

# **Epidemiology of HIV/AIDS in Sonoma County**

## **Biannual Report December 31, 2000**



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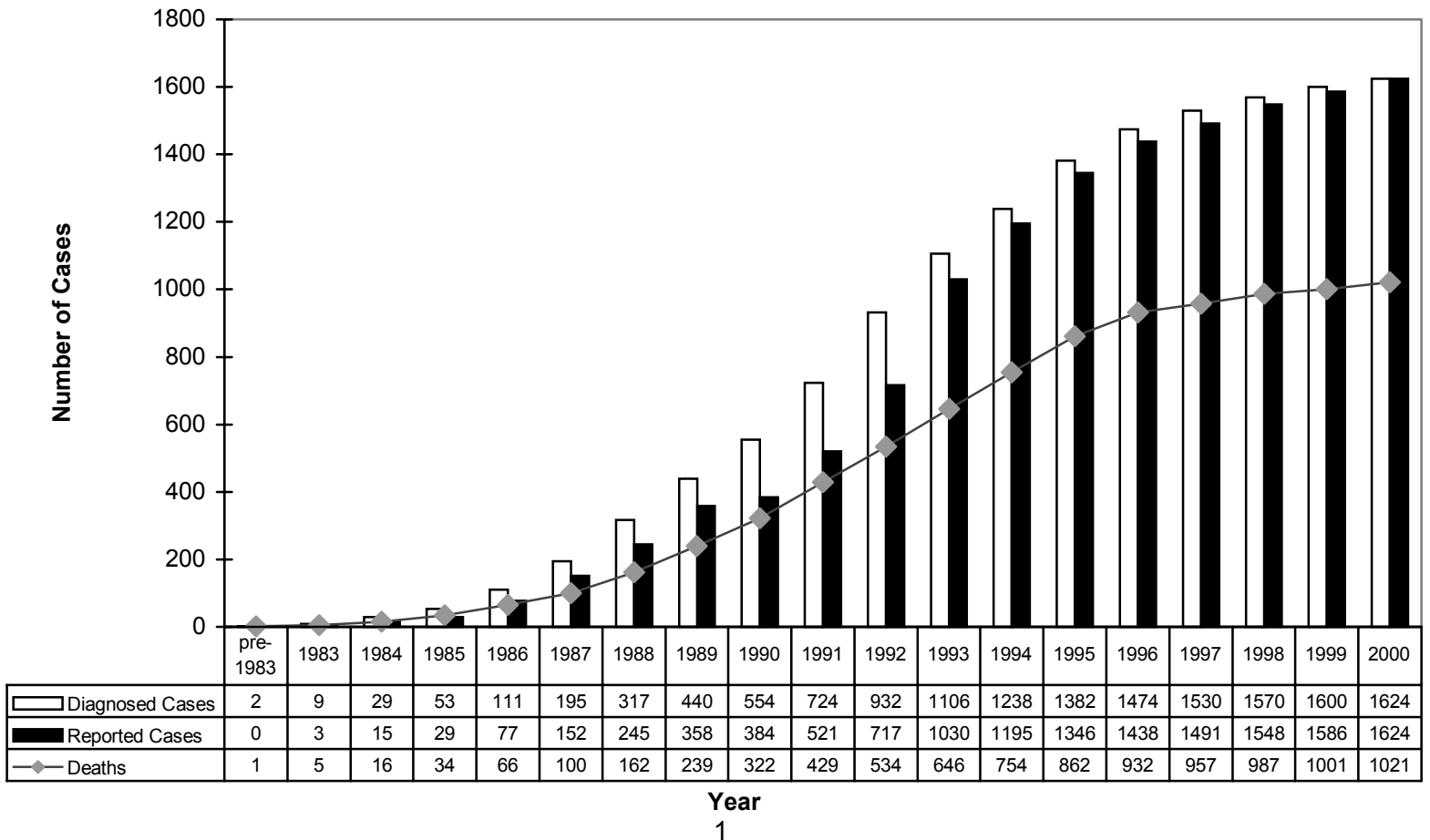
## Introduction

The following report summarizes data from AIDS Confidential Case Report Forms submitted to the Sonoma County Department of Health Services by health care providers. This information allows examination of disease trends and helps determine where services should be targeted.

