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This Data Summary is one of a series of leading cause of death reports.

CHRONIC LIVER DISEASE AND CIRRHOSIS DEATHS IN CALIFORNIA, 1999-2000

By Daniel H. Cox

Highlights

- **The chronic liver disease and cirrhosis crude death rate for California was 10.6 deaths per 100,000 population in 2000.**
- **During 2000, the California chronic liver disease and cirrhosis age-adjusted death rate of 11.6 was higher than the United States rate of 9.5.**
- **In 2000, Hispanics had a chronic liver disease and cirrhosis age-adjusted death rate significantly higher than Blacks, Whites, and Asian/Other.**

Introduction

Chronic liver disease and cirrhosis has historically been one of the leading causes of death in the United States and in California. There are many risk factors for chronic liver disease and cirrhosis such as excessive alcohol consumption, chronic viral hepatitis, congenital and inherited diseases, and prolonged exposure to environmental toxins. But the primary risk factor is excessive alcohol consumption. Currently, nearly 14 million Americans abuse alcohol or are alcoholic.[1] The impact of alcohol abuse on chronic liver disease in this country is immense.

This report presents the most current data on chronic liver disease and cirrhosis deaths, and provides analysis of crude and age-adjusted death rates for California residents by sex, age, race/ethnicity, and county. This report contains data for the years 1999 and 2000, though its focus is on the 2000 data. The definition of chronic liver disease and cirrhosis used in this report is based on the International Classification of Diseases (ICD-10) codes K70, K73, and K74 currently presented in the National Center for Health Statistics (NCHS) *Monthly Vital Statistics Report*.[2]

Chronic Liver Disease and Cirrhosis Deaths

Table 1 (page 9) displays chronic liver disease and cirrhosis death data for 2000 by race/ethnicity, age, and sex. Chronic liver disease and cirrhosis deaths occur almost exclusively among the adult population, and this held true in 2000 with a large number of deaths occurring in the 25 to 34 age group and continuing through all the older age groups (**Table 1**, page 9). During this period, the number of deaths attributed to chronic liver disease and cirrhosis was 2.0 times higher among males (2,467) than among females (1,206).

As shown in **Figure 1** (page 2), the number of chronic liver disease and cirrhosis deaths among Whites (2,167) was higher than Hispanics (1,120), Blacks (216), and Asian/Other (170).

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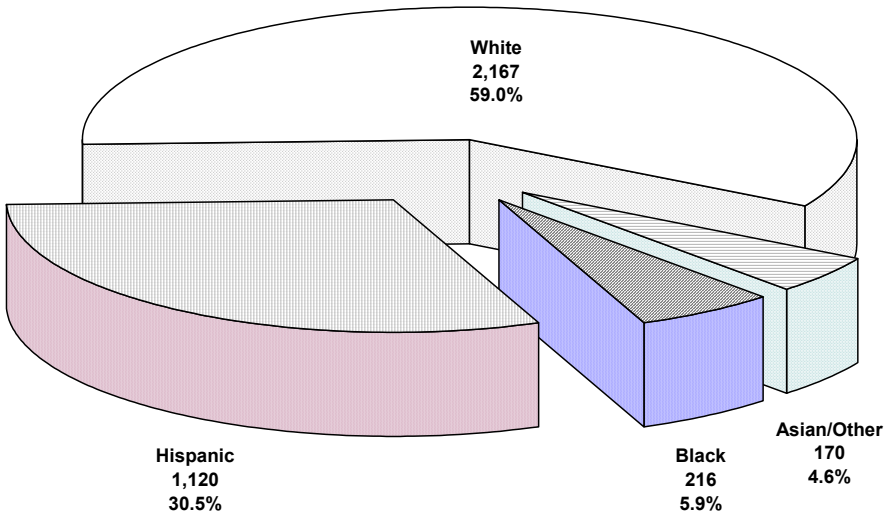
[1] National Institute on Alcohol Abuse and Alcoholism. *Alcoholism, Getting the Facts*, NIH Publication Number 96-4153, Revised 2001.

[2] National Center for Health Statistics, Deaths: Preliminary Data for 1999, *National Vital Statistics Reports*, DHHS Pub. No. (PHS) 2001-1120, PRS 01-0358, June 2001; Vol. 49, No. 3.

A brief overview of data limitations and qualifications is provided at the end of this report.

Table 2 (page 10) shows that the data for 1999 closely resembles the data for 2000 in both the overall numbers, and their distribution among the race/ethnic groups and the sexes. Whites had the highest number of chronic liver disease and cirrhosis deaths (2,184), Hispanics were next highest (971), then Blacks (231), and Asian/Other (160). Males had a much higher number of deaths (2,362) than females (1,184).

FIGURE 1
CHRONIC LIVER DISEASE AND CIRRHOSIS DEATHS
BY RACE/ETHNICITY
CALIFORNIA, 2000
(By Place of Residence)



Source: State of California, Department of Health Services.

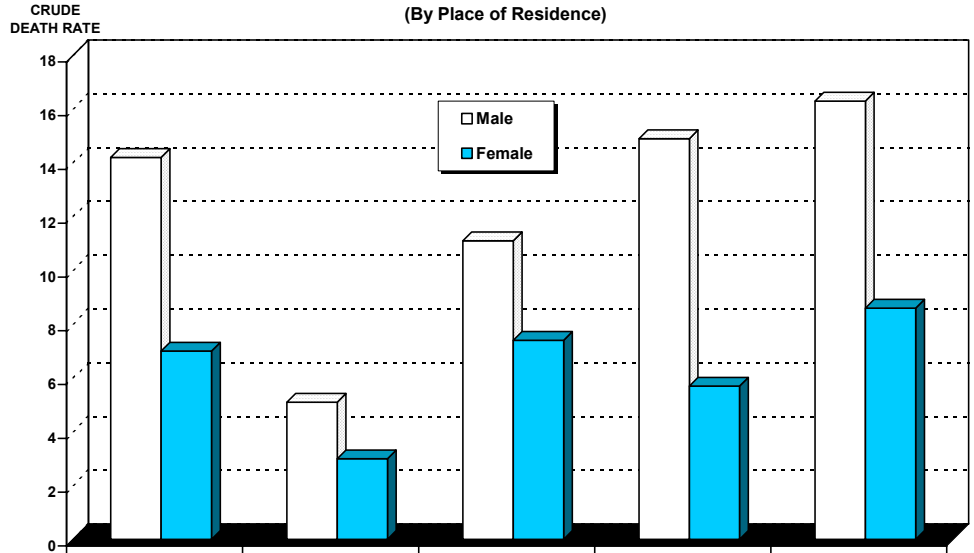
Chronic Liver Disease and Cirrhosis Crude Death Rates

