



CENTER FOR HEALTH STATISTICS
DATA SUMMARY

REPORT REGISTER NO. DS01-02002
(February 2001)

*HEART DISEASE
DEATHS, CALIFORNIA
1998*

Introduction

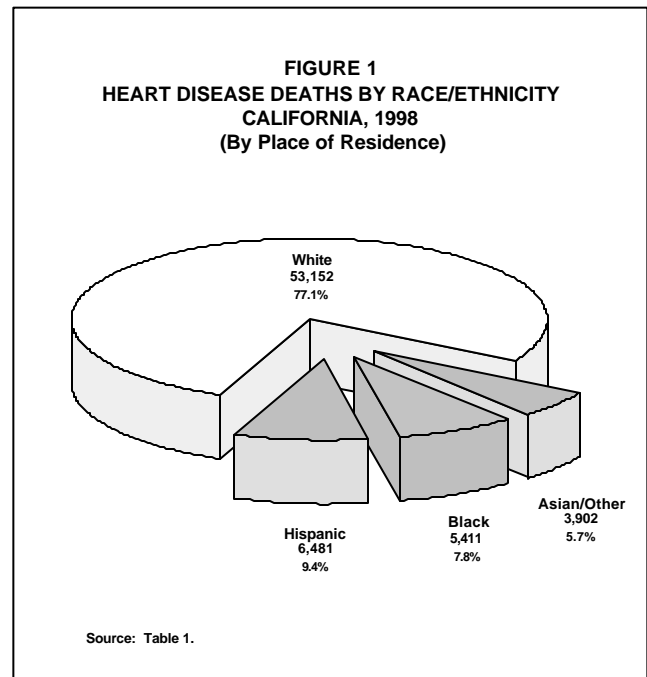
Heart disease has historically been the leading cause of death in the United States and in California. In 1996, 21 million cases of heart disease were reported in the United States. In 1998, there were 724,859 deaths and 4.3 million hospital discharges attributed to heart disease.¹

This report presents data on heart disease deaths during 1998, and provides analysis of crude and age-adjusted death rates for California residents by sex, age, race/ethnicity, and county. The definition of heart disease used in this report is based on the ICD-9 codes 390-398, 402, 404-429 traditionally presented in National Center for Health Statistics reports.² The national health objective for heart disease, as defined by the Healthy People 2000 goals, pertains to coronary heart disease (ICD-9 codes 402, 410-414, 429.2) so an assessment of California's progress in meeting this objective cannot be monitored with the data presented in this report. An analysis of California's progress in meeting the national health objective for coronary heart disease is presented in other Center for Health Statistics (CHS) reports.³

Heart Disease Deaths

Table 1 (page 5) displays heart disease death data for 1998 by the four major race/ethnic groups, by age group, and by sex. Heart disease deaths occur predominantly among the older population, and this held true in 1998 with 84.3 percent of all heart disease deaths involving people 65 years and older. This age group, within each respective race/ethnic group, accounted for 87.3 percent of all deaths among Whites, 80.1 percent of all deaths among Asian/Other, 75.9 percent of all deaths among

Hispanics, and 68.0 percent of all deaths among Blacks. During this period, the number of deaths attributed to heart disease was slightly higher among females (34,721) than among males (34,225). As shown in **Figure 1**, the number of heart disease deaths among Whites (53,152) was much higher than Hispanics (6,481), Blacks (5,411), and Asian/Other (3,902).



