



Center for Health Statistics



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

Highlights

- In 2002, 74.5 percent of all diabetes deaths in California occurred among people age 65 and older.
- The diabetes crude death rate for California was 18.9 deaths per 100,000 population in 2002.
- During 2002 the California diabetes age-adjusted death rate of 21.5 was lower than the United States rate of 25.4.
- In 2002 Blacks had a diabetes age-adjusted death rate significantly higher than Hispanics, Asian/Other, and Whites.

Diabetes Deaths in California, 2002

By Daniel H. Cox

Introduction

In 2002 diabetes was the sixth leading cause of death in the United States (U.S.) and was the underlying cause of 73,119 deaths that year.¹ Currently, 18.2 million people in the U.S. have diabetes; 5.2 million of those people remain undiagnosed.²

Diabetes disproportionately affects minority populations and the elderly and its incidence is likely to increase as minority populations grow and the U.S. population becomes older. The human suffering caused by diabetes and its complications is tragic and the economic cost to society is great. Diabetes can have a harmful effect on most of the organ systems in the human body; it is a frequent cause of end-stage renal disease, non-traumatic lower-extremity amputation, and a leading cause of blindness among working age adults. Persons with diabetes are at increased risk for ischemic heart disease, neuropathy, and stroke. In economic terms, the direct medical expenditures attributable to diabetes in 2002 have been estimated at 91.8 billion dollars.³

The definition of diabetes used in this report is based on the International Classification of Diseases, Tenth Revision (ICD-10) codes E10-E14 currently presented in the National Center for Health Statistics (NCHS) Monthly Vital Statistics Report.⁴ In this Data Summary, as in the previously mentioned NCHS report, diabetes related deaths are counted only when diabetes is the underlying cause of death. The U.S. Public Health Service has established a number of health objectives pertaining to diabetes, which are published in *Tracking Healthy People 2010*.⁵ Since these objectives are based on both underlying and contributing causes of diabetes deaths rather than underlying cause only, California's progress in meeting the year 2010 national health objective for diabetes will not be addressed in this report.

¹ National Center for Health Statistics, Deaths: Preliminary Data for 2002. National Vital Statistics Reports, DHHS Pub. No. (PHS) 2004-1120, PRS 04-0167, February 2004; Vol. 52, No. 13.

² Centers for Disease Control and Prevention. National Diabetes Fact Sheet: General information and national estimates on diabetes in the United States, 2002. Atlanta, GA: U.S. DHHS, 2003.

³ Hogan P, Dall T, Nikolov P. Economic Costs of Diabetes in the U.S. in 2002. American Diabetes Association, Diabetes Care, Volume 26, Number 3, March 2003.

⁴ 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.

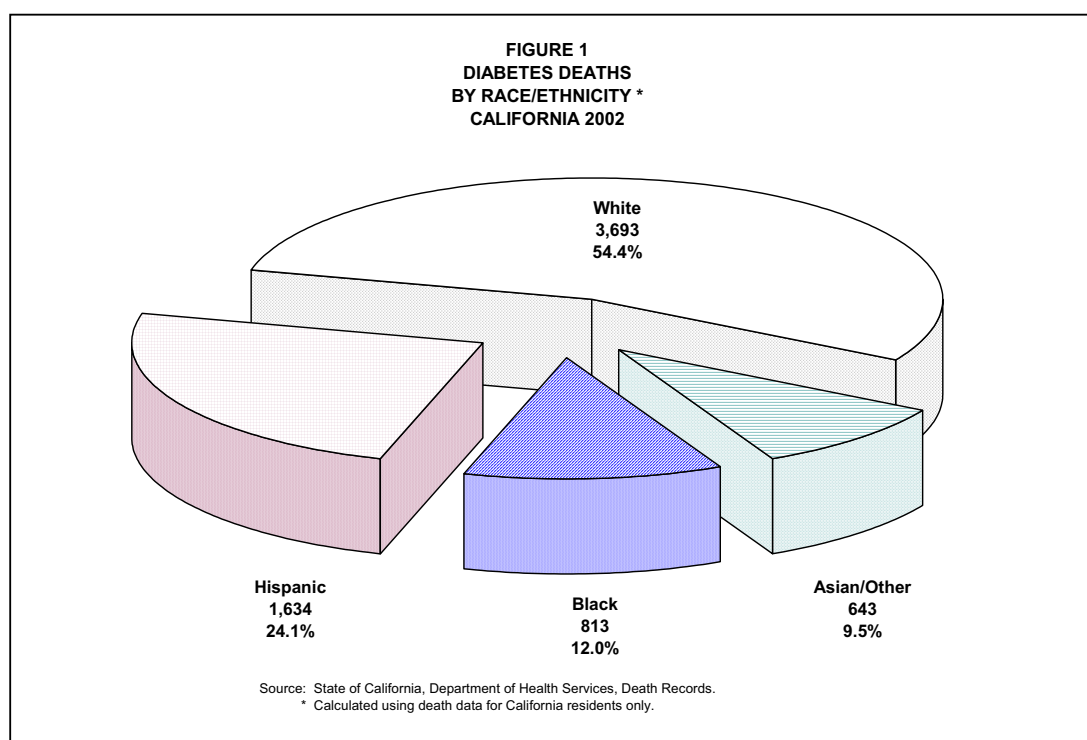
⁵ U.S. Department of Health and Human Services. Tracking Healthy People 2010. Washington DC: U.S. Government Printing Office, November 2000.

