

United States Life Tables, 2000

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Abstract

This report presents period life tables for the United States based on age-specific death rates in 2000. Data used to prepare these life tables are 2000 final mortality statistics; July 1, 2000, population estimates based on the 1990 decennial census; and data from the Medicare program. Presented are complete life tables by age, race, and sex. In 2000 the overall expectation of life at birth was 76.9 years, representing an increase of 0.2 years from life expectancy in 1999. Between 1999 and 2000, life expectancy increased for both males and females and for both the white and black populations. Life expectancy increased by 0.4 years for black males (from 67.8 to 68.2) and by 0.2 years for white males (from 74.6 to 74.8). It increased by 0.2 years for black females (from 74.7 to 74.9) and by 0.1 year for white females (from 79.9 to 80.0).

Introduction

There are two types of life tables—the cohort (or generation) life table and the period (or current) life table. The cohort life table presents the mortality experience of a particular birth cohort, all persons born in the year 1900, for example, from the moment of birth through consecutive ages in successive calendar years. Based on age-specific death rates observed through consecutive calendar years, the cohort life table reflects the mortality experience of an actual cohort from birth until no lives remain in the group. To prepare just a single complete cohort life table requires data over many years. It is usually not feasible to construct cohort life tables entirely on the basis of observed data for real cohorts due to data unavailability or incompleteness (1). For example, a life table representation of the mortality experience of a cohort of persons born in 1970 would require the use of data projection techniques to estimate deaths into the future (2,3).

Unlike the cohort life table, the period life table does not represent the mortality experience of an actual birth cohort. Rather, the period life table presents what would happen to a hypothetical (or synthetic) cohort if it experienced throughout its entire life the mortality conditions

of a particular period in time. Thus, for example, a period life table for 2000 assumes a hypothetical cohort subject throughout its lifetime to the age-specific death rates prevailing for the actual population in 2000. The period life table may thus be characterized as rendering a “snapshot” of current mortality experience, and shows the long-range implications of a set of age-specific death rates that prevailed in a given year. In this report the term “life table” refers only to the period life table and not to the cohort life table.

Data and Methods

The data used to prepare the U.S. life tables for 2000 are final numbers of deaths for the year 2000; postcensal population estimates for the year 2000; and data from the Medicare program prepared by the Health Care Financing Administration. Population estimates are prepared by the U.S. Census Bureau. They are based on the 1990 decennial census because detailed populations from the 2000 census were not available when this report was prepared. A comparison of 1990 census based estimates and summary 2000 census results show differences for some ethnic and race groups. These differences could result in the underestimation or overestimation of life expectancy (see [Technical Notes](#)). Once population estimates based on the 2000 census are available, we will publish another report presenting revised life expectancy estimates. Data from the Medicare program are used to calculate probabilities of dying for ages over 85 years (see [Technical Notes](#)).

Life tables can be classified in two ways according to the length of the age interval in which data are presented. A complete life table

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contains data for every single year of age. An abridged life table typically contains data by 5- or 10-year age intervals. A complete life table, of course, can be easily aggregated into 5- or 10-year age groups (see [Technical Notes](#) for instructions on how to do this). Other than the decennial life tables, U.S. life tables based on data prior to 1997 are abridged life tables constructed by reference to a “standard” table (4). The 2000 U.S. life tables are complete life tables calculated using a method implemented with the 1997 life tables and are similar to the U.S. Decennial Life Tables (5,6). See [Technical Notes](#) for more information on the method used to construct the life tables in this report.

Expectation of life—The most frequently used life table statistic is life expectancy (e_x), which is the average number of years of life remaining for persons who have attained a given age (x). Life expectancy and other life table values for each age in 2000 are shown for the total population and by race and sex in [tables 1–9](#). Life expectancy is summarized by age, race, and sex in [table A](#).

Life expectancy at birth (e_0) for 2000 for the total population was 76.9 years. This represents the average number of years that the members of the hypothetical life table cohort may expect to live at the time of birth ([table A](#)).

Survivors to specified ages—Another way of assessing the longevity of the synthetic life table cohort is by determining the proportion who survive to specified ages. The l_x column of the life table provides the data for computing the proportion. [Table B](#) summarizes the number of survivors by age, race, and sex. To illustrate, 51,037 persons out of the original 2000 synthetic life table cohort of 100,000 (or 51.0 percent) were alive at exact age 80. In other words, the probability that a person will survive from birth to age 80, given 2000 age-specific mortality, is 51 percent. Probabilities of survival can be calculated at any age by simply dividing the number of survivors at the terminal age by the number at the beginning age. For example, to calculate the probability of surviving from age 20 to age 85, one would divide the number of survivors at age 85 (34,959) by the number of survivors at age 20 (98,654), which results in a 35.4 percent probability of survival.

Explanation of the columns of the life table

Column 1—Age (x to $x + 1$)—This column shows the age interval between the two exact ages indicated. For instance, “20–21” means the 1-year interval between the 20th and 21st birthdays.

Column 2—Probability of dying (q_x)—This column shows the probability of dying between ages x to $x+1$. For example, for males in the age interval 20–21 years, the probability of dying is .001295 ([table 2](#)). The “probability of dying” column forms the basis of the life table; all subsequent columns are derived from it.

Column 3—Number surviving (l_x)—This column shows the number of persons from the original synthetic cohort of 100,000 live births, who survive to the beginning of each age interval. The l_x values are computed from the q_x values, which are successively applied to the remainder of the original 100,000 persons still alive at the beginning of each age interval. Thus out of 100,000 female babies born alive, 99,376 will complete the first year of life and enter the second; 99,189 will reach age 10; 98,909 will reach age 20; and 42,145 will live to age 85 ([table 3](#)).

Column 4—Number dying (d_x)—This column shows the number dying in each successive age interval out of the original 100,000 live births. For example, out of 100,000 males born alive, 759 will die in the first year of life; 127 between ages 20 and 21; and 864 will die after reaching age 100 ([table 2](#)). Each figure in column 4 is the difference between two successive figures in column 3.

Column 5—Person-years lived (L_x)—This column shows the number of person-years lived by the synthetic life table cohort within an age interval x to $x+1$. Each figure in column 5 represents the total time (in years) lived between two indicated birthdays by all those reaching the earlier birthday. Thus, the figure 98,349 for males in the age interval 20–21 is the total number of years lived between the 20th and 21st birthdays by the 98,413 (column 3) males who reached their 20th birthday out of 100,000 males born alive ([table 2](#)).

Column 6—Total number of person-years lived (T_x)—This column shows the total number of person-years that would be lived after the

Table A. Expectation of life by age, race, and sex: United States, 2000

Age	All races			White			Black		
	Total	Male	Female	Total	Male	Female	Total	Male	Female
0	76.9	74.1	79.5	77.4	74.8	80.0	71.7	68.2	74.9
1	76.4	73.7	79.0	76.9	74.3	79.4	71.7	68.3	74.9
5	72.5	69.8	75.1	73.0	70.3	75.5	67.9	64.4	71.0
10	67.6	64.9	70.1	68.0	65.4	70.5	63.0	59.5	66.1
15	62.6	59.9	65.2	63.1	60.5	65.6	58.1	54.6	61.2
20	57.8	55.2	60.3	58.3	55.7	60.7	53.3	49.9	56.3
25	53.1	50.6	55.4	53.5	51.1	55.8	48.7	45.5	51.5
30	48.3	45.9	50.6	48.7	46.4	50.9	44.1	41.1	46.8
35	43.6	41.3	45.8	44.0	41.7	46.1	39.6	36.6	42.1
40	38.9	36.7	41.0	39.3	37.1	41.3	35.1	32.3	37.5
45	34.4	32.2	36.3	34.7	32.6	36.6	30.8	28.1	33.1
50	30.0	27.9	31.8	30.2	28.2	32.0	26.8	24.2	28.9
55	25.7	23.8	27.4	25.9	24.0	27.5	23.0	20.7	24.9
60	21.6	19.9	23.1	21.8	20.0	23.2	19.4	17.5	21.0
65	17.9	16.3	19.2	17.9	16.3	19.2	16.2	14.5	17.4
70	14.4	13.0	15.5	14.4	13.0	15.5	13.1	11.7	14.1
75	11.3	10.1	12.1	11.3	10.1	12.1	10.5	9.4	11.2
80	8.6	7.6	9.1	8.5	7.6	9.1	8.2	7.3	8.6
85	6.3	5.6	6.7	6.2	5.5	6.6	6.3	5.7	6.5
90	4.7	4.1	4.8	4.5	4.0	4.7	4.8	4.5	4.8
95	3.5	3.1	3.5	3.3	2.9	3.3	3.7	3.6	3.6
100	2.6	2.4	2.7	2.4	2.2	2.4	2.8	2.9	2.7

Table B. Number of survivors by age, out of 100,000 born alive, by race and sex: United States, 2000

Age	All races			White			Black		
	Total	Male	Female	Total	Male	Female	Total	Male	Female
0	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000
1	99,307	99,241	99,376	99,430	99,376	99,487	98,586	98,444	98,733
5	99,177	99,096	99,261	99,315	99,247	99,386	98,368	98,206	98,535
10	99,095	99,006	99,189	99,240	99,163	99,320	98,247	98,071	98,430
15	98,992	98,882	99,107	99,142	99,046	99,243	98,110	97,905	98,321
20	98,654	98,413	98,909	98,819	98,604	99,046	97,672	97,259	98,100
25	98,181	97,716	98,671	98,391	97,977	98,831	96,913	96,107	97,730
30	97,696	97,025	98,392	97,960	97,363	98,586	96,065	94,886	97,232
35	97,132	96,266	98,021	97,456	96,675	98,268	95,040	93,531	96,506
40	96,349	95,264	97,460	96,747	95,755	97,777	93,680	91,827	95,462
45	95,210	93,826	96,623	95,719	94,441	97,044	91,660	89,333	93,879
50	93,522	91,674	95,398	94,195	92,474	95,970	88,583	85,464	91,509
55	91,113	88,687	93,561	91,977	89,731	94,283	84,351	80,033	88,329
60	87,498	84,286	90,716	88,559	85,586	91,590	78,737	72,884	84,046
65	82,131	77,897	86,344	83,379	79,419	87,385	71,389	64,048	77,996
70	74,561	69,055	79,983	75,912	70,657	81,163	62,448	54,082	70,040
75	64,244	57,321	70,983	65,615	58,874	72,254	51,081	42,101	59,333
80	51,037	43,192	58,563	52,286	44,521	59,792	38,083	29,317	46,210
85	34,959	27,265	42,145	35,852	28,100	43,112	24,655	17,354	31,410
90	18,839	13,045	23,936	19,244	13,335	24,439	12,913	8,212	17,112
95	7,252	4,268	9,669	7,219	4,217	9,638	5,113	2,941	6,892
100	1,781	864	2,479	1,618	773	2,244	1,388	754	1,831

beginning of the age interval x to $x+1$ by the synthetic life table cohort. For example, the figure 5,434,563 is the total number of years lived after attaining age 20 by the 98,413 males reaching that age (table 2).

Column 7—Expectation of life (e_x)—The expectation of life at any given age is the average number of years remaining to be lived by those surviving to that age on the basis of a given set of age-specific rates of dying. It is derived by dividing the total person-years that would be lived above age x by the number of persons who survived to that age interval (T_x/l_x). Thus, the average remaining lifetime for males who reach age 20 is 55.2 years (5,434,563 divided by 98,413) (table 2).

Results

Life expectancy in the United States

Tables 1–9 show complete life tables by race (white and black) and sex for 2000. Tables A and B summarize life expectancy and survival by age, race, and sex. Life expectancy at birth for 2000 represents the average number of years that a group of infants would live if the infants were to experience throughout life the age-specific death rates prevailing in 2000. In 2000 life expectancy at birth was 76.9 years, increasing by 0.2 years from 76.7 years in 1999. This increase is typical of the average yearly changes that occurred during the last 25 years in the United States. Throughout the 20th century, the trend in U.S. life expectancy was one of gradual improvement (7).

Life expectancy was 74.1 years for males, increasing by 0.2 years from 73.9 years in 1999. Life expectancy for females in 2000 was 79.5 years, increasing by 0.1 year from 79.4 years in 1999. The increase in life expectancy between 1999 and 2000 for females was primarily the result of decreases in mortality due to diseases of the heart, cancer, perinatal conditions, and chronic lower respiratory diseases. Increases in life expectancy took place despite increases in mortality due to Alzheimer's disease, kidney disease, and pneumonitis due to solids and liquids. For males, life expectancy increased as a result of decreases

in mortality from heart disease, stroke, cancer, and lower respiratory diseases, which were partly offset by increases in mortality due to kidney disease, Alzheimer's disease, viral hepatitis, and pneumonitis due to solids and liquids.

The difference in life expectancy between the sexes was 5.4 years in 2000, a slight narrowing from the difference (5.5) in the previous year. From 1900 to 1975, the difference in life expectancy between the sexes increased from 2.8 years to 7.8 years. The increasing gap during these years is attributed to increases in male mortality due to ischemic heart disease and lung cancer, both of which increased largely as the result of men's early and widespread adoption of cigarette smoking (7,8). Since 1979, the difference in life expectancy between the sexes has narrowed from 7.8 years to 5.4 years, reflecting proportionately greater increases in lung cancer mortality for women than for men and proportionately larger decreases in heart disease mortality among men (7,8).

Between 1999 and 2000, life expectancy for the black population rose 0.3 years to 71.7 years. For the white population life expectancy rose by 0.1 year to 77.4 years. The difference in life expectancy between the white and black populations was 5.7 years in 2000, returning to its record low level first observed in 1982. The white-black difference in life expectancy narrowed from 15.8 years in 1900 to 5.7 years in 1982, but increased to 7.1 years in 1993 before declining from 1994 (7.0 years) to 2000 (5.7 years). The increase in the gap from 1983 to 1993 was largely the result of increases in mortality among the black male population due to HIV infection and homicide (7,9).

Among the four race-sex groups (figure 1), white females continued to have the highest life expectancy at birth (80.0 years), followed by black females (74.9 years), white males (74.8 years), and black males (68.2 years). Between 1999 and 2000, life expectancy increased 0.4 years for black males (from 67.8 in 1999 to 68.2 in 2000). Black males experienced an unprecedented decline in life expectancy every year for 1984–89 (8), but annual increases in 1990–92 and 1994–2000. From 1999 to 2000, life expectancy for black females increased from

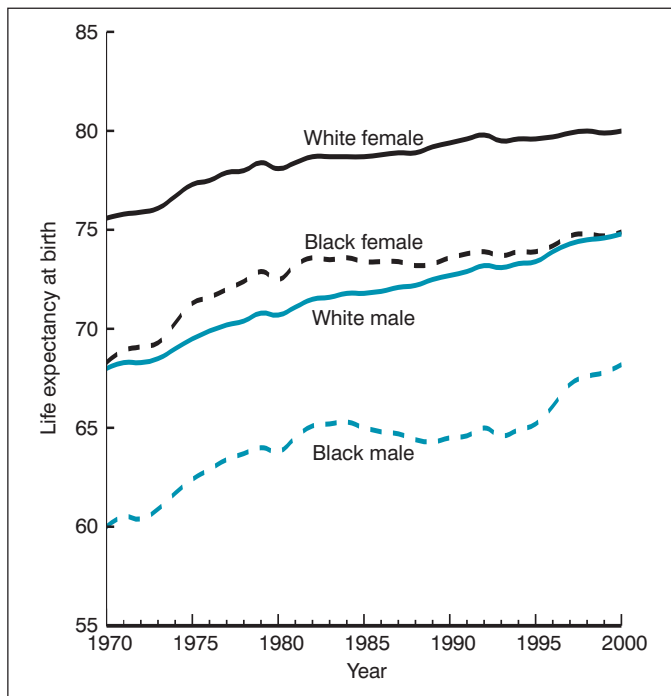


Figure 1. Life expectancy at birth by race and sex: 1970–2000

74.7 years to 74.9 years, an increase of 0.2 years. Life expectancy for white males rose 0.2 years, from 74.6 years in 1999 to 74.8 years in 2000. White female life expectancy increased during the same period by 0.1 year from 79.9 to 80.0 years. Overall, gains in life expectancy between 1980 and 2000 were 4.4 years for black males, 4.1 years for white males, 2.4 years for black females, and 1.9 years for white females (table 12).

The 2000 life table may be used to compare life expectancy at any age from birth onward. On the basis of mortality experienced in 2000, a person aged 65 years could expect to live an average of 17.9 more years for a total of 82.9 years, and a person age 100 years could expect to live an additional 2.6 years on average (table A). Life expectancy at 100 years of age, particularly for the black population, should be interpreted with caution as these figures may be affected somewhat by age misreporting (5,10,11).

Survivorship in the United States

Table B summarizes the number of survivors out of 100,000 persons born alive (l_x) by age, race, and sex. Table 10 shows trends in survivorship from 1900 to 2000. In 2000, 99.3 percent of all infants born in the United States survived the first year of life. In contrast, only 87.6 percent of infants born in 1900 survived the first year. Fifty-one percent of the 2000 synthetic life table cohort survived to age 80, and about 1.8 percent survived to age 100. In 1900 the median age at death was 58 and only 0.03 percent survived to age 100.

Among the four race-sex groups (figure 2, table B), white females have the highest median age at death with 50 percent surviving to age 83. Of the original hypothetical cohort of 100,000 infant white females, 99.0 percent survive to age 20, 87.4 percent survive to age 65, and 43.1 percent survive to age 85. For white males and black females, the pattern of survival by age is similar. These groups have approximately

the same median age at death of 78 years. However, white males have slightly higher survival rates than black females at the younger ages with 98.6 percent surviving to age 20 and 79.4 percent surviving to age 65 compared with 98.1 percent and 78.0 percent, respectively, for black females. At the older ages, in contrast, black female survival surpasses white male survival. At age 85, white male survival is 28.1 percent compared with 31.4 percent for black females. This crossover, which occurs at about age 72, is clearly shown in figure 2. The median age at death for black males is 72 years, 11 years less than that for white females; 97.3 percent of black males survive to age 20, 64.0 percent to age 65, and 17.4 percent to age 85. By age 100, there is very little difference between the white and black populations in terms of survival. Somewhat less than 1 percent of white and black males and about 2 percent of white and black females survive to age 100.

Plotting the percent surviving by age for the periods 1900–1902, 1949–51, and 2000 shows an increasingly “rectangular” survival curve (figure 3). That is, the survival curve has become increasingly flat in response to progressively lower mortality, particularly at the younger ages, and increasingly vertical at the older ages. The survival curve for 1900–1902 shows a rapid decline in survival in the first few years of life and a relatively steady decline thereafter. In contrast, the survival curve for 2000 is nearly flat until about age 50 after which the decline in survival becomes more rapid. Improvements in survival between 1900–1902 and 1949–51 occurred at all ages, although the largest improvements were among the younger population. Between 1949–51 and 2000, improvements occurred primarily for the older population.

