

Epidemiology of HIV/AIDS in Sonoma County

Biannual Report December 31, 1999



Mary Maddux-Gonzalez, MD, MPH, Interim Public Health Officer
Norma Ellis, BSN, MPA, Director, Community Health Services
Pat Kuta, MPH, AIDS Program Manager
Patricia Ensrud, PHN, AIDS Surveillance

Prepared by
Cindan Gizzi, MPH
Epidemiologist, Public Health Division

Table of Contents

Introduction	1
Cumulative AIDS Cases by Report Year, Diagnosis Year and Year of Death	1
AIDS Cases by Report Year, Diagnosis Year and Year of Death	2
Risk Categories for Adult/Adolescent (>12 years) AIDS Cases by Gender	3
Risk Categories for Pediatric (<13 years) AIDS Cases by Gender	4
Risk Categories for Adult/Adolescent (>12 years) AIDS Cases by Diagnosis Year	4
AIDS Cases Reported by Gender and Diagnosis Year	5
Race/Ethnicity of AIDS Cases by Diagnosis Year	5
Cumulative Incidence Rate of AIDS by Race/Ethnicity	6
AIDS Cases by Age Group at Diagnosis	7
Cumulative Incidence Rate of AIDS Cases by Age Group at Diagnosis	7
Adult/Adolescents (>12 years) Living With AIDS by Risk Category and Gender	8
Cumulative Number of Persons Living With AIDS by Diagnosis Year	8
AIDS Cases by Residence at Diagnosis	9
Top Five Cumulative Incidence Rates of AIDS Cases by Residence at Diagnosis	9
Leading Cumulative Incidence Rates of AIDS Cases by County	10
AIDS Cumulative Incidence Rate (map)	11
HIV Testing at County Anonymous & Confidential Testing Sites by Sex and Risk Category	12
1999 Global, National and State HIV/AIDS Estimates	13
Sonoma County Contacts	13

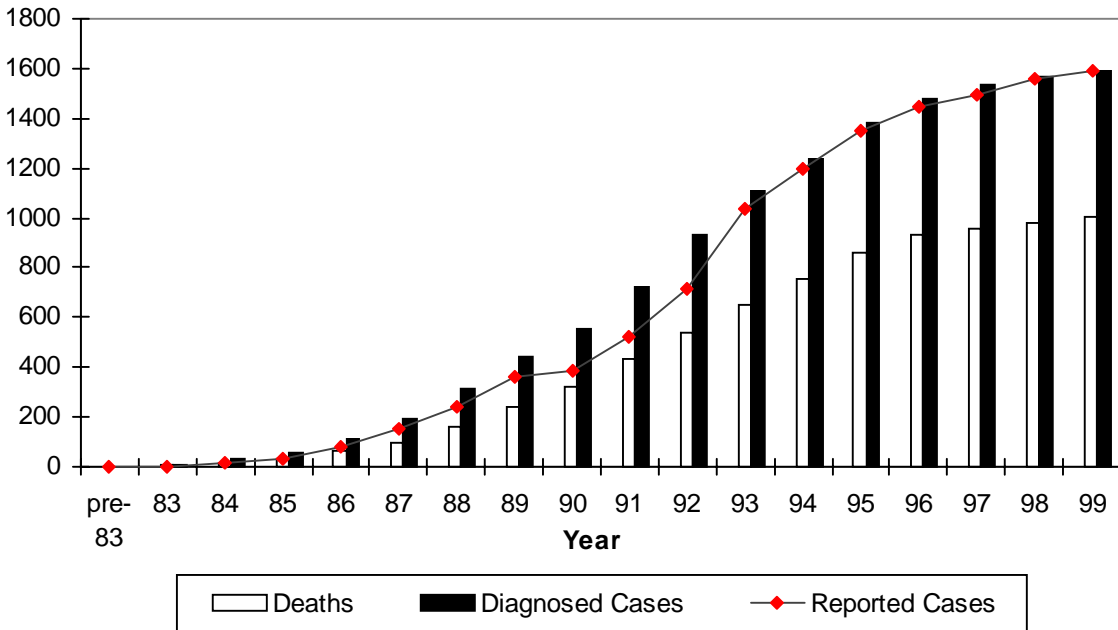
Introduction

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.

