



CENTER FOR HEALTH STATISTICS

# DATA SUMMARY

REPORT REGISTER NO. DS01-02000  
(February 2001)

CHRONIC OBSTRUCTIVE  
PULMONARY DISEASE  
DEATHS  
CALIFORNIA, 1998

## Introduction

This report presents data on chronic obstructive pulmonary disease (COPD) for 1998 with analysis of crude and age-adjusted death rates for California residents by sex, age, race/ethnicity, county and three city health departments. The definition of chronic obstructive pulmonary disease used in this report is based on the ICD-9 codes 490-496 as traditionally presented in National Center for Health Statistics reports.<sup>1</sup>

Chronic obstructive pulmonary disease was the 4<sup>th</sup> leading cause of death overall nationally (114,381 deaths), and the 5<sup>th</sup> leading cause of death in California in 1998 (12,261 deaths).<sup>2,3</sup> Whites had the highest number of deaths at 10,419 or 85.0 percent of the total COPD deaths in 1998. Hispanics followed with 674 deaths or 5.5 percent, Blacks with 651 deaths or 5.3 percent and Asian/Others with 517 deaths or 4.2 percent, **Table 1** (page 7). Chronic obstructive pulmonary disease is a clinical term applied to persons with a permanent airflow obstruction.

A majority of deaths from COPD are caused by cigarette smoking and predominantly affect those over the age of 55, and Whites.<sup>4</sup> Cigarette smoking is the leading cause of preventable disease and death in the United States. Due to the prevalence of smoking-related morbidity and mortality in our nation, the U.S. Public Health Service has established a number of health objectives, including one for COPD, which are published in Healthy People 2000.<sup>5</sup> California's progress in meeting the COPD objective is presented in this report.

## Methodological Approach

The methods used to analyze vital statistics data are also important. Analyzing only the number of deaths has its disadvantages and can be misleading because the population at risk is not taken into consideration. Crude death rates show the actual rate of dying in a given population, but because of the age compositions of various populations, they do not provide a statistically valid method for comparing geographic areas and/or multiple reporting periods. Age-specific death rates are the number of deaths per 100,000 population in a specific age group and are used along with standard population proportions to develop a weighted-average rate. This rate is referred to as an age-adjusted death rate and removes the effect of different age structures of the populations whose rates are being compared. Age-adjusted death rates therefore provide the preferred method for comparisons of different race/ethnic groups, sexes, and geographic areas and measuring death rates over time. The 1940 United States (standard million) population was used as the basis for age-adjustments in this report.

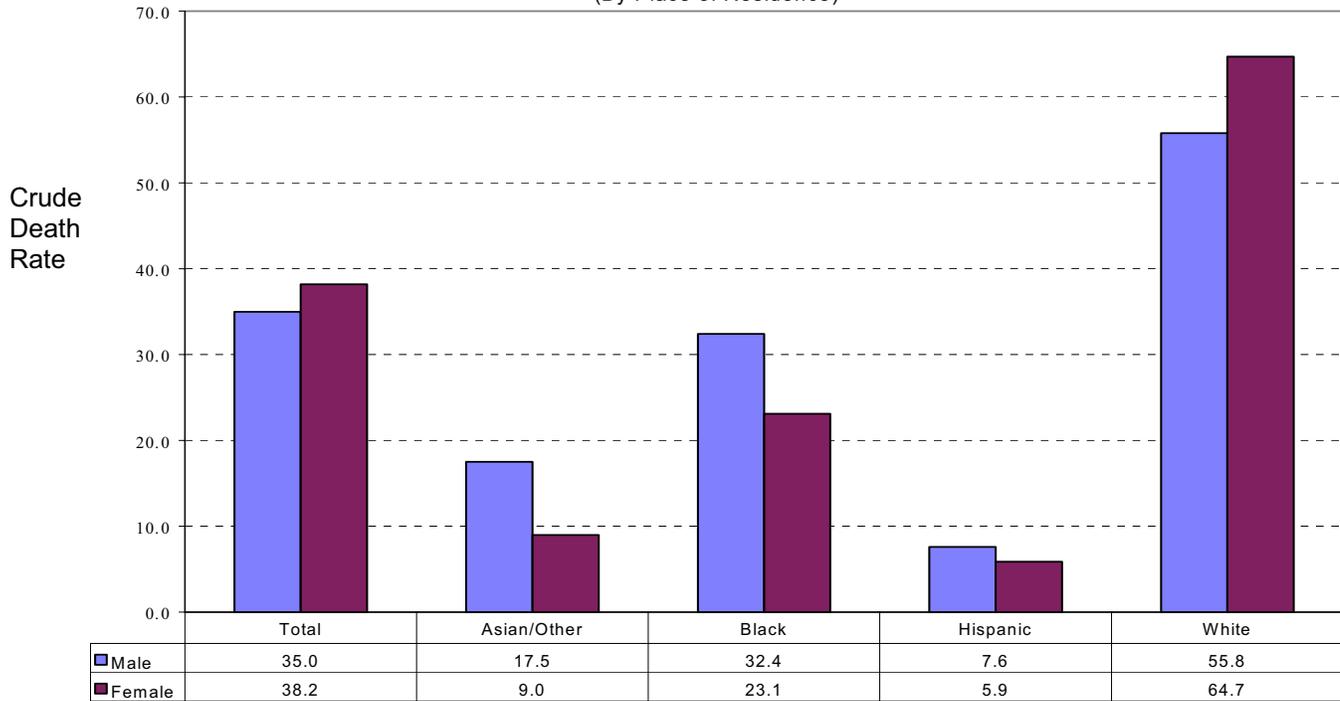
### Chronic Obstructive Pulmonary Disease Crude Death Rates

