



DATA SUMMARY

REPORT REGISTER NO. DS00-03000
(March 2000)

UNINTENTIONAL INJURY DEATHS CALIFORNIA, 1997

Introduction

This report presents data on deaths in California resulting from unintentional injury. The data were compiled and analyzed by race/ethnicity, age, sex and residence county.

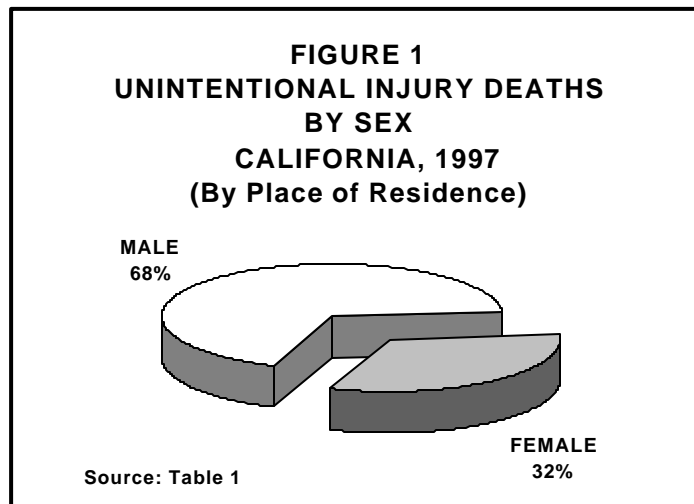
In 1997, unintentional injury deaths were the sixth leading cause of death in California¹ while ranked fifth nationally.² Deaths of this type are so prevalent in the United States, the U.S. Public Health Service established a national health objective, published in Healthy People 2000 Review 1997.³ Objective 9.1 seeks to reduce unintentional injury deaths to an age-adjusted rate of no more than 29.3 deaths per 100,000 population by the year 2000. California has met this objective yearly since 1991 (28.5 per 100,000 population) and in 1997 realized a lower rate of 23.8 per 100,000 population.

Numbers of Unintentional Injury Deaths

In 1997, there were 8,762 unintentional injury (UI) deaths among California residents, a 4.9 percent decrease from the prior year figure (9,217). Sixty percent of these deaths occurred among decedents aged 15-54 years: aged 15-24 (1,120), aged 25-34 (1,260), aged 35-44 (1,680), and aged 45-54 (1,172). Of the four race/ethnicity groups, Whites had the highest number of UI deaths (5,270) followed by Hispanics (2,104), Blacks (701) and Asian/Other (687).

Figure 1 depicts the disparity of UI deaths by sex in 1997. Of the total number of deaths, males (5,960) were twice as likely to die from UI as females (2,802). Disparity was greatest among Hispanics (3.3 to 1) and least among Asian/Other (1.6 to 1). These results were consistent with data reported for 1996.⁴

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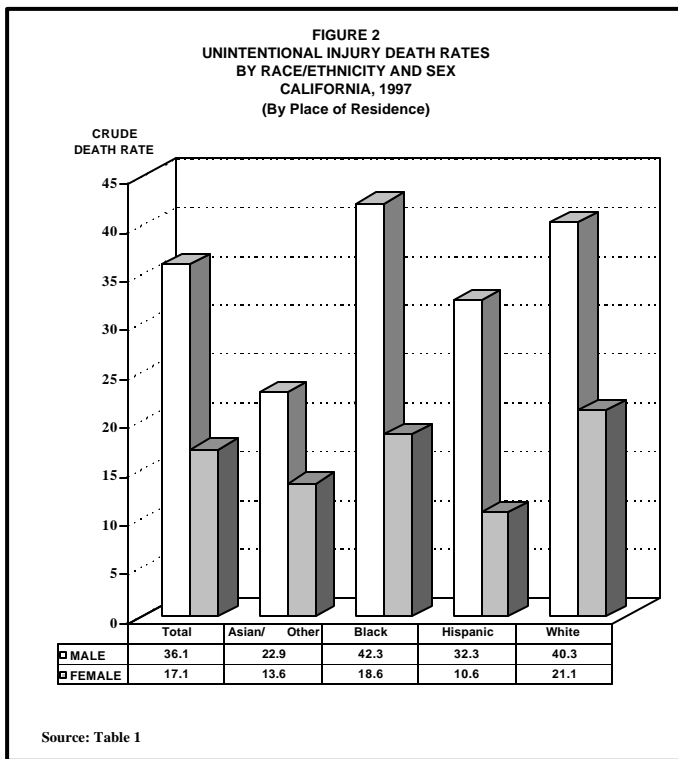
Unintentional Injury Crude Death Rates

California's UI crude death rate in 1997 was 26.6 per 100,000 population, 6.6 percent lower than the prior year rate of 28.5 per 100,000 population. This was a statistically significant decline and 30.4 percent lower than the 38.2 rate in 1987.⁴

The crude rate for both males and females declined in 1997 from their 1996 rate. Males declined 7.7 percent from 39.1 to 36.1 and females declined 3.9 percent from 17.8 to 17.1 per 100,000 population.

