



February
2008

DATA
SUMMARY
No.
DS08-02000
This data
summary is
one of a series
in leading
cause of death
reports.

Highlights

- **CLRD ranked fourth among the leading causes of death in both California and the U.S. in 2005.**
- **California's 2005 CLRD age-adjusted death rate of 40.2 was lower than the U.S. rate of 43.2.**
- **California's CLRD age-adjusted death rate significantly decreased by 8.8 percent from 2001 to 2005.**
- **Yuba County (84.1) had the highest reliable CLRD age-adjusted death rate and Marin County had the lowest (26.5).**

Chronic Lower Respiratory Disease Deaths California, 2005

By Sally Jew-Lochman

Introduction

Chronic lower respiratory disease (CLRD) deaths ranked fourth among the leading causes of death in both California and the United States (U.S.) in 2005.^{1,2} 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 smoking is a major risk factor in the development and progression of emphysema and chronic bronchitis.³ Approximately 80 to 90 percent of these cases are attributed to smoking.⁴ The remaining 20 percent of the cases are attributed to environmental exposure, respiratory infections, and genetic factors. In contrast, asthma has a stronger genetic basis with about 30 to 50 percent of cases attributed to inherited predisposition.⁵

The U.S. Public Health Service established a number of health objectives as part of the Healthy People 2010 (HP 2010) initiative related to respiratory diseases such as chronic obstructive pulmonary disease (COPD) and asthma.⁶ COPD includes chronic bronchitis and emphysema and is often addressed separately from asthma because its etiology and treatment differs.⁷ Several objectives were established to reduce death from COPD and asthma for specific age groups. This report does not address progress toward meeting the HP 2010 objectives because of the difference in the definitions of COPD and CLRD.

¹ State of California, Department of Public Health. Death Records, 2005.

² National Center for Health Statistics. Deaths: Preliminary Data for 2005. URL: <http://www.cdc.gov/nchs/products/pubs/pubd/hestats/prelimdeaths05/prelimdeaths05.htm> Accessed September 12, 2007.

³ Centers for Disease Control and Prevention. Facts about Chronic Obstructive Pulmonary Disease. URL: <http://www.cdc.gov/nceh/airpollution/copd> Accessed September 5, 2007.

⁴ American Lung Association. *Lung Disease Data*: 2006. URL: <http://www.lungusa.org/> Accessed October 19, 2007.

⁵ University of Southampton Asthma Genetics Group. URL: http://www.som.soton.ac.uk/research/geneticsdiv/asthma_genetics/asthma_genetics.htm Accessed October 19, 2007.

⁶ U.S. Department of Health and Human Services. *Healthy People 2010 Objectives* (Second Edition, in Two Volumes). Washington, D.C. January 2001.

⁷ Mannino, DM, et al. Chronic Obstructive Pulmonary Disease Surveillance, United States, 1971-2000 *MMWR* 2002;51 (SS06): 1-16. August 2, 2002.

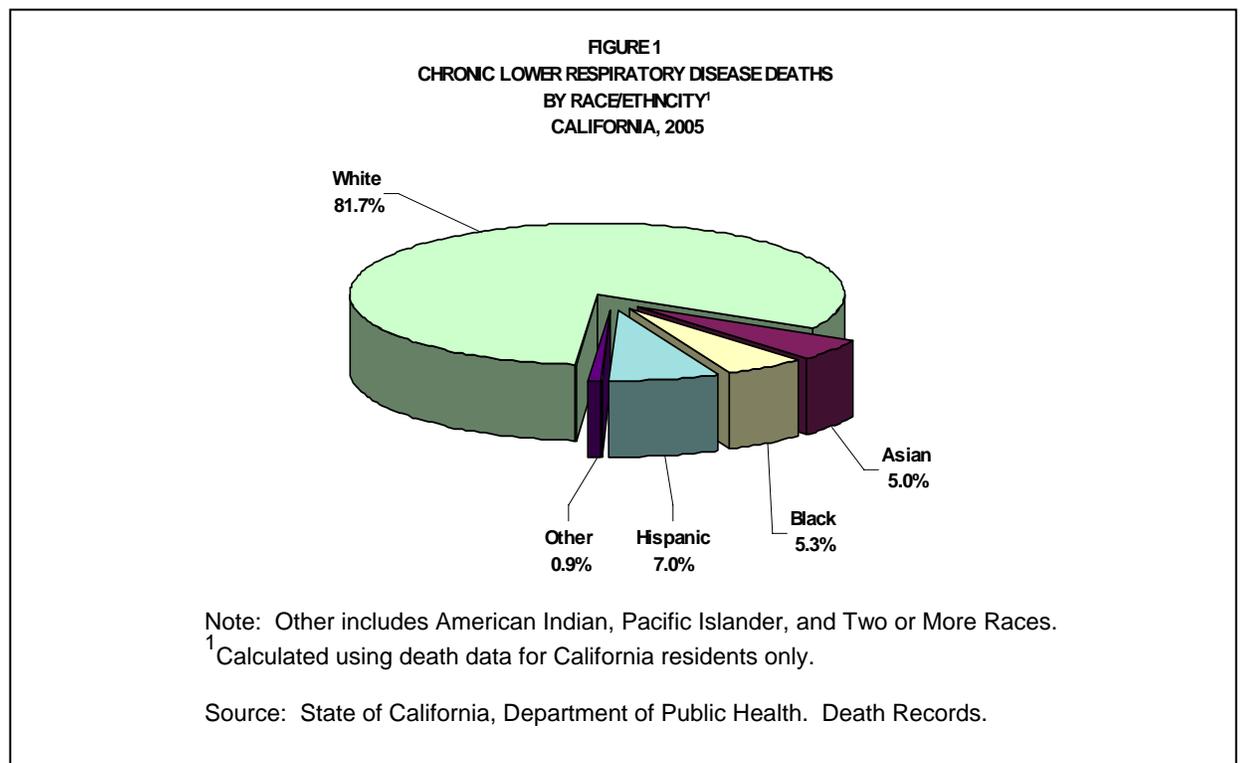
A brief overview of [data limitations and qualifications](#) is provided at the end of this report.

This report presents data on California resident deaths due to CLRD for 2005. The analyses include presentations of crude and age-specific rates and comparisons of age-adjusted death rates by sex, age, race/ethnicity, and county. Crude rates reflect mortality risk of a current or real population, age-specific rates are the most useful method for comparing risk among age groups, and age-adjusted rates allow comparison among groups and over time while controlling for differences in the age structures of comparison groups. The data were extracted from vital statistics records with deaths attributed to these diseases as defined by the International Classification of Diseases, Tenth Revision (ICD-10) codes J40 to J47 in accordance with the National Center for Health Statistics (NCHS).⁸

CLRD Deaths

Table 1 (pages 11 to 12) shows the number of CLRD deaths for 2005 among California residents by race/ethnicity, age, and sex. A total of 13,167 CLRD deaths were recorded in 2005 consisting of 7,042 females (53.5 percent) and 6,125 males (46.5 percent). Californians aged 65 and older accounted for 87.2 percent of all 2005 CLRD deaths, with the largest proportion of deaths occurring in the 75 to 84 age group (39.0 percent).

Figure 1 shows that Whites had the highest percentage of deaths with 81.7 percent followed by Hispanics with 7.0 percent, Blacks with 5.3 percent, Asians with 5.0 percent and Other with 0.9 percent. Other includes American Indians (0.4 percent), Pacific Islanders (0.2 percent), and Two or More Races (0.4 percent). The percentages making up the Other category do not add to the total due to rounding.



⁸Centers for Disease Control and Prevention. Instructions for Classifying the Underlying Cause of Death, 2008. NCHS Instruction Manual, Part 2a. National Center for Health Statistics. Hyattsville, Maryland. January 2008.

