



Center for Health Statistics



Abridged Life Tables for California, 2003

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DATA SUMMARY
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Reports from prior periods are available on this subject.

Highlights

- In 2003 life expectancy at birth for the total California population was 79.6 years, an increase of .2 years from 2002.
- 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 4.8 years in 2003, narrowing the difference of 6.7 years in 1990.

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 2003.

Life Expectancy at Birth for Total Population

Table 1 shows that in 2003 the average life expectancy at birth was 79.6 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 2003. During this time period, life expectancy increased 3.4 years.

The life expectancy of Californians continues to exceed the life expectancy of the population of the United States (U.S.). In 2003 life expectancy was

79.6 years for the total California population compared with 77.6 years for that of the U.S. population as a whole (Table 2). The U.S. data for 2003 are preliminary.

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

Life Expectancy at Birth by Sex

Life expectancy for females in 2003 was 82.0 years. Between 1990 and 2003 life expectancy for females increased 2.5 years. Life expectancy for males was 77.2 years in 2003 with an increase of 4.4 years between 1990 and 2003. In 2003 the difference in life expectancy between males and females was 4.8 years, a slight

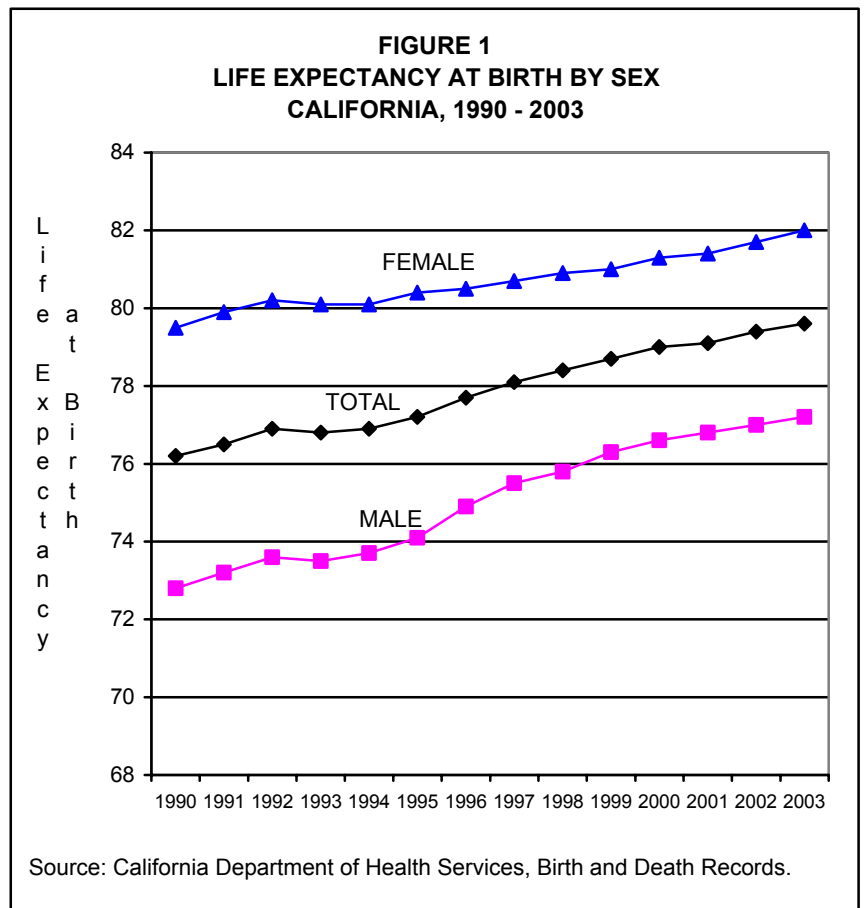
increase from the difference in 2002 of 4.7 years but a narrowing from the difference of 6.7 years in 1990. **Figure 1** shows the increases in life expectancy for both males and females, as well as the decrease in discrepancy between the two sexes.

California's male population at birth was expected to live 2.4 years longer than the U.S. male population in 2003. California's females were expected to live 1.9 years longer than the U.S. female population in 2003.

Life Expectancy at Age 65

Expected remaining average years of life are often examined at 65 years of age. In 2003 a 65-year-old person living in California could expect to live an additional 19.9 years, for a total of 84.9 years. This was 0.4 year longer than in 2002 and 2 years longer than in 1990.