From January 1, 1981 through December 31, 1999, 1594 Sonoma County residents were reported with AIDS. Of these cases, 1001 have died (62.8% case fatality).

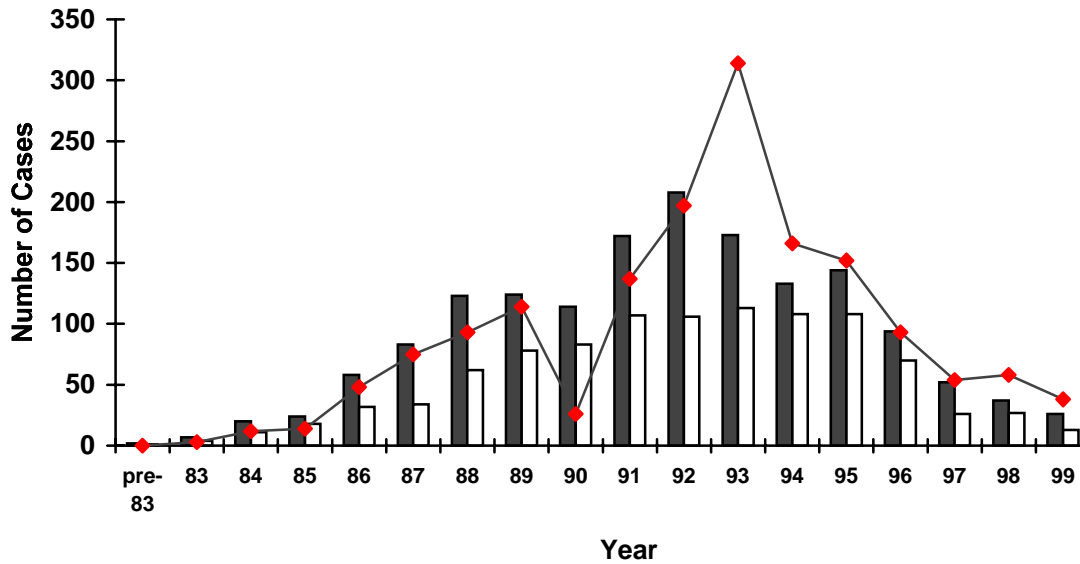
Cumulative AIDS Cases by Report Year, Diagnosis Year and Year of Death, Sonoma County, 1981–1999



Year	pre-83	83	84	85	86	87	88	89	90
Diagnosed cases (cumulative)	2	9	29	53	111	194	317	441	555
Reported cases (cumulative)	0	3	15	29	77	152	245	359	385
Deaths (cumulative)	1	5	16	34	66	100	162	240	323

Year	91	92	93	94	95	96	97	98	99
Diagnosed cases (cumulative)	727	935	1108	1241	1385	1479	1531	1568	1594
Reported cases (cumulative)	522	719	1033	1199	1351	1444	1498	1556	1594
Deaths (cumulative)	430	536	649	757	865	935	961	988	1001

AIDS Cases by Report Year, Diagnosis Year and Year of Death, Sonoma County, 1981–1999



Diagnosed Cases
 Deaths
 Reported Cases

Year	pre-83	83	84	85	86	87	88	89	90
Diagnosed cases	2	7	20	24	58	83	123	124	114
Reported cases	0	3	12	14	48	75	93	114	26
Deaths	1	4	11	18	32	34	62	78	83
Year	91	92	93	94	95	96	97	98	99
Diagnosed cases	172	208	173	133	144	94	52	37	26
Reported cases	137	197	314	166	152	93	54	58	38
Deaths	107	106	113	108	108	70	26	27	13

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. The number of deaths due to AIDS has likewise declined for the same reasons.

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 1999 will grow as they finally are reported during 2000. 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).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.

