



Center for Health Statistics



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DATA SUMMARY
No. DS 04-04001

Reports from prior periods are available on this subject.

Highlights

- # In 2002 life expectancy at birth for the total California population was 79.4 years, an increase of .3 years from 2001.
- # The life expectancy of Californians was 2.0 years longer than the life expectancy of the U.S. population.
- # The difference in life expectancy between California males and females was 4.7 years in 2002, narrowing the difference of 6.7 years in 1990.

Abridged Life Tables for California, 2002

By Sandy Ficenec

Introduction

Life tables statistically summarize the death rates for a specific period, and they have long been used as the principal analytical tool in the study of life expectancy. There are two types of life tables: the generation or cohort life table and the current life table.

The generation life table provides a longitudinal perspective and involves the mortality experience of a group or cohort of individuals that were born during the same time period. This type of life table best reflects changing environmental conditions, but is not often used due to the practical constraints of gathering mortality data over many years.

A current life table can be characterized as “cross-sectional.” Unlike the generation life table, the current life table does not represent the mortality experience of an actual cohort. This type of table considers a hypothetical cohort and assumes that it is subject to the age-specific death rates for an actual population during a particular period. In this report the term “life table” refers only to the current life table and not to the generation life table.

Life tables can also differ in the length of the age intervals used. A complete life table uses every single year of age from birth to the last applicable age. An abridged life table uses broader age intervals--generally five years. This report uses current abridged life tables for all California residents, males and females, for 2002.

Life Expectancy at Birth for Total Population

Table 1 shows that in 2002 the average life expectancy at birth was 79.4 years for the total California population. Life expectancy continued the general increase that has occurred over the years presented in **Table 1**, going back to 1950. **Figure 1** shows the trend of increasing life expectancy in California for the years 1990 through 2002. During this time period, life expectancy increased 3.2 years.

The life expectancy of Californians continues to exceed the life expectancy of the population of the United States (U.S.). In 2002 life expectancy was

79.4 years for the total California population compared with 77.4 years for that of the U.S. population as a whole (Tables 2). The U.S. data for 2002 are preliminary.

Life Expectancy at Birth by Sex

Life expectancy for females in 2002 was 81.7 years. Between 1990 and 2002 life expectancy for females increased 2.2 years. Life expectancy for males was 77.0 years in 2002 with an increase of 4.2 years between 1990 and 2002. In 2002 the difference in life expectancy between males and females was 4.7 years, a slight

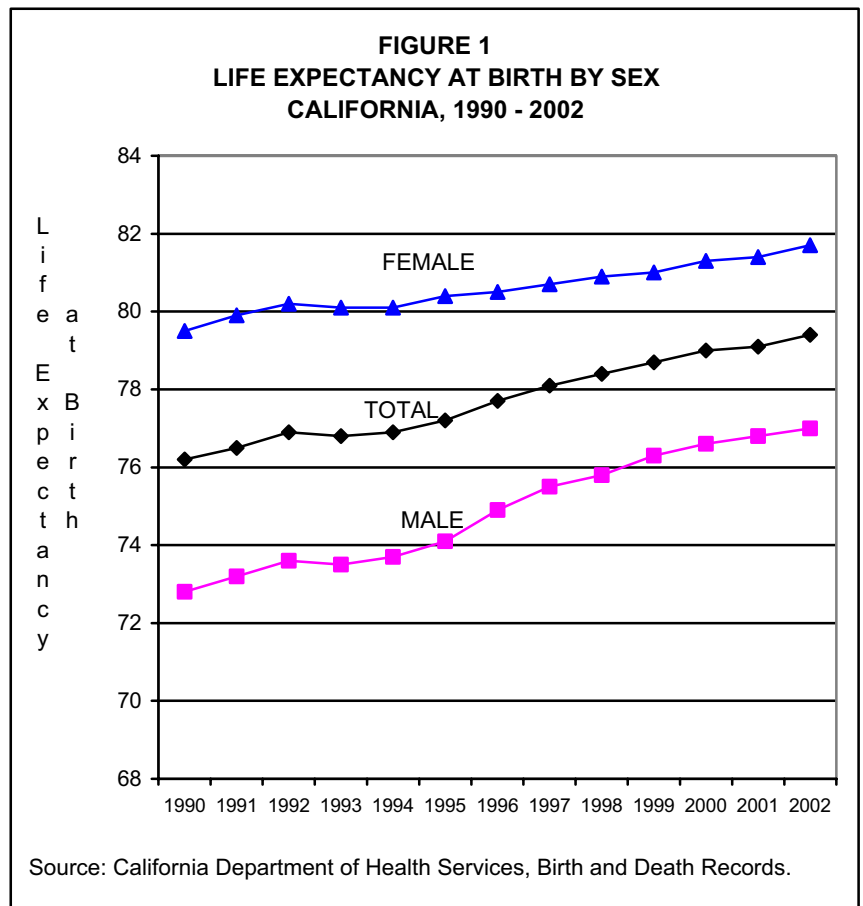
increase from the difference in 2001 of 4.6 years but a narrowing from the difference of 6.7 years in 1990. **Figure 1** shows the increases in life expectancy for both males and females, as well as the decrease in discrepancy between the two sexes.