Diabetes Deaths

A brief overview of [data limitations and qualifications](#) is provided at the end of this report.

Table 1 (page 9) displays diabetes death data for 2002 by race/ethnicity, age, and sex. Diabetes deaths occur predominantly among the older population, and this held true in 2002 with 74.5 percent of all diabetes deaths involving people in the age groups 65 years and older. These age groups, within each respective race/ethnic group, accounted for 79.3 percent of all diabetes deaths among Asian/Other, 78.7 percent of deaths among Whites, 68.5 percent of deaths among Hispanics, and 63.8 percent of deaths among Blacks. During 2002 the number of deaths attributed to diabetes was slightly higher among females (3,476) than among males (3,307).

As shown in **Figure 1**, the number of diabetes deaths among Whites (3,693) was higher than Hispanics (1,634), Blacks (813), and Asian/Other (643).



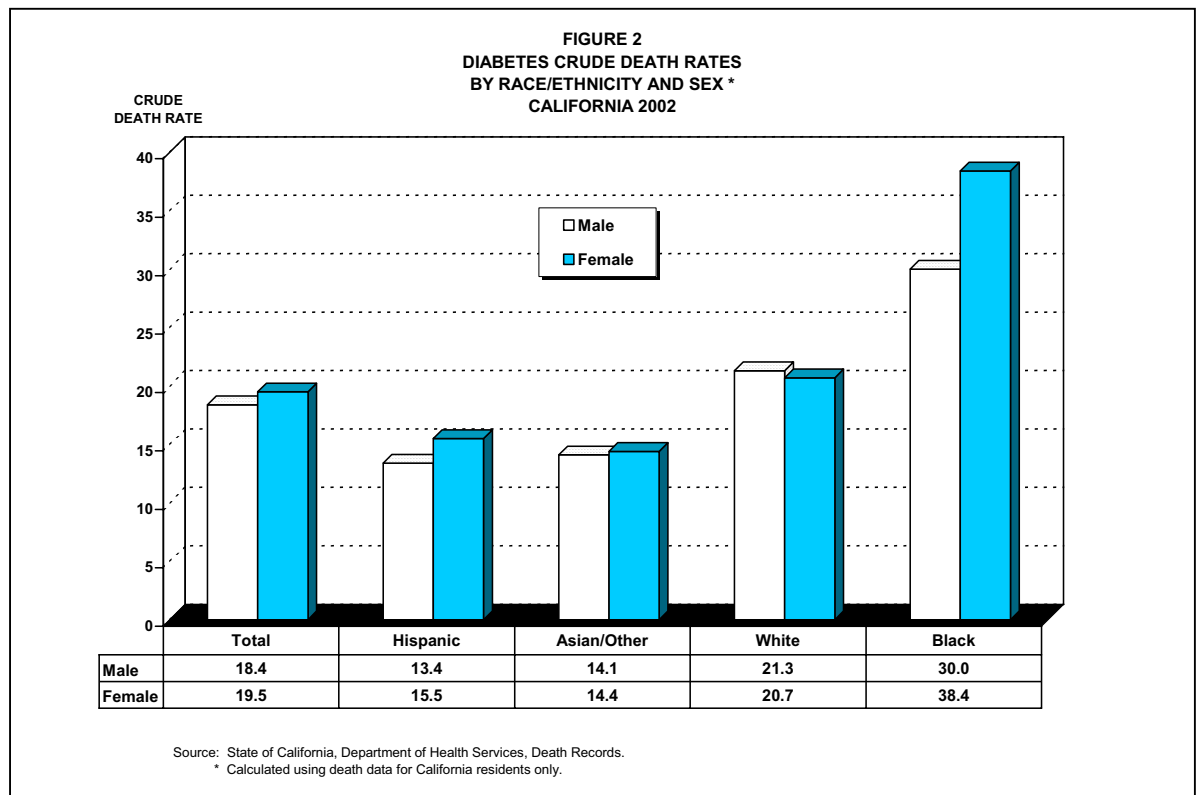
Diabetes Crude Death Rates

The diabetes crude death rate for California increased slightly from 18.3 deaths per 100,000 population in 2001 to 18.9 in 2002.⁶ As shown in **Table 1** (page 9), Blacks had the highest crude death rate in 2002, a rate of 34.3. Whites were next with a crude rate of 21.0, followed by Hispanics with a rate of 14.4 and Asian/Other with a rate of 14.3. Three of these four rates increased from 2001 when Blacks had a diabetes crude death rate of 30.0, Whites had a rate of 20.4, and Asian/Other had a rate of 13.2. The rate for Hispanics decreased slightly from 2001, when the rate was 14.5. The only statistically significant difference was the increase among Blacks from 2001 to 2002.

