



# EPIDEMIOLOGY OF HIV/AIDS IN SONOMA COUNTY

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Mary Maddux-González, MD, MPH, Public Health Officer  
Mark Netherda, MD, Deputy Public Health Officer  
Barbara Graves, Director, Prevention and Planning Division  
Shari Brenner, MPH, Section Manager  
Karen Gordon, PHN, AIDS Surveillance

**PUBLIC HEALTH DIVISION  
SONOMA COUNTY DEPARTMENT OF HEALTH SERVICES**

Prepared by  
Lucinda Gardner, MSPH, Epidemiologist

*Copies of this report are available online at <http://www.sonoma-county.org/health/ph/hiv/data.htm>*

## EXECUTIVE SUMMARY

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As of June 30, 2008, there are at least 1132 persons living with HIV or AIDS who were diagnosed in Sonoma County (855 AIDS; 277 HIV, non-AIDS). Due to the limitations in data collection, this number is not a true reflection of the local burden of HIV and AIDS, and only represents persons first diagnosed with HIV or AIDS in Sonoma County. It is estimated that at the end of 2005, there were actually between 1,931 and 2,202 persons living with HIV disease in Sonoma County. Similar to the state and national epidemics, the demographics of persons newly affected by HIV and AIDS continue to change.

Highlights of this report include:

- The majority of persons currently living with HIV or AIDS report male gender and White race.
- Compared to all AIDS cases ever reported in Sonoma County, those currently living with HIV or AIDS include a higher proportion of persons reporting heterosexual exposure, particularly among females.
- Latinos account for approximately 20% of persons newly diagnosed with HIV or AIDS.
- Among Latinos newly diagnosed with HIV or AIDS, the proportion of Mexican-born cases was 72% between 2005 and 2007.
- While the rate of new diagnoses of HIV or AIDS infection has declined among males, this rate has remained stable for women.
- In California, Sonoma County has the seventh highest prevalence of persons living with AIDS of all 58 counties in 2007.

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# SOCIODEMOGRAPHIC CHARACTERISTICS OF SONOMA COUNTY

## Population

Sonoma County is a medium sized California County located sixty miles north of San Francisco. It is a mixed land use county, with approximately sixty-five percent of the acreage dedicated to open space and agriculture.<sup>1</sup> In 2007 the estimated total population was 484,000 residents.<sup>2</sup>

## Race/Ethnicity

Persons in Sonoma County are predominately White (68.6%) followed by Hispanic (22.3%). The distribution of race and ethnicity varies by gender (Table 1). There is a slightly larger proportion of Hispanic and African American males and a slightly smaller proportion of White and Asian/Pacific Islander males compared to females (Table 1).

## Foreign-born Persons

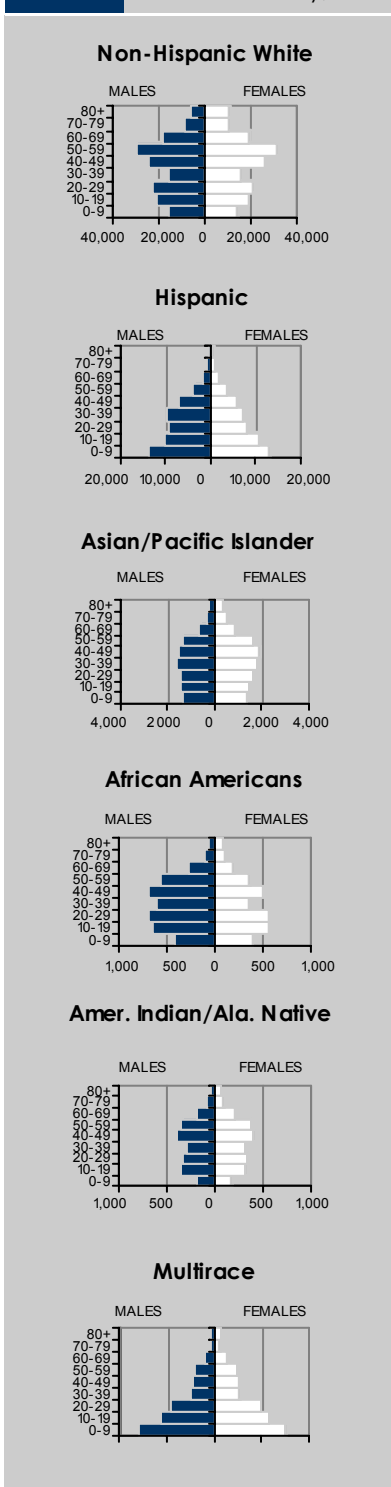
In 2007, approximately 17% of Sonoma County residents reported a non-US birth country.<sup>3</sup> The majority of these persons were born in

Mexico (67%).<sup>3</sup> Among all Sonoma County persons reporting Hispanic ethnicity, 51% were foreign-born.<sup>3</sup> Asian countries contributed the second largest proportion of non-US born residents ((16%), most from South-East Asia, followed by Europe (9%).<sup>3</sup>

