

## United States Life Tables, 1999

by Robert N. Anderson, Ph.D., and Peter B. DeTurk, Ph.D., Division of Vital Statistics

### Abstract

The life tables in this report are current life tables for the United States based on age-specific death rates in 1999. Data used to prepare these life tables are 1999 final mortality statistics; July 1, 1999, population estimates; and data from the Medicare program. Presented are complete life tables by age, race, and sex. In 1999 the overall expectation of life at birth was 76.7 years, unchanged from 1998. Life expectancy increased from 1998 to 1999 for males, but decreased for females. Life expectancy increased for black males by 0.2 year (from 67.6 to 67.8) and for white males by 0.1 year (from 74.5 to 74.6). For black females, life expectancy decreased from 74.8 to 74.7 years. For white females the decrease was from 80.0 to 79.9.

### Introduction

Death rates for a specific period may be summarized by the life table method to obtain measures of comparative longevity. There are two types of life tables—the generation or cohort life table and the current life table.

The generation life table provides a longitudinal perspective in that it follows the mortality experience of a particular 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 generation 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 generation life table requires data over many years. It is not feasible to construct generation life tables entirely on the basis of actual data for cohorts (1). It is necessary to project data for the incomplete period for cohorts whose life spans are not yet complete (2).

The better-known current life table may, in contrast, be characterized as cross-sectional. Unlike the generation life table, the current life table does not represent the mortality experience of an actual cohort. Rather, the current life table considers a hypothetical cohort and assumes that it is subject to the age-specific death rates observed for an actual population during a particular period. Thus, for example, a current life table for 1999 assumes a hypothetical cohort subject throughout its lifetime to the age-specific death rates prevailing for the actual population in 1999. The current 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 current life table and not to the generation life table.

### Data and methods

The data used to prepare the U.S. life tables for 1999 are final mortality statistics for 1999; July 1, 1999, population estimates prepared by the U.S. Bureau of the Census; and data from the Medicare program prepared by the Health Care Financing Administration. 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 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 (3). The 1999 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 (4, 5). 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 1999 are shown

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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 1999 for the total population was 76.7 years. This represents the average number of years that the members of the synthetic 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 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, 82,020 persons out of the original 1999 life table cohort of 100,000 (or 82.0 percent) were alive at exact age 65. In other words, the probability that a person will survive from birth to age 65, given 1999 age-specific mortality, is 82 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 (34,467) by the number of survivors at age 20 (98,621), which results in a 34.9 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—Proportion dying ( $q_x$ )**—This column shows the proportion of the cohort who are alive at the beginning of an indicated age interval and who will die before reaching the end of that age interval. For example, for males in the age interval 20–21 years, the proportion dying is 0.00127 (table 2). Out of every 100,000 males alive who are exactly 20 years of age at the beginning of the period, 127 will die before reaching their 21st birthday. The “proportion 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 an original 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, 99,364 will complete the first year of life and enter the second; 99,165 will reach age 10; 98,876 will reach age 20; and 41,923 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 100,000 live births. Out of 100,000 males born alive, 772 will die in the first year of life; 125 between ages 20 and 21; and 770 will die after reaching age 100 (table 2). Each figure in column 4 is the difference between two successive figures in column 3.

**Columns 5 and 6—Stationary population ( $L_x$  and  $T_x$ )**—Suppose that a group of 100,000 individuals is born every year and that the proportion dying in each age interval are as shown in column 2. If there were no migration and if the births were evenly distributed over the calendar year, the survivors would make up what is called a stationary population—stationary because in such a population the number of persons living in any given age group would never change. When individuals left the group, either by death or by growing older and entering the next higher age group, their places would immediately be taken by persons entering from the next lower age group. Thus, a census taken at any time in a stationary community would always have the same total population and the same distribution of that population among the age groups. In such a stationary population supported by 100,000 annual births, column 3 shows the number of persons who, each year, reach the birthday that marks the beginning of the age interval indicated in column 1, and column 4 shows the number of persons who die each year in that same age interval.

Column 5 shows the number of persons in the stationary population in the indicated age interval. For example, the figure given for females in the age interval 20–21 years is 98,853 (table 3). This means

**Table A. Expectation of life by age, race, and sex: United States, 1999**

Age	All races			White			Black		
	Total	Male	Female	Total	Male	Female	Total	Male	Female
0 . . . . .	76.7	73.9	79.4	77.3	74.6	79.9	71.4	67.8	74.7
1 . . . . .	76.3	73.5	78.9	76.8	74.1	79.3	71.5	67.9	74.7
5 . . . . .	72.4	69.6	75.0	72.9	70.2	75.4	67.6	64.1	70.9
10 . . . . .	67.4	64.7	70.1	67.9	65.3	70.5	62.7	59.2	66.0
15 . . . . .	62.5	59.8	65.1	63.0	60.3	65.5	57.8	54.3	61.0
20 . . . . .	57.7	55.0	60.2	58.2	55.6	60.7	53.1	49.6	56.2
25 . . . . .	53.0	50.4	55.4	53.4	50.9	55.8	48.5	45.2	51.4
30 . . . . .	48.2	45.7	50.5	48.6	46.2	50.9	43.9	40.7	46.6
35 . . . . .	43.5	41.1	45.7	43.9	41.5	46.1	39.3	36.3	41.9
40 . . . . .	38.8	36.5	41.0	39.2	36.9	41.3	34.8	31.9	37.4
45 . . . . .	34.3	32.0	36.3	34.6	32.4	36.6	30.6	27.8	33.0
50 . . . . .	29.8	27.7	31.7	30.1	28.0	32.0	26.6	24.0	28.7
55 . . . . .	25.5	23.5	27.3	25.7	23.8	27.5	22.8	20.4	24.7
60 . . . . .	21.5	19.6	23.1	21.6	19.8	23.2	19.3	17.2	20.9
65 . . . . .	17.7	16.1	19.1	17.8	16.1	19.2	16.0	14.3	17.3
70 . . . . .	14.3	12.8	15.4	14.4	12.9	15.5	13.0	11.6	14.0
75 . . . . .	11.2	10.0	12.1	11.2	10.0	12.1	10.4	9.2	11.1
80 . . . . .	8.5	7.5	9.1	8.5	7.5	9.1	8.2	7.3	8.6
85 . . . . .	6.3	5.5	6.6	6.2	5.5	6.6	6.2	5.6	6.5
90 . . . . .	4.6	4.1	4.8	4.5	4.0	4.7	4.8	4.4	4.8
95 . . . . .	3.4	3.0	3.5	3.2	2.9	3.3	3.6	3.5	3.6
100 . . . . .	2.6	2.4	2.7	2.3	2.2	2.4	2.8	2.8	2.7

**Table B. Number of survivors by age, out of 100,000 born alive, by age, race, and sex: United States, 1999**

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	99,294	99,228	99,364	99,423	99,365	99,485	98,544	98,408	98,684
5	99,157	99,075	99,242	99,301	99,230	99,376	98,314	98,150	98,483
10	99,070	98,980	99,165	99,224	99,146	99,306	98,176	97,991	98,368
15	98,966	98,855	99,082	99,126	99,029	99,227	98,031	97,810	98,260
20	98,621	98,379	98,876	98,798	98,587	99,022	97,572	97,127	98,032
25	98,160	97,704	98,639	98,386	97,987	98,809	96,810	95,968	97,663
30	97,684	97,030	98,361	97,961	97,383	98,566	95,989	94,794	97,173
35	97,109	96,253	97,987	97,446	96,684	98,240	94,979	93,429	96,486
40	96,321	95,244	97,422	96,739	95,766	97,749	93,573	91,676	95,397
45	95,190	93,808	96,599	95,730	94,469	97,035	91,481	89,068	93,779
50	93,521	91,683	95,384	94,231	92,555	95,959	88,383	85,045	91,507
55	91,123	88,710	93,554	92,024	89,821	94,282	84,144	79,614	88,317
60	87,453	84,232	90,677	88,574	85,612	91,588	78,320	72,321	83,773
65	82,020	77,730	86,283	83,338	79,344	87,372	70,839	63,255	77,684
70	74,284	68,632	79,843	75,692	70,303	81,066	61,781	53,148	69,664
75	63,799	56,651	70,741	65,240	58,258	72,091	50,176	41,042	58,620
80	50,526	42,406	58,317	51,840	43,769	59,632	37,229	28,360	45,506
85	34,467	26,487	41,923	35,398	27,328	42,957	24,071	16,692	30,925
90	18,445	12,453	23,749	18,875	12,751	24,292	12,539	7,737	16,864
95	7,021	3,963	9,553	7,004	3,924	9,541	4,926	2,691	6,802
100	1,695	770	2,433	1,543	689	2,206	1,322	662	1,811

that in a stationary population of females supported by 100,000 annual births and with proportions dying in each age group always in accordance with column 2, a census taken on any date would show 98,853 women between exact ages 20 and 21 years. This figure also represents the average number of person-years of exposure to the risk of dying during the age interval 20–21 years.

Column 6 shows the total number of persons in the stationary population (column 5) in the indicated age interval and all subsequent age intervals. For example, in the stationary population of females referred to in the last illustration, column 6 shows that there would be at any given moment a total of 5,956,405 persons who have passed their 20th birthday (table 3). The female population at all ages 0 and above (the total female population of the stationary community) would be 7,939,597.

*Column 7—Average remaining lifetime ( $e_x$ )*—The average remaining lifetime (also called life expectancy) 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. To arrive at this value, it is first necessary to observe that the figures in column 5 of the life table can also be interpreted in terms of a single life table cohort without introducing the concept of the stationary population. From this point of view, 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 98,317 (column 5) for males in the age interval 20–21 is the total number of years lived between the 20th and 21st birthdays by the 98,379 (column 3) males who reached their 20th birthday out of 100,000 males born alive (table 2). The corresponding figure 5,414,916 in column 6 is the total number of years lived after attaining age 20 by the 98,379 reaching that age. The former figure divided by the latter (5,414,916 divided by 98,379) gives 55.0 years as the average remaining lifetime of males at age 20.

## Results

### Life expectancy in the United States

Tables 1–9 show complete life tables by race (white and black) and sex for 1999. Tables A and B summarize life expectancy and survival by age, race, and sex. Life expectancy at birth for 1999 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 1999. In 1999 life expectancy at birth was 76.7 years, unchanged from the previous year. Despite no increase in life expectancy between 1998 and 1999, the general trend in life expectancy for the United States has been upward throughout the 20th century (6).

Life expectancy was 73.9 years for males, a 0.1-year increase from 1998 to 1999. In contrast, life expectancy for females in 1999 was 79.4 years, a decrease of 0.1 year from 1998. The decrease in life expectancy for females was primarily the result of increases between 1998 and 1999 in mortality due to chronic lower respiratory diseases, diabetes, septicemia, and hypertension despite decreased mortality due to stroke, cancer, suicide, and homicide. For males, life expectancy increased due to decreases in heart disease, stroke, cancer, suicide, and homicide, which were partly offset by increases due to chronic lower respiratory diseases, diabetes, and septicemia.

The difference in life expectancy between the sexes was 5.5 years in 1999, a slight narrowing from the difference (5.7) in the previous year. From 1900 to 1975, the difference in life expectancy between the sexes increased from 2.0 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 (6, 7). Since 1979, the difference in life expectancy between the sexes has

narrowed from 7.8 years to 5.5 years, reflecting proportionately greater increases in lung cancer mortality for women than for men and proportionately larger decreases in heart disease mortality among men (6, 7).

Between 1998 and 1999, life expectancy for the black population rose 0.1 year to 71.4 years. For the white population, life expectancy was unchanged at 77.3 years. The difference in life expectancy between the white and black populations was 5.9 years in 1999, a slight narrowing of the gap from 1998 (6.0 years). Although the white-black difference in life expectancy narrowed from 14.6 years in 1900 to 5.7 years in 1982, it increased to 7.1 years in 1993 before declining from 1994 (7.0 years) to 1999 (5.9 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 (6, 8).

Among the four race-sex groups (figure 1), white females continued to have the highest life expectancy at birth (79.9 years), followed by black females (74.7 years), white males (74.6 years), and black males (67.8 years). Between 1998 and 1999, life expectancy increased 0.2 year for black males (from 67.6 in 1998 to 67.8 in 1999). Black males experienced an unprecedented decline in life expectancy every year for 1984–89 (8), but annual increases in 1990–92 and 1994–99. From 1998 to 1999, life expectancy for black females declined from 74.8 years to 74.7 years, a decrease of 0.1 year. Life expectancy for white males rose 0.1 year, from 74.5 years in 1998 to 74.6 years in 1999. White female life expectancy decreased during the same period by 0.1 year from 80.0 years to 79.9 years. Overall, the largest gains in life expectancy between 1980 and 1999 were for black males (4.0 years), white males (3.9 years), black females (2.2 years), and white females (1.8 years) (table 12).

The 1999 life table may be used to compare life expectancies at any age from birth onward. On the basis of mortality experienced in 1999, a person aged 65 years could expect to live an average of 17.7

more years for a total of 82.7 years, and a person aged 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 (4, 9, 10).

## 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 1999. In 1999, 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. About one-half of the 1999 cohort survived to age 80, the median age at death, and about 1.7 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 43.0 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 79.3 percent surviving to age 65 compared with 98.0 percent and 77.7 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 27.3 percent compared with 30.9 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 71 years, 12 years less than that for white females; 97.1 percent of black males survive to age 20, 63.3 percent to age 65, and 16.7 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 1999 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 1999 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 1999, improvements occurred primarily for the older population.