The chronic liver disease and cirrhosis crude death rate for California increased slightly from 10.4 deaths per 100,000 population in 1999 to 10.6 in 2000. As shown in **Table 1** (page 9), Whites had the highest crude death rate in 2000, a rate of 12.4. Hispanics were next with a crude rate of 10.5, followed by Blacks with a rate of 9.2, and Asian/Other with a rate of 4.0. Two of these four rates increased from 1999 (**Table 2**, page 10) when Hispanics had a chronic liver disease and cirrhosis crude death rate of 9.4 and Asian/Other had a rate of 3.9. The rates for Whites and Blacks decreased slightly from 1999, when the rates were 12.6 and 10.0 respectively. Among the four race-ethnic groups, only the increase in the crude death rate for Hispanics was statistically significant.

Figure 2 (page 3) shows that in 2000, males in all four race/ethnic groups had significantly higher chronic liver disease and cirrhosis crude death rates than females in the corresponding groups. White males had a rate of 16.3 deaths per 100,000 population and White females had a rate of 8.6. Hispanic males had a rate of 14.9 and Hispanic females had a rate of 5.7. Black males had a rate of 11.1 and Black females had a rate of 7.4. Asian/Other males had a rate of 5.1 and Asian/Other females had a rate of 3.0.

See the Methodological Approach Section later in this report for an explanation of crude, age-specific, and age-adjusted death rates.

FIGURE 2
CHRONIC LIVER DISEASE AND CIRRHOSIS CRUDE DEATH RATES
BY RACE/ETHNICITY AND SEX
CALIFORNIA, 2000
(By Place of Residence)



	Total	Asian/Other	Black	Hispanic	White
Male	14.2	5.1	11.1	14.9	16.3
Female	7.0	3.0	7.4	5.7	8.6

Source: State of California, Department of Health Services.

Chronic Liver Disease and Cirrhosis Age-Specific Death Rates

In **Table 1** (page 9), reliable age-specific rates show that among the sexes in 2000, males consistently had higher chronic liver disease and cirrhosis death rates than females. This held true among all four of the race/ethnic groups.

Figure 3 (page 4) shows that in 2000, among the age groups with reliable rates, Hispanics had higher chronic liver disease and cirrhosis age-specific death rates than the other three race/ethnic groups. These differences were statistically significant only in the 55 to 64 and 65 to 74 age groups.

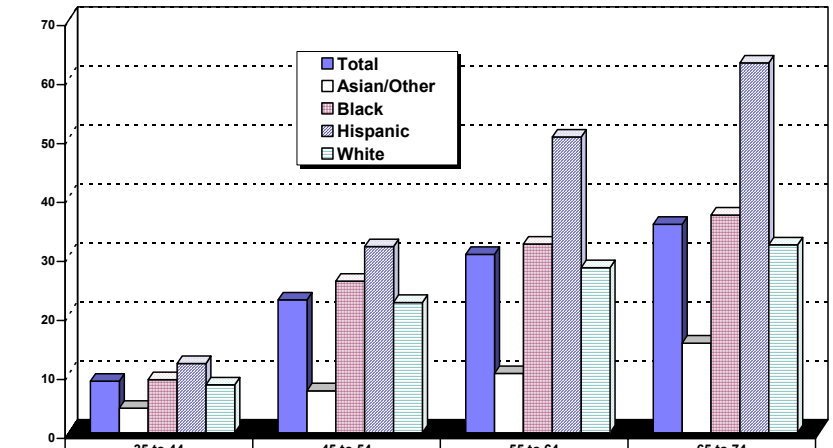
Not shown in **Figure 3** (page 4), but displayed in **Table 1** (page 9)**,** are the chronic liver disease and cirrhosis age-specific death rates for the 25 to 34 age group where Hispanics had the highest rate, and Whites had a lower rate. The rates for Asian/Other and Blacks were unreliable for this age group. In the 75 to 84 age group, Hispanics had the highest death rate while Whites and Asian/Other had lower rates. The rate for Blacks was unreliable for this age group. In the 85 and Older age group, Hispanics had the highest rate, Whites had a lower rate, and the rates for Blacks and Asian/Other were unreliable.

In **Table 2** (page 10) reliable age-specific rates show that among the sexes in 1999, males consistently had higher chronic liver disease and cirrhosis death rates than females in their respective race/ethnic groups. There were no reliable age-specific rates for Asian/Other females in 1999.

See the Vital Statistics Query System (VSQ) at our web site www.dhs.ca.gov/hisp/Applications/vsq/vsq.cfm to create your own vital statistics tables.

Also displayed in **Table 2** (page 10)**,** the data for 1999 show that Hispanics had higher chronic liver disease and cirrhosis age-specific death rates than the other three race/ethnic groups in every age group with reliable rates.

FIGURE 3
CHRONIC LIVER DISEASE AND CIRRHOSIS AGE-SPECIFIC DEATH RATES
BY RACE/ETHNICITY AND AGE
CALIFORNIA, 2000
(By Place of Residence)



	35 to 44	45 to 54	55 to 64	65 to 74
Total	8.7	22.5	30.3	35.4
Asian/Other	4.2	7.1	10.1	15.2
Black	9.0	25.7	32.0	36.9
Hispanic	11.7	31.6	50.2	62.7
White	8.1	22.1	28.0	31.9

Source: State of California, Department of Health Services.

Chronic Liver Disease and Cirrhosis Age-Adjusted Death Rates

In 2000, the United States chronic liver disease and cirrhosis age-adjusted death rate (9.5 per 100,000 population) was lower than the California rate (11.6).[3] During this period, California did not meet the *Healthy People 2010* objective of no more than 3.0 chronic liver disease and cirrhosis age-adjusted deaths per 100,000 population.[4]

Displayed in **Table 1** (page 9), a comparison among the race/ethnic groups shows that Hispanics had an age-adjusted death rate (18.3) significantly higher than Blacks (11.2), Whites (10.9), and Asian/Other (4.8). As shown in **Table 2** (page 10), the data among the four race/ethnic groups is very similar for 1999. Hispanics had an age-adjusted death rate (16.8) significantly higher than Blacks (12.8), Whites (11.1), and Asian/Other (4.7).