As shown in **Table 1** (page 7), California's crude death rate due to COPD for 1998 was 36.6 per 100,000 population, about a three percent increase from the 1997 rate of 35.6.<sup>6</sup>

As shown in **Figure 1** (page 2) Females experienced a higher crude death rate from COPD in 1998 at 38.2 per 100,000 population than males (35.0), which is a statistically significant difference.

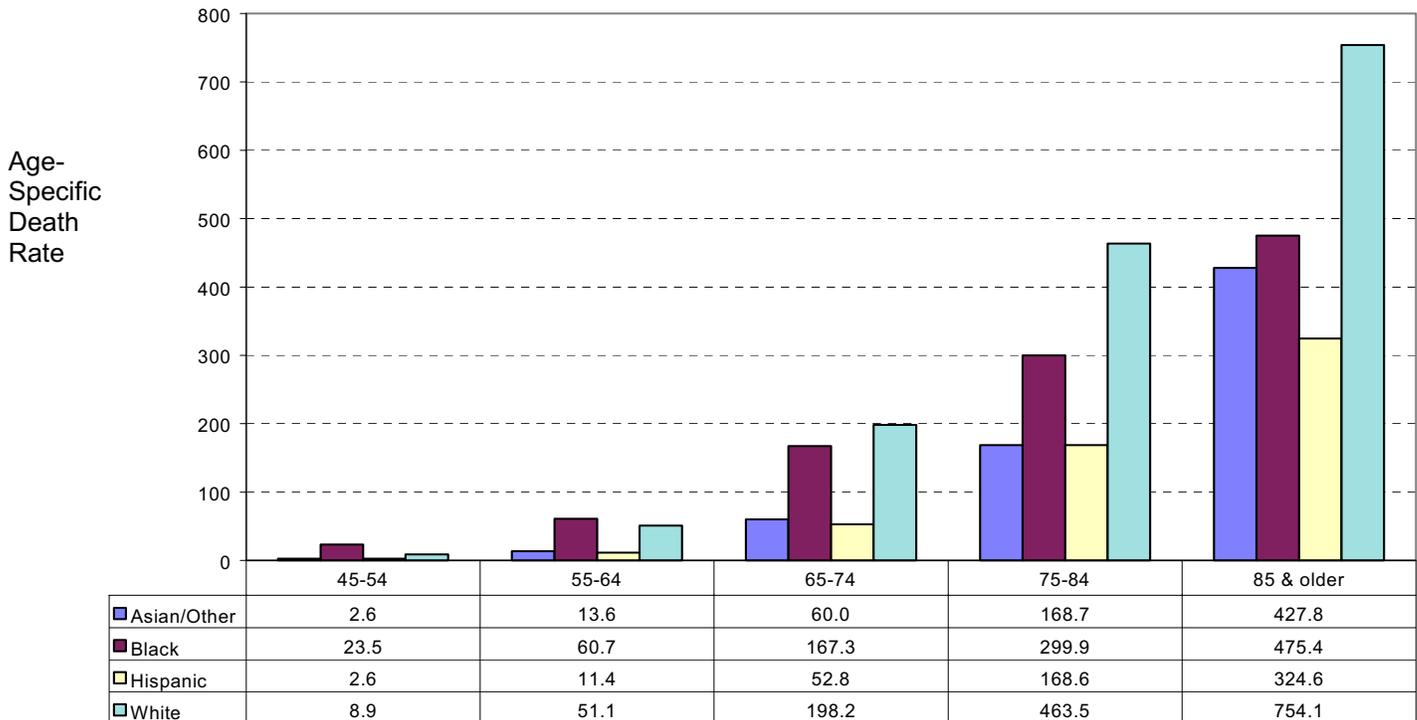
This Data Summary was prepared by Fred Richards, Center for Health Statistics, 304 S Street, P.O. Box 942732, Sacramento, CA 94234-7320, (916) 445-6355.