## Age

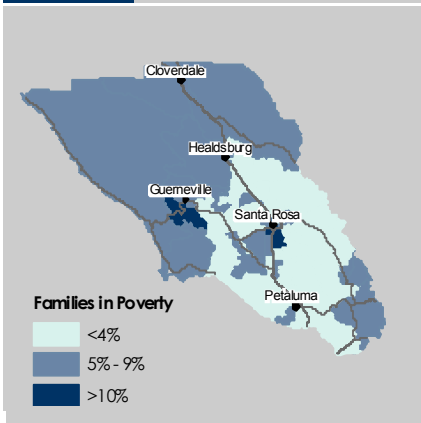
Overall, the population in Sonoma County is older than the population in California (mean age 38 vs. 35).<sup>1</sup> The age distribution is not similar by race and ethnicity (Figure 1). Non-Hispanic Whites, Asian/Pacific Islanders, African Americans, and American Indian/Alaska Natives all have similar population distributions. Most notably, Hispanics, the second largest population in Sonoma County, have a much younger age distribution when compared to these groups. Persons reporting one or more races (Multiracial, 2.3% of overall population) also have a much younger age distribution when compared to other non-Hispanics.

**Figure 1** Population Distribution by Race and Ethnicity Sonoma County, 2007



	Males % N 239,214	Females % N 244,683	Total % N 483,897
Hispanic	23.6	21.0	22.3
Not Hispanic, of 1 race			
White	67.4	69.8	68.6
African American	1.7	1.3	1.5
Amer. Indian/Alaska Nat.	0.9	0.9	0.9
Asian/Pacific Islander	4.1	4.6	4.4
Not Hispanic, of >1 race	2.2	2.3	2.3

**Figure 2** Percent of Persons in Poverty by Census Tract Sonoma County, 2007



**Income and Poverty**

The 2007 median household income for Sonoma County residents was \$62,399, not significantly higher than the median California household income of \$59,948.<sup>3</sup> Median home prices in Sonoma County were much higher when compared to California in 2007 (510,800 vs. \$465,000, respectively).<sup>4</sup>

In 2007, six percent of Sonoma County residents were living in poverty.<sup>3</sup> The distribution of persons in poverty varies by geographic region (Figure 2). Areas with the highest percentage of persons living in poverty are southern Santa Rosa, areas around Guerneville, and rural areas in the north, west, and southern most regions of the county.

**Education**

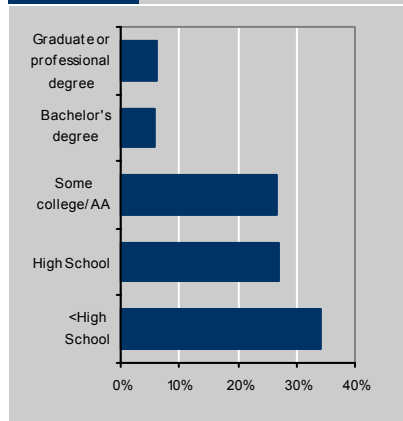
In 2007, the proportion of Sonoma County residents over 25 with a high school diploma or higher was 86% (Table 2).<sup>3</sup> This is much higher than California, where 71% of adults >25 have a high school diploma or higher.<sup>3</sup>

Educational attainment is related to poverty status. Over thirty percent of persons in poverty have not completed high school, compared to six percent of persons with a bachelor's degree or graduate degree (Figure 3).

**Insurance**

An estimated 14% of Sonoma County adults (age 19-64) are without health insurance. This estimate varies significantly by ethnicity. Sonoma County Hispanics are over four times more likely to be uninsured compared to non-Hispanics (37% vs. 8%, respectively).<sup>5</sup>

**Figure 3** Percent of Persons in Poverty by Educational Level



Compared to California, more Sonoma County residents have health insurance (18.7% vs. 13.5%, respectively), but this difference is not statistically significant.<sup>5</sup>

The ethnic disparity seen in Sonoma is similar statewide, though not as great. In California, Hispanics are two and a half times more likely to be uninsured compared to non-Hispanics (32% vs. 12%, respectively).<sup>5</sup>

**Table 2** Educational Level for Adults >25 Years of Age Sonoma County and California, 2007

	Sonoma County %	California %
Less than high school graduate	14	19
High school graduate (or equivalency)	24	23
Some college or associate's degree	31	28
Bachelor's degree	20	19
Graduate or professional degree	11	11

## THE SCOPE OF HIV/AIDS EPIDEMIC IN SONOMA COUNTY

### INTRODUCTION

The following section summarizes data from HIV and AIDS Confidential Case Report Forms submitted to the County of Sonoma Department of Health Services by health care providers. This information allows examination of disease trends and helps determine how and to whom services should be targeted. The data presented in this report include only persons who were Sonoma County residents at the time of diagnosis with HIV or AIDS. The number of newly reported AIDS cases per year is becoming less reflective of the true burden of the HIV/AIDS epidemic in Sonoma County for the following reasons:

No system currently exists to track migration of individuals following an HIV or AIDS diagnosis. Migration may result in a different number of persons with HIV or AIDS residing and requiring services in Sonoma County than are represented in this report.

Some HIV and AIDS deaths may have occurred but have not yet been reported to the County health department (e.g., if a person with AIDS dies outside Sonoma County or California).

Because many who are living with HIV have not yet been tested and therefore do not know their status the

figures in this report underrepresent the true scope of HIV disease in Sonoma County.

California instituted a non-name, unique identifier HIV reporting system on July 1, 2002 and changed to name-based reporting in April 2006. The HIV cases reported here include only name-based cases reascertained or reported following the implementation of the 2006 law. Combining both HIV and AIDS data in this report provides a more representative sample of persons affected by the epidemic.