As shown in **Figure 4** (page 5), in 2000 the chronic liver disease and cirrhosis age-adjusted death rate for males was higher than for females in all four of the race/ethnic groups. Hispanic males (27.1) had a higher rate than Hispanic females (10.0). This pattern was the same for White males (15.0) and females (7.2), Black males (14.6) and females (8.3), and Asian/Other males (6.3) and females (3.5). All of these differences were statistically significant.

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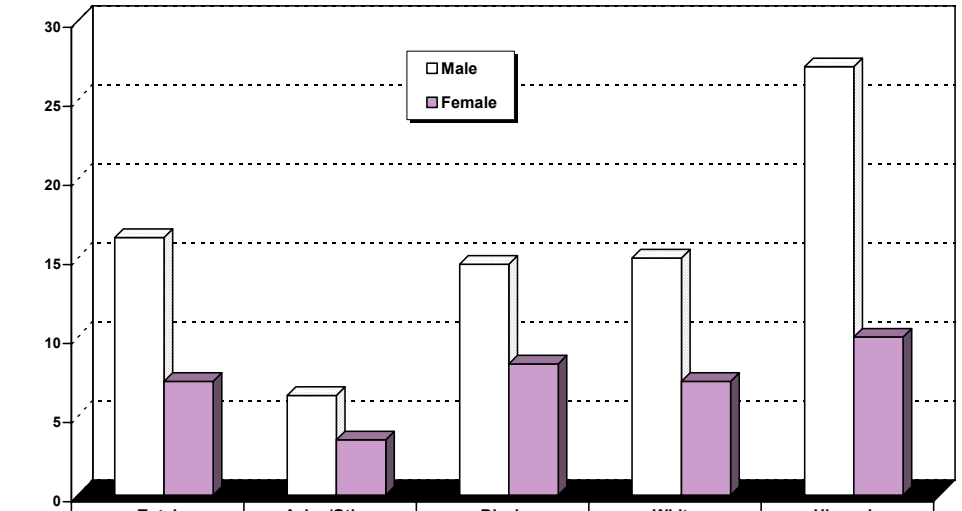
[3] National Center for Health Statistics, Deaths: Preliminary Data for 2000, *National Vital Statistics Reports*, DHHS Pub. No. (PHS) 2001-1120, PRS 01-0599, October 2001; Vol. 49, No. 12.

[4] U.S. Department of Health and Human Services. *Healthy People 2010 Volume II.* Washington DC: U.S. Government Printing Office, November 2000.

For more data, see DHS Center for Health Statistics, Home Page at www.dhs.ca.gov/org/hisp/chs/chsindex.htm

Table 2 (page 10) displays similar data for 1999, where Hispanic males had a higher chronic liver disease and cirrhosis age-adjusted death rate (25.2) than Hispanic females (8.9). This was also true among Black males (17.9) and females (8.7), White males (15.1) and females (7.6), and Asian/Other males (6.0) and females (3.6).

FIGURE 4
CHRONIC LIVER DISEASE AND CIRRHOSIS AGE-ADJUSTED DEATH RATES BY RACE/ETHNICITY AND SEX
CALIFORNIA, 2000
(By Place of Residence)



	Total	Asian/Other	Black	White	Hispanic
Male	16.3	6.3	14.6	15.0	27.1
Female	7.2	3.5	8.3	7.2	10.0

Source: State of California, Department of Health Services.

Chronic Liver Disease and Cirrhosis Death Data for California Counties

Table 3 (page 11) displays the number of deaths, crude death rates, and age-adjusted death rates by county averaged over a two-year period, 1999 to 2000. 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 chronic liver disease and cirrhosis deaths occurred in Los Angeles County (1,084.0). The lowest number was in Alpine County where no chronic liver disease and cirrhosis deaths occurred during the two-year period.

The highest and lowest reliable crude death rates due to chronic liver disease and cirrhosis were in Humboldt County (16.8 per 100,000 population) and San Mateo County (7.2), respectively.

The ranking for chronic liver disease and cirrhosis age-adjusted death rates showed Imperial County with the highest reliable death rate (19.7 per 100,000 population) and San Mateo County with the lowest (6.9).

Chronic Liver Disease and Cirrhosis Death Data by City Health Jurisdiction

You can read more about crude and age-adjusted rates on the National Center for Health Statistics web site at www.cdc.gov/nchs/

Table 4 displays the number of deaths and crude death rates for California's three city health jurisdictions averaged over a two-year period, 1999 to 2000. Age-adjusted death rates were not calculated for the city health jurisdictions because city population estimates by age are not available.

The city of Long Beach had an average of 51.0 chronic liver disease and cirrhosis deaths, Pasadena had 17.0, and Berkeley had 4.0.

Pasadena had a chronic liver disease and cirrhosis crude death rate of 12.6 deaths per 100,000 population, Long Beach had a crude rate of 11.1, and Berkeley had a crude rate of 3.9, though the rates for Pasadena and Berkeley were not reliable.

TABLE 4
CHRONIC LIVER DISEASE AND CIRRHOSIS DEATHS
AMONG THE CITY HEALTH JURISDICTIONS
CALIFORNIA, 1999-2000
(By Place of Residence)

CITY HEALTH JURISDICTION	NUMBER OF DEATHS (Average)	1999 POPULATION	CRUDE DEATH RATE
BERKELEY	4.0	103,600	3.9 *
LONG BEACH	51.0	460,100	11.1
PASADENA	17.0	134,500	12.6 *

Note: Rates are per 100,000 population. Data is ICD-10 codes K70, K73, K74.
The race/ethnic groups in this table were tabulated using the first listed race when certificates included more than one race.
* Death rate unreliable, relative standard error is greater than or equal to 23%.

Source: State of California, Department of Finance, Report E-4,
1999 Historical Estimates of California Cities and Counties, September 2001.
State of California, Department of Health Services, Death records.