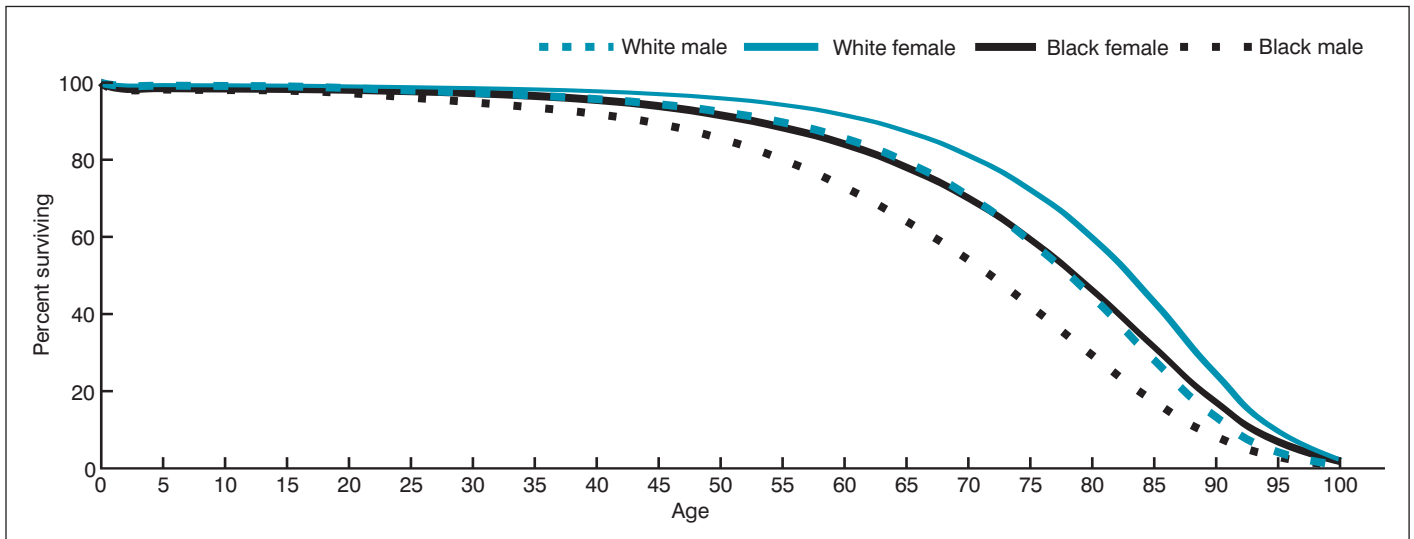


Figure 2. Percent surviving by age, race, and sex: United States, 2000

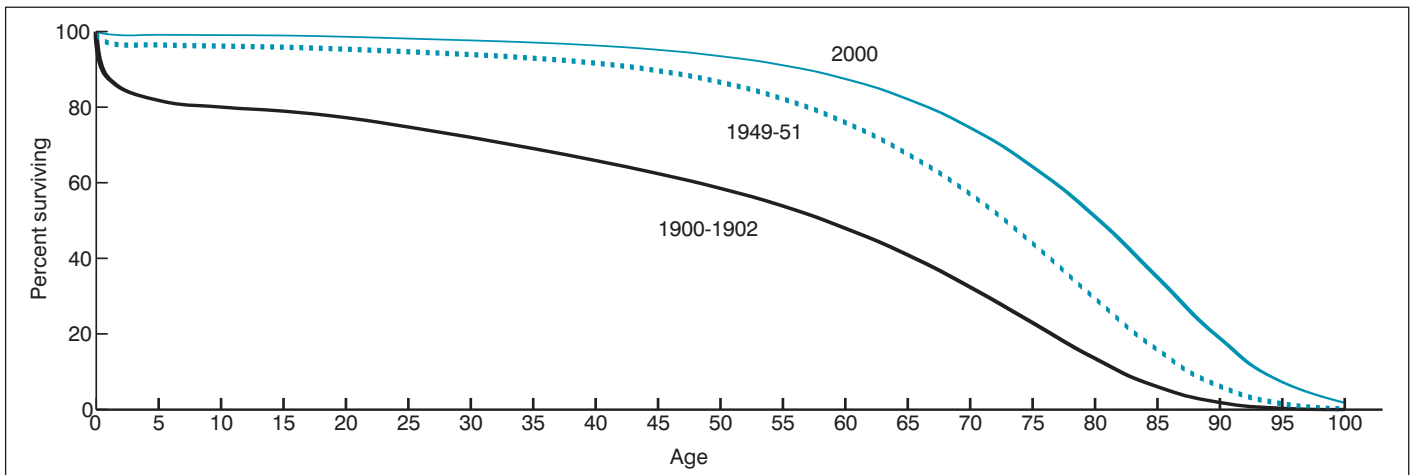


Figure 3. Percent surviving by age: Death-registration States, 1900-1902, and United States, 1949-51 and 2000

References

- Shryock HS, Siegel JS, et al. The methods and materials of demography, vol 2. U.S. Bureau of the Census. Washington: U.S. Government Printing Office. 1971.
- Moriyama IM, Gustavus SO. Cohort mortality and survivorship, United States death-registration States, 1900-68. National Center for Health Statistics. Vital Health Stat 3(16). 1972.
- Preston SM, Heuveline P, Guillot M. Demography, measuring and modeling population processes. Oxford: Blackwell Publishers. 2001.
- Sirken MG. Comparison of two methods of constructing abridged life tables by reference to a "standard" table. National Center for Health Statistics. Vital Health Stat 2(4). 1966.
- Anderson RN. A method for constructing complete annual U.S. life tables. National Center for Health Statistics. Vital Health Stat 2(129). 1999.
- Armstrong RJ. Methodology of the national and State life tables. U.S. decennial life tables for 1989-91 vol 1 no 2. Hyattsville, Maryland: National Center for Health Statistics. 1998.
- Anderson RN. Some trends and comparisons of United States life table data: 1900-1991. U.S. decennial life tables for 1989-91 vol 1 no 3. Hyattsville, Maryland: National Center for Health Statistics. 1999.
- Waldron I. Recent trends in sex mortality ratios for adults in developed countries. Soc Sci Med 36:451-62. 1993.
- Kochanek KD, Maurer JD, Rosenberg HM. Causes of death contributing to changes in life expectancy: United States, 1984-89. National Center for Health Statistics. Vital Health Stat 20(23). 1994.
- Kestenbaum B. A description of the extreme aged population based on improved Medicare enrollment data. Demography. 29:565-80. 1992.
- Coale AJ, Kisker EE. Defects in data on old-age mortality in the United States: New procedures for calculating mortality schedules and life tables at the highest ages. Asian and Pacific Population Forum. 4:1-31. 1990.
- Greville TNE, Carlson GA. Estimated average length of life in the death-registration States. National Center for Health Statistics. Vital statistics—special reports. Vol 33 no 9. Washington: Public Health Service. 1951.
- U.S. Bureau of the Census. U.S. population estimates, by age, race, sex, and Hispanic origin: 1999. Census file RES0799. 2000.
- U.S. Bureau of the Census. Age, sex, race, and Hispanic origin information from the 1990 census: A comparison of census results where age and race have been modified. 1990 CPH-1-74. Washington: U.S. Department of Commerce. 1991.

15. Kestenbaum B. Recent mortality of the oldest old, from Medicare data. Paper presented at the 1997 meetings of the Population Association of America. March 27–29 1997.
16. Horiuchi S, Wilmoth JR. Deceleration in the age pattern of mortality at older ages. *Demography*. 35:391–412. 1998.
17. Wilmoth JR. Are mortality rates falling at extremely high ages? An investigation based on a model proposed by Coale and Kisker. *Population Studies* 49:281–95. 1995.
18. Miniño AM, Arias E, Kochanek KD, et al. Deaths: Final data for 2000. *National Vital Statistics Reports*; vol 50 no 15. Hyattsville, Maryland: National Center for Health Statistics. 2002.

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Table 1. Life table for the total population: United States, 2000

Age	Probability of dying between ages x to $x+1$	Number surviving to age x	Number dying between ages x to $x+1$	Person-years lived between ages x to $x+1$	Total number of person-years lived above age x	Expectation of life at age x
	q_x	l_x	d_x	L_x	T_x	e_x
0-1	0.006930	100,000	693	99,392	7,686,810	76.9
1-2	0.000517	99,307	51	99,281	7,587,418	76.4
2-3	0.000347	99,256	34	99,238	7,488,137	75.4
3-4	0.000243	99,221	24	99,209	7,388,898	74.5
4-5	0.000202	99,197	20	99,187	7,289,689	73.5
5-6	0.000189	99,177	19	99,168	7,190,502	72.5
6-7	0.000177	99,158	18	99,150	7,091,334	71.5
7-8	0.000167	99,141	17	99,132	6,992,185	70.5
8-9	0.000154	99,124	15	99,117	6,893,052	69.5
9-10	0.000137	99,109	14	99,102	6,793,936	68.6
10-11	0.000125	99,095	12	99,089	6,694,833	67.6
11-12	0.000130	99,083	13	99,077	6,595,744	66.6
12-13	0.000170	99,070	17	99,062	6,496,668	65.6
13-14	0.000253	99,053	25	99,041	6,397,606	64.6
14-15	0.000366	99,028	36	99,010	6,298,565	63.6
15-16	0.000491	98,992	49	98,968	6,199,555	62.6
16-17	0.000607	98,943	60	98,913	6,100,587	61.7
17-18	0.000706	98,883	70	98,848	6,001,674	60.7
18-19	0.000780	98,814	77	98,775	5,902,826	59.7
19-20	0.000833	98,736	82	98,695	5,804,051	58.8
20-21	0.000888	98,654	88	98,610	5,705,355	57.8
21-22	0.000945	98,567	93	98,520	5,606,745	56.9
22-23	0.000983	98,474	97	98,425	5,508,225	55.9
23-24	0.000996	98,377	98	98,328	5,409,800	55.0
24-25	0.000991	98,279	97	98,230	5,311,472	54.0
25-26	0.000981	98,181	96	98,133	5,213,242	53.1
26-27	0.000977	98,085	96	98,037	5,115,109	52.1
27-28	0.000979	97,989	96	97,941	5,017,072	51.2
28-29	0.000993	97,893	97	97,845	4,919,130	50.2
29-30	0.001019	97,796	100	97,746	4,821,286	49.3
30-31	0.001050	97,696	103	97,645	4,723,539	48.3
31-32	0.001087	97,594	106	97,541	4,625,894	47.4
32-33	0.001141	97,488	111	97,432	4,528,353	46.5
33-34	0.001215	97,376	118	97,317	4,430,921	45.5
34-35	0.001302	97,258	127	97,195	4,333,604	44.6
35-36	0.001395	97,132	135	97,064	4,236,409	43.6
36-37	0.001492	96,996	145	96,924	4,139,345	42.7
37-38	0.001602	96,851	155	96,774	4,042,422	41.7
38-39	0.001728	96,696	167	96,613	3,945,648	40.8
39-40	0.001870	96,529	180	96,439	3,849,035	39.9
40-41	0.002021	96,349	195	96,251	3,752,596	38.9
41-42	0.002181	96,154	210	96,049	3,656,345	38.0
42-43	0.002355	95,944	226	95,831	3,560,296	37.1
43-44	0.002550	95,718	244	95,596	3,464,465	36.2
44-45	0.002768	95,474	264	95,342	3,368,869	35.3
45-46	0.003014	95,210	287	95,066	3,273,527	34.4
46-47	0.003284	94,923	312	94,767	3,178,460	33.5
47-48	0.003567	94,611	337	94,443	3,083,693	32.6
48-49	0.003851	94,274	363	94,092	2,989,250	31.7
49-50	0.004138	93,911	389	93,717	2,895,158	30.8
50-51	0.004443	93,522	415	93,314	2,801,442	30.0
51-52	0.004780	93,107	445	92,884	2,708,127	29.1
52-53	0.005152	92,662	477	92,423	2,615,243	28.2
53-54	0.005579	92,184	514	91,927	2,522,820	27.4
54-55	0.006075	91,670	557	91,392	2,430,893	26.5
55-56	0.006654	91,113	606	90,810	2,339,501	25.7
56-57	0.007309	90,507	661	90,176	2,248,691	24.8
57-58	0.008023	89,845	721	89,485	2,158,515	24.0
58-59	0.008773	89,124	782	88,733	2,069,030	23.2
59-60	0.009563	88,343	845	87,920	1,980,297	22.4
60-61	0.010446	87,498	914	87,041	1,892,377	21.6
61-62	0.011448	86,584	991	86,088	1,805,336	20.9
62-63	0.012521	85,593	1,072	85,057	1,719,248	20.1
63-64	0.013646	84,521	1,153	83,944	1,634,191	19.3
64-65	0.014828	83,368	1,236	82,749	1,550,247	18.6
65-66	0.016058	82,131	1,319	81,472	1,467,498	17.9
66-67	0.017400	80,812	1,406	80,109	1,386,026	17.2

Table 1. Life table for the total population: United States, 2000—Con.

Age	Probability of dying between ages x to $x+1$	Number surviving to age x	Number dying between ages x to $x+1$	Person-years lived between ages x to $x+1$	Total number of person-years lived above age x	Expectation of life at age x
	q_x	l_x	d_x	L_x	T_x	e_x
67-68	0.018933	79,406	1,503	78,655	1,305,916	16.4
68-69	0.020701	77,903	1,613	77,097	1,227,262	15.8
69-70	0.022663	76,290	1,729	75,426	1,150,165	15.1
70-71	0.024673	74,561	1,840	73,641	1,074,739	14.4
71-72	0.026741	72,722	1,945	71,749	1,001,098	13.8
72-73	0.029042	70,777	2,056	69,749	929,349	13.1
73-74	0.031663	68,721	2,176	67,633	859,600	12.5
74-75	0.034588	66,545	2,302	65,395	791,966	11.9
75-76	0.037675	64,244	2,420	63,034	726,571	11.3
76-77	0.040886	61,823	2,528	60,560	663,538	10.7
77-78	0.044437	59,296	2,635	57,978	602,978	10.2
78-79	0.048530	56,661	2,750	55,286	545,000	9.6
79-80	0.053313	53,911	2,874	52,474	489,714	9.1
80-81	0.058841	51,037	3,003	49,535	437,240	8.6
81-82	0.065093	48,034	3,127	46,471	387,705	8.1
82-83	0.072140	44,907	3,240	43,287	341,234	7.6
83-84	0.079850	41,668	3,327	40,004	297,947	7.2
84-85	0.088195	38,340	3,381	36,650	257,943	6.7
85-86	0.096751	34,959	3,382	33,268	221,293	6.3
86-87	0.105884	31,577	3,343	29,905	188,025	6.0
87-88	0.115605	28,233	3,264	26,601	158,121	5.6
88-89	0.125917	24,969	3,144	23,397	131,519	5.3
89-90	0.136824	21,825	2,986	20,332	108,122	5.0
90-91	0.148322	18,839	2,794	17,442	87,790	4.7
91-92	0.160404	16,045	2,574	14,758	70,348	4.4
92-93	0.173058	13,471	2,331	12,305	55,590	4.1
93-94	0.186266	11,140	2,075	10,102	43,284	3.9
94-95	0.200006	9,065	1,813	8,158	33,182	3.7
95-96	0.214248	7,252	1,554	6,475	25,024	3.5
96-97	0.228960	5,698	1,305	5,046	18,549	3.3
97-98	0.244099	4,394	1,072	3,857	13,503	3.1
98-99	0.259622	3,321	862	2,890	9,646	2.9
99-100	0.275475	2,459	677	2,120	6,756	2.7
100 years and over	1.00000	1,781	1,781	4,636	4,636	2.6

Table 2. Life table for males: United States, 2000

Age	Probability of dying between ages x to $x+1$	Number surviving to age x	Number dying between ages x to $x+1$	Person-years lived between ages x to $x+1$	Total number of person-years lived above age x	Expectation of life at age x
	q_x	l_x	d_x	L_x	T_x	e_x
0-1	0.007592	100,000	759	99,333	7,413,931	74.1
1-2	0.000567	99,241	56	99,213	7,314,597	73.7
2-3	0.000385	99,184	38	99,165	7,215,385	72.7
3-4	0.000285	99,146	28	99,132	7,116,219	71.8
4-5	0.000217	99,118	22	99,107	7,017,087	70.8
5-6	0.000209	99,096	21	99,086	6,917,980	69.8
6-7	0.000199	99,076	20	99,066	6,818,894	68.8
7-8	0.000189	99,056	19	99,047	6,719,828	67.8
8-9	0.000171	99,037	17	99,029	6,620,781	66.9
9-10	0.000147	99,020	15	99,013	6,521,752	65.9
10-11	0.000128	99,006	13	98,999	6,422,739	64.9
11-12	0.000135	98,993	13	98,986	6,323,740	63.9
12-13	0.000193	98,980	19	98,970	6,224,753	62.9
13-14	0.000314	98,961	31	98,945	6,125,783	61.9
14-15	0.000479	98,930	47	98,906	6,026,838	60.9
15-16	0.000660	98,882	65	98,850	5,927,932	59.9
16-17	0.000828	98,817	82	98,776	5,829,082	59.0
17-18	0.000977	98,735	96	98,687	5,730,306	58.0
18-19	0.001097	98,639	108	98,585	5,631,620	57.1
19-20	0.001194	98,531	118	98,472	5,533,035	56.2
20-21	0.001295	98,413	127	98,349	5,434,563	55.2
21-22	0.001396	98,285	137	98,217	5,336,214	54.3
22-23	0.001463	98,148	144	98,076	5,237,997	53.4
23-24	0.001483	98,005	145	97,932	5,139,921	52.4
24-25	0.001467	97,859	144	97,787	5,041,989	51.5
25-26	0.001438	97,716	141	97,645	4,944,201	50.6
26-27	0.001416	97,575	138	97,506	4,846,556	49.7
27-28	0.001402	97,437	137	97,369	4,749,050	48.7
28-29	0.001407	97,300	137	97,232	4,651,681	47.8
29-30	0.001429	97,164	139	97,094	4,554,449	46.9
30-31	0.001456	97,025	141	96,954	4,457,355	45.9
31-32	0.001491	96,883	144	96,811	4,360,401	45.0
32-33	0.001546	96,739	150	96,664	4,263,590	44.1
33-34	0.001625	96,589	157	96,511	4,166,926	43.1
34-35	0.001723	96,432	166	96,349	4,070,415	42.2
35-36	0.001828	96,266	176	96,178	3,974,065	41.3
36-37	0.001940	96,090	186	95,997	3,877,887	40.4
37-38	0.002070	95,904	199	95,805	3,781,890	39.4
38-39	0.002222	95,705	213	95,599	3,686,086	38.5
39-40	0.002396	95,493	229	95,378	3,590,487	37.6
40-41	0.002581	95,264	246	95,141	3,495,109	36.7
41-42	0.002777	95,018	264	94,886	3,399,968	35.8
42-43	0.003001	94,754	284	94,612	3,305,082	34.9
43-44	0.003262	94,470	308	94,316	3,210,470	34.0
44-45	0.003561	94,161	335	93,994	3,116,155	33.1
45-46	0.003902	93,826	366	93,643	3,022,161	32.2
46-47	0.004270	93,460	399	93,261	2,928,518	31.3
47-48	0.004643	93,061	432	92,845	2,835,257	30.5
48-49	0.004996	92,629	463	92,397	2,742,412	29.6
49-50	0.005334	92,166	492	91,920	2,650,015	28.8
50-51	0.005687	91,674	521	91,414	2,558,094	27.9
51-52	0.006083	91,153	555	90,876	2,466,681	27.1
52-53	0.006529	90,599	592	90,303	2,375,805	26.2
53-54	0.007052	90,007	635	89,690	2,285,502	25.4
54-55	0.007668	89,372	685	89,030	2,195,812	24.6
55-56	0.008389	88,687	744	88,315	2,106,783	23.8
56-57	0.009199	87,943	809	87,539	2,018,468	23.0
57-58	0.010081	87,134	878	86,695	1,930,929	22.2
58-59	0.011001	86,256	949	85,781	1,844,234	21.4
59-60	0.011964	85,307	1,021	84,796	1,758,453	20.6
60-61	0.013033	84,286	1,099	83,737	1,673,656	19.9
61-62	0.014248	83,188	1,185	82,595	1,589,920	19.1
62-63	0.015558	82,002	1,276	81,364	1,507,325	18.4
63-64	0.016947	80,727	1,368	80,043	1,425,960	17.7
64-65	0.018420	79,359	1,462	78,628	1,345,918	17.0
65-66	0.019939	77,897	1,553	77,120	1,267,290	16.3
66-67	0.021588	76,344	1,648	75,520	1,190,170	15.6

Table 2. Life table for males: United States, 2000—Con.