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

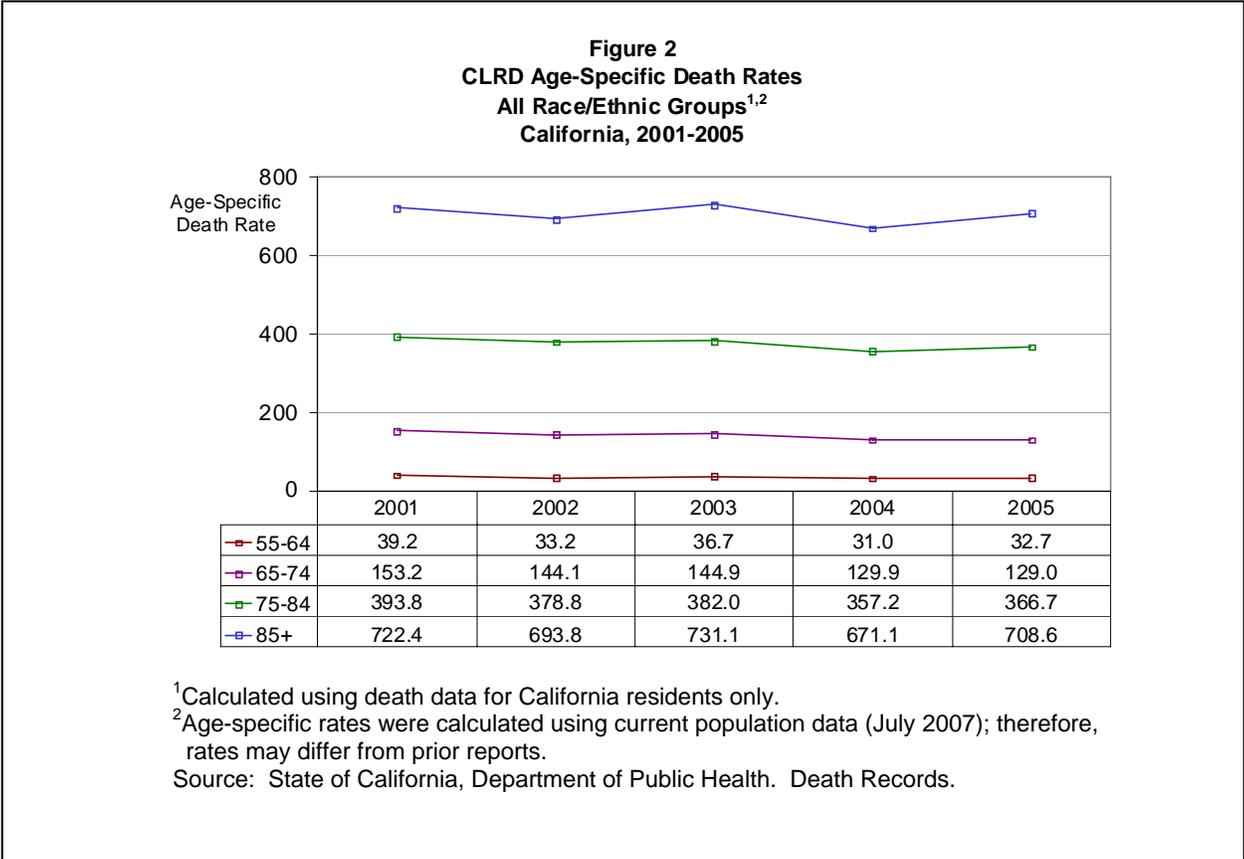
CLRD Crude Death Rates

California’s 2005 CLRD crude death rate was 35.6 deaths per 100,000 population (**Table 1**, pages 11 to 12) compared with the U.S. rate of 44.2.² Whites had the highest death rate (65.6) in California followed by Blacks (31.2), American Indians (21.9), Pacific Islanders (17.0), Asians (15.6), Hispanics (7.2), and Two or More Races (6.2).

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 sex or race/ethnic groups, geographic areas, or multiple reporting periods.

CLRD Age-Specific Death Rates

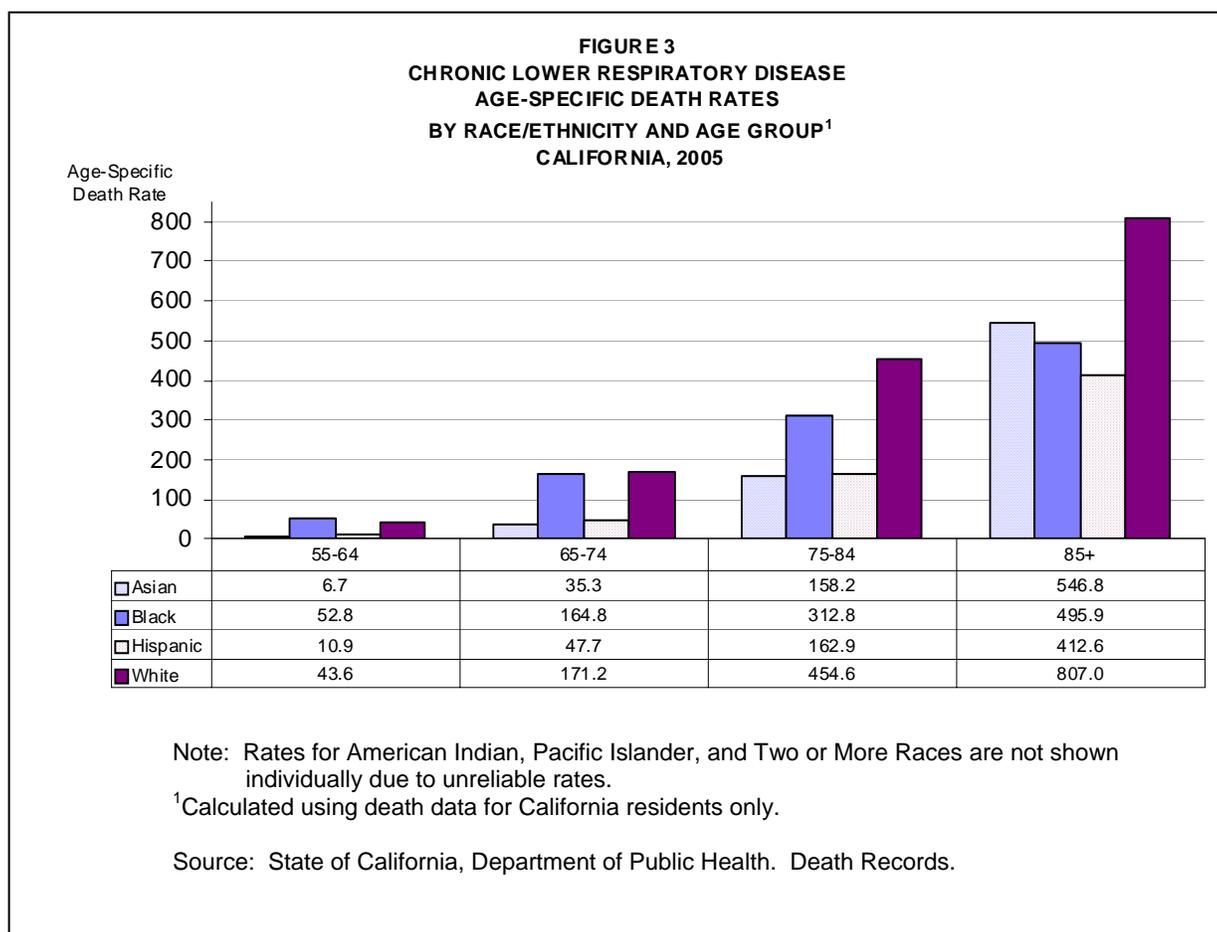
Table 1 (pages 11 to 12) displays age-specific CLRD death rates for all California residents by sex and race/ethnic group for 2005. Generally, reliable age-specific CLRD death rates increased with age. Among all residents aged 65 and older, males had significantly higher death rates than females. Among younger age groups the gender differences were either not significant or the rates were unreliable so comparisons could not be made.



