



Center for Health Statistics



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

Highlights

- CLRD ranked fourth in the leading causes of death in California and the United States.
- About 99 percent of all CLRD deaths occurred among people aged 45 and older.
- The crude CLRD death rate for 2002 of 35.3 decreased from a rate of 37.1 in 2001.
- The age-adjusted CLRD death rate of 40.7 for 2002 was down 5.3 percent from the 2001 rate of 43.0.
- Yuba County had the highest reliable CLRD age-adjusted death rate and San Francisco County had the lowest rate.

Chronic Lower Respiratory Disease Deaths California, 2002

By Karen Flannigan

Introduction

Chronic lower respiratory disease (CLRD) continued to rank fourth in the leading causes of death in California and the United States (U.S.).^{1, 2} Prior to 1999, CLRD was known as chronic obstructive pulmonary disease (COPD). CLRD is a group of diseases that cause airflow blockage and breathing-related problems. It includes emphysema, chronic bronchitis, and asthma. In the United States, tobacco use is a key factor in the development and progression of CLRD, but in asthma, exposure to air pollutants in the home and workplace, genetic factors, and respiratory infections also play a role.³

The United States Public Health Service established a number of health objectives as part of the Healthy People 2010 (HP 2010) Initiative that relate to CLRD deaths. Several objectives were established to reduce deaths from COPD and asthma for specific age groups.⁴ This report does not address progress toward meeting those objectives.

Cause of death for data in this report were coded using the International Classification of Diseases, Tenth Revision (ICD-10). Beginning in 1999, ICD-10 added more detail to the disease classifications and modified chapters and codes. In addition, coding rules changed for underlying cause of death. The National Center for Health Statistics (NCHS) assigned a CLRD comparability ratio of 1.0478 to facilitate interpretation of mortality trends before and after ICD-10 implementation.⁵ Nearly all of the 5 percent increase under the comparability ratio consists of CLRD deaths previously coded as pneumonia in Ninth Revision (ICD-9). See the "Data Limitations and Qualifications" section at the end of this report for additional information on this subject.

¹ California Department of Health Services, Center for Health Statistics. Death Records, 2002.

² Kochanek KD, Smith BL. *Deaths: Preliminary Data for 2002*. National Vital Statistics Reports; Vol. 52, No. 13. Hyattsville, Maryland. National Center for Health Statistics. February 11, 2004.

³ Centers for Disease Control and Prevention. *Facts About Chronic Obstructive Pulmonary Disease (COPD)*. National Center for Environmental Health. URL: <http://www.cdc.gov/nceh/airpollution/copd/copdfaq.htm>. Accessed June 3, 2004.

⁴ U.S. Department of Health and Human Services. *Healthy People 2010*. 2nd Ed. 2 Vols. Washington, DC: U.S. Government Printing Office. November 2000.

⁵ Anderson RN, et al. Comparability of Cause of Death Between ICD-9 and ICD-10: Preliminary Estimates. National Vital Statistics Reports; Vol. 49 No. 2. Hyattsville, Maryland: National Center for Health Statistics. 2001.

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

This report presents data on CLRD deaths for 2002 with analysis of crude and age-adjusted death rates for California residents by sex, age, race/ethnicity, and county. The definition of CLRD used in this report is based on ICD-10 codes J40-J47 as currently presented in NCHS reports.²

CLRD Deaths

Table 1 (page 9) displays California's CLRD death data by race/ethnicity, age group, and sex for 2002. In 2002 the statewide CLRD death total for females continued to exceed male deaths by about 15 percent. Deaths due to CLRD increased with age as evidenced by the numbers indicated for both California and U.S. residents aged 45 and older who had the greatest numbers accounting for approximately 99 percent of all CLRD deaths.^{1, 2}