Risk Categories for Adult/Adolescent (>12 years) AIDS Cases by Gender, Sonoma County, 1981–1999

Risk Category	Male	(%)	Female	(%)	Total	(%)
Gay/bisexual	1262	(83)	n/a	(0)	1262	(80)
Injection drug user (IDU)	57	(4)	32	(45)	89	(6)
Gay/bisexual IDU	148	(10)	n/a	(0)	148	(9)
Hemophilia/ coagulation disorder	6	(<1)	0	(0)	6	(<1)
Heterosexual contact	8	(<1)	25	(35)	33	(2)
Receipt of blood, blood components, or tissue	18	(1)	7	(10)	25	(2)
Risk not reported/Other	16	(1)	8	(10)	24	(1)
Total	1515	(100)	72	(100)	1587	(100)

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.

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 Pediatric (<13 years) AIDS Cases by Gender,
Sonoma County, 1981–1999**

Risk Category	Male (%)	Female (%)	Total (%)
Mother with, or at risk for, HIV infection	1 (50%)	5 (83%)	6 (86%)
Receipt of blood, blood components, or tissue	0 (0%)	1 (17%)	1 (14%)
Total	1 (100%)	6 (100%)	7 (100%)

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

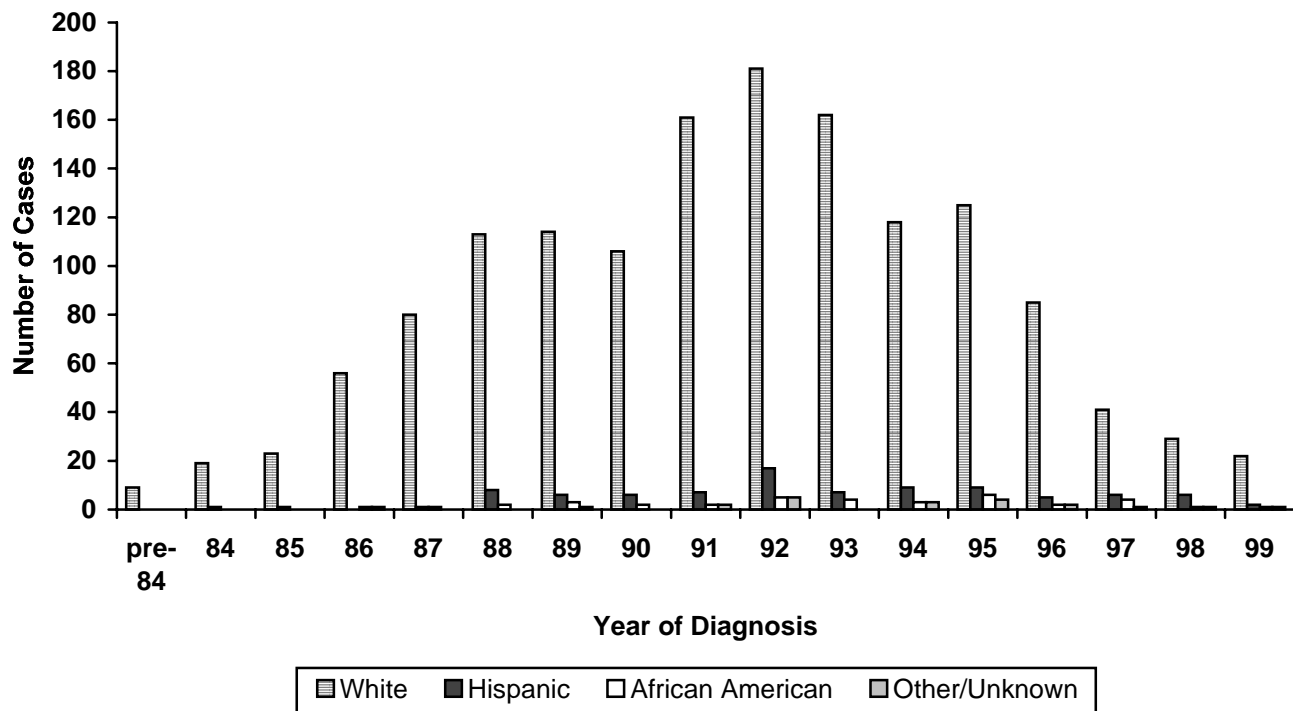
**Risk Categories for Adult/Adolescent (>12 years) AIDS Cases
by Diagnosis Year, Sonoma County, 1995–1999**

