

## United States Life Tables, 2006

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The data in the second panel of Table II in the Technical Notes have been corrected.

### Abstract

**Objectives**—This report presents complete period life tables by age, race, and sex for the United States based on age-specific death rates in 2006.

**Methods**—Data used to prepare the 2006 life tables are 2006 final mortality statistics, July 1, 2006 population estimates based on the 2000 decennial census, and 2006 Medicare data for ages 66–100. The 2006 life tables were estimated using a recently revised methodology first applied to the final annual U.S. life tables series with the 2005 edition (1). For comparability, all life tables for the years 2000–2004 were reestimated using the revised methodology and were published in an appendix of the United States Life Tables, 2005 report (1). These revised tables replace all previously published life tables for years 2000–2004.

**Results**—In 2006, the overall expectation of life at birth was 77.7 years, representing an increase of 0.3 years from life expectancy in 2005. From 2005 to 2006, life expectancy at birth increased for all groups considered. It increased for males (from 74.9 to 75.1) and females (from 79.9 to 80.2), the white (from 77.9 to 78.2) and black populations (from 72.8 to 73.2), black males (from 69.3 to 69.7) and females (from 76.1 to 76.5), and white males (from 75.4 to 75.7) and females (from 80.4 to 80.6).

**Keywords:** life expectancy • survival • death rates • race

### Introduction

There are two types of life tables—the cohort (or generation) and the period (or current). The cohort life table presents the mortality experience of a particular birth cohort, all persons born in the year 1900, for example, from the moment of birth through consecutive ages in successive calendar years. Based on age-specific death rates observed through consecutive calendar years, the cohort life table reflects the mortality experience of an actual cohort from birth until no lives remain in the group. To prepare a single complete cohort life table requires data over many years. It is usually not feasible to construct cohort life tables entirely on the basis of

observed data for real cohorts due to data unavailability or incompleteness (2). For example, a life table representation of the mortality experience of a cohort of persons born in 1970 would require the use of data projection techniques to estimate deaths into the future (3,4).

Unlike the cohort life table, the period life table does not represent the mortality experience of an actual birth cohort. Rather, the period life table presents what would happen to a hypothetical (or synthetic) cohort if it experienced throughout its entire life the mortality conditions of a particular time period. Thus, for example, a period life table for 2006 assumes a hypothetical cohort subject throughout its lifetime to the age-specific death rates prevailing for the actual population in 2006. The period life table may thus be characterized as rendering a “snapshot” of current mortality experience, and shows the long-range implications of a set of age-specific death rates that prevailed in a given year. In this report the term “life table” refers only to the period life table and not to the cohort life table.

### Data and Methods

The data used to prepare the U.S. life tables for 2006 are final numbers of deaths for the year 2006, postcensal population estimates for the year 2006, and age-specific death and population counts for Medicare beneficiaries aged 66–100 for the year 2006 from the Centers for Medicare & Medicaid Services.

The populations used to estimate the life tables shown in this report were produced under a collaborative agreement with the U.S. Census Bureau and are consistent with the postcensal estimates of the 2000 census. Reflecting the guidelines issued in 1997 by the Office of Management and Budget (OMB), the 2000 census included an option for individuals to report more than one race as appropriate for themselves and household members (5). The 1997 OMB guidelines also provided for the reporting of Asian persons separately from Native Hawaiian or other Pacific Islander persons. Under the prior OMB standards (issued in 1977), data for Asian or Pacific Islander persons were collected as a single group (6). Beginning with deaths occurring in 2003, some states implemented multiple-race categories on the death certificate. Approximately one-half of the states continue to collect only one race for the decedent in the same categories as



specified in the 1977 OMB guidelines (death certificate data do not report Asian persons separately from Native Hawaiian or other Pacific Islander persons). Death certificate data by race for these states (the numerators for death rates) are thus currently incompatible with the population data collected in the 2000 census (the denominators for the rates). To produce death rates for 2006 it was necessary to “bridge” the reported population data for multiple-race persons back to single-race categories. In addition, the 2000 census counts were modified to be consistent with the 1977 OMB race categories, that is, to report the data for Asian persons and Native Hawaiian or other Pacific Islander persons as a combined category, Asian or Pacific Islander, and to reflect age as of the census reference date (7). The procedures used to produce the “bridged” populations are described in a separate publication (8). Multiple-race data for those states that implemented the 1997 OMB guidelines are bridged back to single-race categories. Once all states are collecting data on race according to the 1997 OMB guidelines, it is expected that use of the bridged populations will be discontinued.

Readers should keep in mind that the population data used to compile death rates by race are based on special estimation procedures. They are not true counts. This is the case even for the 2000 populations that are based on the 2000 census. The estimation procedures used to develop these populations contain some errors (8). Over the next several years, additional information will be incorporated in the estimation procedures, possibly resulting in further revisions of the population estimates (see the “Technical Notes” section).

Data from the Medicare program are used to supplement vital statistics and census data for ages 66 years and over. Death rates based on Medicare data for the oldest ages are considered to be more accurate than death rates based solely on vital and census data because beneficiaries must prove their date of birth in order to qualify for benefits while there is no such requirement in the census form question about a respondent’s age. The prevalence of age misreporting

at the oldest ages in census data has been found to be significant enough to lead to underestimated death rates at the oldest ages (see the “Technical Notes” section).

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 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 the “Technical Notes” section 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 (9). The 2006 U.S. life tables are complete life tables calculated using a revised method that blends vital statistics and Medicare data at ages 66–100 (1). See the “Technical Notes” section 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 2006 are shown for the total population and by race and sex in Tables 1–9. Life expectancy is summarized by age, race, and sex in Table A.

Life expectancy at birth ( $e_0$ ) for 2006 for the total population was 77.7 years. This represents the average number of years that the members of the hypothetical life table cohort may expect to live at the time of birth (Table A).

*Survivors to specified ages*—Another way of assessing the longevity of the synthetic life table cohort is by determining the proportion who survive to specified ages. The  $l_x$  column of the life table provides the data for computing the proportion. Table B summarizes the number of survivors by age, race, and sex. To illustrate, 54,201 persons out of the original 2006 synthetic life table cohort of 100,000 (or 54.2 percent) were alive at exact age 80. In other words, the probability that a person will survive from birth to age 80, given 2006 age-specific mortality, is

**Table A. Expectation of life, by age, race, and sex: United States, 2006**

Age	All races			White			Black		
	Total	Male	Female	Total	Male	Female	Total	Male	Female
0	77.7	75.1	80.2	78.2	75.7	80.6	73.2	69.7	76.5
1	77.2	74.7	79.7	77.6	75.1	80.0	73.2	69.7	76.5
5	73.3	70.8	75.8	73.7	71.2	76.1	69.4	65.8	72.6
10	68.4	65.8	70.8	68.7	66.3	71.1	64.4	60.9	67.7
15	63.4	60.9	65.9	63.8	61.3	66.1	59.5	56.0	62.7
20	58.6	56.1	61.0	59.0	56.6	61.3	54.7	51.3	57.8
25	53.9	51.5	56.1	54.2	51.9	56.4	50.1	46.8	53.0
30	49.2	46.9	51.3	49.5	47.3	51.5	45.5	42.4	48.2
35	44.4	42.2	46.4	44.7	42.6	46.7	40.9	37.9	43.5
40	39.7	37.6	41.7	40.0	37.9	41.9	36.4	33.5	38.9
45	35.2	33.1	37.0	35.4	33.4	37.2	32.0	29.2	34.5
50	30.7	28.8	32.5	30.9	29.0	32.6	27.9	25.2	30.2
55	26.5	24.7	28.0	26.6	24.9	28.2	24.1	21.6	26.1
60	22.4	20.7	23.8	22.5	20.9	23.8	20.4	18.2	22.2
65	18.5	17.0	19.7	18.6	17.1	19.8	17.1	15.1	18.6
70	14.9	13.6	15.9	14.9	13.6	15.9	13.9	12.3	15.1
75	11.6	10.4	12.3	11.5	10.5	12.3	11.1	9.8	12.0
80	8.7	7.8	9.3	8.7	7.8	9.3	8.7	7.7	9.3
85	6.4	5.7	6.8	6.3	5.7	6.7	6.7	5.9	7.1
90	4.6	4.1	4.8	4.5	4.0	4.7	5.1	4.5	5.3
95	3.2	2.9	3.3	3.2	2.8	3.3	3.8	3.5	3.9
100	2.3	2.0	2.3	2.2	2.0	2.2	2.8	2.6	2.8

**Table B. Number of survivors by age, out of 100,000 born alive, by race and sex: United States, 2006**

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.	99,329	99,266	99,395	99,442	99,388	99,499	98,663	98,552	98,777
5.	99,216	99,144	99,291	99,341	99,279	99,406	98,492	98,367	98,622
10.	99,147	99,068	99,229	99,277	99,208	99,349	98,394	98,254	98,539
15.	99,065	98,972	99,164	99,200	99,117	99,288	98,285	98,125	98,451
20.	98,747	98,524	98,982	98,898	98,702	99,105	97,868	97,484	98,266
25.	98,253	97,797	98,739	98,430	98,017	98,874	97,174	96,435	97,940
30.	97,759	97,099	98,461	97,970	97,370	98,616	96,380	95,274	97,500
35.	97,213	96,371	98,105	97,466	96,697	98,292	95,452	94,001	96,892
40.	96,495	95,466	97,579	96,799	95,851	97,813	94,256	92,489	95,987
45.	95,397	94,112	96,740	95,771	94,569	97,048	92,515	90,398	94,564
50.	93,750	92,082	95,478	94,231	92,655	95,893	89,877	87,206	92,430
55.	91,352	89,083	93,681	91,992	89,850	94,231	85,930	82,211	89,426
60.	88,057	85,054	91,119	88,870	86,041	91,806	80,756	75,746	85,423
65.	83,251	79,346	87,200	84,216	80,526	88,012	73,917	67,414	79,910
70.	76,661	71,652	81,662	77,739	72,970	82,584	65,507	57,534	72,760
75.	67,331	61,057	73,449	68,440	62,425	74,416	55,000	45,743	63,292
80.	54,201	46,859	61,175	55,215	48,070	62,094	42,229	32,641	50,822
85.	37,805	30,371	44,685	38,526	31,170	45,373	28,469	20,043	36,141
90.	20,898	15,034	26,183	21,196	15,318	26,479	15,864	9,952	21,357
95.	7,991	4,895	10,685	7,979	4,873	10,656	6,716	3,675	9,558
100.	1,737	850	2,460	1,672	804	2,373	1,928	905	2,845

54 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 (37,805) by the number of survivors at age 20 (98,747), which results in a 38.3 percent probability of survival.

## Explanation of the columns of the life table

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

*Column 2—Probability of dying ( $q_x$ )*—Shows the probability of dying between ages  $x$  to  $x + 1$ . For example, for males in the age interval 20–21 years, the probability of dying is 0.001329 (Table 2). The “probability of dying” column forms the basis of the life table; all subsequent columns are derived from it.

*Column 3—Number surviving ( $l_x$ )*—Shows the number of persons from the original synthetic cohort of 100,000 live births, who survive to the beginning of each age interval. The  $l_x$  values are computed from the  $q_x$  values, which are successively applied to the remainder of the original 100,000 persons still alive at the beginning of each age interval. Thus, out of 100,000 female babies born alive, 99,395 will complete the first year of life and enter the second; 99,229 will reach age 10; 98,982 will reach age 20; and 44,685 will live to age 85 (Table 3).

*Column 4—Number dying ( $d_x$ )*—Shows the number dying in each successive age interval out of the original 100,000 live births. For example, out of 100,000 males born alive, 734 will die in the first year of life; 131 between ages 20 and 21; and 850 will die after reaching age 100 (Table 2). Each figure in column 4 is the difference between two successive figures in column 3.

*Column 5—Person-years lived ( $L_x$ )*—Shows the number of person-years lived by the synthetic life table cohort within an age interval  $x$  to  $x + 1$ . Each figure in column 5 represents the total time (in years) lived between two indicated birthdays by all those reaching

the earlier birthday. Thus, the figure 98,459 for males in the age interval 20–21 is the total number of years lived between the 20th and 21st birthdays by the 98,524 (column 3) males who reached their 20th birthday out of 100,000 males born alive (Table 2).

*Column 6—Total number of person-years lived ( $T_x$ )*—Shows the total number of person-years that would be lived after the beginning of the age interval  $x$  to  $x + 1$  by the synthetic life table cohort. For example, the figure 5,532,004 is the total number of years lived after attaining age 20 by the 98,524 males reaching that age (Table 2).

*Column 7—Expectation of life ( $e_x$ )*—Shows, at any given age, the average number of years remaining to be lived by those surviving to that age on the basis of a given set of age-specific rates of dying. It is derived by dividing the total person-years that would be lived above age  $x$  by the number of persons who survived to that age interval ( $T_x/l_x$ ). Thus, the average remaining lifetime for males who reach age 20 is 56.1 years (5,532,004 divided by 98,524) (Table 2).

## Results

### Life expectancy in the United States

Tables 1–9 show complete life tables by race (white and black) and sex for 2006. Tables A and B summarize life expectancy and survival by age, race, and sex. Life expectancy at birth for 2006 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 2006. In 2006, life expectancy at birth was 77.7 years, increasing by 0.3 years from 77.4 years in 2005. This increase is typical of the average annual changes that have occurred during the last 30 years. Throughout the past century, the trend in U.S. life expectancy was one of gradual improvement and this trend has continued into the new century (10).

Changes in mortality levels by age and cause of death have an important effect on changes in life expectancy. Life expectancy at birth

increased from 2005 to 2006, to 75.1 for males and 80.2 for females. Increases in life expectancy for both males and females were a function of decreases in mortality from heart disease, cancer, chronic lower respiratory diseases, and stroke. The increase in life expectancy for the entire population from 2005 to 2006 could have been greater if it was not for the increase in mortality from unintentional injuries, viral hepatitis, homicide, and kidney disease (11).

The difference in life expectancy between the sexes was 5.1 years in 2006, increasing from 5.0 in 2005. 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 (12,13). Between 1979 and 2004, the difference in life expectancy between the sexes narrowed from 7.8 years to 5.0 years and then increased slightly to 5.1 from 2005 to 2006. The general decline in the difference between males and females since 1979 reflects proportionately greater increases in lung cancer mortality for women than for men and proportionately larger decreases in heart disease mortality among men (12,13).

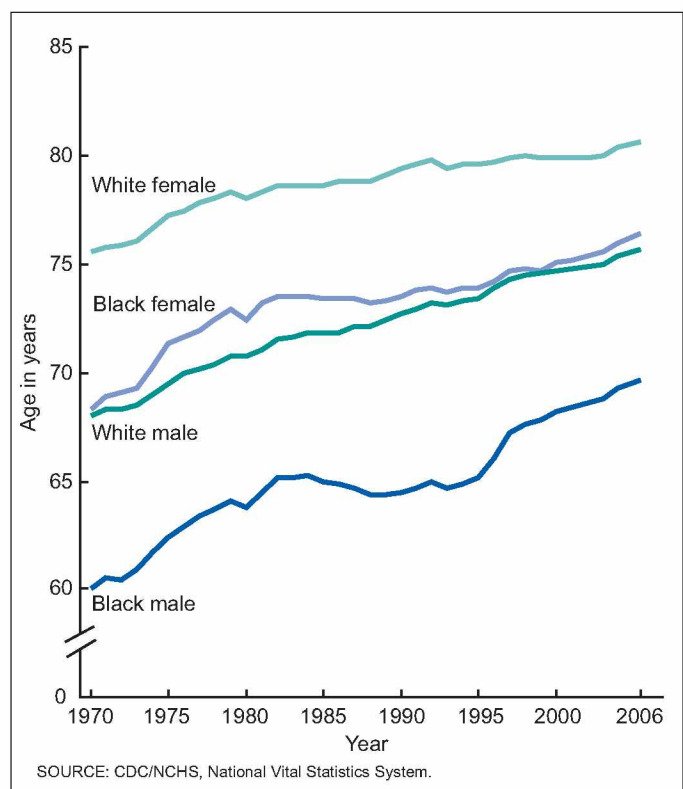
From 2005 to 2006, life expectancy increased by 0.4 years to 73.2 years for the black population, and by 0.3 years to 78.2 years for the white population. The difference in life expectancy between the white and black populations was 5.0 years in 2006, a historical low. The difference in life expectancy between the black and white populations narrowed from 14.6 years in 1900 to 5.7 years in 1982, but increased to 7.1 years in 1993 before beginning to decline again in 1994 (7.0 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 (12,13).

Among the four groups shown in [Figure 1](#), white females continued to have the highest life expectancy at birth (80.6 years), followed by black females (76.5 years), white males (75.7 years), and black males (69.7 years). From 2005 to 2006, life expectancy increased 0.4 years for black females (from 76.1 to 76.5) as well as for black males (from 69.3 to 69.7). Black males experienced an unprecedented decline in life expectancy every year for the period 1984–1989 (14), but annual increases in the years 1990–1992, 1994–2004, and 2005–2006. From 2005 to 2006, life expectancy increased by 0.3 years for white males (from 75.4 to 75.7) and by 0.2 years for white females (from 80.4 to 80.6). Overall, gains in life expectancy between 1980 and 2006 were 5.9 years for black males, 5.0 years for white males, 4.0 years for black females, and 2.5 years for white females ([Table 12](#)).

The 2006 life table may be used to compare life expectancy at any age from birth onward. On the basis of mortality experienced in 2006, a person aged 65 could expect to live an average of 18.5 more years for a total of 83.5 years, and a person aged 100 could expect to live an additional 2.3 years on average ([Table A](#)). Life expectancy at age 100, particularly for the black population, should be interpreted with caution as these figures may be affected somewhat by age misreporting (15,16,17).

## 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 through 2006. In 2006, 99.3 percent of all infants born in the United States survived the first year of life. In



**Figure 1. Life expectancy at birth, by race and sex: United States, 1970–2006**

contrast, only 87.6 percent of infants born in 1900 survived the first year. Fifty-four percent of the 2006 synthetic life table cohort survived to age 80 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 groups shown in [Figure 2](#) and [Table B](#), white females have the highest median age at death with about 49 percent surviving to age 84. Of the original hypothetical cohort of 100,000 infant white females, 99.1 percent survive to age 20, 88 percent to age 65, and 45.4 percent to age 85. For white males and black females, the pattern of survival by age is similar. White males have slightly higher survival rates than black females at the younger ages with 98.7 percent surviving to age 20 and 80.5 percent surviving to age 65 compared with 98.3 percent and 79.9 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 31.2 percent compared with 36.1 percent for black females. This crossover, which occurs at age 75, is clearly shown in [Figure 2](#). The median age at death for black males is 73 years, which is 11 years less than that of white females. For black males, 97.5 percent survive to age 20, 67.4 percent to age 65, and 20 percent to age 85. By age 100, there is very little difference between the white and black populations in terms of survival. Less than 1 percent of white and black males and slightly over 2 percent of white and black females, respectively, survive to age 100.

