

Epidemiology of HIV/AIDS in Sonoma County Biannual Report June 30, 2001



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Introduction

The following report summarizes data from 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 where services should be targeted.

The data presented in this report include only persons who were Sonoma County residents at the time of AIDS diagnosis. 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:

1. No system currently exists to track 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.
2. Some AIDS deaths may have occurred but have not been reported to the County of Sonoma yet (e.g., if a person with AIDS dies outside California).
3. The number of new AIDS cases has been decreasing due to treatment improvements that slow the progression of HIV to AIDS. Because California does not have an established HIV surveillance system in place, there is no comprehensive mechanism to track the spread of HIV in the county—possibly a more accurate reflection of the true HIV/AIDS burden. It is anticipated that guidance for a non-names, unique-identifier HIV reporting system will be forthcoming from the California Department of Health Services by 2002.

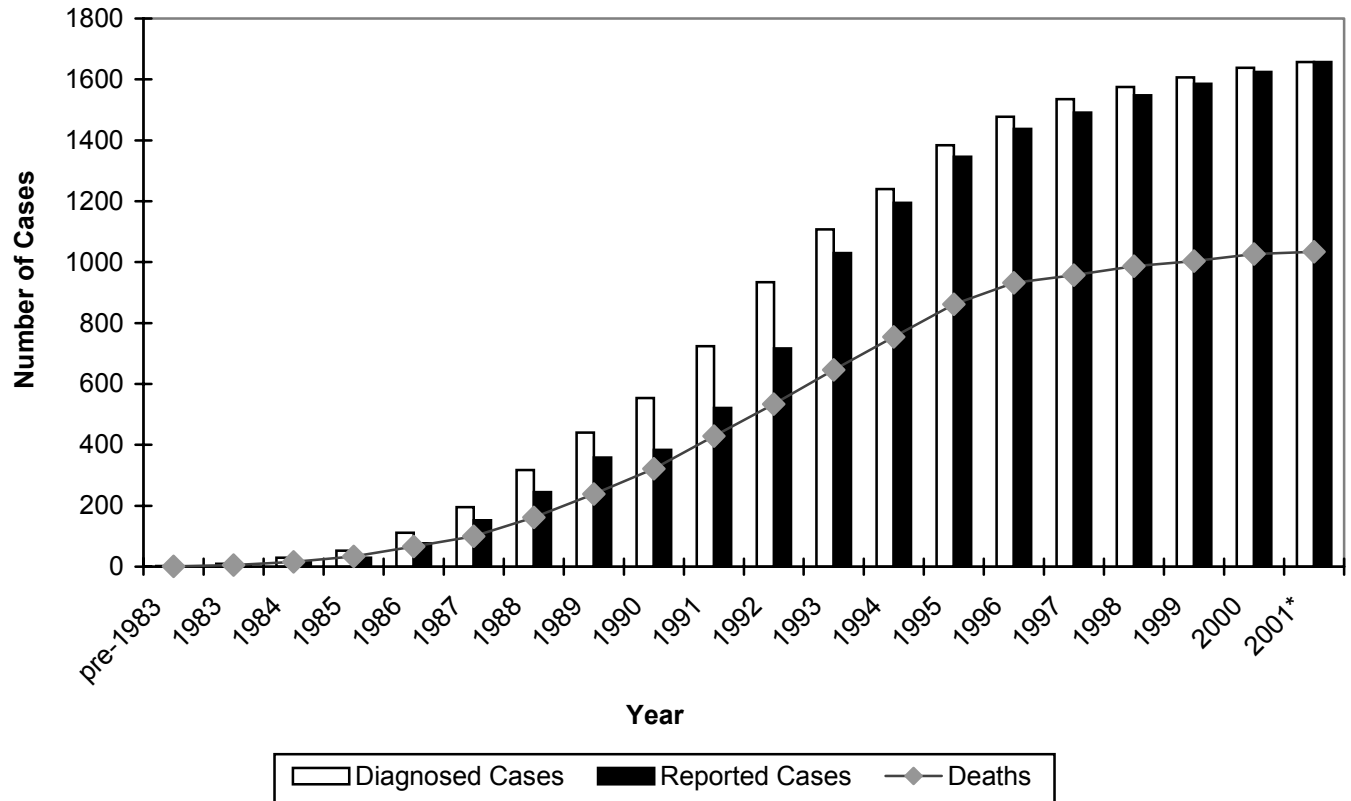
Overview

From January 1, 1981 through June 30, 2001, 1657 Sonoma County residents were reported with AIDS. Of these cases, 1034 have died. This is a 62.4% case fatality rate.