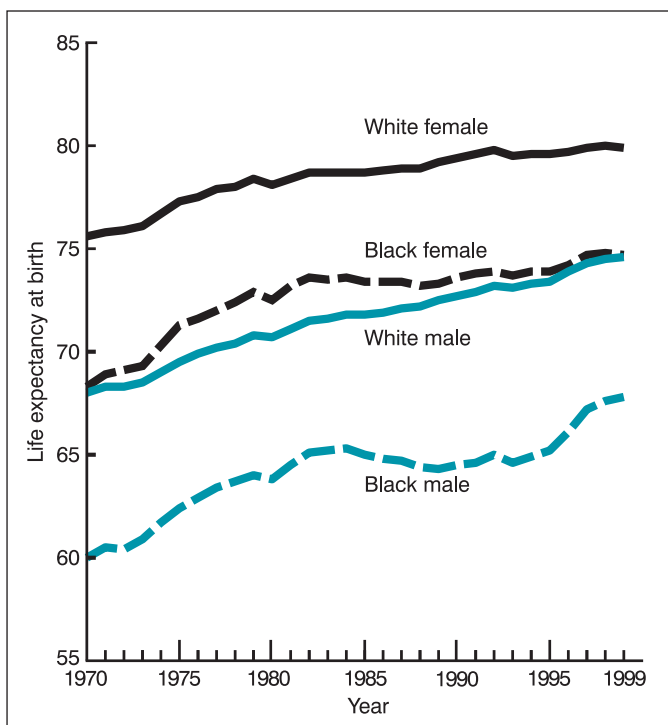


Figure 1. Life expectancy at birth by race and sex: 1970–99



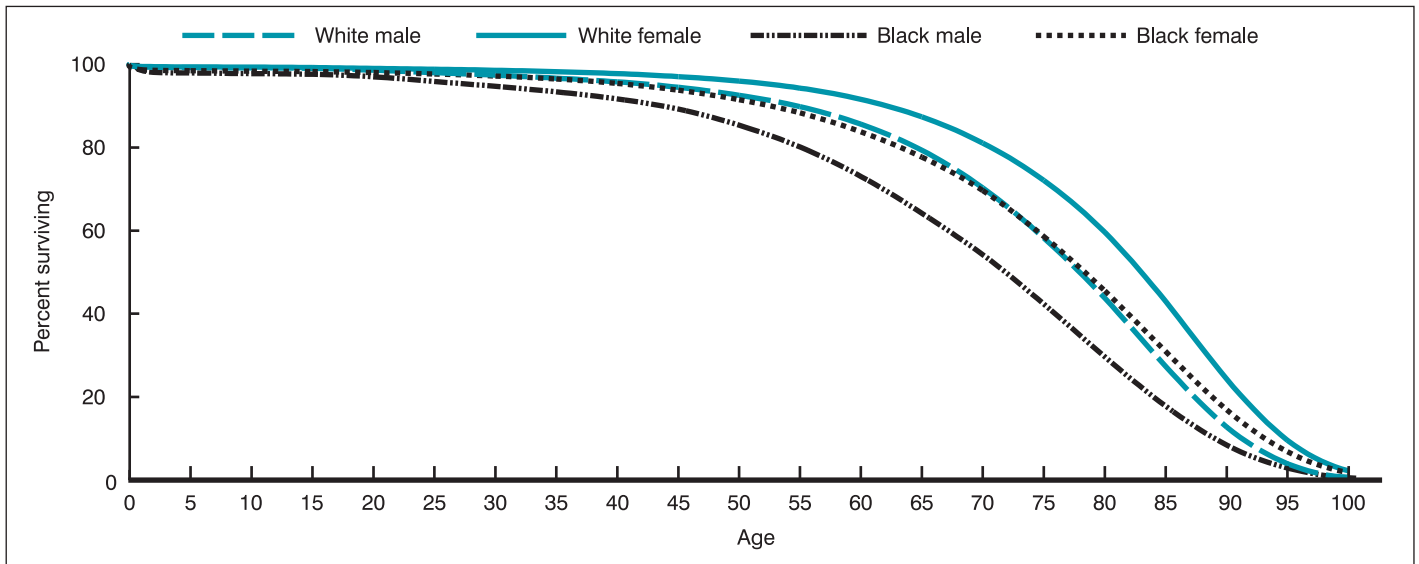


Figure 2. Percent surviving by age, race, and sex: United States, 1999

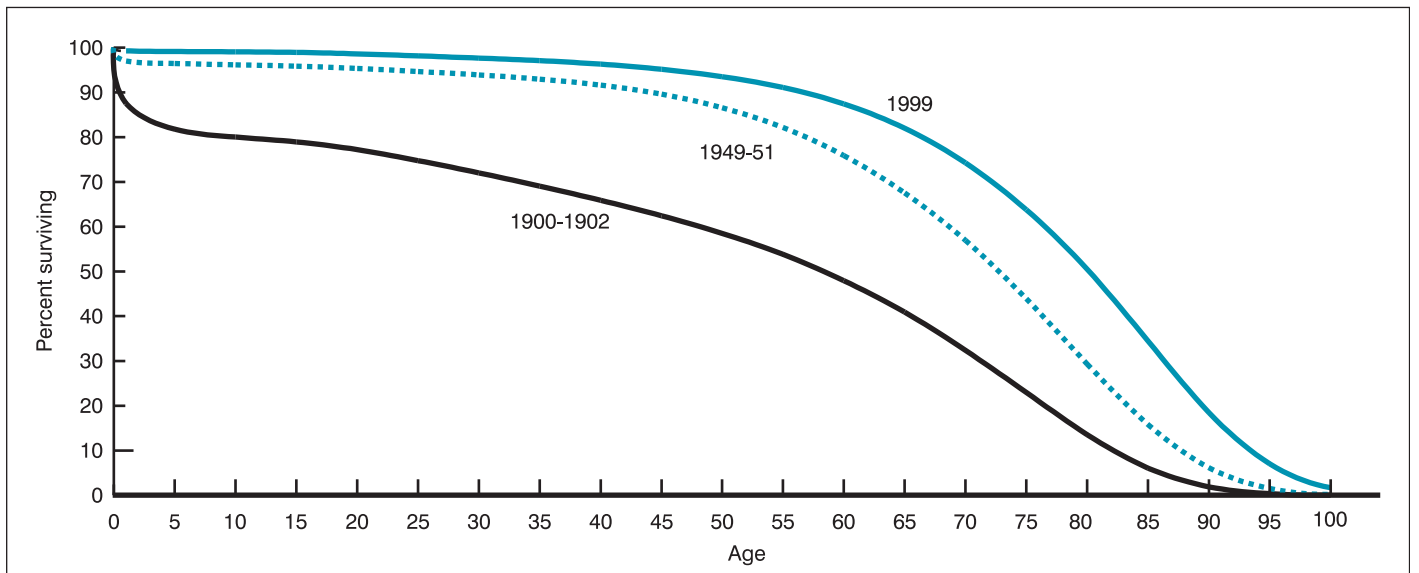


Figure 3. Percent surviving by age: Death-registration States, 1900-1902, and United States, 1949-51 and 1999

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Table 1. Life table for the total population: United States, 1999

Age	Proportion dying during age interval	Number living at beginning of age interval	Number dying during age interval	Stationary population in the age interval	Stationary population in this and all subsequent age intervals	Life expectancy at beginning of age interval
	$q_x$	$l_x$	$d_x$	$L_x$	$T_x$	$e_x$
0-1	0.00706	100,000	706	99,383	7,672,728	76.7
1-2	0.00053	99,294	53	99,268	7,573,344	76.3
2-3	0.00036	99,241	36	99,223	7,474,077	75.3
3-4	0.00027	99,205	27	99,192	7,374,853	74.3
4-5	0.00022	99,178	21	99,167	7,275,662	73.4
5-6	0.00020	99,157	20	99,147	7,176,494	72.4
6-7	0.00019	99,137	19	99,127	7,077,347	71.4
7-8	0.00018	99,118	18	99,109	6,978,220	70.4
8-9	0.00016	99,101	16	99,093	6,879,111	69.4
9-10	0.00014	99,084	14	99,077	6,780,018	68.4
10-11	0.00013	99,070	12	99,064	6,680,941	67.4
11-12	0.00013	99,058	13	99,052	6,581,876	66.4
12-13	0.00017	99,045	17	99,037	6,482,824	65.5
13-14	0.00026	99,029	25	99,016	6,383,787	64.5
14-15	0.00038	99,003	37	98,985	6,284,771	63.5
15-16	0.00051	98,966	50	98,941	6,185,787	62.5
16-17	0.00063	98,916	62	98,885	6,086,846	61.5
17-18	0.00073	98,854	72	98,818	5,987,961	60.6
18-19	0.00079	98,782	78	98,742	5,889,143	59.6
19-20	0.00084	98,703	82	98,662	5,790,401	58.7
20-21	0.00088	98,621	87	98,578	5,691,739	57.7
21-22	0.00092	98,534	91	98,489	5,593,161	56.8
22-23	0.00096	98,443	94	98,396	5,494,672	55.8
23-24	0.00097	98,349	95	98,302	5,396,276	54.9
24-25	0.00096	98,254	94	98,207	5,297,974	53.9
25-26	0.00095	98,160	94	98,113	5,199,767	53.0
26-27	0.00095	98,066	93	98,020	5,101,654	52.0
27-28	0.00096	97,973	94	97,926	5,003,635	51.1
28-29	0.00098	97,879	96	97,831	4,905,708	50.1
29-30	0.00102	97,783	99	97,734	4,807,877	49.2
30-31	0.00106	97,684	103	97,632	4,710,143	48.2
31-32	0.00111	97,581	108	97,527	4,612,511	47.3
32-33	0.00117	97,473	114	97,416	4,514,985	46.3
33-34	0.00124	97,359	121	97,298	4,417,569	45.4
34-35	0.00133	97,238	129	97,173	4,320,270	44.4
35-36	0.00142	97,109	138	97,040	4,223,097	43.5
36-37	0.00151	96,971	146	96,898	4,126,057	42.6
37-38	0.00161	96,825	156	96,747	4,029,159	41.6
38-39	0.00173	96,669	167	96,585	3,932,412	40.7
39-40	0.00187	96,501	180	96,411	3,835,827	39.8
40-41	0.00201	96,321	194	96,224	3,739,416	38.8
41-42	0.00217	96,127	208	96,023	3,643,193	37.9
42-43	0.00234	95,918	224	95,806	3,547,170	37.0
43-44	0.00253	95,694	242	95,573	3,451,364	36.1
44-45	0.00274	95,452	262	95,321	3,355,791	35.2
45-46	0.00299	95,190	284	95,048	3,260,470	34.3
46-47	0.00325	94,906	309	94,752	3,165,422	33.4
47-48	0.00353	94,597	334	94,430	3,070,671	32.5
48-49	0.00381	94,263	359	94,084	2,976,240	31.6
49-50	0.00409	93,905	384	93,713	2,882,156	30.7
50-51	0.00439	93,521	410	93,316	2,788,443	29.8
51-52	0.00473	93,111	440	92,891	2,695,127	29.0
52-53	0.00512	92,670	474	92,433	2,602,237	28.1
53-54	0.00557	92,196	514	91,939	2,509,804	27.2
54-55	0.00610	91,682	560	91,403	2,417,864	26.4
55-56	0.00673	91,123	613	90,816	2,326,462	25.5
56-57	0.00742	90,510	672	90,174	2,235,645	24.7
57-58	0.00816	89,839	733	89,472	2,145,471	23.9
58-59	0.00892	89,105	795	88,708	2,055,999	23.1
59-60	0.00971	88,311	857	87,882	1,967,291	22.3
60-61	0.01058	87,453	925	86,991	1,879,409	21.5
61-62	0.01157	86,528	1,001	86,028	1,792,418	20.7
62-63	0.01265	85,527	1,082	84,986	1,706,390	20.0
63-64	0.01383	84,445	1,168	83,861	1,621,404	19.2
64-65	0.01509	83,277	1,257	82,649	1,537,543	18.5
65-66	0.01641	82,020	1,346	81,348	1,454,894	17.7
66-67	0.01782	80,675	1,437	79,956	1,373,546	17.0

**Table 1. Life table for the total population: United States, 1999—Con.**

Age	Proportion dying during age interval	Number living at beginning of age interval	Number dying during age interval	Stationary population in the age interval	Stationary population in this and all subsequent age intervals	Life expectancy at beginning of age interval
	$q_x$	$l_x$	$d_x$	$L_x$	$T_x$	$e_x$
67-68	0.01941	79,238	1,538	78,469	1,293,590	16.3
68-69	0.02123	77,699	1,649	76,875	1,215,121	15.6
69-70	0.02323	76,050	1,766	75,167	1,138,246	15.0
70-71	0.02528	74,284	1,878	73,345	1,063,079	14.3
71-72	0.02739	72,406	1,983	71,414	989,735	13.7
72-73	0.02970	70,423	2,091	69,377	918,320	13.0
73-74	0.03229	68,332	2,207	67,228	848,943	12.4
74-75	0.03518	66,125	2,326	64,962	781,715	11.8
75-76	0.03824	63,799	2,440	62,579	716,753	11.2
76-77	0.04145	61,359	2,543	60,087	654,174	10.7
77-78	0.04502	58,816	2,648	57,492	594,086	10.1
78-79	0.04914	56,168	2,760	54,788	536,595	9.6
79-80	0.05395	53,408	2,881	51,967	481,807	9.0
80-81	0.05950	50,526	3,006	49,023	429,840	8.5
81-82	0.06578	47,520	3,126	45,957	380,816	8.0
82-83	0.07287	44,394	3,235	42,777	334,859	7.5
83-84	0.08066	41,159	3,320	39,499	292,082	7.1
84-85	0.08913	37,839	3,373	36,153	252,583	6.7
85-86	0.09777	34,467	3,370	32,782	216,430	6.3
86-87	0.10700	31,097	3,327	29,433	183,648	5.9
87-88	0.11683	27,769	3,244	26,147	154,215	5.6
88-89	0.12725	24,525	3,121	22,965	128,067	5.2
89-90	0.13827	21,404	2,960	19,925	105,103	4.9
90-91	0.14989	18,445	2,765	17,062	85,178	4.6
91-92	0.16210	15,680	2,542	14,409	68,115	4.3
92-93	0.17489	13,138	2,298	11,989	53,706	4.1
93-94	0.18824	10,841	2,041	9,820	41,717	3.9
94-95	0.20212	8,800	1,779	7,911	31,896	3.6
95-96	0.21651	7,021	1,520	6,261	23,986	3.4
96-97	0.23138	5,501	1,273	4,865	17,724	3.2
97-98	0.24668	4,228	1,043	3,707	12,860	3.0
98-99	0.26237	3,185	836	2,767	9,153	2.9
99-100	0.27839	2,350	654	2,022	6,386	2.7
100+	1.00000	1,695	1,695	4,363	4,363	2.6



Table 2. Life table for males: United States, 1999

Age	Proportion dying during age interval	Number living at beginning of age interval	Number dying during age interval	Stationary population in the age interval	Stationary population in this and all subsequent age intervals	Life expectancy at beginning of age interval
	$q_x$	$l_x$	$d_x$	$L_x$	$T_x$	$e_x$
0-1	0.00772	100,000	772	99,328	7,393,807	73.9
1-2	0.00058	99,228	57	99,199	7,294,479	73.5
2-3	0.00041	99,170	41	99,150	7,195,280	72.6
3-4	0.00031	99,129	30	99,114	7,096,130	71.6
4-5	0.00024	99,099	24	99,087	6,997,016	70.6
5-6	0.00022	99,075	22	99,064	6,897,928	69.6
6-7	0.00021	99,053	21	99,043	6,798,864	68.6
7-8	0.00020	99,033	20	99,023	6,699,821	67.7
8-9	0.00018	99,013	18	99,004	6,600,798	66.7
9-10	0.00015	98,995	15	98,988	6,501,794	65.7
10-11	0.00013	98,980	13	98,974	6,402,806	64.7
11-12	0.00013	98,967	13	98,961	6,303,833	63.7
12-13	0.00019	98,954	19	98,945	6,204,872	62.7
13-14	0.00032	98,936	32	98,920	6,105,927	61.7
14-15	0.00049	98,904	49	98,880	6,007,007	60.7
15-16	0.00068	98,855	67	98,822	5,908,127	59.8
16-17	0.00085	98,788	84	98,746	5,809,305	58.8
17-18	0.00100	98,704	99	98,655	5,710,559	57.9
18-19	0.00111	98,605	109	98,551	5,611,905	56.9
19-20	0.00119	98,496	117	98,438	5,513,354	56.0
20-21	0.00127	98,379	125	98,317	5,414,916	55.0
21-22	0.00136	98,254	133	98,188	5,316,600	54.1
22-23	0.00141	98,121	139	98,052	5,218,412	53.2
23-24	0.00143	97,982	140	97,912	5,120,360	52.3
24-25	0.00141	97,842	138	97,773	5,022,448	51.3
25-26	0.00139	97,704	135	97,636	4,924,675	50.4
26-27	0.00137	97,569	133	97,502	4,827,039	49.5
27-28	0.00136	97,435	133	97,369	4,729,537	48.5
28-29	0.00138	97,303	135	97,235	4,632,168	47.6
29-30	0.00142	97,168	138	97,099	4,534,933	46.7
30-31	0.00147	97,030	143	96,958	4,437,834	45.7
31-32	0.00153	96,887	148	96,813	4,340,876	44.8
32-33	0.00159	96,739	154	96,662	4,244,063	43.9
33-34	0.00167	96,585	162	96,504	4,147,401	42.9
34-35	0.00176	96,423	170	96,338	4,050,897	42.0
35-36	0.00186	96,253	179	96,164	3,954,558	41.1
36-37	0.00196	96,074	188	95,980	3,858,394	40.2
37-38	0.00208	95,886	200	95,786	3,762,414	39.2
38-39	0.00223	95,686	213	95,580	3,666,628	38.3
39-40	0.00240	95,473	229	95,359	3,571,048	37.4
40-41	0.00259	95,244	246	95,121	3,475,690	36.5
41-42	0.00278	94,998	264	94,866	3,380,569	35.6
42-43	0.00300	94,733	285	94,591	3,285,703	34.7
43-44	0.00326	94,449	308	94,295	3,191,112	33.8
44-45	0.00354	94,141	333	93,975	3,096,817	32.9
45-46	0.00387	93,808	363	93,626	3,002,842	32.0
46-47	0.00422	93,445	395	93,248	2,909,216	31.1
47-48	0.00458	93,050	427	92,837	2,815,968	30.3
48-49	0.00493	92,624	456	92,396	2,723,131	29.4
49-50	0.00526	92,168	485	91,925	2,630,735	28.5
50-51	0.00561	91,683	514	91,426	2,538,810	27.7
51-52	0.00601	91,168	548	90,894	2,447,384	26.8
52-53	0.00648	90,620	587	90,327	2,356,490	26.0
53-54	0.00704	90,033	634	89,716	2,266,164	25.2
54-55	0.00771	89,399	689	89,054	2,176,448	24.4
55-56	0.00849	88,710	753	88,333	2,087,393	23.5
56-57	0.00936	87,957	823	87,546	1,999,060	22.7
57-58	0.01028	87,134	896	86,686	1,911,514	21.9
58-59	0.01122	86,239	968	85,755	1,824,828	21.2
59-60	0.01219	85,271	1,039	84,751	1,739,073	20.4
60-61	0.01325	84,232	1,116	83,673	1,654,322	19.6
61-62	0.01446	83,115	1,202	82,514	1,570,648	18.9
62-63	0.01580	81,913	1,294	81,266	1,488,134	18.2
63-64	0.01728	80,619	1,393	79,922	1,406,868	17.5
64-65	0.01888	79,226	1,496	78,478	1,326,945	16.8
65-66	0.02053	77,730	1,596	76,933	1,248,467	16.1
66-67	0.02230	76,135	1,698	75,286	1,171,534	15.4