Plotting the percentage surviving by age for the periods 1900–1902, 1949–1951, and 2006 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

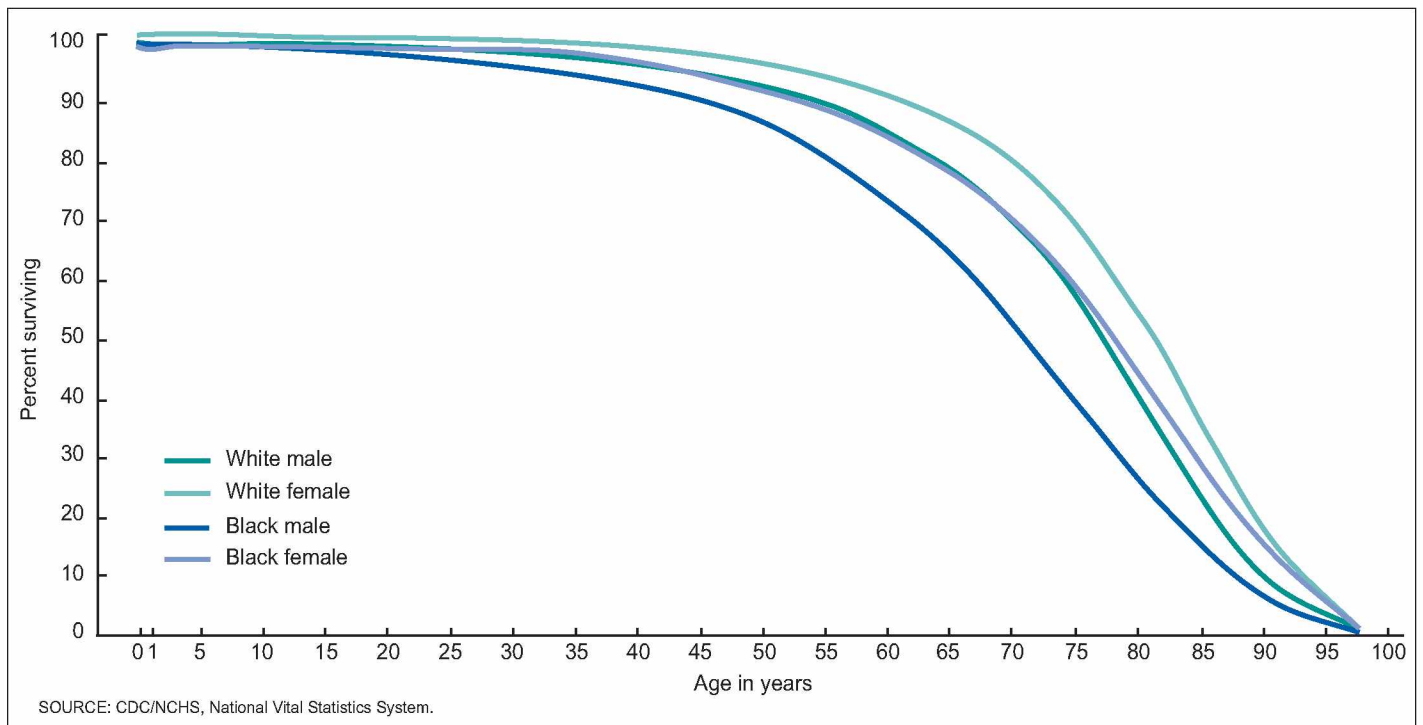


Figure 2. Percentage surviving, by age, race, and sex: United States, 2006

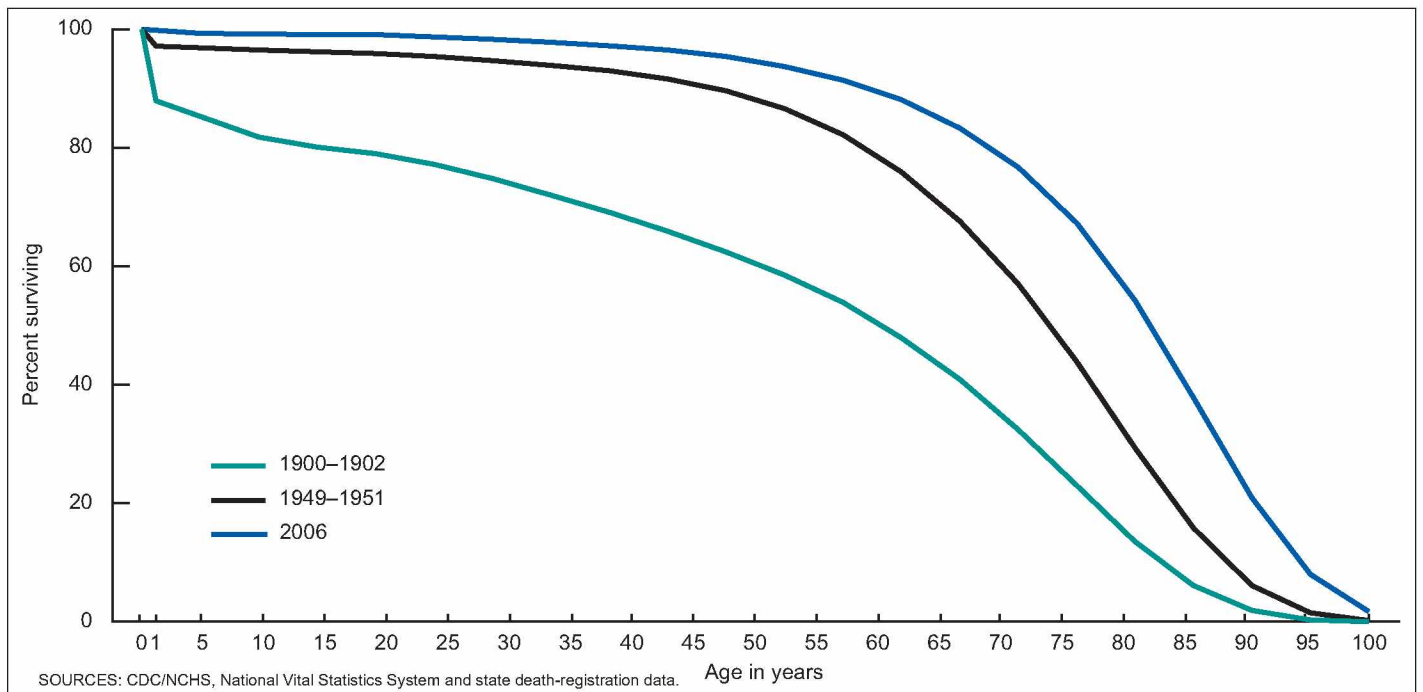


Figure 3. Percentage surviving, by age: Death-registration states, 1900–1902, and United States, 1949–1951 and 2006

survival curve for the period 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 2006 is nearly flat until about age 50 after which the decline in survival becomes more rapid. Improvements in survival between the periods 1900–1902 and 1949–1951 occurred at all ages, although the largest improvements were among the younger population. Between 1949–1951 and 2006, improvements occurred primarily for the older population.

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**Table 1. Life table for the total population: United States, 2006**

Age	Probability of dying between ages $x$ to $x + 1$	Number surviving to age $x$	Number dying between ages $x$ to $x + 1$	Person-years lived between ages $x$ to $x + 1$	Total number of person-years lived above age $x$	Expectation of life at age $x$
	$q_x$	$l_x$	$d_x$	$L_x$	$T_x$	$e_x$
0-1	0.006713	100,000	671	99,409	7,770,850	77.7
1-2	0.000444	99,329	44	99,307	7,671,441	77.2
2-3	0.000300	99,285	30	99,270	7,572,134	76.3
3-4	0.000216	99,255	21	99,244	7,472,864	75.3
4-5	0.000179	99,233	18	99,225	7,373,620	74.3
5-6	0.000168	99,216	17	99,207	7,274,396	73.3
6-7	0.000156	99,199	15	99,191	7,175,188	72.3
7-8	0.000143	99,184	14	99,177	7,075,997	71.3
8-9	0.000125	99,169	12	99,163	6,976,820	70.4
9-10	0.000103	99,157	10	99,152	6,877,657	69.4
10-11	0.000086	99,147	9	99,143	6,778,505	68.4
11-12	0.000088	99,138	9	99,134	6,679,363	67.4
12-13	0.000125	99,130	12	99,123	6,580,229	66.4
13-14	0.000206	99,117	20	99,107	6,481,105	65.4
14-15	0.000317	99,097	31	99,081	6,381,999	64.4
15-16	0.000438	99,065	43	99,044	6,282,918	63.4
16-17	0.000552	99,022	55	98,995	6,183,874	62.4
17-18	0.000657	98,967	65	98,935	6,084,879	61.5
18-19	0.000747	98,902	74	98,865	5,985,945	60.5
19-20	0.000825	98,828	82	98,788	5,887,079	59.6
20-21	0.000905	98,747	89	98,702	5,788,291	58.6
21-22	0.000983	98,658	97	98,609	5,689,589	57.7
22-23	0.001033	98,561	102	98,510	5,590,980	56.7
23-24	0.001049	98,459	103	98,407	5,492,471	55.8
24-25	0.001038	98,355	102	98,304	5,394,063	54.8
25-26	0.001019	98,253	100	98,203	5,295,759	53.9
26-27	0.001006	98,153	99	98,104	5,197,556	53.0
27-28	0.000998	98,055	98	98,006	5,099,452	52.0
28-29	0.001002	97,957	98	97,908	5,001,446	51.1
29-30	0.001018	97,859	100	97,809	4,903,539	50.1
30-31	0.001042	97,759	102	97,708	4,805,730	49.2
31-32	0.001072	97,657	105	97,605	4,708,022	48.2
32-33	0.001113	97,552	109	97,498	4,610,417	47.3
33-34	0.001156	97,444	113	97,387	4,512,919	46.3
34-35	0.001212	97,331	118	97,272	4,415,532	45.4
35-36	0.001276	97,213	124	97,151	4,318,260	44.4
36-37	0.001355	97,089	132	97,023	4,221,109	43.5
37-38	0.001456	96,958	141	96,887	4,124,085	42.5
38-39	0.001585	96,816	153	96,740	4,027,198	41.6
39-40	0.001739	96,663	168	96,579	3,930,459	40.7
40-41	0.001903	96,495	184	96,403	3,833,880	39.7
41-42	0.002077	96,311	200	96,211	3,737,477	38.8
42-43	0.002268	96,111	218	96,002	3,641,266	37.9
43-44	0.002479	95,893	238	95,774	3,545,264	37.0
44-45	0.002706	95,655	259	95,526	3,449,490	36.1
45-46	0.002943	95,397	281	95,256	3,353,964	35.2
46-47	0.003190	95,116	303	94,964	3,258,707	34.3
47-48	0.003453	94,812	327	94,649	3,163,743	33.4
48-49	0.003741	94,485	353	94,308	3,069,095	32.5
49-50	0.004057	94,132	382	93,941	2,974,786	31.6
50-51	0.004405	93,750	413	93,543	2,880,846	30.7
51-52	0.004778	93,337	446	93,114	2,787,302	29.9
52-53	0.005166	92,891	480	92,651	2,694,189	29.0
53-54	0.005554	92,411	513	92,154	2,601,538	28.2
54-55	0.005939	91,898	546	91,625	2,509,383	27.3
55-56	0.006335	91,352	579	91,063	2,417,759	26.5
56-57	0.006760	90,773	614	90,466	2,326,696	25.6
57-58	0.007234	90,160	652	89,834	2,236,230	24.8
58-59	0.007796	89,507	698	89,158	2,146,396	24.0
59-60	0.008470	88,810	752	88,433	2,057,238	23.2
60-61	0.009282	88,057	817	87,649	1,968,804	22.4
61-62	0.010204	87,240	890	86,795	1,881,155	21.6
62-63	0.011178	86,350	965	85,867	1,794,360	20.8
63-64	0.012118	85,385	1,035	84,867	1,708,493	20.0
64-65	0.013024	84,350	1,099	83,801	1,623,626	19.2
65-66	0.013999	83,251	1,165	82,669	1,539,825	18.5
66-67	0.014995	82,086	1,231	81,471	1,457,156	17.8

Table 1. Life table for the total population: United States, 2006—Con.

Age	Probability of dying between ages $x$ to $x + 1$	Number surviving to age $x$	Number dying between ages $x$ to $x + 1$	Person-years lived between ages $x$ to $x + 1$	Total number of person-years lived above age $x$	Expectation of life at age $x$
	$q_x$	$l_x$	$d_x$	$L_x$	$T_x$	$e_x$
67-68	0.016161	80,855	1,307	80,202	1,375,686	17.0
68-69	0.017527	79,548	1,394	78,851	1,295,484	16.3
69-70	0.019109	78,154	1,493	77,408	1,216,633	15.6
70-71	0.020890	76,661	1,601	75,860	1,139,225	14.9
71-72	0.022925	75,059	1,721	74,199	1,063,365	14.2
72-73	0.025280	73,339	1,854	72,412	989,166	13.5
73-74	0.027972	71,485	2,000	70,485	916,755	12.8
74-75	0.030997	69,485	2,154	68,408	846,270	12.2
75-76	0.034386	67,331	2,315	66,174	777,862	11.6
76-77	0.038027	65,016	2,472	63,780	711,688	10.9
77-78	0.042036	62,544	2,629	61,229	647,908	10.4
78-79	0.046447	59,915	2,783	58,523	586,679	9.8
79-80	0.051297	57,132	2,931	55,666	528,156	9.2
80-81	0.056623	54,201	3,069	52,667	472,489	8.7
81-82	0.062465	51,132	3,194	49,535	419,823	8.2
82-83	0.068867	47,938	3,301	46,287	370,288	7.7
83-84	0.075871	44,637	3,387	42,943	324,000	7.3
84-85	0.083524	41,250	3,445	39,527	281,057	6.8
85-86	0.091872	37,805	3,473	36,068	241,530	6.4
86-87	0.100962	34,332	3,466	32,598	205,461	6.0
87-88	0.110842	30,865	3,421	29,155	172,863	5.6
88-89	0.121558	27,444	3,336	25,776	143,708	5.2
89-90	0.133155	24,108	3,210	22,503	117,932	4.9
90-91	0.145675	20,898	3,044	19,376	95,429	4.6
91-92	0.159156	17,854	2,842	16,433	76,053	4.3
92-93	0.173631	15,012	2,607	13,709	59,620	4.0
93-94	0.189127	12,406	2,346	11,232	45,911	3.7
94-95	0.205661	10,059	2,069	9,025	34,679	3.4
95-96	0.223242	7,991	1,784	7,099	25,654	3.2
96-97	0.241869	6,207	1,501	5,456	18,555	3.0
97-98	0.261527	4,706	1,231	4,090	13,099	2.8
98-99	0.282188	3,475	981	2,985	9,009	2.6
99-100	0.303810	2,494	758	2,115	6,024	2.4
100 and over	1.00000	1,737	1,737	3,909	3,909	2.3



**Table 2. Life table for males: United States, 2006**

Age	Probability of dying between ages $x$ to $x + 1$	Number surviving to age $x$	Number dying between ages $x$ to $x + 1$	Person-years lived between ages $x$ to $x + 1$	Total number of person-years lived above age $x$	Expectation of life at age $x$
	$q_x$	$l_x$	$d_x$	$L_x$	$T_x$	$e_x$
0-1	0.007344	100,000	734	99,354	7,512,716	75.1
1-2	0.000460	99,266	46	99,243	7,413,362	74.7
2-3	0.000322	99,220	32	99,204	7,314,119	73.7
3-4	0.000245	99,188	24	99,176	7,214,915	72.7
4-5	0.000195	99,164	19	99,154	7,115,739	71.8
5-6	0.000186	99,144	18	99,135	7,016,585	70.8
6-7	0.000176	99,126	17	99,117	6,917,450	69.8
7-8	0.000163	99,108	16	99,100	6,818,333	68.8
8-9	0.000139	99,092	14	99,085	6,719,233	67.8
9-10	0.000107	99,079	11	99,073	6,620,147	66.8
10-11	0.000081	99,068	8	99,064	6,521,074	65.8
11-12	0.000083	99,060	8	99,056	6,422,010	64.8
12-13	0.000136	99,052	14	99,045	6,322,954	63.8
13-14	0.000254	99,038	25	99,026	6,223,909	62.8
14-15	0.000418	99,013	41	98,992	6,124,884	61.9
15-16	0.000594	98,972	59	98,942	6,025,891	60.9
16-17	0.000759	98,913	75	98,875	5,926,949	59.9
17-18	0.000918	98,838	91	98,792	5,828,074	59.0
18-19	0.001063	98,747	105	98,694	5,729,282	58.0
19-20	0.001193	98,642	118	98,583	5,630,587	57.1
20-21	0.001329	98,524	131	98,459	5,532,004	56.1
21-22	0.001456	98,393	143	98,322	5,433,546	55.2
22-23	0.001536	98,250	151	98,175	5,335,224	54.3
23-24	0.001554	98,099	152	98,023	5,237,049	53.4
24-25	0.001526	97,947	149	97,872	5,139,026	52.5
25-26	0.001480	97,797	145	97,725	5,041,154	51.5
26-27	0.001443	97,653	141	97,582	4,943,430	50.6
27-28	0.001416	97,512	138	97,443	4,845,847	49.7
28-29	0.001408	97,374	137	97,305	4,748,405	48.8
29-30	0.001418	97,236	138	97,168	4,651,100	47.8
30-31	0.001437	97,099	140	97,029	4,553,932	46.9
31-32	0.001460	96,959	142	96,888	4,456,904	46.0
32-33	0.001500	96,817	145	96,745	4,360,015	45.0
33-34	0.001535	96,672	148	96,598	4,263,271	44.1
34-35	0.001589	96,524	153	96,447	4,166,672	43.2
35-36	0.001653	96,371	159	96,291	4,070,225	42.2
36-37	0.001737	96,211	167	96,128	3,973,934	41.3
37-38	0.001851	96,044	178	95,955	3,877,807	40.4
38-39	0.002001	95,866	192	95,770	3,781,851	39.4
39-40	0.002183	95,675	209	95,570	3,686,081	38.5
40-41	0.002381	95,466	227	95,352	3,590,511	37.6
41-42	0.002592	95,238	247	95,115	3,495,159	36.7
42-43	0.002827	94,991	269	94,857	3,400,044	35.8
43-44	0.003087	94,723	292	94,577	3,305,187	34.9
44-45	0.003369	94,430	318	94,271	3,210,610	34.0
45-46	0.003662	94,112	345	93,940	3,116,339	33.1
46-47	0.003970	93,768	372	93,582	3,022,398	32.2
47-48	0.004309	93,395	402	93,194	2,928,817	31.4
48-49	0.004694	92,993	436	92,775	2,835,623	30.5
49-50	0.005125	92,556	474	92,319	2,742,848	29.6
50-51	0.005602	92,082	516	91,824	2,650,529	28.8
51-52	0.006107	91,566	559	91,287	2,558,705	27.9
52-53	0.006617	91,007	602	90,706	2,467,418	27.1
53-54	0.007104	90,405	642	90,084	2,376,712	26.3
54-55	0.007570	89,763	680	89,423	2,286,628	25.5
55-56	0.008042	89,083	716	88,725	2,197,205	24.7
56-57	0.008550	88,367	756	87,989	2,108,480	23.9
57-58	0.009114	87,611	798	87,212	2,020,491	23.1
58-59	0.009781	86,813	849	86,388	1,933,279	22.3
59-60	0.010582	85,964	910	85,509	1,846,891	21.5
60-61	0.011543	85,054	982	84,563	1,761,382	20.7
61-62	0.012632	84,072	1,062	83,541	1,676,819	19.9
62-63	0.013798	83,010	1,145	82,438	1,593,278	19.2
63-64	0.014946	81,865	1,224	81,253	1,510,840	18.5
64-65	0.016067	80,641	1,296	79,993	1,429,587	17.7
65-66	0.017272	79,346	1,370	78,660	1,349,594	17.0
66-67	0.018518	77,975	1,444	77,253	1,270,933	16.3

Table 2. Life table for males: United States, 2006—Con.