White (30.6) and Black (30.3) race/ethnicity groups had the highest death rates per 100,000 population followed by Hispanic (21.8) and Asian/Other (18.1).

Figure 2 (page 2) illustrates UI death rates by race/ethnicity and sex. In 1997, Black males had the highest death rate at 42.3 per 100,000 population followed by White males (40.3). In contrast, the lowest death rates occurred among Hispanic (10.6) and Asian/Other (13.6) females.



Unintentional Injury Age-Adjusted Death Rates

Figure 3 shows UI age-adjusted death rates by race/ethnicity and sex.

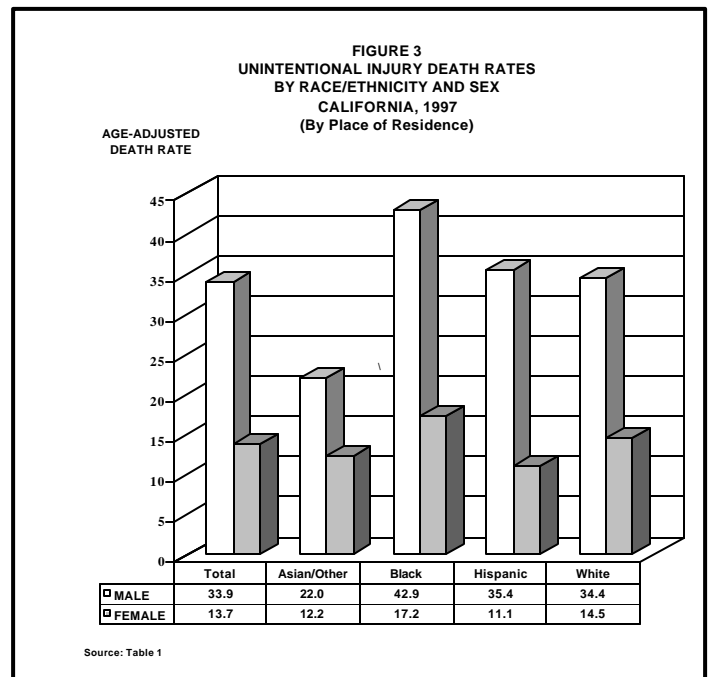
California's UI age-adjusted death rate in 1997 was 23.8 per 100,000 population, 8.1 percent lower than the 25.9 prior year rate. During the past seven years, California has met the year 2000 national UI objective age-adjusted rate of 29.3 per 100,000 population.

The UI age-adjusted death rate for both males and females declined in 1997 from their 1996 rate. Males declined 8.9 percent from 37.2 to 33.9 and females declined 5.5 percent from 14.5 to 13.7 per 100,000 population.

Blacks had the highest age-adjusted death rate (29.7 per 100,000 population) in 1997 followed by Hispanics (24.7), Whites (24.5) and Asian/Other (16.9). The Black race/ethnic group, however, achieved a 13.4 percent decrease from their prior year UI age-adjusted death rate. This was followed by rate decreases of 8.5 percent for Hispanics and 6.5 percent for Whites. Asian/Other was the only race/ethnic group to experience a higher age-adjusted rate increase, 3.0 percent over the prior year figure.

Black, Hispanic and White males registered declines from the prior year UI age-adjusted death rate by 12.8, 12.6 and 7.8 percent, respectively. Black, Hispanic and White female rates declined by 16.9, 13.3 and 4.0 percent. The rate for Asian/Other males increased by 1.4 percent while the rate among females increased by 9.9 percent.