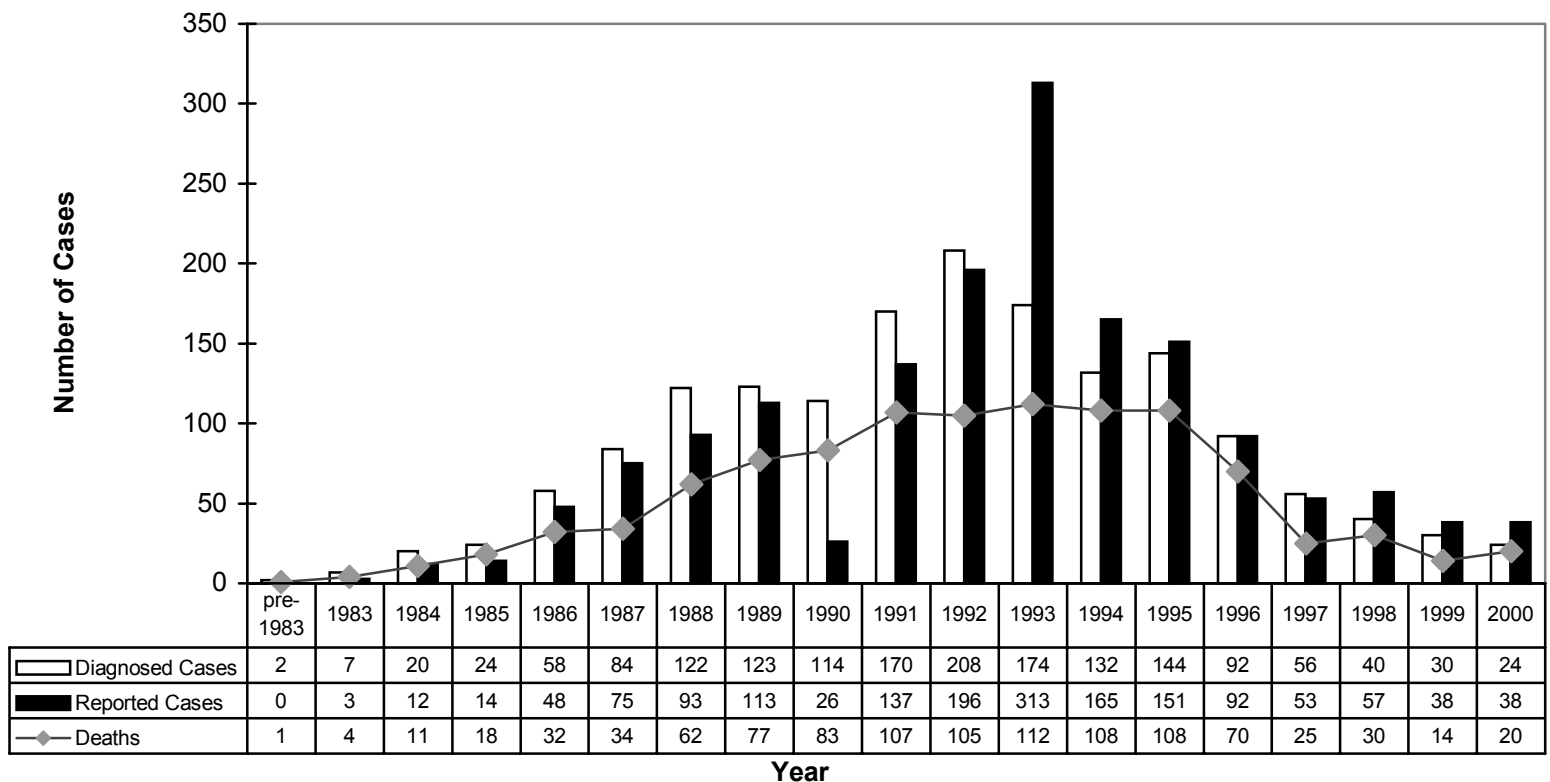
This report includes only persons who were Sonoma County residents at the time of AIDS diagnosis. There is currently no system that tracks migration of individuals following AIDS diagnosis. Migration may result in a different number of persons with AIDS residing and requiring services in Sonoma County than are represented in this report. In addition, some deaths may not be reported (e.g., if a person with AIDS dies outside the county). 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, as the number of new AIDS cases steadily decreases due to treatment improvements that slow the progression of HIV to AIDS.

From January 1, 1981 through December 31, 2000, 1624 Sonoma County residents were reported with AIDS. Of these cases, 1021 have died (62.9% case fatality).

**Cumulative AIDS Cases by Report Year, Diagnosis Year, and Year of Death, Sonoma County, 1981–2000**



## AIDS Cases by Report Year, Diagnosis Year, and Year of Death, Sonoma County, 1981–2000



The number of newly diagnosed AIDS cases per year has been on the decline since 1993. This is likely due to improvements in treatments that have slowed the progression to AIDS among persons with HIV infection and to behavior changes resulting in fewer new infections.