The number of newly diagnosed AIDS cases per year has generally 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. For the first half of 2001, 19 AIDS cases were diagnosed in Sonoma County residents. If this same number of AIDS cases are diagnosed during the second half of the year, it will be a slight increase in the number of newly diagnosed AIDS cases compared to the previous two years.

During the first half of 2001, the County of Sonoma Department of Health Services conducted a validation study with a local health clinic. The study revealed several AIDS cases who were diagnosed during 2001 and earlier years but had not been reported yet to the health department. These cases were reported for the first time in 2001, contributing to the high number of reported cases during the first half of 2001.

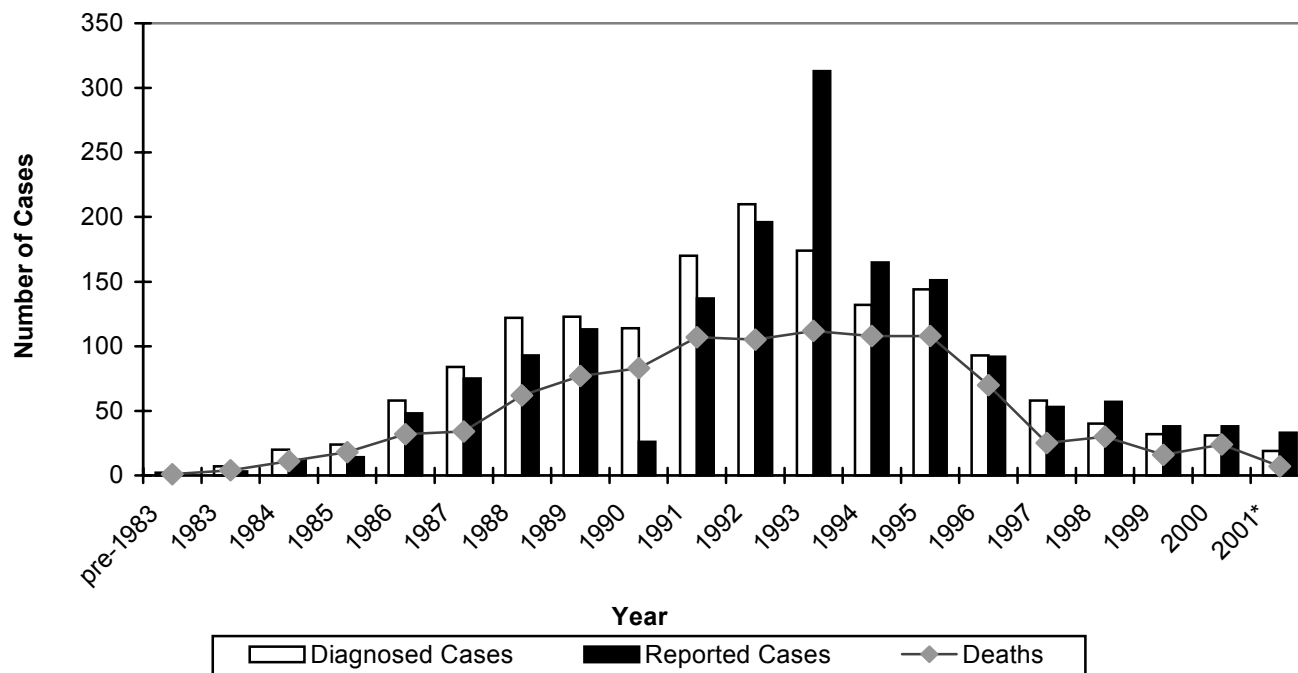
Cumulative AIDS Cases by Report Year, Diagnosis Year, and Year of Death, Sonoma County, 1981–2001*