### AIDS IN SONOMA COUNTY

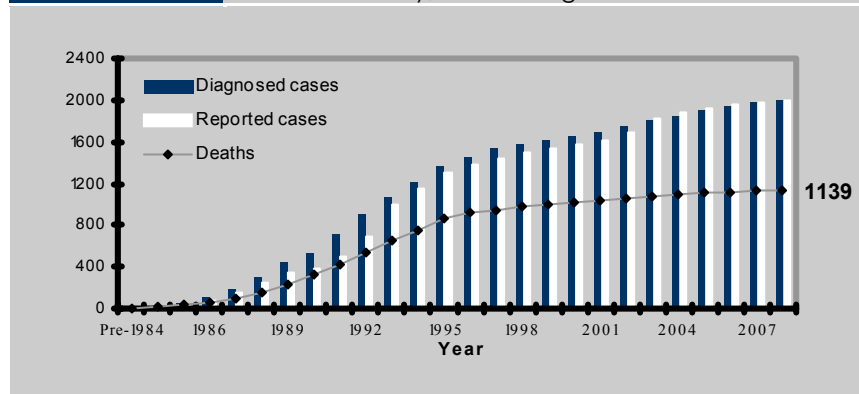
The HIV and AIDS case information in this section reflects data from the HIV/AIDS Reporting System. This database only includes HIV and AIDS cases that were diagnosed in Sonoma County. Those people living with HIV/AIDS that currently live in Sonoma County but were diag-

nosed with HIV or AIDS in another county are not included in the tables and graphs in this section.

A survey of people living with AIDS sponsored by the Sonoma County Commission on AIDS indicates that the actual number of people living with AIDS in Sonoma County may be greater than the data presented in this section due to migration to Sonoma County after their diagnosis of AIDS.

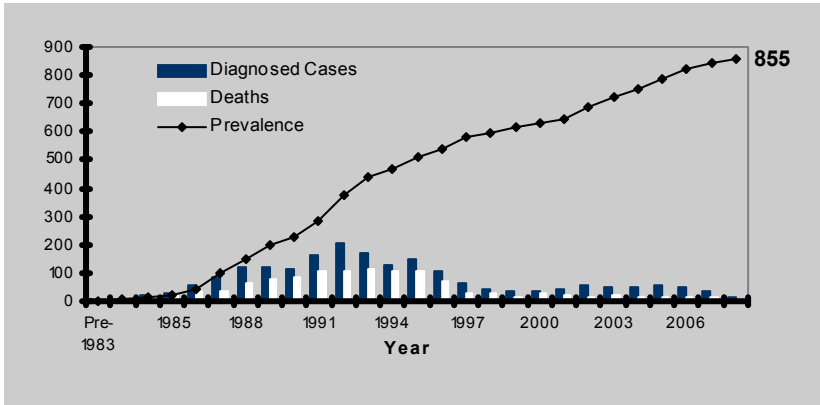
From January 1, 1981 through June 30, 2008, 1,994 Sonoma County residents have been reported with AIDS (Figure 4). Of these cases, 1,139 have died, resulting in a case fatality ratio of 57.7% over the course of the epidemic. While the number of newly diagnosed cases has declined since 1992, the total number of persons living with AIDS has steadily increased over time (Figure 5). The decline in the num-

**FIGURE 4** Cumulative AIDS Cases by Year Reported, Year of Diagnosis and Year of Death  
Sonoma County, 1981 through June 2008



**FIGURE 5**

**AIDS Cases by Year of Diagnosis, Year of Death, and Prevalence**  
Sonoma County, 1981 through June 2008



ber of newly diagnosed AIDS cases is partially due to better management of HIV causing a delay in conversion to AIDS. Currently, there are 855 persons living with AIDS who were diagnosed in Sonoma County.

**Race/Ethnicity**

The cumulative incidence rate (CIR) by race/ethnicity estimates the rate at which a particular race or ethnic group is being diagnosed with AIDS (Table 3). The Other/Unknown classification of race/ethnicity includes Asian/Pacific Islanders (n=16), American Indian/ Alaska Natives (n=14), Multi-Race (n=16) and unknown (n=2). These groups were combined into one category because the number of cases for any one of these groups alone was too small to calculate a statistically reliable CIR.

The highest CIR was seen for African Americans, followed by Whites. However, it is important to note that the

fewer cases of AIDS in African Americans (n=57) compared to Whites (n=1718) and Hispanics (n=171) may result in a less accurate representation of the CIR for African Americans. Hispanics and the Other/Unknown groups had a significantly lower CIR than Whites or African Americans.

**Exposure Category**

A hierarchical index following the Centers for Disease Control and Prevention guidelines is used to describe how each AIDS patient acquired the virus. If a patient has more than one possible exposure category, excepting men who have sex with men and use injec-

tion drugs, the response closest to the top of the hierarchy is selected. Note that if a man with AIDS reported ever having sex with a man between 1977 and his first HIV-positive test, he was placed in this category regardless of his sexual orientation. The categories are as follows:

- Men who have sex with men (MSM)
- Injecting drug use (IDU)
- Men who have sex with men and inject drugs (MSM/IDU)
- Hemophilia (HEM)
- Heterosexual contact (HET)
- Blood transfusion (XFUS)
- Risk not specified (RNS)

In the Figure 6, each AIDS patient is counted only once even though the patient may have reported multiple modes of exposure.