⁶ Cox D. Diabetes Deaths in California, 2001. Data Summary. Center for Health Statistics, California Department of Health Services, September 2003.

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

Figure 2 shows Black, Hispanic, and Asian/Other females had higher diabetes crude death rates than males in the corresponding race/ethnic groups. Black females had a rate of 38.4 deaths per 100,000 population, and Black males had a rate of 30.0. Hispanic females had a rate of 15.5 and Hispanic males had a rate of 13.4. These differences were statistically significant. Asian/Other females had a rate of 14.4 and Asian/Other males had a rate of 14.1 though this difference was not statistically significant. Contrary to the findings for the other three race/ethnic groups, White males had a diabetes crude death rate of 21.3, which was slightly higher than the rate of 20.7 for White females. This difference was not statistically significant.



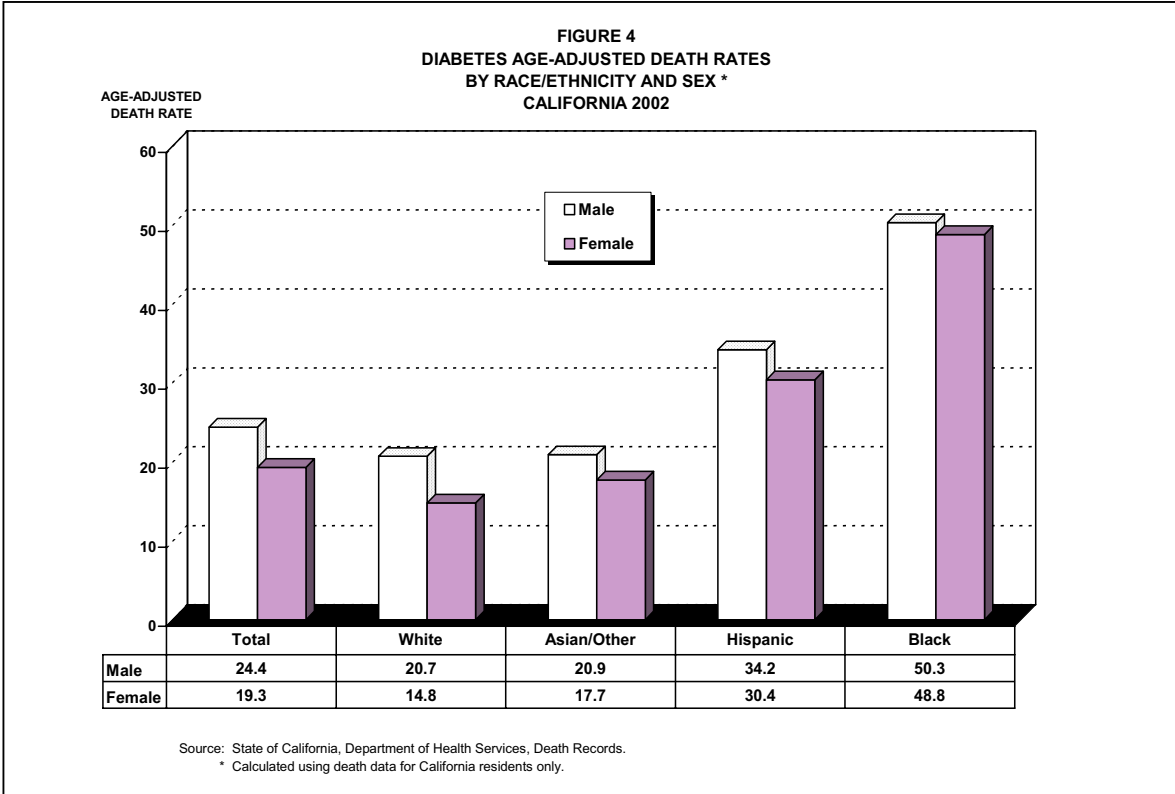
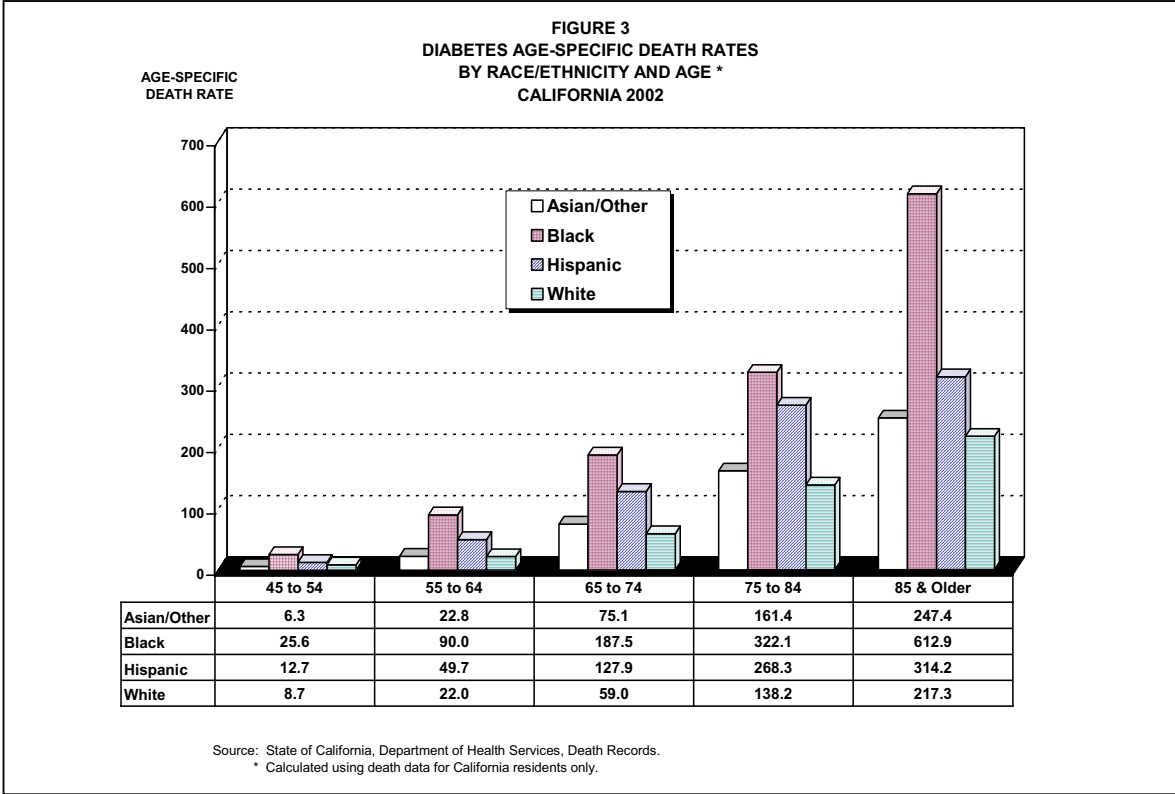
Diabetes Age-Specific Death Rates