**Table 2. Life table for males: United States, 1999—Con.**

Age	Proportion dying during age interval	Number living at beginning of age interval	Number dying during age interval	Stationary population in the age interval	Stationary population in this and all subsequent age intervals	Life expectancy at beginning of age interval
	$q_x$	$l_x$	$d_x$	$L_x$	$T_x$	$e_x$
67-68	0.02431	74,437	1,809	73,532	1,096,249	14.7
68-69	0.02662	72,628	1,933	71,661	1,022,716	14.1
69-70	0.02918	70,695	2,063	69,663	951,055	13.5
70-71	0.03182	68,632	2,184	67,540	881,392	12.8
71-72	0.03449	66,448	2,292	65,302	813,851	12.3
72-73	0.03737	64,157	2,397	62,958	748,549	11.7
73-74	0.04052	61,759	2,503	60,508	685,591	11.1
74-75	0.04397	59,256	2,606	57,954	625,083	10.6
75-76	0.04761	56,651	2,697	55,302	567,130	10.0
76-77	0.05142	53,954	2,774	52,567	511,828	9.5
77-78	0.05562	51,180	2,847	49,756	459,261	9.0
78-79	0.06047	48,333	2,923	46,872	409,505	8.5
79-80	0.06616	45,410	3,005	43,908	362,633	8.0
80-81	0.07296	42,406	3,094	40,859	318,725	7.5
81-82	0.08079	39,312	3,176	37,724	277,866	7.1
82-83	0.08940	36,136	3,230	34,521	240,143	6.7
83-84	0.09827	32,905	3,234	31,289	205,622	6.3
84-85	0.10734	29,672	3,185	28,079	174,333	5.9
85-86	0.11742	26,487	3,110	24,932	146,254	5.5
86-87	0.12810	23,377	2,994	21,879	121,323	5.2
87-88	0.13936	20,382	2,841	18,962	99,443	4.9
88-89	0.15121	17,542	2,652	16,215	80,482	4.6
89-90	0.16362	14,889	2,436	13,671	64,266	4.3
90-91	0.17658	12,453	2,199	11,353	50,595	4.1
91-92	0.19004	10,254	1,949	9,280	39,242	3.8
92-93	0.20397	8,305	1,694	7,458	29,962	3.6
93-94	0.21833	6,611	1,443	5,890	22,504	3.4
94-95	0.23308	5,168	1,204	4,566	16,614	3.2
95-96	0.24814	3,963	983	3,472	12,048	3.0
96-97	0.26346	2,980	785	2,587	8,577	2.9
97-98	0.27897	2,195	612	1,889	5,989	2.7
98-99	0.29460	1,583	466	1,349	4,101	2.6
99-100	0.31026	1,116	346	943	2,751	2.5
100+	1.00000	770	770	1,808	1,808	2.4

Table 3. Life table for females: United States, 1999

Age	Proportion dying during age interval	Number living at beginning of age interval	Number dying during age interval	Stationary population in the age interval	Stationary population in this and all subsequent age intervals	Life expectancy at beginning of age interval
	$q_x$	$l_x$	$d_x$	$L_x$	$T_x$	$e_x$
0-1	0.00636	100,000	636	99,441	7,939,597	79.4
1-2	0.00049	99,364	48	99,340	7,840,157	78.9
2-3	0.00031	99,316	31	99,300	7,740,817	77.9
3-4	0.00024	99,285	24	99,273	7,641,517	77.0
4-5	0.00019	99,261	19	99,252	7,542,244	76.0
5-6	0.00018	99,242	18	99,233	7,442,992	75.0
6-7	0.00017	99,224	16	99,216	7,343,759	74.0
7-8	0.00016	99,208	15	99,200	7,244,543	73.0
8-9	0.00014	99,192	14	99,185	7,145,343	72.0
9-10	0.00013	99,178	13	99,172	7,046,158	71.1
10-11	0.00012	99,165	12	99,159	6,946,986	70.1
11-12	0.00012	99,153	12	99,147	6,847,827	69.1
12-13	0.00015	99,141	14	99,134	6,748,680	68.1
13-14	0.00019	99,127	19	99,117	6,649,547	67.1
14-15	0.00026	99,108	25	99,095	6,550,430	66.1
15-16	0.00033	99,082	32	99,066	6,451,335	65.1
16-17	0.00039	99,050	39	99,031	6,352,268	64.1
17-18	0.00044	99,011	44	98,989	6,253,238	63.2
18-19	0.00046	98,968	46	98,945	6,154,249	62.2
19-20	0.00047	98,922	46	98,899	6,055,304	61.2
20-21	0.00046	98,876	46	98,853	5,956,405	60.2
21-22	0.00047	98,830	46	98,807	5,857,552	59.3
22-23	0.00048	98,784	47	98,760	5,758,745	58.3
23-24	0.00049	98,736	48	98,712	5,659,985	57.3
24-25	0.00050	98,688	49	98,664	5,561,273	56.4
25-26	0.00052	98,639	51	98,613	5,462,609	55.4
26-27	0.00054	98,588	53	98,561	5,363,996	54.4
27-28	0.00056	98,535	55	98,507	5,265,435	53.4
28-29	0.00059	98,480	58	98,451	5,166,927	52.5
29-30	0.00062	98,422	61	98,392	5,068,476	51.5
30-31	0.00065	98,361	64	98,329	4,970,084	50.5
31-32	0.00069	98,297	68	98,263	4,871,755	49.6
32-33	0.00075	98,229	74	98,192	4,773,492	48.6
33-34	0.00082	98,156	80	98,115	4,675,299	47.6
34-35	0.00090	98,075	88	98,031	4,577,184	46.7
35-36	0.00098	97,987	96	97,939	4,479,153	45.7
36-37	0.00106	97,891	104	97,839	4,381,214	44.8
37-38	0.00115	97,787	112	97,730	4,283,376	43.8
38-39	0.00124	97,674	121	97,614	4,185,645	42.9
39-40	0.00134	97,553	131	97,488	4,088,032	41.9
40-41	0.00145	97,422	141	97,352	3,990,544	41.0
41-42	0.00156	97,281	152	97,205	3,893,192	40.0
42-43	0.00169	97,129	164	97,047	3,795,987	39.1
43-44	0.00182	96,965	176	96,877	3,698,940	38.2
44-45	0.00196	96,789	190	96,694	3,602,063	37.2
45-46	0.00213	96,599	205	96,496	3,505,369	36.3
46-47	0.00231	96,393	223	96,282	3,408,873	35.4
47-48	0.00251	96,171	241	96,050	3,312,591	34.4
48-49	0.00273	95,929	262	95,799	3,216,541	33.5
49-50	0.00296	95,668	284	95,526	3,120,742	32.6
50-51	0.00322	95,384	307	95,231	3,025,216	31.7
51-52	0.00351	95,077	333	94,910	2,929,986	30.8
52-53	0.00382	94,744	362	94,562	2,835,076	29.9
53-54	0.00418	94,381	395	94,184	2,740,513	29.0
54-55	0.00460	93,986	432	93,770	2,646,329	28.2
55-56	0.00508	93,554	475	93,317	2,552,559	27.3
56-57	0.00562	93,079	523	92,818	2,459,242	26.4
57-58	0.00620	92,556	574	92,269	2,366,424	25.6
58-59	0.00680	91,982	626	91,669	2,274,155	24.7
59-60	0.00744	91,356	679	91,017	2,182,486	23.9
60-61	0.00814	90,677	738	90,308	2,091,469	23.1
61-62	0.00895	89,939	805	89,537	2,001,161	22.3
62-63	0.00982	89,134	875	88,697	1,911,624	21.5
63-64	0.01076	88,259	949	87,784	1,822,928	20.7
64-65	0.01175	87,310	1,026	86,797	1,735,144	19.9
65-66	0.01280	86,283	1,105	85,731	1,648,347	19.1
66-67	0.01395	85,179	1,188	84,585	1,562,616	18.4

**Table 3. Life table for females: United States, 1999—Con.**

Age	Proportion dying during age interval	Number living at beginning of age interval	Number dying during age interval	Stationary population in the age interval	Stationary population in this and all subsequent age intervals	Life expectancy at beginning of age interval
	$q_x$	$l_x$	$d_x$	$L_x$	$T_x$	$e_x$
67-68	0.01524	83,991	1,280	83,351	1,478,031	17.6
68-69	0.01669	82,711	1,380	82,021	1,394,680	16.9
69-70	0.01829	81,331	1,488	80,587	1,312,659	16.1
70-71	0.01994	79,843	1,592	79,047	1,232,072	15.4
71-72	0.02167	78,251	1,696	77,403	1,153,025	14.7
72-73	0.02362	76,555	1,808	75,651	1,075,622	14.1
73-74	0.02588	74,747	1,934	73,780	999,971	13.4
74-75	0.02845	72,813	2,071	71,777	926,191	12.7
75-76	0.03119	70,741	2,206	69,638	854,414	12.1
76-77	0.03409	68,535	2,336	67,367	784,776	11.5
77-78	0.03735	66,199	2,473	64,963	717,409	10.8
78-79	0.04116	63,726	2,623	62,415	652,446	10.2
79-80	0.04560	61,104	2,786	59,710	590,031	9.7
80-81	0.05063	58,317	2,952	56,841	530,321	9.1
81-82	0.05628	55,365	3,116	53,807	473,480	8.6
82-83	0.06285	52,249	3,284	50,607	419,673	8.0
83-84	0.07041	48,965	3,448	47,241	369,066	7.5
84-85	0.07896	45,518	3,594	43,720	321,824	7.1
85-86	0.08755	41,923	3,671	40,088	278,104	6.6
86-87	0.09679	38,253	3,702	36,402	238,016	6.2
87-88	0.10667	34,551	3,685	32,708	201,614	5.8
88-89	0.11720	30,865	3,617	29,056	168,906	5.5
89-90	0.12839	27,248	3,498	25,499	139,850	5.1
90-91	0.14022	23,749	3,330	22,084	114,351	4.8
91-92	0.15267	20,419	3,117	18,861	92,267	4.5
92-93	0.16573	17,302	2,867	15,868	73,406	4.2
93-94	0.17936	14,434	2,589	13,140	57,538	4.0
94-95	0.19353	11,845	2,292	10,699	44,398	3.8
95-96	0.20818	9,553	1,989	8,559	33,699	3.5
96-97	0.22326	7,564	1,689	6,720	25,140	3.3
97-98	0.23872	5,875	1,403	5,174	18,421	3.1
98-99	0.25447	4,473	1,138	3,904	13,246	3.0
99-100	0.27043	3,335	902	2,884	9,343	2.8
100+	1.00000	2,433	2,433	6,459	6,459	2.7

Table 4. Life table for the white population: United States, 1999

Age	Proportion dying during age interval	Number living at beginning of age interval	Number dying during age interval	Stationary population in the age interval	Stationary population in this and all subsequent age intervals	Life expectancy at beginning of age interval
	$q_x$	$l_x$	$d_x$	$L_x$	$T_x$	$e_x$
0-1	0.00577	100,000	577	99,496	7,731,826	77.3
1-2	0.00046	99,423	46	99,400	7,632,330	76.8
2-3	0.00032	99,377	32	99,361	7,532,930	75.8
3-4	0.00026	99,345	25	99,332	7,433,569	74.8
4-5	0.00019	99,320	18	99,310	7,334,236	73.8
5-6	0.00018	99,301	18	99,292	7,234,926	72.9
6-7	0.00017	99,283	17	99,275	7,135,634	71.9
7-8	0.00016	99,267	16	99,259	7,036,358	70.9
8-9	0.00015	99,251	15	99,244	6,937,100	69.9
9-10	0.00013	99,236	13	99,230	6,837,856	68.9
10-11	0.00011	99,224	11	99,218	6,738,626	67.9
11-12	0.00012	99,213	12	99,207	6,639,408	66.9
12-13	0.00016	99,201	16	99,193	6,540,201	65.9
13-14	0.00024	99,186	24	99,174	6,441,008	64.9
14-15	0.00036	99,161	36	99,144	6,341,834	64.0
15-16	0.00049	99,126	48	99,102	6,242,690	63.0
16-17	0.00061	99,077	60	99,047	6,143,589	62.0
17-18	0.00070	99,017	69	98,983	6,044,541	61.1
18-19	0.00075	98,949	74	98,912	5,945,558	60.1
19-20	0.00078	98,875	77	98,836	5,846,647	59.1
20-21	0.00080	98,798	79	98,758	5,747,811	58.2
21-22	0.00083	98,719	82	98,678	5,649,052	57.2
22-23	0.00085	98,637	83	98,596	5,550,374	56.3
23-24	0.00085	98,554	84	98,512	5,451,778	55.3
24-25	0.00085	98,470	84	98,428	5,353,267	54.4
25-26	0.00085	98,386	83	98,344	5,254,839	53.4
26-27	0.00085	98,303	83	98,261	5,156,494	52.5
27-28	0.00086	98,219	84	98,177	5,058,233	51.5
28-29	0.00088	98,136	86	98,093	4,960,056	50.5
29-30	0.00091	98,050	89	98,005	4,861,963	49.6
30-31	0.00094	97,961	92	97,915	4,763,958	48.6
31-32	0.00098	97,868	96	97,820	4,666,043	47.7
32-33	0.00104	97,772	102	97,721	4,568,223	46.7
33-34	0.00111	97,670	108	97,616	4,470,502	45.8
34-35	0.00119	97,562	116	97,504	4,372,885	44.8
35-36	0.00127	97,446	124	97,384	4,275,381	43.9
36-37	0.00135	97,323	132	97,257	4,177,997	42.9
37-38	0.00145	97,191	140	97,121	4,080,740	42.0
38-39	0.00155	97,050	150	96,975	3,983,619	41.1
39-40	0.00167	96,900	161	96,819	3,886,644	40.1
40-41	0.00179	96,739	173	96,652	3,789,825	39.2
41-42	0.00193	96,565	186	96,472	3,693,173	38.3
42-43	0.00208	96,379	200	96,279	3,596,700	37.3
43-44	0.00225	96,179	216	96,071	3,500,421	36.4
44-45	0.00243	95,963	234	95,846	3,404,350	35.5
45-46	0.00265	95,730	254	95,603	3,308,503	34.6
46-47	0.00289	95,476	276	95,338	3,212,901	33.7
47-48	0.00314	95,201	299	95,051	3,117,562	32.8
48-49	0.00340	94,902	323	94,740	3,022,511	31.9
49-50	0.00368	94,579	348	94,405	2,927,771	31.0
50-51	0.00397	94,231	374	94,044	2,833,366	30.1
51-52	0.00430	93,857	403	93,655	2,739,322	29.2
52-53	0.00467	93,454	436	93,236	2,645,667	28.3
53-54	0.00510	93,018	475	92,780	2,552,431	27.4
54-55	0.00561	92,543	519	92,284	2,459,651	26.6
55-56	0.00620	92,024	571	91,739	2,367,367	25.7
56-57	0.00687	91,453	628	91,139	2,275,628	24.9
57-58	0.00759	90,825	689	90,481	2,184,489	24.1
58-59	0.00832	90,136	750	89,761	2,094,008	23.2
59-60	0.00909	89,386	812	88,980	2,004,247	22.4
60-61	0.00994	88,574	881	88,133	1,915,267	21.6
61-62	0.01093	87,693	958	87,214	1,827,134	20.8
62-63	0.01201	86,735	1,042	86,214	1,739,920	20.1
63-64	0.01320	85,693	1,131	85,128	1,653,705	19.3
64-65	0.01448	84,562	1,224	83,950	1,568,578	18.6
65-66	0.01582	83,338	1,318	82,679	1,484,627	17.8
66-67	0.01726	82,020	1,416	81,312	1,401,948	17.1



**Table 4. Life table for the white population: United States, 1999—Con.**

Age	Proportion dying during age interval	Number living at beginning of age interval	Number dying during age interval	Stationary population in the age interval	Stationary population in this and all subsequent age intervals	Life expectancy at beginning of age interval
	$q_x$	$l_x$	$d_x$	$L_x$	$T_x$	$e_x$
67-68	0.01888	80,604	1,521	79,843	1,320,636	16.4
68-69	0.02069	79,083	1,636	78,265	1,240,793	15.7
69-70	0.02266	77,447	1,755	76,569	1,162,528	15.0
70-71	0.02466	75,692	1,866	74,759	1,085,959	14.4
71-72	0.02671	73,825	1,972	72,840	1,011,200	13.7
72-73	0.02898	71,854	2,082	70,812	938,361	13.1
73-74	0.03156	69,771	2,202	68,670	867,548	12.4
74-75	0.03446	67,569	2,329	66,405	798,878	11.8
75-76	0.03753	65,240	2,449	64,016	732,473	11.2
76-77	0.04075	62,792	2,559	61,512	668,457	10.7
77-78	0.04435	60,233	2,671	58,897	606,945	10.1
78-79	0.04854	57,562	2,794	56,164	548,048	9.5
79-80	0.05346	54,767	2,928	53,303	491,883	9.0
80-81	0.05913	51,840	3,065	50,307	438,580	8.5
81-82	0.06552	48,775	3,196	47,177	388,273	8.0
82-83	0.07270	45,579	3,314	43,922	341,096	7.5
83-84	0.08056	42,265	3,405	40,563	297,174	7.0
84-85	0.08909	38,861	3,462	37,130	256,611	6.6
85-86	0.09785	35,398	3,464	33,667	219,481	6.2
86-87	0.10726	31,935	3,425	30,222	185,814	5.8
87-88	0.11735	28,510	3,346	26,837	155,592	5.5
88-89	0.12815	25,164	3,225	23,552	128,755	5.1
89-90	0.13968	21,939	3,064	20,407	105,204	4.8
90-91	0.15196	18,875	2,868	17,441	84,797	4.5
91-92	0.16500	16,007	2,641	14,686	67,356	4.2
92-93	0.17882	13,365	2,390	12,170	52,670	3.9
93-94	0.19343	10,975	2,123	9,914	40,500	3.7
94-95	0.20884	8,852	1,849	7,928	30,586	3.5
95-96	0.22505	7,004	1,576	6,216	22,658	3.2
96-97	0.24205	5,428	1,314	4,771	16,442	3.0
97-98	0.25985	4,114	1,069	3,579	11,671	2.8
98-99	0.27842	3,045	848	2,621	8,092	2.7
99-100	0.29776	2,197	654	1,870	5,471	2.5
100+	1.00000	1,543	1,543	3,601	3,601	2.3