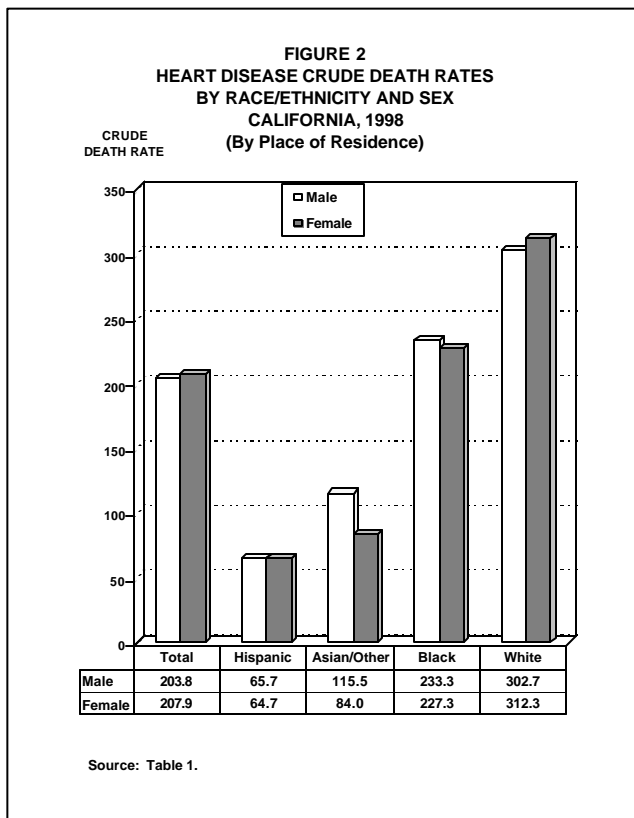
Heart Disease Crude Death Rates

The overall heart disease crude death rate declined slightly from 207.2 deaths per 100,000 population in 1997 to 205.9 in 1998. As shown in **Table 1** (page 5), Whites had the highest crude death rate in 1998, a rate of 307.6. Blacks were next with a crude rate of 230.2. Asian/Other and Hispanics had the lowest crude death rates, 99.5 and 65.2 respectively.

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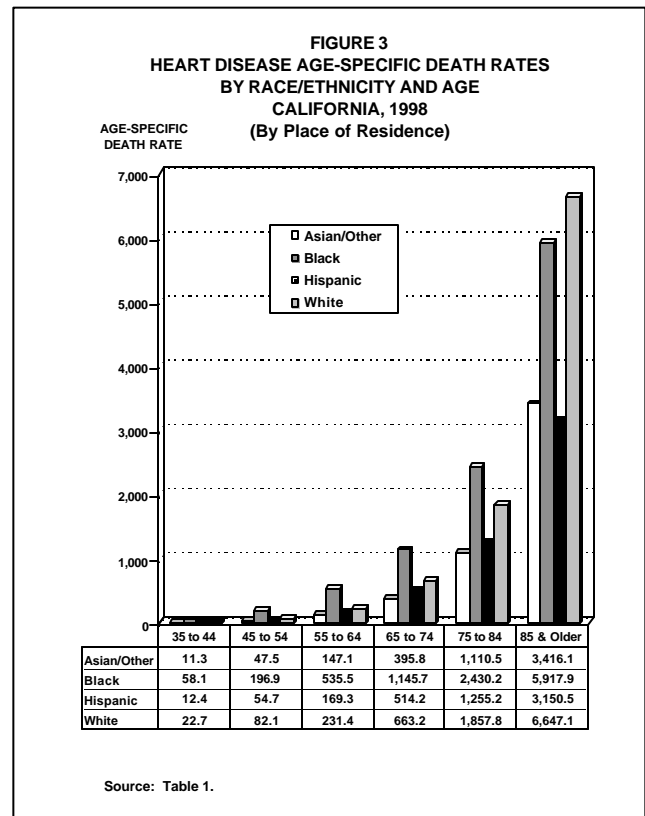
Heart Disease Crude Death Rates (Continued)

Figure 2 shows that among the sexes, within each race/ethnic group, only Asian/Other and White had statistically significant differences in their crude death rates. Asian/Other males had a crude rate of 115.5 and Asian/Other females had a rate of 84.0. Among Whites, females had a rate of 312.3 and males had a rate of 302.7.



Heart Disease Age-Specific Death Rates

In **Table 1** (page 5) reliable age-specific rates show that males in all four race/ethnic groups consistently had higher rates than females. **Table 1** also shows that Blacks had higher age-specific death rates than the other three race/ethnic groups, except in the 85 & older age group where Whites had the highest rate. Whites and Hispanics had the only reliable rates in the 15 to 24 age group where Whites had the highest rate. Hispanics had the only reliable rate in the under one age group. **Figure 3** graphically shows this pattern of higher age-specific death rates for Blacks in the age groups 35 to 44, 45 to 54, 55 to 64, 65 to 74, and 75 to 84 years.



Heart Disease Age-Adjusted Death Rates

In 1998 the United States heart disease age-adjusted death rate (126.6) was higher than the California rate (110.0).⁴ A comparison among the races shows that Blacks had an age-adjusted death rate (192.6) significantly higher than Whites (115.5), Hispanics (78.4), or Asian/Other (68.0). As shown in **Figure 4** (page 3), the death rate for males was significantly higher than for females in all four of the race/ethnic groups.