Trends in AIDS cases are presented by year of report and year of diagnosis. The report date can lag behind the diagnosis date by days to months due to delays in completing case report forms, mailing and processing time, and other factors. Report date is the official date used for surveillance purposes by the California Department of Health Services, Office of AIDS. Examination of AIDS trends by report date minimizes the effect of reporting delays on recent cases. For example, the number of cases attributed to diagnosis in 2000 will grow as they finally are reported during 2001. In contrast, during the earlier portion of the epidemic the diagnosis dates give a more accurate representation of the disease trend at that time. For instance, the sharp increase in the number of cases reported in 1993 is temporally related to the expansion of the Centers for Disease Control and Prevention’s (CDC) surveillance case definition to include immunosuppressed persons (low CD4).<sup>1</sup> As a result, cases reported in 1993 reflect persons with AIDS who did not meet the pre-1993 case definition but were reported once the new case-definition was implemented.

**Risk Categories for Adult/Adolescent (>12 years) AIDS Cases  
by Gender, Sonoma County, 1981–2000**

<b>Risk Category</b>	<b>Male</b>	<b>(%)</b>	<b>Female</b>	<b>(%)</b>	<b>Total</b>	<b>(%)</b>
Gay/bisexual	1277	(83)	n/a	(0)	1277	(79)
Injection drug user (IDU)	61	(4)	33	(45)	94	(6)
Gay/bisexual IDU	155	(10)	n/a	(0)	155	(10)
Hemophilia/ coagulation disorder	6	(<1)	0	(0)	6	(<1)
Heterosexual contact	8	(<1)	27	(37)	35	(2)
Receipt of blood, blood components, or tissue	18	(1)	7	(10)	25	(2)
Risk not reported/other	19	(1)	6	(8)	25	(2)
<b>Total</b>	<b>1544</b>	<b>(100)</b>	<b>73</b>	<b>(100)</b>	<b>1617</b>	<b>(100)</b>

There were no cases reported for the risk category of ‘health care worker.’ A hierarchical index following CDC guidelines is used to describe how each AIDS patient acquired the virus. In the above table, each AIDS patient is represented by one response. If a patient has more than one possible infection route, the response closest to the top of the table is selected.

**Risk Categories for Pediatric (<13 years) AIDS Cases by Gender,  
Sonoma County, 1981–2000**

<b>Risk Category</b>	<b>Male</b>	<b>(%)</b>	<b>Female</b>	<b>(%)</b>	<b>Total</b>	<b>(%)</b>
Mother with, or at risk for, HIV infection	1	(100)	5	(83)	6	(86)
Receipt of blood, blood components, or tissue	0	(0)	1	(17)	1	(14)
<b>Total</b>	<b>1</b>	<b>(100)</b>	<b>6</b>	<b>(100)</b>	<b>7</b>	<b>(100)</b>

No new pediatric AIDS cases have been diagnosed since 1990, possibly due to perinatal testing and prophylaxis.

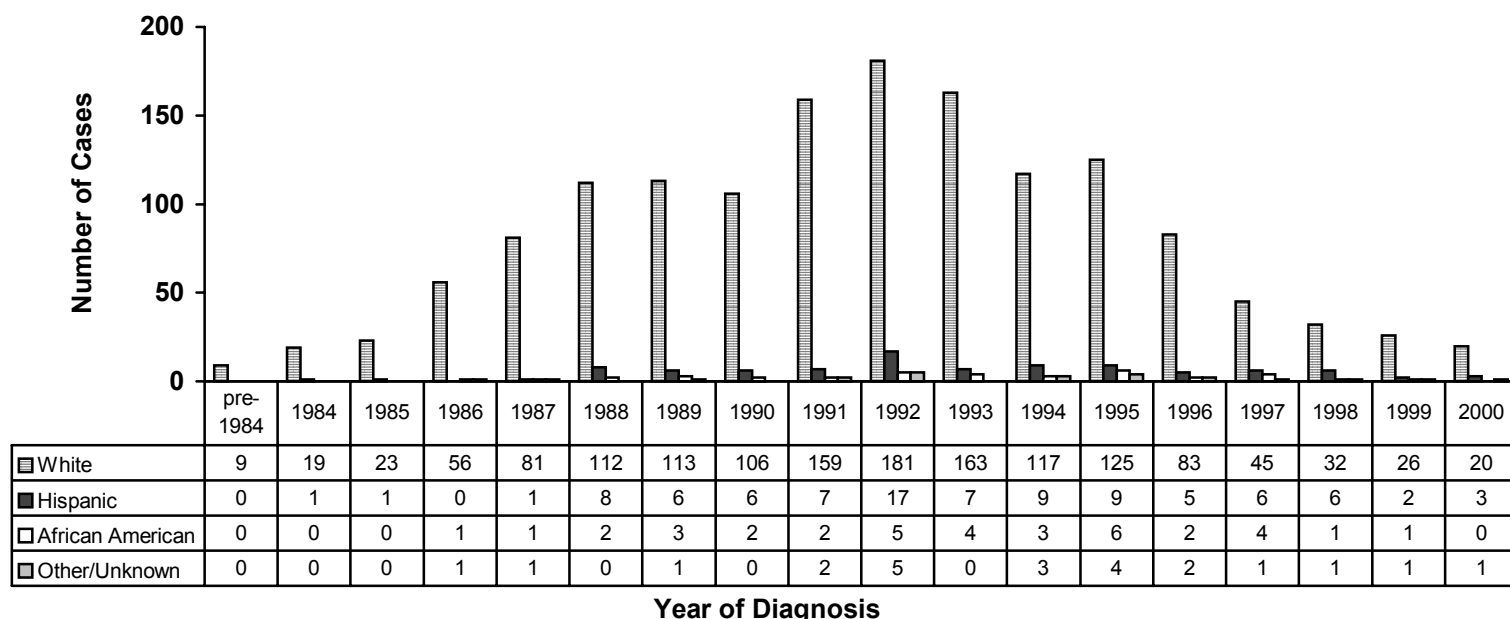
**Risk Categories for Adult/Adolescent (>12 years) AIDS Cases  
by Diagnosis Year, Sonoma County, 1996–2000**