In **Table 1** (page 9), reliable age-specific rates show that among the sexes in 2002, White males consistently had higher diabetes death rates than White females. This was also true among Asian/Other where males had higher rates than females. Among Hispanics, males had higher rates than females in every age group except the 85 and Older age group. Among Blacks, males had higher rates in the 55 to 64 and 65 to 74 age groups, females had higher rates in the 45 to 54, 75 to 84, and 85 and older age groups.

Figure 3 (page 4) shows that in 2002, among the age groups with reliable rates, Blacks had higher diabetes age-specific death rates than the other three race/ethnic groups. These differences were statistically significant in all five age groups.

Not shown in **Figure 3**, but displayed in **Table 1** are the diabetes age-specific death rates for the 35 to 44 age group where Blacks had a significantly higher death rate than Hispanics or Whites. The rate for Asian/Other was not reliable in the 35 to 44 age group. In the 25 to 34 age group Whites had the only reliable diabetes age-specific death rate.

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.



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

Diabetes Age-Adjusted Death Rates

In 2002 the California diabetes age-adjusted death rate of 21.5 deaths per 100,000 population was lower than the U.S. rate of 25.4.¹ The California rate increased slightly from 2001 when the rate was 20.9, though this difference was not statistically significant.⁶

Displayed in **Table 1** (page 9), a comparison among the race/ethnic groups shows that in 2002 Blacks had a diabetes age-adjusted death rate of 49.8, which was significantly higher than Hispanics with a rate of 32.2, Asian/Other with a rate of 19.1, and Whites with a rate of 17.3. Three of these four rates increased from 2001 when Blacks had a diabetes age-adjusted death rate of 43.7, Asian/Other had a rate of 17.8, and Whites had a rate of 17.0. The rate for Hispanics decreased slightly from 2001, when the rate was 33.0. The only statistically significant difference was the increase among Blacks from 2001 to 2002.

As shown in **Figure 4** (page 4), in 2002 the diabetes age-adjusted death rate for males was higher than for females in all four race/ethnic groups. Black males (50.3) had a higher rate than Black females (48.8). Hispanic males (34.2) had a higher rate than Hispanic females (30.4), Asian/Other males (20.9) had a higher rate than Asian/Other females (17.7), and White males (20.7) had a higher rate than White females (14.8). All of these differences were statistically significant except for the difference among Blacks.

Diabetes Death Data for California Counties

Table 2 (page 10) displays the number of deaths, crude death rates, and age-adjusted death rates by county averaged over a three-year period, 2000 to 2002. 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 diabetes deaths occurred in Los Angeles County (1,963.7) and the lowest average number of diabetes deaths occurred in Alpine County (0.0).

The highest and lowest reliable diabetes crude death rates were in Kings County (34.5 per 100,000 population) and Marin County (12.6).

The ranking for diabetes age-adjusted death rates showed Kings County with the highest reliable rate (52.0 deaths per 100,000 population) and Marin County with the lowest reliable rate (11.8).