See the CHS Vital Statistics Query System (VSQ) at <http://www.applications.dhs.ca.gov/vsq/default.asp> to create customized statistical tables.

Figure 2 (page 3) shows the 2001 to 2005 age-specific death rates for California residents aged 55 and over. The rates decreased over this five-year period in all age groups. From 2004 to 2005, the rates increased in the 55 to 64, 75 to 84, and 85 and older age groups while the rate slightly decreased in the 65 to 74 age group.

Figure 3 shows the age-specific death rates for 2005 for residents 55 and older by race/ethnicity. Blacks had the highest rate (52.8) in the 55 to 64 age group while Whites had the highest rates in the 65 to 74, 75 to 84, and 85 and older age groups (171.2, 454.6, 807.0). Asians had the lowest rates in the 55 to 64, 65 to 74, and 75 to 84 age groups (6.7, 35.3, 158.2). Hispanics had the lowest rate (412.6) among residents 85 years of age and older.



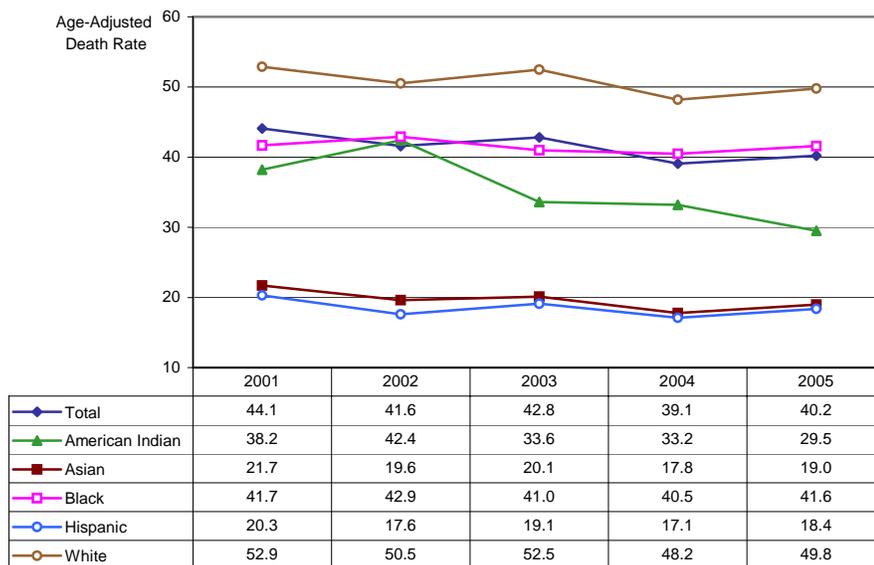
CLRD Age-Adjusted Death Rates

Table 1 (pages 11 to 12) shows the 2005 age-adjusted CLRD death rate for California was 40.2 deaths per 100,000 population. California's rate continues to be lower than the 2005 U.S. rate of 43.2.² A comparison of race/ethnic groups shows Whites (49.8) had a significantly higher age-adjusted death rate than Blacks (41.6), American Indians (29.5), Pacific Islanders (29.2), Asians (19.0), Hispanics (18.4), and Two or More Races (12.8).

Read more about crude and age-adjusted death rates on the National Center for Health Statistics site found at <http://www.cdc.gov/nchs>

Figure 4 shows the overall age-adjusted CLRD death rate significantly decreased by 8.8 percent, from 44.1 deaths per 100,000 population in 2001 to 40.2 deaths in 2005. Among the race/ethnic groups with reliable rates, the largest percentage decrease over this five-year period was seen in American Indians (22.8) followed by Asians (12.4), Hispanics (9.4), Whites (5.9), and Blacks (0.2). Only the decreases among Asians and Whites were significant.

FIGURE 4
CHRONIC LOWER RESPIRATORY DISEASE AGE-ADJUSTED DEATH RATES
BY RACE/ETHNICITY^{1,2}
CALIFORNIA, 2001-2005



Note: Total includes rates for Pacific Islander and Two or More Races. These groups are not shown individually due to unreliable rates.

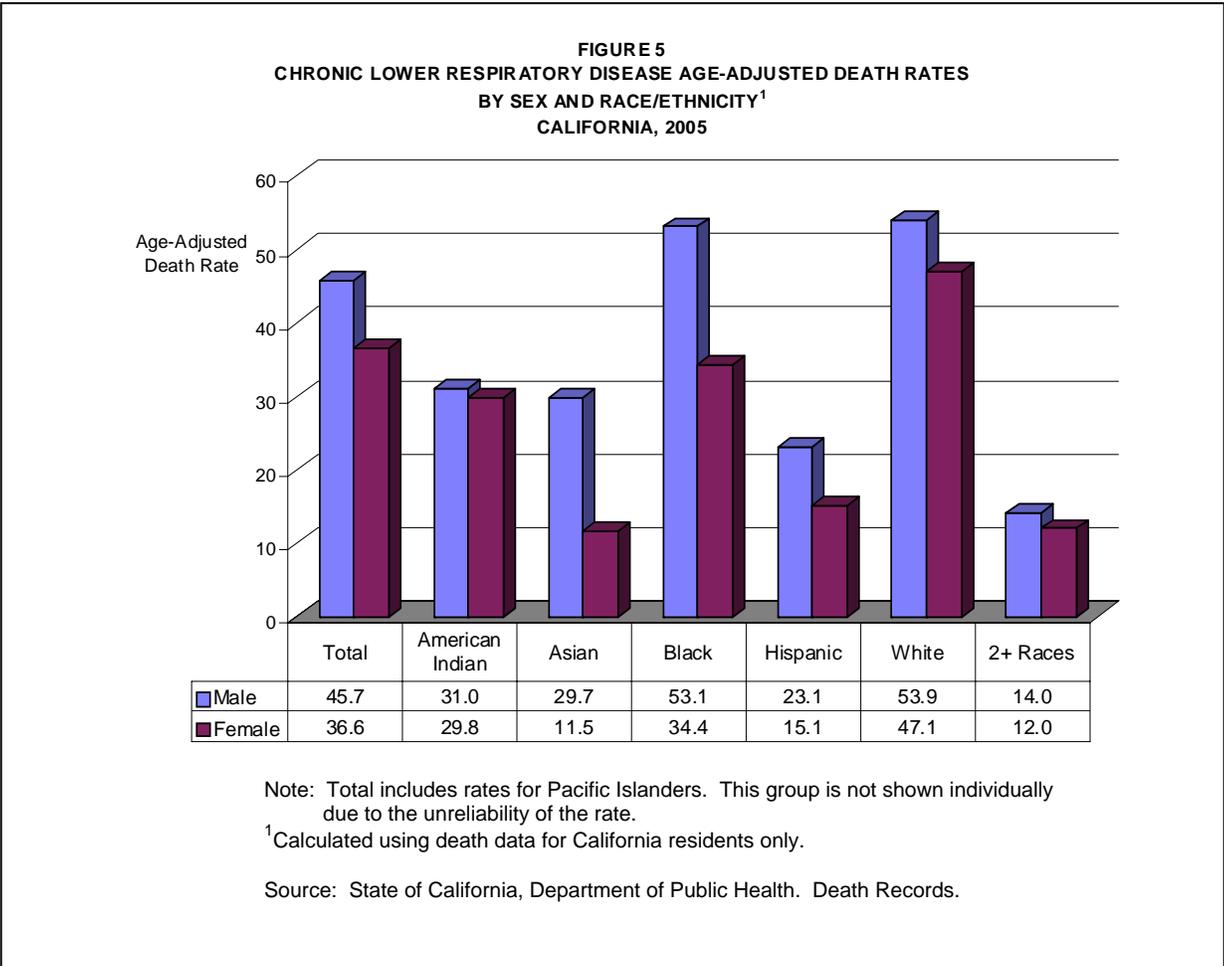
¹Calculated using death data for California residents only.