Risk Category	1996		1997		1998		1999		2000		Total	
	No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)
Gay/bisexual	64	(70)	38	(68)	25	(63)	20	(67)	11	(46)	158	(65)
Injection drug user (IDU)	16	(17)	3	(5)	5	(13)	2	(7)	3	(13)	29	(12)
Gay/bisexual IDU	8	(9)	7	(13)	1	(3)	3	(10)	5	(21)	24	(10)
Heterosexual contact	2	(2)	5	(9)	7	(18)	2	(7)	1	(4)	17	(7)
Risk not reported	2	(2)	3	(5)	2	(5)	3	(10)	4	(17)	14	(6)
<b>Total</b>	<b>92</b>	<b>(100)</b>	<b>56</b>	<b>(100)</b>	<b>40</b>	<b>(100)</b>	<b>30</b>	<b>(100)</b>	<b>24</b>	<b>(100)</b>	<b>242</b>	<b>(100)</b>

**AIDS Cases Reported by Gender and Diagnosis Year,  
Sonoma County, 1996–2000**

Risk Category	1996		1997		1998		1999		2000		Total	
	No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)
Male	86	(93)	54	(96)	35	(88)	28	(93)	22	(92)	225	(93)
Female	6	(7)	2	(4)	5	(13)	2	(7)	2	(8)	17	(7)
<b>Total</b>	<b>92</b>	<b>(100)</b>	<b>56</b>	<b>(100)</b>	<b>40</b>	<b>(100)</b>	<b>30</b>	<b>(100)</b>	<b>24</b>	<b>(100)</b>	<b>242</b>	<b>(100)</b>

## Race/Ethnicity of AIDS Cases by Diagnosis Year, Sonoma County, 1981–2000



Whites make up the greatest proportion of persons with AIDS. The rise and decline of new AIDS cases over time appears to be consistent across all racial/ethnic groups.

## Cumulative Incidence Rate\* of AIDS by Race/Ethnicity, Sonoma County, 1981–2000

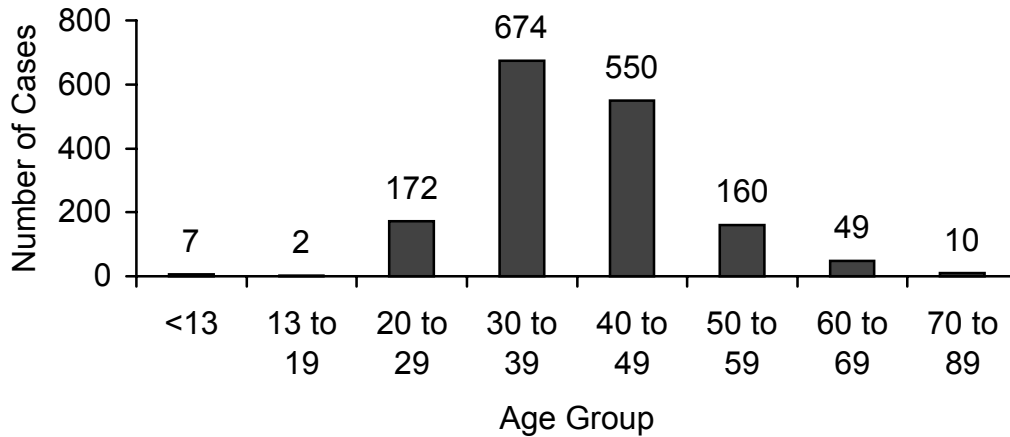
Race/Ethnicity	Cumulative Incidence Rate	95% Confidence Intervals
White	396.7	376.5, 416.9
Hispanic	154.0	122.9, 185.1
African American	530.1	359.7, 700.4
Other/Unknown	111.2	65.8, 156.6
<b>Total</b>	<b>353.6</b>	<b>336.4, 370.8</b>