Age	Probability of dying between ages x to $x+1$	Number surviving to age x	Number dying between ages x to $x+1$	Person-years lived between ages x to $x+1$	Total number of person-years lived above age x	Expectation of life at age x
	q_x	l_x	d_x	L_x	T_x	e_x
67-68	0.023499	74,695	1,755	73,818	1,114,650	14.9
68-69	0.025743	72,940	1,878	72,001	1,040,832	14.3
69-70	0.028251	71,063	2,008	70,059	968,831	13.6
70-71	0.030827	69,055	2,129	67,991	898,772	13.0
71-72	0.033436	66,926	2,238	65,807	830,782	12.4
72-73	0.036262	64,688	2,346	63,516	764,974	11.8
73-74	0.039394	62,343	2,456	61,115	701,459	11.3
74-75	0.042837	59,887	2,565	58,604	640,344	10.7
75-76	0.046467	57,321	2,664	55,990	581,740	10.1
76-77	0.050241	54,658	2,746	53,285	525,751	9.6
77-78	0.054397	51,912	2,824	50,500	472,466	9.1
78-79	0.059174	49,088	2,905	47,636	421,966	8.6
79-80	0.064770	46,183	2,991	44,688	374,330	8.1
80-81	0.071426	43,192	3,085	41,649	329,643	7.6
81-82	0.079067	40,107	3,171	38,521	287,993	7.2
82-83	0.087465	36,936	3,231	35,320	249,472	6.8
83-84	0.096142	33,705	3,240	32,085	214,152	6.4
84-85	0.105041	30,465	3,200	28,865	182,067	6.0
85-86	0.114901	27,265	3,133	25,698	153,202	5.6
86-87	0.125348	24,132	3,025	22,619	127,504	5.3
87-88	0.136374	21,107	2,878	19,668	104,884	5.0
88-89	0.147968	18,229	2,697	16,880	85,217	4.7
89-90	0.160114	15,531	2,487	14,288	68,337	4.4
90-91	0.172788	13,045	2,254	11,918	54,049	4.1
91-92	0.185960	10,791	2,007	9,787	42,131	3.9
92-93	0.199595	8,784	1,753	7,907	32,344	3.7
93-94	0.213650	7,031	1,502	6,280	24,436	3.5
94-95	0.228076	5,529	1,261	4,898	18,157	3.3
95-96	0.242816	4,268	1,036	3,750	13,259	3.1
96-97	0.257810	3,231	833	2,815	9,509	2.9
97-98	0.272989	2,398	655	2,071	6,694	2.8
98-99	0.288279	1,744	503	1,492	4,623	2.7
99-100	0.303602	1,241	377	1,053	3,131	2.5
100 years and over	1.00000	864	864	2,078	2,078	2.4

Table 3. Life table for females: United States, 2000

Age	Probability of dying between ages x to $x+1$	Number surviving to age x	Number dying between ages x to $x+1$	Person-years lived between ages x to $x+1$	Total number of person-years lived above age x	Expectation of life at age x
	q_x	l_x	d_x	L_x	T_x	e_x
0-1	0.006235	100,000	624	99,454	7,947,581	79.5
1-2	0.000465	99,376	46	99,353	7,848,126	79.0
2-3	0.000308	99,330	31	99,315	7,748,773	78.0
3-4	0.000199	99,300	20	99,290	7,649,458	77.0
4-5	0.000187	99,280	19	99,271	7,550,168	76.0
5-6	0.000167	99,261	17	99,253	7,450,897	75.1
6-7	0.000154	99,245	15	99,237	7,351,644	74.1
7-8	0.000144	99,229	14	99,222	7,252,407	73.1
8-9	0.000135	99,215	13	99,208	7,153,185	72.1
9-10	0.000126	99,202	13	99,195	7,053,977	71.1
10-11	0.000121	99,189	12	99,183	6,954,781	70.1
11-12	0.000125	99,177	12	99,171	6,855,598	69.1
12-13	0.000147	99,165	15	99,158	6,756,427	68.1
13-14	0.000190	99,150	19	99,141	6,657,269	67.1
14-15	0.000247	99,132	24	99,119	6,558,128	66.2
15-16	0.000312	99,107	31	99,092	6,459,009	65.2
16-17	0.000373	99,076	37	99,058	6,359,917	64.2
17-18	0.000419	99,039	42	99,018	6,260,860	63.2
18-19	0.000444	98,998	44	98,976	6,161,841	62.2
19-20	0.000453	98,954	45	98,931	6,062,866	61.3
20-21	0.000460	98,909	45	98,886	5,963,935	60.3
21-22	0.000471	98,863	47	98,840	5,865,048	59.3
22-23	0.000482	98,817	48	98,793	5,766,208	58.4
23-24	0.000493	98,769	49	98,745	5,667,415	57.4
24-25	0.000505	98,720	50	98,696	5,568,671	56.4
25-26	0.000520	98,671	51	98,645	5,469,975	55.4
26-27	0.000539	98,619	53	98,593	5,371,330	54.5
27-28	0.000560	98,566	55	98,538	5,272,738	53.5
28-29	0.000586	98,511	58	98,482	5,174,199	52.5
29-30	0.000616	98,453	61	98,423	5,075,717	51.6
30-31	0.000650	98,392	64	98,360	4,977,294	50.6
31-32	0.000690	98,329	68	98,295	4,878,934	49.6
32-33	0.000743	98,261	73	98,224	4,780,639	48.7
33-34	0.000810	98,188	80	98,148	4,682,415	47.7
34-35	0.000887	98,108	87	98,065	4,584,267	46.7
35-36	0.000967	98,021	95	97,974	4,486,203	45.8
36-37	0.001048	97,926	103	97,875	4,388,229	44.8
37-38	0.001138	97,824	111	97,768	4,290,354	43.9
38-39	0.001238	97,712	121	97,652	4,192,586	42.9
39-40	0.001348	97,591	132	97,526	4,094,935	42.0
40-41	0.001467	97,460	143	97,388	3,997,409	41.0
41-42	0.001590	97,317	155	97,239	3,900,021	40.1
42-43	0.001718	97,162	167	97,079	3,802,781	39.1
43-44	0.001849	96,995	179	96,905	3,705,703	38.2
44-45	0.001991	96,816	193	96,719	3,608,797	37.3
45-46	0.002149	96,623	208	96,519	3,512,078	36.3
46-47	0.002326	96,415	224	96,303	3,415,559	35.4
47-48	0.002527	96,191	243	96,069	3,319,256	34.5
48-49	0.002749	95,948	264	95,816	3,223,186	33.6
49-50	0.002990	95,684	286	95,541	3,127,370	32.7
50-51	0.003253	95,398	310	95,243	3,031,829	31.8
51-52	0.003538	95,088	336	94,919	2,936,586	30.9
52-53	0.003847	94,751	364	94,569	2,841,667	30.0
53-54	0.004188	94,387	395	94,189	2,747,098	29.1
54-55	0.004577	93,991	430	93,776	2,652,909	28.2
55-56	0.005031	93,561	471	93,326	2,559,132	27.4
56-57	0.005550	93,091	517	92,832	2,465,806	26.5
57-58	0.006120	92,574	567	92,291	2,372,974	25.6
58-59	0.006723	92,007	619	91,698	2,280,684	24.8
59-60	0.007364	91,389	673	91,052	2,188,986	24.0
60-61	0.008087	90,716	734	90,349	2,097,933	23.1
61-62	0.008910	89,982	802	89,581	2,007,584	22.3
62-63	0.009787	89,180	873	88,744	1,918,003	21.5
63-64	0.010700	88,308	945	87,835	1,829,259	20.7
64-65	0.011655	87,363	1,018	86,854	1,741,424	19.9
65-66	0.012667	86,344	1,094	85,798	1,654,571	19.2
66-67	0.013782	85,251	1,175	84,663	1,568,773	18.4

Table 3. Life table for females: United States, 2000—Con.

Age	Probability of dying between ages x to $x+1$	Number surviving to age x	Number dying between ages x to $x+1$	Person-years lived between ages x to $x+1$	Total number of person-years lived above age x	Expectation of life at age x
	q_x	l_x	d_x	L_x	T_x	e_x
67-68	0.015033	84,076	1,264	83,444	1,484,110	17.7
68-69	0.016446	82,812	1,362	82,131	1,400,666	16.9
69-70	0.018005	81,450	1,467	80,717	1,318,535	16.2
70-71	0.019605	79,983	1,568	79,199	1,237,819	15.5
71-72	0.021296	78,415	1,670	77,580	1,158,619	14.8
72-73	0.023255	76,745	1,785	75,853	1,081,039	14.1
73-74	0.025571	74,961	1,917	74,002	1,005,186	13.4
74-75	0.028212	73,044	2,061	72,013	931,184	12.7
75-76	0.031018	70,983	2,202	69,882	859,171	12.1
76-77	0.033947	68,781	2,335	67,614	789,288	11.5
77-78	0.037214	66,446	2,473	65,210	721,675	10.9
78-79	0.041000	63,974	2,623	62,662	656,465	10.3
79-80	0.045434	61,351	2,787	59,957	593,803	9.7
80-81	0.050468	58,563	2,956	57,085	533,846	9.1
81-82	0.056134	55,608	3,121	54,047	476,760	8.6
82-83	0.062698	52,486	3,291	50,841	422,713	8.1
83-84	0.070208	49,195	3,454	47,468	371,873	7.6
84-85	0.078624	45,741	3,596	43,943	324,404	7.1
85-86	0.087179	42,145	3,674	40,308	280,461	6.7
86-87	0.096372	38,471	3,708	36,617	240,153	6.2
87-88	0.106211	34,763	3,692	32,917	203,536	5.9
88-89	0.116702	31,071	3,626	29,258	170,618	5.5
89-90	0.127841	27,445	3,509	25,691	141,360	5.2
90-91	0.139619	23,936	3,342	22,266	115,669	4.8
91-92	0.152021	20,595	3,131	19,029	93,404	4.5
92-93	0.165023	17,464	2,882	16,023	74,375	4.3
93-94	0.178596	14,582	2,604	13,280	58,352	4.0
94-95	0.192701	11,978	2,308	10,824	45,072	3.8
95-96	0.207290	9,669	2,004	8,667	34,249	3.5
96-97	0.222310	7,665	1,704	6,813	25,582	3.3
97-98	0.237696	5,961	1,417	5,253	18,768	3.1
98-99	0.253378	4,544	1,151	3,968	13,516	3.0
99-100	0.269278	3,393	914	2,936	9,547	2.8
100 years and over	1.00000	2,479	2,479	6,611	6,611	2.7

Table 4. Life table for the white population: United States, 2000

Age	Probability of dying between ages x to $x+1$	Number surviving to age x	Number dying between ages x to $x+1$	Person-years lived between ages x to $x+1$	Total number of person-years lived above age x	Expectation of life at age x
	q_x	l_x	d_x	L_x	T_x	e_x
0-1	0.005695	100,000	570	99,501	7,742,793	77.4
1-2	0.000458	99,430	46	99,408	7,643,292	76.9
2-3	0.000307	99,385	30	99,370	7,543,885	75.9
3-4	0.000221	99,354	22	99,344	7,444,515	74.9
4-5	0.000175	99,333	17	99,324	7,345,171	73.9
5-6	0.000169	99,315	17	99,307	7,245,847	73.0
6-7	0.000162	99,298	16	99,290	7,146,541	72.0
7-8	0.000155	99,282	15	99,275	7,047,250	71.0
8-9	0.000144	99,267	14	99,260	6,947,976	70.0
9-10	0.000128	99,253	13	99,246	6,848,716	69.0
10-11	0.000115	99,240	11	99,234	6,749,470	68.0
11-12	0.000120	99,228	12	99,223	6,650,236	67.0
12-13	0.000159	99,217	16	99,209	6,551,013	66.0
13-14	0.000241	99,201	24	99,189	6,451,805	65.0
14-15	0.000352	99,177	35	99,159	6,352,616	64.1
15-16	0.000475	99,142	47	99,118	6,253,456	63.1
16-17	0.000588	99,095	58	99,066	6,154,338	62.1
17-18	0.000680	99,037	67	99,003	6,055,272	61.1
18-19	0.000741	98,969	73	98,933	5,956,269	60.2
19-20	0.000780	98,896	77	98,857	5,857,337	59.2
20-21	0.000818	98,819	81	98,778	5,758,480	58.3
21-22	0.000858	98,738	85	98,696	5,659,701	57.3
22-23	0.000883	98,653	87	98,610	5,561,006	56.4
23-24	0.000890	98,566	88	98,522	5,462,396	55.4
24-25	0.000884	98,478	87	98,435	5,363,874	54.5
25-26	0.000873	98,391	86	98,348	5,265,439	53.5
26-27	0.000868	98,305	85	98,263	5,167,091	52.6
27-28	0.000868	98,220	85	98,177	5,068,828	51.6
28-29	0.000880	98,135	86	98,092	4,970,650	50.7
29-30	0.000903	98,048	89	98,004	4,872,559	49.7
30-31	0.000930	97,960	91	97,914	4,774,555	48.7
31-32	0.000964	97,869	94	97,822	4,676,640	47.8
32-33	0.001015	97,775	99	97,725	4,578,819	46.8
33-34	0.001084	97,675	106	97,622	4,481,094	45.9
34-35	0.001167	97,569	114	97,512	4,383,471	44.9
35-36	0.001255	97,456	122	97,394	4,285,959	44.0
36-37	0.001346	97,333	131	97,268	4,188,564	43.0
37-38	0.001446	97,202	141	97,132	4,091,297	42.1
38-39	0.001559	97,062	151	96,986	3,994,165	41.2
39-40	0.001685	96,910	163	96,829	3,897,179	40.2
40-41	0.001820	96,747	176	96,659	3,800,350	39.3
41-42	0.001963	96,571	190	96,476	3,703,691	38.4
42-43	0.002118	96,381	204	96,279	3,607,215	37.4
43-44	0.002290	96,177	220	96,067	3,510,935	36.5
44-45	0.002482	95,957	238	95,838	3,414,868	35.6
45-46	0.002699	95,719	258	95,590	3,319,030	34.7
46-47	0.002939	95,461	281	95,320	3,223,441	33.8
47-48	0.003196	95,180	304	95,028	3,128,120	32.9
48-49	0.003460	94,876	328	94,712	3,033,092	32.0
49-50	0.003732	94,548	353	94,371	2,938,381	31.1
50-51	0.004021	94,195	379	94,005	2,844,009	30.2
51-52	0.004340	93,816	407	93,612	2,750,004	29.3
52-53	0.004697	93,409	439	93,190	2,656,391	28.4
53-54	0.005111	92,970	475	92,733	2,563,202	27.6
54-55	0.005595	92,495	518	92,236	2,470,469	26.7
55-56	0.006166	91,977	567	91,694	2,378,233	25.9
56-57	0.006811	91,410	623	91,099	2,286,539	25.0
57-58	0.007510	90,788	682	90,447	2,195,440	24.2
58-59	0.008237	90,106	742	89,735	2,104,993	23.4
59-60	0.009001	89,364	804	88,962	2,015,258	22.6
60-61	0.009863	88,559	873	88,123	1,926,297	21.8
61-62	0.010853	87,686	952	87,210	1,838,174	21.0
62-63	0.011920	86,734	1,034	86,217	1,750,964	20.2
63-64	0.013045	85,700	1,118	85,141	1,664,747	19.4
64-65	0.014230	84,582	1,204	83,981	1,579,605	18.7
65-66	0.015470	83,379	1,290	82,734	1,495,624	17.9
66-67	0.016830	82,089	1,382	81,398	1,412,891	17.2

Table 4. Life table for the white population: United States, 2000—Con.

Age	Probability of dying between ages x to $x+1$	Number surviving to age x	Number dying between ages x to $x+1$	Person-years lived between ages x to $x+1$	Total number of person-years lived above age x	Expectation of life at age x
	q_x	l_x	d_x	L_x	T_x	e_x
67-68	0.018378	80,707	1,483	79,966	1,331,492	16.5
68-69	0.020150	79,224	1,596	78,426	1,251,527	15.8
69-70	0.022104	77,628	1,716	76,770	1,173,101	15.1
70-71	0.024091	75,912	1,829	74,997	1,096,331	14.4
71-72	0.026132	74,083	1,936	73,115	1,021,333	13.8
72-73	0.028414	72,147	2,050	71,122	948,218	13.1
73-74	0.031032	70,097	2,175	69,010	877,096	12.5
74-75	0.033966	67,922	2,307	66,768	808,087	11.9
75-76	0.037053	65,615	2,431	64,399	741,318	11.3
76-77	0.040254	63,184	2,543	61,912	676,919	10.7
77-78	0.043818	60,640	2,657	59,312	615,007	10.1
78-79	0.047959	57,983	2,781	56,593	555,695	9.6
79-80	0.052824	55,202	2,916	53,744	499,102	9.0
80-81	0.058451	52,286	3,056	50,758	445,358	8.5
81-82	0.064799	49,230	3,190	47,635	394,600	8.0
82-83	0.071943	46,040	3,312	44,384	346,965	7.5
83-84	0.079749	42,728	3,408	41,024	302,581	7.1
84-85	0.088205	39,320	3,468	37,586	261,557	6.7
85-86	0.096874	35,852	3,473	34,115	223,971	6.2
86-87	0.106192	32,379	3,438	30,660	189,855	5.9
87-88	0.116186	28,940	3,362	27,259	159,196	5.5
88-89	0.126879	25,578	3,245	23,955	131,936	5.2
89-90	0.138293	22,333	3,088	20,788	107,981	4.8
90-91	0.150448	19,244	2,895	17,797	87,193	4.5
91-92	0.163361	16,349	2,671	15,014	69,396	4.2
92-93	0.177045	13,678	2,422	12,467	54,382	4.0
93-94	0.191511	11,257	2,156	10,179	41,915	3.7
94-95	0.206766	9,101	1,882	8,160	31,736	3.5
95-96	0.222812	7,219	1,608	6,415	23,577	3.3
96-97	0.239648	5,611	1,345	4,938	17,162	3.1
97-98	0.257267	4,266	1,097	3,717	12,223	2.9
98-99	0.275657	3,168	873	2,732	8,506	2.7
99-100	0.294800	2,295	677	1,957	5,774	2.5
100 years and over	1.00000	1,618	1,618	3,818	3,818	2.4

Table 5. Life table for white males: United States, 2000

Age	Probability of dying between ages x to $x+1$	Number surviving to age x	Number dying between ages x to $x+1$	Person-years lived between ages x to $x+1$	Total number of person-years lived above age x	Expectation of life at age x
	q_x	l_x	d_x	L_x	T_x	e_x
0-1	0.006236	100,000	624	99,452	7,478,650	74.8
1-2	0.000499	99,376	50	99,352	7,379,198	74.3
2-3	0.000344	99,327	34	99,310	7,279,846	73.3
3-4	0.000262	99,293	26	99,280	7,180,537	72.3
4-5	0.000196	99,267	19	99,257	7,081,257	71.3
5-6	0.000189	99,247	19	99,238	6,982,000	70.3
6-7	0.000182	99,228	18	99,219	6,882,762	69.4
7-8	0.000175	99,210	17	99,202	6,783,543	68.4
8-9	0.000160	99,193	16	99,185	6,684,341	67.4
9-10	0.000138	99,177	14	99,170	6,585,156	66.4
10-11	0.000121	99,163	12	99,157	6,485,986	65.4
11-12	0.000127	99,151	13	99,145	6,386,829	64.4
12-13	0.000183	99,139	18	99,130	6,287,684	63.4
13-14	0.000299	99,121	30	99,106	6,188,554	62.4
14-15	0.000457	99,091	45	99,068	6,089,448	61.5
15-16	0.000629	99,046	62	99,015	5,990,380	60.5
16-17	0.000787	98,983	78	98,944	5,891,365	59.5
17-18	0.000922	98,906	91	98,860	5,792,421	58.6
18-19	0.001025	98,814	101	98,764	5,693,561	57.6
19-20	0.001102	98,713	109	98,659	5,594,797	56.7
20-21	0.001181	98,604	116	98,546	5,496,139	55.7
21-22	0.001260	98,488	124	98,426	5,397,593	54.8
22-23	0.001310	98,364	129	98,299	5,299,167	53.9
23-24	0.001322	98,235	130	98,170	5,200,868	52.9
24-25	0.001304	98,105	128	98,041	5,102,698	52.0
25-26	0.001275	97,977	125	97,915	5,004,657	51.1
26-27	0.001252	97,852	123	97,791	4,906,742	50.1
27-28	0.001240	97,730	121	97,669	4,808,951	49.2
28-29	0.001247	97,609	122	97,548	4,711,282	48.3
29-30	0.001272	97,487	124	97,425	4,613,734	47.3
30-31	0.001303	97,363	127	97,299	4,516,310	46.4
31-32	0.001341	97,236	130	97,171	4,419,010	45.4
32-33	0.001397	97,106	136	97,038	4,321,840	44.5
33-34	0.001474	96,970	143	96,898	4,224,802	43.6
34-35	0.001568	96,827	152	96,751	4,127,903	42.6
35-36	0.001667	96,675	161	96,594	4,031,152	41.7
36-37	0.001773	96,514	171	96,428	3,934,558	40.8
37-38	0.001893	96,343	182	96,252	3,838,130	39.8
38-39	0.002031	96,160	195	96,063	3,741,878	38.9
39-40	0.002186	95,965	210	95,860	3,645,815	38.0
40-41	0.002352	95,755	225	95,643	3,549,955	37.1
41-42	0.002528	95,530	242	95,409	3,454,312	36.2
42-43	0.002729	95,289	260	95,159	3,358,903	35.2
43-44	0.002964	95,029	282	94,888	3,263,744	34.3
44-45	0.003233	94,747	306	94,594	3,168,857	33.4
45-46	0.003542	94,441	334	94,273	3,074,263	32.6
46-47	0.003876	94,106	365	93,924	2,979,990	31.7
47-48	0.004213	93,741	395	93,544	2,886,066	30.8
48-49	0.004530	93,346	423	93,135	2,792,522	29.9
49-50	0.004835	92,924	449	92,699	2,699,387	29.0
50-51	0.005152	92,474	476	92,236	2,606,688	28.2
51-52	0.005510	91,998	507	91,744	2,514,452	27.3
52-53	0.005923	91,491	542	91,220	2,422,707	26.5
53-54	0.006420	90,949	584	90,657	2,331,487	25.6
54-55	0.007017	90,365	634	90,048	2,240,830	24.8
55-56	0.007721	89,731	693	89,385	2,150,782	24.0
56-57	0.008513	89,038	758	88,659	2,061,398	23.2
57-58	0.009372	88,280	827	87,867	1,972,738	22.3
58-59	0.010264	87,453	898	87,004	1,884,872	21.6
59-60	0.011196	86,555	969	86,071	1,797,868	20.8
60-61	0.012241	85,586	1,048	85,062	1,711,797	20.0
61-62	0.013441	84,539	1,136	83,970	1,626,735	19.2
62-63	0.014749	83,402	1,230	82,787	1,542,765	18.5
63-64	0.016146	82,172	1,327	81,509	1,459,977	17.8
64-65	0.017637	80,845	1,426	80,132	1,378,469	17.1
65-66	0.019184	79,419	1,524	78,658	1,298,336	16.3
66-67	0.020868	77,896	1,626	77,083	1,219,679	15.7

Table 5. Life table for white males: United States, 2000—Con.