²Age-adjusted rates were calculated using current population data (July 2007); therefore rates may differ from prior reports.

Source: State of California, Department of Public Health. Death Records.

Figure 5 (page 6) shows the 2005 age-adjusted death rates by sex and race/ethnicity. California's overall CLRD age-adjusted death rate was higher in males (45.7) than females (36.6). This characteristic also held true in all race/ethnic groups with reliable age-adjusted rates. The death rates were significantly higher in males than females overall and among individual race/ethnic groups with reliable rates except for American Indians and Two or More Races.

Additional CHS data and reports can be found at: <http://www.dhs.ca.gov/ohir/reports>



Rates for California Counties

Table 2 (page 13) shows the three-year average numbers of CLRD deaths during 2003 to 2005 with crude and age-adjusted death rates for California and its 58 counties. County crude and age-adjusted CLRD death rates were calculated using 2004 mid-year population denominators and are presented as rates per 100,000 population.

Reliable age-adjusted rates ranged from a high of 84.1 in Yuba County to a low of 26.5 in Marin County. Twenty-three counties had age-adjusted rates that were significantly different from the state rate; sixteen county rates were higher and seven were lower than the state rate of 40.7. **Figure 6** (page 14) shows a thematic map of the 2003-2005 age-adjusted death rates for all California counties.

Please refer to the Data Limitations and Qualifications section for language regarding significance testing between the county and state age-adjusted rates.

CLRD Deaths for City Health Jurisdictions

Table 3 shows the 2003 to 2005 average numbers of CLRD deaths and crude death rates for California's three city health jurisdictions. Long Beach had the highest average number of deaths (208.3) followed by Pasadena (52.3) and Berkeley (17.3). Long Beach had the highest crude death rate at 42.8 deaths per 100,000 population, followed by Pasadena with 36.3. The rate for Berkeley was not reliable.

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

TABLE 3
CHRONIC LOWER RESPIRATORY DISEASE DEATHS
AMONG THE CITY HEALTH JURISDICTIONS¹
CALIFORNIA, 2003-2005

CITY HEALTH JURISDICTION	NUMBER OF DEATHS (Average)	2004 POPULATION	CRUDE DEATH RATE
BERKELEY	17.3	104,193	16.6 *
LONG BEACH	208.3	487,079	42.8
PASADENA	52.3	143,995	36.3

Note: Rates are per 100,000 population. ICD-10 codes J40-J47.

¹Calculated using death data for California residents only.

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

Sources: State of California, Department of Public Health. Death Records. State of California, Department of Finance, E-4 Population Estimates for Cities, Counties and the State, 2001-2007, with 2000 DRU Benchmark, May 2007.

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 sex or race/ethnic groups, geographic areas 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. The weighted average 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.

Age-adjusted rates are presented when the single summary measure is needed, but data analysts should inspect age-specific rates first.⁹ Age-specific rates provide insights to important age-related mortality trends that can be masked by age-adjusted rates. For

⁹Choi BCK, de Guia NA, and Walsh P. Look before you leap: Stratify before you standardize. *American Journal of Epidemiology*, 149: 1087-1096. 1999.

example, a shift in the number of deaths from one age group to another could produce very little change in the age-adjusted rate, but may warrant further investigation. In addition, analysis of age-specific rates can reveal that populations being compared do not show a consistent relationship (e.g., the trend is not in the same direction for all age-specific rates) in which case the analysis of age-specific rates is recommended over age-adjusted rates.

Data Limitations and Qualifications

The CLRD death data presented in this report are based on the vital statistics records with ICD-10 code J40-J47 as defined by the NCHS.⁸ Deaths by place of residence mean that the data include only those deaths occurring among residents of that geographic area within California, regardless of the place of death.

The term “significant” within the text indicates statistical significance based on the difference between two independent rates ($p < .05$). Significant difference between the county and state age-adjusted death rates was determined by comparing the 95 percent confidence intervals (CI) of the two rates, which are based on the rate, standard deviation, and standard error. Rates were considered to be significantly different from each other when their CIs (rounded to the nearest hundredth) did not overlap. If the upper limit of the county CI fell below the lower limit of the state CI, the county rate was deemed to be significantly lower. If the lower limit of the county CI exceeded the higher limit of the state CI, the county rate was deemed to be significantly higher. Significant differences of overlapping CIs were not addressed in this report. Overlapping CIs require a more precise statistical measure to determine significant and non-significant differences in rates because CIs may overlap as much as 29 percent and still be significantly different.¹⁰

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. To assist the reader, the 95 percent CIs are provided in the data tables as a tool for measuring the reliability of death rates. Rates with a relative standard error (coefficient of variation) greater than or equal to 23 percent are indicated with an asterisk (*). The CIs represent the range of values likely to contain the “true” value 95 percent of the time.

Beginning in 1999 cause of death is reported using ICD-10.¹¹ 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 numbers 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.

¹⁰ van Belle G. *Statistical Rules of Thumb, Rule 2.5*. Wiley Publishing. March 2002.

¹¹ World Health Organization. *International Statistical Classification of Diseases and Related Health Problems. Tenth Revision*. Geneva: World Health Organization. 1992.

To meet the U.S. Office of Management and Budget minimum standards for race and ethnicity data collection and reporting, the report presents the following race/ethnic groups: American Indian, Asian, Black, Hispanic, Pacific Islander, White, and Two or More Races. Hispanic origin of decedents is determined first and includes any race group. Second, decedents of the Two or More Races group are determined and are not reported in single race groups. In order to remain consistent with the population data obtained from the Department of Finance, the single race groups are defined as follows: the "American Indian" race group includes Aleut, American Indian, and Eskimo; the "Asian" race group includes Asian Indian, Asian (specified/unspecified), Cambodian, Chinese, Filipino, Hmong, Japanese, Korean, Laotian, Thai, and Vietnamese; the "Pacific Islander" race group includes Guamanian, Hawaiian, Samoan, and Other Pacific Islander; the "White" race group includes White, Other (specified), Not Stated, and Unknown.

Caution should be exercised in the interpretation of mortality data by race/ethnicity. Misclassification of race/ethnicity on death certificates may contribute to death rates that may be understated among American Indians, Asians, Hispanics, and Pacific Islanders.¹² This problem could contribute to understatements of rates for the Two or More Races group as well. All race groups may not be individually displayed on the tables due to unreliable rates, but the state totals do include their data.

Beginning in 2000 federal race/ethnicity reporting guidelines changed to allow reporting of more than one race on death certificates. California initiated use of the new guidelines on January 1, 2000, and collects up to three races. To be consistent with the population groups, current reports tabulate race of decedent using all races mentioned on the death certificate. Therefore, prior reports depicting race group statistics based on single race are not comparable with current reports.

The 2000 U.S. standard population was used for calculating age-adjustments in accordance with statistical policy implemented by NCHS.¹³ Age-adjusted death rates are not comparable when rates are calculated with different population standards, e.g., the 1940 standard population. Caution should be exercised when comparing the crude rates of the three city health jurisdictions with the crude rates of the 58 California counties. Population data used to calculate city crude rates in **Table 3** (page 7) differ from population data used to calculate county crude rates in **Table 2** (page 13). Age-adjusted rates for city health jurisdictions were not calculated.