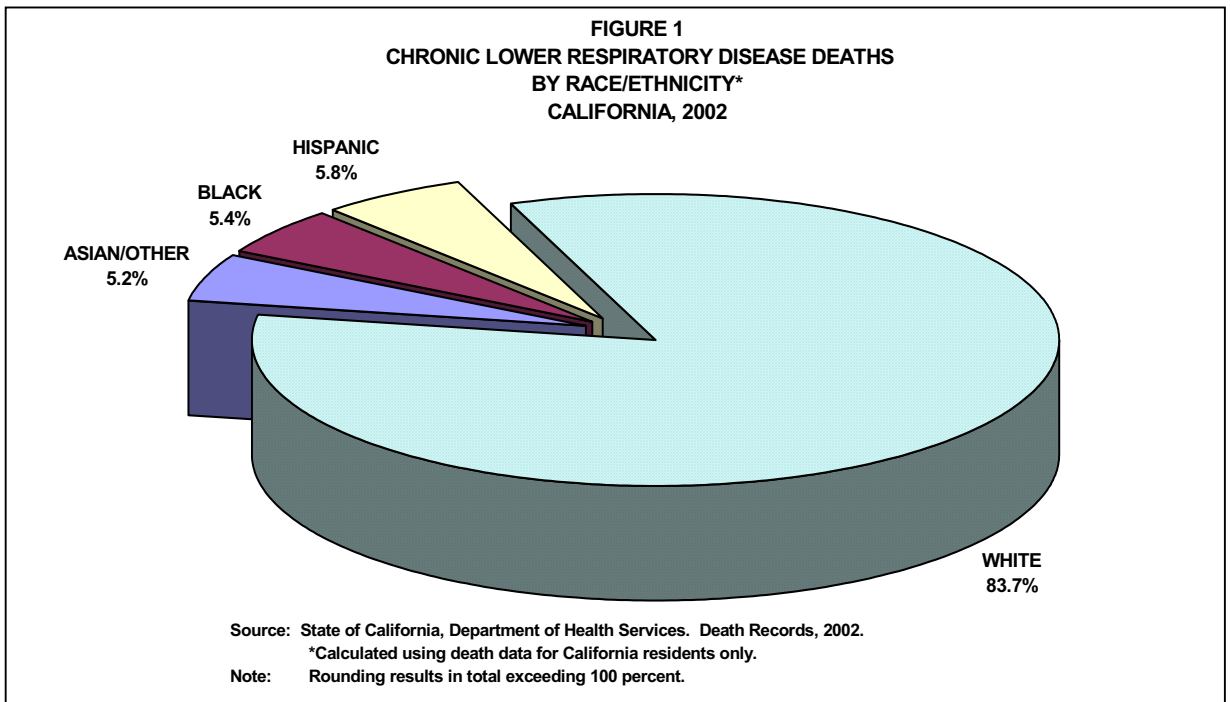


Figure 1 shows in 2002 Whites had the highest percentage of CLRD deaths with 83.7 percent, followed by Hispanics with 5.8 percent, Blacks with 5.4 percent, and Asian/Other with 5.2 percent.

A comparison of 2002 with 2001 CLRD deaths shows that deaths decreased 3.2 percent overall and also decreased for each race/ethnic group except for deaths among Blacks, which increased 4.1 percent. Although deaths among females continued to be greater than males, CLRD deaths declined overall for both genders. However, gender-specific changes varied within each of the race/ethnic groups as follows: male deaths exceeded females in the Hispanic, Black, and Asian/Other groups for both years; and White females exceeded their male counterparts in both years, which summarily accounted for the overall gender difference. Black female CLRD deaths increased 9.6 percent and Asian/Other male deaths increased slightly from 2001 to 2002, while their corresponding male and female numbers declined. The gender-specific numbers also declined for Whites and Hispanics of both sexes.

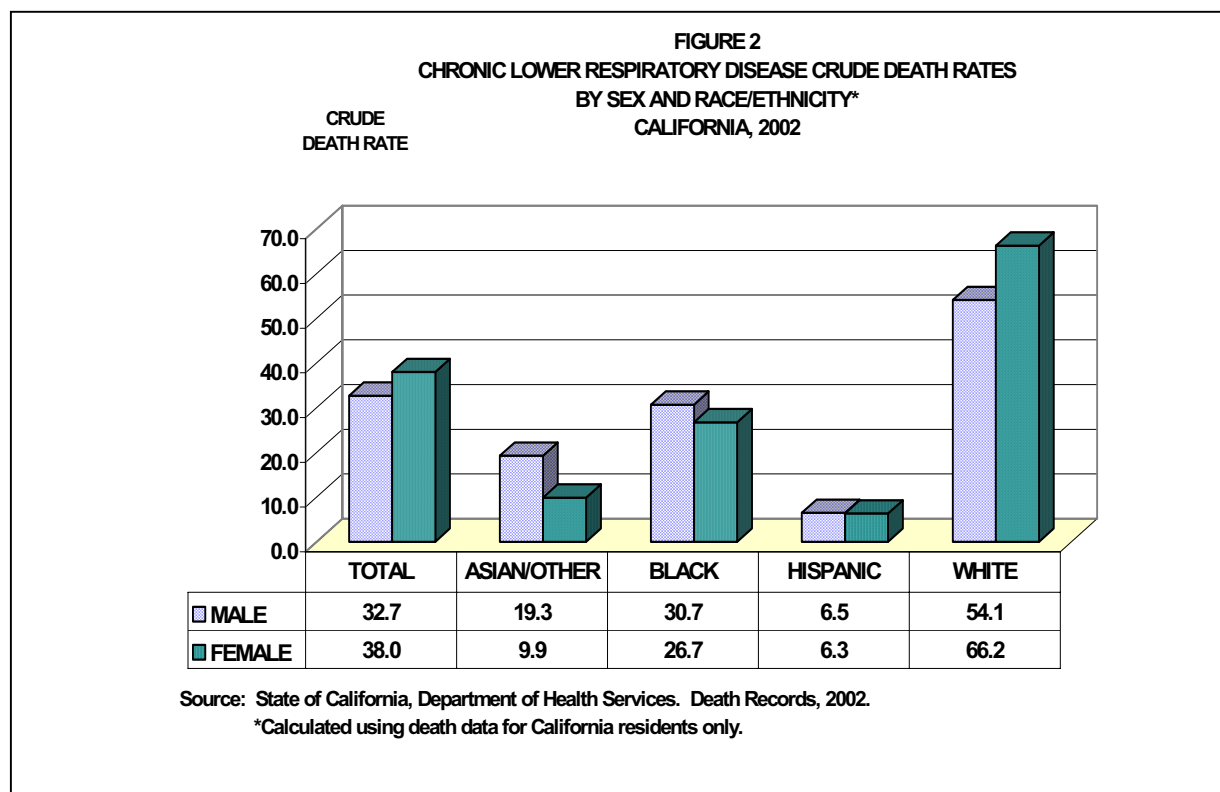
CLRD Crude Death Rates

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

California's CLRD crude death rate for 2002 was 35.3 (**Table 1**, page 9), a decrease of 4.9 percent from the crude rate of 37.1 in 2001, and a decrease of 8.8 percent from the 1999 baseline rate of 38.7 per 100,000 population.^{6, 7} Differences among the four race/ethnic groups were statistically significant in 2002. Whites had the highest crude death rate (60.2) followed by Blacks (28.7), Asian/Other (14.5), and Hispanics (6.4).