The majority of male AIDS cases reported MSM as the primary exposure category (81%, Figure 6). The majority of females reported HET (51%) or IDU (38%) as primary exposures. These proportions are similar to all of California, where the majority (74%) of male AIDS cases reported MSM as their primary exposure<sup>6</sup>.

<b>TABLE 3 Cumulative Incidence Rates* of AIDS by Race/Ethnicity</b>		
Sonoma County, 1981 - June 2008		
<b>Race/Ethnicity</b>	<b>Cumulative Incidence Rate</b>	<b>95% Confidence Intervals</b>
White	520.3	(495.8, 544.9)
Hispanic	152.8	(129.9, 175.7)
African American	768.0	(569.4, 966.6)
Other/ Unknown	126.1	(90.5, 161.8)
Total	390.1	(391.0, 426.9)

\*Rates per 100,000 population and not age-adjusted

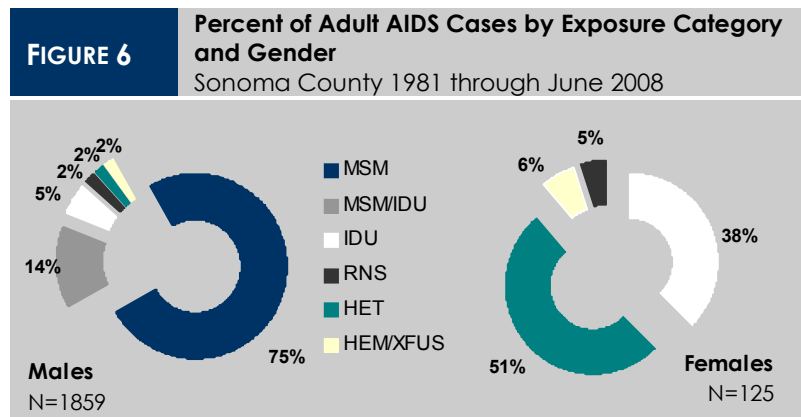
### Age at Diagnosis

When diagnosed with AIDS, women are significantly younger than men (37 vs. 41 years,  $p < 0.01$  T-test with unequal variances). Among males, the largest proportion is diagnosed with AIDS between ages 30 and 39 (39%), followed by 40-49 (35%, Table 4). In comparison, among females, the largest proportion is diagnosed between ages 30 and 39 (41%), followed by ages 40 to 49 (22%, Table 4).

### PEOPLE LIVING WITH HIV/AIDS

The number of Sonoma County residents who were older than 12 years at the time of AIDS or HIV diagnosis and who had no reported date of death as of June 30, 2008 was used to calculate the number of adults/adolescents living with HIV or AIDS. Some deaths may not have been reported (and not included in this data) especially if the person died outside the county.

The data in this section in-



cludes persons with both AIDS and HIV non-AIDS.

As of June 30, 2008, there are at least 1125 adults and adolescents living with HIV or AIDS who were diagnosed in Sonoma County (852 AIDS; 273 HIV, non-AIDS). Due to the limitations in data collection, this number is not a true reflection of the local burden of HIV and AIDS, and only represents persons diagnosed with HIV or AIDS in Sonoma County. Additionally, an unknown number are unaware of their HIV status and are not reflected in the data.

It is estimated that at the end of 2007, there were

likely between 1,931 and 2,202 persons living with HIV disease in Sonoma County. This figure is based on a national estimate that assumes that 24-27% of persons who are HIV positive are unaware of their infection<sup>7</sup>.

### Gender

The majority of persons living with HIV or AIDS are male (90%). Although the proportion of females is small, this proportion has increased over time.

### Race/Ethnicity

The majority of persons currently living with HIV or AIDS report White race. Compared to the Sonoma County population, males overall and White and African American persons represent a larger proportion of cases of HIV and AIDS (Table 5). Hispanic and Asian/Pacific Islanders represent a smaller proportion of cases when compared to the total Sonoma County population.

	Males		Females	
	N	%	N	%
13-19	2	<1	1	1
20-29	185	10	25	20
30-39	720	39	51	41
40-49	657	35	28	22
50-59	229	12	12	10
60+	68	4	8	6
Total	1861		125	

Table 5	Demographic Characteristics of Adults living with HIV or AIDS			
	Sonoma County - June 30, 2008			
	Persons living w/HIV/AIDS		Sonoma County Population >12	
	N	%	N	%
Diagnosis				
HIV	273	24	--	--
AIDS	852	76	--	--
Gender				
Male	1,010	90	198,850	49
Female	116	10	205,436	51
Race/Ethnicity				
White	894	79	290,934	72
Latino	143	13	77,046	19
Asian/Pacific Islander	14	1	18,553	4
African American	44	4	6,227	2
American Ind/Alaska Nat	9	1	4,103	1
Multi-Race	21	2	7,443	2
Current Age				
13-19	3	1	48,464	12
20-29	38	3	70,195	17
30-39	129	11	54,496	13
40-49	397	35	67,820	17
50-59	391	35	74,205	18
60+	167	15	89,106	22

## PEOPLE RECENTLY DIAGNOSED WITH HIV/AIDS

### Cases over Time

Since 1992, when the AIDS epidemic peaked in Sonoma County at 203 cases (as a result of the expansion of the case definition), the number of newly diagnosed AIDS cases by year has dropped dramatically. Between 1998 and 2007, an average of 45 AIDS cases were diagnosed each year (range 33 in 2007; 57 in 2002).