Age	Probability of dying between ages $x$ to $x + 1$	Number surviving to age $x$	Number dying between ages $x$ to $x + 1$	Person-years lived between ages $x$ to $x + 1$	Total number of person-years lived above age $x$	Expectation of life at age $x$
	$q_x$	$l_x$	$d_x$	$L_x$	$T_x$	$e_x$
67-68	0.019974	76,531	1,529	75,767	1,193,680	15.6
68-69	0.021630	75,003	1,622	74,191	1,117,913	14.9
69-70	0.023559	73,380	1,729	72,516	1,043,722	14.2
70-71	0.025737	71,652	1,844	70,729	971,206	13.6
71-72	0.028223	69,807	1,970	68,822	900,477	12.9
72-73	0.031103	67,837	2,110	66,782	831,654	12.3
73-74	0.034372	65,727	2,259	64,598	764,872	11.6
74-75	0.037995	63,468	2,411	62,262	700,274	11.0
75-76	0.042023	61,057	2,566	59,774	638,012	10.4
76-77	0.046338	58,491	2,710	57,136	578,238	9.9
77-78	0.051072	55,780	2,849	54,356	521,103	9.3
78-79	0.056262	52,932	2,978	51,443	466,747	8.8
79-80	0.061944	49,954	3,094	48,406	415,304	8.3
80-81	0.068159	46,859	3,194	45,262	366,898	7.8
81-82	0.074947	43,665	3,273	42,029	321,636	7.4
82-83	0.082352	40,393	3,326	38,730	279,606	6.9
83-84	0.090417	37,066	3,351	35,391	240,877	6.5
84-85	0.099186	33,715	3,344	32,043	205,486	6.1
85-86	0.108704	30,371	3,301	28,720	173,443	5.7
86-87	0.119015	27,069	3,222	25,459	144,723	5.3
87-88	0.130161	23,848	3,104	22,296	119,265	5.0
88-89	0.142182	20,744	2,949	19,269	96,969	4.7
89-90	0.155116	17,794	2,760	16,414	77,700	4.4
90-91	0.168995	15,034	2,541	13,764	61,286	4.1
91-92	0.183844	12,493	2,297	11,345	47,522	3.8
92-93	0.199686	10,197	2,036	9,179	36,177	3.5
93-94	0.216530	8,160	1,767	7,277	26,998	3.3
94-95	0.234379	6,394	1,499	5,644	19,721	3.1
95-96	0.253223	4,895	1,240	4,275	14,077	2.9
96-97	0.273043	3,655	998	3,156	9,802	2.7
97-98	0.293803	2,657	781	2,267	6,645	2.5
98-99	0.315457	1,877	592	1,581	4,378	2.3
99-100	0.337943	1,285	434	1,068	2,798	2.2
100 and over	1.00000	850	850	1,730	1,730	2.0

**Table 3. Life table for females: United States, 2006**

Age	Probability of dying between ages $x$ to $x + 1$	Number surviving to age $x$	Number dying between ages $x$ to $x + 1$	Person-years lived between ages $x$ to $x + 1$	Total number of person-years lived above age $x$	Expectation of life at age $x$
	$q_x$	$l_x$	$d_x$	$L_x$	$T_x$	$e_x$
0-1	0.006051	100,000	605	99,467	8,020,082	80.2
1-2	0.000427	99,395	42	99,374	7,920,615	79.7
2-3	0.000276	99,352	27	99,339	7,821,242	78.7
3-4	0.000185	99,325	18	99,316	7,721,903	77.7
4-5	0.000162	99,307	16	99,299	7,622,587	76.8
5-6	0.000149	99,291	15	99,283	7,523,288	75.8
6-7	0.000134	99,276	13	99,269	7,424,005	74.8
7-8	0.000123	99,262	12	99,256	7,324,736	73.8
8-9	0.000111	99,250	11	99,245	7,225,480	72.8
9-10	0.000099	99,239	10	99,234	7,126,235	71.8
10-11	0.000091	99,229	9	99,225	7,027,001	70.8
11-12	0.000093	99,220	9	99,216	6,927,776	69.8
12-13	0.000113	99,211	11	99,206	6,828,560	68.8
13-14	0.000155	99,200	15	99,192	6,729,354	67.8
14-15	0.000211	99,185	21	99,174	6,630,162	66.8
15-16	0.000275	99,164	27	99,150	6,530,988	65.9
16-17	0.000334	99,137	33	99,120	6,431,838	64.9
17-18	0.000382	99,103	38	99,085	6,332,718	63.9
18-19	0.000414	99,066	41	99,045	6,233,633	62.9
19-20	0.000434	99,025	43	99,003	6,134,588	62.0
20-21	0.000453	98,982	45	98,959	6,035,585	61.0
21-22	0.000475	98,937	47	98,913	5,936,626	60.0
22-23	0.000494	98,890	49	98,865	5,837,712	59.0
23-24	0.000508	98,841	50	98,816	5,738,847	58.1
24-25	0.000519	98,791	51	98,765	5,640,031	57.1
25-26	0.000532	98,739	52	98,713	5,541,266	56.1
26-27	0.000546	98,687	54	98,660	5,442,553	55.1
27-28	0.000562	98,633	55	98,605	5,343,893	54.2
28-29	0.000580	98,578	57	98,549	5,245,288	53.2
29-30	0.000604	98,520	59	98,491	5,146,738	52.2
30-31	0.000634	98,461	62	98,430	5,048,248	51.3
31-32	0.000671	98,399	66	98,366	4,949,818	50.3
32-33	0.000718	98,333	71	98,297	4,851,452	49.3
33-34	0.000769	98,262	76	98,224	4,753,155	48.4
34-35	0.000829	98,186	81	98,146	4,654,931	47.4
35-36	0.000893	98,105	88	98,061	4,556,785	46.4
36-37	0.000967	98,017	95	97,970	4,458,724	45.5
37-38	0.001057	97,923	103	97,871	4,360,754	44.5
38-39	0.001166	97,819	114	97,762	4,262,883	43.6
39-40	0.001293	97,705	126	97,642	4,165,120	42.6
40-41	0.001425	97,579	139	97,509	4,067,478	41.7
41-42	0.001563	97,440	152	97,364	3,969,969	40.7
42-43	0.001713	97,288	167	97,204	3,872,605	39.8
43-44	0.001877	97,121	182	97,030	3,775,401	38.9
44-45	0.002052	96,939	199	96,839	3,678,371	37.9
45-46	0.002236	96,740	216	96,632	3,581,532	37.0
46-47	0.002425	96,523	234	96,406	3,484,901	36.1
47-48	0.002617	96,289	252	96,163	3,388,494	35.2
48-49	0.002812	96,037	270	95,902	3,292,331	34.3
49-50	0.003020	95,767	289	95,623	3,196,429	33.4
50-51	0.003247	95,478	310	95,323	3,100,806	32.5
51-52	0.003497	95,168	333	95,002	3,005,483	31.6
52-53	0.003773	94,835	358	94,656	2,910,482	30.7
53-54	0.004070	94,477	384	94,285	2,815,825	29.8
54-55	0.004383	94,093	412	93,887	2,721,540	28.9
55-56	0.004710	93,681	441	93,460	2,627,653	28.0
56-57	0.005061	93,239	472	93,003	2,534,193	27.2
57-58	0.005457	92,767	506	92,514	2,441,190	26.3
58-59	0.005928	92,261	547	91,988	2,348,676	25.5
59-60	0.006494	91,714	596	91,416	2,256,688	24.6
60-61	0.007183	91,119	654	90,791	2,165,272	23.8
61-62	0.007966	90,464	721	90,104	2,074,481	22.9
62-63	0.008781	89,743	788	89,349	1,984,377	22.1
63-64	0.009551	88,955	850	88,531	1,895,027	21.3
64-65	0.010282	88,106	906	87,653	1,806,497	20.5
65-66	0.011073	87,200	966	86,717	1,718,844	19.7
66-67	0.011885	86,234	1,025	85,722	1,632,127	18.9

Table 3. Life table for females: United States, 2006—Con.

Age	Probability of dying between ages $x$ to $x + 1$	Number surviving to age $x$	Number dying between ages $x$ to $x + 1$	Person-years lived between ages $x$ to $x + 1$	Total number of person-years lived above age $x$	Expectation of life at age $x$
	$q_x$	$l_x$	$d_x$	$L_x$	$T_x$	$e_x$
67-68	0.012855	85,209	1,095	84,662	1,546,405	18.1
68-69	0.014010	84,114	1,178	83,525	1,461,743	17.4
69-70	0.015359	82,936	1,274	82,299	1,378,218	16.6
70-71	0.016895	81,662	1,380	80,972	1,295,919	15.9
71-72	0.018652	80,282	1,497	79,534	1,214,947	15.1
72-73	0.020679	78,785	1,629	77,970	1,135,414	14.4
73-74	0.022999	77,156	1,774	76,268	1,057,444	13.7
74-75	0.025637	75,381	1,933	74,415	981,175	13.0
75-76	0.028641	73,449	2,104	72,397	906,760	12.3
76-77	0.031894	71,345	2,275	70,207	834,363	11.7
77-78	0.035502	69,070	2,452	67,844	764,156	11.1
78-79	0.039502	66,617	2,631	65,302	696,313	10.5
79-80	0.043932	63,986	2,811	62,580	631,011	9.9
80-81	0.048833	61,175	2,987	59,681	568,430	9.3
81-82	0.054251	58,188	3,157	56,609	508,749	8.7
82-83	0.060231	55,031	3,315	53,374	452,140	8.2
83-84	0.066824	51,716	3,456	49,988	398,766	7.7
84-85	0.074082	48,260	3,575	46,473	348,778	7.2
85-86	0.082058	44,685	3,667	42,852	302,305	6.8
86-87	0.090810	41,018	3,725	39,156	259,453	6.3
87-88	0.100392	37,294	3,744	35,422	220,297	5.9
88-89	0.110863	33,550	3,719	31,690	184,876	5.5
89-90	0.122277	29,830	3,648	28,006	153,186	5.1
90-91	0.134688	26,183	3,526	24,419	125,179	4.8
91-92	0.148146	22,656	3,356	20,978	100,760	4.4
92-93	0.162697	19,300	3,140	17,730	79,782	4.1
93-94	0.178377	16,160	2,883	14,718	62,052	3.8
94-95	0.195216	13,277	2,592	11,981	47,334	3.6
95-96	0.213232	10,685	2,278	9,546	35,352	3.3
96-97	0.232430	8,407	1,954	7,430	25,806	3.1
97-98	0.252802	6,453	1,631	5,637	18,376	2.8
98-99	0.274321	4,822	1,323	4,160	12,739	2.6
99-100	0.296944	3,499	1,039	2,979	8,579	2.5
100 and over	1.00000	2,460	2,460	5,600	5,600	2.3

**Table 4. Life table for the white population: United States, 2006**

Age	Probability of dying between ages $x$ to $x + 1$	Number surviving to age $x$	Number dying between ages $x$ to $x + 1$	Person-years lived between ages $x$ to $x + 1$	Total number of person-years lived above age $x$	Expectation of life at age $x$
	$q_x$	$l_x$	$d_x$	$L_x$	$T_x$	$e_x$
0-1	0.005577	100,000	558	99,510	7,815,546	78.2
1-2	0.000394	99,442	39	99,423	7,716,036	77.6
2-3	0.000265	99,403	26	99,390	7,616,613	76.6
3-4	0.000199	99,377	20	99,367	7,517,223	75.6
4-5	0.000165	99,357	16	99,349	7,417,856	74.7
5-6	0.000153	99,341	15	99,333	7,318,507	73.7
6-7	0.000143	99,325	14	99,318	7,219,174	72.7
7-8	0.000132	99,311	13	99,305	7,119,856	71.7
8-9	0.000116	99,298	12	99,292	7,020,551	70.7
9-10	0.000096	99,287	10	99,282	6,921,259	69.7
10-11	0.000080	99,277	8	99,273	6,821,977	68.7
11-12	0.000082	99,269	8	99,265	6,722,704	67.7
12-13	0.000118	99,261	12	99,255	6,623,439	66.7
13-14	0.000195	99,249	19	99,240	6,524,184	65.7
14-15	0.000301	99,230	30	99,215	6,424,944	64.7
15-16	0.000416	99,200	41	99,179	6,325,730	63.8
16-17	0.000523	99,159	52	99,133	6,226,550	62.8
17-18	0.000622	99,107	62	99,076	6,127,417	61.8
18-19	0.000709	99,045	70	99,010	6,028,341	60.9
19-20	0.000783	98,975	77	98,936	5,929,331	59.9
20-21	0.000860	98,898	85	98,855	5,830,395	59.0
21-22	0.000933	98,813	92	98,766	5,731,540	58.0
22-23	0.000979	98,720	97	98,672	5,632,773	57.1
23-24	0.000990	98,624	98	98,575	5,534,101	56.1
24-25	0.000976	98,526	96	98,478	5,435,526	55.2
25-26	0.000953	98,430	94	98,383	5,337,048	54.2
26-27	0.000935	98,336	92	98,290	5,238,665	53.3
27-28	0.000924	98,244	91	98,199	5,140,374	52.3
28-29	0.000926	98,153	91	98,108	5,042,176	51.4
29-30	0.000940	98,063	92	98,017	4,944,068	50.4
30-31	0.000961	97,970	94	97,923	4,846,051	49.5
31-32	0.000988	97,876	97	97,828	4,748,128	48.5
32-33	0.001027	97,780	100	97,729	4,650,300	47.6
33-34	0.001067	97,679	104	97,627	4,552,570	46.6
34-35	0.001119	97,575	109	97,520	4,454,943	45.7
35-36	0.001178	97,466	115	97,408	4,357,423	44.7
36-37	0.001252	97,351	122	97,290	4,260,015	43.8
37-38	0.001347	97,229	131	97,164	4,162,724	42.8
38-39	0.001470	97,098	143	97,027	4,065,561	41.9
39-40	0.001616	96,955	157	96,877	3,968,534	40.9
40-41	0.001773	96,799	172	96,713	3,871,657	40.0
41-42	0.001937	96,627	187	96,534	3,774,944	39.1
42-43	0.002117	96,440	204	96,338	3,678,411	38.1
43-44	0.002314	96,236	223	96,124	3,582,073	37.2
44-45	0.002524	96,013	242	95,892	3,485,948	36.3
45-46	0.002745	95,771	263	95,639	3,390,057	35.4
46-47	0.002974	95,508	284	95,366	3,294,417	34.5
47-48	0.003216	95,224	306	95,071	3,199,052	33.6
48-49	0.003478	94,918	330	94,753	3,103,981	32.7
49-50	0.003766	94,587	356	94,409	3,009,228	31.8
50-51	0.004083	94,231	385	94,039	2,914,819	30.9
51-52	0.004427	93,846	415	93,639	2,820,780	30.1
52-53	0.004789	93,431	447	93,207	2,727,141	29.2
53-54	0.005159	92,984	480	92,744	2,633,934	28.3
54-55	0.005532	92,504	512	92,248	2,541,190	27.5
55-56	0.005915	91,992	544	91,720	2,448,942	26.6
56-57	0.006327	91,448	579	91,159	2,357,222	25.8
57-58	0.006793	90,869	617	90,561	2,266,064	24.9
58-59	0.007351	90,252	663	89,920	2,175,503	24.1
59-60	0.008024	89,589	719	89,229	2,085,583	23.3
60-61	0.008838	88,870	785	88,477	1,996,353	22.5
61-62	0.009758	88,084	860	87,655	1,907,876	21.7
62-63	0.010721	87,225	935	86,757	1,820,222	20.9
63-64	0.011644	86,290	1,005	85,787	1,733,464	20.1
64-65	0.012532	85,285	1,069	84,751	1,647,677	19.3
65-66	0.013499	84,216	1,137	83,648	1,562,926	18.6
66-67	0.014505	83,079	1,205	82,477	1,479,279	17.8

Table 4. Life table for the white population: United States, 2006—Con.

Age	Probability of dying between ages $x$ to $x + 1$	Number surviving to age $x$	Number dying between ages $x$ to $x + 1$	Person-years lived between ages $x$ to $x + 1$	Total number of person-years lived above age $x$	Expectation of life at age $x$
	$q_x$	$l_x$	$d_x$	$L_x$	$T_x$	$e_x$
67-68	0.015683	81,874	1,284	81,232	1,396,802	17.1
68-69	0.017058	80,590	1,375	79,903	1,315,570	16.3
69-70	0.018645	79,215	1,477	78,477	1,235,667	15.6
70-71	0.020428	77,739	1,588	76,944	1,157,190	14.9
71-72	0.022466	76,150	1,711	75,295	1,080,245	14.2
72-73	0.024824	74,440	1,848	73,516	1,004,950	13.5
73-74	0.027512	72,592	1,997	71,593	931,435	12.8
74-75	0.030528	70,595	2,155	69,517	859,841	12.2
75-76	0.033904	68,440	2,320	67,279	790,324	11.5
76-77	0.037564	66,119	2,484	64,877	723,045	10.9
77-78	0.041602	63,635	2,647	62,312	658,168	10.3
78-79	0.046053	60,988	2,809	59,584	595,856	9.8
79-80	0.050955	58,179	2,965	56,697	536,272	9.2
80-81	0.056348	55,215	3,111	53,659	479,575	8.7
81-82	0.062274	52,104	3,245	50,481	425,915	8.2
82-83	0.068778	48,859	3,360	47,179	375,434	7.7
83-84	0.075906	45,499	3,454	43,772	328,255	7.2
84-85	0.083707	42,045	3,519	40,285	284,483	6.8
85-86	0.092229	38,526	3,553	36,749	244,198	6.3
86-87	0.101523	34,972	3,551	33,197	207,449	5.9
87-88	0.111639	31,422	3,508	29,668	174,252	5.5
88-89	0.122624	27,914	3,423	26,203	144,584	5.2
89-90	0.134527	24,491	3,295	22,844	118,381	4.8
90-91	0.147391	21,196	3,124	19,634	95,538	4.5
91-92	0.161257	18,072	2,914	16,615	75,903	4.2
92-93	0.176157	15,158	2,670	13,823	59,288	3.9
93-94	0.192118	12,488	2,399	11,288	45,466	3.6
94-95	0.209159	10,089	2,110	9,034	34,177	3.4
95-96	0.227285	7,979	1,813	7,072	25,144	3.2
96-97	0.246493	6,165	1,520	5,405	18,072	2.9
97-98	0.266764	4,645	1,239	4,026	12,667	2.7
98-99	0.288065	3,406	981	2,916	8,641	2.5
99-100	0.310347	2,425	753	2,049	5,725	2.4
100 and over	1.00000	1,672	1,672	3,677	3,677	2.2

**Table 5. Life table for white males: United States, 2006**

Age	Probability of dying between ages $x$ to $x + 1$	Number surviving to age $x$	Number dying between ages $x$ to $x + 1$	Person-years lived between ages $x$ to $x + 1$	Total number of person-years lived above age $x$	Expectation of life at age $x$
	$q_x$	$l_x$	$d_x$	$L_x$	$T_x$	$e_x$
0-1	0.006119	100,000	612	99,462	7,566,361	75.7
1-2	0.000398	99,388	40	99,368	7,466,899	75.1
2-3	0.000296	99,349	29	99,334	7,367,531	74.2
3-4	0.000227	99,319	22	99,308	7,268,197	73.2
4-5	0.000182	99,297	18	99,288	7,168,889	72.2
5-6	0.000171	99,279	17	99,270	7,069,601	71.2
6-7	0.000161	99,262	16	99,254	6,970,331	70.2
7-8	0.000148	99,246	15	99,238	6,871,078	69.2
8-9	0.000127	99,231	13	99,225	6,771,839	68.2
9-10	0.000100	99,218	10	99,213	6,672,615	67.3
10-11	0.000079	99,208	8	99,205	6,573,401	66.3
11-12	0.000082	99,201	8	99,197	6,474,197	65.3
12-13	0.000132	99,192	13	99,186	6,375,000	64.3
13-14	0.000240	99,179	24	99,167	6,275,814	63.3
14-15	0.000390	99,155	39	99,136	6,176,647	62.3
15-16	0.000549	99,117	54	99,090	6,077,511	61.3
16-17	0.000699	99,062	69	99,028	5,978,421	60.4
17-18	0.000846	98,993	84	98,951	5,879,393	59.4
18-19	0.000986	98,909	98	98,861	5,780,442	58.4
19-20	0.001115	98,812	110	98,757	5,681,581	57.5
20-21	0.001250	98,702	123	98,640	5,582,824	56.6
21-22	0.001374	98,578	135	98,511	5,484,184	55.6
22-23	0.001449	98,443	143	98,372	5,385,674	54.7
23-24	0.001462	98,300	144	98,229	5,287,302	53.8
24-25	0.001428	98,157	140	98,087	5,189,073	52.9
25-26	0.001377	98,017	135	97,949	5,090,987	51.9
26-27	0.001335	97,882	131	97,816	4,993,038	51.0
27-28	0.001304	97,751	127	97,687	4,895,221	50.1
28-29	0.001294	97,624	126	97,560	4,797,534	49.1
29-30	0.001303	97,497	127	97,434	4,699,974	48.2
30-31	0.001322	97,370	129	97,306	4,602,540	47.3
31-32	0.001345	97,241	131	97,176	4,505,234	46.3
32-33	0.001382	97,111	134	97,044	4,408,058	45.4
33-34	0.001417	96,976	137	96,908	4,311,015	44.5
34-35	0.001469	96,839	142	96,768	4,214,107	43.5
35-36	0.001530	96,697	148	96,623	4,117,339	42.6
36-37	0.001610	96,549	155	96,471	4,020,716	41.6
37-38	0.001721	96,393	166	96,311	3,924,245	40.7
38-39	0.001868	96,228	180	96,138	3,827,934	39.8
39-40	0.002046	96,048	197	95,950	3,731,796	38.9
40-41	0.002241	95,851	215	95,744	3,635,847	37.9
41-42	0.002445	95,637	234	95,520	3,540,103	37.0
42-43	0.002670	95,403	255	95,275	3,444,583	36.1
43-44	0.002915	95,148	277	95,009	3,349,308	35.2
44-45	0.003177	94,871	301	94,720	3,254,298	34.3
45-46	0.003449	94,569	326	94,406	3,159,578	33.4
46-47	0.003735	94,243	352	94,067	3,065,172	32.5
47-48	0.004045	93,891	380	93,701	2,971,105	31.6
48-49	0.004393	93,511	411	93,306	2,877,404	30.8
49-50	0.004782	93,101	445	92,878	2,784,098	29.9
50-51	0.005211	92,655	483	92,414	2,691,220	29.0
51-52	0.005668	92,173	522	91,911	2,598,806	28.2
52-53	0.006137	91,650	562	91,369	2,506,895	27.4
53-54	0.006593	91,088	601	90,787	2,415,526	26.5
54-55	0.007037	90,487	637	90,169	2,324,738	25.7
55-56	0.007487	89,850	673	89,514	2,234,569	24.9
56-57	0.007974	89,178	711	88,822	2,145,055	24.1
57-58	0.008521	88,467	754	88,090	2,056,233	23.2
58-59	0.009179	87,713	805	87,310	1,968,143	22.4
59-60	0.009973	86,908	867	86,474	1,880,833	21.6
60-61	0.010930	86,041	940	85,571	1,794,359	20.9
61-62	0.012013	85,100	1,022	84,589	1,708,788	20.1
62-63	0.013165	84,078	1,107	83,525	1,624,199	19.3
63-64	0.014293	82,971	1,186	82,378	1,540,674	18.6
64-65	0.015396	81,785	1,259	81,156	1,458,296	17.8
65-66	0.016596	80,526	1,336	79,858	1,377,140	17.1
66-67	0.017847	79,190	1,413	78,483	1,297,282	16.4

Table 5. Life table for white males: United States, 2006—Con.