Among females, Blacks (17.2) and Whites (14.5) had the highest UI age-adjusted death rates per 100,000 population followed by Asian/Other (12.2) and Hispanics (11.1). Among males, Blacks (42.9) and Hispanics (35.4) had the highest UI age-adjusted death rates per 100,000 population followed by Whites (34.4) and Asian/Other (22.0). However, in 1997, California's rate for male Blacks, Whites and Hispanics met their respective year 2000 national sub-objective rate of 51.9, 42.9 and 43.0 per 100,000 population.³



Unintentional Injury Age-Specific Death Rates

Of the reliable UI death rates for California in 1997, decedents aged 85 and older had the highest rate (168.8 per 100,000 population) while the lowest rate (5.7) was among persons aged 5-14. Decedents aged 75-84 years had the second highest UI death rate (75.3), which was less than half the highest rate. Similarly, low UI death rates occurred among persons aged 1-4 (10.2) and under one (13.1). This pattern was consistent with data reported in 1996 and was also consistent among each race/ethnic group,

except for Asian/Other, which in 1997 accounted for the lowest rate for decedents under one year of age.

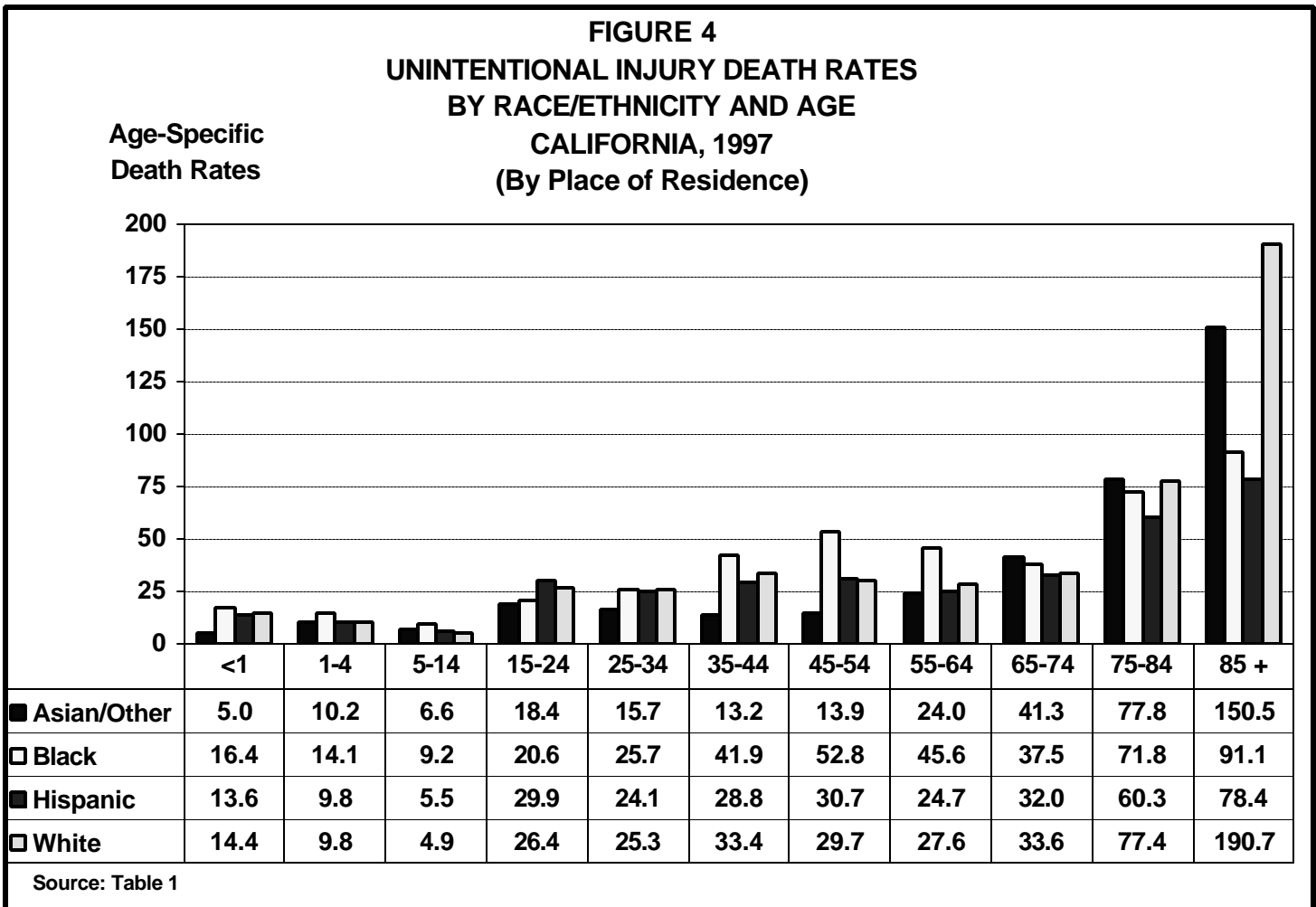
In 1997, males in the 85 and older age group had the highest UI age-specific death rate of 229.7 per 100,000 population. Females also had their highest UI age-specific rate (141.9) in the 85 and older age group. Conversely, the lowest UI age-specific rate (4.0 per 100,000 population) was among females aged 5-14. Males also had their lowest rate (7.2) in the 5-14 year age group.