Table 5. Life table for white males: United States, 1999

Age	Proportion dying during age interval	Number living at beginning of age interval	Number dying during age interval	Stationary population in the age interval	Stationary population in this and all subsequent age intervals	Life expectancy at beginning of age interval
	$q_x$	$l_x$	$d_x$	$L_x$	$T_x$	$e_x$
0-1	0.00635	100,000	635	99,449	7,461,939	74.6
1-2	0.00049	99,365	48	99,340	7,362,491	74.1
2-3	0.00037	99,316	37	99,298	7,263,150	73.1
3-4	0.00029	99,280	29	99,265	7,163,852	72.2
4-5	0.00020	99,251	20	99,240	7,064,587	71.2
5-6	0.00020	99,230	20	99,221	6,965,347	70.2
6-7	0.00019	99,211	18	99,202	6,866,126	69.2
7-8	0.00018	99,192	18	99,184	6,766,925	68.2
8-9	0.00016	99,175	16	99,167	6,667,741	67.2
9-10	0.00014	99,159	13	99,152	6,568,574	66.2
10-11	0.00012	99,146	11	99,140	6,469,422	65.3
11-12	0.00012	99,134	12	99,128	6,370,282	64.3
12-13	0.00018	99,122	17	99,114	6,271,154	63.3
13-14	0.00030	99,105	30	99,090	6,172,040	62.3
14-15	0.00046	99,075	46	99,052	6,072,950	61.3
15-16	0.00064	99,029	63	98,998	5,973,898	60.3
16-17	0.00080	98,966	79	98,926	5,874,900	59.4
17-18	0.00093	98,887	92	98,841	5,775,974	58.4
18-19	0.00102	98,794	101	98,744	5,677,133	57.5
19-20	0.00108	98,693	107	98,640	5,578,389	56.5
20-21	0.00114	98,587	112	98,530	5,479,749	55.6
21-22	0.00120	98,474	119	98,415	5,381,219	54.7
22-23	0.00125	98,356	122	98,294	5,282,804	53.7
23-24	0.00126	98,233	123	98,171	5,184,510	52.8
24-25	0.00125	98,110	122	98,049	5,086,338	51.8
25-26	0.00123	97,987	121	97,927	4,988,290	50.9
26-27	0.00122	97,867	119	97,807	4,890,363	50.0
27-28	0.00122	97,748	119	97,688	4,792,556	49.0
28-29	0.00124	97,628	121	97,568	4,694,868	48.1
29-30	0.00127	97,507	124	97,445	4,597,300	47.2
30-31	0.00132	97,383	128	97,319	4,499,854	46.2
31-32	0.00136	97,255	133	97,189	4,402,535	45.3
32-33	0.00143	97,123	138	97,053	4,305,346	44.3
33-34	0.00150	96,984	146	96,911	4,208,293	43.4
34-35	0.00159	96,838	154	96,761	4,111,382	42.5
35-36	0.00168	96,684	163	96,603	4,014,621	41.5
36-37	0.00178	96,522	172	96,436	3,918,018	40.6
37-38	0.00189	96,350	182	96,259	3,821,582	39.7
38-39	0.00202	96,168	194	96,071	3,725,323	38.7
39-40	0.00217	95,974	208	95,870	3,629,252	37.8
40-41	0.00233	95,766	223	95,654	3,533,382	36.9
41-42	0.00250	95,543	239	95,423	3,437,728	36.0
42-43	0.00270	95,303	257	95,175	3,342,305	35.1
43-44	0.00292	95,046	277	94,908	3,247,131	34.2
44-45	0.00317	94,769	300	94,619	3,152,223	33.3
45-46	0.00345	94,469	326	94,306	3,057,604	32.4
46-47	0.00376	94,143	354	93,966	2,963,298	31.5
47-48	0.00409	93,789	383	93,597	2,869,332	30.6
48-49	0.00440	93,406	411	93,200	2,775,735	29.7
49-50	0.00472	92,994	439	92,775	2,682,535	28.9
50-51	0.00506	92,555	469	92,321	2,589,761	28.0
51-52	0.00545	92,086	502	91,835	2,497,440	27.1
52-53	0.00589	91,584	540	91,315	2,405,605	26.3
53-54	0.00643	91,045	585	90,752	2,314,290	25.4
54-55	0.00706	90,460	638	90,140	2,223,538	24.6
55-56	0.00780	89,821	701	89,471	2,133,398	23.8
56-57	0.00864	89,120	770	88,736	2,043,927	22.9
57-58	0.00953	88,351	842	87,930	1,955,191	22.1
58-59	0.01043	87,509	913	87,053	1,867,261	21.3
59-60	0.01137	86,596	985	86,104	1,780,208	20.6
60-61	0.01241	85,612	1,062	85,081	1,694,104	19.8
61-62	0.01360	84,549	1,150	83,974	1,609,024	19.0
62-63	0.01494	83,400	1,246	82,777	1,525,049	18.3
63-64	0.01643	82,154	1,350	81,479	1,442,273	17.6
64-65	0.01806	80,804	1,460	80,074	1,360,794	16.8
65-66	0.01977	79,344	1,568	78,560	1,280,720	16.1
66-67	0.02159	77,776	1,679	76,936	1,202,160	15.5

**Table 5. Life table for white males: United States, 1999—Con.**

Age	Proportion dying during age interval	Number living at beginning of age interval	Number dying during age interval	Stationary population in the age interval	Stationary population in this and all subsequent age intervals	Life expectancy at beginning of age interval
	$q_x$	$l_x$	$d_x$	$L_x$	$T_x$	$e_x$
67-68	0.02364	76,097	1,799	75,197	1,125,224	14.8
68-69	0.02598	74,298	1,930	73,333	1,050,027	14.1
69-70	0.02852	72,368	2,064	71,336	976,694	13.5
70-71	0.03112	70,303	2,188	69,209	905,359	12.9
71-72	0.03376	68,115	2,299	66,966	836,149	12.3
72-73	0.03660	65,816	2,409	64,612	769,184	11.7
73-74	0.03973	63,407	2,519	62,148	704,572	11.1
74-75	0.04319	60,888	2,630	59,573	642,424	10.6
75-76	0.04682	58,258	2,728	56,895	582,851	10.0
76-77	0.05062	55,531	2,811	54,125	525,957	9.5
77-78	0.05486	52,720	2,892	51,273	471,832	9.0
78-79	0.05982	49,827	2,981	48,337	420,558	8.4
79-80	0.06568	46,846	3,077	45,308	372,221	8.0
80-81	0.07270	43,769	3,182	42,178	326,913	7.5
81-82	0.08075	40,587	3,277	38,949	284,735	7.0
82-83	0.08953	37,310	3,340	35,640	245,786	6.6
83-84	0.09850	33,970	3,346	32,297	210,146	6.2
84-85	0.10763	30,624	3,296	28,976	177,850	5.8
85-86	0.11793	27,328	3,223	25,716	148,874	5.5
86-87	0.12890	24,105	3,107	22,551	123,158	5.1
87-88	0.14056	20,998	2,951	19,522	100,606	4.8
88-89	0.15290	18,047	2,759	16,667	81,084	4.5
89-90	0.16594	15,287	2,537	14,019	64,417	4.2
90-91	0.17965	12,751	2,291	11,605	50,398	4.0
91-92	0.19403	10,460	2,030	9,445	38,793	3.7
92-93	0.20907	8,430	1,763	7,549	29,348	3.5
93-94	0.22473	6,668	1,498	5,919	21,799	3.3
94-95	0.24099	5,169	1,246	4,547	15,880	3.1
95-96	0.25781	3,924	1,012	3,418	11,334	2.9
96-97	0.27514	2,912	801	2,511	7,916	2.7
97-98	0.29294	2,111	618	1,802	5,404	2.6
98-99	0.31114	1,493	464	1,260	3,603	2.4
99-100	0.32969	1,028	339	859	2,342	2.3
100+	1.00000	689	689	1,484	1,484	2.2

Table 6. Life table for white females: United States, 1999

Age	Proportion dying during age interval	Number living at beginning of age interval	Number dying during age interval	Stationary population in the age interval	Stationary population in this and all subsequent age intervals	Life expectancy at beginning of age interval
	$q_x$	$l_x$	$d_x$	$L_x$	$T_x$	$e_x$
0-1	0.00516	100,000	515	99,546	7,991,652	79.9
1-2	0.00044	99,485	44	99,463	7,892,106	79.3
2-3	0.00028	99,441	27	99,427	7,792,643	78.4
3-4	0.00022	99,414	21	99,403	7,693,215	77.4
4-5	0.00017	99,392	17	99,384	7,593,813	76.4
5-6	0.00016	99,376	16	99,368	7,494,429	75.4
6-7	0.00015	99,360	15	99,352	7,395,061	74.4
7-8	0.00014	99,345	14	99,338	7,295,708	73.4
8-9	0.00013	99,331	13	99,324	7,196,370	72.5
9-10	0.00012	99,318	12	99,312	7,097,046	71.5
10-11	0.00011	99,306	11	99,301	6,997,734	70.5
11-12	0.00011	99,295	11	99,289	6,898,434	69.5
12-13	0.00014	99,284	13	99,277	6,799,144	68.5
13-14	0.00019	99,270	18	99,261	6,699,867	67.5
14-15	0.00025	99,252	25	99,240	6,600,606	66.5
15-16	0.00033	99,227	32	99,211	6,501,366	65.5
16-17	0.00040	99,195	39	99,175	6,402,155	64.5
17-18	0.00044	99,155	44	99,134	6,302,980	63.6
18-19	0.00046	99,112	45	99,089	6,203,846	62.6
19-20	0.00045	99,067	44	99,044	6,104,757	61.6
20-21	0.00044	99,022	43	99,001	6,005,713	60.7
21-22	0.00043	98,979	42	98,958	5,906,712	59.7
22-23	0.00042	98,937	42	98,916	5,807,755	58.7
23-24	0.00043	98,895	42	98,874	5,708,839	57.7
24-25	0.00044	98,852	43	98,831	5,609,965	56.8
25-26	0.00045	98,809	45	98,786	5,511,135	55.8
26-27	0.00047	98,764	46	98,741	5,412,348	54.8
27-28	0.00049	98,718	48	98,694	5,313,607	53.8
28-29	0.00051	98,669	50	98,644	5,214,914	52.9
29-30	0.00054	98,619	53	98,593	5,116,270	51.9
30-31	0.00057	98,566	56	98,538	5,017,677	50.9
31-32	0.00060	98,510	59	98,480	4,919,139	49.9
32-33	0.00065	98,451	64	98,419	4,820,658	49.0
33-34	0.00071	98,386	70	98,351	4,722,240	48.0
34-35	0.00078	98,316	77	98,278	4,623,888	47.0
35-36	0.00085	98,240	84	98,198	4,525,610	46.1
36-37	0.00092	98,156	91	98,110	4,427,413	45.1
37-38	0.00100	98,065	98	98,016	4,329,302	44.2
38-39	0.00107	97,967	105	97,915	4,231,286	43.2
39-40	0.00116	97,862	113	97,806	4,133,371	42.2
40-41	0.00125	97,749	122	97,688	4,035,565	41.3
41-42	0.00135	97,627	131	97,561	3,937,877	40.3
42-43	0.00145	97,496	142	97,425	3,840,316	39.4
43-44	0.00157	97,354	153	97,277	3,742,891	38.5
44-45	0.00170	97,201	166	97,118	3,645,614	37.5
45-46	0.00185	97,035	180	96,946	3,548,495	36.6
46-47	0.00202	96,856	196	96,758	3,451,550	35.6
47-48	0.00221	96,660	213	96,554	3,354,792	34.7
48-49	0.00242	96,447	233	96,330	3,258,238	33.8
49-50	0.00265	96,214	255	96,086	3,161,908	32.9
50-51	0.00290	95,959	278	95,820	3,065,822	32.0
51-52	0.00318	95,681	304	95,529	2,970,002	31.0
52-53	0.00348	95,377	332	95,211	2,874,473	30.1
53-54	0.00382	95,045	363	94,863	2,779,263	29.2
54-55	0.00421	94,681	399	94,482	2,684,400	28.4
55-56	0.00467	94,282	441	94,062	2,589,918	27.5
56-57	0.00519	93,842	487	93,598	2,495,855	26.6
57-58	0.00575	93,355	537	93,086	2,402,257	25.7
58-59	0.00634	92,817	588	92,523	2,309,171	24.9
59-60	0.00695	92,229	641	91,909	2,216,648	24.0
60-61	0.00765	91,588	700	91,238	2,124,739	23.2
61-62	0.00845	90,888	768	90,504	2,033,501	22.4
62-63	0.00932	90,120	840	89,700	1,942,997	21.6
63-64	0.01025	89,281	915	88,823	1,853,297	20.8
64-65	0.01124	88,366	993	87,869	1,764,474	20.0
65-66	0.01230	87,372	1,074	86,835	1,676,605	19.2
66-67	0.01345	86,298	1,161	85,718	1,589,769	18.4

**Table 6. Life table for white females: United States, 1999—Con.**

Age	Proportion dying during age interval	Number living at beginning of age interval	Number dying during age interval	Stationary population in the age interval	Stationary population in this and all subsequent age intervals	Life expectancy at beginning of age interval
	$q_x$	$l_x$	$d_x$	$L_x$	$T_x$	$e_x$
67-68	0.01473	85,138	1,254	84,510	1,504,052	17.7
68-69	0.01616	83,883	1,356	83,206	1,419,541	16.9
69-70	0.01771	82,528	1,462	81,797	1,336,336	16.2
70-71	0.01930	81,066	1,564	80,284	1,254,539	15.5
71-72	0.02096	79,502	1,666	78,669	1,174,255	14.8
72-73	0.02287	77,836	1,780	76,946	1,095,586	14.1
73-74	0.02512	76,056	1,910	75,101	1,018,640	13.4
74-75	0.02771	74,146	2,054	73,118	943,540	12.7
75-76	0.03047	72,091	2,197	70,993	870,421	12.1
76-77	0.03339	69,895	2,334	68,728	799,428	11.4
77-78	0.03669	67,561	2,479	66,322	730,700	10.8
78-79	0.04054	65,082	2,638	63,763	664,379	10.2
79-80	0.04504	62,444	2,812	61,038	600,615	9.6
80-81	0.05012	59,632	2,989	58,137	539,577	9.1
81-82	0.05583	56,643	3,162	55,062	481,440	8.5
82-83	0.06244	53,481	3,340	51,811	426,378	8.0
83-84	0.07008	50,141	3,514	48,384	374,567	7.5
84-85	0.07872	46,627	3,671	44,792	326,183	7.0
85-86	0.08738	42,957	3,753	41,080	281,391	6.6
86-87	0.09674	39,203	3,793	37,307	240,311	6.1
87-88	0.10686	35,411	3,784	33,519	203,004	5.7
88-89	0.11774	31,627	3,724	29,765	169,485	5.4
89-90	0.12942	27,903	3,611	26,098	139,720	5.0
90-91	0.14191	24,292	3,447	22,568	113,623	4.7
91-92	0.15522	20,845	3,236	19,227	91,054	4.4
92-93	0.16938	17,609	2,983	16,118	71,827	4.1
93-94	0.18438	14,627	2,697	13,278	55,709	3.8
94-95	0.20021	11,930	2,389	10,736	42,431	3.6
95-96	0.21688	9,541	2,069	8,507	31,695	3.3
96-97	0.23437	7,472	1,751	6,596	23,189	3.1
97-98	0.25266	5,721	1,445	4,998	16,592	2.9
98-99	0.27171	4,275	1,162	3,695	11,594	2.7
99-100	0.29148	3,114	908	2,660	7,900	2.5
100+	1.00000	2,206	2,206	5,240	5,240	2.4