\*Rate is per 100,000 population and not age-adjusted.

The cumulative incidence rate (CIR) by race/ethnicity estimates the proportion of racial/ethnic groups diagnosed with AIDS from 1981 to 2000. CIRs are calculated using the 2000 population projections from the California Department of Finance. Because the number of cases among Asian/Pacific Islanders (n=9) and American Indian/Alaska Natives (n=12) is too small to calculate accurate CIRs, these cases are included in the “other/unknown” racial/ethnic group (n=23).

The highest CIR is seen in African Americans; however, it is not significantly higher than the CIR for whites.<sup>ii</sup> The small population of African Americans in Sonoma County and the relatively small number of cases among African Americans (n=37) compared to whites (n=1470) and Hispanics (n=94), may result in a less accurate representation of the CIR for African Americans. Hispanics and “other/unknown” racial/ethnic groups have a significantly lower CIR than whites and African Americans.

### AIDS Cases by Age Group at Diagnosis, Sonoma County, 1981–2000



### Cumulative Incidence Rate\* of AIDS Cases by Age Group at Diagnosis, Sonoma County, 1981–2000

Age Group	Cumulative Incidence Rate	95% Confidence Intervals
0-19 yrs.	7.2	2.5, 11.9
20-29 yrs.	311.2	264.6, 357.8
30-39 yrs.	1019.1	942.6, 1095.7
40-49 yrs.	703.5	644.9, 762.1
50-59 yrs.	270.9	229.0, 312.8
60-89 yrs.	80.6	60.0, 101.1
<b>Total</b>	<b>353.6</b>	<b>336.4, 370.8</b>

\*Rate is per 100,000 population. Because of the small numbers of pediatric and adolescent cases (0–19 years), these age groups were combined in order to more accurately estimate the CIR.

The cumulative incidence rate (CIR) by age group estimates the proportion of specific age groups diagnosed with AIDS from 1981 to 2000. CIRs are calculated using California Department of Finance 2000 population projections.

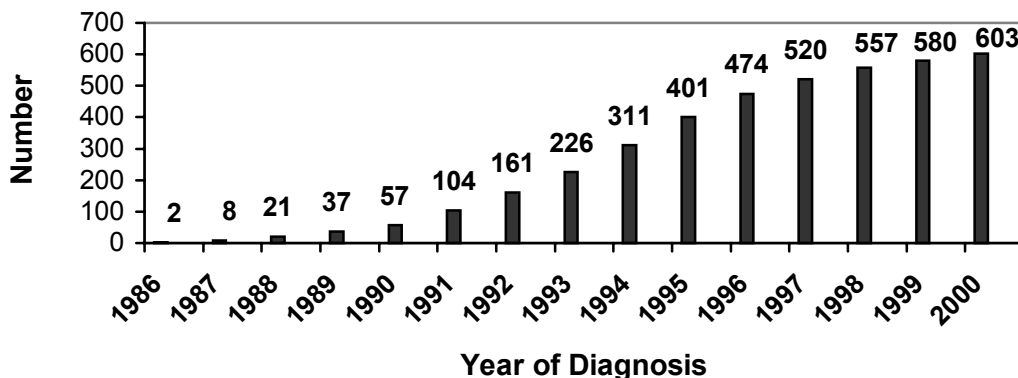
Adults aged 30 to 39 years have a significantly higher CIR compared to all other age groups.<sup>iii</sup>

### Adult/Adolescents (>12 years) Living with AIDS by Risk Category and Gender, Sonoma County, 2000

Risk Category	Male	(%)	Female	(%)	Total	(%)
Gay/bisexual	453	(81)	n/a	(0)	453	(76)
Injection drug user (IDU)	26	(5)	16	(43)	42	(7)
Gay/bisexual IDU	62	(11)	n/a	(0)	62	(10)
Hemophilia/coagulation disorder	2	(<1)	0	(0)	2	(<1)
Heterosexual contact	6	(1)	18	(49)	24	(4)
Receipt of blood, blood components, or tissue	1	(<1)	0	(0)	1	(<1)
Risk not reported/other	12	(2)	3	(8)	15	(3)
<b>Total</b>	<b>562</b>	<b>(100)</b>	<b>37</b>	<b>(100)</b>	<b>599</b>	<b>(100)</b>

