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DATA SUMMARY  
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This Data Summary is one of a series of Infant Mortality Reports.

## Highlights

- The 2001 infant mortality rate in California was down 1.9 percent from the 2000 rate.
- California's infant mortality rate of 5.3 was below the U.S. provisional rate of 6.9.
- The non-Hispanic Black infant mortality rate remained more than twice as high as the non-Hispanic White and Hispanic rates.

# CALIFORNIA'S INFANT MORTALITY RATE, 2001

By Sandy Ficenec

## Introduction

The infant mortality rate (deaths among infants under one year old per 1,000 live births) continues to be one of the most widely used indicators of overall health status of a community. In the report Healthy People 2010 Objectives, the United States Department of Health and Human Services set an infant mortality rate of 4.5 as the target national objective rate to be met by the year 2010.<sup>1</sup> If California's infant mortality rate continues to decline at the rate it did during the last decade, California could meet the 2010 national objective.

## California's Infant Mortality Rate

In 2001, there were a total of 2,815 infant deaths and 527,371 live births among California residents for an infant mortality rate of 5.3. The 2001 infant mortality rate was down 1.9 percent from the 2000 rate of 5.4. The rate has dropped 32.9 percent since 1990 and 52.3 percent since 1980 (**Table 1**). California's infant mortality rate for 2001 was lower than the provisional rate for the United States (6.9).<sup>2</sup>

## California's Infant Mortality Rates By Race/Ethnicity

**Table 2** and **Figure 1** show the infant mortality rates by race/ethnicity.<sup>3</sup> Between 1992 and 2001, the rates for the three race/ethnic groups have generally decreased. The rate for California's non-Hispanic Black population was 12.6 in 2001, a decrease of 1.6 percent from the 2000 rate of 12.8 and a decrease of 24.6 percent from the 1992 rate of 16.7. The infant mortality rate also decreased for California's Hispanic race/ethnic group, down 5.7 percent from 5.3 in 2000 to 5.0 in 2001 and was 21.9 percent lower than the 6.4 rate in 1992. The infant mortality rate for the non-Hispanic White group was up 4.2 percent from 4.8 in 2000 to 5.0 in 2001 and down 20.6 percent from the 1992 rate of 6.3. The changes from 2000 to 2001 among the three race groups

<sup>1</sup> U.S. Department of Health and Human Services, *Healthy People 2010 Objectives*, Volume II, January 2001.

<sup>2</sup> National Vital Statistics Reports, *Births, Marriages, Divorces, and Deaths: Provisional Data for 2001*, DHHS Pub No. (PHS) 2002-1120, September 11, 2002; Vol. 50, No. 14.

<sup>3</sup> In 2000, new race collection methods cause a slight discontinuity between White and Black infant mortality rates. See Methodological Approach for details.

Reports from prior periods are available on this subject.

were not statistically significant ( $p < .05$ ).<sup>4</sup> Comparing the three race/ethnic groups, non-Hispanic Whites and Hispanics continued to have mortality rates that were relatively similar and significantly below the rate for non-Hispanic Blacks. However, the greatest number of infant deaths occurred among Hispanics (1,313 deaths, 46.6 percent) and non-Hispanic Whites (813 deaths, 28.9 percent).

## County Infant Mortality Rates

Infant mortality rates for 36 of California's 58 counties are shown on **Table 3**. Infant mortality rates were not presented for other counties because they have fewer than the 1,000 live births and/or fewer than five infant deaths needed to calculate reliable mortality rates. Even in some of the medium and large counties, the infant mortality rate can vary substantially from year to year. These 36 counties accounted for 98.2 percent of California's live births and 98.5 percent of the infant deaths in 2001.

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

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

In 2001, the county infant mortality rates varied from a high of 9.4 in Mendocino County to a low of 2.8 in Marin County. Twenty-one counties had a lower rate in 2001 compared with 2000, and thirteen had a higher rate. For one county the rate was unchanged from 2000 to 2001. Statistical tests applied to the 2001 and 2000 infant mortality rates in each county revealed Alameda County had a statistically significant increase and Fresno and Riverside Counties had statistically significant decreases ( $p < .05$ );<sup>4</sup> all others were not statistically significant.

**Table 3** also shows infant mortality rates for the three city health departments. In 2001, these rates ranged from 4.6 and 4.7 in Long Beach and Pasadena to 4.8 in Berkeley.