In 2007 there were 33 new AIDS cases and 29 new HIV cases reported to Sonoma County Public Health. Of the 33 AIDS cases, 24 were conversions (prior diagnosis of HIV to AIDS) and the remaining 9 were first reported as simultaneous diagnoses of HIV and AIDS. Since January 1, 2008, 15 new AIDS cases and 14 new HIV cases have been reported. Of the new AIDS cases, 6 were conversions and the remain-

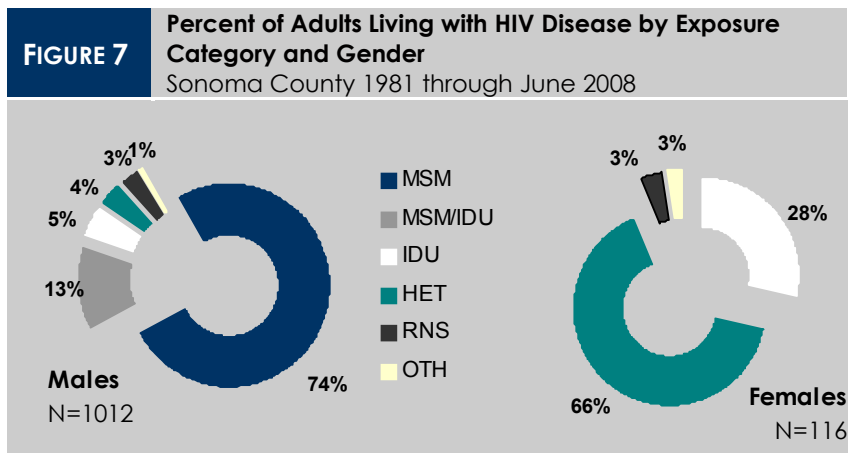
### Age

Persons with HIV or AIDS have an older age distribution compared to Sonoma county overall. Eighty five percent of persons with HIV/AIDS are aged 40 or older. Fifty percent are aged 50 and older (Table 5).

ing with HIV or AIDS include a higher proportion of HET exposures, particularly females (66%, Figure 7 vs. 51%, Figure 6).

### Mode of Exposure

The majority of males living with HIV or AIDS report MSM with or without intravenous IDU as their primary exposure, whereas females report HET or IDU as the primary exposure (Figure 7). Compared to all AIDS cases, persons currently liv-



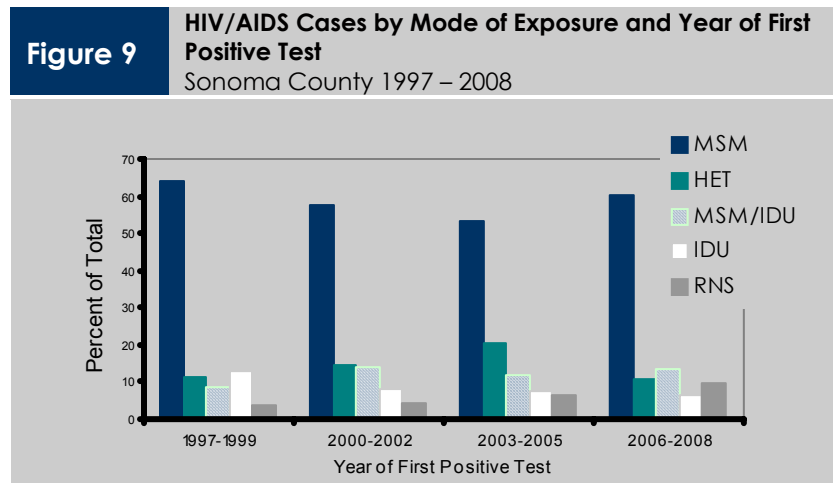
\*Four adults (3 males, 4 females) who acquired HIV via maternal transmission were excluded from the figure.

ing 9 were co-diagnoses of HIV and AIDS. To evaluate trends over time, incident cases are evaluated by date of first positive HIV test, regardless of current AIDS status.

### Race/Ethnicity

The rate of new diagnoses of HIV or AIDS varies by race and ethnicity (Figure 8). In 2002, the rate of new HIV or AIDS diagnosis among Latinos surpassed the rate among White, non-Latinos and has remained higher through 2007. Since 2000, however, the highest rate of new HIV/AIDS cases has been among non-White, non-Latino persons.

Prior to 2000, White, non-Latinos accounted for over eighty percent of all new diagnoses of HIV or AIDS. Since 2000, this has decreased to an average of seventy percent of new cases, with the Latinos accounting for approximately



twenty percent of new diagnoses and other non-Latino non-Whites accounting for the remaining ten percent.

increased until 2003-05 (Figure 9) and the proportion of persons reporting RNS has increased steadily throughout the time period.

### Mode of Exposure

MSM as a primary risk factor accounts for a large proportion of persons recently diagnosed with HIV or AIDS. This proportion was declining until 2003-05, but appears to have increased in 2006-08. (Figure 9).