Table 7. Life table for the black population: United States, 1999

Age	Proportion dying during age interval	Number living at beginning of age interval	Number dying during age interval	Stationary population in the age interval	Stationary population in this and all subsequent age intervals	Life expectancy at beginning of age interval
	$q_x$	$l_x$	$d_x$	$L_x$	$T_x$	$e_x$
0-1	0.00635	100,000	1,456	98,720	7,140,985	71.4
1-2	0.00097	98,544	96	98,496	7,042,265	71.5
2-3	0.00059	98,448	58	98,419	6,943,769	70.5
3-4	0.00040	98,390	40	98,370	6,845,350	69.6
4-5	0.00037	98,351	37	98,332	6,746,980	68.6
5-6	0.00033	98,314	33	98,297	6,648,648	67.6
6-7	0.00031	98,281	30	98,266	6,550,350	66.7
7-8	0.00028	98,251	28	98,237	6,452,084	65.7
8-9	0.00026	98,223	25	98,211	6,353,847	64.7
9-10	0.00022	98,198	22	98,187	6,255,637	63.7
10-11	0.00020	98,176	20	98,166	6,157,450	62.7
11-12	0.00020	98,157	19	98,147	6,059,283	61.7
12-13	0.00024	98,137	24	98,125	5,961,136	60.7
13-14	0.00035	98,113	34	98,097	5,863,011	59.8
14-15	0.00049	98,080	48	98,056	5,764,914	58.8
15-16	0.00065	98,031	64	98,000	5,666,859	57.8
16-17	0.00080	97,968	79	97,929	5,568,859	56.8
17-18	0.00095	97,889	93	97,843	5,470,931	55.9
18-19	0.00109	97,796	106	97,743	5,373,088	54.9
19-20	0.00122	97,690	119	97,631	5,275,344	54.0
20-21	0.00136	97,572	133	97,505	5,177,713	53.1
21-22	0.00151	97,439	147	97,365	5,080,208	52.1
22-23	0.00162	97,292	158	97,213	4,982,843	51.2
23-24	0.00167	97,134	162	97,053	4,885,630	50.3
24-25	0.00167	96,972	162	96,891	4,788,577	49.4
25-26	0.00165	96,810	160	96,730	4,691,687	48.5
26-27	0.00166	96,650	160	96,570	4,594,957	47.5
27-28	0.00167	96,490	162	96,409	4,498,387	46.6
28-29	0.00172	96,328	166	96,245	4,401,978	45.7
29-30	0.00180	96,162	173	96,076	4,305,733	44.8
30-31	0.00188	95,989	181	95,899	4,209,657	43.9
31-32	0.00197	95,809	189	95,714	4,113,758	42.9
32-33	0.00209	95,620	200	95,520	4,018,043	42.0
33-34	0.00223	95,420	213	95,313	3,922,524	41.1
34-35	0.00239	95,207	228	95,093	3,827,210	40.2
35-36	0.00256	94,979	243	94,858	3,732,118	39.3
36-37	0.00273	94,736	259	94,607	3,637,260	38.4
37-38	0.00294	94,477	278	94,339	3,542,653	37.5
38-39	0.00319	94,200	300	94,050	3,448,315	36.6
39-40	0.00348	93,899	327	93,736	3,354,265	35.7
40-41	0.00379	93,573	355	93,395	3,260,529	34.8
41-42	0.00412	93,218	384	93,026	3,167,134	34.0
42-43	0.00447	92,834	415	92,626	3,074,108	33.1
43-44	0.00487	92,419	450	92,194	2,981,481	32.3
44-45	0.00531	91,969	488	91,725	2,889,288	31.4
45-46	0.00581	91,481	531	91,215	2,797,563	30.6
46-47	0.00635	90,949	577	90,661	2,706,348	29.8
47-48	0.00689	90,372	622	90,061	2,615,687	28.9
48-49	0.00740	89,750	664	89,418	2,525,626	28.1
49-50	0.00789	89,086	703	88,735	2,436,208	27.4
50-51	0.00842	88,383	744	88,011	2,347,473	26.6
51-52	0.00903	87,640	791	87,244	2,259,462	25.8
52-53	0.00971	86,849	843	86,427	2,172,218	25.0
53-54	0.01047	86,006	900	85,556	2,085,791	24.3
54-55	0.01130	85,106	962	84,625	2,000,235	23.5
55-56	0.01221	84,144	1,028	83,630	1,915,610	22.8
56-57	0.01320	83,116	1,097	82,568	1,831,980	22.0
57-58	0.01422	82,019	1,166	81,436	1,749,412	21.3
58-59	0.01526	80,853	1,234	80,236	1,667,976	20.6
59-60	0.01632	79,619	1,299	78,970	1,587,740	19.9
60-61	0.01744	78,320	1,366	77,637	1,508,770	19.3
61-62	0.01863	76,954	1,434	76,237	1,431,133	18.6
62-63	0.01986	75,521	1,500	74,771	1,354,896	17.9
63-64	0.02110	74,021	1,562	73,240	1,280,125	17.3
64-65	0.02236	72,459	1,620	71,649	1,206,885	16.7
65-66	0.02357	70,839	1,670	70,004	1,135,236	16.0
66-67	0.02486	69,169	1,719	68,309	1,065,233	15.4

**Table 7. Life table for the black population: United States, 1999—Con.**

Age	Proportion dying during age interval	Number living at beginning of age interval	Number dying during age interval	Stationary population in the age interval	Stationary population in this and all subsequent age intervals	Life expectancy at beginning of age interval
	$q_x$	$l_x$	$d_x$	$L_x$	$T_x$	$e_x$
67-68	0.02649	67,449	1,787	66,556	996,924	14.8
68-69	0.02866	65,662	1,882	64,721	930,368	14.2
69-70	0.03136	63,780	2,000	62,780	865,646	13.6
70-71	0.03437	61,781	2,124	60,719	802,866	13.0
71-72	0.03750	59,657	2,237	58,538	742,147	12.4
72-73	0.04075	57,419	2,340	56,250	683,609	11.9
73-74	0.04396	55,080	2,422	53,869	627,359	11.4
74-75	0.04713	52,658	2,482	51,417	573,491	10.9
75-76	0.05048	50,176	2,533	48,910	522,074	10.4
76-77	0.05406	47,644	2,576	46,356	473,164	9.9
77-78	0.05773	45,068	2,602	43,767	426,808	9.5
78-79	0.06157	42,466	2,615	41,159	383,041	9.0
79-80	0.06580	39,852	2,622	38,540	341,882	8.6
80-81	0.07051	37,229	2,625	35,917	303,342	8.2
81-82	0.07593	34,605	2,628	33,291	267,425	7.7
82-83	0.08242	31,977	2,636	30,659	234,134	7.3
83-84	0.09002	29,341	2,641	28,021	203,475	6.9
84-85	0.09846	26,700	2,629	25,386	175,454	6.6
85-86	0.10579	24,071	2,547	22,798	150,068	6.2
86-87	0.11356	21,525	2,444	20,303	127,270	5.9
87-88	0.12176	19,080	2,323	17,919	106,968	5.6
88-89	0.13041	16,757	2,185	15,665	89,049	5.3
89-90	0.13953	14,572	2,033	13,555	73,384	5.0
90-91	0.14912	12,539	1,870	11,604	59,829	4.8
91-92	0.15921	10,669	1,699	9,820	48,225	4.5
92-93	0.16979	8,970	1,523	8,209	38,405	4.3
93-94	0.18089	7,447	1,347	6,774	30,196	4.1
94-95	0.19251	6,100	1,174	5,513	23,423	3.8
95-96	0.20465	4,926	1,008	4,422	17,910	3.6
96-97	0.21732	3,918	851	3,492	13,488	3.4
97-98	0.23054	3,066	707	2,713	9,996	3.3
98-99	0.24429	2,359	576	2,071	7,283	3.1
99-100	0.25859	1,783	461	1,553	5,212	2.9
100+	1.00000	1,322	1,322	3,659	3,659	2.8

Table 8. Life table for black males: United States, 1999

Age	Proportion dying during age interval	Number living at beginning of age interval	Number dying during age interval	Stationary population in the age interval	Stationary population in this and all subsequent age intervals	Life expectancy at beginning of age interval
	$q_x$	$l_x$	$d_x$	$L_x$	$T_x$	$e_x$
0-1	0.01592	100,000	1,592	98,601	6,779,735	67.8
1-2	0.00111	98,408	109	98,353	6,681,134	67.9
2-3	0.00065	98,299	64	98,267	6,582,781	67.0
3-4	0.00042	98,235	41	98,214	6,484,515	66.0
4-5	0.00044	98,193	43	98,172	6,386,301	65.0
5-6	0.00038	98,150	37	98,132	6,288,129	64.1
6-7	0.00036	98,113	35	98,095	6,189,997	63.1
7-8	0.00034	98,078	33	98,061	6,091,902	62.1
8-9	0.00030	98,045	30	98,030	5,993,840	61.1
9-10	0.00026	98,015	25	98,003	5,895,810	60.2
10-11	0.00022	97,991	21	97,980	5,797,807	59.2
11-12	0.00021	97,969	21	97,959	5,699,827	58.2
12-13	0.00028	97,949	28	97,935	5,601,868	57.2
13-14	0.00045	97,921	44	97,899	5,503,933	56.2
14-15	0.00068	97,877	67	97,844	5,406,034	55.2
15-16	0.00094	97,810	92	97,764	5,308,190	54.3
16-17	0.00118	97,718	115	97,661	5,210,426	53.3
17-18	0.00141	97,603	138	97,534	5,112,765	52.4
18-19	0.00163	97,465	159	97,386	5,015,231	51.5
19-20	0.00184	97,307	179	97,217	4,917,845	50.5
20-21	0.00208	97,127	202	97,026	4,820,628	49.6
21-22	0.00233	96,925	225	96,812	4,723,601	48.7
22-23	0.00250	96,700	242	96,579	4,626,789	47.9
23-24	0.00256	96,458	247	96,335	4,530,210	47.0
24-25	0.00253	96,212	243	96,090	4,433,875	46.1
25-26	0.00246	95,968	236	95,850	4,337,785	45.2
26-27	0.00242	95,732	232	95,616	4,241,935	44.3
27-28	0.00241	95,500	230	95,385	4,146,319	43.4
28-29	0.00245	95,270	234	95,153	4,050,933	42.5
29-30	0.00255	95,036	242	94,915	3,955,780	41.6
30-31	0.00266	94,794	252	94,669	3,860,865	40.7
31-32	0.00277	94,543	261	94,412	3,766,196	39.8
32-33	0.00289	94,281	272	94,145	3,671,784	38.9
33-34	0.00302	94,009	284	93,867	3,577,639	38.1
34-35	0.00316	93,725	296	93,577	3,483,772	37.2
35-36	0.00331	93,429	309	93,274	3,390,195	36.3
36-37	0.00348	93,119	324	92,957	3,296,921	35.4
37-38	0.00371	92,795	344	92,623	3,203,964	34.5
38-39	0.00401	92,450	371	92,265	3,111,342	33.7
39-40	0.00438	92,080	404	91,878	3,019,077	32.8
40-41	0.00478	91,676	438	91,457	2,927,199	31.9
41-42	0.00519	91,238	474	91,001	2,835,742	31.1
42-43	0.00567	90,764	515	90,507	2,744,741	30.2
43-44	0.00624	90,249	563	89,968	2,654,234	29.4
44-45	0.00689	89,686	618	89,377	2,564,267	28.6
45-46	0.00765	89,068	682	88,727	2,474,890	27.8
46-47	0.00847	88,386	749	88,012	2,386,162	27.0
47-48	0.00927	87,637	812	87,231	2,298,150	26.2
48-49	0.00998	86,825	867	86,392	2,210,919	25.5
49-50	0.01063	85,958	914	85,502	2,124,527	24.7
50-51	0.01131	85,045	962	84,564	2,039,026	24.0
51-52	0.01211	84,083	1,018	83,574	1,954,462	23.2
52-53	0.01300	83,065	1,080	82,525	1,870,888	22.5
53-54	0.01401	81,985	1,148	81,411	1,788,363	21.8
54-55	0.01512	80,837	1,222	80,226	1,706,953	21.1
55-56	0.01633	79,614	1,300	78,964	1,626,727	20.4
56-57	0.01762	78,314	1,380	77,624	1,547,763	19.8
57-58	0.01898	76,934	1,460	76,204	1,470,139	19.1
58-59	0.02039	75,474	1,539	74,704	1,393,935	18.5
59-60	0.02183	73,935	1,614	73,128	1,319,231	17.8
60-61	0.02336	72,321	1,689	71,476	1,246,103	17.2
61-62	0.02496	70,632	1,763	69,750	1,174,626	16.6
62-63	0.02653	68,869	1,827	67,955	1,104,876	16.0
63-64	0.02798	67,042	1,876	66,104	1,036,921	15.5
64-65	0.02933	65,166	1,911	64,211	970,816	14.9
65-66	0.03054	63,255	1,932	62,289	906,606	14.3
66-67	0.03183	61,323	1,952	60,347	844,317	13.8

**Table 8. Life table for black males: United States, 1999—Con.**

Age	Proportion dying during age interval	Number living at beginning of age interval	Number dying during age interval	Stationary population in the age interval	Stationary population in this and all subsequent age intervals	Life expectancy at beginning of age interval
	$q_x$	$l_x$	$d_x$	$L_x$	$T_x$	$e_x$
67-68	0.03355	59,372	1,992	58,376	783,969	13.2
68-69	0.03600	57,380	2,066	56,347	725,594	12.7
69-70	0.03916	55,314	2,166	54,231	669,247	12.1
70-71	0.04274	53,148	2,272	52,012	615,016	11.6
71-72	0.04644	50,876	2,363	49,695	563,004	11.1
72-73	0.05034	48,514	2,442	47,293	513,309	10.6
73-74	0.05423	46,072	2,498	44,822	466,016	10.1
74-75	0.05809	43,573	2,531	42,308	421,194	9.7
75-76	0.06224	41,042	2,555	39,765	378,886	9.2
76-77	0.06672	38,487	2,568	37,203	339,121	8.8
77-78	0.07119	35,919	2,557	34,641	301,918	8.4
78-79	0.07565	33,362	2,524	32,101	267,277	8.0
79-80	0.08038	30,839	2,479	29,599	235,176	7.6
80-81	0.08572	28,360	2,431	27,144	205,577	7.3
81-82	0.09206	25,929	2,387	24,735	178,433	6.9
82-83	0.09958	23,542	2,344	22,370	153,697	6.5
83-84	0.10809	21,198	2,291	20,052	131,327	6.2
84-85	0.11713	18,906	2,215	17,799	111,275	5.9
85-86	0.12513	16,692	2,089	15,648	93,476	5.6
86-87	0.13346	14,603	1,949	13,629	77,828	5.3
87-88	0.14212	12,654	1,798	11,755	64,200	5.1
88-89	0.15110	10,856	1,640	10,036	52,445	4.8
89-90	0.16040	9,215	1,478	8,476	42,409	4.6
90-91	0.16999	7,737	1,315	7,080	33,933	4.4
91-92	0.17987	6,422	1,155	5,844	26,853	4.2
92-93	0.19003	5,267	1,001	4,766	21,009	4.0
93-94	0.20044	4,266	855	3,838	16,242	3.8
94-95	0.21108	3,411	720	3,051	12,404	3.6
95-96	0.22194	2,691	597	2,392	9,353	3.5
96-97	0.23298	2,094	488	1,850	6,960	3.3
97-98	0.24418	1,606	392	1,410	5,111	3.2
98-99	0.25552	1,214	310	1,059	3,701	3.1
99-100	0.26695	904	241	783	2,642	2.9
100+	1.00000	662	662	1,859	1,859	2.8