Figure 4 depicts UI age-specific death rates by race/ethnicity for California in 1997. Of the reliable rates among these groups, Whites had the highest death rate (190.7 per 100,000 population) followed by Asian/Other (150.5) and Hispanic (78.4), all within the 85 and older age group. Blacks had their highest UI death rate (71.8) among decedents aged 75-84. Whites also experienced the lowest reliable race/ethnic death rate (4.9 per 100,000 population) among decedents aged 5-14. Hispanics (5.5), Asian/Other (6.6) and Blacks (9.2) had their lowest reliable death rates in the 5-14 year age group.

By sex, White males aged 85 and older had the highest UI age-specific male death rate (253.5 per 100,000 population) followed by Asian/Other (237.1), Black (153.1, unreliable) and Hispanic (131.8) males within the same age group. The highest age-specific female rates were among Whites (165.3), Asian/Other (85.8, unreliable) and Hispanics (49.6, unreliable) in the 85 and older age group. Of the reliable rates for males, Whites (6.7), Asian/Other (6.9), Hispanics (6.9) and Blacks (12.3) accounted for their lowest rate among decedents aged 5-14 years. For females, the lowest reliable age-specific rate was among Whites (3.0) and Hispanics (4.1) aged 5-14. Asian/Other (9.2) and Black (15.4) females had their lowest reliable rate among decedents aged 25-34.

Unintentional Injury Death Data by County

Table 2 (page 7) shows the average number of UI deaths and corresponding rates among California's counties during 1995-1997. Of the 9,117 deaths in California's 58 counties, Los Angeles had the highest numbers of deaths (2,187.7), one death out of



every four deaths occurring in California. San Diego(678.3), Orange (575.0) and Riverside (502.7) counties averaged more than five hundred UI deaths compared to Alpine (0.3), Sierra (1.0) and Mono (4.7) counties averaging fewer than five deaths.

Of the 43 counties with reliable crude rates, Humboldt had the highest rate (54.4) while Santa Clara had the lowest (19.4), a difference by a factor of 2.8 to 1. Thirteen counties had reliable crude rates lower than California’s UI average crude death rate of 28.2 per 100,000 population.

The highest and lowest reliable age-adjusted rates also occurred in Humboldt (50.9) and Santa Clara (17.5) counties. Similarly to the crude rates, 42 counties had reliable age-adjusted rates of which 11 counties had rates lower than California’s age-adjusted UI average death rate of 25.7 per 100,000 population.

Of the 42 counties with reliable age-adjusted rates, 19 counties met the Healthy People 2000 national health objective of no more than 29.3 deaths due to UI per 100,000 population.

Unintentional Injury Death Data by City Health Jurisdiction

Table 3 shows the average number of UI deaths and crude death rates among California’s three city health jurisdictions.

**TABLE 3
UNINTENTIONAL INJURY DEATHS
AMONG CITY HEALTH JURISDICTIONS
CALIFORNIA, 1995-1997
(By Place of Residence)**

CITY HEALTH JURISDICTION	NUMBER OF DEATHS (AVERAGE)	1996 POPULATION	CRUDE DEATH RATE
BERKELEY	21.3	104,700	20.3
LONG BEACH	109.0	437,900	24.9
PASADENA	37.0	137,200	27.0

Note: Rates are per 100,000 population.
ICD-9 Codes E800-E949.

Source: State of California, Department of Finance, Report Hist E-4, 1996 Historical Estimates of California Cities and Counties, May 1999.
State of California, Department of Health Services, Death Records

Of these jurisdictions, Long Beach had the highest number of UI deaths (109.0) followed by Pasadena (37.0) and Berkeley (21.3).

The crude death rates per 100,000 population due to UI were 27.0 in Pasadena, 24.9 in Long Beach and 20.3 in Berkeley.