Age	Probability of dying between ages $x$ to $x + 1$	Number surviving to age $x$	Number dying between ages $x$ to $x + 1$	Person-years lived between ages $x$ to $x + 1$	Total number of person-years lived above age $x$	Expectation of life at age $x$
	$q_x$	$l_x$	$d_x$	$L_x$	$T_x$	$e_x$
67-68	0.019290	77,777	1,500	77,026	1,218,799	15.7
68-69	0.020954	76,276	1,598	75,477	1,141,772	15.0
69-70	0.022866	74,678	1,708	73,824	1,066,295	14.3
70-71	0.025004	72,970	1,825	72,058	992,471	13.6
71-72	0.027456	71,146	1,953	70,169	920,413	12.9
72-73	0.030320	69,192	2,098	68,143	850,244	12.3
73-74	0.033597	67,095	2,254	65,967	782,101	11.7
74-75	0.037249	64,840	2,415	63,633	716,133	11.0
75-76	0.041289	62,425	2,577	61,136	652,501	10.5
76-77	0.045637	59,848	2,731	58,482	591,364	9.9
77-78	0.050419	57,116	2,880	55,676	532,882	9.3
78-79	0.055672	54,237	3,019	52,727	477,206	8.8
79-80	0.061438	51,217	3,147	49,644	424,479	8.3
80-81	0.067757	48,070	3,257	46,442	374,835	7.8
81-82	0.074675	44,813	3,346	43,140	328,393	7.3
82-83	0.082238	41,467	3,410	39,762	285,253	6.9
83-84	0.090491	38,057	3,444	36,335	245,491	6.5
84-85	0.099482	34,613	3,443	32,891	209,156	6.0
85-86	0.109259	31,170	3,406	29,467	176,265	5.7
86-87	0.119870	27,764	3,328	26,100	146,798	5.3
87-88	0.131359	24,436	3,210	22,831	120,698	4.9
88-89	0.143769	21,226	3,052	19,700	97,867	4.6
89-90	0.157140	18,174	2,856	16,746	78,167	4.3
90-91	0.171505	15,318	2,627	14,005	61,421	4.0
91-92	0.186892	12,691	2,372	11,505	47,416	3.7
92-93	0.203321	10,319	2,098	9,270	35,910	3.5
93-94	0.220802	8,221	1,815	7,314	26,640	3.2
94-95	0.239334	6,406	1,533	5,639	19,326	3.0
95-96	0.258905	4,873	1,262	4,242	13,687	2.8
96-97	0.279489	3,611	1,009	3,107	9,445	2.6
97-98	0.301044	2,602	783	2,210	6,338	2.4
98-99	0.323515	1,819	588	1,524	4,128	2.3
99-100	0.346831	1,230	427	1,017	2,604	2.1
100 and over	1.00000	804	804	1,587	1,587	2.0



**Table 6. Life table for white females: United States, 2006**

Age	Probability of dying between ages $x$ to $x + 1$	Number surviving to age $x$	Number dying between ages $x$ to $x + 1$	Person-years lived between ages $x$ to $x + 1$	Total number of person-years lived above age $x$	Expectation of life at age $x$
	$q_x$	$l_x$	$d_x$	$L_x$	$T_x$	$e_x$
0-1	0.005007	100,000	501	99,560	8,058,411	80.6
1-2	0.000390	99,499	39	99,480	7,958,851	80.0
2-3	0.000234	99,461	23	99,449	7,859,371	79.0
3-4	0.000170	99,437	17	99,429	7,759,922	78.0
4-5	0.000148	99,420	15	99,413	7,660,493	77.1
5-6	0.000134	99,406	13	99,399	7,561,080	76.1
6-7	0.000124	99,392	12	99,386	7,461,681	75.1
7-8	0.000115	99,380	11	99,374	7,362,295	74.1
8-9	0.000104	99,369	10	99,363	7,262,921	73.1
9-10	0.000091	99,358	9	99,354	7,163,558	72.1
10-11	0.000081	99,349	8	99,345	7,064,204	71.1
11-12	0.000082	99,341	8	99,337	6,964,859	70.1
12-13	0.000103	99,333	10	99,328	6,865,522	69.1
13-14	0.000147	99,323	15	99,315	6,766,194	68.1
14-15	0.000208	99,308	21	99,298	6,666,878	67.1
15-16	0.000276	99,288	27	99,274	6,567,581	66.1
16-17	0.000338	99,260	33	99,243	6,468,307	65.2
17-18	0.000386	99,227	38	99,208	6,369,063	64.2
18-19	0.000415	99,188	41	99,168	6,269,856	63.2
19-20	0.000429	99,147	43	99,126	6,170,688	62.2
20-21	0.000441	99,105	44	99,083	6,071,562	61.3
21-22	0.000456	99,061	45	99,038	5,972,479	60.3
22-23	0.000469	99,016	46	98,993	5,873,441	59.3
23-24	0.000479	98,969	47	98,946	5,774,449	58.3
24-25	0.000487	98,922	48	98,898	5,675,503	57.4
25-26	0.000497	98,874	49	98,849	5,576,605	56.4
26-27	0.000507	98,825	50	98,800	5,477,756	55.4
27-28	0.000519	98,775	51	98,749	5,378,956	54.5
28-29	0.000534	98,723	53	98,697	5,280,207	53.5
29-30	0.000553	98,671	55	98,643	5,181,510	52.5
30-31	0.000578	98,616	57	98,588	5,082,867	51.5
31-32	0.000611	98,559	60	98,529	4,984,280	50.6
32-33	0.000653	98,499	64	98,467	4,885,751	49.6
33-34	0.000699	98,434	69	98,400	4,787,284	48.6
34-35	0.000753	98,366	74	98,329	4,688,884	47.7
35-36	0.000811	98,292	80	98,252	4,590,555	46.7
36-37	0.000878	98,212	86	98,169	4,492,303	45.7
37-38	0.000960	98,126	94	98,079	4,394,135	44.8
38-39	0.001059	98,031	104	97,980	4,296,056	43.8
39-40	0.001174	97,928	115	97,870	4,198,077	42.9
40-41	0.001294	97,813	127	97,749	4,100,206	41.9
41-42	0.001419	97,686	139	97,617	4,002,457	41.0
42-43	0.001556	97,548	152	97,472	3,904,840	40.0
43-44	0.001706	97,396	166	97,313	3,807,368	39.1
44-45	0.001867	97,230	181	97,139	3,710,056	38.2
45-46	0.002037	97,048	198	96,949	3,612,917	37.2
46-47	0.002211	96,850	214	96,743	3,515,967	36.3
47-48	0.002388	96,636	231	96,521	3,419,224	35.4
48-49	0.002567	96,406	248	96,282	3,322,703	34.5
49-50	0.002759	96,158	265	96,025	3,226,421	33.6
50-51	0.002968	95,893	285	95,751	3,130,396	32.6
51-52	0.003203	95,608	306	95,455	3,034,645	31.7
52-53	0.003466	95,302	330	95,137	2,939,190	30.8
53-54	0.003754	94,972	357	94,793	2,844,053	29.9
54-55	0.004063	94,615	384	94,423	2,749,260	29.1
55-56	0.004386	94,231	413	94,024	2,654,837	28.2
56-57	0.004731	93,817	444	93,596	2,560,813	27.3
57-58	0.005124	93,374	478	93,134	2,467,217	26.4
58-59	0.005595	92,895	520	92,635	2,374,083	25.6
59-60	0.006162	92,376	569	92,091	2,281,447	24.7
60-61	0.006854	91,806	629	91,492	2,189,357	23.8
61-62	0.007637	91,177	696	90,829	2,097,865	23.0
62-63	0.008442	90,481	764	90,099	2,007,036	22.2
63-64	0.009192	89,717	825	89,305	1,916,937	21.4
64-65	0.009901	88,892	880	88,452	1,827,632	20.6
65-66	0.010676	88,012	940	87,542	1,739,180	19.8
66-67	0.011489	87,073	1,000	86,572	1,651,637	19.0

Table 6. Life table for white females: United States, 2006—Con.

Age	Probability of dying between ages $x$ to $x + 1$	Number surviving to age $x$	Number dying between ages $x$ to $x + 1$	Person-years lived between ages $x$ to $x + 1$	Total number of person-years lived above age $x$	Expectation of life at age $x$
	$q_x$	$l_x$	$d_x$	$L_x$	$T_x$	$e_x$
67-68	0.012467	86,072	1,073	85,536	1,565,065	18.2
68-69	0.013631	84,999	1,159	84,420	1,479,529	17.4
69-70	0.014990	83,841	1,257	83,212	1,395,109	16.6
70-71	0.016534	82,584	1,365	81,901	1,311,897	15.9
71-72	0.018297	81,218	1,486	80,475	1,229,996	15.1
72-73	0.020323	79,732	1,620	78,922	1,149,521	14.4
73-74	0.022634	78,112	1,768	77,228	1,070,599	13.7
74-75	0.025257	76,344	1,928	75,380	993,371	13.0
75-76	0.028246	74,416	2,102	73,365	917,991	12.3
76-77	0.031511	72,314	2,279	71,174	844,626	11.7
77-78	0.035139	70,035	2,461	68,805	773,451	11.0
78-79	0.039168	67,574	2,647	66,251	704,647	10.4
79-80	0.043638	64,927	2,833	63,511	638,396	9.8
80-81	0.048593	62,094	3,017	60,585	574,885	9.3
81-82	0.054078	59,077	3,195	57,479	514,300	8.7
82-83	0.060144	55,882	3,361	54,202	456,821	8.2
83-84	0.066841	52,521	3,511	50,766	402,619	7.7
84-85	0.074225	49,010	3,638	47,192	351,853	7.2
85-86	0.082354	45,373	3,737	43,504	304,662	6.7
86-87	0.091284	41,636	3,801	39,736	261,157	6.3
87-88	0.101077	37,835	3,824	35,923	221,422	5.9
88-89	0.111790	34,011	3,802	32,110	185,499	5.5
89-90	0.123483	30,209	3,730	28,344	153,389	5.1
90-91	0.136212	26,479	3,607	24,675	125,045	4.7
91-92	0.150028	22,872	3,431	21,156	100,369	4.4
92-93	0.164978	19,441	3,207	17,837	79,213	4.1
93-94	0.181100	16,233	2,940	14,763	61,376	3.8
94-95	0.198424	13,293	2,638	11,975	46,613	3.5
95-96	0.216965	10,656	2,312	9,500	34,639	3.3
96-97	0.236728	8,344	1,975	7,356	25,139	3.0
97-98	0.257698	6,369	1,641	5,548	17,783	2.8
98-99	0.279844	4,727	1,323	4,066	12,235	2.6
99-100	0.303117	3,404	1,032	2,888	8,169	2.4
100 and over	1.00000	2,373	2,373	5,280	5,280	2.2

**Table 7. Life table for the black population: United States, 2006**

Age	Probability of dying between ages $x$ to $x + 1$	Number surviving to age $x$	Number dying between ages $x$ to $x + 1$	Person-years lived between ages $x$ to $x + 1$	Total number of person-years lived above age $x$	Expectation of life at age $x$
	$q_x$	$l_x$	$d_x$	$L_x$	$T_x$	$e_x$
0-1	0.013373	100,000	1,337	98,818	7,323,582	73.2
1-2	0.000691	98,663	68	98,629	7,224,764	73.2
2-3	0.000473	98,595	47	98,571	7,126,136	72.3
3-4	0.000307	98,548	30	98,533	7,027,565	71.3
4-5	0.000260	98,518	26	98,505	6,929,032	70.3
5-6	0.000248	98,492	24	98,480	6,830,527	69.4
6-7	0.000225	98,468	22	98,457	6,732,047	68.4
7-8	0.000203	98,445	20	98,435	6,633,591	67.4
8-9	0.000176	98,425	17	98,417	6,535,155	66.4
9-10	0.000145	98,408	14	98,401	6,436,738	65.4
10-11	0.000122	98,394	12	98,388	6,338,337	64.4
11-12	0.000125	98,382	12	98,376	6,239,949	63.4
12-13	0.000172	98,370	17	98,361	6,141,574	62.4
13-14	0.000274	98,353	27	98,339	6,043,212	61.4
14-15	0.000417	98,326	41	98,305	5,944,873	60.5
15-16	0.000573	98,285	56	98,257	5,846,568	59.5
16-17	0.000721	98,228	71	98,193	5,748,311	58.5
17-18	0.000861	98,158	85	98,115	5,650,118	57.6
18-19	0.000987	98,073	97	98,025	5,552,003	56.6
19-20	0.001103	97,976	108	97,922	5,453,978	55.7
20-21	0.001228	97,868	120	97,808	5,356,056	54.7
21-22	0.001355	97,748	132	97,682	5,258,248	53.8
22-23	0.001458	97,616	142	97,544	5,160,566	52.9
23-24	0.001520	97,473	148	97,399	5,063,021	51.9
24-25	0.001552	97,325	151	97,250	4,965,622	51.0
25-26	0.001574	97,174	153	97,098	4,868,373	50.1
26-27	0.001602	97,021	155	96,943	4,771,275	49.2
27-28	0.001632	96,866	158	96,787	4,674,332	48.3
28-29	0.001670	96,708	162	96,627	4,577,545	47.3
29-30	0.001719	96,546	166	96,463	4,480,918	46.4
30-31	0.001776	96,380	171	96,294	4,384,455	45.5
31-32	0.001843	96,209	177	96,120	4,288,161	44.6
32-33	0.001941	96,032	186	95,938	4,192,040	43.7
33-34	0.002004	95,845	192	95,749	4,096,102	42.7
34-35	0.002099	95,653	201	95,553	4,000,353	41.8
35-36	0.002205	95,452	210	95,347	3,904,800	40.9
36-37	0.002330	95,242	222	95,131	3,809,453	40.0
37-38	0.002485	95,020	236	94,902	3,714,322	39.1
38-39	0.002675	94,784	254	94,657	3,619,420	38.2
39-40	0.002897	94,530	274	94,393	3,524,763	37.3
40-41	0.003132	94,256	295	94,109	3,430,370	36.4
41-42	0.003384	93,961	318	93,802	3,336,261	35.5
42-43	0.003676	93,643	344	93,471	3,242,459	34.6
43-44	0.004018	93,299	375	93,112	3,148,988	33.8
44-45	0.004404	92,924	409	92,719	3,055,877	32.9
45-46	0.004808	92,515	445	92,292	2,963,157	32.0
46-47	0.005229	92,070	481	91,829	2,870,865	31.2
47-48	0.005701	91,589	522	91,328	2,779,036	30.3
48-49	0.006245	91,066	569	90,782	2,687,708	29.5
49-50	0.006859	90,498	621	90,187	2,596,926	28.7
50-51	0.007544	89,877	678	89,538	2,506,738	27.9
51-52	0.008268	89,199	737	88,830	2,417,200	27.1
52-53	0.008987	88,462	795	88,064	2,328,370	26.3
53-54	0.009651	87,667	846	87,244	2,240,306	25.6
54-55	0.010264	86,821	891	86,375	2,153,062	24.8
55-56	0.010887	85,930	936	85,462	2,066,687	24.1
56-57	0.011559	84,994	982	84,503	1,981,225	23.3
57-58	0.012265	84,012	1,030	83,496	1,896,723	22.6
58-59	0.013049	82,981	1,083	82,440	1,813,226	21.9
59-60	0.013954	81,898	1,143	81,327	1,730,786	21.1
60-61	0.015026	80,756	1,213	80,149	1,649,460	20.4
61-62	0.016256	79,542	1,293	78,896	1,569,311	19.7
62-63	0.017576	78,249	1,375	77,561	1,490,415	19.0
63-64	0.018842	76,874	1,448	76,150	1,412,854	18.4
64-65	0.020003	75,425	1,509	74,671	1,336,704	17.7
65-66	0.021135	73,917	1,562	73,135	1,262,033	17.1
66-67	0.022261	72,354	1,611	71,549	1,188,898	16.4

Table 7. Life table for the black population: United States, 2006—Con.

Age	Probability of dying between ages $x$ to $x + 1$	Number surviving to age $x$	Number dying between ages $x$ to $x + 1$	Person-years lived between ages $x$ to $x + 1$	Total number of person-years lived above age $x$	Expectation of life at age $x$
	$q_x$	$l_x$	$d_x$	$L_x$	$T_x$	$e_x$
67-68	0.023598	70,744	1,669	69,909	1,117,349	15.8
68-69	0.025217	69,074	1,742	68,203	1,047,440	15.2
69-70	0.027104	67,332	1,825	66,420	979,237	14.5
70-71	0.029180	65,507	1,912	64,552	912,817	13.9
71-72	0.031457	63,596	2,001	62,596	848,265	13.3
72-73	0.034032	61,595	2,096	60,547	785,669	12.8
73-74	0.036934	59,499	2,198	58,400	725,122	12.2
74-75	0.040159	57,302	2,301	56,151	666,722	11.6
75-76	0.043698	55,000	2,403	53,799	610,571	11.1
76-77	0.047288	52,597	2,487	51,353	556,772	10.6
77-78	0.051158	50,110	2,564	48,828	505,418	10.1
78-79	0.055326	47,546	2,631	46,231	456,590	9.6
79-80	0.059812	44,916	2,687	43,573	410,359	9.1
80-81	0.064637	42,229	2,730	40,865	366,786	8.7
81-82	0.069823	39,500	2,758	38,121	325,922	8.3
82-83	0.075390	36,742	2,770	35,357	287,801	7.8
83-84	0.081363	33,972	2,764	32,590	252,444	7.4
84-85	0.087765	31,208	2,739	29,838	219,855	7.0
85-86	0.094618	28,469	2,694	27,122	190,016	6.7
86-87	0.101946	25,775	2,628	24,461	162,894	6.3
87-88	0.109774	23,147	2,541	21,877	138,433	6.0
88-89	0.118123	20,606	2,434	19,389	116,556	5.7
89-90	0.127017	18,172	2,308	17,018	97,167	5.3
90-91	0.136476	15,864	2,165	14,782	80,148	5.1
91-92	0.146522	13,699	2,007	12,695	65,367	4.8
92-93	0.157173	11,692	1,838	10,773	52,671	4.5
93-94	0.168445	9,854	1,660	9,024	41,898	4.3
94-95	0.180352	8,194	1,478	7,455	32,874	4.0
95-96	0.192906	6,716	1,296	6,069	25,419	3.8
96-97	0.206114	5,421	1,117	4,862	19,350	3.6
97-98	0.219980	4,304	947	3,830	14,488	3.4
98-99	0.234504	3,357	787	2,963	10,658	3.2
99-100	0.249679	2,570	642	2,249	7,694	3.0
100 and over	1.00000	1,928	1,928	5,445	5,445	2.8