Heart Disease Death Data for California Counties

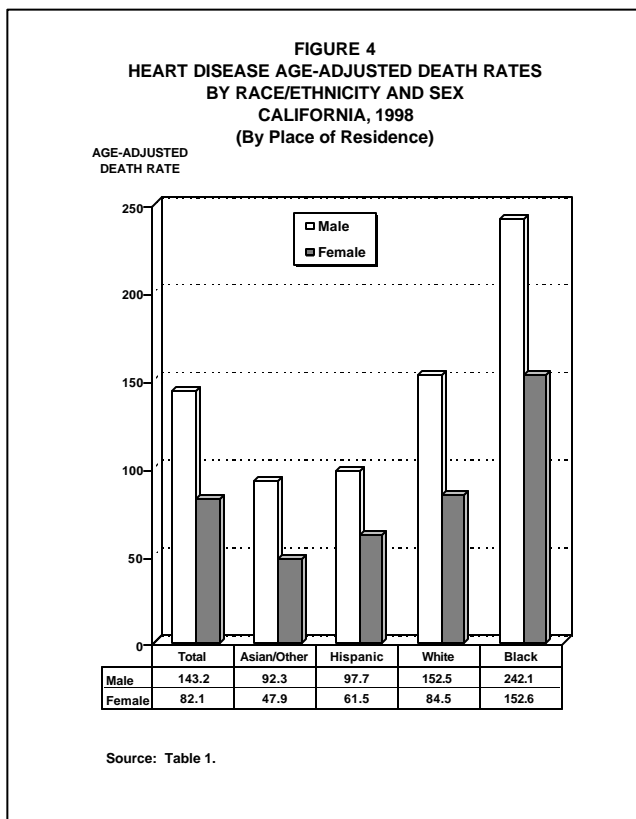
Table 2 (page 6) displays the number of deaths, crude death rates, and age-adjusted death rates by county averaged over a three-year period, 1996 to 1998. This averaging is done to reduce the large fluctuations in the death rates that are inherent among counties with a small number of events and/or population.

The highest average number of heart disease deaths occurred in Los Angeles County (19,638.0) and the lowest in Alpine County (2.7).

Heart Disease Death Data for California Counties (Continued)

The highest and lowest reliable crude death rates due to heart disease were in Inyo County (450.6 per 100,000 population) and San Benito County (136.6), respectively.

The ranking for heart disease age-adjusted death rates showed Kings County with the highest reliable death rate (142.2 per 100,000 population) and San Benito County with the lowest (70.9).



Heart Disease Death Data by Local Health Jurisdiction

Table 3 displays the number of deaths and crude death rates for California's three local health jurisdictions averaged over a three-year period, 1996 to 1998. Age-adjusted death rates were not calculated for the local health jurisdictions because city population estimates by age are not available.

The city of Long Beach had 1,147.3 heart disease deaths, Pasadena had 408.3 heart disease deaths, and Berkeley had 196.3 heart disease deaths.

Pasadena had a heart disease crude death rate of 294.6 deaths per 100,000 population, Long Beach had a crude rate of 260.3, and Berkeley had a crude rate of 184.7.

TABLE 3
DEATHS DUE TO HEART DISEASE
AMONG THE LOCAL HEALTH JURISDICTIONS
CALIFORNIA, 1996-1998
(By Place of Residence)

LOCAL HEALTH JURISDICTION	NUMBER OF DEATHS (Average)	1997 POPULATION	CRUDE DEATH RATE
BERKELEY	196.3	106,300	184.7
LONG BEACH	1,147.3	440,800	260.3
PASADENA	408.3	138,600	294.6

Note: Rates are per 100,000 population; ICD-9 codes 390-398, 402, 404-429.

Source: State of California, Department of Finance, Report Hist E-4, 1997 Historical Estimates of California Cities and Counties, May 1999. State of California, Department of Health Services, Death records.

Technical Notes

The heart disease death data presented in this report are ICD-9 codes 390-398, 402, 404-429.

The term "significant" within the text indicates statistically significant based on the difference between two independent rates ($p < .05$).

As with any vital statistics data, caution needs to be exercised when analyzing small numbers, including the rates derived from them. Death rates calculated from a small number of deaths and/or population tend to be unreliable and subject to significant variation from one year to the next. Consequently, **Tables 2 and 3** present three-year annual average death data to increase the reliability of the data by county and local health jurisdiction. To assist the reader, 95 percent confidence intervals are provided in the data tables as a tool for measuring the reliability of the death rates. Rates with a relative standard error (coefficient of variation) greater than or equal to 23 percent are indicated with an "*" (asterisk).