Diabetes Death Data by City Health Jurisdiction

Table 3 (page 6) displays the number of deaths and crude death rates for California's three city health jurisdictions averaged over a three-year period, 2000 to 2002. Age-adjusted death rates were not calculated for the city health jurisdictions because city population estimates by age were not available.

The city of Long Beach had an average of 87.3 diabetes deaths, Pasadena had an average of 32.0 deaths, and Berkeley had an average of 16.0 deaths.

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

Pasadena had a diabetes crude death rate of 23.7 deaths per 100,000 population, Long Beach had a crude rate of 18.7, and Berkeley had a crude rate of 15.4, although the rate for Berkeley was not reliable.

**TABLE 3
DIABETES DEATHS
AMONG THE CITY HEALTH JURISDICTIONS*
CALIFORNIA, 2000-2002
(By Place of Residence)**

CITY HEALTH JURISDICTION	NUMBER OF DEATHS (Average)	2001 POPULATION	CRUDE DEATH RATE
BERKELEY	16.0	103,600	15.4 +
LONG BEACH	87.3	466,500	18.7
PASADENA	32.0	135,300	23.7

Note: Rates are per 100,000 population. Data is ICD-10 codes E10-E14.

* Calculated using death data for California residents only.

+ Death rate unreliable, relative standard error is greater than or equal to 23 percent.

Source: State of California, Department of Finance, E-4 Population Estimates for Cities, Counties and the State, 2001-2003, with 2000 DRU Benchmark, May 2003.
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, crude rates do not provide a statistically valid method for comparing geographic areas, sexes, race/ethnic groups, 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 whose rates are being compared. Age-adjusted death rates therefore provide the preferred method for comparing different race/ethnic groups, sexes, and geographic areas and for measuring death rates over time. The year 2000 population standard is used as the basis for age-adjustments in this report.

Data Limitations and Qualifications

The diabetes death data presented in this report are based on vital statistics records with ICD-10 codes E10-E14 as defined by the NCHS.⁴ Deaths by place of residence means that the data include only those deaths occurring among residents of California and its counties, regardless of the place of death.

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 ICD-10.⁷ Cause of death for 1979 through 1998 was coded using the International Classification of Diseases, Ninth Revision (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 do not combine both ICD-9 and ICD-10 data.

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, Hmong, 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 death rates that may be underestimated among Hispanics and Asian/Other.⁸

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 and later are therefore not strictly compatible with prior years and trends and 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 NCHS. The new population standard affects measurement of mortality trends and group comparisons. Of particular note are the effects on race comparison of mortality.⁹ 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 3** (page 6) differ from the population data used to calculate the crude rates in **Table 2** (page 10). Consequently, caution should be exercised when comparing the crude rates among the

⁷ World Health Organization. International Statistical Classification of Diseases and Related Health Problems. Tenth Revision. Geneva: World Health Organization. 1992.

⁸ 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.

⁹ 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.

Some of the [earlier reports](#) on this subject are available online.

three city health jurisdictions with the rates among the 58 California counties. Age-adjusted rates for city health jurisdictions were not calculated.

For a more complete explanation of the age-adjusting methodology used in this report, see the “Healthy People 2010 Statistical Notes” publication.¹⁰ Detailed information on data quality and limitations are presented in the appendix of the annual report, “Vital Statistics of California.”¹¹ Formulas used to calculate death rates are included in the technical notes of the “County Health Status Profiles” report.¹²

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¹⁰ Klein RJ, Schoenborn CA. Healthy People 2010 Statistical Notes: Age Adjustment using the 2000 Projected U.S. Population. National Center for Health Statistics, DHHS Publication, No. 20, January 2001

¹¹ Riedmiller K, Ficene S, Bindra K, Christensen J. Vital Statistics of California 1999. Center for Health Statistics, California Department of Health Services, April 2002.

¹² Shippen S, Wilson C. County Health Status Profiles 2004. Center for Health Statistics, California Department of Health Services, April 2004.