Table 8. Life table for black males: United States, 2006

Age	Probability of dying between ages $x$ to $x + 1$	Number surviving to age $x$	Number dying between ages $x$ to $x + 1$	Person-years lived between ages $x$ to $x + 1$	Total number of person-years lived above age $x$	Expectation of life at age $x$
	$q_x$	$l_x$	$d_x$	$L_x$	$T_x$	$e_x$
0-1	0.014477	100,000	1,448	98,722	6,966,719	69.7
1-2	0.000772	98,552	76	98,514	6,867,998	69.7
2-3	0.000465	98,476	46	98,453	6,769,483	68.7
3-4	0.000372	98,430	37	98,412	6,671,030	67.8
4-5	0.000273	98,394	27	98,380	6,572,618	66.8
5-6	0.000276	98,367	27	98,353	6,474,237	65.8
6-7	0.000265	98,340	26	98,327	6,375,884	64.8
7-8	0.000246	98,314	24	98,302	6,277,557	63.9
8-9	0.000207	98,290	20	98,279	6,179,255	62.9
9-10	0.000153	98,269	15	98,262	6,080,976	61.9
10-11	0.000106	98,254	10	98,249	5,982,714	60.9
11-12	0.000100	98,244	10	98,239	5,884,465	59.9
12-13	0.000174	98,234	17	98,225	5,786,226	58.9
13-14	0.000348	98,217	34	98,200	5,688,001	57.9
14-15	0.000592	98,183	58	98,154	5,589,801	56.9
15-16	0.000860	98,125	84	98,083	5,491,647	56.0
16-17	0.001110	98,040	109	97,986	5,393,565	55.0
17-18	0.001339	97,932	131	97,866	5,295,579	54.1
18-19	0.001535	97,800	150	97,725	5,197,713	53.1
19-20	0.001706	97,650	167	97,567	5,099,987	52.2
20-21	0.001885	97,484	184	97,392	5,002,420	51.3
21-22	0.002068	97,300	201	97,199	4,905,029	50.4
22-23	0.002211	97,099	215	96,991	4,807,829	49.5
23-24	0.002297	96,884	223	96,773	4,710,838	48.6
24-25	0.002337	96,661	226	96,548	4,614,065	47.7
25-26	0.002360	96,435	228	96,322	4,517,517	46.8
26-27	0.002386	96,208	230	96,093	4,421,195	46.0
27-28	0.002412	95,978	231	95,863	4,325,102	45.1
28-29	0.002447	95,747	234	95,630	4,229,239	44.2
29-30	0.002493	95,513	238	95,394	4,133,609	43.3
30-31	0.002546	95,274	243	95,153	4,038,216	42.4
31-32	0.002604	95,032	247	94,908	3,943,063	41.5
32-33	0.002720	94,784	258	94,656	3,848,155	40.6
33-34	0.002743	94,527	259	94,397	3,753,499	39.7
34-35	0.002827	94,267	266	94,134	3,659,102	38.8
35-36	0.002925	94,001	275	93,863	3,564,968	37.9
36-37	0.003047	93,726	286	93,583	3,471,105	37.0
37-38	0.003201	93,440	299	93,291	3,377,521	36.1
38-39	0.003394	93,141	316	92,983	3,284,231	35.3
39-40	0.003625	92,825	336	92,657	3,191,247	34.4
40-41	0.003875	92,489	358	92,310	3,098,591	33.5
41-42	0.004155	92,130	383	91,939	3,006,281	32.6
42-43	0.004493	91,748	412	91,541	2,914,342	31.8
43-44	0.004904	91,335	448	91,111	2,822,801	30.9
44-45	0.005381	90,887	489	90,643	2,731,689	30.1
45-46	0.005879	90,398	531	90,133	2,641,046	29.2
46-47	0.006407	89,867	576	89,579	2,550,914	28.4
47-48	0.007035	89,291	628	88,977	2,461,335	27.6
48-49	0.007801	88,663	692	88,317	2,372,358	26.8
49-50	0.008699	87,971	765	87,589	2,284,040	26.0
50-51	0.009717	87,206	847	86,782	2,196,452	25.2
51-52	0.010787	86,359	932	85,893	2,109,669	24.4
52-53	0.011829	85,427	1,010	84,922	2,023,776	23.7
53-54	0.012747	84,417	1,076	83,879	1,938,854	23.0
54-55	0.013552	83,341	1,129	82,776	1,854,975	22.3
55-56	0.014354	82,211	1,180	81,621	1,772,199	21.6
56-57	0.015227	81,031	1,234	80,414	1,690,578	20.9
57-58	0.016141	79,797	1,288	79,153	1,610,164	20.2
58-59	0.017164	78,509	1,348	77,836	1,531,010	19.5
59-60	0.018354	77,162	1,416	76,454	1,453,174	18.8
60-61	0.019768	75,746	1,497	74,997	1,376,721	18.2
61-62	0.021384	74,248	1,588	73,454	1,301,724	17.5
62-63	0.023108	72,661	1,679	71,821	1,228,269	16.9
63-64	0.024730	70,982	1,755	70,104	1,156,448	16.3
64-65	0.026175	69,226	1,812	68,320	1,086,344	15.7
65-66	0.027540	67,414	1,857	66,486	1,018,024	15.1
66-67	0.029032	65,558	1,903	64,606	951,538	14.5

Table 8. Life table for black males: United States, 2006—Con.

Age	Probability of dying between ages $x$ to $x + 1$	Number surviving to age $x$	Number dying between ages $x$ to $x + 1$	Person-years lived between ages $x$ to $x + 1$	Total number of person-years lived above age $x$	Expectation of life at age $x$
	$q_x$	$l_x$	$d_x$	$L_x$	$T_x$	$e_x$
67-68	0.030825	63,654	1,962	62,673	886,932	13.9
68-69	0.033020	61,692	2,037	60,674	824,259	13.4
69-70	0.035563	59,655	2,122	58,594	763,585	12.8
70-71	0.038306	57,534	2,204	56,432	704,991	12.3
71-72	0.041232	55,330	2,281	54,189	648,560	11.7
72-73	0.044477	53,048	2,359	51,869	594,371	11.2
73-74	0.048071	50,689	2,437	49,471	542,502	10.7
74-75	0.051996	48,252	2,509	46,998	493,031	10.2
75-76	0.056220	45,743	2,572	44,457	446,034	9.8
76-77	0.060431	43,172	2,609	41,867	401,576	9.3
77-78	0.064935	40,563	2,634	39,246	359,709	8.9
78-79	0.069751	37,929	2,646	36,606	320,463	8.4
79-80	0.074894	35,283	2,643	33,962	283,857	8.0
80-81	0.080384	32,641	2,624	31,329	249,895	7.7
81-82	0.086240	30,017	2,589	28,723	218,566	7.3
82-83	0.092478	27,428	2,537	26,160	189,844	6.9
83-84	0.099119	24,892	2,467	23,658	163,684	6.6
84-85	0.106182	22,424	2,381	21,234	140,026	6.2
85-86	0.113684	20,043	2,279	18,904	118,792	5.9
86-87	0.121643	17,765	2,161	16,684	99,888	5.6
87-88	0.130079	15,604	2,030	14,589	83,203	5.3
88-89	0.139006	13,574	1,887	12,631	68,614	5.1
89-90	0.148442	11,687	1,735	10,820	55,984	4.8
90-91	0.158401	9,952	1,576	9,164	45,164	4.5
91-92	0.168895	8,376	1,415	7,669	36,000	4.3
92-93	0.179936	6,961	1,253	6,335	28,331	4.1
93-94	0.191532	5,709	1,093	5,162	21,996	3.9
94-95	0.203690	4,615	940	4,145	16,834	3.6
95-96	0.216413	3,675	795	3,278	12,689	3.5
96-97	0.229701	2,880	662	2,549	9,411	3.3
97-98	0.243552	2,218	540	1,948	6,862	3.1
98-99	0.257959	1,678	433	1,462	4,914	2.9
99-100	0.272910	1,245	340	1,075	3,453	2.8
100 and over	1.00000	905	905	2,377	2,377	2.6

**Table 9. Life table for black females: United States, 2006**

Age	Probability of dying between ages $x$ to $x + 1$	Number surviving to age $x$	Number dying between ages $x$ to $x + 1$	Person-years lived between ages $x$ to $x + 1$	Total number of person-years lived above age $x$	Expectation of life at age $x$
	$q_x$	$l_x$	$d_x$	$L_x$	$T_x$	$e_x$
0-1	0.012227	100,000	1,223	98,917	7,653,214	76.5
1-2	0.000606	98,777	60	98,747	7,554,297	76.5
2-3	0.000482	98,717	48	98,694	7,455,549	75.5
3-4	0.000240	98,670	24	98,658	7,356,856	74.6
4-5	0.000247	98,646	24	98,634	7,258,198	73.6
5-6	0.000218	98,622	21	98,611	7,159,564	72.6
6-7	0.000183	98,600	18	98,591	7,060,953	71.6
7-8	0.000159	98,582	16	98,574	6,962,361	70.6
8-9	0.000144	98,567	14	98,560	6,863,787	69.6
9-10	0.000137	98,552	13	98,546	6,765,227	68.6
10-11	0.000139	98,539	14	98,532	6,666,681	67.7
11-12	0.000150	98,525	15	98,518	6,568,149	66.7
12-13	0.000170	98,511	17	98,502	6,469,631	65.7
13-14	0.000199	98,494	20	98,484	6,371,129	64.7
14-15	0.000236	98,474	23	98,463	6,272,645	63.7
15-16	0.000278	98,451	27	98,437	6,174,183	62.7
16-17	0.000322	98,424	32	98,408	6,075,745	61.7
17-18	0.000371	98,392	36	98,374	5,977,338	60.8
18-19	0.000424	98,355	42	98,335	5,878,964	59.8
19-20	0.000481	98,314	47	98,290	5,780,629	58.8
20-21	0.000547	98,266	54	98,240	5,682,339	57.8
21-22	0.000616	98,213	60	98,183	5,584,099	56.9
22-23	0.000678	98,152	67	98,119	5,485,917	55.9
23-24	0.000727	98,086	71	98,050	5,387,798	54.9
24-25	0.000765	98,014	75	97,977	5,289,748	54.0
25-26	0.000804	97,940	79	97,900	5,191,771	53.0
26-27	0.000848	97,861	83	97,819	5,093,871	52.1
27-28	0.000895	97,778	87	97,734	4,996,051	51.1
28-29	0.000944	97,690	92	97,644	4,898,317	50.1
29-30	0.001001	97,598	98	97,549	4,800,673	49.2
30-31	0.001069	97,500	104	97,448	4,703,124	48.2
31-32	0.001150	97,396	112	97,340	4,605,675	47.3
32-33	0.001247	97,284	121	97,224	4,508,335	46.3
33-34	0.001340	97,163	130	97,098	4,411,112	45.4
34-35	0.001447	97,033	140	96,962	4,314,014	44.5
35-36	0.001560	96,892	151	96,817	4,217,052	43.5
36-37	0.001689	96,741	163	96,659	4,120,235	42.6
37-38	0.001845	96,578	178	96,489	4,023,575	41.7
38-39	0.002034	96,400	196	96,302	3,927,087	40.7
39-40	0.002251	96,203	217	96,095	3,830,785	39.8
40-41	0.002474	95,987	237	95,868	3,734,690	38.9
41-42	0.002702	95,749	259	95,620	3,638,822	38.0
42-43	0.002955	95,491	282	95,350	3,543,202	37.1
43-44	0.003237	95,209	308	95,054	3,447,852	36.2
44-45	0.003545	94,900	336	94,732	3,352,797	35.3
45-46	0.003869	94,564	366	94,381	3,258,065	34.5
46-47	0.004198	94,198	395	94,000	3,163,684	33.6
47-48	0.004538	93,803	426	93,590	3,069,684	32.7
48-49	0.004893	93,377	457	93,148	2,976,094	31.9
49-50	0.005271	92,920	490	92,675	2,882,946	31.0
50-51	0.005681	92,430	525	92,168	2,790,271	30.2
51-52	0.006122	91,905	563	91,624	2,698,103	29.4
52-53	0.006581	91,343	601	91,042	2,606,479	28.5
53-54	0.007043	90,741	639	90,422	2,515,437	27.7
54-55	0.007504	90,102	676	89,764	2,425,015	26.9
55-56	0.007988	89,426	714	89,069	2,335,251	26.1
56-57	0.008504	88,712	754	88,335	2,246,182	25.3
57-58	0.009054	87,957	796	87,559	2,157,847	24.5
58-59	0.009666	87,161	843	86,740	2,070,288	23.8
59-60	0.010375	86,319	896	85,871	1,983,548	23.0
60-61	0.011220	85,423	958	84,944	1,897,677	22.2
61-62	0.012199	84,465	1,030	83,949	1,812,734	21.5
62-63	0.013261	83,434	1,106	82,881	1,728,784	20.7
63-64	0.014304	82,328	1,178	81,739	1,645,903	20.0
64-65	0.015288	81,150	1,241	80,530	1,564,164	19.3
65-66	0.016280	79,910	1,301	79,259	1,483,635	18.6
66-67	0.017251	78,609	1,356	77,931	1,404,375	17.9

Table 9. Life table for black females: United States, 2006—Con.

Age	Probability of dying between ages $x$ to $x + 1$	Number surviving to age $x$	Number dying between ages $x$ to $x + 1$	Person-years lived between ages $x$ to $x + 1$	Total number of person-years lived above age $x$	Expectation of life at age $x$
	$q_x$	$l_x$	$d_x$	$L_x$	$T_x$	$e_x$
67-68	0.018373	77,253	1,419	76,543	1,326,445	17.2
68-69	0.019702	75,833	1,494	75,086	1,249,902	16.5
69-70	0.021248	74,339	1,580	73,549	1,174,816	15.8
70-71	0.022981	72,760	1,672	71,923	1,101,267	15.1
71-72	0.024930	71,087	1,772	70,201	1,029,343	14.5
72-73	0.027177	69,315	1,884	68,373	959,142	13.8
73-74	0.029742	67,431	2,006	66,429	890,768	13.2
74-75	0.032620	65,426	2,134	64,359	824,340	12.6
75-76	0.035807	63,292	2,266	62,159	759,981	12.0
76-77	0.039070	61,025	2,384	59,833	697,822	11.4
77-78	0.042616	58,641	2,499	57,392	637,989	10.9
78-79	0.046470	56,142	2,609	54,838	580,597	10.3
79-80	0.050653	53,533	2,712	52,177	525,760	9.8
80-81	0.055190	50,822	2,805	49,419	473,582	9.3
81-82	0.060109	48,017	2,886	46,574	424,163	8.8
82-83	0.065436	45,131	2,953	43,654	377,589	8.4
83-84	0.071199	42,177	3,003	40,676	333,936	7.9
84-85	0.077427	39,174	3,033	37,658	293,260	7.5
85-86	0.084151	36,141	3,041	34,621	255,602	7.1
86-87	0.091401	33,100	3,025	31,587	220,981	6.7
87-88	0.099208	30,075	2,984	28,583	189,394	6.3
88-89	0.107602	27,091	2,915	25,633	160,811	5.9
89-90	0.116616	24,176	2,819	22,766	135,178	5.6
90-91	0.126277	21,357	2,697	20,008	112,412	5.3
91-92	0.136615	18,660	2,549	17,385	92,403	5.0
92-93	0.147656	16,111	2,379	14,921	75,018	4.7
93-94	0.159425	13,732	2,189	12,637	60,097	4.4
94-95	0.171942	11,543	1,985	10,550	47,460	4.1
95-96	0.185226	9,558	1,770	8,673	36,910	3.9
96-97	0.199289	7,788	1,552	7,012	28,237	3.6
97-98	0.214140	6,236	1,335	5,568	21,225	3.4
98-99	0.229779	4,900	1,126	4,337	15,657	3.2
99-100	0.246202	3,774	929	3,310	11,320	3.0
100 and over	1.00000	2,845	2,845	8,010	8,010	2.8



**Table 10. Survivorship by age, race, and sex: Death-registration states, 1900–1902 to 1919–1921, and United States, 1929–1931 to 2006**

[Alaska and Hawaii included beginning in 1959. For decennial periods prior to 1929–1931, data are for groups of registration states as follows: 1900–1902 and 1909–1911, 10 states and the District of Columbia (D.C.); 1919–1921, 34 states and D.C. Beginning 1970 excludes deaths of nonresidents of the United States; see "Technical Notes" section]

Age, race, and sex	Number of survivors out of 100,000 born alive (L)											
	2006	1999–2001	1989–1991	1979–1981	1969–1971	1959–1961	1949–1951	1939–1941	1929–1931	1919–1921	1909–1911	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	100,000
1 . . . . .	99,329	99,305	99,064	98,740	97,998	97,407	97,024	95,290	94,028	92,515	88,538	87,552
5 . . . . .	99,216	99,176	98,877	98,495	97,668	96,998	96,482	94,220	91,978	83,389	83,887	81,804
10 . . . . .	99,147	99,097	98,766	98,347	97,460	96,765	96,177	93,710	91,106	88,129	82,458	80,052
15 . . . . .	99,065	98,998	98,635	98,196	97,261	96,551	95,885	93,235	90,385	87,144	81,506	78,963
20 . . . . .	98,747	98,664	98,215	97,741	96,716	96,111	95,366	92,435	89,089	85,441	80,074	77,239
25 . . . . .	98,253	98,202	97,671	97,110	96,000	95,517	94,676	91,335	87,269	83,146	78,046	74,768
30 . . . . .	97,759	97,750	97,070	96,477	95,307	94,905	93,919	90,078	85,302	80,642	75,779	72,043
35 . . . . .	97,213	97,199	96,322	95,808	94,482	94,144	92,976	88,573	83,118	77,961	73,127	69,078
40 . . . . .	96,495	96,419	95,373	94,926	93,322	93,064	91,648	86,650	80,557	75,114	70,042	65,890
45 . . . . .	95,397	95,268	94,154	93,599	91,587	91,378	89,634	84,069	77,343	72,036	66,561	62,436
50 . . . . .	93,750	93,591	92,370	91,526	88,972	88,756	86,591	80,487	73,321	68,429	62,460	58,514
55 . . . . .	91,352	91,211	89,658	88,348	85,110	84,711	82,176	75,557	68,182	63,947	57,555	53,852
60 . . . . .	88,057	87,595	85,537	83,726	79,529	79,067	75,921	68,924	61,563	58,079	51,138	47,946
65 . . . . .	83,251	82,224	79,519	77,107	71,933	71,147	67,555	60,366	53,195	50,560	43,194	40,911
70 . . . . .	76,661	74,794	71,357	68,248	61,984	60,857	56,987	49,655	42,768	41,090	33,816	32,390
75 . . . . .	67,331	64,561	60,449	56,799	49,705	48,170	43,903	36,735	30,789	29,729	23,552	22,960
80 . . . . .	54,201	50,819	47,084	43,180	35,285	33,576	29,313	22,883	18,580	18,298	13,712	13,529
85 . . . . .	37,805	34,471	31,770	27,960	20,908	18,542	15,785	11,073	8,542	8,683	6,001	6,053
90 . . . . .	20,898	18,472	17,046	14,154	9,297	7,080	6,144	3,796	2,998	2,941	1,868	1,867
95 . . . . .	7,991	6,871	6,282	5,043	2,786	1,524	1,511	857	636	646	361	344
100 . . . . .	1,737	1,477	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	100,000
1 . . . . .	99,266	99,239	98,961	98,607	97,755	97,087	96,661	94,762	93,440	91,745	87,505	86,426
5 . . . . .	99,144	99,095	98,754	98,333	97,395	96,643	96,077	93,624	91,294	88,505	82,718	80,548
10 . . . . .	99,068	99,008	98,627	98,160	97,151	96,375	95,726	93,054	90,346	87,184	81,249	78,775
15 . . . . .	98,972	98,890	98,464	97,972	96,904	96,107	95,366	92,508	89,561	86,156	80,261	77,681
20 . . . . .	98,524	98,426	97,854	97,316	96,126	95,491	94,695	91,617	88,220	84,440	78,792	75,984
25 . . . . .	97,797	97,746	97,049	96,361	95,040	94,631	93,791	90,385	86,359	82,252	76,675	73,472
30 . . . . .	97,099	97,112	96,166	95,430	94,072	93,826	92,861	89,009	84,346	79,890	74,378	70,747
35 . . . . .	96,371	96,382	95,091	94,501	92,997	92,889	91,760	87,371	82,075	77,514	71,614	67,752
40 . . . . .	95,466	95,384	93,761	93,345	91,541	91,572	90,207	85,246	79,357	74,432	68,297	64,447
45 . . . . .	94,112	93,931	92,139	91,649	89,369	89,492	87,819	82,336	75,882	71,244	64,518	60,849
50 . . . . .	92,082	91,800	89,865	89,007	86,070	86,199	84,158	78,254	71,518	67,553	60,118	56,736
55 . . . . .	89,083	88,862	86,492	84,936	81,139	81,039	78,781	72,627	65,981	62,965	54,970	51,939
60 . . . . .	85,054	84,478	81,378	79,012	73,958	73,887	71,246	65,142	58,909	56,917	48,343	45,895
65 . . . . .	79,346	78,083	73,971	70,646	64,318	64,177	61,566	55,776	50,154	49,218	40,264	38,736
70 . . . . .	71,652	69,350	64,107	59,681	52,296	52,244	49,950	44,588	39,516	39,668	31,023	30,217
75 . . . . .	61,057	57,572	51,385	46,272	38,797	38,950	36,756	31,864	27,718	28,316	21,213	21,076
80 . . . . .	46,859	42,683	36,749	31,810	24,921	25,300	25,237	18,995	16,172	17,128	11,942	12,084
85 . . . . .	30,371	26,473	21,815	18,020	13,168	12,845	11,750	8,693	7,107	7,920	5,059	5,179
90 . . . . .	15,034	12,447	9,878	7,732	5,107	4,609	4,197	2,787	2,283	2,527	1,502	1,508
95 . . . . .	4,895	3,847	2,927	2,279	1,326	970	955	586	451	556	289	262
100 . . . . .	850	643	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	100,000
1 . . . . .	99,395	99,375	99,172	98,880	98,254	97,744	97,406	95,848	94,728	93,383	89,623	88,733
5 . . . . .	99,291	99,261	99,006	98,666	97,955	97,371	96,908	94,848	92,789	90,380	85,117	83,119
10 . . . . .	99,229	99,190	98,911	98,544	97,784	97,173	96,652	94,402	92,008	89,186	83,728	81,390
15 . . . . .	99,164	99,111	98,814	98,432	97,636	97,016	96,431	94,000	91,364	88,247	82,813	80,307
20 . . . . .	98,982	98,915	98,597	98,184	97,331	96,756	96,066	93,293	90,116	86,556	81,418	78,555
25 . . . . .	98,739	98,682	98,325	97,883	96,966	96,418	95,583	92,322	88,328	84,135	79,481	76,119
30 . . . . .	98,461	98,418	98,013	97,551	96,544	95,996	94,933	91,182	86,398	81,463	77,247	73,394
35 . . . . .	98,105	98,052	97,596	97,140	95,966	95,409	94,206	89,810	84,304	78,713	74,719	70,463
40 . . . . .	97,579	97,492	97,033	96,531	95,097	94,560	93,101	88,092	81,927	75,907	71,894	67,407
45 . . . . .	96,740	96,645	96,222	95,570	93,793	93,265	91,469	85,856	79,041	72,954	68,755	64,121
50 . . . . .	95,478	95,420	94,932	94,060	91,852	91,327	89,075	82,828	75,456	69,452	65,001	60,415
55 . . . . .	93,681	93,597	92,881	91,760	89,066	88,451	85,694	78,708	70,832	65,099	60,392	55,908

See footnotes at end of table.