Year	Pre-1983	1983	1984	1985	1986	1987	1988	1989	1990	1991
Diagnosed cases	2	9	29	53	111	195	317	440	554	724
Reported cases	0	3	15	29	77	152	245	358	384	521
Deaths	1	5	16	34	66	100	162	239	322	429
Year	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001*
Diagnosed cases	934	1108	1240	1384	1477	1535	1575	1607	1638	1657
Reported cases	717	1030	1195	1346	1438	1491	1548	1586	1624	1657
Deaths	534	646	754	862	932	957	987	1003	1027	1034

*Reported through June 30, 2001.

AIDS Cases by Report Year, Diagnosis Year, and Year of Death, Sonoma County, 1981–2001*



Year	Pre-1983	1983	1984	1985	1986	1987	1988	1989	1990	1991
Diagnosed cases	2	7	20	24	58	84	122	123	114	170
Reported cases	0	3	12	14	48	75	93	113	26	137
Deaths	1	4	11	18	32	34	62	77	83	107
Year	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001*
Diagnosed cases	210	174	132	144	93	58	40	32	31	19
Reported cases	196	313	165	151	92	53	57	38	38	33
Deaths	105	112	108	108	70	25	30	16	24	7

*Reported through June 30, 2001.

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. The number of cases attributed to diagnosis in 2000 will grow as they finally are all reported during 2001. During the earlier portion of the AIDS 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).¹ 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.

¹ CDC. 1983 revised classification system for HIV infection and expanded case definition for AIDS among adolescents and adults. MMWR. 1992;41(No. RR-17).

**Risk Categories for Adult/Adolescent (>12 years) AIDS Cases
by Gender, Sonoma County, 1981–2001***

Risk Category	Male	(%)	Female	(%)	Total	(%)
Gay/bisexual	1301	(82)	n/a	(0)	1301	(79)
Injection drug user (IDU)	63	(4)	33	(45)	96	(6)
Gay/bisexual IDU	160	(10)	n/a	(0)	160	(10)
Hemophilia/ coagulation disorder	7	(<1)	0	(0)	7	(<1)
Heterosexual contact	8	(<1)	27	(37)	35	(2)
Receipt of blood, blood components, or tissue	19	(1)	7	(10)	26	(2)
Risk not reported/other	19	(1)	6	(8)	25	(2)
Total	1577	(100)	73	(100)	1650	(100)

*Reported through June 30, 2001.

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, 1981–2001***

Risk Category	Male	(%)	Female	(%)	Total	(%)
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)
Total	1	(100)	6	(100)	7	(100)

*Reported through June 30, 2001.

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, 1996–2001***

Risk Category	1997		1998		1999		2000		2001*		Total	
	No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)
Gay/bisexual	39	(67)	25	(62)	22	(69)	18	(58)	12	(63)	116	(64)
Injection drug user (IDU)	3	(5)	5	(13)	2	(6)	3	(10)	2	(11)	15	(8)
Gay/bisexual IDU	8	(14)	1	(3)	3	(9)	5	(16)	3	(16)	20	(11)
Heterosexual contact	5	(9)	7	(18)	2	(6)	1	(3)	0	(0)	15	(8)
Hemophilia/ coagulation disorder	0	(0)	0	(0)	0	(0)	0	(0)	1	(5)	1	(<1)
Receipt of blood, blood components, or tissue	0	(0)	0	(0)	0	(0)	0	(0)	1	(5)	1	(<1)
Risk not reported	3	(5)	2	(5)	3	(9)	4	(13)	0	(0)	12	(7)
Total	58	(100)	40	(100)	32	(100)	31	(100)	19	(100)	180	(100)

*Reported through June 30, 2001.