Methodological Approach

The methods used to analyze vital statistics data are 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 show the actual rate of dying in a given population, but because of the differing age compositions of various populations, they do not provide a statistically valid method for comparing geographic areas and/or multiple reporting periods. Age-specific death rates are the number of deaths per 100,000 population in a specific age group and are used along with standard population proportions to develop a weighted average rate. This rate is referred to as an age-adjusted death rate and removes the effect of different age structures of the populations

Some of the earlier reports on this subject are available online.

whose rates are being compared. Age-adjusted death rates therefore provide the preferred method for comparisons of different race/ethnic groups, sexes, and geographic areas, and for measuring death rates over time. The year 2000 U.S. population is used as the basis for age adjustments in this report.

Data Limitations and Qualifications

The chronic liver disease and cirrhosis death data presented in this report are based on vital statistics records with ICD-10 codes K70, K73, and K74 as defined by the National Center for Health Statistics.[2]

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. 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 (*).

Beginning in 1999, cause of death is reported using the 10th Revision of the *International Classification of Diseases* (ICD-10).[5] Cause of death for 1979 through 1998 was coded using the 9th Revision of the *International Classification of Diseases* (ICD-9). Depending on the specific cause of death, the number of deaths and death rate are not comparable between ICD-9 and ICD-10. Therefore, our analyses involve only ICD-9 data (1979-1998) on prior reports and only ICD-10 data for this report (1999-2000), and do not combine both ICD-9 and ICD-10 data.

The variability of the rates has increased in Tables 3 and 4 because of the unavailability of earlier years of data. Three-year average numbers using ICD-10 coding for cause of death will reduce this problem when the 2001 data are available later in 2002.

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, Laotian, Other Pacific Islander, Samoan, Thai, and Vietnamese. 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 underestimates of Hispanic and Asian/Other death rates.[6]

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[5] World Health Organization. International Statistical Classification of Diseases and Related Health Problems. Tenth Revision. Geneva: World Health Organization. 1992.

[6] 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.

Beginning in 2000, federal race/ethnicity reporting guidelines changed to allow the reporting of up to three races on death certificates. The race/ethnic groups in this report were tabulated based on the first listed race on those certificates where more than one race was listed. Race groups for 2000 are therefore not strictly compatible with prior years and trends should be viewed with caution.

Effective with 1999 mortality data, the standard population for calculating age adjustments was changed from the 1940 population standard to the year 2000 population standard in accordance with new statistical policy implemented by the National Center for Health Statistics. The new population standard affects measurement of mortality trends and group comparisons. Of particular note are the effects on race comparison of mortality.[7] Age-adjusted rates presented in this report are not comparable to rates calculated with different population standards.

In addition, the population data used to calculate the crude rates in Table 4 (page 6) differ from the population data used to calculate the crude rates in Table 3 (page 11). Consequently, caution should be exercised when comparing the crude rates among the three local city health jurisdictions with the rates among the 58 California counties. Age-adjusted rates for local city health jurisdictions were not calculated due to the unavailability of city population data by age.

For a more complete explanation of the age-adjusting methodology used in this report see the *Healthy People 2000 Statistical Notes* publication.[8] Detailed information on data quality and limitations are presented in the appendix of the annual report, *Vital Statistics of California*.[9] Formulas used to calculate death rates are included in the technical notes of the *County Health Status Profiles* report.[10]

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[7] Anderson RN, Rosenberg HM. Age Standardization of Death Rates: Implementation of the Year 2000 Standard. National Vital Statistics reports; Vol. 47 No. 3, Hyattsville, Maryland: National Center for Health Statistics.

[8] Curtin LR, Klein RJ. Direct Standardization (Age-Adjusted Death Rates), *Healthy People 2000 Statistical Notes*, Number 6 – Revised, National Center for Health Statistics, DHHS Pub. No. (PHS) 95-1237, March 1995.

[9] Riedmiller K, Bindra K. *Vital Statistics of California, 1998*. Center for Health Statistics, California Department of Health Services, April 2001.

[10] Schmidt C. *County Health Status Profiles 2002*. Center for Health Statistics, California Department of Health Services, April 2002.