Age	Probability of dying between ages x to $x+1$	Number surviving to age x	Number dying between ages x to $x+1$	Person-years lived between ages x to $x+1$	Total number of person-years lived above age x	Expectation of life at age x
	q_x	l_x	d_x	L_x	T_x	e_x
67-68	0.022813	76,270	1,740	75,400	1,142,595	15.0
68-69	0.025074	74,530	1,869	73,596	1,067,195	14.3
69-70	0.027581	72,662	2,004	71,660	993,599	13.7
70-71	0.030135	70,657	2,129	69,593	921,940	13.0
71-72	0.032717	68,528	2,242	67,407	852,347	12.4
72-73	0.035519	66,286	2,354	65,109	784,940	11.8
73-74	0.038644	63,932	2,471	62,696	719,831	11.3
74-75	0.042097	61,461	2,587	60,167	657,134	10.7
75-76	0.045725	58,874	2,692	57,528	596,967	10.1
76-77	0.049489	56,182	2,780	54,792	539,439	9.6
77-78	0.053668	53,401	2,866	51,968	484,647	9.1
78-79	0.058525	50,535	2,958	49,057	432,679	8.6
79-80	0.064254	47,578	3,057	46,049	383,622	8.1
80-81	0.071083	44,521	3,165	42,938	337,573	7.6
81-82	0.078908	41,356	3,263	39,724	294,634	7.1
82-83	0.087489	38,093	3,333	36,426	254,910	6.7
83-84	0.096336	34,760	3,349	33,086	218,483	6.3
84-85	0.105413	31,411	3,311	29,756	185,398	5.9
85-86	0.115497	28,100	3,245	26,478	155,642	5.5
86-87	0.126243	24,855	3,138	23,286	129,164	5.2
87-88	0.137661	21,717	2,990	20,222	105,878	4.9
88-89	0.149752	18,727	2,804	17,325	85,656	4.6
89-90	0.162517	15,923	2,588	14,629	68,331	4.3
90-91	0.175949	13,335	2,346	12,162	53,702	4.0
91-92	0.190036	10,989	2,088	9,945	41,540	3.8
92-93	0.204761	8,901	1,822	7,989	31,595	3.5
93-94	0.220100	7,078	1,558	6,299	23,606	3.3
94-95	0.236024	5,520	1,303	4,869	17,306	3.1
95-96	0.252495	4,217	1,065	3,685	12,438	2.9
96-97	0.269471	3,152	850	2,728	8,753	2.8
97-98	0.286902	2,303	661	1,973	6,025	2.6
98-99	0.304732	1,642	500	1,392	4,052	2.5
99-100	0.322897	1,142	369	957	2,660	2.3
100 years and over	1.00000	773	773	1,703	1,703	2.2

Table 6. Life table for white females: United States, 2000

Age	Probability of dying between ages x to $x+1$	Number surviving to age x	Number dying between ages x to $x+1$	Person-years lived between ages x to $x+1$	Total number of person-years lived above age x	Expectation of life at age x
	q_x	l_x	d_x	L_x	T_x	e_x
0-1	0.005127	100,000	513	99,550	7,996,958	80.0
1-2	0.000414	99,487	41	99,467	7,897,408	79.4
2-3	0.000268	99,446	27	99,433	7,797,941	78.4
3-4	0.000178	99,419	18	99,411	7,698,508	77.4
4-5	0.000154	99,402	15	99,394	7,599,098	76.4
5-6	0.000148	99,386	15	99,379	7,499,704	75.5
6-7	0.000140	99,372	14	99,365	7,400,325	74.5
7-8	0.000134	99,358	13	99,351	7,300,960	73.5
8-9	0.000126	99,344	13	99,338	7,201,609	72.5
9-10	0.000117	99,332	12	99,326	7,102,271	71.5
10-11	0.000109	99,320	11	99,315	7,002,944	70.5
11-12	0.000112	99,309	11	99,304	6,903,630	69.5
12-13	0.000134	99,298	13	99,292	6,804,326	68.5
13-14	0.000180	99,285	18	99,276	6,705,034	67.5
14-15	0.000242	99,267	24	99,255	6,605,758	66.5
15-16	0.000312	99,243	31	99,228	6,506,503	65.6
16-17	0.000376	99,212	37	99,193	6,407,275	64.6
17-18	0.000421	99,175	42	99,154	6,308,082	63.6
18-19	0.000440	99,133	44	99,111	6,208,928	62.6
19-20	0.000438	99,089	43	99,068	6,109,816	61.7
20-21	0.000431	99,046	43	99,025	6,010,749	60.7
21-22	0.000430	99,003	43	98,982	5,911,724	59.7
22-23	0.000431	98,961	43	98,939	5,812,742	58.7
23-24	0.000437	98,918	43	98,896	5,713,802	57.8
24-25	0.000448	98,875	44	98,853	5,614,906	56.8
25-26	0.000461	98,831	46	98,808	5,516,053	55.8
26-27	0.000477	98,785	47	98,761	5,417,245	54.8
27-28	0.000494	98,738	49	98,714	5,318,484	53.9
28-29	0.000512	98,689	50	98,664	5,219,770	52.9
29-30	0.000532	98,639	52	98,612	5,121,107	51.9
30-31	0.000555	98,586	55	98,559	5,022,494	50.9
31-32	0.000586	98,531	58	98,503	4,923,935	50.0
32-33	0.000631	98,474	62	98,443	4,825,433	49.0
33-34	0.000692	98,412	68	98,377	4,726,990	48.0
34-35	0.000764	98,343	75	98,306	4,628,613	47.1
35-36	0.000839	98,268	82	98,227	4,530,307	46.1
36-37	0.000914	98,186	90	98,141	4,432,080	45.1
37-38	0.000995	98,096	98	98,047	4,333,939	44.2
38-39	0.001083	97,999	106	97,945	4,235,891	43.2
39-40	0.001178	97,892	115	97,835	4,137,946	42.3
40-41	0.001284	97,777	126	97,714	4,040,111	41.3
41-42	0.001393	97,652	136	97,584	3,942,397	40.4
42-43	0.001503	97,516	147	97,442	3,844,813	39.4
43-44	0.001613	97,369	157	97,290	3,747,371	38.5
44-45	0.001730	97,212	168	97,128	3,650,081	37.5
45-46	0.001859	97,044	180	96,954	3,552,953	36.6
46-47	0.002009	96,863	195	96,766	3,455,999	35.7
47-48	0.002191	96,669	212	96,563	3,359,233	34.7
48-49	0.002406	96,457	232	96,341	3,262,670	33.8
49-50	0.002649	96,225	255	96,097	3,166,330	32.9
50-51	0.002915	95,970	280	95,830	3,070,232	32.0
51-52	0.003200	95,690	306	95,537	2,974,402	31.1
52-53	0.003507	95,384	335	95,217	2,878,865	30.2
53-54	0.003846	95,049	366	94,867	2,783,649	29.3
54-55	0.004229	94,684	400	94,484	2,688,782	28.4
55-56	0.004679	94,283	441	94,063	2,594,298	27.5
56-57	0.005193	93,842	487	93,599	2,500,235	26.6
57-58	0.005750	93,355	537	93,087	2,406,637	25.8
58-59	0.006331	92,818	588	92,524	2,313,550	24.9
59-60	0.006946	92,231	641	91,910	2,221,026	24.1
60-61	0.007646	91,590	700	91,240	2,129,115	23.2
61-62	0.008451	90,890	768	90,506	2,037,876	22.4
62-63	0.009315	90,121	839	89,702	1,947,370	21.6
63-64	0.010213	89,282	912	88,826	1,857,668	20.8
64-65	0.011153	88,370	986	87,877	1,768,842	20.0
65-66	0.012155	87,385	1,062	86,854	1,680,965	19.2
66-67	0.013268	86,322	1,145	85,750	1,594,111	18.5

Table 6. Life table for white females: United States, 2000—Con.

Age	Probability of dying between ages x to $x+1$	Number surviving to age x	Number dying between ages x to $x+1$	Person-years lived between ages x to $x+1$	Total number of person-years lived above age x	Expectation of life at age x
	q_x	l_x	d_x	L_x	T_x	e_x
67-68	0.014515	85,177	1,236	84,559	1,508,361	17.7
68-69	0.015918	83,941	1,336	83,273	1,423,802	17.0
69-70	0.017458	82,605	1,442	81,884	1,340,530	16.2
70-71	0.019028	81,163	1,544	80,390	1,258,646	15.5
71-72	0.020691	79,618	1,647	78,794	1,178,256	14.8
72-73	0.022632	77,971	1,765	77,088	1,099,461	14.1
73-74	0.024950	76,206	1,901	75,255	1,022,373	13.4
74-75	0.027604	74,305	2,051	73,279	947,117	12.7
75-76	0.030415	72,254	2,198	71,155	873,838	12.1
76-77	0.033339	70,056	2,336	68,888	802,683	11.5
77-78	0.036614	67,721	2,480	66,481	733,795	10.8
78-79	0.040429	65,241	2,638	63,922	667,314	10.2
79-80	0.044911	62,603	2,812	61,198	603,392	9.6
80-81	0.049996	59,792	2,989	58,297	542,194	9.1
81-82	0.055706	56,802	3,164	55,220	483,897	8.5
82-83	0.062321	53,638	3,343	51,967	428,677	8.0
83-84	0.069899	50,295	3,516	48,538	376,710	7.5
84-85	0.078409	46,780	3,668	44,946	328,172	7.0
85-86	0.087027	43,112	3,752	41,236	283,226	6.6
86-87	0.096358	39,360	3,793	37,464	241,990	6.1
87-88	0.106430	35,567	3,785	33,675	204,527	5.8
88-89	0.117270	31,782	3,727	29,918	170,852	5.4
89-90	0.128900	28,055	3,616	26,247	140,934	5.0
90-91	0.141340	24,439	3,454	22,712	114,687	4.7
91-92	0.154604	20,984	3,244	19,362	91,975	4.4
92-93	0.168702	17,740	2,993	16,244	72,613	4.1
93-94	0.183640	14,747	2,708	13,393	56,369	3.8
94-95	0.199415	12,039	2,401	10,839	42,976	3.6
95-96	0.216019	9,638	2,082	8,597	32,137	3.3
96-97	0.233438	7,556	1,764	6,674	23,540	3.1
97-98	0.251649	5,792	1,458	5,064	16,866	2.9
98-99	0.270623	4,335	1,173	3,748	11,802	2.7
99-100	0.290321	3,162	918	2,703	8,054	2.5
100 years and over	1.00000	2,244	2,244	5,351	5,351	2.4

Table 7. Life table for the black population: United States, 2000

Age	Probability of dying between ages x to $x+1$	Number surviving to age x	Number dying between ages x to $x+1$	Person-years lived between ages x to $x+1$	Total number of person-years lived above age x	Expectation of life at age x
	q_x	l_x	d_x	L_x	T_x	e_x
0-1	0.014138	100,000	1,414	98,759	7,170,361	71.7
1-2	0.000905	98,586	89	98,542	7,071,602	71.7
2-3	0.000591	98,497	58	98,468	6,973,061	70.8
3-4	0.000377	98,439	37	98,420	6,874,593	69.8
4-5	0.000342	98,402	34	98,385	6,776,173	68.9
5-6	0.000301	98,368	30	98,353	6,677,788	67.9
6-7	0.000269	98,338	26	98,325	6,579,435	66.9
7-8	0.000243	98,312	24	98,300	6,481,110	65.9
8-9	0.000219	98,288	21	98,277	6,382,810	64.9
9-10	0.000196	98,267	19	98,257	6,284,532	64.0
10-11	0.000182	98,247	18	98,238	6,186,275	63.0
11-12	0.000191	98,229	19	98,220	6,088,037	62.0
12-13	0.000237	98,211	23	98,199	5,989,817	61.0
13-14	0.000330	98,187	32	98,171	5,891,618	60.0
14-15	0.000460	98,155	45	98,132	5,793,447	59.0
15-16	0.000604	98,110	59	98,080	5,695,314	58.1
16-17	0.000749	98,051	73	98,014	5,597,234	57.1
17-18	0.000896	97,977	88	97,933	5,499,220	56.1
18-19	0.001040	97,889	102	97,839	5,401,287	55.2
19-20	0.001182	97,788	116	97,730	5,303,448	54.2
20-21	0.001338	97,672	131	97,607	5,205,719	53.3
21-22	0.001493	97,541	146	97,469	5,108,112	52.4
22-23	0.001610	97,396	157	97,317	5,010,643	51.4
23-24	0.001670	97,239	162	97,158	4,913,326	50.5
24-25	0.001687	97,077	164	96,995	4,816,168	49.6
25-26	0.001690	96,913	164	96,831	4,719,173	48.7
26-27	0.001706	96,749	165	96,667	4,622,343	47.8
27-28	0.001735	96,584	168	96,500	4,525,676	46.9
28-29	0.001787	96,416	172	96,330	4,429,176	45.9
29-30	0.001860	96,244	179	96,155	4,332,846	45.0
30-31	0.001942	96,065	187	95,972	4,236,691	44.1
31-32	0.002030	95,878	195	95,781	4,140,719	43.2
32-33	0.002131	95,684	204	95,582	4,044,938	42.3
33-34	0.002245	95,480	214	95,373	3,949,356	41.4
34-35	0.002371	95,266	226	95,153	3,853,983	40.5
35-36	0.002502	95,040	238	94,921	3,758,831	39.6
36-37	0.002648	94,802	251	94,676	3,663,910	38.6
37-38	0.002832	94,551	268	94,417	3,569,233	37.7
38-39	0.003065	94,283	289	94,139	3,474,816	36.9
39-40	0.003344	93,994	314	93,837	3,380,678	36.0
40-41	0.003639	93,680	341	93,509	3,286,840	35.1
41-42	0.003947	93,339	368	93,155	3,193,331	34.2
42-43	0.004296	92,971	399	92,771	3,100,176	33.3
43-44	0.004702	92,571	435	92,354	3,007,405	32.5
44-45	0.005165	92,136	476	91,898	2,915,052	31.6
45-46	0.005691	91,660	522	91,399	2,823,154	30.8
46-47	0.006254	91,138	570	90,853	2,731,755	30.0
47-48	0.006824	90,568	618	90,259	2,640,901	29.2
48-49	0.007367	89,950	663	89,619	2,550,642	28.4
49-50	0.007891	89,288	705	88,935	2,461,023	27.6
50-51	0.008457	88,583	749	88,209	2,372,087	26.8
51-52	0.009085	87,834	798	87,435	2,283,879	26.0
52-53	0.009728	87,036	847	86,613	2,196,444	25.2
53-54	0.010381	86,189	895	85,742	2,109,831	24.5
54-55	0.011065	85,295	944	84,823	2,024,089	23.7
55-56	0.011808	84,351	996	83,853	1,939,267	23.0
56-57	0.012644	83,355	1,054	82,828	1,855,414	22.3
57-58	0.013585	82,301	1,118	81,742	1,772,586	21.5
58-59	0.014624	81,183	1,187	80,589	1,690,844	20.8
59-60	0.015733	79,996	1,259	79,366	1,610,255	20.1
60-61	0.016916	78,737	1,332	78,071	1,530,888	19.4
61-62	0.018159	77,405	1,406	76,702	1,452,817	18.8
62-63	0.019410	76,000	1,475	75,262	1,376,115	18.1
63-64	0.020643	74,524	1,538	73,755	1,300,853	17.5
64-65	0.021881	72,986	1,597	72,188	1,227,097	16.8
65-66	0.023082	71,389	1,648	70,565	1,154,910	16.2
66-67	0.024368	69,741	1,699	68,892	1,084,344	15.5

Table 7. Life table for the black population: United States, 2000—Con.