A more complete explanation of age-adjustment methodology is available in the "Healthy People 2010 Statistical Notes" publication.¹⁴ Detailed information on data quality and limitations is presented in the appendix of the annual report, "Vital Statistics

¹²Rosenberg 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. September 1999.

¹³Anderson RN, Rosenberg HM. Age Standardization of Death Rates: Implementation of the Year 2000 Standard. *National Vital Statistics Reports*; Vol. 47, No. 3. National Center for Health Statistics. Hyattsville, Maryland. 1998.

¹⁴Klein RJ, Schoenborn CA. Age Adjustment using the 2000 Projected U.S. Population. *Healthy People 2010 Statistical Notes*, No. 20. National Center for Health Statistics. Hyattsville, Maryland. January 2001.

of California."¹⁵ Formulas used to calculate death rates are included in the technical notes of the "County Health Status Profiles" report.¹⁶

This data summary was prepared by Sally Jew-Lochman, Office of Health Information and Research, Center for Health Statistics, California Department of Public Health, 1616 Capitol Avenue, Suite 74.165, MS 5101, P.O. Box 997410, Sacramento, CA 95814, telephone (916) 650-6898, fax (916) 650-6889, Sally.Jew-Lochman@cdph.ca.gov

¹⁵Springborn, R. *Vital Statistics of California, 2004*. Center for Health Statistics, Department of Health Services (now Department of Public Health), State of California. June 2007.

¹⁶Shippen S. *County Health Status Profiles 2006*. Center for Health Statistics, Department of Health Services (now Department of Public Health), State of California. April 2006.

TABLE 1 (Page 1 of 2)
CHRONIC LOWER RESPIRATORY DISEASE DEATHS
BY RACE/ETHNICITY, AGE, AND SEX
CALIFORNIA, 2005
(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	5	3	2	543,197	277,034	266,163	0.9 *	1.1 *	0.8 *	0.1	1.7	0.0	2.3	0.0	1.8	
1 to 4	6	5	1	2,162,671	1,103,176	1,059,495	0.3 *	0.5 *	0.1 *	0.1	0.5	0.1	0.9	0.0	0.3	
5 to 14	14	5	9	5,563,406	2,844,855	2,718,551	0.3 *	0.2 *	0.3 *	0.1	0.4	0.0	0.3	0.1	0.5	
15 to 24	12	9	3	5,344,828	2,764,795	2,580,033	0.2 *	0.3 *	0.1 *	0.1	0.4	0.1	0.5	0.0	0.2	
25 to 34	27	15	12	5,002,559	2,580,156	2,422,403	0.5	0.6 *	0.5 *	0.3	0.7	0.3	0.9	0.2	0.8	
35 to 44	89	38	51	5,746,279	2,928,529	2,817,750	1.5	1.3	1.8	1.2	1.9	0.9	1.7	1.3	2.3	
45 to 54	391	207	184	5,147,574	2,558,524	2,589,050	7.6	8.1	7.1	6.8	8.3	7.0	9.2	6.1	8.1	
55 to 64	1,140	585	555	3,487,509	1,689,518	1,797,991	32.7	34.6	30.9	30.8	34.6	31.8	37.4	28.3	33.4	
65 to 74	2,622	1,358	1,264	2,032,694	940,470	1,092,224	129.0	144.4	115.7	124.1	133.9	136.7	152.1	109.3	122.1	
75 to 84	5,139	2,416	2,723	1,401,490	581,188	820,302	366.7	415.7	332.0	356.7	376.7	399.1	432.3	319.5	344.4	
85 & Older	3,722	1,484	2,238	525,229	177,444	347,785	708.6	836.3	643.5	685.9	731.4	793.8	878.9	616.8	670.2	
Total	13,167	6,125	7,042	36,957,436	18,445,689	18,511,747	35.6	33.2	38.0	35.0	36.2	32.4	34.0	37.2	38.9	
Age-Adjusted							40.2	45.7	36.6	39.6	40.9	44.5	46.8	35.7	37.5	
AMERICAN INDIAN																
Under 1	1	0	1	769	395	374	130.0 *	-	267.4 *	0.0	384.9	-	-	0.0	791.4	
1 to 4	0	0	0	3,764	1,940	1,824	-	-	-	-	-	-	-	-	-	
5 to 14	0	0	0	31,941	16,295	15,646	-	-	-	-	-	-	-	-	-	
15 to 24	0	0	0	35,705	18,333	17,372	-	-	-	-	-	-	-	-	-	
25 to 34	1	0	1	29,521	14,806	14,715	3.4 *	-	6.8 *	0.0	10.0	-	-	0.0	20.1	
35 to 44	0	0	0	34,616	17,113	17,503	-	-	-	-	-	-	-	-	-	
45 to 54	4	3	1	35,130	16,695	18,435	11.4 *	18.0 *	5.4 *	0.2	22.5	0.0	38.3	0.0	16.1	
55 to 64	5	2	3	23,631	11,229	12,402	21.2 *	17.8 *	24.2 *	2.6	39.7	0.0	42.5	0.0	51.6	
65 to 74	14	5	9	11,544	5,471	6,073	121.3 *	91.4 *	148.2 *	57.7	184.8	11.3	171.5	51.4	245.0	