Table 9. Life table for black females: United States, 1999

Age	Proportion dying during age interval	Number living at beginning of age interval	Number dying during age interval	Stationary population in the age interval	Stationary population in this and all subsequent age intervals	Life expectancy at beginning of age interval
	$q_x$	$l_x$	$d_x$	$L_x$	$T_x$	$e_x$
0-1	0.01316	100,000	1,316	98,843	7,473,945	74.7
1-2	0.00083	98,684	82	98,643	7,375,101	74.7
2-3	0.00053	98,602	52	98,576	7,276,458	73.8
3-4	0.00038	98,551	38	98,532	7,177,882	72.8
4-5	0.00031	98,513	30	98,498	7,079,350	71.9
5-6	0.00029	98,483	28	98,468	6,980,852	70.9
6-7	0.00025	98,454	25	98,442	6,882,384	69.9
7-8	0.00023	98,429	22	98,418	6,783,942	68.9
8-9	0.00021	98,407	20	98,397	6,685,524	67.9
9-10	0.00019	98,387	19	98,377	6,587,127	67.0
10-11	0.00018	98,368	18	98,359	6,488,750	66.0
11-12	0.00018	98,350	18	98,341	6,390,391	65.0
12-13	0.00020	98,332	20	98,322	6,292,051	64.0
13-14	0.00024	98,312	23	98,300	6,193,729	63.0
14-15	0.00029	98,288	28	98,274	6,095,429	62.0
15-16	0.00035	98,260	34	98,243	5,997,154	61.0
16-17	0.00041	98,226	40	98,206	5,898,911	60.1
17-18	0.00047	98,186	46	98,163	5,800,706	59.1
18-19	0.00052	98,140	51	98,114	5,702,543	58.1
19-20	0.00058	98,089	56	98,061	5,604,428	57.1
20-21	0.00064	98,032	62	98,001	5,506,368	56.2
21-22	0.00070	97,970	69	97,935	5,408,367	55.2
22-23	0.00076	97,901	75	97,864	5,310,431	54.2
23-24	0.00081	97,826	79	97,786	5,212,568	53.3
24-25	0.00085	97,747	83	97,705	5,114,781	52.3
25-26	0.00090	97,663	87	97,620	5,017,076	51.4
26-27	0.00095	97,576	92	97,530	4,919,457	50.4
27-28	0.00100	97,484	98	97,435	4,821,927	49.5
28-29	0.00106	97,386	103	97,334	4,724,492	48.5
29-30	0.00112	97,283	109	97,228	4,627,158	47.6
30-31	0.00119	97,173	116	97,116	4,529,930	46.6
31-32	0.00127	97,058	124	96,996	4,432,814	45.7
32-33	0.00139	96,934	134	96,867	4,335,818	44.7
33-34	0.00154	96,800	149	96,725	4,238,951	43.8
34-35	0.00171	96,651	165	96,568	4,142,226	42.9
35-36	0.00189	96,486	182	96,395	4,045,657	41.9
36-37	0.00206	96,304	199	96,204	3,949,263	41.0
37-38	0.00225	96,105	216	95,997	3,853,058	40.1
38-39	0.00246	95,889	236	95,771	3,757,062	39.2
39-40	0.00268	95,653	256	95,525	3,661,291	38.3
40-41	0.00292	95,397	278	95,258	3,565,766	37.4
41-42	0.00316	95,119	301	94,968	3,470,508	36.5
42-43	0.00341	94,818	323	94,656	3,375,540	35.6
43-44	0.00366	94,495	346	94,322	3,280,884	34.7
44-45	0.00393	94,149	370	93,964	3,186,562	33.9
45-46	0.00422	93,779	395	93,581	3,092,598	33.0
46-47	0.00454	93,383	424	93,172	2,999,017	32.1
47-48	0.00488	92,960	453	92,733	2,905,845	31.3
48-49	0.00523	92,507	484	92,265	2,813,112	30.4
49-50	0.00560	92,023	516	91,765	2,720,847	29.6
50-51	0.00602	91,507	551	91,232	2,629,082	28.7
51-52	0.00649	90,957	590	90,661	2,537,850	27.9
52-53	0.00702	90,366	634	90,049	2,447,189	27.1
53-54	0.00760	89,732	682	89,391	2,357,140	26.3
54-55	0.00823	89,050	733	88,684	2,267,748	25.5
55-56	0.00894	88,317	789	87,923	2,179,065	24.7
56-57	0.00971	87,528	850	87,103	2,091,142	23.9
57-58	0.01050	86,678	910	86,223	2,004,039	23.1
58-59	0.01130	85,768	969	85,284	1,917,816	22.4
59-60	0.01210	84,799	1,026	84,286	1,832,532	21.6
60-61	0.01296	83,773	1,085	83,230	1,748,246	20.9
61-62	0.01389	82,688	1,149	82,113	1,665,016	20.1
62-63	0.01490	81,539	1,215	80,932	1,582,903	19.4
63-64	0.01599	80,324	1,284	79,682	1,501,971	18.7
64-65	0.01716	79,040	1,356	78,362	1,422,289	18.0
65-66	0.01833	77,684	1,424	76,972	1,343,926	17.3
66-67	0.01959	76,260	1,494	75,513	1,266,954	16.6



**Table 9. Life table for black females: United States, 1999—Con.**

Age	Proportion dying during age interval	Number living at beginning of age interval	Number dying during age interval	Stationary population in the age interval	Stationary population in this and all subsequent age intervals	Life expectancy at beginning of age interval
	$q_x$	$l_x$	$d_x$	$L_x$	$T_x$	$e_x$
67-68	0.02115	74,766	1,581	73,975	1,191,441	15.9
68-69	0.02314	73,185	1,694	72,338	1,117,466	15.3
69-70	0.02555	71,491	1,827	70,578	1,045,128	14.6
70-71	0.02825	69,664	1,968	68,681	974,550	14.0
71-72	0.03105	67,697	2,102	66,646	905,869	13.4
72-73	0.03394	65,595	2,226	64,481	839,224	12.8
73-74	0.03679	63,368	2,331	62,203	774,742	12.2
74-75	0.03960	61,037	2,417	59,828	712,540	11.7
75-76	0.04253	58,620	2,493	57,373	652,711	11.1
76-77	0.04568	56,127	2,564	54,845	595,338	10.6
77-78	0.04903	53,563	2,626	52,250	540,493	10.1
78-79	0.05271	50,937	2,685	49,594	488,244	9.6
79-80	0.05691	48,252	2,746	46,879	438,649	9.1
80-81	0.06159	45,506	2,803	44,105	391,771	8.6
81-82	0.06691	42,703	2,857	41,275	347,666	8.1
82-83	0.07324	39,846	2,918	38,387	306,391	7.7
83-84	0.08069	36,928	2,980	35,438	268,005	7.3
84-85	0.08906	33,948	3,024	32,436	232,567	6.9
85-86	0.09673	30,925	2,991	29,429	200,130	6.5
86-87	0.10490	27,933	2,930	26,468	170,701	6.1
87-88	0.11359	25,003	2,840	23,583	144,233	5.8
88-89	0.12281	22,163	2,722	20,802	120,650	5.4
89-90	0.13258	19,441	2,578	18,152	99,848	5.1
90-91	0.14291	16,864	2,410	15,659	81,695	4.8
91-92	0.15382	14,454	2,223	13,342	66,036	4.6
92-93	0.16530	12,230	2,022	11,220	52,694	4.3
93-94	0.17738	10,209	1,811	9,303	41,475	4.1
94-95	0.19005	8,398	1,596	7,600	32,171	3.8
95-96	0.20332	6,802	1,383	6,110	24,572	3.6
96-97	0.21719	5,419	1,177	4,831	18,461	3.4
97-98	0.23165	4,242	983	3,751	13,631	3.2
98-99	0.24670	3,259	804	2,857	9,880	3.0
99-100	0.26234	2,455	644	2,133	7,022	2.9
100+	1.00000	1,811	1,811	4,889	4,889	2.7

**Table 10. Survivorship by age, race, and sex: Death-registration States, 1900–1902 to 1919–21, and United States, 1929–31 to 1999**

[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<sub>x</sub></i> )										
	1999	1989–91	1979–81	1969–71	1959–61	1949–51	1939–41	1929–31	1919–21	1909–11	1900–1902
<b>All races</b>											
0	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000
1	99,294	99,064	98,740	97,998	97,407	97,024	95,290	94,028	92,515	88,538	87,552
5	99,157	98,877	98,495	97,668	96,998	96,482	94,220	91,978	83,389	83,887	81,804
10	99,070	98,766	98,347	97,460	96,765	96,177	93,710	91,106	88,129	82,458	80,052
15	98,966	98,635	98,196	97,261	96,551	95,885	93,235	90,385	87,144	81,506	78,963
20	98,621	98,215	97,741	96,716	96,111	95,366	92,435	89,089	85,441	80,074	77,239
25	98,160	97,671	97,110	96,000	95,517	94,676	91,335	87,269	83,146	78,046	74,768
30	97,684	97,070	96,477	95,307	94,905	93,919	90,078	85,302	80,642	75,779	72,043
35	97,109	96,322	95,808	94,482	94,144	92,976	88,573	83,118	77,961	73,127	69,078
40	96,321	95,373	94,926	93,322	93,064	91,648	86,650	80,557	75,114	70,042	65,890
45	95,190	94,154	93,599	91,587	91,378	89,634	84,069	77,343	72,036	66,561	62,436
50	93,521	92,370	91,526	88,972	88,756	86,591	80,487	73,321	68,429	62,460	58,514
55	91,123	89,658	88,348	85,110	84,711	82,176	75,557	68,182	63,947	57,555	53,852
60	87,453	85,537	83,726	79,529	79,067	75,921	68,924	61,563	58,079	51,138	47,946
65	82,020	79,519	77,107	71,933	71,147	67,555	60,366	53,195	50,560	43,194	40,911
70	74,284	71,357	68,248	61,984	60,857	56,987	49,655	42,768	41,090	33,816	32,390
75	63,799	60,449	56,799	49,705	48,170	43,903	36,735	30,789	29,729	23,552	22,960
80	50,526	47,084	43,180	35,285	33,576	29,313	22,883	18,580	18,298	13,712	13,529
85	34,467	31,770	27,960	20,908	18,542	15,785	11,073	8,542	8,683	6,001	6,053
90	18,445	17,046	14,154	9,297	7,080	6,144	3,796	2,998	2,941	1,868	1,867
95	7,021	6,282	5,043	2,786	1,524	1,511	857	636	646	361	344
100	1,695	1,424	1,150	542	183	199	123	62	67	40	31
<b>Male</b>											
0	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000
1	99,228	98,961	98,607	97,755	97,087	96,661	94,762	93,440	91,745	87,505	86,426
5	99,075	98,754	98,333	97,395	96,643	96,077	93,624	91,294	88,505	82,718	80,548
10	98,980	98,627	98,160	97,151	96,375	95,726	93,054	90,346	87,184	81,249	78,775
15	98,855	98,464	97,972	96,904	96,107	95,366	92,508	89,561	86,156	80,261	77,681
20	98,379	97,854	97,316	96,126	95,491	94,695	91,617	88,220	84,440	78,792	75,984
25	97,704	97,049	96,361	95,040	94,631	93,791	90,385	86,359	82,252	76,675	73,472
30	97,030	96,166	95,430	94,072	93,826	92,861	89,009	84,346	79,890	74,378	70,747
35	96,253	95,091	94,501	92,997	92,889	91,760	87,371	82,075	77,514	71,614	67,752
40	95,244	93,761	93,345	91,541	91,572	90,207	85,246	79,357	74,432	68,297	64,447
45	93,808	92,139	91,649	89,369	89,492	87,819	82,336	75,882	71,244	64,518	60,849
50	91,683	89,865	89,007	86,070	86,199	84,158	78,254	71,518	67,553	60,118	56,736
55	88,710	86,492	84,936	81,139	81,039	78,781	72,627	65,981	62,965	54,970	51,939
60	84,232	81,378	79,012	73,958	73,887	71,246	65,142	58,909	56,917	48,343	45,895
65	77,730	73,971	70,646	64,318	64,177	61,566	55,776	50,154	49,218	40,264	38,736
70	68,632	64,107	59,681	52,296	52,244	49,950	44,588	39,516	39,668	31,023	30,217
75	56,651	51,385	46,272	38,797	38,950	36,756	31,864	27,718	28,316	21,213	21,076
80	42,406	36,749	31,810	24,921	25,300	25,237	18,995	16,172	17,128	11,942	12,084
85	26,487	21,815	18,020	13,168	12,845	11,750	8,693	7,107	7,920	5,059	5,179
90	12,453	9,878	7,732	5,107	4,609	4,197	2,787	2,283	2,527	1,502	1,508
95	3,963	2,927	2,279	1,326	970	955	586	451	556	289	262
100	770	529	423	222	117	121	78	40	62	33	22
<b>Female</b>											
0	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000
1	99,364	99,172	98,880	98,254	97,744	97,406	95,848	94,728	93,383	89,623	88,733
5	99,242	99,006	98,666	97,955	97,371	96,908	94,848	92,789	90,380	85,117	83,119
10	99,165	98,911	98,544	97,784	97,173	96,652	94,402	92,008	89,186	83,728	81,390
15	99,082	98,814	98,432	97,636	97,016	96,431	94,000	91,364	88,247	82,813	80,307
20	98,876	98,597	98,184	97,331	96,756	96,066	93,293	90,116	86,556	81,418	78,555
25	98,639	98,325	97,883	96,966	96,418	95,583	92,322	88,328	84,135	79,481	76,119
30	98,361	98,013	97,551	96,544	95,996	94,933	91,182	86,398	81,463	77,247	73,394
35	97,987	97,596	97,140	95,966	95,409	94,206	89,810	84,304	78,713	74,719	70,463
40	97,422	97,033	96,531	95,097	94,560	93,101	88,092	81,927	75,907	71,894	67,407
45	96,599	96,222	95,570	93,793	93,265	91,469	85,856	79,041	72,954	68,755	64,121
50	95,384	94,932	94,060	91,852	91,327	89,075	82,828	75,456	69,452	65,001	60,415
55	93,554	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 1999—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<sub>x</sub></i> )										
	1999	1989–91	1979–81	1969–71	1959–61	1949–51	1939–41	1929–31	1919–21	1909–11	1900–1902
<b>Female—Con.</b>											
60	90,677	89,742	88,414	85,139	84,430	80,890	73,093	64,795	59,438	54,226	50,155
65	86,283	85,075	83,520	79,698	78,462	74,119	65,523	56,924	52,126	46,438	43,246
70	79,843	78,522	76,720	71,955	70,100	64,873	55,449	46,774	42,741	36,916	34,721
75	70,741	69,287	67,186	61,107	58,394	52,111	42,425	34,600	31,344	26,155	24,994
80	58,317	56,986	54,372	46,445	43,063	36,486	27,524	21,578	19,613	15,682	15,129
85	41,923	41,115	37,772	29,538	25,269	20,668	13,972	10,322	9,515	7,051	7,063
90	23,749	23,666	20,578	14,160	10,056	8,548	5,044	3,656	3,314	2,269	2,306
95	9,553	9,346	7,862	4,565	2,193	2,207	1,195	807	728	441	452
100	2,433	2,251	1,927	954	264	298	179	82	72	49	43
<b>White</b>											
0	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000
1	99,423	99,233	98,898	98,224	97,714	97,278	95,685	94,392	92,780	88,709	87,762
5	99,301	99,068	98,675	97,930	97,353	96,790	94,713	92,466	89,771	84,147	82,071
10	99,224	98,966	98,536	97,733	97,131	96,502	94,228	91,627	88,536	82,734	80,371
15	99,126	98,843	98,391	97,546	96,928	96,228	93,792	90,982	87,633	81,816	79,344
20	98,798	98,455	97,939	97,036	96,508	95,763	93,117	89,933	86,159	80,407	77,998
25	98,386	97,972	97,340	96,406	95,965	95,169	92,213	88,454	84,106	78,392	75,202
30	97,961	97,451	96,774	95,824	95,440	94,536	91,185	86,836	81,787	76,167	72,317
35	97,446	96,810	96,192	95,152	94,798	93,750	89,941	85,004	79,277	73,568	69,522
40	96,739	96,000	95,427	94,190	93,870	92,616	88,318	82,803	76,642	70,525	66,082
45	95,730	94,932	94,257	92,681	92,374	90,847	86,069	79,989	73,705	67,090	62,920
50	94,231	93,326	92,384	90,306	89,958	88,110	82,833	76,340	70,250	62,994	58,647
55	92,024	90,833	89,427	86,688	86,173	84,027	78,218	71,551	65,875	58,163	54,450
60	88,574	86,943	85,031	81,323	80,811	78,066	71,785	65,100	60,013	51,822	48,288
65	83,338	81,123	78,585	73,889	73,102	69,850	63,201	56,655	52,411	43,904	41,505
70	75,692	73,106	69,801	63,991	62,834	59,189	52,165	45,841	42,736	34,484	32,902
75	65,240	62,175	58,299	51,586	49,895	45,688	38,610	33,406	31,086	24,151	23,356
80	51,840	48,583	44,409	36,659	34,697	30,438	23,976	20,260	19,149	14,100	13,794
85	35,398	32,850	28,768	21,578	19,017	16,239	11,483	9,325	9,078	6,178	6,192
90	18,875	17,571	14,471	9,433	7,149	6,201	3,819	3,066	2,991	1,918	1,919
95	7,004	6,416	5,067	2,743	1,521	1,500	801	636	643	364	355
100	1,543	1,423	1,105	487	183	196	98	58	62	38	31
<b>White male</b>											
0	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000
1	99,365	99,138	98,769	97,994	97,408	96,931	95,188	93,768	91,975	87,674	86,655
5	99,230	98,956	98,519	97,671	97,015	96,403	94,150	91,738	88,842	82,972	80,864
10	99,146	98,839	98,357	97,441	96,758	96,069	93,601	90,810	87,530	81,519	79,109
15	99,029	98,686	98,176	97,208	96,503	95,728	93,089	90,074	86,546	80,549	78,037
20	98,587	98,134	97,525	96,480	95,908	95,104	92,293	88,904	84,997	79,116	76,376
25	97,987	97,430	96,616	95,524	95,106	94,294	91,241	87,371	83,061	77,047	73,907
30	97,383	96,662	95,783	94,716	94,401	93,489	90,092	85,707	80,888	74,810	71,219
35	96,684	95,731	94,980	93,843	93,589	92,543	88,713	83,812	78,441	72,108	68,245
40	95,766	94,588	93,984	92,631	92,427	91,173	86,880	81,457	75,733	68,848	64,954
45	94,469	93,167	92,494	90,725	90,533	89,002	84,285	78,345	72,696	65,115	61,369
50	92,555	91,124	90,105	87,690	87,424	85,601	80,521	74,288	69,107	60,741	57,274
55	89,821	88,022	86,303	83,001	82,463	80,496	75,156	68,981	64,574	55,622	52,491
60	85,612	83,182	80,625	75,969	75,485	73,172	67,787	61,933	58,498	48,987	46,452
65	79,344	75,962	72,393	66,343	65,834	63,541	58,305	52,964	50,663	40,862	39,245
70	70,303	66,181	61,384	54,138	53,825	51,735	46,739	41,880	40,873	31,527	30,640
75	58,258	53,308	47,712	40,324	40,207	38,104	33,404	29,471	29,205	21,585	21,387
80	43,769	38,245	32,788	25,885	25,993	24,005	19,860	17,221	17,655	12,160	12,266
85	27,328	22,720	18,538	13,527	13,065	12,015	9,013	7,572	8,154	5,145	5,252
90	12,751	10,214	7,891	5,125	4,600	4,209	2,812	2,356	2,568	1,523	1,523
95	3,924	2,988	2,279	1,274	956	942	552	461	556	289	263
100	689	523	404	189	115	118	65	40	61	31	22