**FIGURE 1**  
**CHRONIC OBSTRUCTIVE PULMONARY DISEASE**  
**CRUDE DEATH RATES BY RACE/ETHNICITY**  
**CALIFORNIA, 1998**  
**(By Place of Residence)**



Source: Table 1

**FIGURE 2**  
**CHRONIC OBSTRUCTIVE PULMONARY DISEASE**  
**DEATH RATES BY RACE/ETHNICITY AND AGE**  
**CALIFORNIA, 1998**  
**(By Place of Residence)**



Source: Table 1

Whites had the highest crude death rate for COPD (60.3 per 100,000 population), double the next highest rate, and a statistically significant difference from Blacks at 27.7. These rates were followed by Asian/Others at 13.2, again a statistically significant difference, and Hispanics at 6.8 per 100,000 population, also a statistically significant difference in rates

Males had the highest crude death rates from COPD among all race/ethnic categories except among Whites where females had the higher crude death rate. White males had the highest crude rate (55.8 per 100,000 population) while Hispanic males had the lowest (7.6). Among females, Whites had the highest crude rate (64.7), and Hispanics had the lowest (5.9). The differences in gender rates among the four race/ethnic groups were statistically significant.

### **Chronic Obstructive Pulmonary Disease Age-Specific Death Rates**

**Table 1** (page 7) displays age-specific rates for all groups combined and the four major race/ethnic groups. Reliable age-specific rates indicate that males had higher COPD death rates than females overall and for each race/ethnic group, except for White females who had a slightly higher rate than White males in the 35-64 age groups.

**Figure 2** (page 2) displays the age-specific COPD death rates by age and race/ethnicity for age groups 45 years and older. Blacks had the highest age-specific death rate in the 45 to 54 age group at 23.5 per 100,000 population, significantly higher than the rate among Whites (8.9), Asian/Others (2.6) and Hispanics (2.6). Blacks also had the highest age-specific rate among those aged 55 to 64 (60.7), followed by Whites (51.1), Asian/Others (13.6) and Hispanics (11.4). Whites had the highest COPD death rates in the 65 to 74, 75 to 84 and 85 plus age groups, followed by Blacks, Asian/Others and Hispanics respectively.

### **Chronic Obstructive Pulmonary Disease Age-Adjusted Death Rates**

**Table 1** (page 7) displays age-adjusted death rates for the total population and the four major race/ethnic groups. The 1998 California age-adjusted rate of 21.2 deaths per 100,000 population increased slightly from 20.8 in 1997.