Age-adjusted death rates were not calculated for the city jurisdictions because city population estimates by age are not available.

Technical Notes:

The unintentional injury death data presented in this report include ICD-9 codes E800-E949. The term “significant” throughout this report indicates statistically significant based on the difference between two independent rates ($p < .05$). Rates are calculated per 100,000 population.

As with any vital statistics data, caution needs 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 city health jurisdiction. To assist the reader, 95 percent confidence intervals and an indicator, “*” (asterisk), denoting rates that have a relative standard error (coefficient of variation) greater than or equal to 23 percent are provided in the data tables as a tool for measuring the reliability of the death rates.

The four race/ethnic groups presented in **Table 1** are mutually exclusive. White, Black, and Asian/Other exclude Hispanic ethnicity, while Hispanic includes any race/ethnicity group. In order to remain consistent with the population data obtained from the Department of Finance, the “White race/ethnicity group” includes: White, Other (specified), Not Stated, and Unknown; and the “Asian/Other race/ethnicity 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/Other⁵. 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 risk of dying in a given population, but the age composition of that population is not taken into consideration. Therefore, the use of age-adjusted rates becomes the preferred method for measuring death rates over time, and for comparing death rates between race/ethnicity groups, sex, and geographic areas. The 1940 United States (standard million) population was used as the basis for age-adjusting in this report.

Additionally, 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 city health jurisdictions with the rates among California's 58 counties.

For a more complete explanation of the age-adjusting methodology see the *Healthy People 2000 Statistical Notes* publication⁶. 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/chsindex.htm].

References:

1. Ficenc S. *Advance Report: California Vital Statistics, 1997*. Center for Health Statistics, California Department of Health Services, December 1998.
2. Centers for Disease Control and Prevention. *National Vital Statistics Report Data for 1997*, June 30, 1999 / Volume 47, Number 19 p.7.
3. National Center for Health Statistics. *Healthy People 2000 Review 1998-99*. Hyattsville, Maryland: Public Health Service. 1999.
4. Perrin HJ. Unintentional Injury Deaths, California, 1980-1996. *Data Summary DS99-05000*. Center for Health Statistics, California Department of Health Services, February 1999.
5. Hahn RA, Mulinare J, Teutsch SM. Inconsistencies in Coding Race and Ethnicity Between Birth and Death in U.S. Infants. *The Journal of the American Medical Association*, Vol. 267, No. 2 January 1992.
6. Curtin LR, Klein RJ. Direct Standardization (Age-Adjusted Death Rates). *Healthy People 2000 Statistical Notes*. National Center for Health Statistics, DHHS Pub No. (PHS) 95-1237, March 1995; No. 6 Revised.
7. Riedmiller K, Harms C. *Vital Statistics of California, 1996*. Center for Health Statistics, California Department of Health Services, September 1998.

TABLE 2
DEATHS DUE TO UNINTENTIONAL INJURY
CALIFORNIA COUNTIES. 1995-1997
(Bv Place of Residence)