California's male population at birth was expected to live 2.3 years longer than the U.S. male population in 2002. California's females were expected to live 1.8 years longer than the U.S. female population in 2002.

Life Expectancy at Age 65

Expected remaining average years of life are often examined at 65 years of age. In 2002 a 65-year-old person living in California could expect to live an additional 19.5 years, for a total of 84.5 years. This was 0.2 year longer than in 2001 and 1.6 years longer than in 1990.

At age 65, Californians were expected to live 1.3 years longer than the U.S. population in 2002 (preliminary), a larger discrepancy than in prior years (1.2 years in 2001 and 0.7 years in 1990). The average years of life remaining at age 65 in California has consistently exceeded the average years of life remaining at age 65 in the U.S.



A description of [methods](#) is provided at the end of this report.

Life Expectancy at Age 65 by Sex

In 2002 California's male population at age 65 was expected to live 1.5 years longer than the U.S. male population (preliminary), while California's female population was expected to live 1.2 years longer than the U.S. female population (preliminary). Californians of both sexes at age 65 have exceeded their respective U.S. life expectancies for many years (**Tables 1 and 2**).

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

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

Detailed Life Tables

Tables 3 through 5 in this report are 2002 abridged life tables for California's total, male and female populations. These tables show more detail than **Tables 1 and 2**, with age intervals calculated in five-year increments.

Methodological Approach

A report entitled "Methodology for Constructing Life Tables for 1977" describes in detail the methodology used in constructing life tables.¹ The standard life table methodology uses Chiang's formulae and the "fraction of last year of life" adjustments to calculate the probability of death.² The 2002 life tables in this report follows this methodology, with the exceptions that are noted in the technical notes of the report "California Life Expectancy: Abridged Life Tables For California 1990-1996."³ The 2002 population data used for the life tables in this report came from the State of California, Department of Finance.

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¹Oreglia A. *Methodology For Constructing Abridged Life Tables For California, 1977*, Data Matters, No. 81-01021, Center for Health Statistics, California Department of Health Services, January 1981.

²Chiang Chin Long. *Life Table and Mortality Analysis*, World Health Organization, 1978.

³Harms C., McKendry J. *California Life Expectancy: Abridged Life Tables For California, 1990-96*, Data Matters, No. DM98-08000, Center for Health Statistics, California Department of Health Services, August 1998.

TABLE 1
LIFE EXPECTANCY AT BIRTH
AND AVERAGE YEARS OF LIFE REMAINING AT AGE 65
BY SELECTED YEARS AND SEX
CALIFORNIA, 1919-1941^a, 1950, 1959-61, 1969-71, 1979-81, 1990-2002

YEAR	AT BIRTH			AT 65 YEARS		
	TOTAL POPULATION	MALES	FEMALES	TOTAL POPULATION	MALES	FEMALES
2002	79.4	77.0	81.7	19.5	18.1	20.7
2001	79.1	76.8	81.4	19.3	17.9	20.5
2000	79.0	76.6	81.3	19.1	17.6	20.4
1999	78.7	76.3	81.0	18.8	17.3	20.1
1998	78.4	75.8	80.9	18.7	17.1	20.0
1997	78.1	75.5	80.7	18.6	17.0	20.0
1996	77.7	74.9	80.5	18.6	16.8	20.0
1995	77.2	74.1	80.4	18.5	16.7	19.9
1994	76.9	73.7	80.1	18.3	16.5	19.8
1993	76.8	73.5	80.1	18.3	16.5	19.8
1992	76.9	73.6	80.2	18.4	16.5	19.9
1991	76.5	73.2	79.9	18.1	16.2	19.7
1990	76.2	72.8	79.5	17.9	16.0	19.4
1979-81	74.8	71.3	78.3	17.1	14.9	19.0
1969-71	71.7	68.2	75.4	15.5	13.4	17.4
1959-61	70.9	67.6	74.5	15.1	13.3	16.7
1950	69.2	65.9	73.0	14.5	13.0	16.1
1939-41	NA	61.9	68.3	NA	11.8	14.4
1929-31	NA	58.6	63.7	NA	12.0 ^b	14.0 ^b
1919-20	NA	54.5	58.4	NA	12.4 ^b	13.4 ^b

^a Whites Only

^b Interpolated

NA = Not Available

Sources: 1979-81 and 1990-2002 State of California, Department of Health Services, Birth and Death Records.