At age 65, Californians were expected to live 1.4 years longer than the U.S. population in 2003 (preliminary), a larger discrepancy than in prior years (1.3 years in 2002 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.



Life Expectancy at Age 65 by Sex

In 2003 the life expectancy for California females at age 65 was 21.1 years, up from 20.7 years in 2002 (**Table 1**). California male life expectancy at age 65 was 18.6 years, an increase of 0.5 year from 18.1 in 2002. In 2003 the difference in life expectancy at age 65 between males and females was 2.5 years.

In 2003 California's male population at age 65 was expected to live 1.8 years longer than the U.S. male population (preliminary), while California's female population was expected to live 1.3 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 Department of Health Services Center for Health Statistics Home Page at:

www.dhs.ca.gov/OHIR

Detailed Life Tables

Tables 3 through 5 in this report are 2003 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 2003 life tables in this report follow 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 2003 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, 1990-2003

YEAR	AT BIRTH			AT 65 YEARS		
	TOTAL POPULATION	MALES	FEMALES	TOTAL POPULATION	MALES	FEMALES
2003	79.6	77.2	82.0	19.9	18.6	21.1
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 1990-2003 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 FD, Riese DC, *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; 1979-81 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. 2003 Population: 2000-2050 Race/Ethnic Population Projections with Age and Sex Detail, May 2004.

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, 1990-2003

YEAR	AT BIRTH			AT 65 YEARS		
	TOTAL POPULATION	MALES	FEMALES	TOTAL POPULATION	MALES	FEMALES
2003*	77.6	74.8	80.1	18.5	16.8	19.8
2002	77.3	74.5	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

* 2003 data are preliminary.

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.
2002-2003 Data: National Vital Statistics Reports, Deaths: Preliminary Data for 2003, Volume 53, Number 15, February 2005.

**TABLE 3
ABRIDGED LIFE TABLE
FOR TOTAL POPULATION
CALIFORNIA, 2003**

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	-	0.17424	0.00521	100,000	521	99,570	7,960,936	79.61
1-5	0.00028	0.41493	0.00111	99,479	110	397,657	7,861,366	79.03
5-10	0.00014	0.48025	0.00068	99,368	68	496,665	7,463,710	75.11
10-15	0.00017	0.54953	0.00086	99,301	85	496,311	6,967,044	70.16
15-20	0.00059	0.60400	0.00293	99,215	291	495,501	6,470,734	65.22
20-25	0.00084	0.50174	0.00421	98,925	417	493,585	5,975,233	60.40
25-30	0.00078	0.47510	0.00391	98,508	385	491,529	5,481,648	55.65
30-35	0.00089	0.52931	0.00443	98,123	434	489,591	4,990,119	50.86
35-40	0.00132	0.53194	0.00656	97,688	641	486,942	4,500,528	46.07
40-45	0.00201	0.53195	0.01002	97,047	973	482,960	4,013,587	41.36
45-50	0.00314	0.53112	0.01557	96,075	1,496	476,866	3,530,626	36.75
50-55	0.00468	0.52715	0.02314	94,579	2,189	467,719	3,053,760	32.29
55-60	0.00658	0.53079	0.03238	92,390	2,991	454,932	2,586,041	27.99
60-65	0.01001	0.52326	0.04889	89,399	4,370	436,575	2,131,109	23.84
65-70	0.01523	0.52788	0.07350	85,028	6,249	410,388	1,694,534	19.93
70-75	0.02383	0.52552	0.11280	78,779	8,886	372,813	1,284,146	16.30
75-80	0.03799	0.52159	0.17414	69,893	12,171	320,350	911,333	13.04
80-85	0.06201	0.51535	0.26954	57,722	15,558	250,907	590,984	10.24
85+	0.12398		1.00000	42,164	42,164	340,077	340,077	8.07

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, 2003 Population: 2000-2050 Race/Ethnic Population Projections with Age and Sex Detail, May 2004.
State of California, Department of Health Services, Birth and Death Records.

