino</b>	251	170	125	158	125	107	107	161	136	84
<b>Other</b>	39	24	23	22	23	27	23	28	17	12

Figure 2.3 Female annual AIDS incidence rates per 100,000 population by race/ethnicity, San Francisco, 1996-2005 . . . . .8

	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
<b>White</b>	13	6	11	8	11	9	7	5	8	5
<b>African American</b>	115	78	86	75	71	73	43	73	54	37
<b>Latina</b>	28	16	6	14	17	8	9	9	13	11
<b>Other</b>	2	5	2	3	1	3	3	2	0	3

Figure 2.4 Number of male AIDS cases by exposure category, San Francisco, 1996-2005 . . . . .9

	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
<b>MSM</b>	709	551	440	351	328	304	298	324	273	181
<b>IDU</b>	89	76	61	49	53	43	41	59	25	25
<b>MSM IDU</b>	151	100	118	90	82	71	77	53	61	47
<b>Other</b>	21	11	6	21	12	24	15	18	15	20

Figure 2.5 Number of female AIDS cases by exposure category, San Francisco, 1996-2005 . . . . .9

	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
<b>IDU</b>	53	31	33	35	35	29	22	24	26	17
<b>Heterosexual</b>	19	13	13	11	14	10	9	11	7	9
<b>Other</b>	3	5	4	2	2	5	3	3	3	3

Figure 7.1 Trends in insurance status among persons with AIDS by gender, San Francisco, 2000-2005 . . . . .20

Male	2000	2001	2002	2003	2004	2005
<b>Public</b>	16%	18%	21%	22%	25%	29%
<b>Private</b>	40%	43%	42%	43%	46%	43%
<b>None</b>	38%	35%	34%	35%	27%	26%

Female	2000	2001	2002	2003	2004	2005
<b>Public</b>	55%	59%	38%	55%	64%	55%
<b>Private</b>	14%	16%	12%	11%	3%	17%
<b>None</b>	25%	20%	44%	32%	31%	28%

Transgender	2000	2001	2002	2003	2004	2005
<b>Public</b>	38%	31%	25%	36%	62%	50%
<b>Private</b>	5%	0%	13%	5%	0%	0%
<b>None</b>	48%	69%	56%	55%	38%	50%

Figure 8.1 AIDS cases, deaths, and prevalence among MSM, San Francisco, 1996 - 2005 . . . . .21

	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
<b>Cases</b>	893	669	574	459	429	388	391	399	347	236
<b>Deaths</b>	857	337	319	281	276	245	244	227	167	163
<b>Persons Living with AIDS</b>	5891	6223	6478	6656	6809	6952	7099	7271	7451	7524

Figure 8.2 AIDS cases among MSM by race/ethnicity, San Francisco, 1996-2005 . .21

	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
<b>White</b>	609	474	400	294	281	256	256	227	216	143
<b>African American</b>	111	77	75	55	52	46	40	51	35	31
<b>Latino</b>	129	92	72	83	69	56	65	93	76	50
<b>Other</b>	44	26	27	27	27	30	30	28	20	12

Figure 8.3 Percent of MSM reporting unprotected anal intercourse by self-reported HIV status in the last six months, the Stop AIDS Project, San Francisco, 1998-2005 . . . . .22

	1998	1999	2000	2001	2002	2003	2004	2005
<b>HIV Positive</b>	38%	42%	46%	51%	45%	53%	54%	46%
<b>HIV Negative</b>	34%	32%	36%	37%	32%	37%	33%	37%

Figure 8.4 Percent of MSM reporting unprotected anal intercourse with at least one partner of unknown HIV status in the last six months, the Stop AIDS Project, San Francisco, 1998-2005 . . . . .22

	1998	1999	2000	2001	2002	2003	2004	2005
<b>HIV Positive</b>	22%	25%	25%	31%	27%	28%	21%	9%
<b>HIV Negative</b>	12%	15%	17%	20%	16%	8%	4%	12%

Figure 8.6 Syphilis among MSM, San Francisco, 1997-2005 . . . . .27

	1997	1998	1999	2000	2001	2002	2003	2004	2005
<b>Primary</b>	2	3	3	13	45	97	105	117	71
<b>Secondary</b>	13	2	19	27	72	191	213	204	145
<b>Early Latent</b>	2	4	10	12	38	151	160	173	155



Figure 9.1 AIDS cases, deaths, and prevalence among non-MSM IDU, San Francisco, 1996-2005 . . . . .28

	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
<b>Cases</b>	143	108	94	84	90	72	63	83	51	42
<b>Deaths</b>	102	62	65	64	51	60	58	60	45	52
<b>Persons Living with AIDS</b>	627	673	702	722	761	773	778	801	807	797

Figure 9.2 AIDS cases among non-MSM IDU by race/ethnicity, San Francisco, 1996-2005 . . . . .28

	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
<b>White</b>	53	36	36	37	32	28	24	30	14	23
<b>African American</b>	70	56	53	39	47	37	35	35	28	16
<b>Latino</b>	15	12	4	5	8	5	2	14	8	3
<b>Other</b>	5	4	1	3	3	2	2	4	1	0

Figure 10.1 AIDS cases, deaths, and prevalence among heterosexuals, San Francisco, 1996-2005 . . . . .31

	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
<b>Cases</b>	25	16	14	17	18	16	14	17	15	14
<b>Deaths</b>	9	9	3	4	4	8	9	6	5	4
<b>Persons Living with AIDS</b>	100	107	118	131	145	153	158	169	179	189

Figure 10.2 AIDS cases among heterosexuals by race/ethnicity, San Francisco, 1996 - 2005 . . . . .31

	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
<b>White</b>	4	3	5	3	3	2	4	3	4	1
<b>African American</b>	10	6	8	7	9	9	5	11	4	5
<b>Latino</b>	10	4	0	6	5	2	2	2	5	5
<b>Other</b>	1	3	1	1	1	3	3	1	2	3

Figure 10.3 HIV prevalence rate among blood donations and donors through 2005, San Francisco Bay Area . . . . .32

	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995
HIV prevalence rate per 100,000 donations	111	45	33	26	11	13	10	8	4	7	5

	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
HIV prevalence rate per 100,000 donations	3	6	5	2	2	1	4	6	2	1
HIV prevalence rate per 100,000 donors	N/A	N/A	N/A	4	4	2	7	10	3	2

Figure 11.1 AIDS cases, deaths, and prevalence among women, San Francisco, 1996-2005 . . . . .34

	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Cases	75	49	50	48	51	44	34	38	36	29
Deaths	47	24	23	33	25	26	29	28	15	23
Persons Living with AIDS	342	367	394	409	435	453	458	468	489	495

Figure 11.2 Female AIDS cases by race/ethnicity, San Francisco, 1996-2005 . . . .34

	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
White	20	9	17	13	18	14	12	8	13	8
African American	39	26	28	24	22	22	13	22	16	11
Latina	14	8	3	7	9	4	5	5	7	6
Other	2	6	2	4	2	4	4	3	0	4

Figure 13.2 Infants born to HIV-infected mothers by year of birth and infant HIV status, San Francisco, 1994-2005 . . . . .39

	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
HIV Infected	5	5	2	0	3	1	0	0	2	1	1	0
Seroreverted	12	14	9	11	8	8	12	16	9	16	10	4
Status Unknown	1	1	0	0	2	0	0	0	0	0	0	0



San Francisco

**Department of  
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**2005**