75 to 84	16	8	8	5,883	2,497	3,386	272.0 *	320.4 *	236.3 *	138.7	405.2	98.4	542.4	72.5	400.0	
85 & Older	6	4	2	2,540	937	1,603	236.2 *	426.9 *	124.8 *	47.2	425.2	8.5	845.3	0.0	297.7	
Total	47	22	25	215,044	105,711	109,333	21.9	20.8	22.9	15.6	28.1	12.1	29.5	13.9	31.8	
Age-Adjusted							29.5	31.0	29.8	20.6	38.4	17.5	44.5	16.9	42.6	
ASIAN																
Under 1	0	0	0	49,237	25,114	24,123	-	-	-	-	-	-	-	-	-	
1 to 4	0	0	0	196,209	100,294	95,915	-	-	-	-	-	-	-	-	-	
5 to 14	2	1	1	510,921	263,092	247,829	0.4 *	0.4 *	0.4 *	0.0	0.9	0.0	1.1	0.0	1.2	
15 to 24	1	1	0	600,459	308,166	292,293	0.2 *	0.3 *	-	0.0	0.5	0.0	1.0	-	-	
25 to 34	1	0	1	670,404	325,288	345,116	0.1 *	-	0.3 *	0.0	0.4	-	-	0.0	0.9	
35 to 44	5	3	2	707,330	335,157	372,173	0.7 *	0.9 *	0.5 *	0.1	1.3	0.0	1.9	0.0	1.3	
45 to 54	13	9	4	637,063	294,728	342,335	2.0 *	3.1 *	1.2 *	0.9	3.1	1.1	5.0	0.0	2.3	
55 to 64	28	21	7	419,901	193,246	226,655	6.7	10.9	3.1 *	4.2	9.1	6.2	15.5	0.8	5.4	
65 to 74	92	64	28	260,846	113,982	146,864	35.3	56.1	19.1	28.1	42.5	42.4	69.9	12.0	26.1	
75 to 84	258	177	81	163,066	68,137	94,929	158.2	259.8	85.3	138.9	177.5	221.5	298.0	66.7	103.9	
85 & Older	264	153	111	48,284	18,635	29,649	546.8	821.0	374.4	480.8	612.7	690.9	951.1	304.7	444.0	
Total	664	429	235	4,263,720	2,045,839	2,217,881	15.6	21.0	10.6	14.4	16.8	19.0	23.0	9.2	12.0	
Age-Adjusted							19.0	29.7	11.5	17.5	20.4	26.8	32.5	10.0	13.0	
BLACK																
Under 1	0	0	0	25,199	12,843	12,356	-	-	-	-	-	-	-	-	-	
1 to 4	4	3	1	106,784	54,437	52,347	3.7 *	5.5 *	1.9 *	0.1	7.4	0.0	11.7	0.0	5.7	
5 to 14	3	2	1	360,722	183,297	177,425	0.8 *	1.1 *	0.6 *	0.0	1.8	0.0	2.6	0.0	1.7	
15 to 24	3	3	0	378,701	195,916	182,785	0.8 *	1.5 *	-	0.0	1.7	0.0	3.3	-	-	
25 to 34	6	4	2	305,865	150,542	155,323	2.0 *	2.7 *	1.3 *	0.4	3.5	0.1	5.3	0.0	3.1	
35 to 44	15	5	10	362,335	178,384	183,951	4.1 *	2.8 *	5.4 *	2.0	6.2	0.3	5.3	2.1	8.8	
45 to 54	71	33	38	317,604	153,768	163,836	22.4	21.5	23.2	17.2	27.6	14.1	28.8	15.8	30.6	
55 to 64	104	49	55	196,909	91,007	105,902	52.8	53.8	51.9	42.7	63.0	38.8	68.9	38.2	65.7	
65 to 74	193	111	82	117,087	53,068	64,019	164.8	209.2	128.1	141.6	188.1	170.3	248.1	100.4	155.8	
75 to 84	193	103	90	61,691	23,969	37,722	312.8	429.7	238.6	268.7	357.0	346.7	512.7	189.3	287.9	
85 & Older	111	46	65	22,384	6,516	15,868	495.9	706.0	409.6	403.6	588.1	501.9	910.0	310.0	509.2	
Total	703	359	344	2,255,281	1,103,747	1,151,534	31.2	32.5	29.9	28.9	33.5	29.2	35.9	26.7	33.0	
Age-Adjusted							41.6	53.1	34.4	38.5	44.7	47.3	58.9	30.7	38.1	
HISPANIC																
Under 1	4	3	1	279,284	142,428	136,856	1.4 *	2.1 *	0.7 *	0.0	2.8	0.0	4.5	0.0	2.2	
1 to 4	0	0	0	1,089,780	555,829	533,951	-	-	-	-	-	-	-	-	-	
5 to 14	5	1	4	2,650,982	1,350,760	1,300,222	0.2 *	0.1 *	0.3 *	0.0	0.4	0.0	0.2	0.0	0.6	
15 to 24	2	2	0	2,148,302	1,115,705	1,032,597	0.1 *	0.2 *	-	0.0	0.2	0.0	0.4	-	-	
25 to 34	5	5	0	2,079,681	1,114,291	965,390	0.2 *	0.4 *	-	0.0	0.5	0.1	0.8	-	-	
35 to 44	11	8	3	2,001,344	1,059,515	941,829	0.5 *	0.8 *	0.3 *	0.2	0.9	0.2	1.3	0.0	0.7	
45 to 54	44	24	20	1,324,898	667,089	657,809	3.3	3.6	3.0	2.3	4.3	2.2	5.0	1.7	4.4	
55 to 64	75	44	31	689,035	330,377	358,658	10.9	13.3	8.6	8.4	13.3	9.4	17.3	5.6	11.7	
65 to 74	177	105	72	371,279	166,361	204,918	47.7	63.1	35.1	40.6	54.7	51.0	75.2	27.0	43.3	
75 to 84	336	178	158	206,295	85,200	121,095	162.9	208.9	130.5	145.5	180.3	178.2	239.6	110.1	150.8	
85 & Older	268	112	156	64,960	22,556	42,404	412.6	496.5	367.9	363.2	462.0	404.6	588.5	310.2	425.6	
Total	927	482	445	12,905,840	6,610,111	6,295,729	7.2	7.3	7.1	6.7	7.6	6.6	7.9	6.4	7.7	
Age-Adjusted							18.4	23.1	15.1	17.2	19.6	21.0	25.3	13.7	16.6	