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 1999—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>I<sub>x</sub></i> )											
	1999	1989–91	1979–81	1969–71	1959–61	1949–51	1939–41	1929–31	1919–21	1909–11	1900–1902	
<b>White female</b>												
0	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000
1	99,485	99,333	99,035	98,468	98,036	97,645	96,211	95,037	93,608	89,774	88,939	88,939
5	99,376	99,187	98,841	98,203	97,709	97,199	95,309	93,216	90,721	85,349	83,426	83,426
10	99,306	99,099	98,725	98,042	97,525	96,960	94,890	92,466	89,564	83,979	81,723	81,723
15	99,227	99,007	98,618	97,902	97,375	96,756	94,534	91,894	88,712	83,093	80,680	80,680
20	99,022	98,795	98,374	97,618	97,135	96,454	93,984	90,939	87,281	81,750	78,978	78,978
25	98,809	98,547	98,093	97,299	96,844	96,072	93,228	89,524	85,163	79,865	76,588	76,588
30	98,566	98,283	97,802	96,945	96,499	95,605	92,320	87,972	82,740	77,676	73,887	73,887
35	98,240	97,939	97,445	96,474	96,026	94,977	91,211	86,248	80,206	75,200	70,971	70,971
40	97,749	97,472	96,913	95,762	95,326	94,080	89,805	84,256	77,624	72,425	67,935	67,935
45	97,035	96,768	96,065	94,649	94,228	92,725	87,920	81,780	74,871	69,341	64,677	64,677
50	95,959	95,608	94,710	92,924	92,522	90,685	85,267	78,572	71,547	65,629	61,005	61,005
55	94,282	93,730	92,594	90,383	89,967	87,699	81,520	74,321	67,323	61,053	56,509	56,509
60	91,588	90,789	89,451	86,726	86,339	83,279	76,200	68,462	61,704	54,900	50,752	50,752
65	87,372	86,339	84,764	81,579	80,739	76,773	68,701	60,499	54,299	47,086	43,806	43,806
70	81,066	79,984	78,139	74,101	72,507	67,545	58,363	49,932	44,638	37,482	35,206	35,206
75	72,091	70,834	68,712	63,290	60,461	54,397	44,685	37,024	32,777	26,569	25,362	25,362
80	59,632	58,454	55,770	48,182	44,676	38,026	28,882	23,053	20,492	15,929	15,349	15,349
85	42,957	42,274	38,774	30,490	26,046	21,348	14,487	10,937	9,909	7,152	7,149	7,149
90	24,292	24,270	20,996	14,406	10,219	8,662	5,061	3,719	3,372	2,291	2,322	2,322
95	9,541	9,495	7,900	4,526	2,203	2,200	1,109	797	721	434	448	448
100	2,206	2,239	1,858	872	265	294	139	74	63	44	41	41
<b>Black<sup>1</sup></b>												
0	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000
1	98,544	98,187	97,885	96,731	95,732	95,407	92,584	92,035	90,379	79,784	76,609	76,609
5	98,314	97,884	97,522	96,207	95,051	94,482	90,983	89,303	86,174	70,691	66,222	66,222
10	98,176	97,720	97,322	95,928	94,745	94,060	90,339	88,258	84,690	68,437	63,410	63,410
15	98,031	97,539	97,134	95,661	94,460	93,646	89,591	87,156	83,180	66,410	61,060	61,060
20	97,572	96,925	96,652	94,887	93,880	92,738	87,839	84,386	79,641	63,165	57,931	57,931
25	96,810	95,972	95,804	93,513	92,925	91,321	85,210	80,320	74,973	59,608	54,512	54,512
30	95,989	94,809	94,680	91,934	91,699	89,584	82,194	75,962	70,492	56,112	51,287	51,287
35	94,979	93,260	93,288	89,977	90,046	87,402	78,683	71,141	65,865	52,125	48,007	48,007
40	93,573	91,239	91,439	87,304	87,766	84,478	74,466	65,974	61,244	47,866	44,518	44,518
45	91,481	88,689	88,834	83,700	84,501	80,507	69,284	59,827	56,442	43,054	40,628	40,628
50	88,383	85,285	85,044	78,938	80,172	74,976	62,702	53,141	51,422	37,800	36,103	36,103
55	84,144	80,635	79,816	72,826	73,893	67,660	54,846	45,558	45,803	32,233	31,404	31,404
60	78,320	74,335	72,913	65,250	65,795	58,593	46,318	37,654	39,418	26,046	25,698	25,698
65	70,839	66,154	64,391	56,102	56,038	48,649	37,838	30,015	32,738	19,806	20,474	20,474
70	61,781	56,192	54,617	45,785	45,434	38,616	29,654	22,505	25,585	14,021	14,960	14,960
75	50,176	44,872	43,274	34,262	34,531	28,968	21,798	15,546	18,011	9,139	9,956	9,956
80	37,229	33,149	31,711	23,710	24,815	20,003	14,408	9,589	11,376	5,158	5,750	5,750
85	24,071	21,352	19,939	15,044	15,337	12,433	8,326	4,900	5,794	2,414	2,782	2,782
90	12,539	11,646	10,713	8,087	7,195	6,394	4,077	2,044	2,317	913	1,054	1,054
95	4,926	4,729	4,463	3,252	1,777	2,010	1,557	638	689	324	296	296
100	1,322	1,376	1,360	1,036	214	301	399	120	129	77	57	57
<b>Black male<sup>1</sup></b>												
0	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000
1	98,408	98,023	97,703	96,394	95,301	94,911	91,772	91,268	89,499	78,065	74,674	74,674
5	98,150	97,688	97,300	95,826	94,570	93,921	90,082	88,412	85,195	68,589	64,385	64,385
10	97,991	97,501	97,061	95,497	94,234	93,453	89,393	87,311	83,768	66,377	61,730	61,730
15	97,810	97,268	96,826	95,161	93,874	92,965	88,610	86,152	82,332	64,478	59,667	59,667
20	97,127	96,301	96,132	94,053	93,108	91,941	86,968	83,621	79,057	61,426	56,733	56,733
25	95,968	94,809	94,827	91,904	91,825	90,285	84,227	79,516	74,540	57,736	53,285	53,285
30	94,794	93,070	93,125	89,584	90,270	88,327	80,979	75,083	70,344	54,073	49,867	49,867
35	93,429	90,827	91,080	86,885	88,331	85,940	77,221	70,049	65,873	49,865	46,541	46,541
40	91,676	87,948	88,490	83,441	85,744	82,832	72,780	64,710	61,353	45,414	42,989	42,989
45	89,068	84,467	84,997	78,976	82,075	78,686	67,346	58,432	56,589	40,563	39,230	39,230
50	85,045	79,984	80,065	73,282	77,239	72,891	60,495	51,748	51,880	35,427	34,766	34,766
55	79,614	74,095	73,413	66,101	70,351	65,122	52,426	44,436	46,581	29,754	29,987	29,987

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 1999—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<sub>x</sub></i> )										
	1999	1989–91	1979–81	1969–71	1959–61	1949–51	1939–41	1929–31	1919–21	1909–11	1900–1902
<b>Black male<sup>1</sup>—Con.</b>											
60 . . . . .	72,321	66,334	64,980	57,457	61,669	55,535	43,833	36,790	40,506	23,750	24,194
65 . . . . .	63,255	56,795	55,061	47,485	51,392	45,198	35,371	29,314	34,042	17,806	19,015
70 . . . . .	53,148	45,690	44,213	36,925	39,914	35,018	27,236	21,741	26,923	12,295	13,829
75 . . . . .	41,042	33,755	32,717	25,921	29,064	25,472	19,456	14,419	18,854	7,494	8,892
80 . . . . .	28,360	22,549	22,017	16,560	19,994	16,904	12,186	8,239	11,615	3,894	4,831
85 . . . . .	16,692	12,709	12,383	9,648	11,620	9,898	6,444	3,660	5,605	1,747	2,030
90 . . . . .	7,737	5,972	5,708	4,696	5,174	4,642	2,836	1,246	2,040	595	634
95 . . . . .	2,691	1,971	2,009	1,721	1,240	1,342	961	307	552	189	137
100 . . . . .	662	466	513	489	149	192	209	41	77	40	18
<b>Black female<sup>1</sup></b>											
0 . . . . .	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000
1 . . . . .	98,684	98,356	98,073	97,076	96,172	95,913	93,416	92,796	91,251	81,493	78,525
5 . . . . .	98,483	98,087	97,751	96,598	95,543	95,055	91,906	90,185	87,149	72,768	68,056
10 . . . . .	98,368	97,946	97,590	96,369	95,265	94,679	91,308	89,201	85,607	70,508	65,111
15 . . . . .	98,260	97,818	97,450	96,172	95,057	94,343	90,594	88,088	83,954	68,218	62,384
20 . . . . .	98,032	97,566	97,180	95,729	94,660	93,544	88,736	85,078	80,154	64,764	59,053
25 . . . . .	97,663	97,140	96,754	95,035	94,005	92,336	86,198	81,067	75,359	61,430	55,795
30 . . . . .	97,173	96,514	96,150	94,114	93,070	90,799	83,384	76,816	70,633	58,281	52,773
35 . . . . .	96,486	95,599	95,338	92,807	91,670	88,805	80,092	72,192	65,857	54,595	49,567
40 . . . . .	95,397	94,364	94,137	90,817	89,676	86,052	76,084	67,271	61,130	50,568	46,146
45 . . . . .	93,779	92,676	92,322	88,001	86,793	82,257	71,157	61,365	56,230	45,947	42,279
50 . . . . .	91,507	90,277	89,563	84,168	82,979	77,007	64,885	54,920	50,780	40,886	37,681
55 . . . . .	88,317	86,793	85,653	79,177	77,362	70,196	57,314	47,074	44,742	35,415	33,124
60 . . . . .	83,773	81,886	80,293	72,820	69,941	61,758	48,928	38,761	37,954	28,908	27,524
65 . . . . .	77,684	75,031	73,266	64,716	60,825	52,358	40,504	30,852	31,044	22,302	21,995
70 . . . . .	69,664	66,278	64,729	54,873	51,274	42,612	32,354	23,341	24,107	15,871	16,140
75 . . . . .	58,620	55,684	53,831	43,193	40,540	32,981	24,502	16,576	17,216	10,657	11,066
80 . . . . .	45,506	43,622	41,686	31,756	30,315	23,712	17,039	10,822	11,151	6,324	6,708
85 . . . . .	30,925	30,089	28,004	21,358	19,744	15,550	10,622	6,033	5,972	3,029	3,567
90 . . . . .	16,864	17,536	16,260	12,210	9,675	8,590	5,652	2,774	2,579	1,206	1,492
95 . . . . .	6,802	7,687	7,312	5,217	2,438	2,875	2,345	941	818	448	462
100 . . . . .	1,811	2,364	2,398	1,803	293	445	659	193	179	112	97

<sup>1</sup>For 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.

**Table 11. Life expectancy by age, race, and sex: Death-registration States, 1900–1902 to 1919–21, and United States, 1929–31 to 1999**