## Methodological Approach

Beginning with the 2000 birth and death data, race reporting changed to allow for the reporting of up to three races. In 2001, mothers of multiple race (two or more races) accounted for 9,925 or 1.9 percent of California's resident births and 70, or 2.5 percent of the infant deaths were multiple-race decedents. Because race groups are not strictly comparable to those of prior years, trends by race/ethnicity should be viewed with caution.

**Table 2** provides infant mortality rates for decedents who were Hispanic (of any race or races), non-Hispanic Black and non-Hispanic White. These rates are calculated with respective denominators consisting of births to mothers who were Hispanic (of any race or races), non-Hispanic Black, and non-Hispanic White. For 2001 data, White and Black decedents and mothers were single race, White and Black only. Rates were not calculated for additional race/ethnic groups due to the unsatisfactory reporting of some races on death certificates, and the unstable rates that result from small numbers of events. Birth Cohort files should be used for calculating mortality rates for other groups. "Total" infant mortality rates include all infant deaths per 1,000 live births, irrespective of race or Hispanic origin.

<sup>4</sup> Kleinman, J., Infant Mortality. *Statistical Notes for Health Planners*. No. 2, National Center for Health Statistics, July 1976.

**TABLE 1**  
**NUMBER AND RATE OF INFANT DEATHS**  
**CALIFORNIA, 1950,1960,1970,1980 - 2001**  
**(By Place of Residence)**

YEAR	NUMBER OF INFANT DEATHS	INFANT MORTALITY RATE <sup>1</sup>
2001	2,815	5.3
2000	2,884	5.4
1999	2,787	5.4
1998	2,994	5.7
1997	3,091	5.9
1996	3,186	5.9
1995	3,478	6.3
1994	3,948	7.0
1993	3,970	6.8
1992	4,174	6.9
1991	4,596	7.5
1990	4,828	7.9
1989	4,853	8.5
1988	4,559	8.6
1987	4,530	9.0
1986	4,298	8.9
1985	4,475	9.5
1984	4,212	9.4
1983	4,226	9.7
1982	4,218	9.8
1981	4,276	10.2
1980	4,451	11.1
1970	6,243	17.2
1960	8,663	23.3
1950	6,095	24.9

<sup>1</sup> Deaths under one year of age per 1,000 live births.

Source: State of California, Department of Health Services, Birth and Death Records.

**TABLE 2**  
**INFANT MORTALITY RATES BY RACE/ETHNICITY <sup>1</sup>**  
**CALIFORNIA, 1992-2001**  
**(By Place of Residence)**

RACE/ ETHNICITY	INFANT MORTALITY RATES BY RACE/ETHNICITY <sup>1</sup>										INFANT DEATHS 2001 <sup>a</sup>
	1992	1993	1994	1995	1996	1997	1998	1999	2000 <sup>a</sup>	2001 <sup>a</sup>	
TOTAL <sup>2</sup>	6.9	6.8	7.0	6.3	5.9	5.9	5.7	5.4	5.4	5.3	2,815
HISPANIC	6.4	6.4	6.3	5.8	5.4	5.6	5.5	5.2	5.3	5.0	1,313
NON-HISPANIC BLACK	16.7	15.5	15.2	14.1	14.0	13.2	13.7	12.9	12.8	12.6	390
NON-HISPANIC WHITE	6.3	6.2	6.8	6.0	5.6	5.5	5.1	4.8	4.8	5.0	813