The number of Sonoma County residents who were older than 12 years at the time of AIDS diagnosis and who had no reported date of death as of December 31, 2000 was used to calculate the number of adults/adolescents living with AIDS. Some deaths may not be reported, especially if a person with AIDS dies outside the county. Information from local service providers indicates that the actual number of people living with AIDS in Sonoma County may be greater, due to migration here following diagnosis in other jurisdictions.

### Cumulative Number of Persons Living With AIDS by Diagnosis Year, Sonoma County, 1981–2000



The above graph represents AIDS cases of all ages and indicates that the trend for increasing numbers of persons living with AIDS (PLWAs) continues. Again, this graph does not take into account migration of PLWAs to or from Sonoma County following diagnosis.

## AIDS Cases by Residence at Diagnosis, Sonoma County, 1981–2000

Area of Residence	Number of Cases
Santa Rosa	492
Guerneville	338
Sebastopol	114
Petaluma	105
Forestville	83
Rohnert Park	78
Sonoma	69
Monte Rio	62
Windsor	45
Healdsburg	41
Rio Nido	32
Cazadero	28
Occidental	26
Cotati	23
Cloverdale	16
Other Areas*	72
<b>Total</b>	<b>1624</b>

\*Eighteen locations with less than 15 cases.

## Leading Cumulative Incidence Rates\* of AIDS Cases by Residence at Diagnosis, Sonoma County, 1981—2000

Location	Cumulative Incidence Rate	95% Confidence Intervals
Guerneville	6051.9	5426.6, 6677.3
Monte Rio	4103.2	3103.0, 5103.4
Forestville	1471.4	1157.2, 1785.6
Cazadero	1231.9	778.4, 1685.3
Occidental	942.0	581.6, 1302.4

\*Rate is per 100,000 population and not age-adjusted.

The cumulative incidence rate (CIR) by residence at diagnosis estimates the proportion of locations diagnosed with AIDS from 1981 to 2000. CIRs are calculated using 2000 population projections compiled by a private marketing research firm (CIR is not calculated for Rio Nido due to lack of a population projection for this area).

Guerneville has a significantly higher CIR compared to all other locations within Sonoma County.<sup>iv</sup>

## Leading Cumulative Incidence Rates of AIDS Cases by County, California, 1981—2000

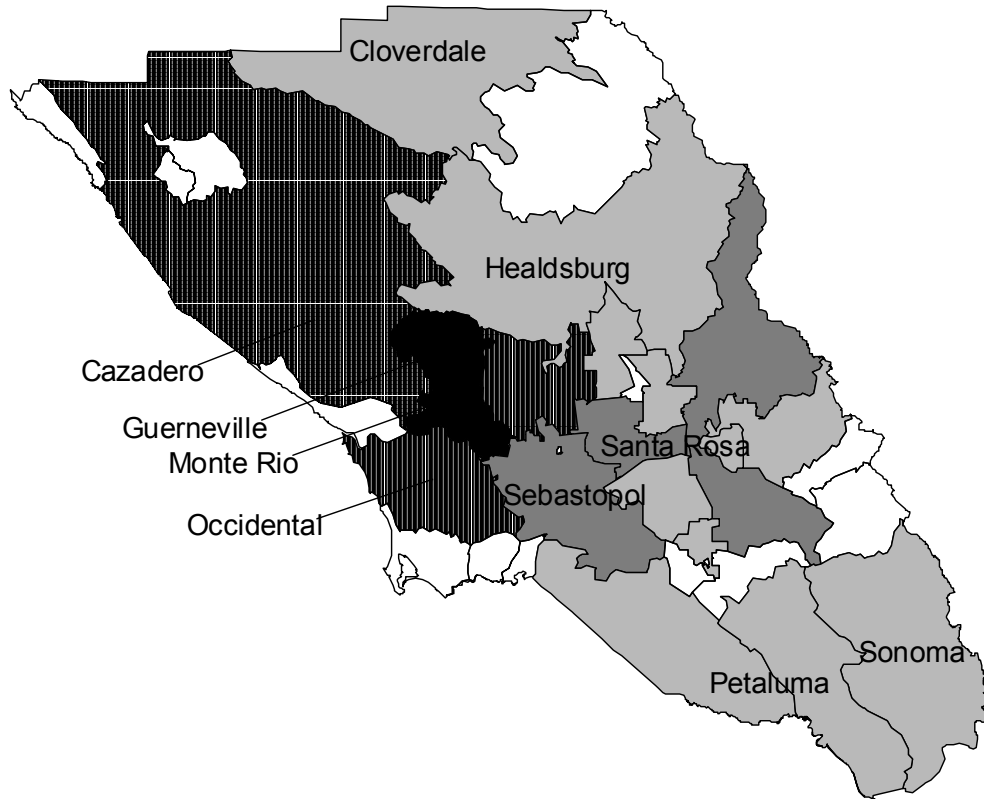
County	Cumulative Incidence Rate*	95% Confidence Intervals	Number of AIDS Cases
San Francisco	3,092.1	3053.9, 3130.3	24,443
Marin	595.4	565.0, 625.6	1,476
Los Angeles	433.4	429.3, 437.5	42,290
Alameda	413.9	403.4, 424.4	5,932
San Diego	372.5	365.5, 379.6	10,629
<b>Sonoma</b>	<b>366.0</b>	<b>348.3, 383.8</b>	<b>1,624</b>
Solano	308.4	291.0, 325.8	1,203
Riverside	286.6	278.0, 295.3	4,223
San Mateo	257.1	245.4, 268.7	1,858
Sacramento	252.3	243.2, 261.3	2,971
<b>California</b>	<b>355.0</b>	<b>353.0, 357.0</b>	<b>119,900</b>