COUNTY	1995-1997 DEATHS (AVERAGE)	PERCENT	1996 POPULATION	CRUDE RATE	AGE-ADJUSTED RATE	95% CONFIDENCE LIMITS	
						LOWER	UPPER
CALIFORNIA	9,117	100.0	32,383,811	28.2	25.7	25.1	26.2
ALAMEDA	345.3	3.8	1,365,041	25.3	22.5	20.0	25.1
ALPINE	0.3	a	1,194	27.9 *	22.4 *	0.0	98.5
AMADOR	13.3	0.1	32,925	40.5 *	28.4 *	9.5	47.3
BUTTE	92.7	1.0	196,522	47.2	40.6	31.3	50.0
CALAVERAS	18.7	0.2	36,881	50.6 *	48.0 *	23.1	73.0
COLUSA	10.7	0.1	18,197	58.6 *	52.7 *	18.8	86.6
CONTRA COSTA	211.0	2.3	877,965	24.0	21.2	18.1	24.2
DEL NORTE	14.3	0.2	27,527	52.1 *	50.7 *	23.3	78.1
EL DORADO	57.7	0.6	144,710	39.8	35.7	25.8	45.6
FRESNO	306.7	3.4	769,709	39.8	38.5	34.0	43.0
GLENN	12.3	0.1	26,699	46.2 *	36.4 *	13.8	59.1
HUMBOLDT	68.0	0.7	125,100	54.4	50.9	38.2	63.5
IMPERIAL	72.0	0.8	141,229	51.0	43.2	32.2	54.3
INYO	12.3	0.1	18,225	67.7 *	53.0 *	17.5	88.5
KERN	246.7	2.7	624,092	39.5	38.0	33.1	42.9
KINGS	44.7	0.5	115,774	38.6	37.2	26.0	48.4
LAKE	28.3	0.3	54,884	51.6	40.2	22.8	57.7
LASSEN	9.7	0.1	32,631	29.6 *	25.1 *	8.6	41.6
LOS ANGELES	2,187.7	24.0	9,396,389	23.3	21.9	21.0	22.9
MADERA	54.7	0.6	110,298	49.6	45.6	32.9	58.3
MARIN	55.3	0.6	239,630	23.1	18.0	12.5	23.5
MARIPOSA	9.7	0.1	15,965	60.5 *	58.6 *	16.8	100.5
MENDOCINO	45.7	0.5	84,817	53.8	48.1	32.8	63.3
MERCED	81.0	0.9	198,390	40.8	39.8	30.9	48.8
MODOC	8.0	0.1	10,028	79.8 *	64.6 *	11.0	118.2
MONO	4.7	0.1	10,565	44.2 *	41.9 *	3.1	80.7
MONTEREY	110.7	1.2	360,253	30.7	29.1	23.4	34.8
NAPA	36.0	0.4	118,949	30.3	21.9	13.5	30.3
NEVADA	36.7	0.4	87,001	42.1	37.6	23.7	51.5
ORANGE	575.0	6.3	2,649,846	21.7	19.5	17.9	21.2
PLACER	60.7	0.7	209,167	29.0	25.8	18.7	32.9
PLUMAS	9.0	0.1	20,239	44.5 *	35.6 *	8.3	63.0
RIVERSIDE	502.7	5.5	1,393,289	36.1	33.3	30.2	36.4
SACRAMENTO	324.3	3.6	1,132,189	28.6	26.5	23.4	29.5
SAN BENITO	17.7	0.2	44,008	40.1 *	38.2 *	19.9	56.5
SAN BERNARDINO	462.7	5.1	1,592,711	29.0	28.7	26.0	31.4
SAN DIEGO	678.3	7.4	2,694,956	25.2	22.7	20.9	24.6
SAN FRANCISCO	307.3	3.4	768,263	40.0	31.6	27.7	35.6
SAN JOAQUIN	205.7	2.3	533,177	38.6	35.7	30.6	40.8
SAN LUIS OBISPO	85.0	0.9	230,691	36.8	29.5	22.6	36.4
SAN MATEO	151.3	1.7	698,042	21.7	18.3	15.1	21.4
SANTA BARBARA	123.0	1.3	393,716	31.2	25.3	20.5	30.2
SANTA CLARA	317.3	3.5	1,638,352	19.4	17.5	15.4	19.5
SANTA CRUZ	66.0	0.7	243,657	27.1	23.3	17.3	29.4
SHASTA	71.7	0.8	161,688	44.3	38.8	29.0	48.7
SIERRA	1.0	a	3,401	29.4 *	36.1 *	0.0	115.2
SISKIYOU	22.0	0.2	43,945	50.1	41.6 *	22.1	61.2
SOLANO	106.3	1.2	372,493	28.5	27.3	21.9	32.6
SONOMA	137.7	1.5	424,481	32.4	28.8	23.6	34.0
STANISLAUS	173.3	1.9	418,455	41.4	38.8	32.7	44.8
SUTTER	33.0	0.4	74,591	44.2	42.6	27.5	57.7
TEHAMA	25.0	0.3	54,353	46.0	38.9	21.8	56.1
TRINITY	9.3	0.1	13,328	70.0 *	64.2 *	17.6	110.8
TULARE	167.3	1.8	353,645	47.3	46.0	38.7	53.2
TUOLUMNE	26.0	0.3	51,583	50.4	42.5	24.3	60.7
VENTURA	192.7	2.1	714,845	27.0	23.6	20.0	27.1
YOLO	41.0	0.4	152,535	26.9	23.6	16.0	31.2
YUBA	30.0	0.3	60,575	49.5	49.4	31.0	67.8

Note : Rates are per 100,000 population; ICD-9 Codes E800-E949.

* Death rate is 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 Population Estimates by County with Age and Sex Detail, 1970-1997, June 1999.
State of California, Department of Health Services, Death Records.