Figure 2 shows that the actual rate of dying from CLRD was significantly higher for females with a crude death rate of 38.0 than for males with a rate of 32.7 in 2002. Whites had the highest crude CLRD death rates and Hispanics had the lowest crude CLRD death rates of the four major race/ethnic groups in 2002. Differences between males and females within the major race/ethnic groups varied; White females and Asian/Other males had rates that were significantly higher than their gender counterparts, but differences between males and females within the Black and Hispanic race/ethnic groups were not significant.

Crude CLRD rates for total population and all race/ethnic groups declined in 2002 compared with 2001, except for the Black group, which increased 3.2 percent.⁶ The only significant difference for the race/ethnic groups between these two years was for the White group.



⁶Richards F. *Chronic Lower Respiratory Disease Deaths California, 2001*. Data Summary No. DS03-12000. Center for Health Statistics, California Department of Health Services. December 2003.

⁷Richards F. *Chronic Lower Respiratory Disease Deaths California, 1999-2000*. Data Summary No. DS03-01001. Center for Health Statistics, California Department of Health Services. January 2003.

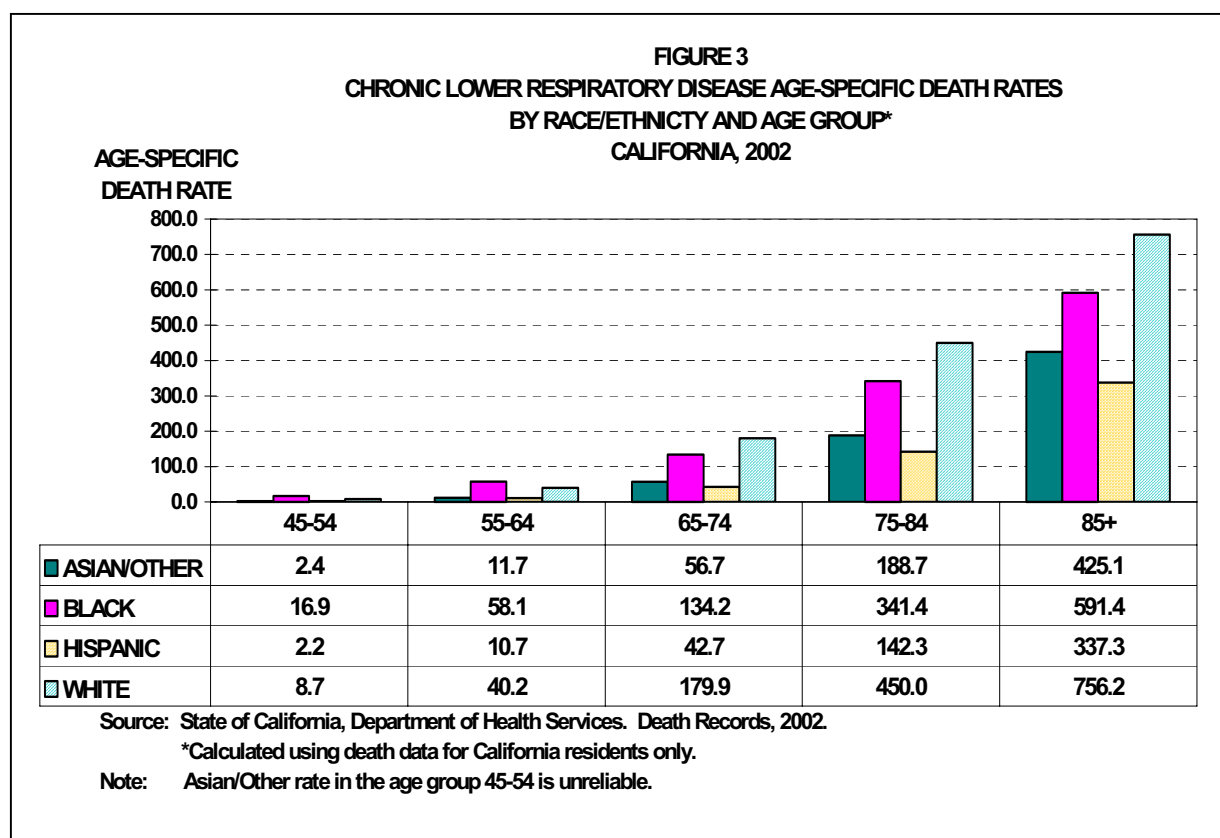
CLRD Age-Specific Death Rates

See Chronic Obstructive Pulmonary Disease Surveillance-United States 1971-2000, MMWR, Aug 2, 2002/ 5(SS06): 1-16, for national age-specific statistics at <http://www.cdc.gov/mmwr/>

Table 1 (page 9) displays age-specific CLRD death rates for all California residents by age group and for each of the four race/ethnic groups. Reliable age-specific CLRD death rates generally increased with age. In examining gender differences for reliable age-specific CLRD death rates, the male rate overall was consistently highest except for the 35 to 44 age group where the female rate was highest.