Risk Category	1995		1996		1997		1998		1999		Total	
	No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)
Gay/bisexual	110	(76)	66	(70)	36	(69)	22	(59)	18	(69)	252	(71)
IDU	18	(13)	16	(17)	2	(4)	5	(14)	2	(8)	43	(12)
Gay/bisexual & IDU	10	(7)	8	(9)	6	(12)	1	(3)	2	(8)	27	(8)
Heterosexual contact	5	(3)	2	(2)	5	(10)	7	(19)	1	(4)	20	(6)
Risk not reported	1	(1)	2	(2)	3	(6)	2	(5)	3	(12)	11	(3)
Total	144	(100)	94	(100)	52	(100)	37	(100)	26	(100)	353	(100)

AIDS Cases Reported by Gender and Diagnosis Year, Sonoma County, 1995–1999

Gender	1995		1996		1997		1998		1999	
	No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)
Male	132	(92)	88	(94)	50	(96)	32	(86)	24	(92)
Female	12	(8)	6	(6)	2	(4)	5	(14)	2	(8)
TOTAL	144	(100)	94	(100)	52	(100)	37	(100)	26	(100)

Race/Ethnicity of AIDS Cases by Diagnosis Year Sonoma County, 1981–1999



Race/Ethnicity	pre-84	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99
White	9	19	23	56	80	113	114	106	161	181	162	118	125	85	41	29	22
Hispanic	0	1	1	0	1	8	6	6	7	17	7	9	9	5	6	6	2
African American	0	0	0	1	1	2	3	2	2	5	4	3	6	2	4	1	1
Other/Unknown	0	0	0	1	0	0	1	0	2	5	0	3	4	2	1	1	1

Whites make up the greatest proportion of persons with AIDS. Among other racial/ethnic groups, the greatest number of persons with AIDS are Hispanic. 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, 1981–1999

Race/Ethnicity	Cumulative Incidence Rate	95% Confidence Intervals
White	396.0	375.6, 416.4
Hispanic	154.3	122.6, 185.9
African American	542.0	367.8, 716.1
Other/Unknown	111.7	65.0, 158.3
Total	354.1	336.7, 371.4

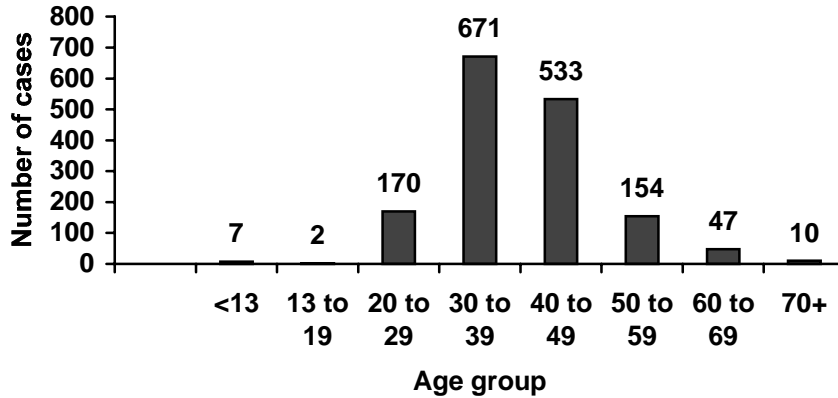
*Rate is per 100,000 population and not age-adjusted.

The cumulative incidence rate (CIR) by race/ethnicity estimates the proportion of racial/ethnic groups diagnosed with AIDS from 1981 to 1999. CIRs are calculated using the 1999 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=11) is too small to calculate accurate CIRs, these cases are included in the “other/unknown” racial/ethnic group (n=22).

The highest CIR is seen in African Americans; however, it is not significantly higher than the CIR for whites.² 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=1444) and Hispanics (n=91), may result in a less accurate representation of the CIR for African Americans.

² 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.