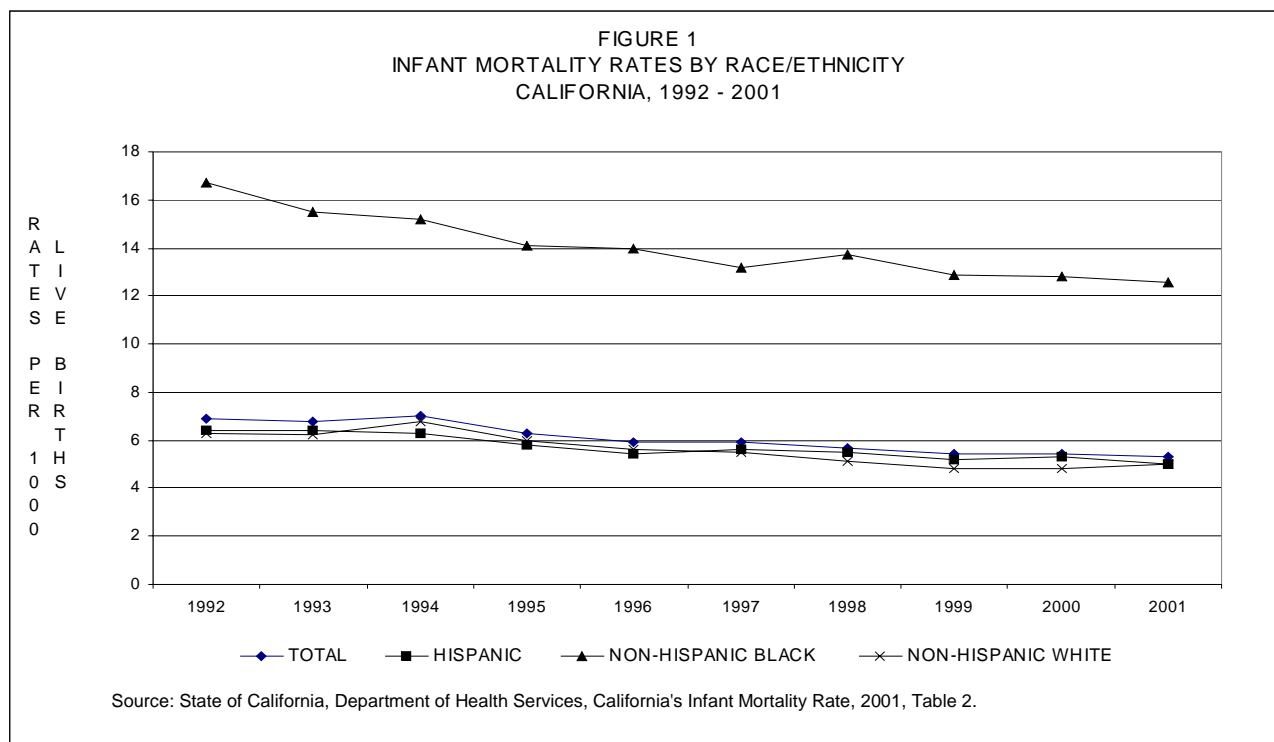
<sup>1</sup> Denominator of rates are by race/ethnicity of mother. All infants and births to mothers of Spanish/Hispanic origin regardless of race are included in the "Hispanic" group.

<sup>a</sup> Beginning with the 2000 birth and death data, race reporting changed to allow for the reporting of up to three races. In 2000 and 2001, Mothers in the "White" and "Black" groups are non-Hispanic and reported the single race "White" or "Black" only. This change causes a slight discontinuity between 2000 and 2001 and prior years for Black and White infants.

<sup>2</sup> Total Includes all race groups (White, Black, Hispanic, Asian, Pacific Islander, American Indian, Other, Two or more races and Unknown race).

Note: Rates are per 1,000 live births.

Source: State of California, Department of Health Services, Birth and Death Records.