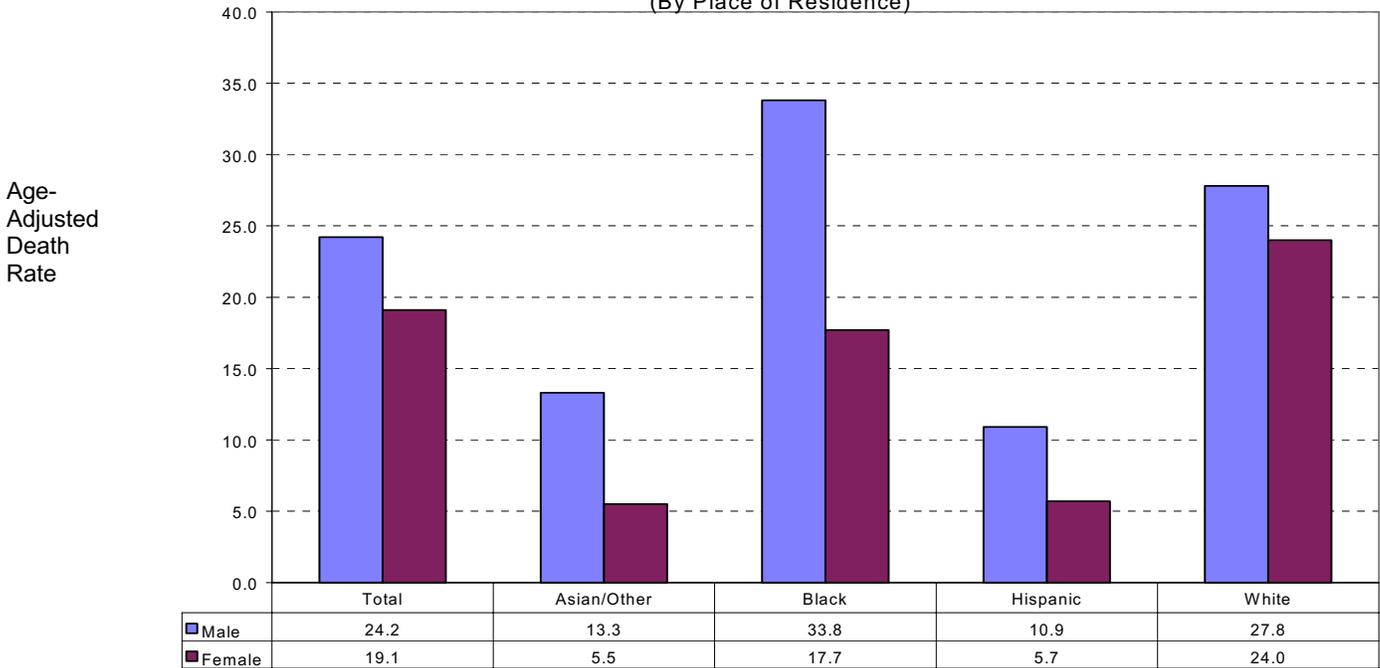
The National Healthy People 2000 objective for COPD is 25 deaths per 100,000 population. California has met this objective for many years. Although the COPD rates have been gradually increasing since 1980, statistical projection indicates California will meet the healthy people objective for the year 2000. Department of Health Services programs to reduce smoking prevalence will be increasingly important if the COPD upward trend is to be reversed.<sup>7</sup>

The difference between COPD age-adjusted death rates for males and females in California is statistically significant. As shown in **Figure 3** (page 4), the male rate for 1998 is 24.2 per 100,000 population and the rate for females is 19.1. Long term trends show male COPD rates trending lower since 1985 while female rates are trending higher since 1980, so are therefore converging.<sup>7</sup>

Whites had the highest age-adjusted COPD death rate at 25.4 per 100,000 population followed by Blacks at 24.4, Asian/Others at 8.9 and Hispanics at 7.9, **Table 1** (page 7).

**Figure 3** shows age-adjusted COPD death rates by gender and race/ethnicity. Male age-adjusted COPD death rates were significantly higher than female rates in all race/ethnic groups. The larger gender difference occurred among the Asian/Other, Black and Hispanic groups where the male rates were approximately double that of female rates. Whites had the lowest gender difference of all the race/ethnic groups.

**FIGURE 3**  
**CHRONIC OBSTRUCTIVE PULMONARY DISEASE**  
**DEATH RATES BY RACE/ETHNICITY AND SEX**  
**CALIFORNIA, 1998**  
**(By Place of Residence)**



Source: Table 1

**TABLE 3**  
**DEATHS DUE TO CHRONIC OBSTRUCTIVE PULMONARY DISEASE**  
**AMONG THE LOCAL HEALTH JURISDICTIONS**  
**CALIFORNIA, 1996-1998**  
**(By Place of Residence)**

LOCAL HEALTH JURISDICTION	NUMBER OF DEATHS (Average)	1997 POPULATION	CRUDE DEATH RATE	95% CONFIDENCE LIMITS	
				LOWER	UPPER
BERKELEY	26.3	106,300	24.7	15.3	34.2
LONG BEACH	200.3	440,900	45.4	39.1	51.7
PASADENA	63.7	138,700	45.9	34.6	57.2

Note: Rates are per 100,000 population; ICD-9 codes 490-496.

Source: State of California, Department of Finance, City/County *Population Estimates with Annual Percent Change, January 1, 1997 and 1998, May 1998.*  
 State of California, Department of Health Services, Death Records.

## Chronic Obstructive Pulmonary Disease Death Rates among California Counties

**Table 2** (page 8) displays the number of deaths, crude death rates and age-adjusted death rates by county, averaged over a three-year period, 1996 to 1998.

The highest and lowest reliable crude death rates due to COPD were in Lake County (120.5 per 100,000 population) and Imperial County (23.3) respectively.

Of the counties with reliable age-adjusted death rates due to COPD, Yuba County had the highest rate (36.4 per 100,000 population) while Imperial County had the lowest rate (14.1). California counties meeting the year 2000 national healthy people objective numbered 30 with reliable rates and 6 counties with unreliable rates.