AIDS Cases by Age Group at Diagnosis, Sonoma County, 1981–1999



Cumulative Incidence Rate* of AIDS Cases by Age Group at Diagnosis, Sonoma County, 1981–1999

Age Group	Cumulative Incidence Rate	95% Confidence Intervals
0-19 yrs.	7.3	2.5, 12.1
20-29 yrs.	315.7	268.3, 363.1
30-39 yrs.	1015.4	939.0, 1091.9
40-49 yrs.	687.9	629.7, 746.1
50-59 yrs.	279.8	235.6, 323.9
60+ yrs.	76.4	56.6, 96.2
Total	354.1	336.7, 371.4

*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 1999. CIRs are calculated using California Department of Finance 1999 population projections.

Adults aged 30 to 39 years have a significantly higher CIR compared to all other age groups.³

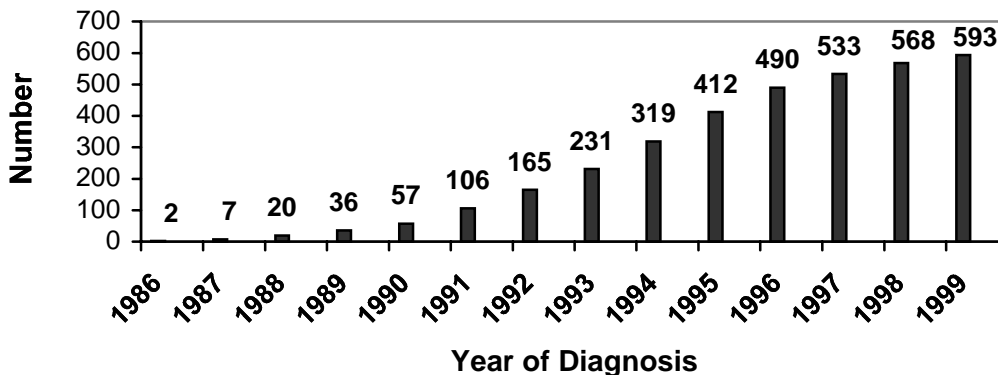
³ See footnote 2 on page 6.

Adult/Adolescents (>12 years) Living with AIDS by Risk Category and Gender, Sonoma County, December 1999

Risk Category	Male		Female		Total	
	No.	(%)	No.	(%)	No.	(%)
Gay/bisexual	445	(81)	n/a	(0)	445	(75)
IDU	25	(5)	17	(43)	42	(7)
Gay/bisexual IDU	60	(11)	n/a	(0)	60	(10)
Hemophilia/ Coagulation Disorder	2	(<1)	0	(0)	2	(<1)
Heterosexual Contact	7	(1)	19	(48)	26	(4)
Transfusion Recipient	1	(<1)	0	(0)	1	(<1)
Risk Not Reported/Other	10	(2)	4	(10)	14	(2)
Total	550	(100)	40	(100)	590	(100)

The number of Sonoma County residents older than 12 diagnosed with AIDS who had no reported date of death as of December 31, 1999, 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, 1981–1999



The above graph represents AIDS cases of all ages and indicates that the trend for increasing numbers of persons living with AIDS (PLWAs) continues, following a continuing decrease in AIDS deaths. 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, 1981–1999

Area of Residence	Number of Cases
Santa Rosa	480
Guerneville	335
Sebastopol	112
Petaluma	104
Forestville	80
Rohnert Park	78
Sonoma	69
Monte Rio	60
Windsor	44
Healdsburg	40
Rio Nido	31
Cazadero	27
Occidental	26
Cotati	23
Cloverdale	16
Other Areas*	69
Total	1594

*Locations with less than 10 cases are not listed separately (17 locations; n=69).

Top Five Cumulative Incidence Rates* of AIDS Cases by Residence at Diagnosis, Sonoma County, 1981—1999

Location	Cumulative Incidence Rate	95% Confidence Intervals
Guerneville	17039.7	15377.7, 18701.7
Monte Rio	5671.1	4277.4, 7064.8
Forestville	3274.7	2568.9, 3980.4
Occidental	2000.0	1239.0, 2671.0
Sebastopol	1599.1	1305.3, 1892.9

*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 1999. CIRs are calculated using 1990 census data (CIR is not calculated for Rio Nido due to lack of population estimate for this area).