The four race/ethnic groups presented in the tables are mutually exclusive. White, Black, and Asian/Other exclude Hispanic ethnicity, while Hispanic includes any race/ethnic group.

In order to remain consistent with the population data obtained from the Department of Finance, the “White race/ethnic group” includes: White, Other (specified), Not Stated, and Unknown; and the “Asian/Other race/ethnic group” includes: Aleut, American Indian, Asian Indian, Asian (specified/unspecified), Cambodian, Chinese, Eskimo, Filipino, Guamanian, Hawaiian, Japanese, Korean, Vietnamese, Other Pacific Islander, Samoan, Thai, and Laotian. In addition, caution should be exercised in the interpretation of mortality data by race/ethnicity. Misclassification of race/ethnicity on the death certificate may contribute to death rates that may be underestimated among Hispanics and Asian/Other.⁵

The method used to analyze vital statistics data is also important. Analyzing only the number of deaths has its disadvantages and can be misleading because the population at risk is not taken into consideration. Crude death rates, on the other hand, show the actual rate of dying in a given population, but the age composition of that population is not taken into consideration. Therefore, the use of age-adjusted death rates becomes the preferred method for measuring death rates over time, and for comparing death rates between race/ethnic groups, sex, and geographic areas. The 1940 United States (standard million) population was used as the basis for age-adjusting in this report.

In addition, the population data used to calculate the crude rates in **Table 3** differ from the population data used to calculate the crude rates in **Table 2**. Consequently, caution should be exercised when comparing the crude rates among the three local health jurisdictions with the rates among the 58 California counties.

For a more complete explanation of the age-adjusting methodology see the *Healthy People 2000 Statistical Notes* publication.⁶ Detailed information on data quality and limitations as well as the formulas used to calculate vital statistics rates are presented in the appendix of the annual report, *Vital Statistics of California*.⁷ Another source of information is the Department of Health Services, Center for Health Statistics Home Page [www.dhs.ca.gov/org/hisp/chs/chsindex.htm].

References:

1. National Center for Health Statistics, *Fast Stats A to Z: Heart Disease*. Division of Data Services, November 2000. www.cdc.gov/nchs/fastats/heart.htm
2. National Center for Health Statistics, Births and Deaths: United States, 1996, *Monthly Vital Statistics Report*, DHHS Pub. No. (PHS) 97-1120, Supplement 2, September 1997; Vol. 46, No. 1, pp. 24-25.
3. Richards F. *Healthy California 2000: Midcourse Review, California's Experience in Achieving the National Health Promotion and Disease Prevention Objectives*. Center for Health Statistics, California Department of Health Services, June 1999.
4. National Center for Health Statistics, Births and Deaths: Final Data for 1998, *National Vital Statistics Reports*, DHHS Pub. No. (PHS) 2000-1120, 0-0487, July 2000; Vol. 48, No. 11, pp. 23-25.
5. Rosenberg HM, et al. Quality of Death Rates by Race and Hispanic Origin: A Summary of Current Research, 1999. *Vital and Health Statistics, Series 2 No.128*, National Center for Health Statistics, DHHS Pub. No. (PHS) 99-1328, September 1999.
6. Curtin LR, Klein RJ. Direct Standardization (Age-Adjusted Death Rates), *Healthy People 2000 Statistical Notes*, No. 6 – Revised, National Center for Health Statistics, DHHS Pub. No. (PHS) 95-1237, March 1995.
7. Riedmiller K, Harms C. *Vital Statistics of California, 1997*. Center for Health Statistics, California Department of Health Services, February 2000.