TABLE 1
CHRONIC LIVER DISEASE AND CIRRHOSIS DEATHS
BY RACE/ETHNICITY, AGE, AND SEX
CALIFORNIA, 2000
(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	0	0	0	556,635	284,653	271,982	0.0 +	0.0 +	0.0 +	-	-	-	-	-	-
1 to 4	1	0	1	2,225,385	1,138,537	1,086,848	0.0 *	0.0 +	0.1 *	0.0	0.1	-	-	0.0	0.3
5 to 14	0	0	0	5,567,090	2,851,540	2,715,550	0.0 +	0.0 +	0.0 +	-	-	-	-	-	-
15 to 24	1	1	0	4,615,641	2,395,832	2,219,809	0.0 *	0.0 *	0.0 +	0.0	0.1	0.0	0.1	-	-
25 to 34	84	65	19	4,998,216	2,643,192	2,355,024	1.7	2.5	0.8 *	1.3	2.0	1.9	3.1	0.4	1.2
35 to 44	503	358	145	5,751,694	2,942,371	2,809,323	8.7	12.2	5.2	8.0	9.5	10.9	13.4	4.3	6.0
45 to 54	1,007	733	274	4,469,059	2,221,466	2,247,593	22.5	33.0	12.2	21.1	23.9	30.6	35.4	10.7	13.6
55 to 64	834	570	264	2,756,954	1,343,573	1,413,381	30.3	42.4	18.7	28.2	32.3	38.9	45.9	16.4	20.9
65 to 74	692	447	245	1,957,505	901,472	1,056,033	35.4	49.6	23.2	32.7	38.0	45.0	54.2	20.3	26.1
75 to 84	447	238	209	1,305,454	533,995	771,459	34.2	44.6	27.1	31.1	37.4	38.9	50.2	23.4	30.8
85 & Older	103	54	49	449,762	142,364	307,398	22.9	37.9	15.9	18.5	27.3	27.8	48.0	11.5	20.4
Unknown	1	1	0												
Total	3,673	2,467	1,206	34,653,395	17,398,995	17,254,400	10.6	14.2	7.0	10.3	10.9	13.6	14.7	6.6	7.4
Age-adjusted							11.6	16.3	7.2	11.2	11.9	15.7	17.0	6.8	7.6
ASIAN/OTHER															
Under 1	0	0	0	67,434	34,501	32,933	0.0 +	0.0 +	0.0 +	-	-	-	-	-	-
1 to 4	0	0	0	266,651	136,640	130,011	0.0 +	0.0 +	0.0 +	-	-	-	-	-	-
5 to 14	0	0	0	660,070	339,469	320,601	0.0 +	0.0 +	0.0 +	-	-	-	-	-	-
15 to 24	0	0	0	604,654	309,566	295,088	0.0 +	0.0 +	0.0 +	-	-	-	-	-	-
25 to 34	4	4	0	649,462	328,916	320,546	0.6 *	1.2 *	0.0 +	0.0	1.2	0.0	2.4	-	-
35 to 44	29	21	8	698,724	339,157	359,567	4.2	6.2	2.2 *	2.6	5.7	3.5	8.8	0.7	3.8
45 to 54	40	27	13	561,189	265,710	295,479	7.1	10.2	4.4 *	4.9	9.3	6.3	14.0	2.0	6.8
55 to 64	32	21	11	317,872	151,006	166,866	10.1	13.9	6.6 *	6.6	13.6	8.0	19.9	2.7	10.5
65 to 74	33	16	17	217,081	95,695	121,386	15.2	16.7 *	14.0 *	10.0	20.4	8.5	24.9	7.3	20.7
75 to 84	24	11	13	123,907	53,227	70,680	19.4	20.7 *	18.4 *	11.6	27.1	8.5	32.9	8.4	28.4
85 & Older	8	5	3	38,153	16,296	21,857	21.0 *	30.7 *	13.7 *	6.4	35.5	3.8	57.6	0.0	29.3
Unknown	0	0	0												
Total	170	105	65	4,205,197	2,070,183	2,135,014	4.0	5.1	3.0	3.4	4.7	4.1	6.0	2.3	3.8
Age-adjusted							4.8	6.3	3.5	4.1	5.5	5.0	7.5	2.6	4.3
BLACK															
Under 1	0	0	0	37,159	19,020	18,139	0.0 +	0.0 +	0.0 +	-	-	-	-	-	-
1 to 4	0	0	0	147,839	75,557	72,282	0.0 +	0.0 +	0.0 +	-	-	-	-	-	-
5 to 14	0	0	0	414,580	210,046	204,534	0.0 +	0.0 +	0.0 +	-	-	-	-	-	-
15 to 24	0	0	0	356,933	188,930	168,003	0.0 +	0.0 +	0.0 +	-	-	-	-	-	-
25 to 34	2	0	2	352,200	185,909	166,291	0.6 *	0.0 +	1.2 *	0.0	1.4	-	-	0.0	2.9
35 to 44	35	26	9	388,391	189,399	198,992	9.0	13.7	4.5 *	6.0	12.0	8.5	19.0	1.6	7.5
45 to 54	74	36	38	287,837	135,895	151,942	25.7	26.5	25.0	19.9	31.6	17.8	35.1	17.1	33.0
55 to 64	54	35	19	168,721	78,536	90,185	32.0	44.6	21.1 *	23.5	40.5	29.8	59.3	11.6	30.5
65 to 74	39	26	13	105,627	46,350	59,277	36.9	56.1	21.9 *	25.3	48.5	34.5	77.7	10.0	33.9
75 to 84	9	5	4	60,380	23,176	37,204	14.9 *	21.6 *	10.8 *	5.2	24.6	2.7	40.5	0.2	21.3
85 & Older	3	1	2	18,268	5,491	12,777	16.4 *	18.2 *	15.7 *	0.0	35.0	0.0	53.9	0.0	37.3
Unknown	0	0	0												
Total	216	129	87	2,337,935	1,158,309	1,179,626	9.2	11.1	7.4	8.0	10.5	9.2	13.1	5.8	8.9
Age-adjusted							11.2	14.6	8.3	9.7	12.7	12.0	17.3	6.5	10.0
HISPANIC															
Under 1	0	0	0	267,741	136,840	130,901	0.0 +	0.0 +	0.0 +	-	-	-	-	-	-
1 to 4	1	0	1	1,055,221	539,226	515,995	0.1 *	0.0 +	0.2 *	0.0	0.3	-	-	0.0	0.6
5 to 14	0	0	0	2,296,937	1,173,481	1,123,456	0.0 +	0.0 +	0.0 +	-	-	-	-	-	-
15 to 24	1	1	0	1,609,062	832,517	776,545	0.1 *	0.1 *	0.0 +	0.0	0.2	0.0	0.4	-	-
25 to 34	43	38	5	1,793,492	998,691	794,801	2.4	3.8	0.6 *	1.7	3.1	2.6	5.0	0.1	1.2
35 to 44	193	156	37	1,643,440	880,073	763,367	11.7	17.7	4.8	10.1	13.4	14.9	20.5	3.3	6.4
45 to 54	309	244	65	978,139	498,051	480,088	31.6	49.0	13.5	28.1	35.1	42.8	55.1	10.2	16.8
55 to 64	254	189	65	506,398	246,133	260,265	50.2	76.8	25.0	44.0	56.3	65.8	87.7	18.9	31.0
65 to 74	201	139	62	320,415	146,540	173,875	62.7	94.9	35.7	54.1	71.4	79.1	110.6	26.8	44.5
75 to 84	96	50	46	161,694	67,052	94,642	59.4	74.6	48.6	47.5	71.2	53.9	95.2	34.6	62.7
85 & Older	22	9	13	56,213	18,817	37,396	39.1	47.8 *	34.8 *	22.8	55.5	16.6	79.1	15.9	53.7
Unknown	0	0	0												
Total	1,120	826	294	10,688,752	5,537,421	5,151,331	10.5	14.9	5.7	9.9	11.1	13.9	15.9	5.1	6.4
Age-adjusted							18.3	27.1	10.0	17.2	19.4	25.1	29.1	8.8	11.1
WHITE															
Under 1	0	0	0	184,301	94,292	90,009	0.0 +	0.0 +	0.0 +	-	-	-	-	-	-
1 to 4	0	0	0	755,674	387,114	368,560	0.0 +	0.0 +	0.0 +	-	-	-	-	-	-
5 to 14	0	0	0	2,195,503	1,128,544	1,066,959	0.0 +	0.0 +	0.0 +	-	-	-	-	-	-
15 to 24	0	0	0	2,044,992	1,064,819	980,173	0.0 +	0.0 +	0.0 +	-	-	-	-	-	-
25 to 34	35	23	12	2,203,062	1,129,676	1,073,386	1.6	2.0	1.1 *	1.1	2.1	1.2	2.9	0.5	1.8
35 to 44	246	155	91	3,021,139	1,533,742	1,487,397	8.1	10.1	6.1	7.1	9.2	8.5	11.7	4.9	7.4
45 to 54	584	426	158	2,641,894	1,321,810	1,320,084	22.1	32.2	12.0	20.3	23.9	29.2	35.3	10.1	13.8
55 to 64	494	325	169	1,763,963	867,898	896,065	28.0	37.4	18.9	25.5	30.5	33.4	41.5	16.0	21.7
65 to 74	419	266	153	1,314,382	612,887	701,495	31.9	43.4	21.8	28.8	34.9	38.2	48.6	18.4	25.3
75 to 84	318	172	146	959,473	390,540	568,933	33.1	44.0	25.7	29.5	36.8	37.5	50.6	21.5	29.8
85 & Older	70	39	31	337,128	101,760	235,368	20.8	38.3	13.2	15.9	25.6	26.3	50.4	8.5	17.8
Unknown	1	1	0												
Total	2,167	1,407	760	17,421,511	8,633,082	8,788,429	12.4	16.3	8.6	11.9	13.0	15.4	17.1	8.0	9.3
Age-adjusted							10.9	15.0	7.2	10.4	11.3	14.2	15.8	6.7	7.7