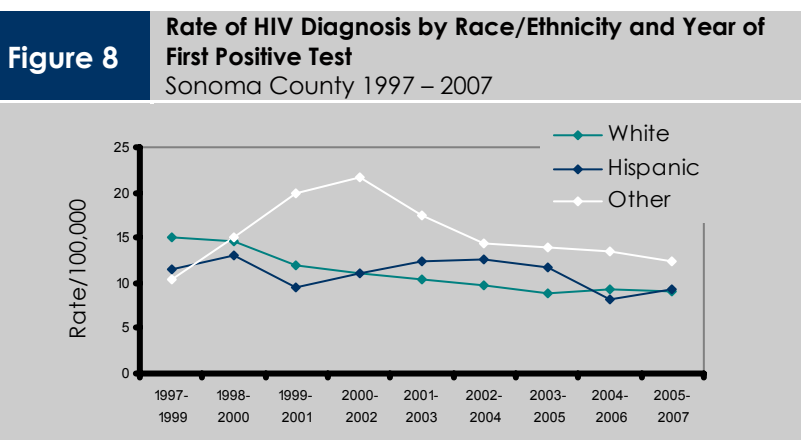
The proportion of persons reporting HET exposure in-

### GROUPS OF SPECIAL CONCERN

#### Late Entry to Care

Persons are considered to have late entry to care if their AIDS diagnosis occurred at the same time or within three months of their first HIV diagnosis. It is possible that these persons were aware of their previous diagnosis of HIV, but were not reported to the County until their AIDS diagnosis. Further study is needed to evaluate whether these persons are truly late entry.

Thirty-nine percent of persons diagnosed with HIV disease since January of 2003 appear to have late entry to care. These cases are primarily White (56%) and Latino (29%), and the majority

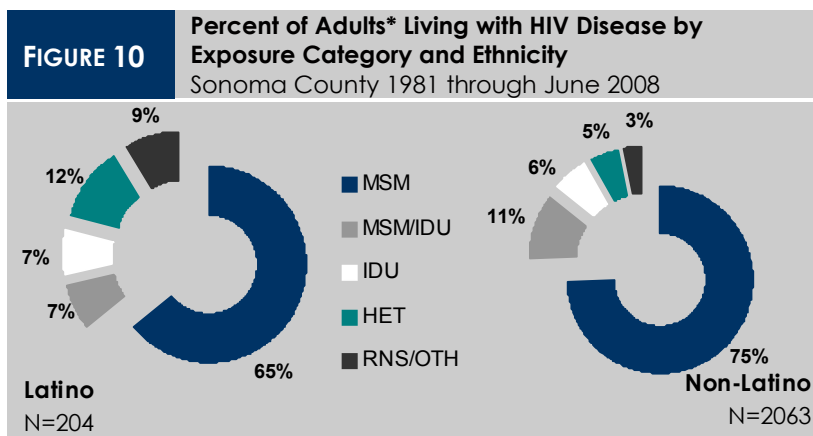


is male (81%). Latinos and women are approximately one and one half times more likely to have late entry to care, although these associations are not statistically significant (Latino RR 1.5, 95%CI [1.1, 2.1], Women RR 1.4, 95%CI [1.0, 2.1]). The reported risk factors for men are MSM (62%), IDU or MSM/IDU (17%), and risk not specified (14%). For women, reported risk factors are HET exposure (61%), RNS (22%), and IDU (17%).

### Latinos and Mexican-born Persons

The Latino population in Sonoma County is increasing, currently representing 20% of the total 2008 population, compared to 14% in 1995.<sup>2, 8</sup> Half of Sonoma County Latinos are foreign born, the majority of these were born in Mexico.<sup>9</sup> As a group, Latinos face significant challenges to receiving medical care; approximately 20% are uninsured and 30% are living in poverty (0-99% FPL).<sup>9</sup>

Latinos continue to be disproportionately affected by the HIV/AIDS epidemic. While 14% of the US population is Latino, Latinos accounted for approximately 19% of newly diagnosed AIDS cases nationwide in 2006.<sup>10</sup> A sub-group of concern is recent immigrants from Mexico. These individuals are a particularly vulnerable population, and may



be at increased risk for HIV infection while facing multifactorial barriers to social services and health care.<sup>11</sup>

Since 1981, 204 Latinos have been diagnosed with AIDS or HIV in Sonoma County. While the total number of new cases per year has declined overall, the number of new Latino cases has remained relatively constant, averaging about 10 cases per year since 2001. This represents approximately 20% of all new diagnoses of HIV and AIDS.

The most commonly reported mode of exposure for persons with HIV or AIDS is MSM, followed by MSM/IDU, IDU only, and HET exposure. For Latinos, MSM remains the most common exposure; however, the proportion of MSM is lower than that in non-Latinos (65% vs. 75%, respectively, Figure 10). Other risk factors, notably HET and RNS, account for a larger proportion of Latino cases than that of non-Latino cases (Figure 10).

### Foreign-born Persons

Persons born in other countries comprise a significant proportion of persons newly diagnosed with HIV or AIDS. Since 1997, the proportion of new HIV or AIDS diagnoses reporting a foreign birth country has increased over time (Figure 11). This is even more pronounced among Latinos where over 60% of new diagnoses report a non-US birth country (Mexico 89%, Central or South America 11%). This proportion has also increased over time from 47% in 1999-01 to 72% in 2005-07.