Guerneville has a significantly higher CIR compared to all other locations within Sonoma County.⁴

⁴ See footnote 2 on page 6.

Leading Cumulative Incidence Rates of AIDS Cases by County, California, 1981— March 31, 1999

County	Cumulative Incidence Rate	95% Confidence Intervals	Number of AIDS Cases
San Francisco	3,062.0	3023.2, 3100.8	23,240
Marin	573.0	542.9, 603.1	1,383
Los Angeles	408.8	404.8, 412.8	39,395
Alameda	393.4	383.0, 403.8	5,481
San Diego	358.7	351.6, 365.8	9,779
Sonoma	354.9	337.3, 372.5	1,562
Solano	258.6	243.2, 274.0	1,074
San Mateo	248.1	236.5, 259.7	1,764
Riverside	245.9	238.1, 253.7	3,815
Contra Costa	224.6	214.9, 234.3	2,043
California	331.4	329.5, 333.3	111,479

Source: California Department of Health Services, Office of AIDS. *California HIV/AIDS Update*. June 1999.

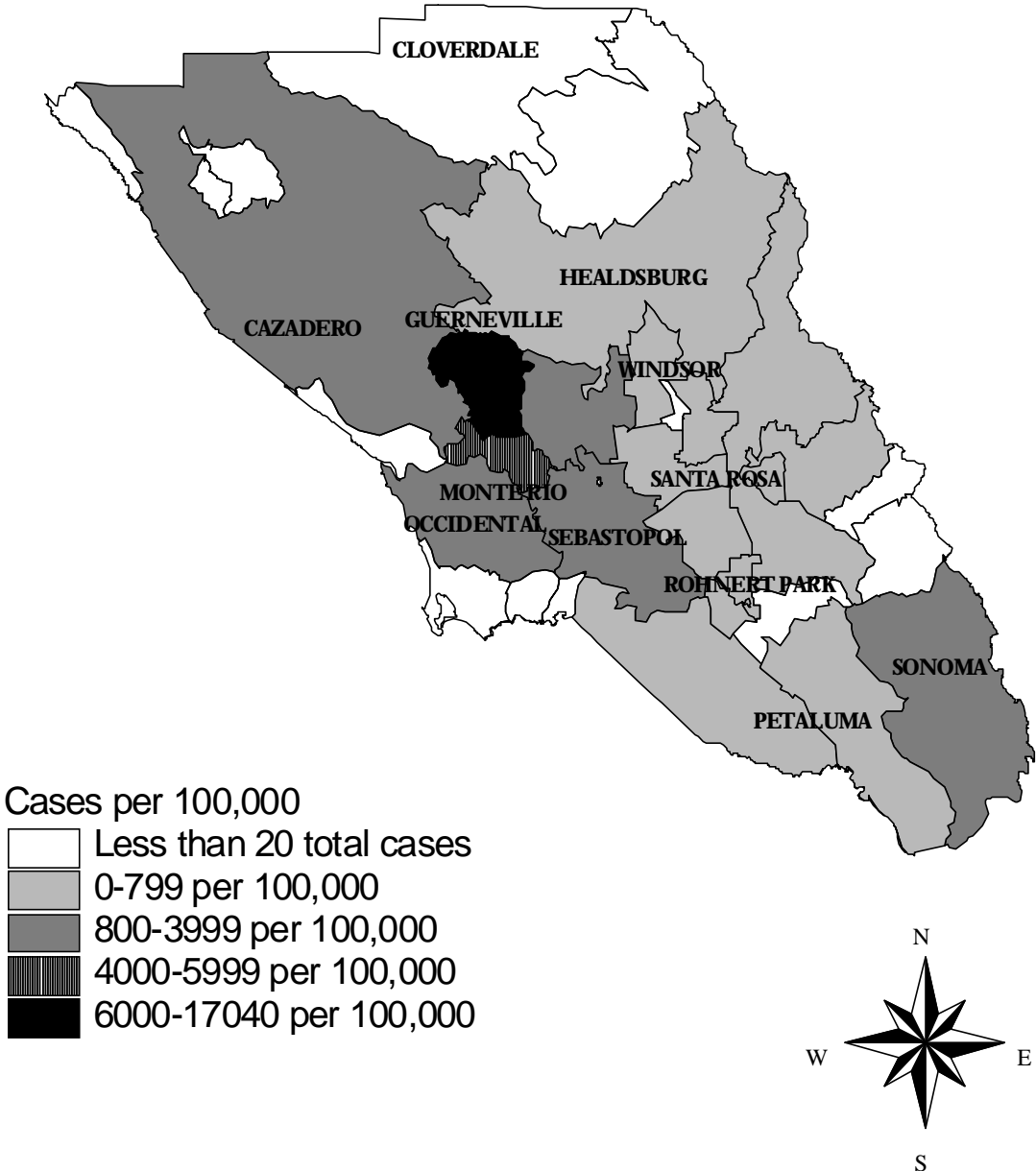
The cumulative incidence rate (CIR) by county estimates the proportion of counties diagnosed with AIDS from 1981 to March 31, 1999.