1969-71 National Center for Health Statistics, U.S. Decennial Life Tables for 1969-71: California, DHEW Publication No. (HRA) 75-1151, U.S. DHEW, June 1975.

1959-61 Norris F D., Riese D C., *Abridged Life Tables, California, 1959-61*, California Department of Public Health, September 1963.

1950 Schoen R, Collens M, *Mortality by Cause: Life Tables for California, 1950-1970*. California State Department for Public Health.

1939-41 National Office of Vital Statistics, State and Regional Life Tables, 1939-41, U.S. Federal Security Agency, March 11, 1948, pp. 82-85.

1919-20 and 1929-31 Dublin, L I., et al, *Length of Life*, Ronald Press Company, New York 1949, p. 325 and 333.

State of California, Department of Finance; 1978-81 and 1990-96 Population: 1970-1996 Race/Ethnic Population Estimates by County with Age and Sex Detail, January 1998. 1997 Population: Population Estimates with Age and Sex Detail, June 1999. 1998 Population: Population Estimates with Age and Sex Detail, May 2000. 1999-2002 Population: 1997-2040 Population Projections with Age and Sex Detail, December 1998.

TABLE 2
LIFE EXPECTANCY AT BIRTH
AND AVERAGE YEARS OF LIFE REMAINING AT AGE 65
BY SELECTED YEARS AND SEX
UNITED STATES, 1949-51, 1959-61, 1969-71, 1979-81, 1990-2002

YEAR	AT BIRTH			AT 65 YEARS		
	TOTAL POPULATION	MALES	FEMALES	TOTAL POPULATION	MALES	FEMALES
2002	77.4	74.7	79.9	18.2	16.6	19.5
2001	77.2	74.4	79.8	18.1	16.4	19.4
2000	77.0	74.3	79.7	18.0	16.2	19.3
1999	76.7	73.9	79.4	17.7	16.1	19.1
1998	76.7	73.8	79.5	17.8	16.0	19.2
1997	76.5	73.6	79.4	17.7	15.9	19.2
1996	76.1	73.1	79.1	17.5	15.7	19.0
1995	75.8	72.5	78.9	17.4	15.6	18.9
1994	75.7	72.4	79.0	17.4	15.5	19.0
1993	75.5	72.2	78.8	17.3	15.3	18.9
1992	75.8	72.3	79.1	17.5	15.4	19.2
1991	75.5	72.0	78.9	17.4	15.3	19.1
1990	75.4	71.8	78.8	17.2	15.1	18.9
1979-81	73.9	70.1	77.6	16.5	14.2	18.4
1969-71	70.8	67.0	74.6	15.0	13.0	16.8
1959-61	69.9	66.8	73.2	14.4	13.0	15.8
1949-51	68.1	65.5	71.0	13.8	12.7	15.0

Note: Prior to 1970 includes deaths of nonresidents of the United States.

Sources: 1949-1998 Data: National Center for Health Statistics, United States Life Tables, 1998, Vol. 48, No.18, Tables 11 and 12, February 2001 and National Center for Health Statistics, Health, United States, 2000 With Adolescent Health Chartbook, July 2000.
1999 Data: National Vital Statistics Reports, Deaths: Final Data for 1999, Volume 49, Number 8, Tables 6 and 7, September 2001.
2000-2001 Data: National Vital Statistics Reports, Deaths: Preliminary Data for 2001, Volume 51, Number 5, March 2003.
2002 Data: National Vital Statistics Reports, Deaths: Preliminary Data for 2002, Volume 52, Number 13, February 2004.