Note : Rates are per 100,000 population. ICD-10 codes K70, K73, K74.
White, Black, and Asian/Other exclude Hispanic ethnicity. Hispanic includes any race category.
The race/ethnic groups in this table were tabulated using the first listed race when certificates included more than one race.

* 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; 2000 Population: Population Projections by Age, Race/Ethnicity and Sex, December 1998.
State of California, Department of Health Services, Death Records.

TABLE 2
CHRONIC LIVER DISEASE AND CIRRHOSIS DEATHS
BY RACE/ETHNICITY, AGE, AND SEX
CALIFORNIA, 1999
(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	0	0	0	553,480	283,033	270,447	0.0 +	0.0 +	0.0 +	-	-	-	-	-	-
1 to 4	1	0	1	2,218,731	1,134,840	1,083,891	0.0 *	0.0 +	0.1 *	0.0	0.1	-	-	0.0	0.3
5 to 14	0	0	0	5,438,254	2,785,041	2,653,213	0.0 +	0.0 +	0.0 +	-	-	-	-	-	-
15 to 24	3	1	2	4,490,994	2,331,075	2,159,919	0.1 *	0.0 *	0.1 *	0.0	0.1	0.0	0.1	0.0	0.2
25 to 34	74	55	19	5,088,372	2,693,838	2,394,534	1.5	2.0	0.8 *	1.1	1.8	1.5	2.6	0.4	1.2
35 to 44	477	328	149	5,703,159	2,911,607	2,791,552	8.4	11.3	5.3	7.6	9.1	10.0	12.5	4.5	6.2
45 to 54	937	696	241	4,284,494	2,127,558	2,156,936	21.9	32.7	11.2	20.5	23.3	30.3	35.1	9.8	12.6
55 to 64	771	547	224	2,647,776	1,289,251	1,358,525	29.1	42.4	16.5	27.1	31.2	38.9	46.0	14.3	18.6
65 to 74	744	468	276	1,945,679	889,827	1,055,852	38.2	52.6	26.1	35.5	41.0	47.8	57.4	23.1	29.2
75 to 84	448	231	217	1,272,523	519,523	753,000	35.2	44.5	28.8	31.9	38.5	38.7	50.2	25.0	32.7
85 & Older	90	35	55	429,016	134,219	294,797	21.0	26.1	18.7	16.6	25.3	17.4	34.7	13.7	23.6
Unknown	1	1	0												
Total	3,546	2,362	1,184	34,072,478	17,099,812	16,972,666	10.4	13.8	7.0	10.1	10.7	13.3	14.4	6.6	7.4
Age-Adjusted							11.5	16.1	7.2	11.1	11.9	15.4	16.8	6.8	7.7
ASIAN/OTHER															
Under 1	0	0	0	65,732	33,636	32,096	0.0 +	0.0 +	0.0 +	-	-	-	-	-	-
1 to 4	0	0	0	260,730	133,774	126,956	0.0 +	0.0 +	0.0 +	-	-	-	-	-	-
5 to 14	0	0	0	637,566	327,540	310,026	0.0 +	0.0 +	0.0 +	-	-	-	-	-	-
15 to 24	0	0	0	584,065	299,316	284,749	0.0 +	0.0 +	0.0 +	-	-	-	-	-	-
25 to 34	5	4	1	635,628	321,836	313,792	0.8 *	1.2 *	0.3 *	0.1	1.5	0.0	2.5	0.0	0.9
35 to 44	24	17	7	685,240	331,715	353,525	3.5	5.1 *	2.0 *	2.1	4.9	2.7	7.6	0.5	3.4
45 to 54	34	22	12	528,902	250,278	278,624	6.4	8.8	4.3 *	4.3	8.6	5.1	12.5	1.9	6.7
55 to 64	32	21	11	300,304	142,774	157,530	10.7	14.7	7.0 *	7.0	14.3	8.4	21.0	2.9	11.1
65 to 74	40	24	16	209,410	91,786	117,624	19.1	26.1	13.6 *	13.2	25.0	15.7	36.6	6.9	20.3
75 to 84	20	7	13	116,337	50,337	66,000	17.2	13.9 *	19.7 *	9.7	24.7	3.6	24.2	9.0	30.4
85 & Older	5	2	3	35,195	15,278	19,917	14.2 *	13.1 *	15.1 *	1.8	26.7	0.0	31.2	0.0	32.1
Unknown	0	0	0												
Total	160	97	63	4,059,109	1,998,270	2,060,839	3.9	4.9	3.1	3.3	4.6	3.9	5.8	2.3	3.8
Age-Adjusted							4.7	6.0	3.6	4.0	5.5	4.8	7.2	2.7	4.5
BLACK															
Under 1	0	0	0	37,436	19,147	18,289	0.0 +	0.0 +	0.0 +	-	-	-	-	-	-
1 to 4	1	0	1	150,150	76,493	73,657	0.7 *	0.0 +	1.4 *	0.0	2.0	-	-	0.0	4.0
5 to 14	0	0	0	412,399	208,881	203,518	0.0 +	0.0 +	0.0 +	-	-	-	-	-	-
15 to 24	0	0	0	352,398	186,295	166,103	0.0 +	0.0 +	0.0 +	-	-	-	-	-	-
25 to 34	4	2	2	361,723	189,557	172,166	1.1 *	1.1 *	1.2 *	0.0	2.2	0.0	2.5	0.0	2.8