Age	Probability of dying between ages x to $x+1$	Number surviving to age x	Number dying between ages x to $x+1$	Person-years lived between ages x to $x+1$	Total number of person-years lived above age x	Expectation of life at age x
	q_x	l_x	d_x	L_x	T_x	e_x
67-68	0.025965	68,042	1,767	67,158	1,015,453	14.9
68-69	0.028039	66,275	1,858	65,346	948,294	14.3
69-70	0.030563	64,417	1,969	63,432	882,948	13.7
70-71	0.033343	62,448	2,082	61,407	819,516	13.1
71-72	0.036220	60,366	2,186	59,273	758,109	12.6
72-73	0.039260	58,179	2,284	57,037	698,836	12.0
73-74	0.042404	55,895	2,370	54,710	641,799	11.5
74-75	0.045654	53,525	2,444	52,303	587,089	11.0
75-76	0.049150	51,081	2,511	49,826	534,785	10.5
76-77	0.052904	48,571	2,570	47,286	484,959	10.0
77-78	0.056804	46,001	2,613	44,695	437,673	9.5
78-79	0.060898	43,388	2,642	42,067	392,978	9.1
79-80	0.065348	40,746	2,663	39,415	350,911	8.6
80-81	0.070316	38,083	2,678	36,744	311,497	8.2
81-82	0.075976	35,405	2,690	34,060	274,752	7.8
82-83	0.082457	32,715	2,698	31,367	240,692	7.4
83-84	0.089739	30,018	2,694	28,671	209,325	7.0
84-85	0.097692	27,324	2,669	25,989	180,655	6.6
85-86	0.104971	24,655	2,588	23,361	154,665	6.3
86-87	0.112672	22,067	2,486	20,824	131,304	6.0
87-88	0.120808	19,580	2,365	18,398	110,481	5.6
88-89	0.129393	17,215	2,227	16,101	92,083	5.3
89-90	0.138441	14,987	2,075	13,950	75,982	5.1
90-91	0.147962	12,913	1,911	11,957	62,032	4.8
91-92	0.157969	11,002	1,738	10,133	50,075	4.6
92-93	0.168473	9,264	1,561	8,484	39,942	4.3
93-94	0.179483	7,703	1,383	7,012	31,458	4.1
94-95	0.191007	6,321	1,207	5,717	24,446	3.9
95-96	0.203055	5,113	1,038	4,594	18,729	3.7
96-97	0.215631	4,075	879	3,636	14,135	3.5
97-98	0.228742	3,196	731	2,831	10,499	3.3
98-99	0.242390	2,465	598	2,166	7,669	3.1
99-100	0.256578	1,868	479	1,628	5,502	2.9
100 years and over	1.00000	1,388	1,388	3,874	3,874	2.8

Table 8. Life table for black males: United States, 2000

Age	Probability of dying between ages x to $x+1$	Number surviving to age x	Number dying between ages x to $x+1$	Person-years lived between ages x to $x+1$	Total number of person-years lived above age x	Expectation of life at age x
	q_x	l_x	d_x	L_x	T_x	e_x
0-1	0.015561	100,000	1,556	98,632	6,818,559	68.2
1-2	0.001013	98,444	100	98,394	6,719,926	68.3
2-3	0.000643	98,344	63	98,313	6,621,532	67.3
3-4	0.000426	98,281	42	98,260	6,523,220	66.4
4-5	0.000337	98,239	33	98,222	6,424,960	65.4
5-6	0.000331	98,206	33	98,190	6,326,737	64.4
6-7	0.000305	98,173	30	98,158	6,228,548	63.4
7-8	0.000280	98,143	28	98,130	6,130,389	62.5
8-9	0.000249	98,116	24	98,104	6,032,260	61.5
9-10	0.000213	98,092	21	98,081	5,934,156	60.5
10-11	0.000186	98,071	18	98,062	5,836,075	59.5
11-12	0.000193	98,052	19	98,043	5,738,013	58.5
12-13	0.000264	98,034	26	98,021	5,639,970	57.5
13-14	0.000415	98,008	41	97,987	5,541,950	56.5
14-15	0.000628	97,967	61	97,936	5,443,962	55.6
15-16	0.000862	97,905	84	97,863	5,346,026	54.6
16-17	0.001091	97,821	107	97,768	5,248,163	53.7
17-18	0.001325	97,714	129	97,650	5,150,395	52.7
18-19	0.001556	97,585	152	97,509	5,052,745	51.8
19-20	0.001783	97,433	174	97,346	4,955,236	50.9
20-21	0.002035	97,259	198	97,160	4,857,890	49.9
21-22	0.002286	97,061	222	96,950	4,760,730	49.0
22-23	0.002471	96,840	239	96,720	4,663,779	48.2
23-24	0.002555	96,600	247	96,477	4,567,059	47.3
24-25	0.002559	96,353	247	96,230	4,470,582	46.4
25-26	0.002535	96,107	244	95,985	4,374,352	45.5
26-27	0.002526	95,863	242	95,742	4,278,367	44.6
27-28	0.002528	95,621	242	95,500	4,182,625	43.7
28-29	0.002561	95,379	244	95,257	4,087,125	42.9
29-30	0.002620	95,135	249	95,010	3,991,868	42.0
30-31	0.002688	94,886	255	94,758	3,896,857	41.1
31-32	0.002761	94,631	261	94,500	3,802,099	40.2
32-33	0.002853	94,369	269	94,235	3,707,599	39.3
33-34	0.002964	94,100	279	93,961	3,613,364	38.4
34-35	0.003096	93,821	290	93,676	3,519,403	37.5
35-36	0.003236	93,531	303	93,380	3,425,727	36.6
36-37	0.003397	93,228	317	93,070	3,332,347	35.7
37-38	0.003609	92,912	335	92,744	3,239,278	34.9
38-39	0.003887	92,576	360	92,396	3,146,534	34.0
39-40	0.004226	92,216	390	92,022	3,054,137	33.1
40-41	0.004588	91,827	421	91,616	2,962,116	32.3
41-42	0.004968	91,405	454	91,178	2,870,500	31.4
42-43	0.005411	90,951	492	90,705	2,779,321	30.6
43-44	0.005938	90,459	537	90,191	2,688,616	29.7
44-45	0.006554	89,922	589	89,627	2,598,426	28.9
45-46	0.007262	89,333	649	89,008	2,508,798	28.1
46-47	0.008030	88,684	712	88,328	2,419,790	27.3
47-48	0.008824	87,972	776	87,584	2,331,462	26.5
48-49	0.009599	87,196	837	86,777	2,243,879	25.7
49-50	0.010359	86,359	895	85,911	2,157,102	25.0
50-51	0.011182	85,464	956	84,986	2,071,190	24.2
51-52	0.012094	84,508	1,022	83,997	1,986,204	23.5
52-53	0.013027	83,486	1,088	82,943	1,902,207	22.8
53-54	0.013972	82,399	1,151	81,823	1,819,264	22.1
54-55	0.014953	81,247	1,215	80,640	1,737,441	21.4
55-56	0.016018	80,033	1,282	79,392	1,656,801	20.7
56-57	0.017200	78,751	1,355	78,073	1,577,409	20.0
57-58	0.018476	77,396	1,430	76,681	1,499,336	19.4
58-59	0.019814	75,966	1,505	75,213	1,422,655	18.7
59-60	0.021181	74,461	1,577	73,672	1,347,442	18.1
60-61	0.022611	72,884	1,648	72,060	1,273,769	17.5
61-62	0.024101	71,236	1,717	70,377	1,201,710	16.9
62-63	0.025566	69,519	1,777	68,630	1,131,332	16.3
63-64	0.026963	67,742	1,827	66,828	1,062,702	15.7
64-65	0.028322	65,915	1,867	64,982	995,874	15.1
65-66	0.029566	64,048	1,894	63,101	930,892	14.5
66-67	0.030887	62,155	1,920	61,195	867,791	14.0

Table 8. Life table for black males: United States, 2000—Con.

Age	Probability of dying between ages x to $x+1$	Number surviving to age x	Number dying between ages x to $x+1$	Person-years lived between ages x to $x+1$	Total number of person-years lived above age x	Expectation of life at age x
	q_x	l_x	d_x	L_x	T_x	e_x
67-68	0.032633	60,235	1,966	59,252	806,596	13.4
68-69	0.035063	58,269	2,043	57,248	747,344	12.8
69-70	0.038133	56,226	2,144	55,154	690,096	12.3
70-71	0.041555	54,082	2,247	52,958	634,942	11.7
71-72	0.045064	51,835	2,336	50,667	581,984	11.2
72-73	0.048747	49,499	2,413	48,292	531,317	10.7
73-74	0.052498	47,086	2,472	45,850	483,025	10.3
74-75	0.056335	44,614	2,513	43,357	437,175	9.8
75-76	0.060496	42,101	2,547	40,827	393,818	9.4
76-77	0.065007	39,554	2,571	38,268	352,991	8.9
77-78	0.069640	36,982	2,575	35,695	314,723	8.5
78-79	0.074396	34,407	2,560	33,127	279,028	8.1
79-80	0.079459	31,847	2,531	30,582	245,901	7.7
80-81	0.085247	29,317	2,499	28,067	215,319	7.3
81-82	0.091950	26,817	2,466	25,585	187,252	7.0
82-83	0.099277	24,352	2,418	23,143	161,667	6.6
83-84	0.106783	21,934	2,342	20,763	138,524	6.3
84-85	0.114217	19,592	2,238	18,473	117,762	6.0
85-86	0.122016	17,354	2,117	16,295	99,289	5.7
86-87	0.130139	15,237	1,983	14,245	82,993	5.4
87-88	0.138583	13,254	1,837	12,335	68,748	5.2
88-89	0.147341	11,417	1,682	10,576	56,412	4.9
89-90	0.156403	9,735	1,523	8,974	45,837	4.7
90-91	0.165759	8,212	1,361	7,532	36,863	4.5
91-92	0.175395	6,851	1,202	6,250	29,331	4.3
92-93	0.185297	5,649	1,047	5,126	23,081	4.1
93-94	0.195446	4,603	900	4,153	17,955	3.9
94-95	0.205824	3,703	762	3,322	13,802	3.7
95-96	0.216409	2,941	636	2,623	10,480	3.6
96-97	0.227176	2,304	524	2,043	7,858	3.4
97-98	0.238100	1,781	424	1,569	5,815	3.3
98-99	0.249154	1,357	338	1,188	4,246	3.1
99-100	0.260306	1,019	265	886	3,058	3.0
100 years and over	1.00000	754	754	2,172	2,172	2.9

Table 9. Life table for black females: United States, 2000

Age	Probability of dying between ages x to $x+1$	Number surviving to age x	Number dying between ages x to $x+1$	Person-years lived between ages x to $x+1$	Total number of person-years lived above age x	Expectation of life at age x
	q_x	l_x	d_x	L_x	T_x	e_x
0-1	0.012672	100,000	1,267	98,890	7,493,035	74.9
1-2	0.000792	98,733	78	98,694	7,394,145	74.9
2-3	0.000537	98,655	53	98,628	7,295,452	73.9
3-4	0.000326	98,602	32	98,586	7,196,824	73.0
4-5	0.000347	98,569	34	98,552	7,098,238	72.0
5-6	0.000271	98,535	27	98,522	6,999,686	71.0
6-7	0.000232	98,509	23	98,497	6,901,164	70.1
7-8	0.000205	98,486	20	98,476	6,802,667	69.1
8-9	0.000187	98,466	18	98,456	6,704,191	68.1
9-10	0.000178	98,447	18	98,438	6,605,735	67.1
10-11	0.000178	98,430	18	98,421	6,507,296	66.1
11-12	0.000188	98,412	19	98,403	6,408,876	65.1
12-13	0.000209	98,394	21	98,383	6,310,473	64.1
13-14	0.000242	98,373	24	98,361	6,212,090	63.1
14-15	0.000285	98,349	28	98,335	6,113,729	62.2
15-16	0.000336	98,321	33	98,305	6,015,394	61.2
16-17	0.000391	98,288	38	98,269	5,917,089	60.2
17-18	0.000449	98,250	44	98,228	5,818,820	59.2
18-19	0.000507	98,206	50	98,181	5,720,593	58.3
19-20	0.000567	98,156	56	98,128	5,622,412	57.3
20-21	0.000634	98,100	62	98,069	5,524,284	56.3
21-22	0.000705	98,038	69	98,003	5,426,215	55.3
22-23	0.000767	97,969	75	97,931	5,328,212	54.4
23-24	0.000815	97,894	80	97,854	5,230,281	53.4
24-25	0.000854	97,814	84	97,772	5,132,427	52.5
25-26	0.000894	97,730	87	97,687	5,034,655	51.5
26-27	0.000945	97,643	92	97,597	4,936,968	50.6
27-28	0.001008	97,551	98	97,502	4,839,371	49.6
28-29	0.001086	97,452	106	97,399	4,741,870	48.7
29-30	0.001176	97,347	115	97,289	4,644,470	47.7
30-31	0.001275	97,232	124	97,170	4,547,181	46.8
31-32	0.001380	97,108	134	97,041	4,450,011	45.8
32-33	0.001492	96,974	145	96,902	4,352,970	44.9
33-34	0.001608	96,829	156	96,751	4,256,068	44.0
34-35	0.001730	96,674	167	96,590	4,159,317	43.0
35-36	0.001851	96,506	179	96,417	4,062,727	42.1
36-37	0.001982	96,328	191	96,232	3,966,310	41.2
37-38	0.002140	96,137	206	96,034	3,870,078	40.3
38-39	0.002333	95,931	224	95,819	3,774,044	39.3
39-40	0.002558	95,707	245	95,585	3,678,225	38.4
40-41	0.002794	95,462	267	95,329	3,582,640	37.5
41-42	0.003037	95,196	289	95,051	3,487,311	36.6
42-43	0.003306	94,907	314	94,750	3,392,260	35.7
43-44	0.003610	94,593	341	94,422	3,297,510	34.9
44-45	0.003949	94,251	372	94,065	3,203,088	34.0
45-46	0.004330	93,879	407	93,676	3,109,023	33.1
46-47	0.004733	93,473	442	93,252	3,015,347	32.3
47-48	0.005128	93,030	477	92,792	2,922,095	31.4
48-49	0.005490	92,553	508	92,299	2,829,303	30.6
49-50	0.005829	92,045	537	91,777	2,737,004	29.7
50-51	0.006194	91,509	567	91,225	2,645,227	28.9
51-52	0.006605	90,942	601	90,641	2,554,002	28.1
52-53	0.007029	90,341	635	90,024	2,463,361	27.3
53-54	0.007468	89,706	670	89,371	2,373,337	26.5
54-55	0.007940	89,036	707	88,683	2,283,966	25.7
55-56	0.008456	88,329	747	87,956	2,195,283	24.9
56-57	0.009053	87,582	793	87,186	2,107,328	24.1
57-58	0.009768	86,789	848	86,366	2,020,142	23.3
58-59	0.010615	85,942	912	85,485	1,933,776	22.5
59-60	0.011567	85,029	984	84,538	1,848,291	21.7
60-61	0.012605	84,046	1,059	83,516	1,763,753	21.0
61-62	0.013702	82,986	1,137	82,418	1,680,237	20.2
62-63	0.014821	81,849	1,213	81,243	1,597,819	19.5
63-64	0.015940	80,636	1,285	79,994	1,516,577	18.8
64-65	0.017081	79,351	1,355	78,673	1,436,583	18.1
65-66	0.018231	77,996	1,422	77,285	1,357,910	17.4
66-67	0.019477	76,574	1,491	75,828	1,280,625	16.7

Table 9. Life table for black females: United States, 2000—Con.

Age	Probability of dying between ages x to $x+1$	Number surviving to age x	Number dying between ages x to $x+1$	Person-years lived between ages x to $x+1$	Total number of person-years lived above age x	Expectation of life at age x
	q_x	l_x	d_x	L_x	T_x	e_x
67-68	0.020959	75,082	1,574	74,295	1,204,797	16.0
68-69	0.022792	73,509	1,675	72,671	1,130,502	15.4
69-70	0.024959	71,833	1,793	70,937	1,057,831	14.7
70-71	0.027327	70,040	1,914	69,083	986,894	14.1
71-72	0.029808	68,126	2,031	67,111	917,811	13.5
72-73	0.032470	66,096	2,146	65,023	850,700	12.9
73-74	0.035286	63,949	2,257	62,821	785,678	12.3
74-75	0.038253	61,693	2,360	60,513	722,857	11.7
75-76	0.041440	59,333	2,459	58,104	662,344	11.2
76-77	0.044852	56,874	2,551	55,599	604,240	10.6
77-78	0.048459	54,323	2,632	53,007	548,641	10.1
78-79	0.052342	51,691	2,706	50,338	495,634	9.6
79-80	0.056653	48,985	2,775	47,598	445,296	9.1
80-81	0.061419	46,210	2,838	44,791	397,699	8.6
81-82	0.066818	43,372	2,898	41,923	352,908	8.1
82-83	0.073187	40,474	2,962	38,993	310,985	7.7
83-84	0.080681	37,512	3,026	35,999	271,992	7.3
84-85	0.089190	34,485	3,076	32,947	235,993	6.8
85-86	0.096868	31,410	3,043	29,888	203,046	6.5
86-87	0.105050	28,367	2,980	26,877	173,158	6.1
87-88	0.113750	25,387	2,888	23,943	146,281	5.8
88-89	0.122985	22,499	2,767	21,116	122,338	5.4
89-90	0.132769	19,732	2,620	18,422	101,222	5.1
90-91	0.143115	17,112	2,449	15,888	82,800	4.8
91-92	0.154035	14,663	2,259	13,534	66,912	4.6
92-93	0.165537	12,405	2,053	11,378	53,378	4.3
93-94	0.177630	10,351	1,839	9,432	42,000	4.1
94-95	0.190319	8,513	1,620	7,702	32,568	3.8
95-96	0.203607	6,892	1,403	6,191	24,865	3.6
96-97	0.217494	5,489	1,194	4,892	18,675	3.4
97-98	0.231978	4,295	996	3,797	13,782	3.2
98-99	0.247052	3,299	815	2,891	9,985	3.0
99-100	0.262710	2,484	653	2,158	7,094	2.9
100 years and over	1.00000	1,831	1,831	4,936	4,936	2.7

Table 10. Survivorship by age, race, and sex: Death-registration States, 1900–1902 to 1919–21, and United States, 1929–31 to 2000

[Alaska and Hawaii included beginning in 1959. For decennial periods prior to 1929–31, data are for groups of registration States as follows: 1900–1902 and 1909–11, 10 States and the District of Columbia; 1919–21, 34 States and the District of Columbia. Beginning 1970 excludes deaths of nonresidents of the United States; see Technical Notes]

Age, race, and sex	Number of survivors out of 100,000 born alive (L _x)										
	2000	1989–91	1979–81	1969–71	1959–61	1949–51	1939–41	1929–31	1919–21	1909–11	1900–1902
All races											
0	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000
1	99,307	99,064	98,740	97,998	97,407	97,024	95,290	94,028	92,515	88,538	87,552
5	99,177	98,877	98,495	97,668	96,998	96,482	94,220	91,978	83,389	83,887	81,804
10	99,095	98,766	98,347	97,460	96,765	96,177	93,710	91,106	88,129	82,458	80,052
15	98,992	98,635	98,196	97,261	96,551	95,885	93,235	90,385	87,144	81,506	78,963
20	98,654	98,215	97,741	96,716	96,111	95,366	92,435	89,089	85,441	80,074	77,239
25	98,181	97,671	97,110	96,000	95,517	94,676	91,335	87,269	83,146	78,046	74,768
30	97,696	97,070	96,477	95,307	94,905	93,919	90,078	85,302	80,642	75,779	72,043
35	97,132	96,322	95,808	94,482	94,144	92,976	88,573	83,118	77,961	73,127	69,078
40	96,349	95,373	94,926	93,322	93,064	91,648	86,650	80,557	75,114	70,042	65,890
45	95,210	94,154	93,599	91,587	91,378	89,634	84,069	77,343	72,036	66,561	62,436
50	93,522	92,370	91,526	88,972	88,756	86,591	80,487	73,321	68,429	62,460	58,514
55	91,113	89,658	88,348	85,110	84,711	82,176	75,557	68,182	63,947	57,555	53,852
60	87,498	85,537	83,726	79,529	79,067	75,921	68,924	61,563	58,079	51,138	47,946
65	82,131	79,519	77,107	71,933	71,147	67,555	60,366	53,195	50,560	43,194	40,911
70	74,561	71,357	68,248	61,984	60,857	56,987	49,655	42,768	41,090	33,816	32,390
75	64,244	60,449	56,799	49,705	48,170	43,903	36,735	30,789	29,729	23,552	22,960
80	51,037	47,084	43,180	35,285	33,576	29,313	22,883	18,580	18,298	13,712	13,529
85	34,959	31,770	27,960	20,908	18,542	15,785	11,073	8,542	8,683	6,001	6,053
90	18,839	17,046	14,154	9,297	7,080	6,144	3,796	2,998	2,941	1,868	1,867
95	7,252	6,282	5,043	2,786	1,524	1,511	857	636	646	361	344
100	1,781	1,424	1,150	542	183	199	123	62	67	40	31
Male											
0	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000
1	99,241	98,961	98,607	97,755	97,087	96,661	94,762	93,440	91,745	87,505	86,426
5	99,096	98,754	98,333	97,395	96,643	96,077	93,624	91,294	88,505	82,718	80,548
10	99,006	98,627	98,160	97,151	96,375	95,726	93,054	90,346	87,184	81,249	78,775
15	98,882	98,464	97,972	96,904	96,107	95,366	92,508	89,561	86,156	80,261	77,681
20	98,413	97,854	97,316	96,126	95,491	94,695	91,617	88,220	84,440	78,792	75,984
25	97,716	97,049	96,361	95,040	94,631	93,791	90,385	86,359	82,252	76,675	73,472
30	96,125	95,166	94,330	92,072	93,826	92,861	89,009	84,346	79,890	74,378	70,747
35	96,266	95,091	94,501	92,997	92,889	91,760	87,371	82,075	77,514	71,614	67,752
40	95,264	93,761	93,345	91,541	91,572	90,207	85,246	79,357	74,432	68,297	64,447
45	93,826	92,139	91,649	89,369	89,492	87,819	82,336	75,882	71,244	64,518	60,849
50	91,674	89,865	89,007	86,070	86,199	84,158	78,254	71,518	67,553	60,118	56,736
55	88,687	86,492	84,936	81,139	81,039	78,781	72,627	65,981	62,965	54,970	51,939
60	84,286	81,378	79,012	73,958	73,887	71,246	65,142	58,909	56,917	48,343	45,895
65	77,897	73,971	70,646	64,318	64,177	61,566	55,776	50,154	49,218	40,264	38,736
70	69,055	64,107	59,681	52,296	52,244	49,950	44,588	39,516	39,668	31,023	30,217
75	57,321	51,385	46,272	38,797	38,950	36,756	31,864	27,718	28,316	21,213	21,076
80	43,192	36,749	31,810	24,921	25,300	25,237	18,995	16,172	17,128	11,942	12,084
85	27,265	21,815	18,020	13,168	12,845	11,750	8,693	7,107	7,920	5,059	5,179
90	13,045	9,878	7,732	5,107	4,609	4,197	2,787	2,283	2,527	1,502	1,508
95	4,268	2,927	2,279	1,326	970	955	586	451	556	289	262
100	864	529	423	222	117	121	78	40	62	33	22
Female											
0	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000
1	99,376	99,172	98,880	98,254	97,744	97,406	95,848	94,728	93,383	89,623	88,733
5	99,261	99,006	98,666	97,955	97,371	96,908	94,848	92,789	90,380	85,117	83,119
10	99,189	98,911	98,544	97,784	97,173	96,652	94,402	92,008	89,186	83,728	81,390
15	99,107	98,814	98,432	97,636	97,016	96,431	94,000	91,364	88,247	82,813	80,307
20	98,909	98,597	98,184	97,331	96,756	96,066	93,293	90,116	86,556	81,418	78,555
25	98,671	98,325	97,883	96,966	96,418	95,583	92,322	88,328	84,135	79,481	76,119
30	98,392	98,013	97,551	96,544	95,996	94,933	91,182	86,398	81,463	77,247	73,394
35	98,021	97,596	97,140	95,966	95,409	94,206	89,810	84,304	78,713	74,719	70,463
40	97,460	97,033	96,531	95,097	94,560	93,101	88,092	81,927	75,907	71,894	67,407
45	96,623	96,222	95,570	93,793	93,265	91,469	85,856	79,041	72,954	68,755	64,121
50	95,398	94,932	94,060	91,852	91,327	89,075	82,828	75,456	69,452	65,001	60,415
55	93,561	92,881	91,760	89,066	88,451	85,694	78,708	70,832	65,099	60,392	55,908

See footnote at end of table.