TABLE 1
DEATHS DUE TO HEART DISEASE BY RACE/ETHNICITY, AGE, AND SEX
CALIFORNIA, 1998
(By Place of Residence)

AGE GROUPS	DEATHS			POPULATION			RATES			95% CONFIDENCE LIMITS					
	TOTAL	MALE	FEMALE	TOTAL	MALE	FEMALE	TOTAL	MALE	FEMALE	TOTAL		MALE		FEMALE	
										LOWER	UPPER	LOWER	UPPER	LOWER	UPPER
TOTAL															
Under 1	67	34	33	522,034	266,390	255,644	12.8	12.8	12.9	9.8	15.9	8.5	17.1	8.5	17.3
1 to 4	21	11	10	2,211,332	1,131,193	1,080,139	0.9	1.0*	0.9*	0.5	1.4	0.4	1.5	0.4	1.5
5 to 14	30	17	13	5,284,863	2,704,999	2,579,864	0.6	0.6*	0.5*	0.4	0.8	0.3	0.9	0.2	0.8
15 to 24	79	46	33	4,356,208	2,258,544	2,097,664	1.8	2.0	1.6	1.4	2.2	1.4	2.6	1.0	2.1
25 to 34	277	187	90	5,208,869	2,758,217	2,450,652	5.3	6.8	3.7	4.7	5.9	5.8	7.8	2.9	4.4
35 to 44	1,190	847	343	5,644,380	2,876,572	2,767,808	21.1	29.4	12.4	19.9	22.3	27.5	31.4	11.1	13.7
45 to 54	3,295	2,486	809	4,131,786	2,050,795	2,080,991	79.7	121.2	38.9	77.0	82.5	116.5	126.0	36.2	41.6
55 to 64	5,854	4,022	1,832	2,541,885	1,236,490	1,305,395	230.3	325.3	140.3	224.4	236.2	315.2	335.3	133.9	146.8
65 to 74	12,441	7,463	4,978	1,948,692	885,190	1,063,502	638.4	843.1	468.1	627.2	649.6	824.0	862.2	455.1	481.1
75 to 84	21,642	11,136	10,506	1,236,392	501,453	734,939	1,750.4	2,220.7	1,429.5	1,727.1	1,773.7	2,179.5	2,262.0	1,402.2	1,456.8
85 & Older	24,044	7,971	16,073	406,376	125,502	280,874	5,916.7	6,351.3	5,722.5	5,841.9	5,991.5	6,211.9	6,490.7	5,634.0	5,811.0
Unknown	6	5	1												
Total	68,946	34,225	34,721	33,492,817	16,795,345	16,697,472	205.9	203.8	207.9	204.3	207.4	201.6	205.9	205.8	210.1
Age-Adjusted							110.0	143.2	82.1	109.0	110.9	141.6	144.8	81.0	83.1
ASIAN/OTHER															
Under 1	6	1	5	59,298	30,720	28,578	10.1*	3.3*	17.5*	2.0	18.2	0.0	9.6	2.2	32.8
1 to 4	5	2	3	255,226	131,589	123,637	2.0*	1.5*	2.4*	0.2	3.7	0.0	3.6	0.0	5.2
5 to 14	2	1	1	615,568	315,572	300,016	0.3*	0.3*	0.3*	0.0	0.8	0.0	0.9	0.0	1.0
15 to 24	10	5	5	565,434	290,066	275,368	1.8*	1.7*	1.8*	0.7	2.9	0.2	3.2	0.2	3.4
25 to 34	18	15	3	626,348	316,425	309,923	2.9*	4.7*	1.0*	1.5	4.2	2.3	7.1	0.0	2.1
35 to 44	76	59	17	670,617	323,636	346,981	11.3	18.2	4.9*	8.8	13.9	13.6	22.9	2.6	7.2
45 to 54	237	199	38	498,901	236,177	262,724	47.5	84.3	14.5	41.5	53.6	72.6	96.0	9.9	19.1