**Table 10. Survivorship by age, race, and sex: Death-registration states, 1900–1902 to 1919–1921, and United States, 1929–1931 to 2006—Con.**

[Alaska and Hawaii included beginning in 1959. For decennial periods prior to 1929–1931, data are for groups of registration states as follows: 1900–1902 and 1909–1911, 10 states and the District of Columbia (D.C.); 1919–1921, 34 states and D.C. Beginning 1970 excludes deaths of nonresidents of the United States; see "Technical Notes" section]

Age, race, and sex	Number of survivors out of 100,000 born alive (L)											
	2006	1999–2001	1989–1991	1979–1981	1969–1971	1959–1961	1949–1951	1939–1941	1929–1931	1919–1921	1909–1911	1900–1902
<b>Female—Con.</b>												
60. . . . .	91,119	90,739	89,742	88,414	85,139	84,430	80,890	73,093	64,795	59,438	54,226	50,155
65. . . . .	87,200	86,367	85,075	83,520	79,698	78,462	74,119	65,523	56,924	52,126	46,438	43,246
70. . . . .	81,662	80,158	78,522	76,720	71,955	70,100	64,873	55,449	46,774	42,741	36,916	34,721
75. . . . .	73,449	71,257	69,287	67,186	61,107	58,394	52,111	42,425	34,600	31,344	26,155	24,994
80. . . . .	61,175	58,411	56,986	54,372	46,445	43,063	36,486	27,524	21,578	19,613	15,682	15,129
85. . . . .	44,685	41,798	41,115	37,772	29,538	25,269	20,668	13,972	10,322	9,515	7,051	7,063
90. . . . .	26,183	23,918	23,666	20,578	14,160	10,056	8,548	5,044	3,656	3,314	2,269	2,306
95. . . . .	10,685	9,553	9,346	7,862	4,565	2,193	2,207	1,195	807	728	441	452
100. . . . .	2,460	2,181	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	100,000
1. . . . .	99,442	99,429	99,233	98,898	98,224	97,714	97,278	95,685	94,392	92,780	88,709	87,762
5. . . . .	99,341	99,312	99,068	98,675	97,930	97,353	96,790	94,713	92,466	89,771	84,147	82,071
10. . . . .	99,277	99,239	98,966	98,536	97,733	97,131	96,502	94,228	91,627	88,536	82,734	80,371
15. . . . .	99,200	99,146	98,843	98,391	97,546	96,928	96,228	93,792	90,982	87,633	81,816	79,344
20. . . . .	98,898	98,826	98,455	97,939	97,036	96,508	95,763	93,117	89,933	86,159	80,407	77,998
25. . . . .	98,430	98,405	97,972	97,340	96,406	95,965	95,169	92,213	88,454	84,106	78,392	75,202
30. . . . .	97,970	98,000	97,451	96,774	95,824	95,440	94,536	91,185	86,836	81,787	76,167	72,317
35. . . . .	97,466	97,504	96,810	96,192	95,152	94,798	93,750	89,941	85,004	79,277	73,568	69,522
40. . . . .	96,799	96,796	96,000	95,427	94,190	93,870	92,616	88,318	82,803	76,642	70,525	66,082
45. . . . .	95,771	95,755	94,932	94,257	92,681	92,374	90,847	86,069	79,989	73,705	67,090	62,920
50. . . . .	94,231	94,233	93,326	92,384	90,306	89,958	88,110	82,833	76,340	70,250	62,994	58,647
55. . . . .	91,992	92,032	90,833	89,427	86,688	86,173	84,027	78,218	71,551	65,875	58,163	54,450
60. . . . .	88,870	88,614	86,943	85,031	81,323	80,811	78,066	71,785	65,100	60,013	51,822	48,288
65. . . . .	84,216	83,423	81,123	78,585	73,889	73,102	69,850	63,201	56,655	52,411	43,904	41,505
70. . . . .	77,739	76,132	73,106	69,801	63,991	62,834	59,189	52,165	45,841	42,736	34,484	32,902
75. . . . .	68,440	65,946	62,175	58,299	51,586	49,895	45,688	38,610	33,406	31,086	24,151	23,356
80. . . . .	55,215	52,100	48,583	44,409	36,659	34,697	30,438	23,976	20,260	19,149	14,100	13,794
85. . . . .	38,526	35,421	32,850	28,768	21,578	19,017	16,239	11,483	9,325	9,078	6,178	6,192
90. . . . .	21,196	18,943	17,571	14,471	9,433	7,149	6,201	3,819	3,066	2,991	1,918	1,919
95. . . . .	7,979	6,963	6,416	5,067	2,743	1,521	1,500	801	636	643	364	355
100. . . . .	1,672	1,453	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	100,000
1. . . . .	99,388	99,373	99,138	98,769	97,994	97,408	96,931	95,188	93,768	91,975	87,674	86,655
5. . . . .	99,279	99,243	98,956	98,519	97,671	97,015	96,403	94,150	91,738	88,842	82,972	80,864
10. . . . .	99,208	99,163	98,839	98,357	97,441	96,758	96,069	93,601	90,810	87,530	81,519	79,109
15. . . . .	99,117	99,052	98,686	98,176	97,208	96,503	95,728	93,089	90,074	86,546	80,549	78,037
20. . . . .	98,702	98,615	98,134	97,525	96,480	95,908	95,104	92,293	88,904	84,997	79,116	76,376
25. . . . .	98,017	98,002	97,430	96,616	95,524	95,106	94,294	91,241	87,371	83,061	77,047	73,907
30. . . . .	97,370	97,434	96,662	95,783	94,716	94,401	93,489	90,092	85,707	80,888	74,810	71,219
35. . . . .	96,697	96,772	95,731	94,980	93,843	93,589	92,543	88,713	83,812	78,441	72,108	68,245
40. . . . .	95,851	95,855	94,588	93,984	92,631	92,427	91,173	86,880	81,457	75,733	68,848	64,954
45. . . . .	94,569	94,522	93,167	92,494	90,725	90,533	89,002	84,285	78,345	72,696	65,115	61,369
50. . . . .	92,655	92,573	91,124	90,105	87,690	87,424	85,601	80,521	74,288	69,107	60,741	57,274
55. . . . .	89,850	89,854	88,022	86,303	83,001	82,463	80,496	75,156	68,981	64,574	55,622	52,491
60. . . . .	86,041	85,710	83,182	80,625	75,969	75,485	73,172	67,787	61,933	58,498	48,987	46,452
65. . . . .	80,526	79,515	75,962	72,393	66,343	65,834	63,541	58,305	52,964	50,663	40,862	39,245
70. . . . .	72,970	70,912	66,181	61,384	54,138	53,825	51,735	46,739	41,880	40,873	31,527	30,640
75. . . . .	62,425	59,139	53,308	47,712	40,324	40,207	38,104	33,404	29,471	29,205	21,585	21,387
80. . . . .	48,070	44,043	38,245	32,788	25,885	25,993	24,005	19,860	17,221	17,655	12,160	12,266
85. . . . .	31,170	27,376	22,720	18,538	13,527	13,065	12,015	9,013	7,572	8,154	5,145	5,252
90. . . . .	15,318	12,817	10,214	7,891	5,125	4,600	4,209	2,812	2,356	2,568	1,523	1,523
95. . . . .	4,873	3,892	2,988	2,279	1,274	956	942	552	461	556	289	263
100. . . . .	804	624	523	404	189	115	118	65	40	61	31	22

See footnotes at end of table.

**Table 10. Survivorship by age, race, and sex: Death-registration states, 1900–1902 to 1919–1921, and United States, 1929–1931 to 2006—Con.**

[Alaska and Hawaii included beginning in 1959. For decennial periods prior to 1929–1931, data are for groups of registration states as follows: 1900–1902 and 1909–1911, 10 states and the District of Columbia (D.C.); 1919–1921, 34 states and D.C. Beginning 1970 excludes deaths of nonresidents of the United States; see "Technical Notes" section]

Age, race, and sex	Number of survivors out of 100,000 born alive (L)											
	2006	1999–2001	1989–1991	1979–1981	1969–1971	1959–1961	1949–1951	1939–1941	1929–1931	1919–1921	1909–1911	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 . . . . .	99,499	99,488	99,333	99,035	98,468	98,036	97,645	96,211	95,037	93,608	89,774	88,939
5 . . . . .	99,406	99,385	99,187	98,841	98,203	97,709	97,199	95,309	93,216	90,721	85,349	83,426
10 . . . . .	99,349	99,319	99,099	98,725	98,042	97,525	96,960	94,890	92,466	89,564	83,979	81,723
15 . . . . .	99,288	99,245	99,007	98,618	97,902	97,375	96,756	94,534	91,894	88,712	83,093	80,680
20 . . . . .	99,105	99,049	98,795	98,374	97,618	97,135	96,454	93,984	90,939	87,281	81,750	78,978
25 . . . . .	98,874	98,835	98,547	98,093	97,299	96,844	96,072	93,228	89,524	85,163	79,865	76,588
30 . . . . .	98,616	98,601	98,283	97,802	96,945	96,499	95,605	92,320	87,972	82,740	77,676	73,887
35 . . . . .	98,292	98,282	97,939	97,445	96,474	96,026	94,977	91,211	86,248	80,206	75,200	70,971
40 . . . . .	97,813	97,789	97,472	96,913	95,762	95,326	94,080	89,805	84,256	77,624	72,425	67,935
45 . . . . .	97,048	97,047	96,768	96,065	94,649	94,228	92,725	87,920	81,780	74,871	69,341	64,677
50 . . . . .	95,893	95,958	95,608	94,710	92,924	92,522	90,685	85,267	78,572	71,547	65,629	61,005
55 . . . . .	94,231	94,284	93,730	92,594	90,383	89,967	87,699	81,520	74,321	67,323	61,053	56,509
60 . . . . .	91,806	91,591	90,789	89,451	86,726	86,339	83,279	76,200	68,462	61,704	54,900	50,752
65 . . . . .	88,012	87,391	86,339	84,764	81,579	80,739	76,773	68,701	60,499	54,299	47,086	43,806
70 . . . . .	82,584	81,346	79,984	78,139	74,101	72,507	67,545	58,363	49,932	44,638	37,482	35,206
75 . . . . .	74,416	72,546	70,834	68,712	63,290	60,461	54,397	44,685	37,024	32,777	26,569	25,362
80 . . . . .	62,094	59,681	58,454	55,770	48,182	44,676	38,026	28,882	23,053	20,492	15,929	15,349
85 . . . . .	45,373	42,820	42,274	38,774	30,490	26,046	21,348	14,487	10,937	9,909	7,152	7,149
90 . . . . .	26,479	24,475	24,270	20,996	14,406	10,219	8,662	5,061	3,719	3,372	2,291	2,322
95 . . . . .	10,656	9,673	9,495	7,900	4,526	2,203	2,200	1,109	797	721	434	448
100 . . . . .	2,373	2,145	2,239	1,858	872	265	294	139	74	63	44	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 . . . . .	98,663	98,578	98,187	97,885	96,731	95,732	95,407	92,584	92,035	90,379	79,784	76,609
5 . . . . .	98,492	98,382	97,884	97,522	96,207	95,051	94,482	90,983	89,303	86,174	70,691	66,222
10 . . . . .	98,394	98,271	97,720	97,322	95,928	94,745	94,060	90,339	88,258	84,690	68,437	63,410
15 . . . . .	98,285	98,139	97,539	97,134	95,661	94,460	93,646	89,591	87,156	83,180	66,410	61,060
20 . . . . .	97,868	97,701	96,925	96,652	94,887	93,880	92,738	87,839	84,386	79,641	63,165	57,931
25 . . . . .	97,174	96,944	95,972	95,804	93,513	92,925	91,321	85,210	80,320	74,973	59,608	54,512
30 . . . . .	96,380	96,140	94,809	94,680	91,934	91,699	89,584	82,194	75,962	70,492	56,112	51,287
35 . . . . .	95,452	95,160	93,260	93,288	89,977	90,046	87,402	78,683	71,141	65,865	52,125	48,007
40 . . . . .	94,256	93,801	91,239	91,439	87,304	87,766	84,478	74,466	65,974	61,244	47,866	44,518
45 . . . . .	92,515	91,754	88,689	88,834	83,700	84,501	80,507	69,284	59,827	56,442	43,054	40,628
50 . . . . .	89,877	88,726	85,285	85,044	78,938	80,172	74,976	62,702	53,141	51,422	37,800	36,103
55 . . . . .	85,930	84,588	80,635	79,816	72,826	73,893	67,660	54,846	45,558	45,803	32,233	31,404
60 . . . . .	80,756	78,869	74,335	72,913	65,250	65,795	58,593	46,318	37,654	39,418	26,046	25,698
65 . . . . .	73,917	71,448	66,154	64,391	56,102	56,038	48,649	37,838	30,015	32,738	19,806	20,474
70 . . . . .	65,507	62,126	56,192	54,617	45,785	45,434	38,616	29,654	22,505	25,585	14,021	14,960
75 . . . . .	55,000	50,804	44,872	43,274	34,262	34,531	28,968	21,798	15,546	18,011	9,139	9,956
80 . . . . .	42,229	37,828	33,149	31,711	23,710	24,815	20,003	14,408	9,589	11,376	5,158	5,750
85 . . . . .	28,469	24,589	21,352	19,939	15,044	15,337	12,433	8,326	4,900	5,794	2,414	2,782
90 . . . . .	15,864	13,157	11,646	10,713	8,087	7,195	6,394	4,077	2,044	2,317	913	1,054
95 . . . . .	6,716	5,349	4,729	4,463	3,252	1,777	2,010	1,557	638	689	324	296
100 . . . . .	1,928	1,485	1,376	1,360	1,036	214	301	399	120	129	77	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 . . . . .	98,552	98,437	98,023	97,703	96,394	95,301	94,911	91,772	91,268	89,499	78,065	74,674
5 . . . . .	98,367	98,219	97,688	97,300	95,826	94,570	93,921	90,082	88,412	85,195	68,589	64,385
10 . . . . .	98,254	98,093	97,501	97,061	95,497	94,234	93,453	89,393	87,311	83,768	66,377	61,730
15 . . . . .	98,125	97,930	97,268	96,826	95,161	93,874	92,965	88,610	86,152	82,332	64,478	59,667
20 . . . . .	97,484	97,274	96,301	96,132	94,053	93,108	91,941	86,968	83,621	79,057	61,426	56,733
25 . . . . .	96,435	96,099	94,809	94,827	91,904	91,825	90,285	84,227	79,516	74,540	57,736	53,285
30 . . . . .	95,274	94,934	93,070	93,125	89,584	90,270	88,327	80,979	75,083	70,344	54,073	49,867
35 . . . . .	94,001	93,631	90,827	91,080	86,885	88,331	85,940	77,221	70,049	65,873	49,865	46,541
40 . . . . .	92,489	91,930	87,948	88,490	83,441	85,744	82,832	72,780	64,710	61,353	45,414	42,989
45 . . . . .	90,398	89,411	84,467	84,997	78,976	82,075	78,686	67,346	58,432	56,589	40,563	39,230
50 . . . . .	87,206	85,596	79,984	80,065	73,282	77,239	72,891	60,495	51,748	51,880	35,427	34,766
55 . . . . .	82,211	80,417	74,095	73,413	66,101	70,351	65,122	52,426	44,436	46,581	29,754	29,987

See footnotes at end of table.

**Table 10. Survivorship by age, race, and sex: Death-registration states, 1900–1902 to 1919–1921, and United States, 1929–1931 to 2006—Con.**

[Alaska and Hawaii included beginning in 1959. For decennial periods prior to 1929–1931, data are for groups of registration states as follows: 1900–1902 and 1909–1911, 10 states and the District of Columbia (D.C.); 1919–1921, 34 states and D.C. Beginning 1970 excludes deaths of nonresidents of the United States; see "Technical Notes" section]

Age, race, and sex	Number of survivors out of 100,000 born alive (L)											
	2006	1999–2001	1989–1991	1979–1981	1969–1971	1959–1961	1949–1951	1939–1941	1929–1931	1919–1921	1909–1911	1900–1902
<b>Black male<sup>1</sup>—Con.</b>												
60 . . . . .	75,746	73,369	66,334	64,980	57,457	61,669	55,535	43,833	36,790	40,506	23,750	24,194
65 . . . . .	67,414	64,588	56,795	55,061	47,485	51,392	45,198	35,371	29,314	34,042	17,806	19,015
70 . . . . .	57,534	53,926	45,690	44,213	36,925	39,914	35,018	27,236	21,741	26,923	12,295	13,829
75 . . . . .	45,743	41,441	33,755	32,717	25,921	29,064	25,472	19,456	14,419	18,854	7,494	8,892
80 . . . . .	32,641	28,326	22,549	22,017	16,560	19,994	16,904	12,186	8,239	11,615	3,894	4,831
85 . . . . .	20,043	16,433	12,709	12,383	9,648	11,620	9,898	6,444	3,660	5,605	1,747	2,030
90 . . . . .	9,952	7,579	5,972	5,708	4,696	5,174	4,642	2,836	1,246	2,040	595	634
95 . . . . .	3,675	2,549	1,971	2,009	1,721	1,240	1,342	961	307	552	189	137
100 . . . . .	905	560	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	100,000
1 . . . . .	98,777	98,723	98,356	98,073	97,076	96,172	95,913	93,416	92,796	91,251	81,493	78,525
5 . . . . .	98,622	98,550	98,087	97,751	96,598	95,543	95,055	91,906	90,185	87,149	72,768	68,056
10 . . . . .	98,539	98,455	97,946	97,590	96,369	95,265	94,679	91,308	89,201	85,607	70,508	65,111
15 . . . . .	98,451	98,354	97,818	97,450	96,172	95,057	94,343	90,594	88,088	83,954	68,218	62,384
20 . . . . .	98,266	98,141	97,566	97,180	95,729	94,660	93,544	88,736	85,078	80,154	64,764	59,053
25 . . . . .	97,940	97,784	97,140	96,754	95,035	94,005	92,336	86,198	81,067	75,359	61,430	55,795
30 . . . . .	97,500	97,313	96,514	96,150	94,114	93,070	90,799	83,384	76,816	70,633	58,281	52,773
35 . . . . .	96,892	96,630	95,599	95,338	92,807	91,670	88,805	80,092	72,192	65,857	54,595	49,567
40 . . . . .	95,987	95,585	94,364	94,137	90,817	89,676	86,052	76,084	67,271	61,130	50,568	46,146
45 . . . . .	94,564	93,970	92,676	92,322	88,001	86,793	82,257	71,157	61,365	56,230	45,947	42,279
50 . . . . .	92,430	91,661	90,277	89,563	84,168	82,979	77,007	64,885	54,920	50,780	40,886	37,681
55 . . . . .	89,426	88,478	86,793	85,653	79,177	77,362	70,196	57,314	47,074	44,742	35,415	33,124
60 . . . . .	85,423	83,963	81,886	80,293	72,820	69,941	61,758	48,928	38,761	37,954	28,908	27,524
65 . . . . .	79,910	77,781	75,031	73,266	64,716	60,825	52,358	40,504	30,852	31,044	22,302	21,995
70 . . . . .	72,760	69,634	66,278	64,729	54,873	51,274	42,612	32,354	23,341	24,107	15,871	16,140
75 . . . . .	63,292	59,239	55,684	53,831	43,193	40,540	32,981	24,502	16,576	17,216	10,657	11,066
80 . . . . .	50,822	46,358	43,622	41,686	31,756	30,315	23,712	17,039	10,822	11,151	6,324	6,708
85 . . . . .	36,141	31,987	30,089	28,004	21,358	19,744	15,550	10,622	6,033	5,972	3,029	3,567
90 . . . . .	21,357	18,309	17,536	16,260	12,210	9,675	8,590	5,652	2,774	2,579	1,206	1,492
95 . . . . .	9,558	7,972	7,687	7,312	5,217	2,438	2,875	2,345	941	818	448	462
100 . . . . .	2,845	2,346	2,364	2,398	1,803	293	445	659	193	179	112	97

<sup>1</sup>For 1939–1941 and 1949–1951, data shown are for the entire nonwhite population. During these periods, life tables were not constructed for the black population. See "Technical Notes" section.