Sonoma County has a significantly higher CIR compared to California overall⁵. 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.⁶

⁵ See footnote 2 on page 6.

⁶ California Department of Health Services, Office of AIDS. *California HIV/AIDS Update*. 1997-1999.

AIDS Cumulative Incidence Rate*, Sonoma County, 1981-99



*Rate per 100,000 population and not age-adjusted. 1990 US Census population data used.
Boundaries presented in map designate zip codes.

HIV Testing at County Anonymous & Confidential Testing Sites by Sex and Risk Category, Sonoma County, 1999

Risk Category	# Positive Males	# Positive Females	Total Tested	% Positive of Total Tested
Gay/Bisexual	8	n/a	426	1.9%
IDU	3	3	798	<1.0%
Gay and IDU	4	n/a	44	9.0%
At-Risk Partner ¹	2	1	1477	<1.0%
Heterosexual (Multiple Partners)	0	0	1528	0.0%
Transfusion	0	0	42	0.0%
Occupational ²	0	0	31	0.0%
Sex Worker	0	0	19	0.0%
No Risk	0	1	357	<1.0%
Risk Not Reported	0	0	21	0.0%
Total	17	5	4743	<1.0%
# Total Tested (% Positive of Total Tested)	2764 (<1.0%)	1977 (<1.0%)	4743³ (<1.0%)	--

¹An at-risk partner is defined as a partner who is HIV+, bisexual, an IDU or has multiple partners.

²An occupational risk is defined as blood-to-blood exposure on the job. This includes, but is not limited to, health care workers.

³ Two persons of unknown gender were tested (0 positive results).

1999 Global, National and State HIV/AIDS Estimates (Pediatric and Adult)	
Total number of people living with HIV/AIDS	
• Worldwide ¹	33.6 million
• United States ²	393,045
• California ³	44,296
Total deaths due to HIV/AIDS	
• Worldwide ¹	16.3 million
• United States ²	420,201
• California ³	70,656

Sources: ¹ WHO/UNAIDS. *AIDS Epidemic Update*. December 1999.
www.who.int/emc-hiv/.

² CDC. *HIV/AIDS Surveillance Report, 1999 Mid-Year Edition*.
www.cdc.gov/nchstp/hiv_aids/surveillance.htm. Note: Data are through
June 30, 1999.

³ California Office of AIDS. *1999 AIDS Case Statistics*.
www.dhs.cahwnet.gov/ps/ooa/ooaindex.htm. Note: Data are through
November 30, 1999 and only include people living with AIDS (California
does not require surveillance of HIV cases).

Sonoma County Contacts

Anonymous and Confidential HIV Testing AIDS Helpline: (707) 524-7373

HIV/AIDS Programs or Policy: Patricia Kuta, MPH (707) 524-7379

Case Reporting: Patricia Ensrud, PHN (707) 565-4750

HIV/AIDS Prevention Programs: Lynn Campanario, MPH (707) 565-6683

Center for Treatment and Care of HIV: (707) 524-7410