TABLE 1
DIABETES DEATHS
BY RACE/ETHNICITY, AGE, AND SEX
CALIFORNIA, 2002
(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	565,286	289,063	276,223	0.0 +	0.0 +	0.0 +	-	-	-	-	-	-
1 to 4	0	0	0	2,259,315	1,155,699	1,103,616	0.0 +	0.0 +	0.0 +	-	-	-	-	-	-
5 to 14	4	4	0	5,779,949	2,962,038	2,817,911	0.1 *	0.1 *	0.0 +	0.0	0.1	0.0	0.3	-	-
15 to 24	18	12	6	4,878,693	2,531,467	2,347,226	0.4 *	0.5 *	0.3 *	0.2	0.5	0.2	0.7	0.1	0.5
25 to 34	61	37	24	4,876,792	2,566,475	2,310,317	1.3	1.4	1.0	0.9	1.6	1.0	1.9	0.6	1.5
35 to 44	194	121	73	5,762,850	2,962,675	2,800,175	3.4	4.1	2.6	2.9	3.8	3.4	4.8	2.0	3.2
45 to 54	501	270	231	4,794,731	2,387,728	2,407,003	10.4	11.3	9.6	9.5	11.4	10.0	12.7	8.4	10.8
55 to 64	951	540	411	3,041,927	1,484,478	1,557,449	31.3	36.4	26.4	29.3	33.3	33.3	39.4	23.8	28.9
65 to 74	1,592	824	768	1,998,910	931,513	1,067,397	79.6	88.5	72.0	75.7	83.6	82.4	94.5	66.9	77.0
75 to 84	2,266	1,062	1,204	1,360,295	557,358	802,937	166.6	190.5	149.9	159.7	173.4	179.1	202.0	141.5	158.4
85 & Older	1,196	437	759	483,490	155,701	327,789	247.4	280.7	231.6	233.3	261.4	254.4	307.0	215.1	248.0
Total	6,783	3,307	3,476	35,802,238	17,984,195	17,818,043	18.9	18.4	19.5	18.5	19.4	17.8	19.0	18.9	20.2
Age-Adjusted							21.5	24.4	19.3	21.0	22.0	23.5	25.2	18.6	19.9
ASIAN/OTHER															
Under 1	0	0	0	71,070	36,363	34,707	0.0 +	0.0 +	0.0 +	-	-	-	-	-	-
1 to 4	0	0	0	282,531	144,555	137,976	0.0 +	0.0 +	0.0 +	-	-	-	-	-	-
5 to 14	0	0	0	704,536	362,486	342,050	0.0 +	0.0 +	0.0 +	-	-	-	-	-	-
15 to 24	0	0	0	647,043	331,690	315,353	0.0 +	0.0 +	0.0 +	-	-	-	-	-	-
25 to 34	3	2	1	679,965	344,174	335,791	0.4 *	0.6 *	0.3 *	0.0	0.9	0.0	1.4	0.0	0.9
35 to 44	9	5	4	719,105	350,905	368,200	1.3 *	1.4 *	1.1 *	0.4	2.1	0.2	2.7	0.0	2.2
45 to 54	39	25	14	620,977	294,261	326,716	6.3	8.5	4.3 *	4.3	8.3	5.2	11.8	2.0	6.5
55 to 64	82	46	36	360,153	170,641	189,512	22.8	27.0	19.0	17.8	27.7	19.2	34.7	12.8	25.2
65 to 74	175	90	85	232,917	104,165	128,752	75.1	86.4	66.0	64.0	86.3	68.6	104.3	52.0	80.1
75 to 84	225	99	126	139,375	58,899	80,476	161.4	168.1	156.6	140.3	182.5	135.0	201.2	129.2	183.9
85 & Older	110	46	64	44,465	18,527	25,938	247.4	248.3	246.7	201.2	293.6	176.5	320.0	186.3	307.2
Total	643	313	330	4,502,137	2,216,666	2,285,471	14.3	14.1	14.4	13.2	15.4	12.6	15.7	12.9	16.0
Age-Adjusted							19.1	20.9	17.7	17.6	20.6	18.5	23.3	15.7	19.6
BLACK															
Under 1	0	0	0	37,035	18,947	18,088	0.0 +	0.0 +	0.0 +	-	-	-	-	-	-
1 to 4	0	0	0	148,422	75,963	72,459	0.0 +	0.0 +	0.0 +	-	-	-	-	-	-
5 to 14	1	1	0	412,599	209,510	203,089	0.2 *	0.5 *	0.0 +	0.0	0.7	0.0	1.4	-	-
15 to 24	3	2	1	370,840	196,122	174,718	0.8 *	1.0 *	0.6 *	0.0	1.7	0.0	2.4	0.0	1.7
25 to 34	15	7	8	340,450	181,068	159,382	4.4 *	3.9 *	5.0 *	2.2	6.6	1.0	6.7	1.5	8.5
35 to 44	34	18	16	382,583	187,179	195,404	8.9	9.6 *	8.2 *	5.9	11.9	5.2	14.1	4.2	12.2