## Chronic Obstructive Pulmonary Disease Death Data among City Health Departments

**Table 3** (page 4) shows the 1996-1998 average numbers of deaths and crude death rates for COPD for three of California's city health departments. Among the city health departments, Berkeley has 26.3 deaths due to COPD with a crude death rate of 24.7 per 100,000 population and Long Beach has 200.3 deaths with a crude death rate of 45.4. Pasadena has 63.7 deaths with a crude death rate of 45.9, the highest of the three city health departments.

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

### Technical Notes:

In accordance with the National Center for Health Statistics, the COPD data presented in this report are based on ICD-9 codes 490-496.

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 substantial variation from one year to the next. Consequently, **Tables 2 and 3** present three-year annual average death data to increase the reliability of the data by county and local health jurisdiction. Also, 95 percent confidence intervals and an indicator, "\*" (asterisk), denoting rates that have a relative standard error (coefficient of variation) greater than or equal to 23 percent are provided in the data tables as a tool for measuring the reliability of the death rates. the data tables as a tool for measuring the reliability of the death rates.

The four race/ethnic groups displayed in **Table 1** are mutually exclusive. White, Black, and Asian/Others exclude Hispanic ethnicity, while Hispanic includes any race/ethnic group. In order to remain consistent with the population data obtained from the Department of Finance, the "White race/ethnic group" includes: White, Other (specified), Not Stated, and Unknown; and the "Asian/Other race/ethnic group" includes: Aleut, American Indian, Asian Indian, Asian (specified/unspecified), Cambodian, Chinese, Eskimo, Filipino, Guamanian, Hawaiian, Japanese, Korean, Vietnamese, other Pacific Islander, Samoan, Thai, and Laotian. In addition, caution should be exercised in the interpretation of mortality data by race/ethnicity. Misclassification of race/ethnicity on the death certificate may contribute to death rates that may be underestimated among Hispanics and Asian/Other.<sup>8</sup>

The Department of Finance utilizes different methodologies in estimating the populations of cities versus counties, therefore the population data used to calculate the crude rates in **Table 3** differ from the population data used to calculate the crude rates in **Table 2**. Consequently, caution should be exercised when comparing the crude rates among the

three local health jurisdictions with the rates among the 58 California counties.

For a more complete explanation of the age-adjusting methodology see the *Healthy People 2000 Statistical Notes* publication.<sup>9</sup> Detailed information on data quality and limitations as well as the formulas used to calculate vital statistics rates are presented in the appendix of the annual report, *Vital Statistics of California*. Another source of information is the Department of Health Services, Center for Health Statistics, Home Page:

[\[www.dhs.ca.gov/org/hisp/chs/chsindex.htm\]](http://www.dhs.ca.gov/org/hisp/chs/chsindex.htm).

### References:

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6. Richards F. Chronic Obstructive Pulmonary Disease Deaths, California, 1997. *Data Summary*; No. D500-03002. Center for Health Statistics, California Department of Health Services, March 1999.
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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. Curtin LR, Klein RJ. Direct Standardization (Age-Adjusted Death Rates), *Healthy People 2000 Statistical Notes*, No. 6-Revised, National Center for Health Statistics, DHHS Pub. No. (PHS) 95-1237, March 1995.

TABLE 1  
DEATHS DUE TO CHRONIC OBSTRUCTIVE PULMONARY DISEASE BY RACE/ETHNICITY, AGE, AND SEX  
CALIFORNIA, 1998  
(By Place of Residence)