**TABLE 3
ABRIDGED LIFE TABLE
FOR TOTAL POPULATION
CALIFORNIA, 2002**

AGE INTERVAL	PROPORTION DYING			OF 100,000 BORN ALIVE		STATIONARY POPULATION		AVERAGE REMAINING LIFETIME
	Uncorrected	Correction Term	Corrected	Number Living at Beginning of Age Interval	Number Dying During Age Interval	In the Age Interval	In This And All Subsequent Age Intervals	
Period of Life Between Two Exact Ages	Average Annual Death Rate	Fraction of Last Age Interval Lived	Proportion Dying During Age Interval	Number Living at Beginning of Age Interval	Number Dying During Age Interval	In the Age Interval	In This And All Subsequent Age Intervals	Average Remaining Years of Life
0-1	-	0.17771	0.00543	100,000	543	99,553	7,938,116	79.38
1-5	0.00023	0.40931	0.00093	99,457	93	397,608	7,838,563	78.81
5-10	0.00012	0.44984	0.00061	99,364	61	496,654	7,440,954	74.89
10-15	0.00015	0.57492	0.00075	99,303	75	496,358	6,944,301	69.93
15-20	0.00058	0.60026	0.00291	99,228	289	495,565	6,447,943	64.98
20-25	0.00084	0.48926	0.00418	98,940	413	493,643	5,952,378	60.16
25-30	0.00082	0.49610	0.00410	98,526	404	491,613	5,458,735	55.40
30-35	0.00093	0.52392	0.00466	98,122	457	489,522	4,967,122	50.62
35-40	0.00126	0.54499	0.00627	97,665	613	486,932	4,477,600	45.85
40-45	0.00193	0.53549	0.00961	97,053	933	483,095	3,990,668	41.12
45-50	0.00299	0.53771	0.01484	96,119	1,426	477,301	3,507,572	36.49
50-55	0.00436	0.52626	0.02158	94,693	2,043	468,628	3,030,271	32.00
55-60	0.00640	0.52870	0.03151	92,650	2,919	456,373	2,561,643	27.65
60-65	0.00998	0.52744	0.04875	89,731	4,375	438,319	2,105,271	23.46
65-70	0.01515	0.52889	0.07315	85,357	6,244	412,075	1,666,952	19.53
70-75	0.02431	0.52987	0.11497	79,113	9,095	374,184	1,254,877	15.86
75-80	0.03886	0.52193	0.17777	70,017	12,447	320,334	880,693	12.58
80-85	0.06501	0.51469	0.28076	57,570	16,163	248,630	560,359	9.73
85+	0.13283		1.00000	41,407	41,407	311,729	311,729	7.53

Ref: Oreglia A. *Methodology for Constructing Abridged Life Tables for California, 1977*, Data Matters. Center for Health Statistics, California Department of Health Services, January 1981.

Harms C, McKendry J. *California Life Expectancy: Abridged Life Tables For California, 1990-96*, Data Matters. Center for Health Statistics, California Department of Health Services, August 1998.

Sources: State of California, Department of Finance, 2002 Population: 1997-2040 Population Projections with Age and Sex Detail, December 1998.
State of California, Department of Health Services, Birth and Death Records.

**TABLE 4
ABRIDGED LIFE TABLE
FOR MALE POPULATION
CALIFORNIA, 2002**

AGE INTERVAL	PROPORTION DYING			OF 100,000 BORN ALIVE		STATIONARY POPULATION		AVERAGE REMAINING LIFETIME
	Uncorrected	Correction Term	Corrected					
Period of Life Between Two Exact Ages	Average Annual Death Rate	Fraction of Last Age Interval Lived	Proportion Dying During Age Interval	Number Living at Beginning of Age Interval	Number Dying During Age Interval	In the Age Interval	In This And All Subsequent Age Intervals	Average Remaining Years of Life
0-1	-	0.17908	0.00594	100,000	594	99,513	7,696,865	76.97
1-5	0.00027	0.42776	0.00107	99,406	107	397,382	7,597,352	76.43
5-10	0.00013	0.45980	0.00067	99,300	67	496,319	7,199,970	72.51
10-15	0.00017	0.57111	0.00087	99,233	87	495,981	6,703,651	67.55
15-20	0.00083	0.60639	0.00416	99,147	412	494,922	6,207,671	62.61
20-25	0.00126	0.48966	0.00628	98,734	620	492,089	5,712,749	57.86
25-30	0.00120	0.48806	0.00596	98,114	585	489,074	5,220,660	53.21
30-35	0.00121	0.51848	0.00601	97,530	587	486,236	4,731,586	48.51
35-40	0.00162	0.54137	0.00809	96,943	784	482,917	4,245,350	43.79
40-45	0.00243	0.53458	0.01208	96,159	1,162	478,090	3,762,433	39.13
45-50	0.00370	0.53645	0.01836	94,997	1,744	470,941	3,284,344	34.57
50-55	0.00550	0.52534	0.02712	93,252	2,529	460,259	2,813,403	30.17
55-60	0.00794	0.52925	0.03897	90,723	3,535	445,294	2,353,144	25.94
60-65	0.01199	0.52254	0.05830	87,188	5,083	423,805	1,907,850	21.88
65-70	0.01813	0.52851	0.08692	82,105	7,136	393,702	1,484,044	18.07
70-75	0.02873	0.53020	0.13457	74,969	10,089	351,146	1,090,343	14.54
75-80	0.04733	0.51967	0.21249	64,880	13,786	291,291	739,197	11.39
80-85	0.07803	0.50944	0.32748	51,094	16,732	214,429	447,906	8.77
85+	0.14717		1.00000	34,362	34,362	233,478	233,478	6.79