55 to 64	421	300	121	286,259	135,484	150,775	147.1	221.4	80.3	133.0	161.1	196.4	246.5	66.0	94.6
65 to 74	805	463	342	203,383	88,240	115,143	395.8	524.7	297.0	368.5	423.1	476.9	572.5	265.5	328.5
75 to 84	1,211	676	535	109,047	46,367	62,680	1,110.5	1,457.9	853.5	1,048.0	1,173.1	1,348.0	1,567.8	781.2	925.9
85 & Older	1,110	504	606	32,493	13,822	18,671	3,416.1	3,646.4	3,245.7	3,215.2	3,617.1	3,328.0	3,964.7	2,987.3	3,504.1
Unknown	1	1	0												
Total	3,902	2,226	1,676	3,922,594	1,928,098	1,994,496	99.5	115.5	84.0	96.4	102.6	110.7	120.2	80.0	88.1
Age-Adjusted							68.0	92.3	47.9	65.7	70.2	88.2	96.3	45.4	50.5
BLACK															
Under 1	13	10	3	35,290	18,083	17,207	36.8*	55.3*	17.4*	16.8	56.9	21.0	89.6	0.0	37.2
1 to 4	4	1	3	157,434	79,976	77,458	2.5*	1.3*	3.9*	0.1	5.0	0.0	3.7	0.0	8.3
5 to 14	6	3	3	414,292	209,767	204,525	1.4*	1.4*	1.5*	0.3	2.6	0.0	3.0	0.0	3.1
15 to 24	13	10	3	352,516	184,981	167,535	3.7*	5.4*	1.8*	1.7	5.7	2.1	8.8	0.0	3.8
25 to 34	65	43	22	386,096	201,122	184,974	16.8	21.4	11.9	12.7	20.9	15.0	27.8	6.9	16.9
35 to 44	228	146	82	392,571	191,281	201,290	58.1	76.3	40.7	50.5	65.6	63.9	88.7	31.9	49.6
45 to 54	527	353	174	267,602	125,822	141,780	196.9	280.6	122.7	180.1	213.7	251.3	309.8	104.5	141.0
55 to 64	873	541	332	163,032	76,900	86,942	535.5	711.0	381.9	500.0	571.0	651.1	770.9	340.8	422.9
65 to 74	1,205	654	551	105,180	45,362	59,818	1,145.7	1,441.7	921.1	1,081.0	1,210.3	1,331.2	1,552.2	844.2	998.0
75 to 84	1,418	615	803	58,348	21,889	36,459	2,430.2	2,809.6	2,202.5	2,303.8	2,556.7	2,587.6	3,031.7	2,050.1	2,354.8
85 & Older	1,058	328	730	17,878	5,270	12,608	5,917.9	6,223.9	5,790.0	5,561.3	6,274.5	5,550.3	6,897.5	5,370.0	6,210.0
Unknown	1	1	0												
Total	5,411	2,705	2,706	2,350,239	1,159,643	1,190,596	230.2	233.3	227.3	224.1	236.4	224.5	242.1	218.7	235.8
Age-Adjusted							192.6	242.1	152.6	187.2	198.0	232.8	251.4	146.2	158.9
HISPANIC															
Under 1	31	12	19	247,713	125,675	122,038	12.5	9.5*	15.6*	8.1	16.9	4.1	15.0	8.6	22.6
1 to 4	6	2	4	1,024,463	522,147	502,316	0.6*	0.4*	0.8*	0.1	1.1	0.0	0.9	0.0	1.6
5 to 14	11	7	4	2,054,172	1,048,592	1,005,580	0.5*	0.7*	0.4*	0.2	0.9	0.2	1.2	0.0	0.8
15 to 24	22	15	7	1,494,249	771,494	722,755	1.5	1.9*	1.0*	0.9	2.1	1.0	2.9	0.3	1.7