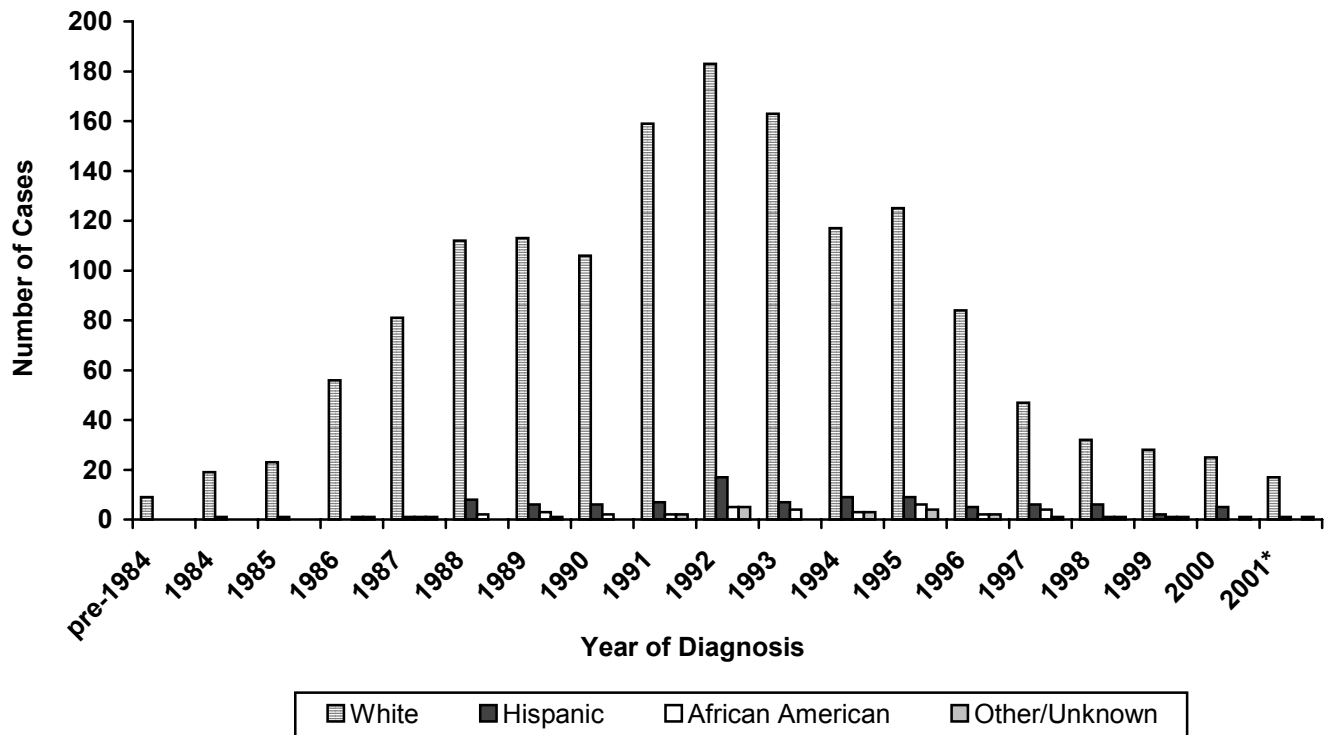
During the first half of 2001 in Sonoma County, two new AIDS cases were reported with a risk factor related to the receipt of blood or blood-related products. It appears that HIV was acquired several years ago in both cases and that they do not indicate a new risk posed by current receipt of blood or blood-related components.

**AIDS Cases Reported by Gender and Diagnosis Year,
Sonoma County, 1996–2001***

Risk Category	1997		1998		1999		2000		2001*		Total	
	No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)
Male	56	(97)	35	(87)	30	(94)	29	(94)	19	(100)	169	(94)
Female	2	(3)	5	(13)	2	(6)	2	(6)	0	(0)	11	(6)
Total	58	(100)	40	(100)	32	(100)	31	(100)	19	(100)	180	(100)

*Reported through June 30, 2001.