Figure 3 displays age-specific CLRD death rates by race/ethnicity for age groups 45 and older. Age-specific death rates for CLRD varied among race/ethnic groups. Whites had the highest death rates in the 65 and older age groups followed by Blacks in those age groups. Blacks had higher rates in the 45 to 64 age groups followed by Whites. Hispanics had the lowest age-specific CLRD death rates for all age groups followed by Asian/Other. These findings are also consistent with the rate patterns noted for 2000 and 2001.^{6, 7}

A review of the reliable age-specific death rate differences among males and females within the major race/ethnic groups indicates that male rates exceeded female rates in all instances except for Whites aged 55 to 74 where female rates were highest (**Table 1**, page 9). Statistically significant age-specific death rate differences were noted among the genders of Hispanics aged 55 to 64, Asian/Other aged 65 to 74, and for all males and females within each race/ethnic group aged 75 and older.



CLRD Age-Adjusted Death Rates

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

Table 1 (page 9) shows the age-adjusted CLRD death rate for California in 2002 was 40.7 per 100,000 population, a decrease of 5.3 percent from the 2001 rate of 43.0, and a decrease of 11.1 percent from the baseline rate of 45.8 in 1999.^{6,7} The national rate for 2002 was 43.7, remaining unchanged from 2001 to 2002.²

Differences in age-adjusted CLRD death rates among the four major race/ethnic groups were statistically significant. Whites had the highest rate (49.0) followed by Blacks (42.9), Asian/Other (20.4), and Hispanics (15.9).

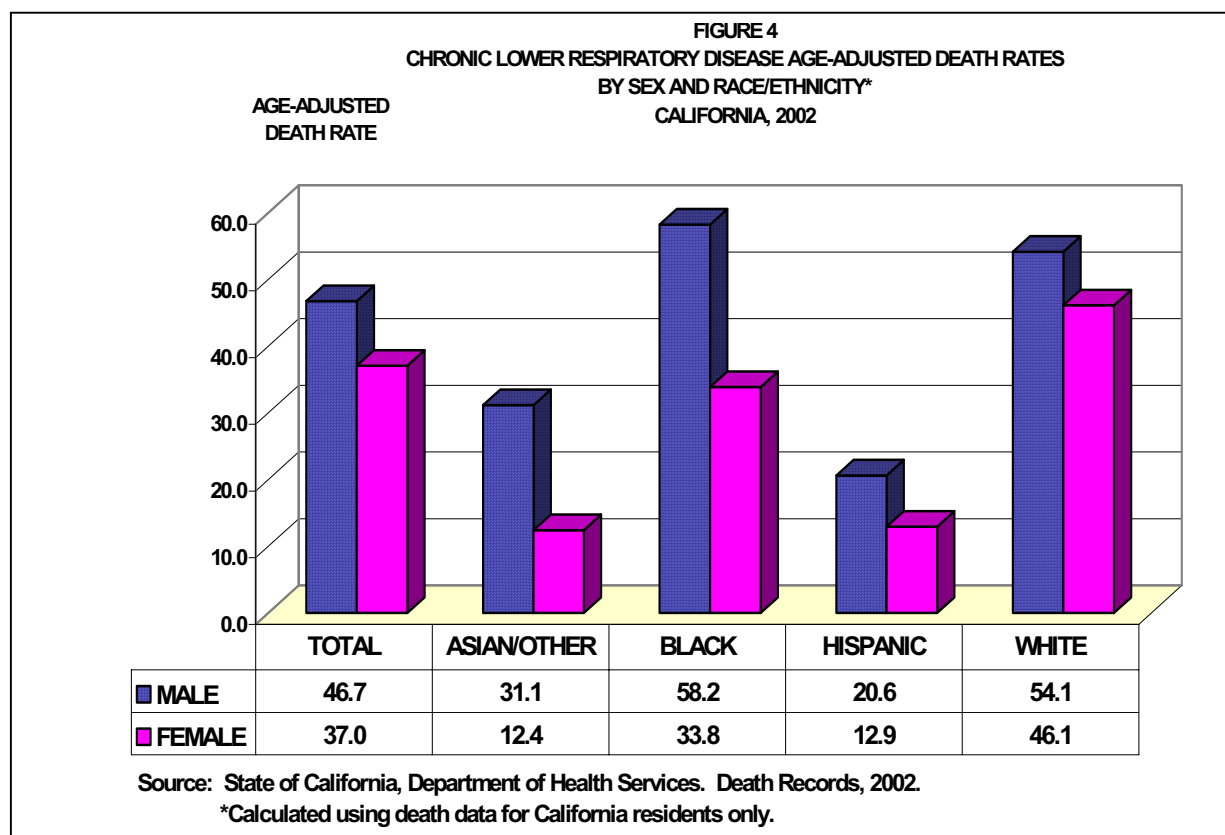


Figure 4 shows males had the higher age-adjusted rate at 46.7 in 2002, down 5.1 percent from 2001 and females had the lower rate of 37.0 in 2002, down 5.4 percent from 2001.⁶ The difference in the male and female rate was statistically significant. Males also had the higher rates among the four race/ethnic groups. Black males had the highest rate (58.2) followed by White males (54.1), Asian/Other males (31.1), and Hispanic males (20.6). Among females for 2002 age-adjusted rates were highest for White females (46.1) followed by Black females (33.8), Hispanic females (12.9), and Asian/Other females (12.4). The largest difference between males and females within the four race/ethnic groups was among Blacks and the smallest difference was among Hispanics. Comparisons of males and females between race/ethnic groups indicate that all rate differences were statistically significant except in comparisons of Black and White males and Asian/Other and Hispanic females.