45 to 54	80	37	43	312,810	147,562	165,248	25.6	25.1	26.0	20.0	31.2	17.0	33.2	18.2	33.8
55 to 64	161	85	76	178,888	82,569	96,319	90.0	102.9	78.9	76.1	103.9	81.1	124.8	61.2	96.6
65 to 74	204	98	106	108,774	48,191	60,583	187.5	203.4	175.0	161.8	213.3	163.1	243.6	141.7	208.3
75 to 84	201	77	124	62,397	24,072	38,325	322.1	319.9	323.5	277.6	366.7	248.4	391.3	266.6	380.5
85 & Older	114	28	86	18,601	5,543	13,058	612.9	505.1	658.6	500.4	725.4	318.0	692.2	519.4	797.8
Total	813	353	460	2,373,399	1,176,726	1,196,673	34.3	30.0	38.4	31.9	36.6	26.9	33.1	34.9	42.0
Age-Adjusted							49.8	50.3	48.8	46.3	53.3	44.7	55.9	44.3	53.3
HISPANIC															
Under 1	0	0	0	276,097	141,109	134,988	0.0 +	0.0 +	0.0 +	-	-	-	-	-	-
1 to 4	0	0	0	1,083,387	553,994	529,393	0.0 +	0.0 +	0.0 +	-	-	-	-	-	-
5 to 14	1	1	0	2,502,767	1,279,414	1,223,353	0.0 *	0.1 *	0.0 +	0.0	0.1	0.0	0.2	-	-
15 to 24	7	3	4	1,717,001	889,356	827,645	0.4 *	0.3 *	0.5 *	0.1	0.7	0.0	0.7	0.0	1.0
25 to 34	15	10	5	1,748,261	960,276	787,985	0.9 *	1.0 *	0.6 *	0.4	1.3	0.4	1.7	0.1	1.2
35 to 44	67	41	26	1,756,084	951,727	804,357	3.8	4.3	3.2	2.9	4.7	3.0	5.6	2.0	4.5
45 to 54	142	80	62	1,113,871	570,189	543,682	12.7	14.0	11.4	10.7	14.8	11.0	17.1	8.6	14.2
55 to 64	283	157	126	569,723	279,445	290,278	49.7	56.2	43.4	43.9	55.5	47.4	65.0	35.8	51.0
65 to 74	437	217	220	341,805	157,826	183,979	127.9	137.5	119.6	115.9	139.8	119.2	155.8	103.8	135.4
75 to 84	492	216	276	183,377	76,439	106,938	268.3	282.6	258.1	244.6	292.0	244.9	320.3	227.6	288.5
85 & Older	190	61	129	60,479	19,997	40,482	314.2	305.0	318.7	269.5	358.8	228.5	381.6	263.7	373.7
Total	1,634	786	848	11,352,852	5,879,772	5,473,080	14.4	13.4	15.5	13.7	15.1	12.4	14.3	14.5	16.5
Age-Adjusted							32.2	34.2	30.4	30.6	33.8	31.6	36.7	28.3	32.5
WHITE															
Under 1	0	0	0	181,084	92,644	88,440	0.0 +	0.0 +	0.0 +	-	-	-	-	-	-
1 to 4	0	0	0	744,975	381,187	363,788	0.0 +	0.0 +	0.0 +	-	-	-	-	-	-
5 to 14	2	2	0	2,160,047	1,110,628	1,049,419	0.1 *	0.2 *	0.0 +	0.0	0.2	0.0	0.4	-	-
15 to 24	8	7	1	2,143,809	1,114,299	1,029,510	0.4 *	0.6 *	0.1 *	0.1	0.6	0.2	1.1	0.0	0.3
25 to 34	28	18	10	2,108,116	1,080,957	1,027,159	1.3	1.7 *	1.0 *	0.8	1.8	0.9	2.4	0.4	1.6
35 to 44	84	57	27	2,905,078	1,472,864	1,432,214	2.9	3.9	1.9	2.3	3.5	2.9	4.9	1.2	2.6
45 to 54	240	128	112	2,747,073	1,375,716	1,371,357	8.7	9.3	8.2	7.6	9.8	7.7	10.9	6.7	9.7
55 to 64	425	252	173	1,933,163	951,823	981,340	22.0	26.5	17.6	19.9	24.1	23.2	29.7	15.0	20.3
65 to 74	776	419	357	1,315,414	621,331	694,083	59.0	67.4	51.4	54.8	63.1	61.0	73.9	46.1	56.8
75 to 84	1,348	670	678	975,146	397,948	577,198	138.2	168.4	117.5	130.9	145.6	155.6	181.1	108.6	126.3
85 & Older	782	302	480	359,945	111,634	248,311	217.3	270.5	193.3	202.0	232.5	240.0	301.0	176.0	210.6
Total	3,693	1,855	1,838	17,573,850	8,711,031	8,862,819	21.0	21.3	20.7	20.3	21.7	20.3	22.3	19.8	21.7
Age-Adjusted							17.3	20.7	14.8	16.7	17.8	19.8	21.7	14.1	15.4