Ref: Oreglia A. *Methodology for Constructing Abridged Life Tables for California, 1977*, Data Matters. Center for Health Statistics, California Department of Health Services, January 1981.

Harms C, McKendry J. *California Life Expectancy: Abridged Life Tables For California, 1990-96*, Data Matters. Center for Health Statistics, California Department of Health Services, August 1998.

Sources: State of California, Department of Finance, 2002 Population: 1997-2040 Population Projections with Age and Sex Detail, December 1998.
State of California, Department of Health Services, Birth and Death Records.

**TABLE 5
ABRIDGED LIFE TABLE
FOR FEMALE POPULATION
CALIFORNIA, 2002**

AGE INTERVAL	PROPORTION DYING			OF 100,000 BORN ALIVE		STATIONARY POPULATION		AVERAGE REMAINING LIFETIME
	Uncorrected	Correction Term	Corrected	Number Living at Beginning of Age Interval	Number Dying During Age Interval	In the Age Interval	In This And All Subsequent Age Intervals	
Period of Life Between Two Exact Ages	Average Annual Death Rate	Fraction of Last Age Interval Lived	Proportion Dying During Age Interval	Number Living at Beginning of Age Interval	Number Dying During Age Interval	In the Age Interval	In This And All Subsequent Age Intervals	Average Remaining Years of Life
0-1	-	0.17600	0.00491	100,000	491	99,596	8,171,425	81.71
1-5	0.00020	0.38281	0.00078	99,509	78	397,845	8,071,829	81.12
5-10	0.00011	0.43710	0.00055	99,432	55	497,003	7,673,984	77.18
10-15	0.00013	0.58041	0.00063	99,377	63	496,752	7,176,981	72.22
15-20	0.00032	0.58086	0.00158	99,314	157	496,241	6,680,229	67.26
20-25	0.00037	0.48794	0.00187	99,157	185	495,311	6,183,988	62.37
25-30	0.00042	0.51911	0.00207	98,972	205	494,366	5,688,676	57.48
30-35	0.00063	0.53575	0.00312	98,767	309	493,117	5,194,310	52.59
35-40	0.00086	0.55404	0.00431	98,458	424	491,345	4,701,193	47.75
40-45	0.00141	0.53821	0.00705	98,034	691	488,576	4,209,848	42.94
45-50	0.00227	0.54043	0.01128	97,343	1,098	484,194	3,721,272	38.23
50-55	0.00325	0.52832	0.01612	96,245	1,552	477,567	3,237,078	33.63
55-60	0.00491	0.52826	0.02428	94,693	2,299	468,045	2,759,511	29.14
60-65	0.00809	0.53430	0.03969	92,395	3,667	453,434	2,291,466	24.80
65-70	0.01248	0.52978	0.06061	88,727	5,377	430,993	1,838,032	20.72
70-75	0.02058	0.53073	0.09815	83,350	8,181	397,554	1,407,039	16.88
75-80	0.03270	0.52447	0.15169	75,169	11,403	348,734	1,009,484	13.43
80-85	0.05656	0.52004	0.24899	63,767	15,877	280,730	660,750	10.36
85+	0.12602		1.00000	47,889	47,889	380,021	380,021	7.94

Ref: Oreglia A. *Methodology for Constructing Abridged Life Tables for California, 1977*, Data Matters Center for Health Statistics, California Department of Health Services, January 1981.

Harms C, McKendry J. *California Life Expectancy: Abridged Life Tables For California, 1990-96*, Data Matters. Center for Health Statistics, California Department of Health Services, August 1998.

Sources: State of California, California Department of Finance, 2002 Population: 1997-2040 Population Projections with Age and Sex Detail, December 1998.
State of California, Department of Health Services, Birth and Death Records.