25 to 34	75	54	21	1,820,094	1,021,495	998,599	4.1	5.3	2.6	3.2	5.1	3.9	6.7	1.5	3.8
35 to 44	186	144	42	1,503,414	797,133	706,281	12.4	18.1	5.9	10.6	14.1	15.1	21.0	4.1	7.7
45 to 54	464	353	111	848,771	429,818	418,953	54.7	82.1	26.5	49.7	59.6	73.6	90.7	21.6	31.4
55 to 64	770	502	268	454,852	220,075	234,777	169.3	228.1	114.2	157.3	181.2	208.1	248.1	100.5	127.8
65 to 74	1,540	880	660	299,470	135,955	163,515	514.2	647.3	403.6	488.6	539.9	604.5	690.0	372.8	434.4
75 to 84	1,765	832	933	140,610	57,195	83,415	1,255.2	1,454.7	1,118.5	1,196.7	1,313.8	1,355.8	1,552.5	1,046.7	1,190.3
85 & Older	1,611	579	1,032	51,135	17,548	33,587	3,150.5	3,299.5	3,072.6	2,996.6	3,304.3	3,030.8	3,568.3	2,885.2	3,260.1
Unknown	0	0	0												
Total	6,481	3,380	3,101	9,938,943	5,147,127	4,791,816	65.2	65.7	64.7	63.6	66.8	63.5	67.9	62.4	67.0
Age-Adjusted							78.4	97.7	61.5	76.3	80.4	94.2	101.1	59.1	63.9
WHITE															
Under 1	17	11	6	179,733	91,912	87,821	9.5*	12.0*	6.8*	5.0	14.0	4.9	19.0	1.4	12.3
1 to 4	6	6	0	774,209	397,481	376,728	0.8*	1.5*	0.0+	0.2	1.4	0.3	2.7	-	-
5 to 14	11	6	5	2,200,811	1,131,068	1,069,743	0.5*	0.5*	0.5*	0.2	0.8	0.1	1.0	0.1	0.9
15 to 24	34	16	18	1,944,009	1,012,003	932,006	1.7	1.6*	1.9*	1.2	2.3	0.8	2.4	1.0	2.8
25 to 34	119	75	44	2,376,331	1,219,175	1,157,156	5.0	6.2	3.8	4.1	5.9	4.8	7.5	2.7	4.9
35 to 44	700	498	202	3,077,778	1,564,522	1,513,256	22.7	31.8	13.3	21.1	24.4	29.0	34.6	11.5	15.2
45 to 54	2,067	1,581	486	2,516,512	1,258,978	1,257,534	82.1	125.6	38.6	78.6	85.7	119.4	131.8	35.2	42.1
55 to 64	3,790	2,679	1,111	1,637,742	804,841	832,901	231.4	332.9	133.4	224.0	238.8	320.3	345.5	125.5	141.2
65 to 74	8,891	5,466	3,425	1,340,659	615,633	725,026	663.2	887.9	472.4	649.4	677.0	864.3	911.4	456.6	488.2
75 to 84	17,248	9,013	8,235	928,387	376,002	552,385	1,857.8	2,397.1	1,490.8	1,830.1	1,885.6	2,347.6	2,446.5	1,458.6	1,523.0
85 & Older	20,265	6,560	13,705	304,870	88,862	216,008	6,647.1	7,382.2	6,344.7	6,555.6	6,738.6	7,203.6	7,560.9	6,238.4	6,450.9
Unknown	4	3	1												
Total	53,152	25,914	27,238	17,281,041	8,560,477	8,720,564	307.6	302.7	312.3	305.0	310.2	299.0	306.4	308.6	316.1
Age-Adjusted							115.5	152.5	84.5	114.3	116.7	150.5	154.5	83.2	85.8