Table 10. Survivorship by age, race, and sex: Death-registration States, 1900–1902 to 1919–21, and United States, 1929–31 to 2000—Con.

[Alaska and Hawaii included beginning in 1959. For decennial periods prior to 1929–31, data are for groups of registration States as follows: 1900–1902 and 1909–11, 10 States and the District of Columbia; 1919–21, 34 States and the District of Columbia. Beginning 1970 excludes deaths of nonresidents of the United States; see Technical Notes]

Age, race, and sex	Number of survivors out of 100,000 born alive (<i>l_x</i>)										
	2000	1989–91	1979–81	1969–71	1959–61	1949–51	1939–41	1929–31	1919–21	1909–11	1900–1902
Black male¹—Con.											
60	72,884	66,334	64,980	57,457	61,669	55,535	43,833	36,790	40,506	23,750	24,194
65	64,048	56,795	55,061	47,485	51,392	45,198	35,371	29,314	34,042	17,806	19,015
70	54,082	45,690	44,213	36,925	39,914	35,018	27,236	21,741	26,923	12,295	13,829
75	42,101	33,755	32,717	25,921	29,064	25,472	19,456	14,419	18,854	7,494	8,892
80	29,317	22,549	22,017	16,560	19,994	16,904	12,186	8,239	11,615	3,894	4,831
85	17,354	12,709	12,383	9,648	11,620	9,898	6,444	3,660	5,605	1,747	2,030
90	8,212	5,972	5,708	4,696	5,174	4,642	2,836	1,246	2,040	595	634
95	2,941	1,971	2,009	1,721	1,240	1,342	961	307	552	189	137
100	754	466	513	489	149	192	209	41	77	40	18
Black female¹											
0	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000
1	98,733	98,356	98,073	97,076	96,172	95,913	93,416	92,796	91,251	81,493	78,525
5	98,535	98,087	97,751	96,598	95,543	95,055	91,906	90,185	87,149	72,768	68,056
10	98,430	97,946	97,590	96,369	95,265	94,679	91,308	89,201	85,607	70,508	65,111
15	98,321	97,818	97,450	96,172	95,057	94,343	90,594	88,088	83,954	68,218	62,384
20	98,100	97,566	97,180	95,729	94,660	93,544	88,736	85,078	80,154	64,764	59,053
25	97,730	97,140	96,754	95,035	94,005	92,336	86,198	81,067	75,359	61,430	55,795
30	97,232	96,514	96,150	94,114	93,070	90,799	83,384	76,816	70,633	58,281	52,773
35	96,506	95,599	95,338	92,807	91,670	88,805	80,092	72,192	65,857	54,595	49,567
40	95,462	94,364	94,137	90,817	89,676	86,052	76,084	67,271	61,130	50,568	46,146
45	93,879	92,676	92,322	88,001	86,793	82,257	71,157	61,365	56,230	45,947	42,279
50	91,509	90,277	89,563	84,168	82,979	77,007	64,885	54,920	50,780	40,886	37,681
55	88,329	86,793	85,653	79,177	77,362	70,196	57,314	47,074	44,742	35,415	33,124
60	84,046	81,886	80,293	72,820	69,941	61,758	48,928	38,761	37,954	28,908	27,524
65	77,996	75,031	73,266	64,716	60,825	52,358	40,504	30,852	31,044	22,302	21,995
70	70,040	66,278	64,729	54,873	51,274	42,612	32,354	23,341	24,107	15,871	16,140
75	59,333	55,684	53,831	43,193	40,540	32,981	24,502	16,576	17,216	10,657	11,066
80	46,210	43,622	41,686	31,756	30,315	23,712	17,039	10,822	11,151	6,324	6,708
85	31,410	30,089	28,004	21,358	19,744	15,550	10,622	6,033	5,972	3,029	3,567
90	17,112	17,536	16,260	12,210	9,675	8,590	5,652	2,774	2,579	1,206	1,492
95	6,892	7,687	7,312	5,217	2,438	2,875	2,345	941	818	448	462
100	1,831	2,364	2,398	1,803	293	445	659	193	179	112	97

¹For 1939–41 and 1949–51, data shown are for the entire nonwhite population. During these periods, life tables were not constructed for the black population. See Technical Notes.

Table 11. Life expectancy by age, race, and sex: Death-registration States, 1900–1902 to 1919–21, and United States, 1929–31 to 2000

[Alaska and Hawaii included beginning in 1959. For decennial periods prior to 1929–31, data are for groups of registration States as follows: 1900–1902 and 1909–11, 10 States and the District of Columbia; 1919–21, 34 States and the District of Columbia. Beginning 1970 excludes deaths of nonresidents of the United States; see Technical Notes]

Age, race, and sex	Average number of years of life remaining (e_x)										
	2000	1989–91	1979–81	1969–71	1959–61	1949–51	1939–41	1929–31	1919–21	1909–11	1900–1902
All races											
0	76.9	75.37	73.88	70.75	69.89	68.07	63.62	59.20	56.40	51.49	49.24
1	76.4	75.08	73.82	71.19	70.75	69.16	65.76	61.94	59.94	57.11	55.20
5	72.5	71.22	70.00	67.43	67.04	65.54	62.49	59.29	57.99	56.21	54.98
10	67.6	66.29	65.10	62.57	62.19	60.74	57.82	54.84	53.79	52.15	51.14
15	62.6	61.38	60.19	57.69	57.33	55.91	53.10	50.25	49.37	47.73	46.81
20	57.8	56.63	55.46	53.00	52.58	51.20	48.54	45.94	45.30	43.53	42.79
25	53.1	51.93	50.81	48.37	47.89	46.56	44.09	41.85	41.47	39.60	39.12
30	48.3	47.23	46.12	43.71	43.18	41.91	39.67	37.75	37.68	35.70	35.51
35	43.6	42.58	41.43	39.07	38.51	37.31	35.30	33.68	33.89	31.90	31.92
40	38.9	37.98	36.79	34.52	33.92	32.81	31.03	29.67	30.08	28.20	28.34
45	34.4	33.44	32.27	30.12	29.50	28.49	26.90	25.79	26.25	24.54	24.77
50	30.0	29.03	27.94	25.93	25.29	24.40	22.98	22.06	22.50	20.98	21.26
55	25.7	24.83	23.85	21.99	21.37	20.57	19.31	18.53	18.90	17.55	17.88
60	21.6	20.90	20.02	18.34	17.71	17.04	15.91	15.24	15.54	14.42	14.76
65	17.9	17.28	16.51	15.00	14.39	13.83	12.80	12.23	12.47	11.60	11.86
70	14.4	13.96	13.32	12.00	11.38	10.92	10.00	9.58	9.74	9.11	9.30
75	11.3	11.00	10.48	9.32	8.71	8.40	7.62	7.32	7.49	6.99	7.08
80	8.6	8.40	7.98	7.10	6.39	6.34	5.73	5.50	5.63	5.25	5.30
85	6.3	6.23	5.96	5.28	4.58	4.69	4.31	4.19	4.21	4.00	3.96
90	4.7	4.50	4.43	3.94	3.22	3.44	3.30	3.15	3.22	3.03	2.95
95	3.5	3.29	3.34	3.06	2.43	2.54	2.61	2.26	2.32	2.35	2.18
100	2.6	2.46	2.73	2.62	1.91	1.92	2.13	1.51	1.53	1.85	1.58
Male											
0	74.1	71.83	70.11	67.04	66.80	65.47	61.60	57.71	55.50	49.86	47.88
1	73.7	71.58	70.10	67.58	67.80	66.73	64.00	60.75	59.47	55.95	54.35
5	69.8	67.73	66.29	63.82	64.10	63.12	60.76	58.14	57.60	55.11	54.22
10	64.9	62.81	61.41	58.98	59.27	58.35	56.12	53.75	53.44	51.07	50.39
15	59.9	57.91	56.52	54.12	54.43	53.56	51.43	49.18	49.05	46.66	46.06
20	55.2	53.25	51.88	49.54	49.77	48.92	46.91	44.88	44.99	42.48	42.03
25	50.6	48.67	47.37	45.07	45.19	44.36	42.51	40.79	41.11	38.59	38.38
30	45.9	44.10	42.81	40.51	40.56	39.78	38.13	36.71	37.26	34.70	34.76
35	41.3	39.57	38.20	35.95	35.94	35.23	33.79	32.65	33.43	30.94	31.19
40	36.7	35.09	33.64	31.48	31.42	30.79	29.57	28.68	29.63	27.32	27.65
45	32.2	30.66	29.22	27.18	27.09	26.55	25.52	24.87	25.84	23.77	24.14
50	27.9	26.37	25.00	23.12	23.02	22.59	21.72	21.25	22.11	20.32	20.70
55	23.8	22.30	21.08	19.36	19.32	18.96	18.20	17.79	18.53	16.98	17.38
60	19.9	18.53	17.46	15.99	15.94	15.68	14.99	14.62	15.22	13.95	14.33
65	16.3	15.12	14.21	12.99	12.95	12.74	12.07	11.72	12.20	11.24	11.50
70	13.0	12.05	11.35	10.39	10.33	10.11	9.46	9.18	9.52	8.83	9.02
75	10.1	9.39	8.90	8.13	7.99	7.83	7.22	7.02	7.31	6.75	6.84
80	7.6	7.12	6.80	6.27	5.95	5.94	5.44	5.27	5.49	5.10	5.11
85	5.6	5.31	5.13	4.73	4.39	4.41	4.11	4.02	4.10	3.90	3.82
90	4.1	3.89	3.89	3.60	3.18	3.30	3.17	3.06	3.21	3.01	2.86
95	3.1	2.92	2.98	2.82	2.43	2.49	2.52	2.21	2.38	2.36	2.13
100	2.4	2.25	2.49	2.43	1.91	1.92	2.05	1.50	1.58	1.81	1.55
Female											
0	79.5	78.81	77.62	74.64	73.24	70.96	65.89	60.90	57.40	53.24	50.70
1	79.0	78.47	77.50	74.97	73.93	71.84	67.73	65.37	60.45	58.37	56.10
5	75.1	74.60	73.67	71.19	70.21	68.21	64.43	60.66	58.41	57.39	55.80
10	70.1	69.67	68.75	66.31	65.35	63.38	59.73	56.16	54.16	53.31	51.94
15	65.2	64.73	63.83	61.41	60.45	58.52	54.97	51.54	49.71	48.87	47.60
20	60.3	59.87	58.98	56.59	55.60	53.73	50.37	47.21	45.63	44.66	43.60
25	55.4	55.03	54.16	51.80	50.79	48.99	45.87	43.11	41.86	40.69	39.92
30	50.6	50.19	49.33	47.01	46.00	44.28	41.41	39.02	38.15	36.79	36.30
35	45.8	45.40	44.53	42.28	41.27	39.63	37.01	34.92	34.40	32.95	32.71
40	41.0	40.65	39.80	37.64	36.61	35.06	32.68	30.86	30.58	29.15	29.08
45	36.3	35.97	35.17	33.13	32.09	30.64	28.46	26.89	26.71	25.36	25.44
50	31.8	31.42	30.69	28.77	27.71	26.40	24.40	23.05	22.92	21.67	21.84
55	27.4	27.05	26.39	24.59	23.53	22.33	20.54	19.38	19.28	18.13	18.39

See footnote at end of table.

Table 11. Life expectancy by age, race, and sex: Death-registration States, 1900–1902 to 1919–21, and United States, 1929–31 to 2000—Con.

[Alaska and Hawaii included beginning in 1959. For decennial periods prior to 1929–31, data are for groups of registration States as follows: 1900–1902 and 1909–11, 10 States and the District of Columbia; 1919–21, 34 States and the District of Columbia. Beginning 1970 excludes deaths of nonresidents of the United States; see Technical Notes]

Age, race, and sex	Average number of years of life remaining (e_x)										
	2000	1989–91	1979–81	1969–71	1959–61	1949–51	1939–41	1929–31	1919–21	1909–11	1900–1902
Female—Con.											
60	23.1	22.90	22.29	20.60	19.52	18.50	16.92	15.94	15.87	14.90	15.21
65	19.2	19.02	18.44	16.83	15.80	14.95	13.57	12.78	12.73	11.96	12.22
70	15.5	15.38	14.84	13.35	12.37	11.71	10.56	9.99	9.96	9.38	9.59
75	12.1	12.08	11.58	10.26	9.33	8.94	8.01	7.61	7.65	7.20	7.34
80	9.1	9.13	8.69	7.68	6.72	6.67	5.99	5.70	5.75	5.37	5.51
85	6.7	6.66	6.38	5.63	4.71	4.90	4.47	4.32	4.30	4.08	4.12
90	4.8	4.73	4.66	4.14	3.25	3.54	3.39	3.24	3.23	3.05	3.04
95	3.5	3.40	3.48	3.18	2.43	2.57	2.67	2.30	2.27	2.34	2.24
100	2.7	2.52	2.81	2.69	1.91	1.93	2.17	1.52	1.48	1.91	1.61
White											
0	77.4	76.13	74.53	71.62	70.73	69.02	64.92	60.86	57.42	51.90	49.64
1	76.9	75.72	74.35	71.91	71.38	69.95	66.84	63.46	60.87	57.46	55.47
5	73.0	71.84	70.52	68.12	67.64	66.29	63.52	60.75	58.86	56.51	55.18
10	68.0	66.92	65.62	63.26	62.79	61.48	58.83	56.29	54.65	52.43	51.34
15	63.1	61.99	60.71	58.37	57.92	56.65	54.09	51.69	50.21	48.01	47.01
20	58.3	57.23	55.98	53.66	53.16	51.91	49.47	47.28	46.04	43.77	43.17
25	53.5	52.50	51.30	49.00	48.44	47.22	44.92	43.02	42.07	39.79	39.26
30	48.7	47.76	46.59	44.28	43.69	42.52	40.40	38.76	38.17	35.86	35.51
35	44.0	43.06	41.86	39.58	38.97	37.86	35.93	34.50	34.27	32.03	32.01
40	39.3	38.41	37.17	34.95	34.33	33.29	31.54	30.33	30.38	28.29	28.28
45	34.7	33.81	32.60	30.48	29.84	28.88	27.29	26.29	26.45	24.60	24.82
50	30.2	29.34	28.21	26.21	25.57	24.70	23.26	22.42	22.64	21.01	21.18
55	25.9	25.08	24.05	22.19	21.58	20.77	19.47	18.75	18.97	17.57	17.91
60	21.8	21.08	20.16	18.48	17.84	17.15	15.98	15.37	15.57	14.43	14.73
65	17.9	17.40	16.59	15.08	14.44	13.86	12.80	12.28	12.47	11.60	11.87
70	14.4	14.02	13.35	12.01	11.37	10.89	9.96	9.58	9.72	9.10	9.31
75	11.3	11.03	10.47	9.27	8.65	8.34	7.55	7.30	7.47	6.98	7.08
80	8.5	8.39	7.95	7.01	6.33	6.27	5.64	5.45	5.59	5.22	5.30
85	6.2	6.20	5.90	5.19	4.53	4.62	4.20	4.12	4.15	3.97	3.95
90	4.5	4.46	4.36	3.84	3.20	3.41	3.16	3.10	3.17	3.00	2.93
95	3.3	3.25	3.25	2.92	2.43	2.53	2.45	2.22	2.28	2.29	2.16
100	2.4	2.43	2.62	2.41	1.91	1.92	1.95	1.48	1.50	1.71	1.56
White male											
0	74.8	72.72	70.82	67.94	67.55	66.31	62.81	59.12	56.34	50.23	48.23
1	74.3	72.35	70.70	68.33	68.34	67.41	64.98	62.04	60.24	56.26	54.61
5	70.3	68.48	66.87	64.55	64.61	63.77	61.68	59.38	58.31	55.37	54.43
10	65.4	63.55	61.98	59.69	59.78	58.98	57.03	54.96	54.15	51.32	50.59
15	60.5	58.65	57.09	54.83	54.93	54.18	52.33	50.39	49.74	46.91	46.25
20	55.7	53.96	52.45	50.22	50.25	49.52	47.76	46.02	45.60	42.71	42.19
25	51.1	49.33	47.92	45.70	45.65	44.93	43.28	41.78	41.60	38.79	38.52
30	46.4	44.71	43.31	41.07	40.97	40.29	38.80	37.54	37.65	34.87	34.88
35	41.7	40.12	38.66	36.43	36.31	35.68	34.36	33.33	33.74	31.08	31.29
40	37.1	35.57	34.04	31.87	31.73	31.17	30.03	29.22	29.86	27.43	27.74
45	32.6	31.07	29.55	27.48	27.34	26.87	25.87	25.28	26.00	23.86	24.21
50	28.2	26.71	25.26	23.34	23.22	22.83	21.96	21.51	22.22	20.39	20.76
55	24.0	22.56	21.25	19.51	19.45	19.11	18.34	17.97	18.59	17.03	17.42
60	20.0	18.71	17.56	16.07	16.01	15.76	15.05	14.72	15.25	13.98	14.35
65	16.3	15.24	14.26	13.02	12.97	12.75	12.07	11.77	12.21	11.25	11.51
70	13.0	12.11	11.35	10.38	10.29	10.07	9.42	9.20	9.51	8.83	9.03
75	10.1	9.40	8.87	8.06	7.92	7.77	7.17	7.02	7.30	6.75	6.84
80	7.6	7.11	6.76	6.18	5.89	5.88	5.38	5.26	5.47	5.09	5.10
85	5.5	5.28	5.09	4.63	4.34	4.35	4.02	3.99	4.06	3.88	3.81
90	4.0	3.85	3.83	3.49	3.16	3.27	3.06	3.03	3.18	2.99	2.85
95	2.9	2.88	2.91	2.67	2.43	2.48	2.40	2.19	2.36	2.31	2.12
100	2.2	2.21	2.41	2.20	1.91	1.92	1.96	1.49	1.58	1.68	1.55

See footnote at end of table.

Table 11. Life expectancy by age, race, and sex: Death-registration States, 1900–1902 to 1919–21, and United States, 1929–31 to 2000—Con.