**TABLE 4
ABRIDGED LIFE TABLE
FOR MALE POPULATION
CALIFORNIA, 2003**

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	Average Remaining Years of Life
0-1	-	0.18329	0.00579	100,000	579	99,527	7,718,490	77.18
1-5	0.00031	0.41220	0.00125	99,421	125	397,392	7,618,963	76.63
5-10	0.00015	0.47233	0.00076	99,297	76	496,283	7,221,571	72.73
10-15	0.00020	0.55983	0.00099	99,221	98	495,889	6,725,288	67.78
15-20	0.00084	0.61152	0.00419	99,123	415	494,807	6,229,399	62.85
20-25	0.00123	0.49644	0.00614	98,708	606	492,012	5,734,592	58.10
25-30	0.00112	0.47065	0.00560	98,102	549	489,055	5,242,580	53.44
30-35	0.00121	0.52120	0.00604	97,553	589	486,353	4,753,524	48.73
35-40	0.00172	0.52902	0.00855	96,963	829	482,866	4,267,172	44.01
40-45	0.00254	0.52447	0.01261	96,135	1,213	477,791	3,784,306	39.36
45-50	0.00397	0.53236	0.01968	94,922	1,868	470,244	3,306,515	34.83
50-55	0.00598	0.52705	0.02950	93,055	2,745	458,781	2,836,270	30.48
55-60	0.00809	0.52407	0.03970	90,309	3,585	443,015	2,377,489	26.33
60-65	0.01235	0.52159	0.05996	86,724	5,200	421,181	1,934,474	22.31
65-70	0.01847	0.52417	0.08847	81,524	7,212	390,460	1,513,293	18.56
70-75	0.02860	0.52285	0.13385	74,311	9,947	347,826	1,122,833	15.11
75-80	0.04606	0.51632	0.20721	64,365	13,337	289,569	775,006	12.04
80-85	0.07325	0.50968	0.31049	51,028	15,843	216,298	485,437	9.51
85+	0.13073		1.00000	35,184	35,184	269,139	269,139	7.65

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, 2003 Population: 2000-2050 Race/Ethnic Population Projections with Age and Sex Detail, May 2004.
State of California, Department of Health Services, Birth and Death Records.

**TABLE 5
ABRIDGED LIFE TABLE
FOR FEMALE POPULATION
CALIFORNIA, 2003**

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	Average Remaining Years of Life
0-1	-	0.16230	0.00461	100,000	461	99,614	8,197,177	81.97
1-5	0.00024	0.41855	0.00096	99,539	96	397,934	8,097,563	81.35
5-10	0.00012	0.49078	0.00060	99,444	60	497,066	7,699,629	77.43
10-15	0.00014	0.53466	0.00072	99,384	72	496,754	7,202,563	72.47
15-20	0.00032	0.58004	0.00159	99,312	158	496,230	6,705,810	67.52
20-25	0.00041	0.51986	0.00205	99,154	203	495,284	6,209,579	62.63
25-30	0.00042	0.49030	0.00210	98,951	208	494,226	5,714,295	57.75
30-35	0.00054	0.54831	0.00272	98,743	269	493,111	5,220,069	52.86
35-40	0.00090	0.53859	0.00448	98,475	441	491,357	4,726,959	48.00
40-45	0.00148	0.54521	0.00737	98,034	723	488,525	4,235,602	43.21
45-50	0.00231	0.52965	0.01148	97,311	1,117	483,929	3,747,077	38.51
50-55	0.00343	0.52743	0.01700	96,194	1,635	477,107	3,263,148	33.92
55-60	0.00514	0.54085	0.02540	94,559	2,402	467,282	2,786,041	29.46
60-65	0.00786	0.52557	0.03859	92,158	3,557	452,350	2,318,759	25.16
65-70	0.01237	0.53332	0.06011	88,601	5,326	430,577	1,866,409	21.07
70-75	0.01989	0.52932	0.09499	83,275	7,910	397,759	1,435,832	17.24
75-80	0.03206	0.52768	0.14902	75,365	11,231	350,301	1,038,073	13.77
80-85	0.05441	0.52094	0.24069	64,134	15,436	283,694	687,772	10.72
85+	0.12051		1.00000	48,697	48,697	404,077	404,077	8.30

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, 2003 Population: 2000-2050 Race/Ethnic Population Projections with Age and Sex Detail, May 2004.
State of California, Department of Health Services, Birth and Death Records.