Note: Rates are per 100,000 population. ICD-10 codes J40-J47
Year 2000 U.S. Standard Population is used for age-adjusted rates
American Indian, Asian, Black, Pacific Islander, White, and Two or More
Races exclude Hispanic ethnicity. Hispanic includes any race category

* Death rate unreliable, relative standard error is greater than or equal to 23 percent
- Percentages, rates, and confidence limits are not calculated for zero events

Source: State of California, Department of Finance. Race/Ethnic Population
with Age and Sex Detail, 2000-2050, July 2007
State of California, Department of Public Health. Death Records

TABLE 1 (Page 2 of 2)
CHRONIC LOWER RESPIRATORY DISEASE DEATHS
BY RACE/ETHNICITY, AGE, AND SEX
CALIFORNIA, 2005
(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	5	3	2	543,197	277,034	266,163	0.9 *	1.1 *	0.8 *	0.1	1.7	0.0	2.3	0.0	1.8	
1 to 4	6	5	1	2,162,671	1,103,176	1,059,495	0.3 *	0.5 *	0.1 *	0.1	0.5	0.1	0.9	0.0	0.3	
5 to 14	14	5	9	5,563,406	2,844,855	2,718,551	0.3 *	0.2 *	0.3 *	0.1	0.4	0.0	0.3	0.1	0.5	
15 to 24	12	9	3	5,344,828	2,764,795	2,580,033	0.2 *	0.3 *	0.1 *	0.1	0.4	0.1	0.5	0.0	0.2	
25 to 34	27	15	12	5,002,559	2,580,156	2,422,403	0.5	0.6 *	0.5 *	0.3	0.7	0.3	0.9	0.2	0.8	
35 to 44	89	38	51	5,746,279	2,928,529	2,817,750	1.5	1.3	1.8	1.2	1.9	0.9	1.7	1.3	2.3	
45 to 54	391	207	184	5,147,574	2,558,524	2,589,050	7.6	8.1	7.1	6.8	8.3	7.0	9.2	6.1	8.1	
55 to 64	1,140	585	555	3,487,509	1,689,518	1,797,991	32.7	34.6	30.9	30.8	34.6	31.8	37.4	28.3	33.4	
65 to 74	2,622	1,358	1,264	2,032,694	940,470	1,092,224	129.0	144.4	115.7	124.1	133.9	136.7	152.1	109.3	122.1	
75 to 84	5,139	2,416	2,723	1,401,490	581,188	820,302	366.7	415.7	332.0	356.7	376.7	399.1	432.3	319.5	344.4	
85 & Older	3,722	1,484	2,238	525,229	177,444	347,785	708.6	836.3	643.5	685.9	731.4	793.8	878.9	616.8	670.2	
Total	13,167	6,125	7,042	36,957,436	18,445,689	18,511,747	35.6	33.2	38.0	35.0	36.2	32.4	34.0	37.2	38.9	
Age-Adjusted							40.2	45.7	36.6	39.6	40.9	44.5	46.8	35.7	37.5	
PACIFIC ISLANDER																
Under 1	0	0	0	1,445	735	710	-	-	-	-	-	-	-	-	-	
1 to 4	0	0	0	5,827	2,971	2,856	-	-	-	-	-	-	-	-	-	
5 to 14	1	1	0	20,001	10,317	9,684	5.0 *	9.7 *	-	0.0	14.8	0.0	28.7	-	-	
15 to 24	0	0	0	22,032	11,319	10,713	-	-	-	-	-	-	-	-	-	
25 to 34	0	0	0	22,470	11,074	11,396	-	-	-	-	-	-	-	-	-	
35 to 44	1	0	1	21,876	10,649	11,227	4.6 *	-	8.9 *	0.0	13.5	-	-	0.0	26.4	
45 to 54	0	0	0	16,455	8,084	8,371	-	-	-	-	-	-	-	-	-	
55 to 64	3	2	1	10,057	4,903	5,154	29.8 *	40.8 *	19.4 *	0.0	63.6	0.0	97.3	0.0	57.4	
65 to 74	8	6	2	5,721	2,727	2,994	139.8 *	220.0 *	66.8 *	42.9	236.7	44.0	396.1	0.0	159.4	
75 to 84	7	2	5	2,580	1,176	1,404	271.3 *	170.1 *	356.1 *	70.3	472.3	0.0	405.8	44.0	668.3	
85 & Older	2	1	1	826	342	484	242.1 *	292.4 *	206.6 *	0.0	577.7	0.0	865.0	0.0	611.6	
Total	22	12	10	129,290	64,297	64,993	17.0	18.7 *	15.4 *	9.9	24.1	8.1	29.2	5.8	24.9	
Age-Adjusted							29.2	31.7 *	26.7 *	16.5	42.0	12.7	50.6	9.6	43.8	
WHITE																
Under 1	0	0	0	151,110	77,067	74,043	-	-	-	-	-	-	-	-	-	
1 to 4	2	2	0	623,971	318,134	305,837	0.3 *	0.6 *	-	0.0	0.8	0.0	1.5	-	-	
5 to 14	2	0	2	1,817,035	933,830	883,205	0.1 *	-	0.2 *	0.0	0.3	-	-	0.0	0.5	
15 to 24	5	2	3	2,028,198	1,049,934	978,264	0.2 *	0.2 *	0.3 *	0.0	0.5	0.0	0.5	0.0	0.7	
25 to 34	11	3	8	1,814,390	925,536	888,854	0.6 *	0.3 *	0.9 *	0.2	1.0	0.0	0.7	0.3	1.5	
35 to 44	56	21	35	2,544,695	1,292,034	1,252,661	2.2	1.6	2.8	1.6	2.8	0.9	2.3	1.9	3.7	
45 to 54	257	137	120	2,750,632	1,386,760	1,363,872	9.3	9.9	8.8	8.2	10.5	8.2	11.5	7.2	10.4	
55 to 64	918	465	453	2,106,739	1,039,368	1,067,371	43.6	44.7	42.4	40.8	46.4	40.7	48.8	38.5	46.3	
65 to 74	2,130	1,063	1,067	1,243,912	588,425	655,487	171.2	180.7	162.8	164.0	178.5	169.8	191.5	153.0	172.5	
75 to 84	4,309	1,940	2,369	947,877	394,001	553,876	454.6	492.4	427.7	441.0	468.2	470.5	514.3	410.5	444.9	
85 & Older	3,066	1,164	1,902	379,918	126,136	253,782	807.0	922.8	749.5	778.5	835.6	869.8	975.8	715.8	783.1	
Total	10,756	4,797	5,959	16,408,477	8,131,225	8,277,252	65.6	59.0	72.0	64.3	66.8	57.3	60.7	70.2	73.8	
Age-Adjusted							49.8	53.9	47.1	48.8	50.7	52.4	55.5	45.9	48.3	
TWO OR MORE RACES																
Under 1	0	0	0	36,153	18,452	17,701	-	-	-	-	-	-	-	-	-	
1 to 4	0	0	0	136,336	69,571	66,765	-	-	-	-	-	-	-	-	-	
5 to 14	1	0	1	171,804	87,264	84,540	0.6 *	-	1.2 *	0.0	1.7	-	-	0.0	3.5	
15 to 24	1	1	0	131,431	65,422	66,009	0.8 *	1.5 *	-	0.0	2.3	0.0	4.5	-	-	
25 to 34	3	3	0	80,228	38,619	41,609	3.7 *	7.8 *	-	0.0	8.0	0.0	16.6	-	-	
35 to 44	1	1	0	74,083	35,677	38,406	1.3 *	2.8 *	-	0.0	4.0	0.0	8.3	-	-	
45 to 54	2	1	1	65,792	31,400	34,392	3.0 *	3.2 *	-	0.0	7.3	0.0	9.4	0.0	8.6	
55 to 64	7	2	5	41,237	19,388	21,849	17.0 *	10.3 *	22.9 *	4.4	29.6	0.0	24.6	2.8	42.9	
65 to 74	8	4	4	22,305	10,436	11,869	35.9 *	38.3 *	33.7 *	11.0	60.7	0.8	75.9	0.7	66.7	
75 to 84	20	8	12	14,098	6,208	7,890	141.9	128.9	152.1 *	79.7	204.0	39.6	218.2	66.0	238.1	
85 & Older	5	4	1	6,317	2,322	3,995	79.2 *	172.3 *	25.0 *	9.8	148.5	3.4	341.1	0.0	74.1	
Total	48	24	24	779,784	384,759	395,025	6.2	6.2	6.1	4.4	7.9	3.7	8.7	3.6	8.5	
Age-Adjusted							12.8	14.0	12.0	9.1	16.5	8.2	19.8	7.1	16.9	

Note: Rates are per 100,000 population. ICD-10 codes J40-J47
Year 2000 U.S. Standard Population is used for age-adjusted rates
American Indian, Asian, Black, Pacific Islander, White, and Two or More
Races exclude Hispanic ethnicity. Hispanic includes any race category

* Death rate unreliable, relative standard error is greater than or equal to 23 percent
- Percentages, rates, and confidence limits are not calculated for zero events

Source: State of California, Department of Finance. Race/Ethnic Population
with Age and Sex Detail, 2000-2050, July 2007
State of California, Department of Public Health. Death Records

TABLE 2
CHRONIC LOWER RESPIRATORY DISEASE DEATHS
CALIFORNIA, 2003-2005
(By Place of Residence)