Mexican-born males are less likely to report MSM and MSM/IDU exposure compared to Latinos not born in Mexico (78% vs. 83%, respectively). Mexican-born women are more likely to report heterosexual sex as a primary risk factor compared to Latinos not born in Mexico (75% vs. 50% respectively).

## Women

Since 1981, 166 women have been diagnosed with HIV or AIDS in Sonoma County (131 AIDS, 35 HIV). Of these, 120 are currently living with HIV disease. The proportion of women among persons newly diagnosed with HIV or AIDS averages about 13% of new cases per year since 2002 (range, 9% 2003, 23%, 2004). The primary reported risk factors for women living with HIV or AIDS are HET (77%), followed by IDU (19%).

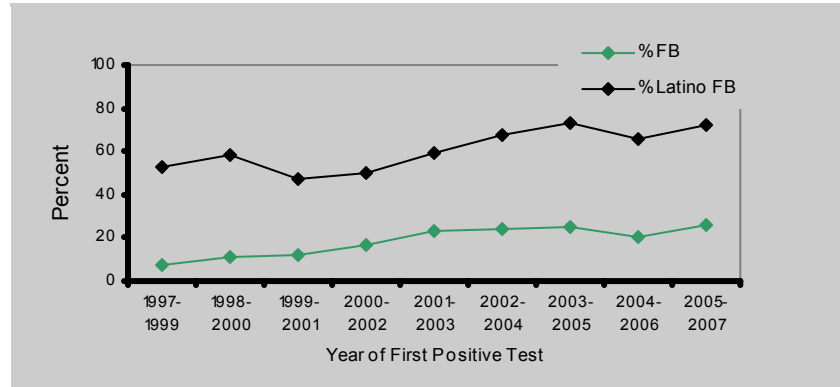
Factors affecting HIV rates among women include increased risk of transmission during vaginal intercourse and lack of awareness of their male partners' past or current risk behavior.<sup>12</sup> While the overall numbers of women diagnosed with AIDS continues to decline, women of color account for approximately 36% of these cases.

Compared to all women with AIDS, women recently diagnosed with HIV or AIDS more frequently report HET exposure (70% vs. 50%). A growing segment of newly diagnosed cases are heterosexual women over 45 years of age. The proportion of new cases diagnosed among women over 45 has steadily increased from 8% in 1998-2000 to 29% in 2001-03 to 47% in 2004-06.

**Figure 11**

### Percent of Foreign-born Cases among New Diagnoses of HIV/AIDS

Sonoma County 1997 – 2007



## Pediatric Cases

The majority of the pediatric AIDS cases reported in Sonoma County from 1981-2005 were children of mothers with or at risk for HIV infection. No new pediatric AIDS cases have been reported in Sonoma County since 1994.

All of the pediatric HIV cases reported in Sonoma County from 1981-2005 were in the exposure category of a mother with or at risk for HIV infection (N=4). There have been no new pediat-

ric HIV cases reported in Sonoma County since 2000.

## Mortality

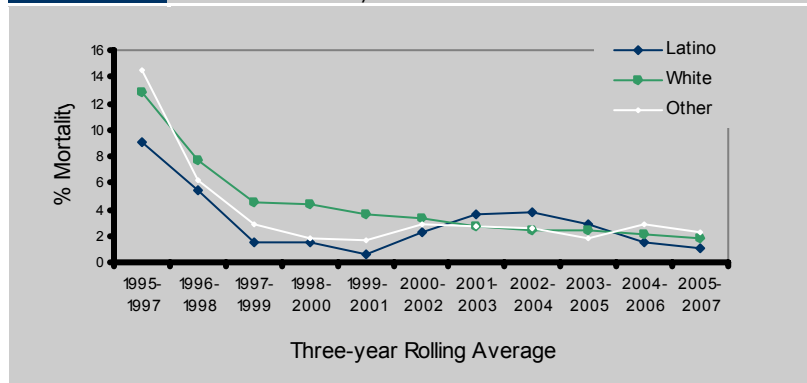
The mortality rate for AIDS has decreased significantly over time (Figure 12). Although all groups have less than four percent mortality, Whites and non-Hispanics have had a slightly higher rate in recent years.

The primary reason for the decrease in mortality is successful disease management using highly active anti-retroviral therapy.<sup>13</sup>

**Figure 12**

### Crude Mortality Rate by Race and Ethnicity

Sonoma County 1997 – 2007



### Increase in STD Rates

Sexually transmitted diseases (STDs) continue to be a problem in Sonoma County. Current rates of nearly all STDs are increasing in Sonoma County. In addition to complications from the diseases themselves, STDs can increase the risk of HIV transmission.

The rate of Chlamydia has been steadily increasing from a rate of 81.7 new cases per 100,000 population in 1999 to 158 new cases per 100,000 population in 2007. In 2007, women 20-24 years old had the highest incidence rate of Chlamydia. People of color, particularly Latinos and African Americans, are disproportionately affected by Chlamydia.

The rate of Gonorrhea has declined from 30 cases per 100,000 persons in 2005 to 19 cases per 100,000 persons in 2007. Women 20-24 and men 24-29 years old have the highest incidence rates of Gonorrhea.