35 to 44	26	15	11	387,780	188,667	199,113	6.7	8.0 *	5.5 *	4.1	9.3	3.9	12.0	2.3	8.8
45 to 54	68	45	23	274,298	129,075	145,223	24.8	34.9	15.8	18.9	30.7	24.7	45.0	9.4	22.3
55 to 64	61	38	23	164,532	76,514	88,018	37.1	49.7	26.1	27.8	46.4	33.9	65.5	15.5	36.8
65 to 74	42	30	12	103,767	44,942	58,825	40.5	66.8	20.4 *	28.2	52.7	42.9	90.6	8.9	31.9
75 to 84	22	12	10	58,756	22,082	36,674	37.4	54.3 *	27.3 *	21.8	53.1	23.6	85.1	10.4	44.2
85 & Older	7	2	5	17,677	5,158	12,519	39.6 *	38.8 *	39.9 *	10.3	68.9	0.0	92.5	4.9	74.9
Unknown	0	0	0												
Total	231	144	87	2,320,916	1,146,811	1,174,105	10.0	12.6	7.4	8.7	11.2	10.5	14.6	5.9	9.0
Age-Adjusted							12.8	17.9	8.7	11.1	14.5	14.9	21.0	6.9	10.6
HISPANIC															
Under 1	0	0	0	263,940	134,897	129,043	0.0 +	0.0 +	0.0 +	-	-	-	-	-	-
1 to 4	0	0	0	1,043,348	532,534	510,814	0.0 +	0.0 +	0.0 +	-	-	-	-	-	-
5 to 14	0	0	0	2,187,045	1,117,326	1,069,719	0.0 +	0.0 +	0.0 +	-	-	-	-	-	-
15 to 24	2	1	1	1,555,795	803,837	751,958	0.1 *	0.1 *	0.1 *	0.0	0.3	0.0	0.4	0.0	0.4
25 to 34	30	24	6	1,812,547	1,014,469	798,078	1.7	2.4	0.8 *	1.1	2.2	1.4	3.3	0.2	1.4
35 to 44	173	141	32	1,581,171	842,312	738,859	10.9	16.7	4.3	9.3	12.6	14.0	19.5	2.8	5.8
45 to 54	268	227	41	912,180	462,923	449,257	29.4	49.0	9.1	25.9	32.9	42.7	55.4	6.3	11.9
55 to 64	201	158	43	481,158	233,374	247,784	41.8	67.7	17.4	36.0	47.5	57.1	78.3	12.2	22.5
65 to 74	188	122	66	309,686	140,820	168,866	60.7	86.6	39.1	52.0	69.4	71.3	102.0	29.7	48.5
75 to 84	88	46	42	152,091	62,846	89,245	57.9	73.2	47.1	45.8	69.9	52.0	94.3	32.8	61.3
85 & Older	21	7	14	53,802	18,170	35,632	39.0	38.5 *	39.3 *	22.3	55.7	10.0	67.1	18.7	59.9
Unknown	0	0	0												
Total	971	726	245	10,352,763	5,363,508	4,989,255	9.4	13.5	4.9	8.8	10.0	12.6	14.5	4.3	5.5
Age-Adjusted							16.8	25.2	8.9	15.7	18.0	23.2	27.2	7.7	10.0
WHITE															
Under 1	0	0	0	186,372	95,353	91,019	0.0 +	0.0 +	0.0 +	-	-	-	-	-	-
1 to 4	0	0	0	764,503	392,039	372,464	0.0 +	0.0 +	0.0 +	-	-	-	-	-	-
5 to 14	0	0	0	2,201,244	1,131,294	1,069,950	0.0 +	0.0 +	0.0 +	-	-	-	-	-	-
15 to 24	1	0	1	1,998,736	1,041,627	957,109	0.1 *	0.0 +	0.1 *	0.0	0.1	-	-	0.0	0.3
25 to 34	35	25	10	2,278,474	1,167,976	1,110,498	1.5	2.1	0.9 *	1.0	2.0	1.3	3.0	0.3	1.5
35 to 44	254	155	99	3,048,968	1,548,913	1,500,055	8.3	10.0	6.6	7.3	9.4	8.4	11.6	5.3	7.9
45 to 54	567	402	165	2,569,114	1,285,282	1,283,832	22.1	31.3	12.9	20.3	23.9	28.2	34.3	10.9	14.8
55 to 64	477	330	147	1,701,782	836,589	865,193	28.0	39.4	17.0	25.5	30.5	35.2	43.7	14.2	19.7
65 to 74	474	292	182	1,322,816	612,279	710,537	35.8	47.7	25.6	32.6	39.1	42.2	53.2	21.9	29.3
75 to 84	318	166	152	945,339	384,258	561,081	33.6	43.2	27.1	29.9	37.3	36.6	49.8	22.8	31.4
85 & Older	57	24	33	322,342	95,613	226,729	17.7	25.1	14.6	13.1	22.3	15.1	35.1	9.6	19.5
Unknown	1	1	0												
Total	2,184	1,395	789	17,339,690	8,591,223	8,748,467	12.6	16.2	9.0	12.1	13.1	15.4	17.1	8.4	9.6
Age-Adjusted							11.1	15.1	7.6	10.7	11.6	14.3	15.8	7.0	8.1

Note : Rates are per 100,000 population. ICD-10 codes K70, K73, K74.
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; 1999 Population: Population Projections by Age, Race/Ethnicity and Sex, December 1998.
State of California, Department of Health Services, Death Records.