\*Note: These rates use California Department of Finance, City/County Population Estimates for January 1, 1999. Sonoma County has a higher cumulative incidence rate listed in this table compared to previous tables on pages 5 and 6 because different population data (with race/ethnicity and age categories) are used in calculating the rates for those previous tables. Source: California Department of Health Services, Office of AIDS. *HIV/AIDS Reporting System Surveillance Report for California – December 31, 2000.*

The cumulative incidence rate (CIR) by county estimates the proportion of county residents diagnosed with AIDS from 1981 to 2000.

The county had the fifth highest CIR of AIDS cases out of 58 counties in California until December 1998, when it was surpassed by San Diego County and dropped to its current sixth place. Sonoma County has not fallen significantly lower than San Diego County, however (note the overlapping 95% confidence intervals).<sup>v</sup>

## AIDS Cumulative Incidence Rate, Sonoma County, 1981-2000



Cazadero  
Guerneville  
Monte Rio  
Occidental

Cloverdale

Healdsburg

Santa Rosa

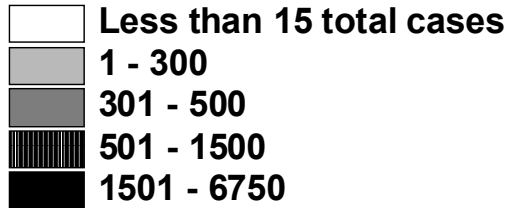
Sebastopol

Petaluma

Sonoma



### AIDS Cumulative Incidence Rate



\*Rate is per 100,000 population and not age-adjusted.  
2000 population projection data by zip code used  
to calculated rates. Boundaries presented in map  
designate zip codes.

## HIV Testing at County Anonymous & Confidential Testing Sites<sup>1</sup> by Sex and Risk Category, Sonoma County, 2000

Risk Category	# Positive Males	# Positive Females	Total Tested	% Positive of Total Tested
Gay/bisexual	8	n/a	281	2.8%
Injection drug user (IDU)	1	1	523	<1.0%
Gay/bisexual IDU	1	n/a	28	3.6%
At-risk partner <sup>2</sup>	1	3	1091	<1.0%
Heterosexual or female bisexual	0	0	1288	0
Receipt of blood, blood components, or tissue	0	0	22	0
Occupational <sup>3</sup>	0	0	4	0
Sex worker	0	0	18	0
No risk	3	0	139	2.2%
Risk not reported	0	0	12	0
<b>Total</b>	<b>14</b>	<b>4</b>	<b>3406</b>	<b>&lt;1.0%</b>

<sup>1</sup> Data come from Sonoma County Department of Health Services HIV/AIDS testing sites.

<sup>2</sup> An at-risk partner is defined as a partner who is HIV+, bisexual, an IDU or has multiple partners.

<sup>3</sup> An occupational risk is defined as blood-to-blood exposure on the job. This includes, but is not limited to, health care workers.

Less than one percent of the 2,025 males who were tested for HIV at Sonoma County Department of Health Services HIV/AIDS testing sites in 2000 had positive test results. Likewise, less than one percent of the 1,368 females who were tested during the same time period had positive test results. None of the thirteen people of unknown gender tested positive for HIV.