**Table 11. Life expectancy by age, race, and sex: Death-registration states, 1900–1902 to 1919–1921, and United States, 1929–1931 to 2006**

[Alaska and Hawaii included beginning in 1959. For decennial periods prior to 1929–1931, data are for groups of registration states as follows: 1900–1902 and 1909–1911, 10 states and the District of Columbia (D.C.); 1919–1921, 34 states and D.C. Beginning 1970 excludes deaths of nonresidents of the United States; see "Technical Notes" section]

Age, race, and sex	Average number of years of life remaining ( $e_x$ )											
	2006	1999–2001	1989–1991	1979–1981	1969–1971	1959–1961	1949–1951	1939–1941	1929–1931	1919–1921	1909–1911	1900–1902
<b>All races</b>												
0 . . . . .	77.7	76.83	75.37	73.88	70.75	69.89	68.07	63.62	59.20	56.40	51.49	49.24
1 . . . . .	77.2	76.37	75.08	73.82	71.19	70.75	69.16	65.76	61.94	59.94	57.11	55.20
5 . . . . .	73.3	72.47	71.22	70.00	67.43	67.04	65.54	62.49	59.29	57.99	56.21	54.98
10 . . . . .	68.4	67.52	66.29	65.10	62.57	62.19	60.74	57.82	54.84	53.79	52.15	51.14
15 . . . . .	63.4	62.59	61.38	60.19	57.69	57.33	55.91	53.10	50.25	49.37	47.73	46.81
20 . . . . .	58.6	57.79	56.63	55.46	53.00	52.58	51.20	48.54	45.94	45.30	43.53	42.79
25 . . . . .	53.9	53.05	51.93	50.81	48.37	47.89	46.56	44.09	41.85	41.47	39.60	39.12
30 . . . . .	49.2	48.28	47.23	46.12	43.71	43.18	41.91	39.67	37.75	37.68	35.70	35.51
35 . . . . .	44.4	43.54	42.58	41.43	39.07	38.51	37.31	35.30	33.68	33.89	31.90	31.92
40 . . . . .	39.7	38.87	37.98	36.79	34.52	33.92	32.81	31.03	29.67	30.08	28.20	28.34
45 . . . . .	35.2	34.31	33.44	32.27	30.12	29.50	28.49	26.90	25.79	26.25	24.54	24.77
50 . . . . .	30.7	29.88	29.03	27.94	25.93	25.29	24.40	22.98	22.06	22.50	20.98	21.26
55 . . . . .	26.5	25.59	24.83	23.85	21.99	21.37	20.57	19.31	18.53	18.90	17.55	17.88
60 . . . . .	22.4	21.54	20.90	20.02	18.34	17.71	17.04	15.91	15.24	15.54	14.42	14.76
65 . . . . .	18.5	17.77	17.28	16.51	15.00	14.39	13.83	12.80	12.23	12.47	11.60	11.86
70 . . . . .	14.9	14.27	13.96	13.32	12.00	11.38	10.92	10.00	9.58	9.74	9.11	9.30
75 . . . . .	11.6	11.12	11.00	10.48	9.32	8.71	8.40	7.62	7.32	7.49	6.99	7.08
80 . . . . .	8.7	8.42	8.40	7.98	7.10	6.39	6.34	5.73	5.50	5.63	5.25	5.30
85 . . . . .	6.4	6.22	6.23	5.96	5.28	4.58	4.69	4.31	4.19	4.21	4.00	3.96
90 . . . . .	4.6	4.49	4.50	4.43	3.94	3.22	3.44	3.30	3.15	3.22	3.03	2.95
95 . . . . .	3.2	3.19	3.29	3.34	3.06	2.43	2.54	2.61	2.26	2.32	2.35	2.18
100 . . . . .	2.3	2.27	2.46	2.73	2.62	1.91	1.92	2.13	1.51	1.53	1.85	1.58
<b>Male</b>												
0 . . . . .	75.1	74.10	71.83	70.11	67.04	66.80	65.47	61.60	57.71	55.50	49.86	47.88
1 . . . . .	74.7	73.66	71.58	70.10	67.58	67.80	66.73	64.00	60.75	59.47	55.95	54.35
5 . . . . .	70.8	69.77	67.73	66.29	63.82	64.10	63.12	60.76	58.14	57.60	55.11	54.22
10 . . . . .	65.8	64.83	62.81	61.41	58.98	59.27	58.35	56.12	53.75	53.44	51.07	50.39
15 . . . . .	60.9	59.90	57.91	56.52	54.12	54.43	53.56	51.43	49.18	49.05	46.66	46.06
20 . . . . .	56.1	55.17	53.25	51.88	49.54	49.77	48.92	46.91	44.88	44.99	42.48	42.03
25 . . . . .	51.5	50.54	48.67	47.37	45.07	45.19	44.36	42.51	40.79	41.11	38.59	38.38
30 . . . . .	46.9	45.85	44.10	42.81	40.51	40.56	39.78	38.13	36.71	37.26	34.70	34.76
35 . . . . .	42.2	41.18	39.57	38.20	35.95	35.94	35.23	33.79	32.65	33.43	30.94	31.19
40 . . . . .	37.6	36.58	35.09	33.64	31.48	31.42	30.79	29.57	28.68	29.63	27.32	27.65
45 . . . . .	33.1	32.10	30.66	29.22	27.18	27.09	26.55	25.52	24.87	25.84	23.77	24.14
50 . . . . .	28.8	27.79	26.37	25.00	23.12	23.02	22.59	21.72	21.25	22.11	20.32	20.70
55 . . . . .	24.7	23.62	22.30	21.08	19.36	19.32	18.96	18.20	17.79	18.53	16.98	17.38
60 . . . . .	20.7	19.71	18.53	17.46	15.99	15.94	15.68	14.99	14.62	15.22	13.95	14.33
65 . . . . .	17.0	16.11	15.12	14.21	12.99	12.95	12.74	12.07	11.72	12.20	11.24	11.50
70 . . . . .	13.6	12.80	12.05	11.35	10.39	10.33	10.11	9.46	9.18	9.52	8.83	9.02
75 . . . . .	10.4	9.89	9.39	8.90	8.13	7.99	7.83	7.22	7.02	7.31	6.75	6.84
80 . . . . .	7.8	7.44	7.12	6.80	6.27	5.95	5.94	5.44	5.27	5.49	5.10	5.11
85 . . . . .	5.7	5.47	5.31	5.13	4.73	4.39	4.41	4.11	4.02	4.10	3.90	3.82
90 . . . . .	4.1	3.95	3.89	3.89	3.60	3.18	3.30	3.17	3.06	3.21	3.01	2.86
95 . . . . .	2.9	2.82	2.92	2.98	2.82	2.43	2.49	2.52	2.21	2.38	2.36	2.13
100 . . . . .	2.0	2.03	2.25	2.49	2.43	1.91	1.92	2.05	1.50	1.58	1.81	1.55
<b>Female</b>												
0 . . . . .	80.2	79.45	78.81	77.62	74.64	73.24	70.96	65.89	60.90	57.40	53.24	50.70
1 . . . . .	79.7	78.95	78.47	77.50	74.97	73.93	71.84	67.73	65.37	60.45	58.37	56.10
5 . . . . .	75.8	75.04	74.60	73.67	71.19	70.21	68.21	64.43	60.66	58.41	57.39	55.80
10 . . . . .	70.8	70.09	69.67	68.75	66.31	65.35	63.38	59.73	56.16	54.16	53.31	51.94
15 . . . . .	65.9	65.15	64.73	63.83	61.41	60.45	58.52	54.97	51.54	49.71	48.87	47.60
20 . . . . .	61.0	60.27	59.87	58.98	56.59	55.60	53.73	50.37	47.21	45.63	44.66	43.60
25 . . . . .	56.1	55.41	55.03	54.16	51.80	50.79	48.99	45.87	43.11	41.86	40.69	39.92
30 . . . . .	51.3	50.55	50.19	49.33	47.01	46.00	44.28	41.41	39.02	38.15	36.79	36.30
35 . . . . .	46.4	45.73	45.40	44.53	42.28	41.27	39.63	37.01	34.92	34.40	32.95	32.71
40 . . . . .	41.7	40.98	40.65	39.80	37.64	36.61	35.06	32.68	30.86	30.58	29.15	29.08
45 . . . . .	37.0	36.31	35.97	35.17	33.13	32.09	30.64	28.46	26.89	26.71	25.36	25.44
50 . . . . .	32.5	31.74	31.42	30.69	28.77	27.71	26.40	24.40	23.05	22.92	21.67	21.84
55 . . . . .	28.0	27.31	27.05	26.39	24.59	23.53	22.33	20.54	19.38	19.28	18.13	18.39

See footnotes at end of table.

**Table 11. Life expectancy by age, race, and sex: Death-registration states, 1900–1902 to 1919–1921, and United States, 1929–1931 to 2006—Con.**

[Alaska and Hawaii included beginning in 1959. For decennial periods prior to 1929–1931, data are for groups of registration states as follows: 1900–1902 and 1909–1911, 10 states and the District of Columbia (D.C.); 1919–1921, 34 states and D.C. Beginning 1970 excludes deaths of nonresidents of the United States; see "Technical Notes" section]

Age, race, and sex	Average number of years of life remaining ( $e_x$ )											
	2006	1999–2001	1989–1991	1979–1981	1969–1971	1959–1961	1949–1951	1939–1941	1929–1931	1919–1921	1909–1911	1900–1902
<b>Female—Con.</b>												
60. . . . .	23.8	23.09	22.90	22.29	20.60	19.52	18.50	16.92	15.94	15.87	14.90	15.21
65. . . . .	19.7	19.12	19.02	18.44	16.83	15.80	14.95	13.57	12.78	12.73	11.96	12.22
70. . . . .	15.9	15.40	15.38	14.84	13.35	12.37	11.71	10.56	9.99	9.96	9.38	9.59
75. . . . .	12.3	11.99	12.08	11.58	10.26	9.33	8.94	8.01	7.61	7.65	7.20	7.34
80. . . . .	9.3	9.05	9.13	8.69	7.68	6.72	6.67	5.99	5.70	5.75	5.37	5.51
85. . . . .	6.8	6.62	6.66	6.38	5.63	4.71	4.90	4.47	4.32	4.30	4.08	4.12
90. . . . .	4.8	4.71	4.73	4.66	4.14	3.25	3.54	3.39	3.24	3.23	3.05	3.04
95. . . . .	3.3	3.29	3.40	3.48	3.18	2.43	2.57	2.67	2.30	2.27	2.34	2.24
100. . . . .	2.3	2.29	2.52	2.81	2.69	1.91	1.93	2.17	1.52	1.48	1.91	1.61
<b>White</b>												
0. . . . .	78.2	77.41	76.13	74.53	71.62	70.73	69.02	64.92	60.86	57.42	51.90	49.64
1. . . . .	77.6	76.85	75.72	74.35	71.91	71.38	69.95	66.84	63.46	60.87	57.46	55.47
5. . . . .	73.7	72.94	71.84	70.52	68.12	67.64	66.29	63.52	60.75	58.86	56.51	55.18
10. . . . .	68.7	67.99	66.92	65.62	63.26	62.79	61.48	58.83	56.29	54.65	52.43	51.34
15. . . . .	63.8	63.05	61.99	60.71	58.37	57.92	56.65	54.09	51.69	50.21	48.01	47.01
20. . . . .	59.0	58.25	57.23	55.98	53.66	53.16	51.91	49.47	47.28	46.04	43.77	43.17
25. . . . .	54.2	53.48	52.50	51.30	49.00	48.44	47.22	44.92	43.02	42.07	39.79	39.26
30. . . . .	49.5	48.70	47.76	46.59	44.28	43.69	42.52	40.40	38.76	38.17	35.86	35.51
35. . . . .	44.7	43.93	43.06	41.86	39.58	38.97	37.86	35.93	34.50	34.27	32.03	32.01
40. . . . .	40.0	39.23	38.41	37.17	34.95	34.33	33.29	31.54	30.33	30.38	28.29	28.28
45. . . . .	35.4	34.63	33.81	32.60	30.48	29.84	28.88	27.29	26.29	26.45	24.60	24.82
50. . . . .	30.9	30.15	29.34	28.21	26.21	25.57	24.70	23.26	22.42	22.64	21.01	21.18
55. . . . .	26.6	25.80	25.08	24.05	22.19	21.58	20.77	19.47	18.75	18.97	17.57	17.91
60. . . . .	22.5	21.70	21.08	20.16	18.48	17.84	17.15	15.98	15.37	15.57	14.43	14.73
65. . . . .	18.6	17.88	17.40	16.59	15.08	14.44	13.86	12.80	12.28	12.47	11.60	11.87
70. . . . .	14.9	14.34	14.02	13.35	12.01	11.37	10.89	9.96	9.58	9.72	9.10	9.31
75. . . . .	11.5	11.15	11.03	10.47	9.27	8.65	8.34	7.55	7.30	7.47	6.98	7.08
80. . . . .	8.7	8.42	8.39	7.95	7.01	6.33	6.27	5.64	5.45	5.59	5.22	5.30
85. . . . .	6.3	6.19	6.20	5.90	5.19	4.53	4.62	4.20	4.12	4.15	3.97	3.95
90. . . . .	4.5	4.44	4.46	4.36	3.84	3.20	3.41	3.16	3.10	3.17	3.00	2.93
95. . . . .	3.2	3.14	3.25	3.25	2.92	2.43	2.53	2.45	2.22	2.28	2.29	2.16
100. . . . .	2.2	2.22	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. . . . .	75.7	74.74	72.72	70.82	67.94	67.55	66.31	62.81	59.12	56.34	50.23	48.23
1. . . . .	75.1	74.21	72.35	70.70	68.33	68.34	67.41	64.98	62.04	60.24	56.26	54.61
5. . . . .	71.2	70.31	68.48	66.87	64.55	64.61	63.77	61.68	59.38	58.31	55.37	54.43
10. . . . .	66.3	65.36	63.55	61.98	59.69	59.78	58.98	57.03	54.96	54.15	51.32	50.59
15. . . . .	61.3	60.43	58.65	57.09	54.83	54.93	54.18	52.33	50.39	49.74	46.91	46.25
20. . . . .	56.6	55.69	53.96	52.45	50.22	50.25	49.52	47.76	46.02	45.60	42.71	42.19
25. . . . .	51.9	51.02	49.33	47.92	45.70	45.65	44.93	43.28	41.78	41.60	38.79	38.52
30. . . . .	47.3	46.30	44.71	43.31	41.07	40.97	40.29	38.80	37.54	37.65	34.87	34.88
35. . . . .	42.6	41.60	40.12	38.66	36.43	36.31	35.68	34.36	33.33	33.74	31.08	31.29
40. . . . .	37.9	36.98	35.57	34.04	31.87	31.73	31.17	30.03	29.22	29.86	27.43	27.74
45. . . . .	33.4	32.46	31.07	29.55	27.48	27.34	26.87	25.87	25.28	26.00	23.86	24.21
50. . . . .	29.0	28.09	26.71	25.26	23.34	23.22	22.83	21.96	21.51	22.22	20.39	20.76
55. . . . .	24.9	23.86	22.56	21.25	19.51	19.45	19.11	18.34	17.97	18.59	17.03	17.42
60. . . . .	20.9	19.88	18.71	17.56	16.07	16.01	15.76	15.05	14.72	15.25	13.98	14.35
65. . . . .	17.1	16.22	15.24	14.26	13.02	12.97	12.75	12.07	11.77	12.21	11.25	11.51
70. . . . .	13.6	12.87	12.11	11.35	10.38	10.29	10.07	9.42	9.20	9.51	8.83	9.03
75. . . . .	10.5	9.92	9.40	8.87	8.06	7.92	7.77	7.17	7.02	7.30	6.75	6.84
80. . . . .	7.8	7.43	7.11	6.76	6.18	5.89	5.88	5.38	5.26	5.47	5.09	5.10
85. . . . .	5.7	5.43	5.28	5.09	4.63	4.34	4.35	4.02	3.99	4.06	3.88	3.81
90. . . . .	4.0	3.90	3.85	3.83	3.49	3.16	3.27	3.06	3.03	3.18	2.99	2.85
95. . . . .	2.8	2.77	2.88	2.91	2.67	2.43	2.48	2.40	2.19	2.36	2.31	2.12
100. . . . .	2.0	1.98	2.21	2.41	2.20	1.91	1.92	1.96	1.49	1.58	1.68	1.55

See footnotes at end of table.