Race/Ethnicity of AIDS Cases by Diagnosis Year, Sonoma County, 1981–2001*



Race/ ethnicity	Pre-1984	1984	1985	1986	1987	1988	1989	1990	1991	1992
White	9	19	23	56	81	112	113	106	159	183
Hispanic	0	1	1	0	1	8	6	6	7	17
African American	0	0	0	1	1	2	3	2	2	5
Other/ Unknown	0	0	0	1	1	0	1	0	2	5
Race/ ethnicity	1993	1994	1995	1996	1997	1998	1999	2000	2001*	Total
White	163	117	125	84	47	32	28	25	17	1499
Hispanic	7	9	9	5	6	6	2	5	1	97
African American	4	3	6	2	4	1	1	0	0	37
Other/ Unknown	0	3	4	2	1	1	1	1	1	24

*Reported through June 30, 2001.

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^a of AIDS by Race/Ethnicity, Sonoma County, 1981–2001^b

Race/Ethnicity	Cumulative Incidence Rate	95% Confidence Intervals
White	398.4	378.3, 418.6
Hispanic	152.7	122.3, 183.0
African American	517.6	353.1, 684.0
Other/Unknown	110.1	66.1, 154.1
Total	353.5	336.6, 370.5

^aRate is per 100,000 population and not age-adjusted.

^bReported through June 30, 2001.

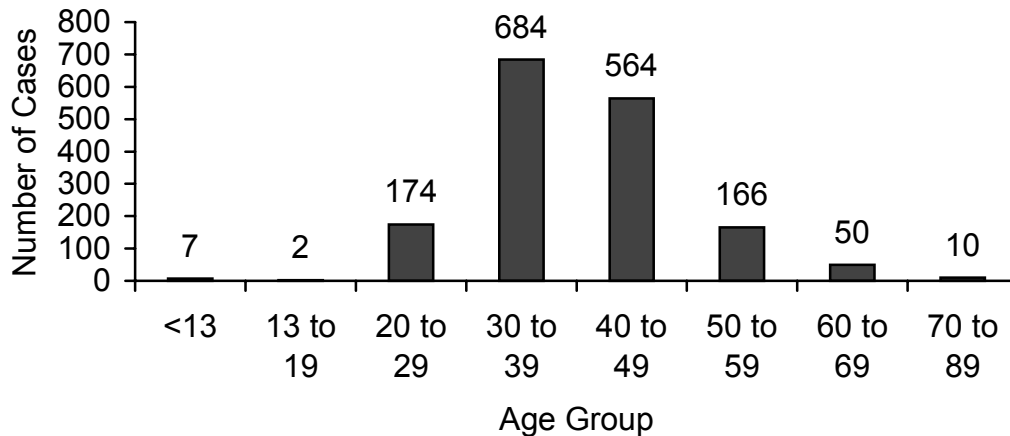
The cumulative incidence rate (CIR) by race/ethnicity estimates the proportion of racial/ethnic groups diagnosed with AIDS from 1981 to June 30, 2001. CIRs are calculated using 2001 population projections from the California Department of Finance.² Because the number of cases among Asian/Pacific Islanders (n=10) 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=24).

The highest CIR is seen in African Americans; however, it is not significantly higher than the CIR for whites.³ 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=1499) and Hispanics (n=97), 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.

² California Department of Finance. *Race/Ethnic Population with Age and Sex Detail, 1970-2040*.

³ When comparing rates between two groups, if the confidence intervals for the two rates overlap, then the difference between the two rates is generally 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.

AIDS Cases by Age Group at Diagnosis, Sonoma County, 1981–2001*



*Reported through June 30, 2001.

Cumulative Incidence Rate^a of AIDS Cases by Age Group at Diagnosis, Sonoma County, 1981–2001^b

Age Group	Cumulative Incidence Rate	95% Confidence Intervals
0-19 yrs.	7.1	2.5, 11.8
20-29 yrs.	310.7	264.6, 3567.8
30-39 yrs.	1029.2	952.5, 1106.0
40-49 yrs.	715.4	656.6, 774.3
50-59 yrs.	264.0	223.9, 304.1
60-89 yrs.	79.8	59.6, 100.0
Total	353.5	336.6, 370.5

^aRate is per 100,000 population.

^bReported through June 30, 2001.

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 2001 population projections.⁴ 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.

Adults aged 30 to 39 years have a significantly higher CIR compared to all other age groups.⁵

⁴ See endnote 2.

⁵ See endnote 3.