For more data, see DHS Center for Health Statistics, Home Page at

www.dhs.ca.gov/org/hisp/chs/default.htm

A comparison of the 2001 and 2002 CLRD age-adjusted death rates for the race/ethnic groups reveals that the Black rate increased 3.4 percent with the largest increase being attributed to Black females (up 7.6 percent), while the other three race/ethnic group rates decreased.⁶ A substantial decrease of 9.7 percent occurred between the two years in the Hispanic rate with Hispanic females decreasing the most (down 12.2 percent).

CLRD Death Data for California Counties

Table 2 (page 10) displays the 2000-2002 average numbers of deaths, crude death rates, and age-adjusted death rates for California and its 58 counties.

The highest average number of CLRD deaths occurred in Los Angeles County (2,854.0) followed by San Diego County (1,094.0) and Orange County (912.0).

The highest and lowest reliable average crude CLRD death rates were in Lake County (94.0 per 100,000 population) and Santa Clara County (23.6) respectively.

Of the counties with reliable average age-adjusted CLRD death rates, Yuba County had the highest rate (82.3 per 100,000 population) while San Francisco County had the lowest rate (29.7). California's average age-adjusted rate for CLRD was 42.2 per 100,000 population.

CLRD Death Data for City Health Jurisdictions

Table 3 shows the 2000-2002 average number of CLRD deaths and the crude death rates for California's three city health jurisdictions.

Long Beach had the highest average number of deaths (220.7), followed by Pasadena (49.7.), and Berkeley (22.0). The CLRD crude death rates were 47.3 per 100,000 population for Long Beach, 36.7 for Pasadena, and 21.2 for Berkeley.

CITY HEALTH JURISDICTION	NUMBER OF DEATHS (Average)	2001 POPULATION	CRUDE DEATH RATE
BERKELEY	22.0	103,600	21.2
LONG BEACH	220.7	466,500	47.3
PASADENA	49.7	135,300	36.7

Notes: ICD-10 codes J40-J47; rates are per 100,000 population.
*Calculated using death data for California residents only.

Sources: State of California, Department of Finance. E-4 Population Estimates for Cities, Counties and the State, 2001-2003, with 2000 DRU Benchmark.
State of California, Department of Health Services. Death Records.

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

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 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 2000 population standard is used as the basis for age-adjustments in this report.

Data Limitations and Qualifications

The CLRD death data presented in this report are based on vital statistics records with ICD-10 codes J40-J47 as defined by the NCHS.² Place of residence means that the data include only those deaths occurring among residents of California and its counties, regardless of the person's 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 considered unstable and are indicated with an asterisk (*).

Beginning in 1999, cause of death is reported using ICD-10.⁸ Depending on the specific cause of death, the number of deaths and death rates are not comparable between ICD-9 and ICD-10. Therefore, our analyses do not combine both ICD-9 and ICD-10 data. The cause of death most affected by one of the rule changes that occurred with ICD-10 implementation was pneumonia, which is often the consequence of another condition or injury. In ICD-10, the applicability of the rule to pneumonia is broader than in the ICD-9, so pneumonia is considered a consequence of a much wider range of conditions. As a result, pneumonia is much less likely to be selected as the underlying cause of death under ICD-10 than under ICD-9. It follows that diagnoses like emphysema, chronic bronchitis, and other types of COPD when listed with pneumonia, will be more likely selected, thus increasing the number of deaths classified as CLRD.⁵

⁸World Health Organization. International Statistical Classification of Diseases and Related Health Problems. Tenth Revision. Geneva: World Health Organization. 1992.

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 California 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 underestimates of Hispanics and Asian/Other death rates.⁹

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 with 2000 data forward are therefore not strictly compatible with prior years and trends should be viewed with caution.

The standard population used for calculating age-adjustments was changed with 1999 data from the 1940 population standard to the 2000 population standard in accordance with statistical policy implemented by the NCHS. The population standard affects measurement of mortality trends and group comparisons. Of particular note are the effects on race comparison of mortality.¹⁰ 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 city crude rates in **Table 3** (page 6) differ from the population data used to calculate the county crude rates in **Table 2** (page 10). Consequently, caution should be exercised when comparing the crude rates among the 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.¹¹ Detailed information on data quality and limitations is presented in the appendix of the annual report, “Vital Statistics of California.”¹² Formulas used to calculate death rates are included in the technical notes of the “County Health Status Profiles” report.¹³

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⁹Rosenberg 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. 99-1328. September 1999.

¹⁰Anderson 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. October 7, 1998.

¹¹Klein 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.

¹²Ficenec S, Bindra K. Vital Statistics of California, 2001. Center for Health Statistics, California Department of Health Services. June 2004.

¹³Shippen S, Wilson C. County Health Status Profiles 2004. Center for Health Statistics, California Department of Health Services. April 2004.