AGE GROUPS	DEATHS			POPULATION			AGE-SPECIFIC DEATH RATE			95% CONFIDENCE LIMITS					
	TOTAL	MALE	FEMALE	TOTAL	MALE	FEMALE	TOTAL	MALE	FEMALE	TOTAL		MALE		FEMALE	
										LOWER	UPPER	LOWER	UPPER	LOWER	UPPER
<b>TOTAL</b>															
Under 1	5	4	1	522,034	266,390	255,644	1.0*	1.5*	0.4*	0.1	1.8	0.0	3.0	-0.4	1.2
1 to 4	5	3	2	2,211,332	1,131,193	1,080,139	0.2*	0.3*	0.2*	0.0	0.4	0.0	0.6	-0.1	0.4
5 to 14	28	19	9	5,284,863	2,704,999	2,579,864	0.5	0.7*	0.3*	0.3	0.7	0.4	1.0	0.1	0.6
15 to 24	14	7	7	4,356,208	2,258,544	2,097,664	0.3*	0.3*	0.3*	0.2	0.5	0.1	0.5	0.1	0.6
25 to 34	47	29	18	5,208,869	2,758,217	2,450,652	0.9	1.1	0.7*	0.6	1.2	0.7	1.4	0.4	1.1
35 to 44	110	48	62	5,644,380	2,876,572	2,767,808	1.9	1.7	2.2	1.6	2.3	1.2	2.1	1.7	2.8
45 to 54	323	168	155	4,131,786	2,050,795	2,080,991	7.8	8.2	7.4	7.0	8.7	7.0	9.4	6.3	8.6
55 to 64	1,027	528	499	2,541,885	1,236,490	1,305,395	40.4	42.7	38.2	37.9	42.9	39.1	46.3	34.9	41.6
65 to 74	3,113	1,556	1,557	1,948,692	885,190	1,063,502	159.7	175.8	146.4	154.1	165.4	167.0	184.5	139.1	153.7
75 to 84	4,899	2,345	2,554	1,236,392	501,453	734,939	396.2	467.6	347.5	385.1	407.3	448.7	486.6	334.0	361.0
85 & Older	2,689	1,174	1,515	406,376	125,502	280,874	661.7	935.4	539.4	636.7	686.7	881.9	989.0	512.2	566.5
Unknown	1	1	0												
Total	12,261	5,882	6,379	33,492,817	16,795,345	16,697,472	36.6	35.0	38.2	36.0	37.3	34.1	35.9	37.3	39.1
Age-Adjusted							21.2	24.2	19.1	20.8	21.6	23.6	24.8	18.6	19.6
<b>ASIAN/OTHER</b>															
Under 1	0	0	0	59,298	30,720	28,578	0.0+	0.0+	0.0+	-	-	-	-	-	-
1 to 4	0	0	0	255,226	131,589	123,637	0.0+	0.0+	0.0+	-	-	-	-	-	-
5 to 14	6	5	1	615,588	315,572	300,016	1.0*	1.6*	0.3*	0.2	1.8	0.2	3.0	0.0	1.0
15 to 24	2	0	2	565,434	290,066	275,368	0.4*	0.0+	0.7*	0.0	0.8	-	-	0.0	1.7
25 to 34	6	3	3	626,348	316,425	309,923	1.0*	0.9*	1.0*	0.2	1.7	0.0	2.0	0.0	2.1
35 to 44	6	3	3	670,617	323,636	346,981	0.9*	0.9*	0.9*	0.2	1.6	0.0	2.0	0.0	1.8
45 to 54	13	10	3	498,901	236,177	262,724	2.6	4.2	1.1*	1.2	4.0	1.6	6.9	0.0	2.4
55 to 64	39	26	13	286,259	135,484	150,775	13.6	19.2	8.6*	9.3	17.9	11.8	26.6	3.9	13.3
65 to 74	122	82	40	203,383	88,240	115,143	60.0	92.9	34.7	49.3	70.6	72.8	113.0	24.0	45.5
75 to 84	184	116	68	109,047	46,367	62,680	168.7	250.2	108.5	144.4	193.1	204.7	295.7	82.7	134.3
85 & Older	139	93	46	32,493	13,822	18,671	427.8	672.8	246.4	356.7	498.9	536.1	809.6	175.2	317.6
Unknown	0	0	0												