Note: Rates are per 100,000 population. ICD-9 codes 390-398, 402, 404-429.
White, Black, and Asian/Other exclude Hispanic ethnicity.
Hispanic includes any race category.

* Death rate unreliable, relative standard error is greater than or equal to 23%.
+ Standard error indeterminate, death rate based on no (zero) deaths.
- Confidence limit is not calculated for no (zero) deaths.

Source: State of California, Department of Finance. 1998 County Race/Ethnic Population Estimates with Age and Sex Detail, May 2000.
State of California, Department of Health Services, Death Records.

TABLE 2
DEATHS DUE TO HEART DISEASE BY COUNTY
CALIFORNIA, 1996-1998
(By Place of Residence)

COUNTY	1996-1998 DEATHS (Average)	PERCENT	1997 POPULATION	CRUDE RATE	AGE-ADJUSTED RATE	95% CONFIDENCE LIMITS	
						LOWER	UPPER
CALIFORNIA	68,298.3	100.0	32,956,695	207.2	112.0	111.0	112.9
ALAMEDA	2,860.7	4.2	1,398,421	204.6	110.8	106.2	115.4
ALPINE	2.7	a	1,174	227.1 *	119.2 *	0.0	281.4
AMADOR	122.0	0.2	33,472	364.5	119.1	93.4	144.8
BUTTE	548.0	0.8	198,459	276.1	98.4	87.6	109.1
CALAVERAS	102.3	0.1	37,916	269.9	99.2	75.7	122.7
COLUSA	41.0	0.1	18,530	221.3	113.6	72.3	154.9
CONTRA COSTA	1,804.3	2.6	896,206	201.3	99.4	94.2	104.5
DEL NORTE	65.3	0.1	28,413	229.9	112.6	80.4	144.9
EL DORADO	279.0	0.4	147,409	189.3	91.3	79.3	103.2
FRESNO	1,511.0	2.2	778,674	194.0	111.0	104.5	117.5
GLENN	57.3	0.1	26,856	213.5	92.9	64.2	121.6
HUMBOLDT	313.7	0.5	126,137	248.7	117.7	102.5	132.9
IMPERIAL	226.0	0.3	142,759	158.3	110.4	94.3	126.5
INYO	82.3	0.1	18,272	450.6	134.7	98.1	171.4
KERN	1,449.3	2.1	634,404	228.5	137.1	129.1	145.1
KINGS	214.7	0.3	117,793	182.2	142.2	121.3	163.1
LAKE	212.7	0.3	55,047	386.3	133.6	110.1	157.1
LASSEN	54.3	0.1	33,861	160.5	100.9	71.1	130.7
LOS ANGELES	19,638.0	28.8	9,524,613	206.2	122.9	121.0	124.9
MADERA	207.3	0.3	113,525	182.6	96.0	80.9	111.1
MARIN	479.3	0.7	243,214	197.1	79.6	71.3	87.8
MARIPOSA	38.3	0.1	15,957	240.2	89.0	53.6	124.4
MENDOCINO	226.7	0.3	85,966	263.7	114.8	97.5	132.2
MERCED	349.0	0.5	201,905	172.9	113.5	100.2	126.8
MODOC	30.7	a	10,140	302.4	113.4 *	62.0	164.7
MONO	14.7	a	10,531	139.3 *	89.7 *	40.1	139.4
MONTEREY	602.3	0.9	377,744	159.5	89.8	81.5	98.0
NAPA	370.0	0.5	121,239	305.2	102.4	89.3	115.5
NEVADA	223.0	0.3	88,356	252.4	77.2	64.6	89.9
ORANGE	5,062.3	7.4	2,705,313	187.1	106.3	103.1	109.5
PLACER	466.7	0.7	215,634	216.4	98.7	88.5	108.9
PLUMAS	57.0	0.1	20,402	279.4	96.8	67.2	126.4
RIVERSIDE	3,790.7	5.6	1,423,699	266.3	125.4	120.6	130.2
SACRAMENTO	2,459.0	3.6	1,146,825	214.4	119.9	114.7	125.2
SAN BENITO	63.0	0.1	46,121	136.6	70.9	50.8	90.9
SAN BERNARDINO	3,351.0	4.9	1,617,262	207.2	141.9	136.6	147.2
SAN DIEGO	5,487.7	8.0	2,763,401	198.6	105.7	102.4	109.0
SAN FRANCISCO	2,024.3	3.0	777,368	260.4	101.1	95.7	106.5
SAN JOAQUIN	1,200.3	1.8	542,196	221.4	119.1	111.3	127.0
SAN LUIS OBISPO	612.0	0.9	234,813	260.6	102.3	92.2	112.4
SAN MATEO	1,422.0	2.1	711,699	199.8	87.0	81.8	92.2
SANTA BARBARA	853.0	1.2	400,751	212.9	93.9	86.3	101.5
SANTA CLARA	2,619.7	3.8	1,671,414	156.7	92.9	89.1	96.8
SANTA CRUZ	497.0	0.7	247,216	201.0	88.5	79.0	98.0
SHASTA	453.3	0.7	163,351	277.5	117.2	104.8	129.6
SIERRA	7.7	a	3,406	225.1 *	74.2 *	11.3	137.1
SISKIYOU	133.7	0.2	44,186	302.5	121.0	96.0	146.0
SOLANO	616.3	0.9	378,664	162.8	114.9	105.2	124.6
SONOMA	1,023.3	1.5	432,771	236.5	97.2	90.0	104.4
STANISLAUS	1,012.3	1.5	425,407	238.0	133.0	123.6	142.4
SUTTER	180.3	0.3	76,004	237.3	113.7	94.6	132.8
TEHAMA	164.0	0.2	54,702	299.8	115.3	93.8	136.8
TRINITY	36.3	0.1	13,230	274.6	118.7	74.8	162.6
TULARE	805.0	1.2	358,337	224.6	128.9	118.6	139.3
TUOLUMNE	148.0	0.2	52,280	283.1	102.9	82.8	123.0
VENTURA	1,232.7	1.8	727,154	169.5	90.5	84.9	96.2
YOLO	266.0	0.4	154,850	171.8	104.9	90.6	119.2
YUBA	127.7	0.2	61,246	208.4	133.7	107.7	159.7

Note : Rates are per 100,000 population. ICD-9 codes 390-398, 402, 404-429.

* Death rate unreliable, relative standard error is greater than or equal to 23%.

a Represents a percentage of more than zero but less than 0.05.

Source : State of California, Department of Finance, Race/Ethnic 1997 Population Estimates for Counties with Age and Sex Detail. June 1999.
State of California, Department of Health Services, Death Records.