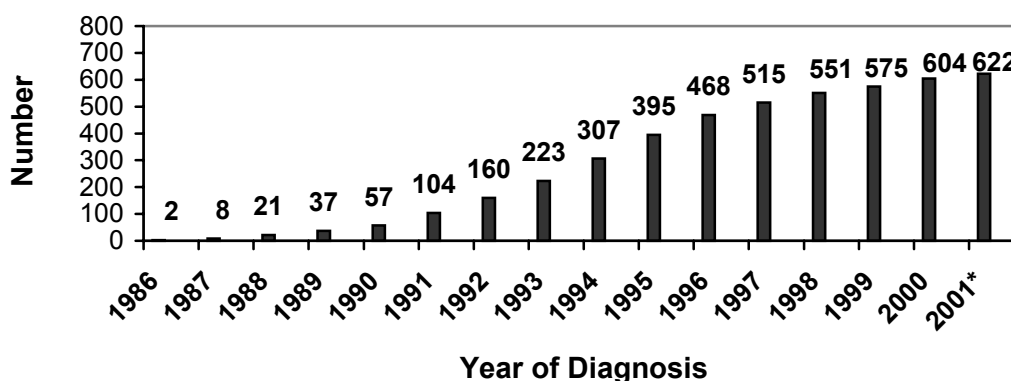
Adult/Adolescents (>12 years) Living with AIDS by Risk Category and Gender, Sonoma County, 2001*

Risk Category	Male	(%)	Female	(%)	Total	(%)
Gay/bisexual	468	(80)	n/a	(0)	468	(76)
Injection drug user (IDU)	27	(5)	16	(43)	43	(7)
Gay/bisexual IDU	65	(11)	n/a	(0)	65	(11)
Hemophilia/coagulation disorder	2	(<1)	0	(0)	2	(<1)
Heterosexual contact	6	(1)	18	(49)	24	(4)
Receipt of blood, blood components, or tissue	2	(<1)	0	(0)	2	(<1)
Risk not reported/other	12	(2)	3	(8)	15	(2)
Total	582	(100)	37	(100)	619	(100)

*Reported through June 30, 2001.

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 June 30, 2001 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, 1981–2001*



*Reported through June 30, 2001.

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, 1981–2001^a**

Area of Residence	Number of Cases	Area of Residence	Number of Cases
Santa Rosa	503	Windsor	47
Guerneville	347	Healdsburg	41
Sebastopol	116	Rio Nido	32
Petaluma	107	Cazadero	28
Forestville	83	Occidental	26
Rohnert Park	80	Cotati	24
Sonoma	69	Cloverdale	17
Monte Rio	64	Other Areas ^b	73
		Total	1657

^a Reported through June 30, 2001.

^b Eighteen locations with less than 15 cases.

**Leading Cumulative Incidence Rates^a of AIDS Cases by
Residence at Diagnosis, Sonoma County, 1981—2001^b**

Location	Cumulative Incidence Rate	95% Confidence Intervals
Guerneville	6213.1	5580.0, 6846.2
Monte Rio	4235.6	3220.1, 5251.1
Forestville	1471.4	1157.2, 1785.6
Cazadero	1231.9	778.4, 1685.3
Occidental	942.0	581.6, 1302.4

^a Rate is per 100,000 population and not age-adjusted.

^b Reported through June 30, 2001.

The cumulative incidence rate (CIR) by residence at diagnosis estimates the proportion of locations diagnosed with AIDS from 1981 to June 30, 2001. 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).⁶

Guerneville has a significantly higher CIR compared to all other locations within Sonoma County.⁷

⁶ CACI Marketing Systems. http://demographics.caci.com/free_samples/zip_code_searches.htm. July 2001.

⁷ See endnote 3.