COUNTY	2003-2005 DEATHS (AVERAGE)	PERCENT	2004 POPULATION	CRUDE RATE	AGE-ADJUSTED RATE	95% CONFIDENCE LIMITS	
						LOWER	UPPER
CALIFORNIA	13,022.0	100.0	36,525,947	35.7	40.7	40.0	41.4
ALAMEDA ¹	438.7	3.4	1,497,316	29.3	33.3	30.2	36.5
ALPINE	1.0	a	1,304	76.7 *	62.8 *	0.0	186.4
AMADOR	19.7	0.2	37,507	52.4	35.1	19.6	50.7
BUTTE ¹	149.7	1.1	213,143	70.2	57.4	48.1	66.6
CALAVERAS	30.0	0.2	44,243	67.8	46.1	29.3	63.0
COLUSA	11.3	0.1	20,927	54.2 *	60.9 *	25.4	96.4
CONTRA COSTA	348.3	2.7	1,014,992	34.3	36.1	32.3	40.0
DEL NORTE	19.7	0.2	29,162	67.4	66.9	37.2	96.5
EL DORADO	84.0	0.6	172,320	48.7	47.2	37.0	57.3
FRESNO	293.3	2.3	874,745	33.5	43.9	38.8	48.9
GLENN	19.0	0.1	28,115	67.6	64.7	35.6	93.8
HUMBOLDT ¹	84.7	0.7	130,859	64.7	65.9	51.8	80.0
IMPERIAL	39.3	0.3	159,844	24.6	31.3	21.5	41.2
INYO	15.3	0.1	18,923	81.0 *	53.9 *	26.6	81.2
KERN ¹	383.3	2.9	744,489	51.5	76.1	68.4	83.8
KINGS ¹	53.3	0.4	143,970	37.0	65.8	48.0	83.7
LAKE ¹	71.3	0.5	62,994	113.2	78.3	59.9	96.6
LASSEN	17.3	0.1	35,626	48.7 *	65.0 *	33.9	96.2
LOS ANGELES ¹	2,893.7	22.2	10,152,410	28.5	33.8	32.5	35.0
MADERA	55.0	0.4	139,398	39.5	45.8	33.6	57.9
MARIN ¹	83.3	0.6	251,812	33.1	26.5	20.8	32.2
MARIPOSA	10.0	0.1	18,066	55.4 *	40.5 *	14.9	66.0
MENDOCINO ¹	58.7	0.5	89,966	65.2	56.7	42.1	71.4
MERCED	82.0	0.6	237,550	34.5	48.9	38.3	59.5
MODOC	11.0	0.1	10,178	108.1 *	77.3 *	31.5	123.1
MONO	1.3	a	13,727	9.7 *	16.7 *	0.0	45.1
MONTEREY	123.7	0.9	423,137	29.2	34.2	28.2	40.3
NAPA	70.0	0.5	132,753	52.7	41.4	31.6	51.1
NEVADA	62.3	0.5	98,436	63.3	46.6	35.0	58.2
ORANGE ¹	881.0	6.8	3,038,670	29.0	34.8	32.5	37.1
PLACER	154.7	1.2	302,199	51.2	45.2	38.0	52.3
PLUMAS	17.3	0.1	21,478	80.7 *	54.6 *	28.8	80.4
RIVERSIDE ¹	941.7	7.2	1,845,185	51.0	56.5	52.9	60.2
SACRAMENTO ¹	577.7	4.4	1,357,367	42.6	48.9	44.9	52.9
SAN BENITO	15.7	0.1	57,307	27.3 *	39.8 *	20.0	59.7
SAN BERNARDINO ¹	833.0	6.4	1,922,467	43.3	65.6	61.1	70.1
SAN DIEGO	1,087.0	8.3	3,031,055	35.9	40.2	37.8	42.5
SAN FRANCISCO ¹	252.3	1.9	793,564	31.8	27.3	24.0	30.7
SAN JOAQUIN ¹	273.0	2.1	645,560	42.3	52.8	46.5	59.0
SAN LUIS OBISPO	126.7	1.0	259,709	48.8	39.0	32.2	45.8
SAN MATEO ¹	234.0	1.8	720,229	32.5	30.3	26.4	34.2
SANTA BARBARA	157.3	1.2	416,662	37.8	34.9	29.4	40.4
SANTA CLARA ¹	435.7	3.3	1,747,295	24.9	29.1	26.3	31.8
SANTA CRUZ	79.3	0.6	259,942	30.5	37.2	28.9	45.6
SHASTA ¹	142.7	1.1	177,465	80.4	69.2	57.8	80.6
SIERRA	2.0	a	3,716	53.8 *	30.3 *	0.0	72.5
SISKIYOU	39.3	0.3	45,644	86.2	58.4	40.1	76.8
SOLANO ¹	172.0	1.3	418,097	41.1	52.1	44.2	59.9
SONOMA	201.3	1.5	477,419	42.2	39.7	34.2	45.2
STANISLAUS ¹	197.0	1.5	499,864	39.4	49.1	42.2	55.9
SUTTER ¹	55.3	0.4	87,881	63.0	66.5	48.9	84.0
TEHAMA	42.3	0.3	59,942	70.6	59.1	41.3	76.9
TRINITY	13.3	0.1	13,961	95.5 *	70.0 *	32.0	108.1
TULARE	146.7	1.1	406,003	36.1	48.6	40.7	56.5
TUOLUMNE	34.0	0.3	57,186	59.5	39.0	25.7	52.2
VENTURA	258.3	2.0	808,735	31.9	37.6	33.0	42.2
YOLO ¹	75.7	0.6	186,751	40.5	54.1	41.9	66.3
YUBA ¹	45.3	0.3	66,682	68.0	84.1	59.4	108.7

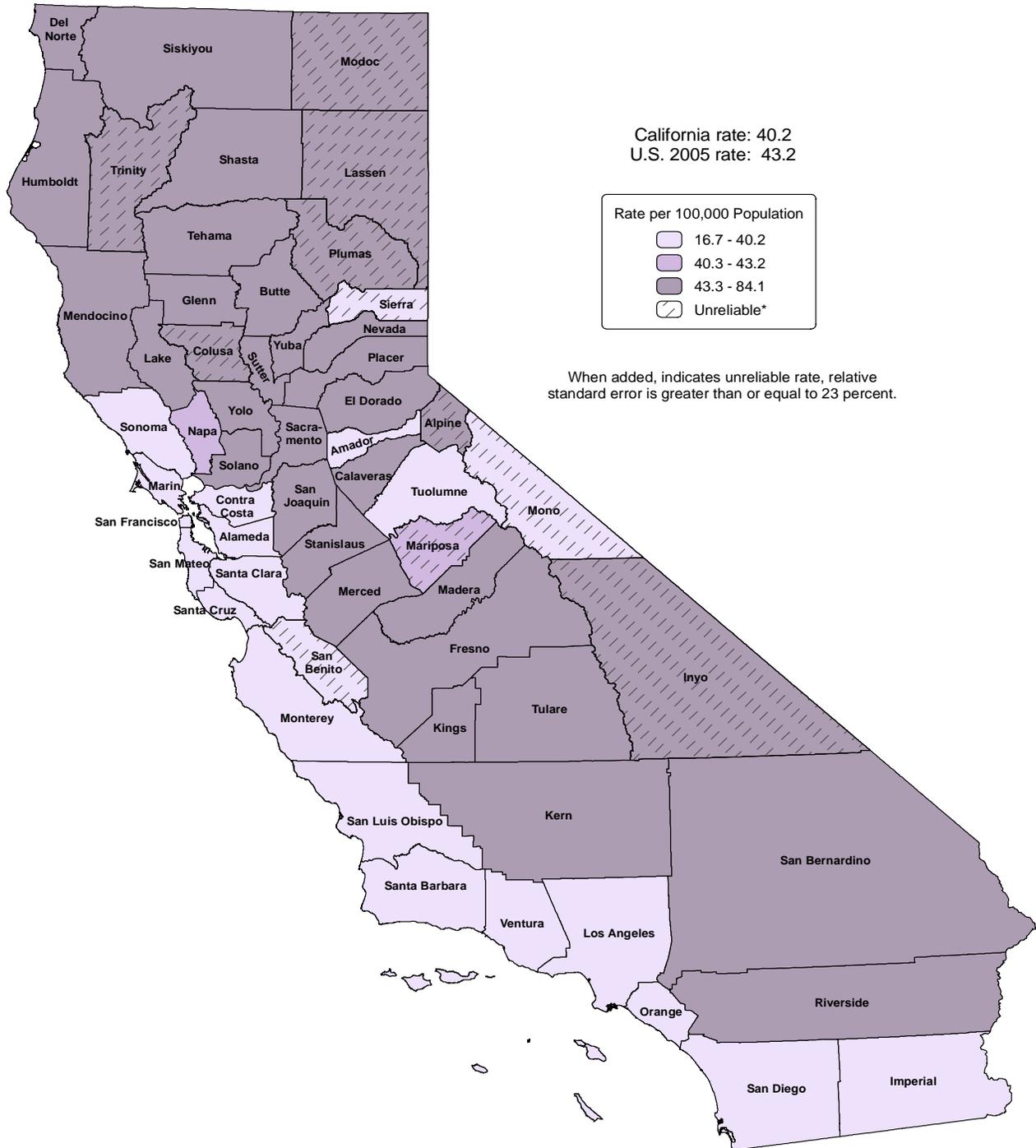
Note : Rates are per 100,000 population. ICD-10 codes J40-J47.
Year 2000 U.S. Standard Population is used for age-adjusted rates.

¹ County age-adjusted rate is significantly different from the state age-adjusted rate.
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.

Source : State of California, Department of Finance. Race/Ethnic Population with Age and Sex Detail, 2000-2050, July 2007.
State of California, Department of Public Health, Death Records.

Figure 6
Chronic Lower Respiratory Disease
Age-Adjusted Death Rates
California, 2003-2005



Source: State of California, Department of Public Health. Death Records.