[Alaska and Hawaii included beginning in 1959. For decennial periods prior to 1929–31, data are for groups of registration States as follows: 1900–1902 and 1909–11, 10 States and the District of Columbia; 1919–21, 34 States and the District of Columbia. Beginning 1970 excludes deaths of nonresidents of the United States; see Technical Notes]

Age, race, and sex	Average number of years of life remaining (e_x)										
	2000	1989–91	1979–81	1969–71	1959–61	1949–51	1939–41	1929–31	1919–21	1909–11	1900–1902
White female											
0	80.0	79.45	78.22	75.49	74.19	72.03	67.29	62.67	58.53	53.62	51.08
1	79.4	78.99	77.98	75.66	74.68	72.77	68.93	64.93	61.51	58.69	56.39
5	75.5	75.10	74.13	71.86	70.92	69.09	65.57	62.17	59.43	57.67	56.03
10	70.5	70.16	69.21	66.97	66.05	64.26	60.85	57.65	55.17	53.57	52.15
15	65.6	65.23	64.29	62.07	61.15	59.39	56.07	53.00	50.67	49.12	47.79
20	60.7	60.36	59.44	57.24	56.29	54.56	51.38	48.52	46.46	44.88	43.77
25	55.8	55.51	54.60	52.42	51.45	49.77	46.78	44.25	42.55	40.88	40.05
30	50.9	50.65	49.76	47.60	46.63	45.00	42.21	39.99	38.72	36.96	36.42
35	46.1	45.82	44.93	42.82	41.84	40.28	37.70	35.73	34.86	33.09	32.82
40	41.3	41.03	40.16	38.12	37.13	35.64	33.25	31.52	30.94	29.26	29.17
45	36.6	36.30	35.49	33.54	32.53	31.12	28.90	27.39	26.98	25.45	25.51
50	32.0	31.71	30.96	29.11	28.08	26.76	24.72	23.41	23.12	21.74	21.89
55	27.5	27.29	26.61	24.85	23.81	22.58	20.73	19.60	19.40	18.18	18.43
60	23.2	23.09	22.45	20.79	19.69	18.64	17.00	16.05	15.93	14.92	15.23
65	19.2	19.14	18.55	16.93	15.88	15.00	13.56	12.81	12.75	11.97	12.23
70	15.5	15.46	14.89	13.37	12.38	11.68	10.50	9.98	9.94	9.38	9.59
75	12.1	12.11	11.58	10.21	9.28	8.87	7.92	7.56	7.62	7.20	7.33
80	9.1	9.12	8.65	7.59	6.67	6.59	5.88	5.63	5.70	5.35	5.50
85	6.6	6.62	6.32	5.54	4.66	4.83	4.34	4.24	4.24	4.06	4.10
90	4.7	4.69	4.59	4.05	3.23	3.51	3.24	3.17	3.16	3.00	3.02
95	3.3	3.36	3.39	3.04	2.43	2.56	2.47	2.24	2.20	2.27	2.21
100	2.4	2.49	2.70	2.49	1.91	1.92	1.95	1.48	1.42	1.74	1.58
Black¹											
0	71.7	69.16	68.52	64.11	63.91	60.73	53.85	48.53	47.03	35.87	33.80
1	71.7	69.43	68.99	65.27	65.75	62.65	57.15	51.71	51.01	43.84	43.00
5	67.9	65.64	65.25	61.62	62.21	59.25	54.13	49.25	49.44	45.34	45.55
10	63.0	60.75	60.38	56.79	57.41	54.50	49.50	44.80	45.26	41.74	42.46
15	58.1	55.86	55.49	51.94	52.57	49.73	44.89	40.37	41.02	38.02	39.04
20	53.3	51.19	50.75	47.34	47.88	45.19	40.73	36.62	37.72	34.86	36.03
25	48.7	46.67	46.18	43.00	43.35	40.85	36.91	33.32	34.91	31.72	33.04
30	44.1	42.22	41.69	38.70	38.89	36.59	33.17	30.07	31.98	28.43	29.96
35	39.6	37.87	37.28	34.48	34.56	32.44	29.53	26.94	29.07	25.39	26.82
40	35.1	33.65	32.98	30.46	30.39	28.48	26.06	23.82	26.07	22.41	23.73
45	30.8	29.55	28.87	26.65	26.46	24.75	22.82	20.97	23.17	19.58	20.67
50	26.8	25.62	25.03	23.11	22.74	21.38	19.94	18.22	20.17	16.84	17.95
55	23.0	21.95	21.50	19.83	19.45	18.41	17.43	15.80	17.33	14.33	15.23
60	19.4	18.59	18.29	16.83	16.53	15.87	15.18	13.62	14.72	12.16	13.06
65	16.2	15.56	15.37	14.16	13.96	13.59	13.02	11.49	12.22	10.22	10.87
70	13.1	12.87	12.67	11.77	11.63	11.48	10.93	9.54	9.90	8.59	8.96
75	10.5	10.48	10.32	9.89	9.52	9.48	8.97	7.84	8.00	7.08	7.24
80	8.2	8.30	8.17	8.20	7.28	7.62	7.31	6.19	6.22	5.80	5.79
85	6.3	6.51	6.54	6.54	5.27	5.79	5.91	4.92	4.88	4.80	4.56
90	4.8	4.94	5.13	5.09	3.48	3.97	4.64	3.83	3.84	4.26	3.60
95	3.7	3.82	4.08	4.28	2.43	2.70	3.51	2.83	2.90	3.31	2.82
100	2.8	2.91	3.58	3.93	1.91	1.94	2.57	1.87	1.94	2.27	2.18
Black male¹											
0	68.2	64.47	64.10	60.00	61.48	58.91	52.26	47.55	47.14	34.05	32.54
1	68.3	64.76	64.60	61.24	63.50	61.06	55.93	51.08	51.63	42.53	42.46
5	64.4	60.98	60.86	57.60	59.98	57.69	52.95	48.69	50.18	44.25	45.06
10	59.5	56.09	56.01	52.79	55.19	52.96	48.34	44.27	45.99	40.65	41.90
15	54.6	51.22	51.14	47.96	50.39	48.23	43.74	39.83	41.75	36.77	38.26
20	49.9	46.71	46.48	43.49	45.78	43.73	39.52	35.95	38.36	33.46	35.11
25	45.5	42.40	42.09	39.45	41.38	39.49	35.72	32.67	35.54	30.44	32.21
30	41.1	38.14	37.81	35.40	37.05	35.31	32.05	29.45	32.51	27.33	29.25
35	36.6	34.02	33.60	31.42	32.81	31.21	28.48	26.39	29.54	24.42	26.16
40	32.3	30.05	29.51	27.61	28.72	27.29	25.06	23.36	26.53	21.57	23.12
45	28.1	26.18	25.61	24.03	24.89	23.59	21.88	20.59	23.55	18.85	20.09
50	24.2	22.50	22.03	20.69	21.28	20.25	19.06	17.92	20.47	16.21	17.34
55	20.7	19.08	18.79	17.66	18.11	17.36	16.60	15.46	17.50	13.82	14.69

See footnote at end of table.

Table 11. Life expectancy by age, race, and sex: Death-registration States, 1900–1902 to 1919–21, and United States, 1929–31 to 2000—Con.

[Alaska and Hawaii included beginning in 1959. For decennial periods prior to 1929–31, data are for groups of registration States as follows: 1900–1902 and 1909–11, 10 States and the District of Columbia; 1919–21, 34 States and the District of Columbia. Beginning 1970 excludes deaths of nonresidents of the United States; see Technical Notes]

Age, race, and sex	Average number of years of life remaining (e_x)										
	2000	1989–91	1979–81	1969–71	1959–61	1949–51	1939–41	1929–31	1919–21	1909–11	1900–1902
Black male¹—Con.											
60	17.5	16.01	15.89	14.93	15.29	14.91	14.37	13.15	14.74	11.67	12.62
65	14.5	13.27	13.29	12.53	12.84	12.75	12.21	10.87	12.07	9.74	10.38
70	11.7	10.88	10.94	10.40	10.81	10.74	10.11	8.78	9.58	8.00	8.33
75	9.4	8.84	8.90	8.76	8.93	8.83	8.17	6.99	7.61	6.58	6.60
80	7.3	7.01	7.03	7.35	6.87	7.07	6.58	5.42	5.83	5.53	5.12
85	5.7	5.58	5.61	5.92	5.08	5.38	5.34	4.30	4.53	4.48	4.04
90	4.5	4.24	4.47	4.68	3.42	3.78	4.23	3.42	3.60	4.01	3.21
95	3.6	3.37	3.62	3.92	2.43	2.64	3.20	2.54	2.61	3.15	2.50
100	2.9	2.63	3.24	3.61	1.91	1.93	2.29	1.68	1.64	2.14	1.89
Black female¹											
0	74.9	73.73	72.88	68.32	66.47	62.70	55.56	49.51	46.92	37.67	35.04
1	74.9	73.96	73.31	69.37	68.10	64.37	58.46	52.33	50.39	45.15	43.54
5	71.0	70.16	69.54	65.70	64.54	60.93	55.40	49.81	48.70	46.42	46.04
10	66.1	65.26	64.65	60.85	59.72	56.17	50.75	45.33	44.54	42.84	43.02
15	61.2	60.34	59.74	55.97	54.85	51.36	46.13	40.87	40.36	39.18	39.79
20	56.3	55.49	54.90	51.22	50.07	46.77	42.04	37.22	37.15	36.14	36.89
25	51.5	50.72	50.13	46.57	45.40	42.35	38.20	33.93	34.35	32.97	33.90
30	46.8	46.03	45.43	42.00	40.83	38.02	34.40	30.67	31.48	29.61	30.70
35	42.1	41.45	40.79	37.56	36.41	33.82	30.83	27.47	28.58	26.44	27.52
40	37.5	36.96	36.28	33.32	32.16	29.82	27.19	24.30	25.60	23.34	24.37
45	33.1	32.58	31.94	29.31	28.14	26.07	23.89	21.39	22.61	20.43	21.36
50	28.9	28.38	27.84	25.52	24.31	22.67	20.95	18.60	19.76	17.65	18.67
55	24.9	24.41	24.00	21.97	20.89	19.62	18.38	16.27	17.09	14.98	15.88
60	21.0	20.71	20.42	18.66	17.83	16.95	16.10	14.22	14.69	12.78	13.60
65	17.4	17.37	17.13	15.67	15.12	14.54	13.95	12.24	12.41	10.82	11.38
70	14.1	14.32	14.05	13.02	12.46	12.29	11.82	10.38	10.25	9.22	9.62
75	11.2	11.56	11.37	10.85	10.10	10.15	9.81	8.62	8.37	7.55	7.90
80	8.6	9.05	8.95	8.87	7.66	8.15	8.02	6.90	6.58	6.05	6.48
85	6.5	6.99	7.09	7.00	5.44	6.15	6.41	5.48	5.22	5.09	5.10
90	4.8	5.24	5.47	5.41	3.52	4.13	4.96	4.20	4.07	4.50	4.01
95	3.6	3.97	4.30	4.58	2.43	2.74	3.71	3.09	3.18	3.45	3.15
100	2.7	2.97	3.69	4.20	1.91	1.94	2.70	2.04	2.23	2.39	2.49

¹For 1939–41 and 1949–51, data shown are for the entire nonwhite population. During these periods, life tables were not constructed for the black population. See Technical Notes.

Table 12. Estimated life expectancy at birth in years, by race and sex: Death-registration States, 1900–28, and United States, 1929–2000

[For selected years, life table values shown are estimates; see Technical Notes. Beginning 1970 excludes deaths of nonresidents of the United States; see Technical Notes]

Area and year	All races			White			Black ⁴		
	Both sexes	Male	Female	Both sexes	Male	Female	Both sexes	Male	Female
United States ¹									
2000	76.9	74.1	79.5	77.4	74.8	80.0	71.7	68.2	74.9
1999	76.7	73.9	79.4	77.3	74.6	79.9	71.4	67.8	74.7
1998	76.7	73.8	79.5	77.3	74.5	80.0	71.3	67.6	74.8
1997	76.5	73.6	79.4	77.2	74.3	79.9	71.1	67.2	74.7
1996	76.1	73.1	79.1	76.8	73.9	79.7	70.2	66.1	74.2
1995	75.8	72.5	78.9	76.5	73.4	79.6	69.6	65.2	73.9
1994	75.7	72.4	79.0	76.5	73.3	79.6	69.5	64.9	73.9
1993	75.5	72.2	78.8	76.3	73.1	79.5	69.2	64.6	73.7
1992	75.8	72.3	79.1	76.5	73.2	79.8	69.6	65.0	73.9
1991	75.5	72.0	78.9	76.3	72.9	79.6	69.3	64.6	73.8
1990	75.4	71.8	78.8	76.1	72.7	79.4	69.1	64.5	73.6
1989	75.1	71.7	78.5	75.9	72.5	79.2	68.8	64.3	73.3
1988	74.9	71.4	78.3	75.6	72.2	78.9	68.9	64.4	73.2
1987	74.9	71.4	78.3	75.6	72.1	78.9	69.1	64.7	73.4
1986	74.7	71.2	78.2	75.4	71.9	78.8	69.1	64.8	73.4
1985	74.7	71.1	78.2	75.3	71.8	78.7	69.3	65.0	73.4
1984	74.7	71.1	78.2	75.3	71.8	78.7	69.5	65.3	73.6
1983	74.6	71.0	78.1	75.2	71.6	78.7	69.4	65.2	73.5
1982	74.5	70.8	78.1	75.1	71.5	78.7	69.4	65.1	73.6
1981	74.1	70.4	77.8	74.8	71.1	78.4	68.9	64.5	73.2
1980	73.7	70.0	77.4	74.4	70.7	78.1	68.1	63.8	72.5
1979	73.9	70.0	77.8	74.6	70.8	78.4	68.5	64.0	72.9
1978	73.5	69.6	77.3	74.1	70.4	78.0	68.1	63.7	72.4
1977	73.3	69.5	77.2	74.0	70.2	77.9	67.7	63.4	72.0
1976	72.9	69.1	76.8	73.6	69.9	77.5	67.2	62.9	71.6
1975	72.6	68.8	76.6	73.4	69.5	77.3	66.8	62.4	71.3
1974	72.0	68.2	75.9	72.8	69.0	76.7	66.0	61.7	70.3
1973	71.4	67.6	75.3	72.2	68.5	76.1	65.0	60.9	69.3
1972 ²	71.2	67.4	75.1	72.0	68.3	75.9	64.7	60.4	69.1
1971	71.1	67.4	75.0	72.0	68.3	75.8	64.6	60.5	68.9
1970	70.8	67.1	74.7	71.7	68.0	75.6	64.1	60.0	68.3
1969	70.5	66.8	74.4	71.4	67.7	75.3	64.5	60.6	68.6
1968	70.2	66.6	74.1	71.1	67.5	75.0	64.1	60.4	67.9
1967	70.5	67.0	74.3	71.4	67.8	75.2	64.9	61.4	68.5
1966	70.2	66.7	73.9	71.1	67.5	74.8	64.2	60.9	67.6
1965	70.2	66.8	73.8	71.1	67.6	74.8	64.3	61.2	67.6
1964	70.2	66.8	73.7	71.0	67.7	74.7	64.2	61.3	67.3
1963 ³	69.9	66.6	73.4	70.8	67.4	74.4	63.7	61.0	66.6
1962 ³	70.1	66.9	73.5	70.9	67.7	74.5	64.2	61.6	66.9
1961	70.2	67.1	73.6	71.0	67.8	74.6	64.5	62.0	67.1
1960	69.7	66.6	73.1	70.6	67.4	74.1	63.6	61.1	66.3
1959	69.9	66.8	73.2	70.7	67.5	74.2	63.9	61.3	66.5
1958	69.6	66.6	72.9	70.5	67.4	73.9	63.4	61.0	65.8
1957	69.5	66.4	72.7	70.3	67.2	73.7	63.0	60.7	65.5
1956	69.7	66.7	72.9	70.5	67.5	73.9	63.6	61.3	66.1
1955	69.6	66.7	72.8	70.5	67.4	73.7	63.7	61.4	66.1
1954	69.6	66.7	72.8	70.5	67.5	73.7	63.4	61.1	65.9
1953	68.8	66.0	72.0	69.7	66.8	73.0	62.0	59.7	64.5
1952	68.6	65.8	71.6	69.5	66.6	72.6	61.4	59.1	63.8
1951	68.4	65.6	71.4	69.3	66.5	72.4	61.2	59.2	63.4
1950	68.2	65.6	71.1	69.1	66.5	72.2	60.8	59.1	62.9
1949	68.0	65.2	70.7	68.8	66.2	71.9	60.6	58.9	62.7
1948	67.2	64.6	69.9	68.0	65.5	71.0	60.0	58.1	62.5
1947	66.8	64.4	69.7	67.6	65.2	70.5	59.7	57.9	61.9
1946	66.7	64.4	69.4	67.5	65.1	70.3	59.1	57.5	61.0
1945	65.9	63.6	67.9	66.8	64.4	69.5	57.7	56.1	59.6
1944	65.2	63.6	66.8	66.2	64.5	68.4	56.6	55.8	57.7
1943	63.3	62.4	64.4	64.2	63.2	65.7	55.6	55.4	56.1
1942	66.2	64.7	67.9	67.3	65.9	69.4	56.6	55.4	58.2
1941	64.8	63.1	66.8	66.2	64.4	68.5	53.8	52.5	55.3
1940	62.9	60.8	65.2	64.2	62.1	66.6	53.1	51.5	54.9
1939	63.7	62.1	65.4	64.9	63.3	66.6	54.5	53.2	56.0
1938	63.5	61.9	65.3	65.0	63.2	66.8	52.9	51.7	54.3

See footnotes at end of table.

Table 12. Estimated life expectancy at birth in years, by race and sex: Death-registration States, 1900–28, and United States, 1929–2000—Con.

[For selected years, life table values shown are estimates; see Technical Notes. Beginning 1970 excludes deaths of nonresidents of the United States; see Technical Notes]

Area and year	All races			White			Black ⁴		
	Both sexes	Male	Female	Both sexes	Male	Female	Both sexes	Male	Female
United States ¹ —Con.									
1937	60.0	58.0	62.4	61.4	59.3	63.8	50.3	48.3	52.5
1936	58.5	56.6	60.6	59.8	58.0	61.9	49.0	47.0	51.4
1935	61.7	59.9	63.9	62.9	61.0	65.0	53.1	51.3	55.2
1934	61.1	59.3	63.3	62.4	60.5	64.6	51.8	50.2	53.7
1933	63.3	61.7	65.1	64.3	62.7	66.3	54.7	53.5	56.0
1932	62.1	61.0	63.5	63.2	62.0	64.5	53.7	52.8	54.6
1931	61.1	59.4	63.1	62.6	60.8	64.7	50.4	49.5	51.5
1930	59.7	58.1	61.6	61.4	59.7	63.5	48.1	47.3	49.2
1929	57.1	55.8	58.7	58.6	57.2	60.3	46.7	45.7	47.8
Death-registration States									
1928	56.8	55.6	58.3	58.4	57.0	60.0	46.3	45.6	47.0
1927	60.4	59.0	62.1	62.0	60.5	63.9	48.2	47.6	48.9
1926	56.7	55.5	58.0	58.2	57.0	59.6	44.6	43.7	45.6
1925	59.0	57.6	60.6	60.7	59.3	62.4	45.7	44.9	46.7
1924	59.7	58.1	61.5	61.4	59.8	63.4	46.6	45.5	47.8
1923	57.2	56.1	58.5	58.3	57.1	59.6	48.3	47.7	48.9
1922	59.6	58.4	61.0	60.4	59.1	61.9	52.4	51.8	53.0
1921	60.8	60.0	61.8	61.8	60.8	62.9	51.5	51.6	51.3
1920	54.1	53.6	54.6	54.9	54.4	55.6	45.3	45.5	45.2
1919	54.7	53.5	56.0	55.8	54.5	57.4	44.5	44.5	44.4
1918	39.1	36.6	42.2	39.8	37.1	43.2	31.1	29.9	32.5
1917	50.9	48.4	54.0	52.0	49.3	55.3	38.8	37.0	40.8
1916	51.7	49.6	54.3	52.5	50.2	55.2	41.3	39.6	43.1
1915	54.5	52.5	56.8	55.1	53.1	57.5	38.9	37.5	40.5
1914	54.2	52.0	56.8	54.9	52.7	57.5	38.9	37.1	40.8
1913	52.5	50.3	55.0	53.0	50.8	55.7	38.4	36.7	40.3
1912	53.5	51.5	55.9	53.9	51.9	56.2	37.9	35.9	40.0
1911	52.6	50.9	54.4	53.0	51.3	54.9	36.4	34.6	38.2
1910	50.0	48.4	51.8	50.3	48.6	52.0	35.6	33.8	37.5
1909	52.1	50.5	53.8	52.5	50.9	54.2	35.7	34.2	37.3
1908	51.1	49.5	52.8	51.5	49.9	53.3	34.9	33.8	36.0
1907	47.6	45.6	49.9	48.1	46.0	50.4	32.5	31.1	34.0
1906	48.7	46.9	50.8	49.3	47.3	51.4	32.9	31.8	33.9
1905	48.7	47.3	50.2	49.1	47.6	50.6	31.3	29.6	33.1
1904	47.6	46.2	49.1	48.0	46.6	49.5	30.8	29.1	32.7
1903	50.5	49.1	52.0	50.9	49.5	52.5	33.1	31.7	34.6
1902	51.5	49.8	53.4	51.9	50.2	53.8	34.6	32.9	36.4
1901	49.1	47.6	50.6	49.4	48.0	51.0	33.7	32.2	35.3
1900	47.3	46.3	48.3	47.6	46.6	48.7	33.0	32.5	33.5

¹Alaska included in 1959 and Hawaii in 1960.²Deaths based on a 50-percent sample.³Figures by race exclude data for residents of New Jersey; see Technical Notes.⁴Prior to 1970, data for the black population are not available. Data shown for 1900–1969 are for the nonwhite population. See Technical Notes.