TABLE 3
CHRONIC LIVER DISEASE AND CIRRHOSIS DEATHS
CALIFORNIA, 1999-2000
(By Place of Residence)

COUNTY	1999-2000 DEATHS (Average)	PERCENT	1999 POPULATION	CRUDE RATE	AGE-ADJUSTED RATE	95% CONFIDENCE LIMITS	
						LOWER	UPPER
CALIFORNIA	3,609.5	100.0	34,072,478	10.6	11.7	11.4	12.0
ALAMEDA	146.0	4.0	1,448,643	10.1	10.7	9.4	12.1
ALPINE	0.0	0.0	1,226	0.0 +	0.0 +	-	-
AMADOR	4.0	0.1	34,410	11.6 *	10.0 *	1.4	18.6
BUTTE	29.5	0.8	204,216	14.4	14.1	9.7	18.5
CALAVERAS	6.0	0.2	40,597	14.8 *	12.6 *	3.9	21.2
COLUSA	2.0	0.1	20,091	10.0 *	11.5 *	0.0	25.5
CONTRA COSTA	95.5	2.6	921,662	10.4	10.1	8.5	11.6
DEL NORTE	4.0	0.1	30,358	13.2 *	14.9 *	2.0	27.7
EL DORADO	19.5	0.5	156,996	12.4 *	11.9 *	7.9	15.9
FRESNO	89.0	2.5	800,121	11.1	13.5	11.1	15.8
GLENN	4.5	0.1	28,438	15.8 *	17.1 *	3.6	30.7
HUMBOLDT	21.5	0.6	127,658	16.8	17.0	11.4	22.6
IMPERIAL	22.5	0.6	150,381	15.0	19.7	13.3	26.1
INYO	5.5	0.2	18,348	30.0 *	24.2 *	7.3	41.1
KERN	96.0	2.7	662,472	14.5	17.1	14.3	20.0
KINGS	16.0	0.4	123,683	12.9 *	18.1 *	11.2	24.9
LAKE	14.0	0.4	58,335	24.0 *	22.7 *	12.2	33.3
LASSEN	2.5	0.1	35,208	7.1 *	7.9 *	0.0	16.5
LOS ANGELES	1,084.0	30.0	9,727,841	11.1	12.9	12.3	13.5
MADERA	15.5	0.4	121,779	12.7 *	14.5 *	8.3	20.7
MARIN	23.0	0.6	247,073	9.3	9.1	6.2	12.0
MARIPOSA	2.0	0.1	16,339	12.2 *	10.2 *	0.0	23.1
MENDOCINO	12.0	0.3	88,978	13.5 *	13.1 *	7.2	19.1
MERCED	22.0	0.6	210,707	10.4	13.4	9.1	17.7
MODOC	1.5	0.0 a	10,384	14.4 *	12.5 *	0.0	29.8
MONO	2.0	0.1	10,730	18.6 *	18.8 *	1.4	36.2
MONTEREY	37.5	1.0	395,133	9.5	11.2	8.3	14.1
NAPA	18.5	0.5	125,123	14.8 *	13.5 *	8.5	18.6
NEVADA	8.0	0.2	94,014	8.5 *	7.2 *	2.9	11.5
ORANGE	219.5	6.1	2,787,593	7.9	9.1	8.2	10.0
PLACER	22.0	0.6	233,836	9.4	9.0	5.9	12.0
PLUMAS	3.0	0.1	20,714	14.5 *	14.0 *	0.0	28.1
RIVERSIDE	194.0	5.4	1,519,469	12.8	13.7	12.1	15.3
SACRAMENTO	128.5	3.6	1,189,056	10.8	11.6	10.0	13.1
SAN BENITO	5.0	0.1	50,087	10.0 *	11.3 *	3.7	18.9
SAN BERNARDINO	182.5	5.1	1,688,984	10.8	13.6	12.0	15.2
SAN DIEGO	249.5	6.9	2,884,572	8.6	10.4	9.4	11.4
SAN FRANCISCO	91.5	2.5	788,975	11.6	10.3	8.6	11.9
SAN JOAQUIN	73.0	2.0	566,793	12.9	14.4	11.7	17.1
SAN LUIS OBISPO	24.0	0.7	247,880	9.7	10.0	6.7	13.3
SAN MATEO	53.0	1.5	735,381	7.2	6.9	5.4	8.4
SANTA BARBARA	40.5	1.1	408,292	9.9	10.7	8.0	13.3
SANTA CLARA	146.5	4.1	1,732,034	8.5	9.3	8.1	10.4
SANTA CRUZ	26.5	0.7	255,825	10.4	10.5	7.3	13.8
SHASTA	26.5	0.7	171,211	15.5	14.5	9.9	19.1
SIERRA	0.5	0.0 a	3,427	14.6 *	8.7 *	0.0	18.0
SISKIYOU	8.5	0.2	44,847	19.0 *	16.3 *	7.0	25.7
SOLANO	39.0	1.1	392,201	9.9	11.4	8.6	14.2
SONOMA	42.0	1.2	450,187	9.3	9.0	6.8	11.2
STANISLAUS	54.0	1.5	446,056	12.1	13.8	11.0	16.7
SUTTER	8.0	0.2	79,992	10.0 *	9.6 *	4.3	14.9
TEHAMA	7.0	0.2	55,806	12.5 *	12.5 *	4.6	20.4
TRINITY	2.0	0.1	13,353	15.0 *	12.3 *	0.0	26.6
TULARE	47.5	1.3	371,640	12.8	15.5	12.0	19.0
TUOLUMNE	7.0	0.2	54,631	12.8 *	11.2 *	4.0	18.4
VENTURA	72.0	2.0	744,825	9.7	10.5	8.6	12.3
YOLO	21.0	0.6	160,805	13.1	16.5	10.7	22.4
YUBA	11.5	0.3	63,062	18.2 *	21.9 *	11.5	32.4

Note : Rates are per 100,000 population. ICD-10 codes K70, K73, K74.
The race/ethnic groups in this table were tabulated using the first listed race when certificates included more than one race.
* Death rate unreliable, relative standard error is greater than or equal to 23%.
\- Confidence limit is not calculated for no (zero) deaths.
\+ Standard error indeterminate, death rate based on no (zero) deaths.
a Represents a percentage of more than zero but less than 0.05.

Source : State of California, Department of Finance; 1999 Population: Population Projections by Age, Race/Ethnicity and Sex, December 1998.
State of California, Department of Health Services, Death Records.