Total	517	338	179	3,922,594	1,928,098	1,994,496	13.2	17.5	9.0*	12.0	14.3	15.7	19.4	7.7	10.3
Age-Adjusted							8.9	13.3	5.5	8.2	9.7	11.9	14.7	4.7	6.3
<b>BLACK</b>															
Under 1	0	0	0	35,290	18,083	17,207	0.0+	0.0+	0.0+	-	-	-	-	-	-
1 to 4	1	0	1	157,434	79,976	77,458	0.6*	0.0+	1.3*	0.0	1.9	-	-	0.0	3.8
5 to 14	9	6	3	414,292	209,767	204,525	2.2*	2.9*	1.5*	0.8	3.6	0.6	5.1	0.0	3.1
15 to 24	7	5	2	352,516	184,981	167,535	2.0*	2.7*	1.2*	0.5	3.5	0.3	5.1	0.0	2.8
25 to 34	9	5	4	386,096	201,122	184,974	2.3*	2.5*	2.2*	0.8	3.9	0.3	4.7	0.0	4.3
35 to 44	27	11	16	392,571	191,281	201,290	6.9	5.8*	7.9*	4.3	9.5	2.4	9.1	4.1	11.8
45 to 54	63	35	28	267,602	125,822	141,780	23.5	27.8	19.7	17.7	29.4	18.6	37.0	12.4	27.1
55 to 64	99	60	39	163,032	76,090	86,942	60.7	78.9	44.9	48.8	72.7	58.9	98.8	30.8	58.9
65 to 74	176	109	67	105,180	45,362	59,818	167.3	240.3	112.0	142.6	192.1	195.2	285.4	85.2	138.8
75 to 84	175	105	70	58,348	21,889	36,459	299.9	479.7	192.0	255.5	344.4	387.9	571.4	147.0	237.0
85 & Older	85	40	45	17,878	5,270	12,608	475.4	759.0	356.9	374.4	576.5	523.8	994.2	252.6	461.2
Unknown	0	0	0												
Total	651	376	275	2,350,239	1,159,643	1,190,596	27.7	32.4	23.1	25.6	29.8	29.1	35.7	20.4	25.8
Age-Adjusted							24.4	33.8	17.7	22.5	26.2	30.4	37.2	15.6	19.8
<b>HISPANIC</b>															
Under 1	3	2	1	247,713	125,675	122,038	1.2*	1.6*	0.8*	0.0	2.6	0.0	3.8	0.0	2.4
1 to 4	2	1	1	1,024,463	522,147	502,316	0.2*	0.2*	0.2*	0.0	0.5	0.0	0.6	0.0	0.6
5 to 14	5	4	1	2,054,172	1,048,592	1,005,580	0.2*	0.4*	0.1*	0.0	0.5	0.0	0.8	0.0	0.3
15 to 24	1	1	0	1,494,249	771,494	722,755	0.1*	0.1*	0.0+	0.0	0.2	0.0	0.4	-	-
25 to 34	13	8	5	1,820,094	1,021,495	798,599	0.7*	0.8*	0.6*	0.3	1.1	0.2	1.3	0.1	1.2
35 to 44	15	4	11	1,503,414	797,133	706,281	1.0*	0.5*	1.6*	0.5	1.5	0.0	1.0	0.6	2.5
45 to 54	22	16	6	848,771	429,818	418,953	2.6	3.7*	1.4*	1.5	3.7	1.9	5.5	0.3	2.6
55 to 64	52	36	16	454,852	220,075	234,777	11.4	16.4	6.8*	8.3	14.5	11.0	21.7	3.5	10.2
65 to 74	158	92	66	299,470	135,955	163,515	52.8	67.7	40.4	44.5	61.0	53.8	81.5	30.6	50.1
75 to 84	237	135	102	140,610	57,195	83,415	168.6	236.0	122.3	147.1	190.0	196.2	275.9	98.5	146.0
85 & Older	166	93	73	51,135	17,548	33,587	324.6	530.0	217.3	275.2	374.0	422.3	637.7	167.5	267.2
Unknown	0	0	0												
Total	674	392	282	9,938,943	5,147,127	4,791,816	6.8	7.6	5.9	6.3	7.3	6.9	8.4	5.2	6.6
Age-Adjusted							7.9	10.9	5.7	7.3	8.5	9.8	12.0	5.1	6.4