TABLE 1
CHRONIC LOWER RESPIRATORY DISEASE DEATHS BY AGE, SEX, AND RACE/ETHNICITY
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	8	4	4	565,286	289,063	276,223	1.4 *	1.4 *	1.4 *	0.4	2.4	0.0	2.7	0.0	2.9	
1 - 4	6	4	2	2,259,315	1,155,699	1,103,616	0.3 *	0.3 *	0.2 *	0.1	0.5	0.0	0.7	0.0	0.4	
5 - 14	12	4	8	5,779,949	2,962,038	2,817,911	0.2 *	0.1 *	0.3 *	0.1	0.3	0.0	0.3	0.1	0.5	
15 - 24	19	14	5	4,878,693	2,531,467	2,347,226	0.4	0.6 *	0.2 *	0.2	0.6	0.3	0.8	0.0	0.4	
25 - 34	34	22	12	4,876,792	2,566,475	2,310,317	0.7	0.9	0.5 *	0.5	0.9	0.5	1.2	0.2	0.8	
35 - 44	107	52	55	5,762,850	2,962,675	2,800,175	1.9	1.8	2.0	1.5	2.2	1.3	2.2	1.4	2.5	
45 - 54	332	170	162	4,794,731	2,387,728	2,407,003	6.9	7.1	6.7	6.2	7.7	6.0	8.2	5.7	7.8	
55 - 64	985	499	486	3,041,927	1,484,478	1,557,449	32.4	33.6	31.2	30.4	34.4	30.7	36.6	28.4	34.0	
65 - 74	2,790	1,347	1,443	1,998,910	931,513	1,067,397	139.6	144.6	135.2	134.4	144.8	136.9	152.3	128.2	142.2	
75 - 84	5,125	2,476	2,649	1,360,295	557,358	802,937	376.8	444.2	329.9	366.4	387.1	426.7	461.7	317.4	342.5	
85 & OLDER	3,225	1,287	1,938	483,490	155,701	327,789	667.0	826.6	591.2	644.0	690.0	781.4	871.7	564.9	617.6	
UNKNOWN	0	0	0													
TOTAL	12,643	5,879	6,764	35,802,238	17,984,195	17,818,043	35.3	32.7	38.0	34.7	35.9	31.9	33.5	37.1	38.9	
AGE-ADJUSTED							40.7	46.7	37.0	40.0	41.4	45.5	47.9	36.1	37.9	
ASIAN/OTHER																
UNDER 1	0	0	0	71,070	36,363	34,707	0.0 +	0.0 +	0.0 +	-	-	-	-	-	-	
1 - 4	1	1	0	282,531	144,555	137,976	0.4 *	0.7 *	0.0 +	0.0	1.0	0.0	2.0	-	-	
5 - 14	1	1	0	704,536	362,486	342,050	0.1 *	0.3 *	0.0 +	0.0	0.4	0.0	0.8	-	-	
15 - 24	2	1	1	647,043	331,690	315,353	0.3 *	0.3 *	0.3 *	0.0	0.7	0.0	0.9	0.0	0.9	
25 - 34	2	1	1	679,965	344,174	335,791	0.3 *	0.3 *	0.3 *	0.0	0.7	0.0	0.9	0.0	0.9	
35 - 44	6	3	3	719,105	350,905	368,200	0.8 *	0.9 *	0.8 *	0.2	1.5	0.0	1.8	0.0	1.7	
45 - 54	15	4	11	620,977	294,261	326,716	2.4 *	1.4 *	3.4 *	1.2	3.6	0.0	2.7	1.4	5.4	
55 - 64	42	30	12	360,153	170,641	189,512	11.7	17.6	6.3 *	8.1	15.2	11.3	23.9	2.7	9.9	
65 - 74	132	89	43	232,917	104,165	128,752	56.7	85.4	33.4	47.0	66.3	67.7	103.2	23.4	43.4	
75 - 84	263	185	78	139,375	58,899	80,476	188.7	314.1	96.9	165.9	211.5	268.8	359.4	75.4	118.4	
85 & OLDER	189	112	77	44,465	18,527	25,938	425.1	604.5	296.9	364.5	485.7	492.6	716.5	230.6	363.2	
UNKNOWN	0	0	0													
TOTAL	653	427	226	4,502,137	2,216,666	2,285,471	14.5	19.3	9.9	13.4	15.6	17.4	21.1	8.6	11.2	
AGE-ADJUSTED							20.4	31.1	12.4	18.8	22.0	28.1	34.1	10.8	14.0	
BLACK																
UNDER 1	3	2	1	37,035	18,947	18,088	8.1 *	10.6 *	5.5 *	0.0	17.3	0.0	25.2	0.0	16.4	
1 - 4	2	2	0	148,422	75,963	72,459	1.3 *	2.6 *	0.0 +	0.0	3.2	0.0	6.3	-	-	
5 - 14	9	3	6	412,599	209,510	203,089	2.2 *	1.4 *	3.0 *	0.8	3.6	0.0	3.1	0.6	5.3	
15 - 24	2	2	0	370,840	196,122	174,718	0.5 *	1.0 *	0.0 +	0.0	1.3	0.0	2.4	-	-	
25 - 34	11	7	4	340,450	181,068	159,382	3.2 *	3.9 *	2.5 *	1.3	5.1	1.0	6.7	0.1	5.0	
35 - 44	28	12	16	382,583	187,179	195,404	7.3	6.4 *	8.2 *	4.6	10.0	2.8	10.0	4.2	12.2	