**TABLE 3**  
**INFANT MORTALITY RATES BY COUNTY OF RESIDENCE<sup>1</sup>**  
**CALIFORNIA, 1992 - 2001**

COUNTY	INFANT MORTALITY RATES PER 1,000 LIVE BIRTHS										INFANT DEATHS 2001
	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	
CALIFORNIA	6.9	6.8	7.0	6.3	5.9	5.9	5.7	5.4	5.4	5.3	2,815
ALAMEDA	7.2	6.2	6.4	5.4	6.0	6.0	5.1	5.3	4.6	6.0	133
BERKELEY <sup>2</sup>	8.9	10.5	b	b	b	b	a	a,b	a,b	4.8	5
BUTTE	7.3	7.7	6.4	10.3	6.9	6.7	7.9	3.1	6.4	4.3	10
CONTRA COSTA	6.6	5.8	5.7	6.0	5.5	5.1	5.9	5.2	4.8	4.0	53
EL DORADO	7.9	4.5	8.9	3.5	6.0	a	3.6	4.9	a	5.3	9
FRESNO	9.5	7.4	9.3	8.3	7.9	8.4	6.5	6.1	7.2	5.2	74
HUMBOLDT	6.7	11.2	12.5	8.9	4.7	4.1	8.9	4.1	7.3	4.0	6
IMPERIAL	4.7	5.3	6.2	4.9	4.4	2.5	7.2	4.9	4.7	5.4	14
KERN	8.9	10.8	11.2	10.9	9.8	6.7	6.7	6.9	7.4	6.6	77
KINGS	7.8	6.5	9.0	6.1	11.5	5.8	7.9	7.4	6.0	4.2	9
LOS ANGELES	7.2	7.3	6.9	6.7	5.9	5.9	5.9	5.4	4.9	5.4	828
LONG BEACH <sup>2</sup>	4.9	8.2	9.3	8.1	4.9	4.4	7.1	6.1	6.7	4.6	38
PASADENA <sup>2</sup>	8.8	12.6	7.5	7.3	8.5	5.3	6.4	7.1	7.3	4.7	11
MADERA	6.0	8.0	8.2	7.0	6.5	4.0	6.3	5.1	5.7	5.9	13
MARIN	3.1	6.1	5.1	2.7	3.4	4.5	2.3	2.6	3.5	2.8	8
MENDOCINO	6.2	11.8	6.1	8.0	9.8	4.9	5.5	a	8.3	9.4	10
MERCED	7.3	5.9	7.2	8.2	7.2	6.9	6.2	6.6	4.9	5.3	21
MONTEREY	6.1	7.1	5.8	5.7	5.3	5.8	6.2	4.8	5.7	5.4	39
ORANGE	5.4	5.9	6.0	5.6	4.4	4.4	4.4	4.4	4.9	4.5	206
PLACER	4.2	7.6	4.1	6.3	6.2	1.9	4.1	6.1	7.2	4.8	15
RIVERSIDE	8.4	7.6	8.4	7.1	6.4	6.0	7.5	6.8	6.7	4.5	114
SACRAMENTO	7.0	7.1	7.3	7.0	6.9	7.0	6.1	6.2	5.8	6.2	117
SAN BERNARDINO	8.6	7.9	7.9	7.7	7.1	8.3	7.5	7.6	7.0	7.7	226
SAN DIEGO	5.9	6.2	6.6	4.9	5.4	5.5	5.2	5.2	5.9	5.6	246
SAN FRANCISCO	7.2	5.0	8.2	4.3	4.8	4.5	5.0	3.8	4.0	3.8	31
SAN JOAQUIN	8.6	8.5	7.6	6.4	7.6	7.2	6.0	4.6	6.9	7.2	71
SAN LUIS OBISPO	6.8	7.5	7.1	3.8	4.4	6.0	5.9	3.0	4.5	6.2	15
SAN MATEO	5.2	4.0	3.2	5.1	4.0	5.1	4.3	3.6	5.3	3.8	39
SANTA BARBARA	5.0	6.4	5.0	6.7	3.7	4.5	5.7	4.7	5.6	4.6	26
SANTA CLARA	6.0	5.3	5.8	5.2	5.1	5.6	3.8	4.8	4.5	4.0	109
SANTA CRUZ	4.2	6.2	7.6	3.7	6.1	4.8	5.8	4.9	4.6	3.7	13
SHASTA	9.8	5.2	8.0	6.9	5.9	8.5	4.6	6.0	6.0	6.2	12
SOLANO	7.4	7.1	8.8	5.1	7.1	6.4	6.5	5.6	4.6	4.3	25
SONOMA	6.0	5.7	5.3	4.4	4.2	4.1	5.5	5.9	4.8	3.7	21
STANISLAUS	9.3	5.8	8.4	5.9	6.8	7.1	6.8	7.0	7.0	7.4	56
TULARE	6.2	5.8	7.1	5.7	6.1	6.1	6.8	5.0	6.6	6.6	48
VENTURA	5.8	5.5	4.8	5.4	5.0	7.5	5.6	5.0	4.1	5.3	60
YOLO	8.8	6.1	9.7	5.0	9.7	6.2	3.3	3.7	6.2	5.6	13
YUBA	5.2	6.3	8.9	8.4	4.6	8.6	b	7.0	9.5	6.7	7

<sup>1</sup> Counties with 1,000 or more births and/or five or more infant deaths in 2001.

<sup>2</sup> Berkeley, Long Beach, and Pasadena are city health departments. City events are included in their respective county totals.

<sup>a</sup> Rates are not calculated for fewer than five events.