Rates are per 100,000

\* Death rate unreliable, relative standard error >=23%

-Confidence limit is not calculated for no(zero) deaths.

+ Standard error indeterminate, death rate based on zero deaths

TABLE 2  
DEATHS DUE TO CHRONIC OBSTRUCTIVE PULMONARY DISEASE BY COUNTY  
CALIFORNIA, 1996-1998  
(By Place of Residence)

COUNTY	1996-1998 DEATHS (Average)	PERCENT	1997 POPULATION	CRUDE RATE	AGE-ADJUSTED RATE	95% CONFIDENCE LIMITS	
						LOWER	UPPER
CALIFORNIA	11,790.3	100.0	32,956,695	35.8	20.9	20.5	21.4
ALAMEDA	438.7	3.7	1,398,421	31.4	18.6	16.7	20.5
ALPINE	0.3	a	1,174	28.4*	7.7*	0.0	33.8
AMADOR	15.7	0.1	33,472	46.8*	13.5*	5.8	21.3
BUTTE	150.3	1.3	198,459	75.8	28.0	22.5	33.4
CALAVERAS	22.3	0.2	37,916	58.9	19.1	10.2	28.1
COLUSA	7.7	0.1	18,530	41.4*	22.2*	4.4	39.9
CONTRA COSTA	327.7	2.8	896,206	36.6	19.5	17.2	21.8
DEL NORTE	16.7	0.1	28,413	58.7*	29.9*	13.2	46.6
EL DORADO	57.3	0.5	147,409	38.9	19.5	14.0	25.0
FRESNO	272.0	2.3	778,674	34.9	23.3	20.2	26.4
GLENN	14.0	0.1	26,856	52.1*	25.7*	10.5	40.9
HUMBOLDT	77.7	0.7	126,137	61.6	33.8	25.6	42.1
IMPERIAL	33.3	0.3	142,759	23.3	14.1	8.7	19.4
INYO	14.7	0.1	18,272	80.3*	26.2*	9.9	42.5
KERN	261.7	2.2	634,404	41.2	27.4	23.8	31.1
KINGS	41.0	0.3	117,793	34.8	28.1	18.8	37.4
LAKE	66.3	0.6	55,047	120.5	34.5	24.2	44.8
LASSEN	18.0	0.2	33,861	53.2*	31.3*	14.8	47.8
LOS ANGELES	2,779.0	23.6	9,524,613	29.2	18.5	17.7	19.2
MADERA	43.0	0.4	113,525	37.9	20.8	14.0	27.6
MARIN	97.7	0.8	243,214	40.2	18.0	14.1	21.9
MARIPOSA	10.3	0.1	15,957	64.8*	26.4*	6.1	46.6
MENDOCINO	44.0	0.4	85,966	51.2	24.9	16.9	33.0
MERCED	73.7	0.6	201,905	36.5	26.2	19.7	32.6
MODOC	7.3	0.1	10,140	72.3*	22.5*	3.9	41.2
MONO	3.0	0.0	10,531	28.5*	21.3*	0.0	45.7
MONTEREY	118.3	1.0	377,744	31.3	19.1	15.3	23.0
NAPA	63.3	0.5	121,239	52.2	19.7	14.0	25.4
NEVADA	50.3	0.4	88,356	57.0	15.8	10.8	20.9
ORANGE	839.3	7.1	2,705,313	31.0	19.4	18.0	20.8
PLACER	102.7	0.9	215,634	47.6	23.5	18.5	28.4
PLUMAS	18.7	0.2	20,402	91.5*	27.0*	12.9	41.1
RIVERSIDE	713.3	6.1	1,423,699	50.1	24.5	22.4	26.6
SACRAMENTO	494.0	4.2	1,146,825	43.1	25.6	23.2	28.1
SAN BENITO	13.0	0.1	46,121	28.2*	16.4*	6.8	26.1
SAN BERNARDINO	668.3	5.7	1,617,262	41.3	31.1	28.6	33.6
SAN DIEGO	1,072.0	9.1	2,763,401	38.8	22.3	20.8	23.8
SAN FRANCISCO	262.3	2.2	777,368	33.7	14.7	12.6	16.8
SAN JOAQUIN	231.3	2.0	542,196	42.7	25.5	21.8	29.2
SAN LUIS OBISPO	127.0	1.1	234,813	54.1	22.6	18.0	27.2
SAN MATEO	216.7	1.8	711,699	30.4	14.2	12.1	16.3
SANTA BARBARA	139.7	1.2	400,751	34.9	17.6	14.2	21.0
SANTA CLARA	403.3	3.4	1,671,414	24.1	15.9	14.2	17.5
SANTA CRUZ	101.7	0.9	247,216	41.1	22.8	17.7	27.8
SHASTA	121.7	1.0	163,351	74.5	35.9	28.8	42.9
SIERRA	3.7	a	3,406	107.7*	37.2*	0.0	81.7
SISKIYOU	30.0	0.3	44,186	67.9	28.9	17.2	40.6
SOLANO	124.7	1.1	378,664	32.9	24.1	19.6	28.5
SONOMA	196.7	1.7	432,771	45.4	21.6	18.1	25.1
STANISLAUS	187.7	1.6	425,407	44.1	27.1	22.8	31.4
SUTTER	32.3	0.3	76,004	42.5	22.4	13.9	30.9
TEHAMA	35.3	0.3	54,702	64.6	26.0	16.0	36.0
TRINITY	12.0	0.1	13,230	90.7*	38.4*	14.1	62.7
TULARE	145.0	1.2	358,337	40.5	25.3	20.7	30.0
TUOLUMNE	28.7	0.2	52,280	54.8	21.1	12.0	30.1
VENTURA	253.0	2.1	727,154	34.8	20.6	17.9	23.4
YOLO	57.0	0.5	154,850	36.8	24.5	17.5	31.4
YUBA	34.0	0.3	61,246	55.5	36.4	23.0	49.8

Note : Rates are per 100,000 population. ICD-9 codes 490-496.

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

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