45 - 54	53	29	24	312,810	147,562	165,248	16.9	19.7	14.5	12.4	21.5	12.5	26.8	8.7	20.3	
55 - 64	104	55	49	178,888	82,569	96,319	58.1	66.6	50.9	47.0	69.3	49.0	84.2	36.6	65.1	
65 - 74	146	72	74	108,774	48,191	60,583	134.2	149.4	122.1	112.5	156.0	114.9	183.9	94.3	150.0	
75 - 84	213	127	86	62,397	24,072	38,325	341.4	527.6	224.4	295.5	387.2	435.8	619.3	177.0	271.8	
85 & OLDER	110	50	60	18,601	5,543	13,058	591.4	902.0	459.5	480.9	701.9	652.0	1,152.1	343.2	575.8	
UNKNOWN	0	0	0													
TOTAL	681	361	320	2,373,399	1,176,726	1,196,673	28.7	30.7	26.7	26.5	30.8	27.5	33.8	23.8	29.7	
AGE-ADJUSTED							42.9	58.2	33.8	39.6	46.2	51.8	64.6	30.1	37.6	
HISPANIC																
UNDER 1	3	1	2	276,097	141,109	134,988	1.1 *	0.7 *	1.5 *	0.0	2.3	0.0	2.1	0.0	3.5	
1 - 4	1	0	1	1,083,387	553,994	529,393	0.1 *	0.0 +	0.2 *	0.0	0.3	-	-	0.0	0.6	
5 - 14	1	0	1	2,502,767	1,279,414	1,223,353	0.0 *	0.0 +	0.1 *	0.0	0.1	-	-	0.0	0.2	
15 - 24	8	7	1	1,717,001	889,356	827,645	0.5 *	0.8 *	0.1 *	0.1	0.8	0.2	1.4	0.0	0.4	
25 - 34	7	5	2	1,748,261	960,276	787,985	0.4 *	0.5 *	0.3 *	0.1	0.7	0.1	1.0	0.0	0.6	
35 - 44	12	5	7	1,756,084	951,727	804,357	0.7 *	0.5 *	0.9 *	0.3	1.1	0.1	1.0	0.2	1.5	
45 - 54	25	11	14	1,113,871	570,189	543,682	2.2	1.9 *	2.6 *	1.4	3.1	0.8	3.1	1.2	3.9	
55 - 64	61	41	20	569,723	279,445	290,278	10.7	14.7	6.9	8.0	13.4	10.2	19.2	3.9	9.9	
65 - 74	146	77	69	341,805	157,826	183,979	42.7	48.8	37.5	35.8	49.6	37.9	59.7	28.7	46.4	
75 - 84	261	142	119	183,377	76,439	106,938	142.3	185.8	111.3	125.1	159.6	155.2	216.3	91.3	131.3	
85 & OLDER	204	93	111	60,479	19,997	40,482	337.3	465.1	274.2	291.0	383.6	370.5	559.6	223.2	325.2	
UNKNOWN	0	0	0													
TOTAL	729	382	347	11,352,852	5,879,772	5,473,080	6.4	6.5	6.3	6.0	6.9	5.8	7.1	5.7	7.0	
AGE-ADJUSTED							15.9	20.6	12.9	14.7	17.1	18.4	22.8	11.5	14.3	
WHITE																
UNDER 1	2	1	1	181,084	92,644	88,440	1.1 *	1.1 *	1.1 *	0.0	2.6	0.0	3.2	0.0	3.3	
1 - 4	2	1	1	744,975	381,187	363,788	0.3 *	0.3 *	0.3 *	0.0	0.6	0.0	0.8	0.0	0.8	
5 - 14	1	0	1	2,160,047	1,110,628	1,049,419	0.0 *	0.0 +	0.1 *	0.0	0.1	-	-	0.0	0.3	
15 - 24	7	4	3	2,143,809	1,114,299	1,029,510	0.3 *	0.4 *	0.3 *	0.1	0.6	0.0	0.7	0.0	0.6	
25 - 34	14	9	5	2,108,116	1,080,957	1,027,159	0.7 *	0.8 *	0.5 *	0.3	1.0	0.3	1.4	0.1	0.9	
35 - 44	61	32	29	2,905,078	1,472,864	1,432,214	2.1	2.2	2.0	1.6	2.6	1.4	2.9	1.3	2.8	
45 - 54	239	126	113	2,747,073	1,375,716	1,371,357	8.7	9.2	8.2	7.6	9.8	7.6	10.8	6.7	9.8	
55 - 64	778	373	405	1,933,163	951,823	981,340	40.2	39.2	41.3	37.4	43.1	35.2	43.2	37.3	45.3	
65 - 74	2,366	1,109	1,257	1,315,414	621,331	694,083	179.9	178.5	181.1	172.6	187.1	168.0	189.0	171.1	191.1	
75 - 84	4,388	2,022	2,366	975,146	397,948	577,198	450.0	508.1	409.9	436.7	463.3	486.0	530.3	393.4	426.4	
85 & OLDER	2,722	1,032	1,690	359,945	111,634	248,311	756.2	924.4	680.6	727.8	784.6	868.0	980.9	648.1	713.0	
UNKNOWN	0	0	0													
TOTAL	10,580	4,709	5,871	17,573,850	8,711,031	8,862,819	60.2	54.1	66.2	59.1	61.4	52.5	55.6	64.5	67.9	
AGE-ADJUSTED							49.0	54.1	46.1	48.0	49.9	52.6	55.7	44.9	47.3	