Leading Cumulative Incidence Rates of AIDS Cases by County, California, 1981—2001 ^a

County	Cumulative Incidence Rate ^b	95% Confidence Intervals	Number of AIDS Cases
San Francisco	3161.5	3122.7, 3200.3	24,720
Marin	598.3	568.0, 628.6	1,488
Los Angeles	444.1	439.9, 448.3	42,828
Alameda	414.9	404.5, 425.3	6,038
San Diego	381.1	374.0, 388.3	10,807
Sonoma	358.9	341.6, 376.1	1,657
Solano	313.9	296.5, 331.3	1,246
Riverside	278.7	270.4, 286.9	4,341
San Mateo	265.3	253.4, 277.2	1,894
Sacramento	247.0	238.2, 255.8	3,040
California	356.2	354.2, 358.2	121,831

Source: California Department of Health Services, Office of AIDS. *HIV/AIDS Reporting System Surveillance Report for California – June 30, 2001*.

^a Reported through June 30, 2001.

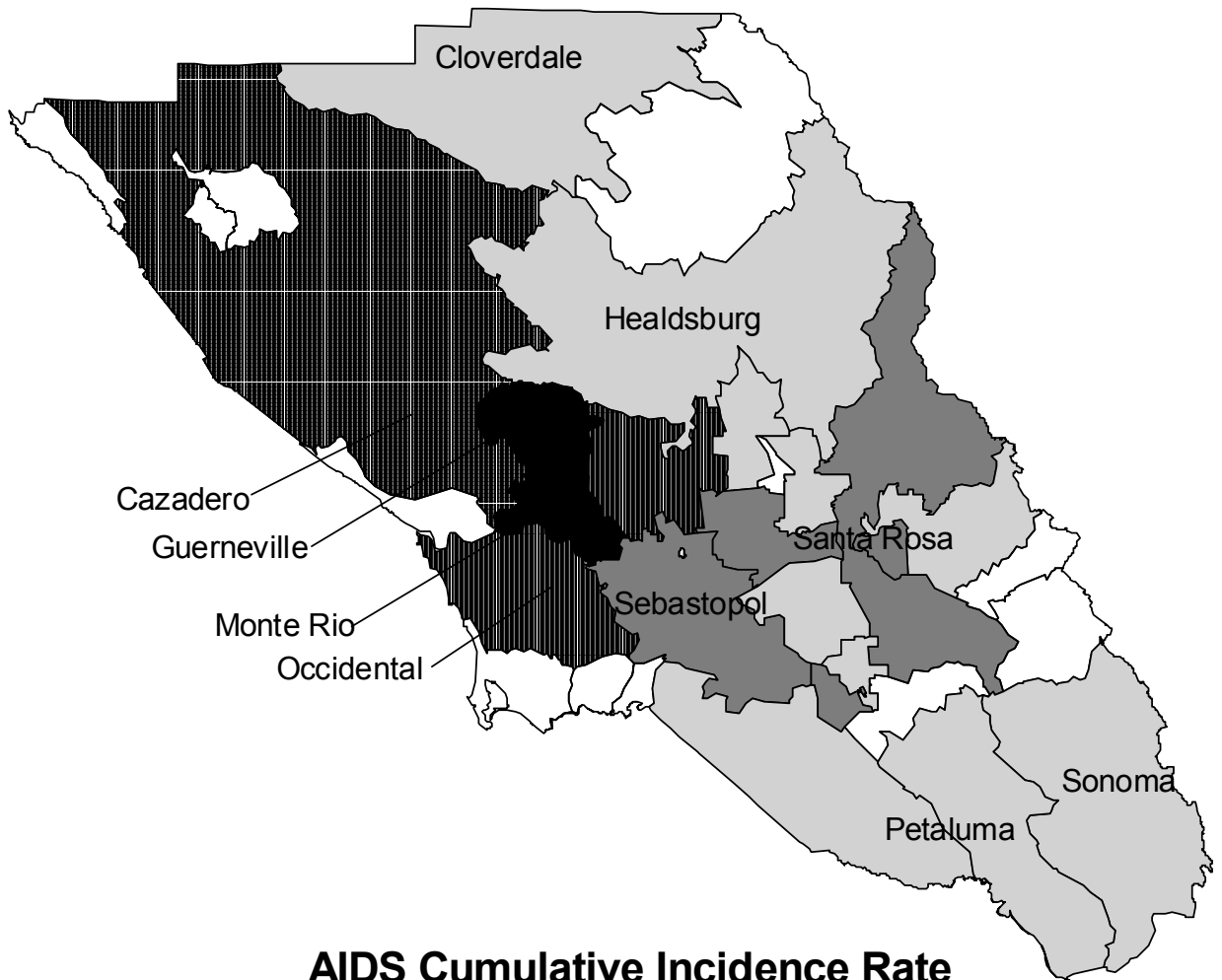
^b These rates use California Department of Finance, City/County Population Estimates for January 1, 2000. Sonoma County has a higher cumulative incidence rate listed in this table compared to previous tables on pages 7 and 8 because different population data (that include race/ethnicity and age categories) are used in calculating the rates for those previous tables.