Note: Rates are per 100,000 population. ICD-10 codes E10-E14.

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 percent.

+ 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; 2002 Population: Population Projections by Age, Race/Ethnicity and Sex, December 1998.
State of California, Department of Health Services, Death Records.

TABLE 2
DIABETES DEATHS
CALIFORNIA, 2000-2002
(By Place of Residence)

COUNTY	2000-2002 DEATHS (Average)	PERCENT	2001 POPULATION	CRUDE RATE	AGE-ADJUSTED RATE	95% CONFIDENCE LIMITS	
						LOWER	UPPER
CALIFORNIA	6,481.0	100.0	35,233,335	18.4	21.0	20.5	21.5
ALAMEDA	279.3	4.3	1,492,004	18.7	21.3	18.8	23.8
ALPINE	0.0	0.0	1,268	0.0 +	0.0 +	-	-
AMADOR	6.0	0.1	35,242	17.0 *	11.5 *	2.2	20.7
BUTTE	47.3	0.7	213,040	22.2	16.6	11.8	21.4
CALAVERAS	5.7	0.1	43,392	13.1 *	8.8 *	1.5	16.2
COLUSA	2.0	0.0 a	22,012	9.1 *	9.0 *	0.0	21.5
CONTRA COSTA	163.3	2.5	942,662	17.3	17.6	14.9	20.3
DEL NORTE	3.3	0.1	31,801	10.5 *	9.3 *	0.0	19.4
EL DORADO	23.3	0.4	168,912	13.8	13.6	8.1	19.2
FRESNO	182.3	2.8	825,365	22.1	26.8	22.9	30.7
GLENN	4.3	0.1	30,291	14.3 *	13.0 *	0.7	25.4
HUMBOLDT	37.7	0.6	129,211	29.2	29.1	19.8	38.4
IMPERIAL	32.0	0.5	161,177	19.9	25.4	16.6	34.3
INYO	3.0	0.0 a	18,510	16.2 *	10.6 *	0.0	22.8
KERN	150.0	2.3	694,749	21.6	25.9	21.7	30.0
KINGS	44.7	0.7	129,375	34.5	52.0	36.6	67.3
LAKE	17.3	0.3	62,080	27.9 *	17.9 *	9.2	26.5
LASSEN	4.3	0.1	36,759	11.8 *	13.4 *	0.8	26.0
LOS ANGELES	1,963.7	30.3	9,925,413	19.8	24.7	23.6	25.8
MADERA	34.3	0.5	131,052	26.2	28.0	18.6	37.4
MARIN	31.3	0.5	249,634	12.6	11.8	7.7	16.0
MARIPOSA	2.3	0.0 a	17,218	13.6 *	8.7 *	0.0	20.0
MENDOCINO	19.3	0.3	91,963	21.0	19.1	10.5	27.6
MERCED	56.0	0.9	219,936	25.5	33.6	24.8	42.4
MODOC	2.3	0.0 a	10,589	20.0 *	15.3 *	0.0	35.0
MONO	1.7	0.0 a	11,081	15.0 *	19.3 *	0.0	49.6
MONTEREY	70.0	1.1	409,511	17.1	21.4	16.4	26.4
NAPA	29.7	0.5	129,130	23.0	18.8	12.0	25.6
NEVADA	15.3	0.2	99,670	15.4 *	11.0 *	5.3	16.7
ORANGE	414.0	6.4	2,872,632	14.4	18.4	16.6	20.2
PLACER	39.3	0.6	252,688	15.6	16.0	11.0	21.0
PLUMAS	2.7	0.0 a	21,044	12.7 *	9.1 *	0.0	20.1
RIVERSIDE	280.3	4.3	1,626,134	17.2	17.3	15.3	19.3
SACRAMENTO	232.3	3.6	1,236,054	18.8	20.9	18.2	23.5
SAN BENITO	5.0	0.1	53,577	9.3 *	10.9 *	1.3	20.6
SAN BERNARDINO	379.0	5.8	1,771,707	21.4	29.7	26.7	32.7
SAN DIEGO	482.3	7.4	3,005,038	16.1	18.5	16.8	20.2
SAN FRANCISCO	131.0	2.0	794,342	16.5	13.6	11.3	15.9
SAN JOAQUIN	146.7	2.3	593,538	24.7	27.1	22.7	31.5
SAN LUIS OBISPO	44.0	0.7	262,123	16.8	14.6	10.2	18.9
SAN MATEO	100.0	1.5	759,313	13.2	12.8	10.3	15.3
SANTA BARBARA	71.3	1.1	417,331	17.1	17.5	13.4	21.5
SANTA CLARA	235.0	3.6	1,795,132	13.1	16.8	14.6	19.0
SANTA CRUZ	38.7	0.6	264,525	14.6	15.8	10.8	20.8
SHASTA	39.7	0.6	179,892	22.1	19.2	13.2	25.2
SIERRA	1.0	0.0 a	3,465	28.9 *	17.4 *	0.0	52.3
SISKIYOU	11.3	0.2	45,624	24.8 *	19.8 *	8.0	31.6
SOLANO	72.3	1.1	408,095	17.7	24.2	18.6	29.9
SONOMA	84.3	1.3	468,682	18.0	16.8	13.2	20.4
STANISLAUS	104.3	1.6	472,096	22.1	25.6	20.7	30.6
SUTTER	14.7	0.2	83,999	17.5 *	16.9 *	8.2	25.6
TEHAMA	16.7	0.3	57,642	28.9 *	21.6 *	11.1	32.1
TRINITY	3.3	0.1	13,605	24.5 *	19.2 *	0.0	40.5
TULARE	95.3	1.5	388,730	24.5	29.7	23.7	35.7
TUOLUMNE	8.7	0.1	57,497	15.1 *	11.5 *	3.8	19.3
VENTURA	150.3	2.3	763,586	19.7	23.5	19.7	27.2
YOLO	30.7	0.5	167,259	18.3	22.5	14.5	30.5
YUBA	14.7	0.2	64,938	22.6 *	27.3 *	13.3	41.3

Note: Rates are per 100,000 population. ICD-10 codes E10-E14.

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

- 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; 2001 Population: Population Projections by Age, Race/Ethnicity and Sex, December 1998.
State of California, Department of Health Services, Death Records.