Note: ICD-10 codes J40-J47; rates are per 100,000 population. White, Black, and Asian/Other exclude Hispanic ethnicity. The race/ethnic groups on this table were tabulated based on the first race on those certificates where more than one race was listed.
Year 2000 U.S. standard population is used for age-adjusted rates.

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

Sources: State of California, Department of Finance. 2002 Population Projections with Age, Sex and Race/Ethnic Detail. December 1998.
State of California, Department of Health Services. Death Records.

TABLE 2
CHRONIC LOWER RESPIRATORY DISEASE DEATHS
CALIFORNIA COUNTIES, 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	12,817.7	100.0	35,233,335	36.4	42.2	41.5	42.9
ALAMEDA	427.3	3.3	1,492,004	28.6	33.5	30.3	36.7
ALPINE	0.3	a	1,268	26.3 *	27.5 *	0.0	120.9
AMADOR	20.0	0.2	35,242	56.8	34.8	19.5	50.1
BUTTE	141.7	1.1	213,040	66.5	47.7	39.7	55.7
CALAVERAS	23.7	0.2	43,392	54.5	37.4	22.2	52.5
COLUSA	9.0	0.1	22,012	40.9 *	40.1 *	13.8	66.5
CONTRA COSTA	372.0	2.9	942,662	39.5	41.1	36.9	45.3
DEL NORTE	17.7	0.1	31,801	55.6 *	49.7 *	26.4	73.0
EL DORADO	74.0	0.6	168,912	43.8	43.7	33.7	53.7
FRESNO	300.3	2.3	825,365	36.4	44.3	39.3	49.4
GLENN	15.3	0.1	30,291	50.6 *	48.7 *	24.2	73.3
HUMBOLDT	89.7	0.7	129,211	69.4	69.1	54.8	83.4
IMPERIAL	39.7	0.3	161,177	24.6	31.6	21.8	41.4
INYO	15.0	0.1	18,510	81.0 *	52.7 *	25.5	79.9
KERN	320.3	2.5	694,749	46.1	55.5	49.5	61.6
KINGS	44.0	0.3	129,375	34.0	52.1	36.6	67.5
LAKE	58.3	0.5	62,080	94.0	57.4	42.3	72.5
LASSEN	11.0	0.1	36,759	29.9 *	33.5 *	13.7	53.2
LOS ANGELES	2,854.0	22.3	9,925,413	28.8	36.9	35.6	38.3
MADERA	47.0	0.4	131,052	35.9	38.0	27.1	48.8
MARIN	93.7	0.7	249,634	37.5	35.3	28.1	42.4
MARIPOSA	10.3	0.1	17,218	60.0 *	38.2 *	14.8	61.6
MENDOCINO	57.0	0.4	91,963	62.0	55.8	41.3	70.3
MERCED	88.7	0.7	219,936	40.3	54.0	42.8	65.3
MODOC	8.0	0.1	10,589	75.6 *	52.4 *	15.8	89.0
MONO	2.7	a	11,081	24.1 *	28.3 *	0.0	63.2
MONTEREY	133.7	1.0	409,511	32.6	41.5	34.4	48.5
NAPA	75.7	0.6	129,130	58.6	45.4	35.1	55.7
NEVADA	62.3	0.5	99,670	62.5	41.5	31.1	51.8
ORANGE	912.0	7.1	2,872,632	31.7	43.0	40.2	45.8
PLACER	126.3	1.0	252,688	50.0	51.7	42.7	60.8
PLUMAS	17.0	0.1	21,044	80.8 *	52.1 *	27.2	77.1
RIVERSIDE	895.7	7.0	1,626,134	55.1	53.4	49.9	56.9
SACRAMENTO	556.7	4.3	1,236,054	45.0	51.1	46.8	55.3
SAN BENITO	14.0	0.1	53,577	26.1 *	31.8 *	15.1	48.4
SAN BERNARDINO	773.3	6.0	1,771,707	43.6	63.5	59.0	68.0
SAN DIEGO	1,094.0	8.5	3,005,038	36.4	41.6	39.1	44.0
SAN FRANCISCO	290.0	2.3	794,342	36.5	29.7	26.2	33.1
SAN JOAQUIN	281.0	2.2	593,538	47.3	51.6	45.6	57.7
SAN LUIS OBISPO	126.3	1.0	262,123	48.2	40.1	33.0	47.1
SAN MATEO	249.3	1.9	759,313	32.8	32.5	28.4	36.5
SANTA BARBARA	149.0	1.2	417,331	35.7	35.8	30.0	41.6
SANTA CLARA	424.0	3.3	1,795,132	23.6	32.1	29.0	35.2
SANTA CRUZ	100.3	0.8	264,525	37.9	40.9	32.9	49.0
SHASTA	135.0	1.1	179,892	75.0	64.2	53.4	75.0
SIERRA	0.7	a	3,465	19.2 *	13.3 *	0.0	45.5
SISKIYOU	31.0	0.2	45,624	67.9	50.9	32.8	68.9
SOLANO	135.7	1.1	408,095	33.2	46.7	38.8	54.6
SONOMA	217.0	1.7	468,682	46.3	42.8	37.1	48.6
STANISLAUS	198.0	1.5	472,096	41.9	49.1	42.3	56.0
SUTTER	47.3	0.4	83,999	56.3	54.0	38.6	69.4
TEHAMA	48.0	0.4	57,642	83.3	61.8	44.2	79.5
TRINITY	11.0	0.1	13,605	80.9 *	59.2 *	24.0	94.3
TULARE	153.7	1.2	388,730	39.5	47.9	40.3	55.5
TUOLUMNE	33.0	0.3	57,497	57.4	40.5	26.5	54.4
VENTURA	265.3	2.1	763,586	34.7	42.5	37.4	47.7
YOLO	76.7	0.6	167,259	45.8	56.3	43.7	69.0
YUBA	44.0	0.3	64,938	67.8	82.3	58.0	106.7

Notes: ICD-10 codes J40-J47; rates are per 100,000 population.

Year 2000 U.S. standard population is used for age-adjusted rates.

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

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

Sources: State of California, Department of Finance. 2001 Population Projections with Age, Sex and Race/Ethnic Detail. December 1998.
State of California, Department of Health Services. Death Records.