## HIV Testing by Sex, Sonoma County, 1998-2000

	# Tested		# Positive		% Positive of Total Tested	
	Male	Female	Male	Female	Male	Female
1998 <sup>a</sup>	2994	3856	29	8	<1.0	<1.0
1999 <sup>a</sup>	3492	4047	21	5	<1.0	<1.0
2000 <sup>b</sup>	3874	4385	20	5	<1.0	<1.0
<b>Total</b>	<b>10360</b>	<b>12288</b>	<b>70</b>	<b>18</b>	<b>&lt;1.0</b>	<b>&lt;1.0</b>

<sup>a</sup> 1998 and 1999 data include tests from Sonoma County Department of Health Services HIV/AIDS clinics and Kaiser Permanente-Santa Rosa facilities.

<sup>b</sup> 2000 data include tests from the Sonoma County Department of Health Services HIV/AIDS clinics, Kaiser Permanente-Santa Rosa facilities, and the Drug Abuse Alternatives Center.

Note: Kaiser Permanente screens all pregnant females who receive services there.

## Global, National, and State HIV/AIDS Estimates (Pediatric and Adult), June 2000

Total Number of People Living with HIV/AIDS	
• Worldwide <sup>1</sup>	36.1 million
• United States <sup>2</sup>	431,924
• California <sup>3</sup>	45,774
Total Deaths Due to HIV/AIDS	
• Worldwide <sup>1</sup>	21.8 million
• United States <sup>2</sup>	438,795
• California <sup>3</sup>	71,794

Sources: <sup>1</sup> WHO/UNAIDS. *Report of the Global HIV/AIDS Epidemic*. December 2000.

[www.unaids.org/epidemic\\_update/index.html](http://www.unaids.org/epidemic_update/index.html).

<sup>2</sup> CDC. *HIV/AIDS Surveillance Report, Mid-Year 2000 Edition*.

[www.cdc.gov/hiv/stats/hasrlink.htm](http://www.cdc.gov/hiv/stats/hasrlink.htm). Note: HIV data included in these statistics only come from 31 states that have mandated surveillance of HIV cases.

<sup>3</sup> California Office of AIDS. *California and the HIV/AIDS Epidemic: State of the State Report 1999*. [www.dhs.cahwnet.gov/ps/ooa/sos/sos1.htm](http://www.dhs.cahwnet.gov/ps/ooa/sos/sos1.htm). Note: Data only include people living with AIDS and deaths due to AIDS (California does not require surveillance of HIV cases).

The differences in case fatality rates<sup>vi</sup> among California, the US, and the world are partly due to the differences in numbers of HIV cases reported by each region. For example, California does not report the number of people living with HIV, so its case fatality rate (67.5%) appears higher than the case fatality rate for the US (50.4%) and world (37.7%). This is because the rate is calculated by dividing the total number of AIDS cases by the number of AIDS deaths. By not including the number of people living with HIV in the rate, it appears that a greater percentage of people with HIV/AIDS have died. The 1999 US case fatality rate for AIDS cases only (not including HIV cases) was 58.7%. This is still lower than California's case fatality rate, possibly due to the large percentage of California's AIDS cases that occurred in the early years of the epidemic when treatment was not as advanced as it is today (i.e., more AIDS deaths occurred in the early years).

### Sonoma County Contacts

Anonymous and Confidential HIV Testing AIDS Helpline: (707) 565-7373

HIV/AIDS Programs or Policy: Patricia Kuta, MPH (707) 565-7379

Case Reporting: Patricia Ensrud, PHN (707) 565-4580

HIV/AIDS Prevention Programs: Maureen Donaghue (707) 565-6684

Center for Treatment and Care of HIV: (707) 565-7410

## Endnotes

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<sup>i</sup> CDC. 1983 revised classification system for HIV infection and expanded case definition for AIDS among adolescents and adults. MMWR. 1992;41(No. RR-17).

<sup>ii</sup> 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.” This means the difference is probably due to random variation. Since the confidence intervals above overlap, we cannot say they are significantly different from each other, even though the rate for African Americans is larger than the rate for whites. Two rates with confidence intervals that do not overlap suggest that random variation or chance is not likely to be the reason for the difference. For example, the CIRs for whites and African Americans are both significantly higher than the CIR for Hispanics.

<sup>iii</sup> See endnote 2.

<sup>iv</sup> See endnote 2.

<sup>v</sup> California Department of Health Services, Office of AIDS. *California HIV/AIDS Update*. 1997-1999.

<sup>vi</sup> The case fatality rate is the number of HIV/AIDS deaths divided by the total number of HIV/AIDS cases (people living with HIV/AIDS plus HIV/AIDS deaths).