Technical Notes

The life table program—Three series of complete life tables are prepared by the National Center for Health Statistics (NCHS) for the U.S. population—decennial, annual preliminary, and annual final. The U.S. decennial life tables are based on decennial census data and deaths for a 3-year period around the census year. Preliminary life tables are based on a substantial sample (approximately 90 percent) of death records. Estimates of life expectancy from the preliminary series are published annually. The annual final life tables (referred to in this section as “annual life tables”) are based on a complete count of all reported deaths.

Available since 1945, the annual life tables are based on deaths occurring during the calendar year and on midyear postcensal population estimates provided by the U.S. Census Bureau. From 1945 to 1996, the annual life tables were abridged life tables and were constructed by reference to a standard table (4). Beginning with 1997 mortality data, complete life tables are constructed using a new methodology (5,6). Also for 1997, life expectancy and other life table values were shown for ages 85 to 100 years for the first time as part of the annual U.S. life tables. Previously, the annual life tables were closed at age 85. Extension of the oldest age interval was implemented by NCHS for several reasons: survival in the United States is such that approximately one-third of the population survives beyond age 85; improvements have occurred in age reporting at older ages; and high-quality old-age mortality data are available from the Medicare program.

Geographic coverage—The geographic areas covered in life tables before 1929–31 were limited to the death-registration areas. Life tables for 1900–1902 and 1909–11 were constructed using mortality data from the 1900 death-registration States (10 States and the District of Columbia) and for 1919–21 from the 1920 death-registration States (34 States and the District of Columbia). The tables for 1929–31 through 1958 cover the coterminous United States. Decennial life table values for the 3-year period 1959–61 were derived from data that include both Alaska and Hawaii for each year (tables 10 and 11). Data for each year shown in table 12 include Alaska beginning in 1959 and Hawaii beginning in 1960. However, it is not believed that the inclusion of these two States materially affects life table values.

Revised life table values, 1961–89—Life table values for 1960–69, 1970–79, and 1980–89 were constructed using the U.S. decennial life tables for 1959–61, 1969–71, and 1979–81, respectively, as the standard tables. The life table values for years prior to 1989 appearing in this publication are based on revised intercensal estimates of the populations for those years. As a result, the life table values for these years may differ from the life table values for those years published in *Vital Statistics of the United States* for 1989 and earlier years. Life table values for 1991 and later are based on postcensal population estimates and will be recalculated when intercensal estimates become available.

New Jersey data, 1962–64—The life tables for 1962 and 1963 for the six population groups involving race do not include data from New Jersey, which omitted the item on race from its certificates of live birth, death, and fetal death in use at the beginning of 1962. The item was restored during the latter part of 1962. However, the certificate revision without this item was used for most of 1962 as well as for 1963. For computing vital rates, populations by age, race, and sex (excluding New Jersey) were estimated to obtain comparable denominators. Approximately 7 percent of the New Jersey death records for 1964 did not

contain the race designation. When the records were being electronically processed for this State, the “race not stated” deaths were proportionally allocated to white or to black.

Nonresidents—Beginning in 1970, the deaths of nonresidents of the United States have been excluded from the life table statistics.

Estimation of life table functions—For some years, it was necessary to estimate life table functions for some race-sex groups. In tables 10 and 11, figures for the black population during the periods 1949–51 and 1959–61 were estimated using figures for the nonwhite population. Life table functions were also missing in tables 10 and 11 for race-sex groups for the periods from 1900–1902 to 1939–41. Figures were missing for the following groups:

Years	Race and sex
1900–1902	Total white, total black
1909–11	Total white, total black
1919–21	Total, male, female, total white, total black
1929–31	Total, male, female, total white, total black

These figures were estimated by weighted averages using population distributions as the weights. For example, life expectancy at age 20 years for the total black population was estimated by a weighted average of black male and black female life expectancies at age 20, using as weights the population distribution by sex of the black population age 20 years.

Annual life tables were initiated in 1945 for white males, white females, all other males, and all other females. The figures in table 12 by race and sex for the following years were estimated using a procedure other than the abridged life table methodology (12).

Years	Race and sex
1900–45	Total
1900–47	Male
1900–47	Female
1900–50	White
1900–44	White male
1900–44	White female

Annual life table functions were not calculated for the black population prior to 1970. In table 12, life expectancy for the black population for years prior to 1970 is estimated using figures for the total nonwhite population.

Population bases for computing life tables—The population used for computing life table values shown in this section (furnished by the U.S. Census Bureau) represents the resident population of the United States. The age-specific populations used for computing the 2000 life table values are based on the July 1, 2000, population estimates that are consistent with the 1990 census (13). The 1990 census counts by race and age were modified. Race was modified to be consistent with the Office of Management and Budget categories and historical categories for mortality data. The modification procedures for race and age are described in a census report (14).

Detailed populations from the 2000 census were not available when this report was prepared. A comparison of summary 2000 census results and the estimates for 2000 used in this report indicates differences for some population groups. Differences between the 2000 enumerated population and the population estimates for 2000 used in this report could result in the underestimation or overestimation of life expectancy. When the necessary population estimates based on the

2000 census become available, life expectancy and other life table estimates will be recalculated and presented in an upcoming report. Meanwhile, considerable caution should be used in interpreting the statistics presented in this report.

Medicare data—Death rates at the oldest ages based on Medicare data are known to be more accurate than those based on vital statistics and census data. Consequently, q_x values calculated for ages 85 to 99 years are based on Medicare data prepared by the Health Care Financing Administration (HCFA). Medicare data were limited to the group insured for hospital insurance as age reporting is considered best among this group (6,10,11). For the 2000 life tables, 1997 Medicare data were used as 2000 data were not available in time for the preparation of this report.

Methodology

A more detailed treatment of the methodology used to calculate these life tables is contained in a separate report (5). Calculation of the complete life table is derived from the probability of death (q_x), which depends on the number of deaths (D_x) and the midyear population (P_x) for each single year of age (x) observed during the calendar year of interest.

Adjustment for deaths for which age was not reported—An adjustment must be made to account for the small proportion of deaths each year for which age is not reported. The data are aggregated into 5-year age groups for those age 5 years and over and into single years of age for those under 5 years. The number of deaths in each age category is adjusted proportionally to account for those with not-stated ages. The following factor is used to make the adjustment. This factor (F) is calculated for each race-sex group for which life tables are constructed.

$$F = \frac{D}{D^a} \tag{1}$$

where D is the total number of deaths and D^a is the total number of deaths for which age is stated. F is then applied by multiplying it times the number of deaths in each age group. Table I shows values for F by race and sex used to adjust the 2000 mortality data.

Interpolation of P_x and D_x —Anomalies, both random and those associated with reporting age at death, can be problematic when using vital statistics and census data by single years of age to estimate the probability of death (1). Graduation techniques are often used to eliminate these anomalies and to derive a smooth curve by age. Beer's

Table I. Values for F used to adjust for not-stated age based on 2000 mortality data

Race and sex	Total deaths	Total deaths for which age was not stated	F
Total	2,403,351	356	1.00014815
Male	1,177,578	289	1.00024548
Female	1,225,773	67	1.00005466
White	2,071,287	275	1.00013279
Male	1,007,191	231	1.00022940
Female	1,064,096	44	1.00004135
Black	285,826	72	1.00025196
Male	145,184	50	1.00034451
Female	140,642	22	1.00015645

ordinary minimized fifth difference formula is used to obtain smoothed values of P_x and D_x (see reference 5 for details on the application of Beer's method).

Calculation of q_0 — q_0 is calculated by using a birth cohort method employing a separation factor (f) defined as the proportion of infant deaths in year t occurring to infants born in the previous year ($t-1$). f can be calculated by categorizing infant deaths by date of birth. The probability of death in the first year is calculated as

$$q_0 = \frac{D_0(1-f)}{B^t} + \frac{D_0 f}{B^{t-1}} \tag{2}$$

where D_0 is the number of infant deaths adjusted for not-reported age, and B^t and B^{t-1} are the numbers of births in years t and $t-1$, respectively. Table II shows separation factors and numbers of births by race and sex for 1999–2000.

Calculation of q_x for ages 1–84— q_x is calculated assuming that l_x (number of survivors at exact age x in the life table population) declines linearly between x and $x+1$, i.e., that deaths between exact age x and $x+1$ occur on average at age $x+1/2$. This simplification is generally considered acceptable when age intervals are 1 year of age in length (1). Under this assumption, $l_x = L_x + 1/2 d_x$ where L_x is the average life table population at risk of dying between ages x and $x+1$ and d_x is the number of deaths occurring between age x and $x+1$. q_x is then

$$q_x = \frac{d_x}{l_x} = \frac{d_x}{L_x + \frac{1}{2} d_x}$$

One can make the same assumption for the observed population, i.e., that the observed population aged x at risk of dying at the beginning of the year (N_x) declines linearly between ages x and $x+1$. Under this assumption, $N_x = P_x + 1/2 D_x$ where P_x is the midyear population or average observed population at risk of dying between ages x and $x+1$ and D_x is the observed number of deaths occurring between ages x and $x+1$. q_x is calculated as

$$q_x = \frac{D_x}{N_x} = \frac{D_x}{P_x + \frac{1}{2} D_x} \tag{3}$$

For $x = 1$ to 4, D_x is the observed number of deaths adjusted for not-stated age and P_x is obtained by Beer's interpolation formula. For $x = 5$ to 84, both D_x and P_x are obtained by interpolation (5).

Use of Medicare data at ages 85 to 99 years—There is ample evidence that the rate of increase in q_x declines above age 85 (5,11,15–17). The change in q_x for ages over 85 years can be expressed using the formula

$$q_x = q_{x-1} \cdot e^{k_x} \tag{4}$$

where k_x denotes the age-specific rate of mortality change with age (11,16). Solving for k_x gives

$$k_x = \ln(q_x) - \ln(q_{x-1}) \tag{5}$$

Values for k_x are then obtained from the Medicare data. Table III shows values for k by age, race, and sex based on 1997 Medicare data. These data show clearly a declining rate of increase in q_x above age 85. These k_x values are then used to obtain q_x values for ages 85 to 99 using equation 4. This method allows for flexibility in cases where the Medicare data are not available in a timely fashion. In these cases, Medicare data for the previous year can be used to calculate k_x values. Finally, ${}_∞q_{100}$ is set equal to 1.0 since all will die at some point in this open-ended age interval. Once q_x is obtained for each

Table II. Births in 1999 and 2000, deaths in 2000 of infants born in 1999 and 2000, and separation factors by race and sex: United States

	Total			White			Black		
	Both sexes	Male	Female	Both sexes	Male	Female	Both sexes	Male	Female
Births									
1999	3,959,417	2,026,854	1,932,563	3,132,501	1,605,603	1,526,898	605,970	307,670	298,300
2000	4,058,814	2,076,969	1,981,845	3,194,005	1,636,081	1,557,924	622,598	316,115	306,483
Deaths in 2000 of infants born in									
1999	3,461	1,925	1,536	2,225	1,244	981	1,072	592	480
2000	24,578	13,797	10,782	15,921	8,935	6,986	7,701	4,311	3,391
Separation factor (f)	0.123	0.122	0.125	0.123	0.122	0.123	0.122	0.121	0.124

Table III. *k* values by age, race, and sex based on insured Medicare data: United States, 1997

Age	Total			White			Black		
	Both sexes	Male	Female	Both sexes	Male	Female	Both sexes	Male	Female
84-85	0.092590	0.089728	0.103281	0.093742	0.09136	0.10428	0.071864	0.066047	0.082589
85-86	0.090210	0.087018	0.100251	0.091842	0.08897	0.10185	0.070794	0.064457	0.081079
86-87	0.087830	0.084308	0.097221	0.089942	0.08658	0.09942	0.069724	0.062867	0.079569
87-88	0.085450	0.081598	0.094191	0.088042	0.08419	0.09699	0.068654	0.061277	0.078059
88-89	0.083070	0.078888	0.091161	0.086142	0.0818	0.09456	0.067584	0.059687	0.076549
89-90	0.080690	0.076178	0.088131	0.084242	0.07941	0.09213	0.066514	0.058097	0.075039
90-91	0.078310	0.073468	0.085101	0.082342	0.07702	0.0897	0.065444	0.056507	0.073529
91-92	0.075930	0.070758	0.082071	0.080442	0.07463	0.08727	0.064374	0.054917	0.072019
92-93	0.073550	0.068048	0.079041	0.078542	0.07224	0.08484	0.063304	0.053327	0.070509
93-94	0.071170	0.065338	0.076011	0.076642	0.06985	0.08241	0.062234	0.051737	0.068999
94-95	0.068790	0.062628	0.072981	0.074742	0.06746	0.07998	0.061164	0.050147	0.067489
95-96	0.066410	0.059918	0.069951	0.072842	0.06507	0.07755	0.060094	0.048557	0.065979
96-97	0.064030	0.057208	0.066921	0.070942	0.06268	0.07512	0.059024	0.046967	0.064469
97-98	0.061650	0.054498	0.063891	0.069042	0.06029	0.07269	0.057954	0.045377	0.062959
98-99	0.059270	0.051788	0.060861	0.067142	0.0579	0.07026	0.056884	0.043787	0.061449

single year of age, the other life table functions may be easily calculated.

Survivor function (l_x)—The life table radix, l_0 , is set at 100,000. For ages greater than 0, the number of survivors remaining at exact age x is calculated as

$$l_x = l_{x-1} (1 - q_{x-1}) \quad [6]$$

Decrement function (d_x)—The number of deaths occurring between age x and $x + 1$ is calculated from the survivor function.

$$d_x = l_x - l_{x+1} = l_x q_x \quad [7]$$

Note that ${}_{\infty}d_{100} = {}_{\infty}l_{100}$ since ${}_{\infty}q_{100} = 1.0$.

Person-years lived (L_x)—Person-years lived for ages 1 to 99 years is calculated assuming that the survivor function declines linearly between age x and $x + 1$. This gives the formula

$$L_x = \frac{1}{2} (l_x + l_{x+1}) = l_x - \frac{1}{2} d_x \quad [8]$$

For $x = 0$, the separation factor f is used to calculate L_0 .

$$L_0 = f l_0 + (1 - f) l_1$$

${}_{\infty}L_{100}$ is calculated by surviving the life table cohort from age 100 using equations 4, 5, and 6 until L_x at these ages is essentially zero (somewhere between ages 110 and 120). q_x for these ages can be

extrapolated from the Medicare data using equation 4. However, k_x values must be estimated for these ages. k_x can be modeled as a linear function of age

$$k_x = k_{85} + (x - 85)s \quad [9]$$

where s is the slope of the change in k_x by age and k_{85} is calculated as $[\ln(q_{88}/q_{81})]/7$ in order to minimize the effects of random fluctuations (11,17). s can be obtained by treating equation 9 as a linear regression model. Calculated values for s are shown in table IV. The predicted values for k_x are then used to calculate q_x above age 100 using equation 4. The corresponding L_x values for ages 100 years and over are then summed to give ${}_{\infty}L_{100}$.

Person-years lived at and above age x (T_x)— T_x is calculated by summing L_x values at and above age x .

$$T_x = \sum_{t=0}^{\infty} L_{x+t} \quad [10]$$

Life expectancy at age x (e_x)—Life expectancy at exact age x is calculated as

$$e_x = \frac{T_x}{l_x} \quad [11]$$

Table IV. Slope of the change in *k* values (*s*) by race and sex

Race and sex	<i>s</i>
Total, both sexes	-0.002379
Male	-0.002710
Female	-0.003031
White, both sexes	-0.001902
Male	-0.002390
Female	-0.002427
Black, both sexes	-0.001074
Male	-0.001586
Female	-0.001512

Abridging the complete life table

An abridged or collapsed version of the complete life table can be easily calculated in which life table functions are shown for 5-year rather than single-year age intervals. It is often desirable to summarize the life table and save space when publishing life table data by single years of age (18). The abridgement of the complete life table is simplified by an important property of three of the six life table functions. The l_x , T_x , and e_x functions describe exact age x , i.e., the beginning of the age interval x to $x + n$ (n denotes the length of the age interval—for 5-year age intervals $n = 5$). Life expectancy at age 20 (e_{20}), for example, has the same value regardless of whether the

age interval is 20–21 years or 20–25 years. Thus, the values l_x , T_x , and e_x can be extracted at 5-year intervals from the complete life table and placed into the abridged life table (compare l_x , T_x , and e_x in table V with the same functions in table 1). It is also illustrative to compare values for e_x and l_x in tables A and B with their corresponding values presented in tables 1–9. The q_x , d_x , and L_x functions, in contrast, describe the age interval x to $x + n$. In fact, for abridged life tables, the notation for these functions is different (${}_nq_x$, ${}_nd_x$, and ${}_nL_x$). Thus, ${}_5q_{20}$ is the probability of dying between ages 20 and 25 years and will obviously be somewhat larger than q_{20} , the probability of dying between ages 20 and 21 years. Taking this into account, ${}_nq_x$, ${}_nd_x$, and ${}_nL_x$ must be recalculated in the abridged life table. It is simplest to begin with ${}_nd_x$. The calculations are made for all but the final age interval as follows:

$${}_nd_x = l_x - l_{x+n}$$

$${}_nq_x = \frac{{}_nd_x}{l_x}$$

$${}_nL_x = T_x - T_{x+n}$$

Note that for the open-ended interval, ages 100 and over: ${}_{\infty}d_{100} = l_{100}$, ${}_{\infty}q_{100} = 1.0$, and ${}_{\infty}L_{100} = T_{100}$. Table V shows each of the life table functions for the 2000 U.S. total population abridged from table 1.

Table V. Abridged life table for the total population: United States, 2000

Age	Probability of dying between ages x to $x+n$ ${}_nq_x$	Number surviving to age x l_x	Number dying between ages x to $x+n$ ${}_nd_x$	Person-years lived between ages x to $x+n$ ${}_nL_x$	Total number of person-years lived above age x T_x	Expectation of life at age x e_x
0–1	0.00693	100,000	693	99,392	7,686,810	76.9
1–5	0.00131	99,307	130	396,916	7,587,418	76.4
5–10	0.00082	99,177	82	495,668	7,190,502	72.5
10–15	0.00104	99,095	103	495,278	6,694,833	67.6
15–20	0.00341	98,992	338	494,200	6,199,555	62.6
20–25	0.00479	98,654	473	492,113	5,705,355	57.8
25–30	0.00494	98,181	485	489,702	5,213,242	53.1
30–35	0.00578	97,696	565	487,130	4,723,539	48.3
35–40	0.00806	97,132	783	483,813	4,236,409	43.6
40–45	0.01182	96,349	1,139	479,070	3,752,596	38.9
45–50	0.01773	95,210	1,688	472,085	3,273,527	34.4
50–55	0.02576	93,522	2,409	461,940	2,801,442	30.0
55–60	0.03968	91,113	3,615	447,124	2,339,510	25.7
60–65	0.06133	87,498	5,366	424,879	1,892,377	21.6
65–70	0.09217	82,131	7,570	392,758	1,467,498	17.9
70–75	0.13838	74,561	10,317	348,168	1,074,739	14.4
75–80	0.20557	64,244	13,207	289,331	726,571	11.3
80–85	0.31503	51,037	16,078	215,947	437,240	8.6
85–90	0.46111	34,959	16,120	133,503	221,293	6.3
90–95	0.61506	18,839	11,587	62,766	87,790	4.7
95–100	0.75434	7,252	5,470	20,388	25,024	3.5
100 years and over	1.00000	1,781	1,781	4,636	4,636	2.6

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