In Sonoma County, the increase in primary and secondary syphilis cases has primarily been in males. This trend is similar to California, where outbreaks of syphilis have occurred among MSM.<sup>14</sup> All cases reported since 2003 were in males.

### Methamphetamine Use

The use of methamphetamines contributes to risky sexual behavior that facilitates the transmission of sexually transmitted diseases, including HIV. A recent study of non-IDU MSM in San Francisco found that nearly one quarter of those recently infected reported amphetamine use in the past twelve months.<sup>15</sup> Overall, researchers estimated that the annual incidence of HIV infection among MSM who use amphetamines was three times higher than nonusers.<sup>15</sup>

In addition to the affect methamphetamines have on behavior, there are numerous negative health consequences. For persons already infected with HIV, methamphetamine use may decrease the effectiveness of antiretroviral therapy causing the individual's viral load to increase, which in turn causes both a worsening of disease and increased likelihood of transmission.<sup>16</sup>

In California's publicly monitored drug-treatment programs, the percent of individual clients reporting a primary methamphetamine problem increased from 26.2 in FY 2001-02 to 34.0 in FY 2004-05.<sup>17</sup>

Among Californians who enter public treatment, methamphetamine recently surpassed heroin and alcohol as the most commonly reported primary drug of choice.<sup>18</sup>

In Sonoma County, methamphetamine as a primary drug of choice is even more common, and overall treatment admissions for methamphetamine use have increased by 85% between 2000 and 2004.<sup>18</sup> This increase is partially due to a California law, passed in 2001, that allows persons convicted of drug possession to enter treatment programs in lieu of incarceration.

In FY 2003-04, methamphetamine was listed as the primary drug of choice for 41% of persons entering publicly monitored treatment, an increase of 2% from FY 2001-02.<sup>18</sup> For persons between 18 and 30, this proportion is even greater, with 43% of men and 64% of women reporting methamphetamine as their primary drug of choice.<sup>19</sup>

**AIDS** is defined by the standards developed by the Centers for Disease Control and Prevention (CDC). Revised in 1993, an HIV positive person is considered to have AIDS by the presence of one of several opportunistic infections commonly associated with advanced HIV disease, a CD4 T-lymphocyte count of 200 or less per uL, or a total CD4 percentage of total lymphocytes of less than 14.

**Year Reported** is the year an HIV or AIDS case is reported to the Sonoma County HIV/AIDS Reporting System.

**Year of Diagnosis** is the year an individual was diagnosed with HIV or AIDS.

**Cumulative Cases** is the total number of HIV or AIDS cases reported as of June 30, 2007.

**Cumulative Number of Persons Living with AIDS and HIV** is the total number of individuals with AIDS and HIV who were diagnosed and reported in Sonoma County and alive as of June 30, 2007.

**Exposure Category** is the classification that describes how a person was infected with HIV. A hierarchical index following CDC guidelines is used to describe how each person tested for HIV or diagnosed as an HIV

**Adult/adolescent exposure category**

- Men who have sex with men (MSM)
- Injecting drug use (IDU)
- Men who have sex with men and inject drugs(MSM/IDU)
- Hemophilia/coagulation disorder (HEM)
- Heterosexual contact (HET)
  - Sex with injecting drug user*
  - Sex with bisexual male*
  - Sex with person with hemophilia*
  - Sex with transfusion recipient with HIV infection*
  - Sex with HIV-infected person, risk not specified*
- Receipt of blood transfusion, blood components, or tissue (XFUS)
- Other/risk not reported or identified (RNS)

**Pediatric (<13 years old) exposure category**

- Hemophilia/coagulation disorder
- Mother with/at risk for HIV infection:
  - Injecting drug use*
  - Sex with injecting drug user*
  - Sex with bisexual male*
  - Sex with person with hemophilia*
  - Sex with transfusion recipient with HIV infection*
  - Sex with HIV-infected person, risk not specified*
  - Receipt of transfusion, blood components, or tissue*
- Has HIV infection, risk not specified
- Receipt of blood transfusion, blood components, or tissue
- Other/risk not reported or identified

Each individual is counted only once in the hierarchy of exposure categories. Persons with more than one reported mode of exposure to HIV are classified in the exposure category listed first in the hierarchy, except for men with both a history of sexual contact with other men and injecting drug use. They make up a separate exposure category. Also, men who reported having sex with a man even once between 1977 and their first HIV-positive test are categorized either as "men who have sex with men" or "men who have sex with men and inject drugs."

**Cumulative Incidence Rate (CIR)** is a measure of the probability or risk of illness in a population over a period of time. The cumulative incidence rates were calculated using the number of newly diagnosed HIV or AIDS cases from 1981 through June 2004 in a particular group (i.e., race/ ethnic group, living in a particular city or town, age group, etc.) and population projections from the California Department of Finance or the 2000 U.S. Census (referenced in the body of the report).

**Case Fatality Rate (CFR)** is the proportion of people in the AIDS case registry who have died. In California, the case fatality rate can be calculated for AIDS only because California did not report on those living with HIV prior to July 1, 2002.

**Confidence Intervals** include a high and low value around a rate to indicate how much variability is included in that rate. In this report, 95% Confidence intervals are used to describe variability of cumulative incidence rates. When comparing rates between two groups, if the confidence intervals for the two rates overlap, then the difference between the two rates is not statistically significant at the 95% confidence level, meaning that the difference between the rates may be due to random variation.

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