The cumulative incidence rate (CIR) by county estimates the proportion of county residents diagnosed with AIDS from 1981 to June 30, 2001.

Sonoma 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.⁸ There is not a statistically significant difference between the two counties, however (note the overlapping 95% confidence intervals).

⁸ California Department of Health Services, Office of AIDS. *California HIV/AIDS Update. 1997-1999*.

AIDS Cumulative Incidence Rate* by Zip Code, Sonoma County, 1981 to June 30, 2001



AIDS Cumulative Incidence Rate



	Less than 15 cases
	1 - 300
	301 - 500
	501 - 1500
	1501 - 6750

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

HIV Testing at County Anonymous & Confidential Testing Sites¹ by Sex and Risk Category, Sonoma County, January-June 2001

Risk Category	# Positive Males	# Positive Females	Total Tested	% Positive of Total Tested
Gay/bisexual	6	n/a	266	2.3%
Injection drug user (IDU)	0	0	225	0%
Gay/bisexual IDU	0	n/a	10	0%
At-risk partner ²	3	0	640	<1.0%
Heterosexual or female bisexual	0	0	861	0%
Receipt of blood, blood components, or tissue	0	0	9	0%
Occupational ³	0	0	7	0%
Sex worker	0	0	10	0%
No risk	1	0	404	<1.0%
Risk not reported	0	0	10	0%
Total	10	0	2442	<1.0%

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

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

³An 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 1531 males who were tested for HIV at County of Sonoma Department of Health Services HIV/AIDS testing sites from January to April 2001 had positive test results. None of the 906 females or 5 people of unknown gender who were tested there during the same time period were HIV positive.

HIV Testing by Sex, Sonoma County, 1998-2001^a

	# Tested		# Positive		% Positive of Total Tested	
	Male	Female	Male	Female	Male	Female
1998 ^b	2994	3856	29	8	<1.0	<1.0
1999 ^b	3492	4047	21	5	<1.0	<1.0
2000 ^c	3874	4385	20	5	<1.0	<1.0
2001 ^{a,c}	2728	2616	16	0	<1.0	0.0
Total	13088	14904	84	18	<1.0	<1.0

^a Reported through June 30, 2001.

^b 1998 and 1999 data include tests from County of Sonoma Department of Health Services HIV/AIDS clinics and Kaiser Permanente-Santa Rosa facilities. Note: Kaiser Permanente screens all pregnant females who receive services there.

^c 2000 and 2001 data include tests from the County of Sonoma Department of Health Services HIV/AIDS clinics, Kaiser Permanente-Santa Rosa facilities, and the Drug Abuse Alternatives Center.

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

Total Number of People Living with HIV/AIDS	
• Worldwide ¹	36.1 million
• United States ²	431,924
• California ³	46,127
Total Deaths Due to HIV/AIDS	
• Worldwide ¹	21.8 million
• United States ²	438,795
• California ³	73,166

Sources: ¹ WHO/UNAIDS. *Report of the Global HIV/AIDS Epidemic*. December 2000.
www.unaids.org/epidemic_update/index.html.

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

³ California Department of Health Services, Office of AIDS. *HIV/AIDS Reporting System Surveillance Report for California – December 31, 2000*.
www.dhs.cahwnet.gov/ps/ooa/Statistics/case2000.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 rates⁹ 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 (61.3%) 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 HIV/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 2000 US case fatality rate for AIDS cases only (not including HIV cases) was 58.7%. This is still slightly 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

⁹ 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).