[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 ( $e_x$ )										
	1999	1989–91	1979–81	1969–71	1959–61	1949–51	1939–41	1929–31	1919–21	1909–11	1900–1902
<b>All races</b>											
0	76.7	75.37	73.88	70.75	69.89	68.07	63.62	59.20	56.40	51.49	49.24
1	76.3	75.08	73.82	71.19	70.75	69.16	65.76	61.94	59.94	57.11	55.20
5	72.4	71.22	70.00	67.43	67.04	65.54	62.49	59.29	57.99	56.21	54.98
10	67.4	66.29	65.10	62.57	62.19	60.74	57.82	54.84	53.79	52.15	51.14
15	62.5	61.38	60.19	57.69	57.33	55.91	53.10	50.25	49.37	47.73	46.81
20	57.7	56.63	55.46	53.00	52.58	51.20	48.54	45.94	45.30	43.53	42.79
25	53.0	51.93	50.81	48.37	47.89	46.56	44.09	41.85	41.47	39.60	39.12
30	48.2	47.23	46.12	43.71	43.18	41.91	39.67	37.75	37.68	35.70	35.51
35	43.5	42.58	41.43	39.07	38.51	37.31	35.30	33.68	33.89	31.90	31.92
40	38.8	37.98	36.79	34.52	33.92	32.81	31.03	29.67	30.08	28.20	28.34
45	34.3	33.44	32.27	30.12	29.50	28.49	26.90	25.79	26.25	24.54	24.77
50	29.8	29.03	27.94	25.93	25.29	24.40	22.98	22.06	22.50	20.98	21.26
55	25.5	24.83	23.85	21.99	21.37	20.57	19.31	18.53	18.90	17.55	17.88
60	21.5	20.90	20.02	18.34	17.71	17.04	15.91	15.24	15.54	14.42	14.76
65	17.7	17.28	16.51	15.00	14.39	13.83	12.80	12.23	12.47	11.60	11.86
70	14.3	13.96	13.32	12.00	11.38	10.92	10.00	9.58	9.74	9.11	9.30
75	11.2	11.00	10.48	9.32	8.71	8.40	7.62	7.32	7.49	6.99	7.08
80	8.5	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	4.6	4.50	4.43	3.94	3.22	3.44	3.30	3.15	3.22	3.03	2.95
95	3.4	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
<b>Male</b>											
0	73.9	71.83	70.11	67.04	66.80	65.47	61.60	57.71	55.50	49.86	47.88
1	73.5	71.58	70.10	67.58	67.80	66.73	64.00	60.75	59.47	55.95	54.35
5	69.6	67.73	66.29	63.82	64.10	63.12	60.76	58.14	57.60	55.11	54.22
10	64.7	62.81	61.41	58.98	59.27	58.35	56.12	53.75	53.44	51.07	50.39
15	59.8	57.91	56.52	54.12	54.43	53.56	51.43	49.18	49.05	46.66	46.06
20	55.0	53.25	51.88	49.54	49.77	48.92	46.91	44.88	44.99	42.48	42.03
25	50.4	48.67	47.37	45.07	45.19	44.36	42.51	40.79	41.11	38.59	38.38
30	45.7	44.10	42.81	40.51	40.56	39.78	38.13	36.71	37.26	34.70	34.76
35	41.1	39.57	38.20	35.95	35.94	35.23	33.79	32.65	33.43	30.94	31.19
40	36.5	35.09	33.64	31.48	31.42	30.79	29.57	28.68	29.63	27.32	27.65
45	32.0	30.66	29.22	27.18	27.09	26.55	25.52	24.87	25.84	23.77	24.14
50	27.7	26.37	25.00	23.12	23.02	22.59	21.72	21.25	22.11	20.32	20.70
55	23.5	22.30	21.08	19.36	19.32	18.96	18.20	17.79	18.53	16.98	17.38
60	19.6	18.53	17.46	15.99	15.94	15.68	14.99	14.62	15.22	13.95	14.33
65	16.1	15.12	14.21	12.99	12.95	12.74	12.07	11.72	12.20	11.24	11.50
70	12.8	12.05	11.35	10.39	10.33	10.11	9.46	9.18	9.52	8.83	9.02
75	10.0	9.39	8.90	8.13	7.99	7.83	7.22	7.02	7.31	6.75	6.84
80	7.5	7.12	6.80	6.27	5.95	5.94	5.44	5.27	5.49	5.10	5.11
85	5.5	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	3.0	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
<b>Female</b>											
0	79.4	78.81	77.62	74.64	73.24	70.96	65.89	60.90	57.40	53.24	50.70
1	78.9	78.47	77.50	74.97	73.93	71.84	67.73	63.37	60.45	58.37	56.10
5	75.0	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	65.1	64.73	63.83	61.41	60.45	58.52	54.97	51.54	49.71	48.87	47.60
20	60.2	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	50.5	50.19	49.33	47.01	46.00	44.28	41.41	39.02	38.15	36.79	36.30
35	45.7	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	31.7	31.42	30.69	28.77	27.71	26.40	24.40	23.05	22.92	21.67	21.84
55	27.3	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 1999—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 ( $e_x$ )										
	1999	1989–91	1979–81	1969–71	1959–61	1949–51	1939–41	1929–31	1919–21	1909–11	1900–1902
<b>Female—Con.</b>											
60 .....	23.1	22.90	22.29	20.60	19.52	18.50	16.92	15.94	15.87	14.90	15.21
65 .....	19.1	19.02	18.44	16.83	15.80	14.95	13.57	12.78	12.73	11.96	12.22
70 .....	15.4	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 .....	6.6	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
<b>White</b>											
0 .....	77.3	76.13	74.53	71.62	70.73	69.02	64.92	60.86	57.42	51.90	49.64
1 .....	76.8	75.72	74.35	71.91	71.38	69.95	66.84	63.46	60.87	57.46	55.47
5 .....	72.9	71.84	70.52	68.12	67.64	66.29	63.52	60.75	58.86	56.51	55.18
10 .....	67.9	66.92	65.62	63.26	62.79	61.48	58.83	56.29	54.65	52.43	51.34
15 .....	63.0	61.99	60.71	58.37	57.92	56.65	54.09	51.69	50.21	48.01	47.01
20 .....	58.2	57.23	55.98	53.66	53.16	51.91	49.47	47.28	46.04	43.77	43.17
25 .....	53.4	52.50	51.30	49.00	48.44	47.22	44.92	43.02	42.07	39.79	39.26
30 .....	48.6	47.76	46.59	44.28	43.69	42.52	40.40	38.76	38.17	35.86	35.51
35 .....	43.9	43.06	41.86	39.58	38.97	37.86	35.93	34.50	34.27	32.03	32.01
40 .....	39.2	38.41	37.17	34.95	34.33	33.29	31.54	30.33	30.38	28.29	28.28
45 .....	34.6	33.81	32.60	30.48	29.84	28.88	27.29	26.29	26.45	24.60	24.82
50 .....	30.1	29.34	28.21	26.21	25.57	24.70	23.26	22.42	22.64	21.01	21.18
55 .....	25.7	25.08	24.05	22.19	21.58	20.77	19.47	18.75	18.97	17.57	17.91
60 .....	21.6	21.08	20.16	18.48	17.84	17.15	15.98	15.37	15.57	14.43	14.73
65 .....	17.8	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 .....	11.2	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 .....	3.2	3.25	3.25	2.92	2.43	2.53	2.45	2.22	2.28	2.29	2.16
100 .....	2.3	2.43	2.62	2.41	1.91	1.92	1.95	1.48	1.50	1.71	1.56
<b>White male</b>											
0 .....	74.6	72.72	70.82	67.94	67.55	66.31	62.81	59.12	56.34	50.23	48.23
1 .....	74.1	72.35	70.70	68.33	68.34	67.41	64.98	62.04	60.24	56.26	54.61
5 .....	70.2	68.48	66.87	64.55	64.61	63.77	61.68	59.38	58.31	55.37	54.43
10 .....	65.3	63.55	61.98	59.69	59.78	58.98	57.03	54.96	54.15	51.32	50.59
15 .....	60.3	58.65	57.09	54.83	54.93	54.18	52.33	50.39	49.74	46.91	46.25
20 .....	55.6	53.96	52.45	50.22	50.25	49.52	47.76	46.02	45.60	42.71	42.19
25 .....	50.9	49.33	47.92	45.70	45.65	44.93	43.28	41.78	41.60	38.79	38.52
30 .....	46.2	44.71	43.31	41.07	40.97	40.29	38.80	37.54	37.65	34.87	34.88
35 .....	41.5	40.12	38.66	36.43	36.31	35.68	34.36	33.33	33.74	31.08	31.29
40 .....	36.9	35.57	34.04	31.87	31.73	31.17	30.03	29.22	29.86	27.43	27.74
45 .....	32.4	31.07	29.55	27.48	27.34	26.87	25.87	25.28	26.00	23.86	24.21
50 .....	28.0	26.71	25.26	23.34	23.22	22.83	21.96	21.51	22.22	20.39	20.76
55 .....	23.8	22.56	21.25	19.51	19.45	19.11	18.34	17.97	18.59	17.03	17.42
60 .....	19.8	18.71	17.56	16.07	16.01	15.76	15.05	14.72	15.25	13.98	14.35
65 .....	16.1	15.24	14.26	13.02	12.97	12.75	12.07	11.77	12.21	11.25	11.51
70 .....	12.9	12.11	11.35	10.38	10.29	10.07	9.42	9.20	9.51	8.83	9.03
75 .....	10.0	9.40	8.87	8.06	7.92	7.77	7.17	7.02	7.30	6.75	6.84
80 .....	7.5	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 1999—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 ( $e_x$ )										
	1999	1989–91	1979–81	1969–71	1959–61	1949–51	1939–41	1929–31	1919–21	1909–11	1900–1902
<b>White female</b>											
0	79.9	79.45	78.22	75.49	74.19	72.03	67.29	62.67	58.53	53.62	51.08
1	79.3	78.99	77.98	75.66	74.68	72.77	68.93	64.93	61.51	58.69	56.39
5	75.4	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	65.5	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
<b>Black<sup>1</sup></b>											
0	71.4	69.16	68.52	64.11	63.91	60.73	53.85	48.53	47.03	35.87	33.80
1	71.5	69.43	68.99	65.27	65.75	62.65	57.15	51.71	51.01	43.84	43.00
5	67.6	65.64	65.25	61.62	62.21	59.25	54.13	49.25	49.44	45.34	45.55
10	62.7	60.75	60.38	56.79	57.41	54.50	49.50	44.80	45.26	41.74	42.46
15	57.8	55.86	55.49	51.94	52.57	49.73	44.89	40.37	41.02	38.02	39.04
20	53.1	51.19	50.75	47.34	47.88	45.19	40.73	36.62	37.72	34.86	36.03
25	48.5	46.67	46.18	43.00	43.35	40.85	36.91	33.32	34.91	31.72	33.04
30	43.9	42.22	41.69	38.70	38.89	36.59	33.17	30.07	31.98	28.43	29.96
35	39.3	37.87	37.28	34.48	34.56	32.44	29.53	26.94	29.07	25.39	26.82
40	34.8	33.65	32.98	30.46	30.39	28.48	26.06	23.82	26.07	22.41	23.73
45	30.6	29.55	28.87	26.65	26.46	24.75	22.82	20.97	23.17	19.58	20.67
50	26.6	25.62	25.03	23.11	22.74	21.38	19.94	18.22	20.17	16.84	17.95
55	22.8	21.95	21.50	19.83	19.45	18.41	17.43	15.80	17.33	14.33	15.23
60	19.3	18.59	18.29	16.83	16.53	15.87	15.18	13.62	14.72	12.16	13.06
65	16.0	15.56	15.37	14.16	13.96	13.59	13.02	11.49	12.22	10.22	10.87
70	13.0	12.87	12.67	11.77	11.63	11.48	10.93	9.54	9.90	8.59	8.96
75	10.4	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	6.2	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	3.6	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
<b>Black male<sup>1</sup></b>											
0	67.8	64.47	64.10	60.00	61.48	58.91	52.26	47.55	47.14	34.05	32.54
1	67.9	64.76	64.60	61.24	63.50	61.06	55.93	51.08	51.63	42.53	42.46
5	64.1	60.98	60.86	57.60	59.98	57.69	52.95	48.69	50.18	44.25	45.06
10	59.2	56.09	56.01	52.79	55.19	52.96	48.34	44.27	45.99	40.65	41.90
15	54.3	51.22	51.14	47.96	50.39	48.23	43.74	39.83	41.75	36.77	38.26
20	49.6	46.71	46.48	43.49	45.78	43.73	39.52	35.95	38.36	33.46	35.11
25	45.2	42.40	42.09	39.45	41.38	39.49	35.72	32.67	35.54	30.44	32.21
30	40.7	38.14	37.81	35.40	37.05	35.31	32.05	29.45	32.51	27.33	29.25
35	36.3	34.02	33.60	31.42	32.81	31.21	28.48	26.39	29.54	24.42	26.16
40	31.9	30.05	29.51	27.61	28.72	27.29	25.06	23.36	26.53	21.57	23.12
45	27.8	26.18	25.61	24.03	24.89	23.59	21.88	20.59	23.55	18.85	20.09
50	24.0	22.50	22.03	20.69	21.28	20.25	19.06	17.92	20.47	16.21	17.34
55	20.4	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 1999—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 ( $e_x$ )										
	1999	1989–91	1979–81	1969–71	1959–61	1949–51	1939–41	1929–31	1919–21	1909–11	1900–1902
<b>Black male<sup>1</sup>—Con.</b>											
60 . . . . .	17.2	16.01	15.89	14.93	15.29	14.91	14.37	13.15	14.74	11.67	12.62
65 . . . . .	14.3	13.27	13.29	12.53	12.84	12.75	12.21	10.87	12.07	9.74	10.38
70 . . . . .	11.6	10.88	10.94	10.40	10.81	10.74	10.11	8.78	9.58	8.00	8.33
75 . . . . .	9.2	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 . . . . .	5.6	5.58	5.61	5.92	5.08	5.38	5.34	4.30	4.53	4.48	4.04
90 . . . . .	4.4	4.24	4.47	4.68	3.42	3.78	4.23	3.42	3.60	4.01	3.21
95 . . . . .	3.5	3.37	3.62	3.92	2.43	2.64	3.20	2.54	2.61	3.15	2.50
100 . . . . .	2.8	2.63	3.24	3.61	1.91	1.93	2.29	1.68	1.64	2.14	1.89
<b>Black female<sup>1</sup></b>											
0 . . . . .	74.7	73.73	72.88	68.32	66.47	62.70	55.56	49.51	46.92	37.67	35.04
1 . . . . .	74.7	73.96	73.31	69.37	68.10	64.37	58.46	52.33	50.39	45.15	43.54
5 . . . . .	70.9	70.16	69.54	65.70	64.54	60.93	55.40	49.81	48.70	46.42	46.04
10 . . . . .	66.0	65.26	64.65	60.85	59.72	56.17	50.75	45.33	44.54	42.84	43.02
15 . . . . .	61.0	60.34	59.74	55.97	54.85	51.36	46.13	40.87	40.36	39.18	39.79
20 . . . . .	56.2	55.49	54.90	51.22	50.07	46.77	42.04	37.22	37.15	36.14	36.89
25 . . . . .	51.4	50.72	50.13	46.57	45.40	42.35	38.20	33.93	34.35	32.97	33.90
30 . . . . .	46.6	46.03	45.43	42.00	40.83	38.02	34.40	30.67	31.48	29.61	30.70
35 . . . . .	41.9	41.45	40.79	37.56	36.41	33.82	30.83	27.47	28.58	26.44	27.52
40 . . . . .	37.4	36.96	36.28	33.32	32.16	29.82	27.19	24.30	25.60	23.34	24.37
45 . . . . .	33.0	32.58	31.94	29.31	28.14	26.07	23.89	21.39	22.61	20.43	21.36
50 . . . . .	28.7	28.38	27.84	25.52	24.31	22.67	20.95	18.60	19.76	17.65	18.67
55 . . . . .	24.7	24.41	24.00	21.97	20.89	19.62	18.38	16.27	17.09	14.98	15.88
60 . . . . .	20.9	20.71	20.42	18.66	17.83	16.95	16.10	14.22	14.69	12.78	13.60
65 . . . . .	17.3	17.37	17.13	15.67	15.12	14.54	13.95	12.24	12.41	10.82	11.38
70 . . . . .	14.0	14.32	14.05	13.02	12.46	12.29	11.82	10.38	10.25	9.22	9.62
75 . . . . .	11.1	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

<sup>1</sup>For 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, 1929–99**

[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 <sup>4</sup>		
	Both sexes	Male	Female	Both sexes	Male	Female	Both sexes	Male	Female
United States <sup>1</sup>									
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 <sup>2</sup>	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 <sup>3</sup>	69.9	66.6	73.4	70.8	67.4	74.4	63.7	61.0	66.6
1962 <sup>3</sup>	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
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

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, 1929–99—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 <sup>4</sup>		
	Both sexes	Male	Female	Both sexes	Male	Female	Both sexes	Male	Female
United States—Con.									
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

<sup>1</sup>Alaska included in 1959 and Hawaii in 1960.<sup>2</sup>Deaths based on a 50-percent sample.<sup>3</sup>Figures by race exclude data for residents of New Jersey; see Technical notes.<sup>4</sup>Prior to 1970, data for the black population are not available. Data shown for 1900–69 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 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. Bureau of the Census. From 1945 to 1996, the annual life tables were abridged life tables and were constructed by reference to a standard table (3). Beginning with 1997 mortality data, complete life tables are constructed using a new methodology (4, 5). 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 conterminous 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 (11).

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 are 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. Bureau of the Census) represents the resident population of the United States. The age-specific populations used for computing the 1999 life table values are based on the July 1, 1999, population estimates that are consistent with the 1990 census (12). 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 (13).

*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 (5, 9, 10). For the 1999 life tables, 1997 Medicare data was used as 1999 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 (4). 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 aged 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 1999 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 ordinary minimized fifth difference formula is used to obtain smoothed values of  $P_x$  and  $D_x$  (see reference 4 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

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

**Table I. Values for  $F$  used to adjust for not-stated age based on 1999 mortality data**

Race and sex	Total deaths	Total deaths for which age was not stated	$F$
Total . . . . .	2,391,399	356	1.00014889
Male . . . . .	1,175,460	277	1.00023571
Female . . . . .	1,215,939	79	1.00006497
White . . . . .	2,061,348	271	1.00013148
Male . . . . .	1,005,335	213	1.00021191
Female . . . . .	1,056,013	58	1.00005493
Black . . . . .	285,064	77	1.00027019
Male . . . . .	145,703	58	1.00039823
Female . . . . .	139,361	19	1.00013636

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 1998–99.

*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 (4).

*Use of Medicare data at ages 85 to 99*—There is ample evidence that the rate of increase in  $q_x$  declines above age 85 (4, 10, 14–16). 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 (10,15). 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 1996 Medicare data. These data show clearly a declining rate of increase in  $q_x$  above age 85 years. 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,  ${}_{\infty}q_{100}$  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 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

$$l_x = l_{x-1} (1 - q_{x-1}) \tag{6}$$

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

$$d_x = l_x - l_{x+1} = l_x q_x \tag{7}$$

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

**Table II. Births in 1998 and 1999, deaths in 1999 of infants born in 1998 and 1999, 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									
1998	3,941,553	2,016,205	1,925,348	3,118,727	1,596,704	1,522,023	609,902	310,107	299,795
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
Deaths in 1999 of infants born in									
1998	3,514	2,029	1,485	2,287	1,346	941	1,066	593	473
1999	24,384	13,597	10,787	15,760	8,843	6,917	7,737	4,292	3,445
Separation factor (f)	0.126	0.130	0.121	0.127	0.132	0.120	0.121	0.121	0.121

**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	0.08180	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	0.08970	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	0.05790	0.07026	0.056884	0.043787	0.061449

Stationary population ( $L_x$ )—The stationary population at ages 1 to 99 years is calculated assuming that the survivor function declines linearly between age  $x$  and  $x+1$ . This gives the formula

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

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

$$k_x = k_{85} + (x - 85)s \tag{9}$$

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 (10, 16).  $s$  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  $x$ .

$$T_x = \sum_{t=0}^{\infty} L_{x+t} \tag{10}$$

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

$$e_x = \frac{T_x}{l_x} \tag{11}$$

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

Race and sex	s
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 is unnecessary (17). 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 ( ${}_nq_x$ ,  ${}_nd_x$ ,  ${}_nL_x$ ). 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 1999 U.S. total population abridged from table 1.

**Table V. Abridged life table for the total population: United States, 1999**

Age	Proportion dying during age interval $q_x$	Number living at beginning of age interval $l_x$	Number dying during age interval $d_x$	Stationary population in the age interval $L_x$	Stationary population in this and all subsequent age intervals $T_x$	Life expectancy at beginning of age interval $e_x$
0–1	0.00706	100,000	706	99,384	7,672,728	76.7
1–5	0.00138	99,294	137	396,850	7,573,344	76.3
5–10	0.00088	99,157	87	495,553	7,176,494	72.4
10–15	0.00105	99,070	104	495,154	6,680,941	67.4
15–20	0.00349	98,966	345	494,048	6,185,787	62.5
20–25	0.00467	98,621	461	491,972	5,691,739	57.7
25–30	0.00485	98,160	476	489,624	5,199,767	53.0
30–35	0.00589	97,684	575	487,046	4,710,143	48.2
35–40	0.00811	97,109	788	483,681	4,223,097	43.5
40–45	0.01174	96,321	1,131	478,946	3,739,416	38.8
45–50	0.01753	95,190	1,669	472,027	3,260,470	34.3
50–55	0.02564	93,521	2,398	461,981	2,788,443	29.8
55–60	0.04028	91,123	3,670	447,053	2,326,462	25.5
60–65	0.06212	87,453	5,433	424,515	1,879,409	21.5
65–70	0.09432	82,020	7,736	391,815	1,454,894	17.7
70–75	0.14115	74,284	10,485	346,326	1,063,079	14.3
75–80	0.20804	63,799	13,273	286,913	716,753	11.2
80–85	0.31784	50,526	16,059	213,410	429,840	8.5
85–90	0.46485	34,467	16,022	131,252	216,430	6.3
90–95	0.61935	18,445	11,424	61,192	85,178	4.6
95–100	0.75858	7,021	5,326	19,623	23,986	3.4
100+	1.00000	1,695	1,695	4,363	4,363	2.6

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**National Center for Health Statistics**

Director, Edward J. Sondik, Ph.D.  
Deputy Director, Jack R. Anderson

**Division of Vital Statistics**

Director, Mary Anne Freedman

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DEPARTMENT OF  
HEALTH & HUMAN SERVICES  
Centers for Disease Control and Prevention  
National Center for Health Statistics  
6525 Belcrest Road  
Hyattsville, Maryland 20782-2003

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