**Table 11. Life expectancy by age, race, and sex: Death-registration states, 1900–1902 to 1919–1921, and United States, 1929–1931 to 2006—Con.**

[Alaska and Hawaii included beginning in 1959. For decennial periods prior to 1929–1931, data are for groups of registration states as follows: 1900–1902 and 1909–1911, 10 states and the District of Columbia (D.C.); 1919–1921, 34 states and D.C. Beginning 1970 excludes deaths of nonresidents of the United States; see "Technical Notes" section]

Age, race, and sex	Average number of years of life remaining ( $e_x$ )											
	2006	1999–2001	1989–1991	1979–1981	1969–1971	1959–1961	1949–1951	1939–1941	1929–1931	1919–1921	1909–1911	1900–1902
<b>White female</b>												
0 . . . . .	80.6	79.97	79.45	78.22	75.49	74.19	72.03	67.29	62.67	58.53	53.62	51.08
1 . . . . .	80.0	79.38	78.99	77.98	75.66	74.68	72.77	68.93	64.93	61.51	58.69	56.39
5 . . . . .	76.1	75.46	75.10	74.13	71.86	70.92	69.09	65.57	62.17	59.43	57.67	56.03
10 . . . . .	71.1	70.51	70.16	69.21	66.97	66.05	64.26	60.85	57.65	55.17	53.57	52.15
15 . . . . .	66.1	65.56	65.23	64.29	62.07	61.15	59.39	56.07	53.00	50.67	49.12	47.79
20 . . . . .	61.3	60.69	60.36	59.44	57.24	56.29	54.56	51.38	48.52	46.46	44.88	43.77
25 . . . . .	56.4	55.81	55.51	54.60	52.42	51.45	49.77	46.78	44.25	42.55	40.88	40.05
30 . . . . .	51.5	50.94	50.65	49.76	47.60	46.63	45.00	42.21	39.99	38.72	36.96	36.42
35 . . . . .	46.7	46.10	45.82	44.93	42.82	41.84	40.28	37.70	35.73	34.86	33.09	32.82
40 . . . . .	41.9	41.31	41.03	40.16	38.12	37.13	35.64	33.25	31.52	30.94	29.26	29.17
45 . . . . .	37.2	36.61	36.30	35.49	33.54	32.53	31.12	28.90	27.39	26.98	25.45	25.51
50 . . . . .	32.6	31.99	31.71	30.96	29.11	28.08	26.76	24.72	23.41	23.12	21.74	21.89
55 . . . . .	28.2	27.52	27.29	26.61	24.85	23.81	22.58	20.73	19.60	19.40	18.18	18.43
60 . . . . .	23.8	23.25	23.09	22.45	20.79	19.69	18.64	17.00	16.05	15.93	14.92	15.23
65 . . . . .	19.8	19.23	19.14	18.55	16.93	15.88	15.00	13.56	12.81	12.75	11.97	12.23
70 . . . . .	15.9	15.47	15.46	14.89	13.37	12.38	11.68	10.50	9.98	9.94	9.38	9.59
75 . . . . .	12.3	12.02	12.11	11.58	10.21	9.28	8.87	7.92	7.56	7.62	7.20	7.33
80 . . . . .	9.3	9.04	9.12	8.65	7.59	6.67	6.59	5.88	5.63	5.70	5.35	5.50
85 . . . . .	6.7	6.59	6.62	6.32	5.54	4.66	4.83	4.34	4.24	4.24	4.06	4.10
90 . . . . .	4.7	4.67	4.69	4.59	4.05	3.23	3.51	3.24	3.17	3.16	3.00	3.02
95 . . . . .	3.3	3.24	3.36	3.39	3.04	2.43	2.56	2.47	2.24	2.20	2.27	2.21
100 . . . . .	2.2	2.24	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 . . . . .	73.2	71.74	69.16	68.52	64.11	63.91	60.73	53.85	48.53	47.03	35.87	33.80
1 . . . . .	73.2	71.78	69.43	68.99	65.27	65.75	62.65	57.15	51.71	51.01	43.84	43.00
5 . . . . .	69.4	67.92	65.64	65.25	61.62	62.21	59.25	54.13	49.25	49.44	45.34	45.55
10 . . . . .	64.4	62.99	60.75	60.38	56.79	57.41	54.50	49.50	44.80	45.26	41.74	42.46
15 . . . . .	59.5	58.07	55.86	55.49	51.94	52.57	49.73	44.89	40.37	41.02	38.02	39.04
20 . . . . .	54.7	53.32	51.19	50.75	47.34	47.88	45.19	40.73	36.62	37.72	34.86	36.03
25 . . . . .	50.1	48.71	46.67	46.18	43.00	43.35	40.85	36.91	33.32	34.91	31.72	33.04
30 . . . . .	45.5	44.10	42.22	41.69	38.70	38.89	36.59	33.17	30.07	31.98	28.43	29.96
35 . . . . .	40.9	39.53	37.87	37.28	34.48	34.56	32.44	29.53	26.94	29.07	25.39	26.82
40 . . . . .	36.4	35.06	33.65	32.98	30.46	30.39	28.48	26.06	23.82	26.07	22.41	23.73
45 . . . . .	32.0	30.79	29.55	28.87	26.65	26.46	24.75	22.82	20.97	23.17	19.58	20.67
50 . . . . .	27.9	26.75	25.62	25.03	23.11	22.74	21.38	19.94	18.22	20.17	16.84	17.95
55 . . . . .	24.1	22.93	21.95	21.50	19.83	19.45	18.41	17.43	15.80	17.33	14.33	15.23
60 . . . . .	20.4	19.40	18.59	18.29	16.83	16.53	15.87	15.18	13.62	14.72	12.16	13.06
65 . . . . .	17.1	16.14	15.56	15.37	14.16	13.96	13.59	13.02	11.49	12.22	10.22	10.87
70 . . . . .	13.9	13.18	12.87	12.67	11.77	11.63	11.48	10.93	9.54	9.90	8.59	8.96
75 . . . . .	11.1	10.54	10.48	10.32	9.89	9.52	9.48	8.97	7.84	8.00	7.08	7.24
80 . . . . .	8.7	8.29	8.30	8.17	8.20	7.28	7.62	7.31	6.19	6.22	5.80	5.79
85 . . . . .	6.7	6.41	6.51	6.54	6.54	5.27	5.79	5.91	4.92	4.88	4.80	4.56
90 . . . . .	5.1	4.90	4.94	5.13	5.09	3.48	3.97	4.64	3.83	3.84	4.26	3.60
95 . . . . .	3.8	3.71	3.82	4.08	4.28	2.43	2.70	3.51	2.83	2.90	3.31	2.82
100 . . . . .	2.8	2.81	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 . . . . .	69.7	68.08	64.47	64.10	60.00	61.48	58.91	52.26	47.55	47.14	34.05	32.54
1 . . . . .	69.7	68.16	64.76	64.60	61.24	63.50	61.06	55.93	51.08	51.63	42.53	42.46
5 . . . . .	65.8	64.31	60.98	60.86	57.60	59.98	57.69	52.95	48.69	50.18	44.25	45.06
10 . . . . .	60.9	59.39	56.09	56.01	52.79	55.19	52.96	48.34	44.27	45.99	40.65	41.90
15 . . . . .	56.0	54.48	51.22	51.14	47.96	50.39	48.23	43.74	39.83	41.75	36.77	38.26
20 . . . . .	51.3	49.83	46.71	46.48	43.49	45.78	43.73	39.52	35.95	38.36	33.46	35.11
25 . . . . .	46.8	45.41	42.40	42.09	39.45	41.38	39.49	35.72	32.67	35.54	30.44	32.21
30 . . . . .	42.4	40.94	38.14	37.81	35.40	37.05	35.31	32.05	29.45	32.51	27.33	29.25
35 . . . . .	37.9	36.47	34.02	33.60	31.42	32.81	31.21	28.48	26.39	29.54	24.42	26.16
40 . . . . .	33.5	32.10	30.05	29.51	27.61	28.72	27.29	25.06	23.36	26.53	21.57	23.12
45 . . . . .	29.2	27.92	26.18	25.61	24.03	24.89	23.59	21.88	20.59	23.55	18.85	20.09
50 . . . . .	25.2	24.05	22.50	22.03	20.69	21.28	20.25	19.06	17.92	20.47	16.21	17.34
55 . . . . .	21.6	20.43	19.08	18.79	17.66	18.11	17.36	16.60	15.46	17.50	13.82	14.69

See footnotes at end of table.

**Table 11. Life expectancy by age, race, and sex: Death-registration states, 1900–1902 to 1919–1921, and United States, 1929–1931 to 2006—Con.**

[Alaska and Hawaii included beginning in 1959. For decennial periods prior to 1929–1931, data are for groups of registration states as follows: 1900–1902 and 1909–1911, 10 states and the District of Columbia (D.C.); 1919–1921, 34 states and D.C. Beginning 1970 excludes deaths of nonresidents of the United States; see "Technical Notes" section]

Age, race, and sex	Average number of years of life remaining ( $e_x$ )											
	2006	1999–2001	1989–1991	1979–1981	1969–1971	1959–1961	1949–1951	1939–1941	1929–1931	1919–1921	1909–1911	1900–1902
<b>Black male<sup>1</sup>—Con.</b>												
60 . . . . .	18.2	17.14	16.01	15.89	14.93	15.29	14.91	14.37	13.15	14.74	11.67	12.62
65 . . . . .	15.1	14.12	13.27	13.29	12.53	12.84	12.75	12.21	10.87	12.07	9.74	10.38
70 . . . . .	12.3	11.40	10.88	10.94	10.40	10.81	10.74	10.11	8.78	9.58	8.00	8.33
75 . . . . .	9.8	9.07	8.84	8.90	8.76	8.93	8.83	8.17	6.99	7.61	6.58	6.60
80 . . . . .	7.7	7.12	7.01	7.03	7.35	6.87	7.07	6.58	5.42	5.83	5.53	5.12
85 . . . . .	5.9	5.52	5.58	5.61	5.92	5.08	5.38	5.34	4.30	4.53	4.48	4.04
90 . . . . .	4.5	4.23	4.24	4.47	4.68	3.42	3.78	4.23	3.42	3.60	4.01	3.21
95 . . . . .	3.5	3.24	3.37	3.62	3.92	2.43	2.64	3.20	2.54	2.61	3.15	2.50
100 . . . . .	2.6	2.48	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 . . . . .	76.5	75.12	73.73	72.88	68.32	66.47	62.70	55.56	49.51	46.92	37.67	35.04
1 . . . . .	76.5	75.09	73.96	73.31	69.37	68.10	64.37	58.46	52.33	50.39	45.15	43.54
5 . . . . .	72.6	71.22	70.16	69.54	65.70	64.54	60.93	55.40	49.81	48.70	46.42	46.04
10 . . . . .	67.7	66.28	65.26	64.65	60.85	59.72	56.17	50.75	45.33	44.54	42.84	43.02
15 . . . . .	62.7	61.35	60.34	59.74	55.97	54.85	51.36	46.13	40.87	40.36	39.18	39.79
20 . . . . .	57.8	56.48	55.49	54.90	51.22	50.07	46.77	42.04	37.22	37.15	36.14	36.89
25 . . . . .	53.0	51.67	50.72	50.13	46.57	45.40	42.35	38.20	33.93	34.35	32.97	33.90
30 . . . . .	48.2	46.91	46.03	45.43	42.00	40.83	38.02	34.40	30.67	31.48	29.61	30.70
35 . . . . .	43.5	42.22	41.45	40.79	37.56	36.41	33.82	30.83	27.47	28.58	26.44	27.52
40 . . . . .	38.9	37.65	36.96	36.28	33.32	32.16	29.82	27.19	24.30	25.60	23.34	24.37
45 . . . . .	34.5	33.26	32.58	31.94	29.31	28.14	26.07	23.89	21.39	22.61	20.43	21.36
50 . . . . .	30.2	29.03	28.38	27.84	25.52	24.31	22.67	20.95	18.60	19.76	17.65	18.67
55 . . . . .	26.1	24.98	24.41	24.00	21.97	20.89	19.62	18.38	16.27	17.09	14.98	15.88
60 . . . . .	22.2	21.18	20.71	20.42	18.66	17.83	16.95	16.10	14.22	14.69	12.78	13.60
65 . . . . .	18.6	17.65	17.37	17.13	15.67	15.12	14.54	13.95	12.24	12.41	10.82	11.38
70 . . . . .	15.1	14.41	14.32	14.05	13.02	12.46	12.29	11.82	10.38	10.25	9.22	9.62
75 . . . . .	12.0	11.49	11.56	11.37	10.85	10.10	10.15	9.81	8.62	8.37	7.55	7.90
80 . . . . .	9.3	8.96	9.05	8.95	8.87	7.66	8.15	8.02	6.90	6.58	6.05	6.48
85 . . . . .	7.1	6.86	6.99	7.09	7.00	5.44	6.15	6.41	5.48	5.22	5.09	5.10
90 . . . . .	5.3	5.16	5.24	5.47	5.41	3.52	4.13	4.96	4.20	4.07	4.50	4.01
95 . . . . .	3.9	3.84	3.97	4.30	4.58	2.43	2.74	3.71	3.09	3.18	3.45	3.15
100 . . . . .	2.8	2.84	2.97	3.69	4.20	1.91	1.94	2.70	2.04	2.23	2.39	2.49

<sup>1</sup>For 1939–1941 and 1949–1951, data shown are for the entire nonwhite population. During these periods, life tables were not constructed for the black population. See "Technical Notes" section.



**Table 12. Estimated life expectancy at birth in years, by race and sex: Death-registration states, 1900–1928, and United States, 1929–2006**

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

Area and year	All races			White			Black <sup>1</sup>		
	Both sexes	Male	Female	Both sexes	Male	Female	Both sexes	Male	Female
United States <sup>2</sup>									
2006 <sup>3</sup>	77.7	75.1	80.2	78.2	75.7	80.6	73.2	69.7	76.5
2005 <sup>3</sup>	77.4	74.9	79.9	77.9	75.4	80.4	72.8	69.3	76.1
2004 <sup>3</sup>	77.5	74.9	79.9	77.9	75.4	80.4	72.8	69.3	76.0
2003 <sup>3</sup>	77.1	74.5	79.6	77.6	75.0	80.0	72.3	68.8	75.6
2002 <sup>3</sup>	76.9	74.3	79.5	77.4	74.9	79.9	72.1	68.6	75.4
2001 <sup>3</sup>	76.9	74.2	79.4	77.4	74.8	79.9	72.0	68.4	75.2
2000 <sup>3</sup>	76.8	74.1	79.3	77.3	74.7	79.9	71.8	68.2	75.1
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>4</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>5</sup>	69.9	66.6	73.4	70.8	67.4	74.4	63.7	61.0	66.6
1962 <sup>5</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

See footnotes at end of table.

**Table 12. Estimated life expectancy at birth in years, by race and sex: Death-registration states, 1900–1928, and United States, 1929–2006—Con.**

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

Area and year	All races			White			Black <sup>1</sup>		
	Both sexes	Male	Female	Both sexes	Male	Female	Both sexes	Male	Female
United States <sup>2</sup> —Con.									
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
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>Prior to 1970, data for the black population are not available. Data shown for 1900–1969 are for the nonwhite population. See "Technical Notes" section.

<sup>2</sup>Alaska included in 1959 and Hawaii in 1960.

<sup>3</sup>Life expectancies for 2000–2006 were calculated using a revised methodology; see text reference 1.

<sup>4</sup>Deaths based on a 50-percent sample.

<sup>5</sup>Figures by race exclude data for residents of New Jersey; see "Technical Notes" section.

## Technical Notes

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

Available since 1945, the annual life tables are based on deaths occurring during the calendar year and on midyear postcensal population estimates provided by the U.S. Census Bureau. From 1945 through 1996, the annual life tables were abridged life tables and were constructed by reference to a standard table (9). Beginning with 1997 mortality data, a new methodology was employed to estimate complete life tables to age 100, with combined life table values presented for ages 100 and over (15). Prior to 1997, the annual life tables were closed at age 85, with ages 85 and over combined. Extension of the oldest age interval was implemented by NCHS for several reasons: survival in the United States is such that over 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.

The annual life tables presented in this report are based on a revised methodology that was used to estimate the 2005 U.S. annual life tables and to revise previously published U.S. annual life tables for years 2000–2004. The revised versions of the annual life tables for years 2000–2004 appear in an appendix of the 2005 U.S. life table report (1). The revised methodology improves upon the methodology developed in 1997 through the use of more precise techniques for the estimation of old age mortality, discussed in greater detail below.

*Geographic coverage*—The geographic areas covered in life tables before 1929–1931 were limited to the death-registration areas. Life tables for 1900–1902 and 1909–1911 were constructed using mortality data from the 1900 death-registration states [10 states and the District of Columbia (D.C.)] and for 1919–1921 from the 1920 death-registration states (34 states and D.C.). The tables for the years 1929–1931 through 1958 cover the coterminous United States. Decennial life table values for the 3-year period 1959–1961 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 intercensal life table values*—Life table values for 1960–1969, 1970–1979, and 1980–1989 were constructed using the U.S. decennial life tables for 1959–1961, 1969–1971, and 1979–1981, 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 the years published in Vital Statistics of the United States for 1989 and earlier years. Life table values for 1991–1999 are based on postcensal population estimates of the population enumerated in the 1990

decennial census, while life table values for 2000–2006 are based on population estimates of the population enumerated in the 2000 decennial census. As a result, life expectancy values across the 1990s are not comparable to those estimated for 2000–2006. A comparison of life expectancy values for 2000 estimated alternately with 1990-based postcensal estimates of the 2000 population and population estimates based on the 2000 census revealed that life expectancy values estimated using the 2000 census population estimates were slightly higher throughout the entire age range (18). Revised life table values for 1991–1999 using new intercensal population estimates based on the 2000 census will be estimated by NCHS in the near future.

*New Jersey data, 1962–1964*—The life tables for 1962 and 1963 for the six race population groups 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 were 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 1949–1951 and 1959–1961 were estimated using figures for the non-white population. Life table functions were also missing in Tables 10 and 11 for race-sex groups for the periods from 1900–1902 to 1939–1941. Figures were missing for the following groups:

Years	Race and sex
1900–1902 . . . . .	Total white, total black
1909–1911 . . . . .	Total white, total black
1919–1921 . . . . .	Total, male, female, total white, total black
1929–1931 . . . . .	Total, male, female, total white, total black

These missing figures were estimated by weighted averages using population distributions as the weights. For example, life expectancy at age 20 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 aged 20.

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 (19):

Years	Race and sex
1900–1945 . . . . .	Total
1900–1947 . . . . .	Male
1900–1947 . . . . .	Female
1900–1950 . . . . .	White
1900–1944 . . . . .	White male
1900–1944 . . . . .	White female

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

### Data used for computing life table functions

**Population data**—Populations used for computing life tables shown in this report represent the population residing in the United States, enumerated as of April 1 for census years and estimated as of July 1 for all other years. Life tables for the United States for 2006 are estimated using postcensal estimates published in 2006 based on the 2000 census and estimated as of July 1, 2006. These estimates were produced under a collaborative arrangement with the U.S. Census Bureau and are based on the 2000 census counts by age, race, and sex, modified to be consistent with U.S. Office of Management and Budget racial categories as of 1977 and historical categories for death data (6). The modified procedures are described in detail elsewhere (8). Life tables previously published in annual reports of final data for 1991 to 1999 were based on postcensal population estimates derived from the 1990 census. The 1991–1999 life tables will be reestimated using 2000 census-based intercensal population estimates.

**Medicare data**—Death rates at the oldest ages based on Medicare data are considered to be more accurate than those based on vital statistics and census data. As a result, Medicare data are employed to supplement vital statistics data in the estimation of  $q_x$  for ages 66 and over. The prevalence of age misreporting at the oldest ages in census data has been found to be significant enough to produce underestimated death rates, especially for the African-American population (17). On the other hand, Medicare data are judged to be superior because beneficiaries must prove their date of birth in order to enroll and coverage is extensive (20). Approximately 98 percent of the American population aged 65 and over is enrolled in Medicare Part A, and 96 percent of this is enrolled in Part B. Further, 99 percent of deaths of those aged 65 and over in the United States are accounted for in the Medicare program (21).

Compared with data from other sources, Medicare data are negatively affected by greater numbers of people in the oldest age groups. For instance, the number of people aged 90 and over is greater in Medicare data than in census data (21). This is the result of “phantom records” that arise due to some beneficiaries being registered more than once or because a person’s death was not reported (20). To address this problem, the Medicare data used are restricted to the records of Medicare beneficiaries who are also eligible for Social Security or Railroad Retirement income benefits. This eliminates approximately 3 percent of records from the full Medicare file (20).

To estimate the probability of death for the Medicare population for 2006, age-specific number of deaths and population counts by sex and race for the population aged 66 and over from the 2006 Medicare file were used. This file is created by the Centers for Medicare & Medicaid (CMS) for the Social Security Administration, which, under a special agreement, shares the file with NCHS.

**Vital statistics data**—Death counts used for computing the life tables presented in this report are final number of deaths for 2006 collected from death certificates filed in state vital statistics offices and reported to NCHS as part of the National Vital Statistics System. An adjustment must be made to account for the small proportion of deaths

each year for which age is not reported. 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 mortality data for 2006.

### Calculation of the probability of dying ( $q_x$ )

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.

**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 (2). 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 2 for details on the application of Beer’s method).

**Calculation of  $q_0$** —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 ( $t - 1$ ). The value,  $f$  can be calculated by categorizing infant deaths by date of birth. The probability of death in the first year is calculated as

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

where  $D_0$  is the number of infant deaths adjusted for not-reported age, and  $B^t$  and  $B^{t-1}$  are the numbers of births in years  $t$  and  $t - 1$ , respectively. Table II shows separation factors and numbers of births by race and sex for 2005–2006.

**Calculation of  $q_x$  for ages 1–100**—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

**Table I. Values for  $F$  used to adjust for not-stated age based on 2006 mortality data**

Race and sex	Total deaths	Total deaths for which age was not stated	$F$
Total . . . . .	2,426,264	220	1.00009068
Male . . . . .	1,201,942	171	1.00014229
Female . . . . .	1,224,322	49	1.00004002
White . . . . .	2,077,549	179	1.00008617
Male . . . . .	1,022,328	142	1.00013892
Female . . . . .	1,055,221	37	1.00003506
Black . . . . .	289,971	32	1.00011037
Male . . . . .	148,602	22	1.00014807
Female . . . . .	141,369	10	1.00007074

**Table II. Births in 2005 and 2006, deaths in 2006 of infants born in 2005 and 2006, 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									
2005 . . . . .	4,138,349	2,118,982	2,019,367	3,229,294	1,655,812	1,573,482	633,134	321,259	311,875
2006 . . . . .	4,265,555	2,184,237	2,081,318	3,310,308	1,695,870	1,614,438	666,481	339,838	326,643
Deaths in 2006 of infants born in									
2005 . . . . .	3,422	1,926	1,496	2,230	1,256	974	1,026	573	453
2006 . . . . .	25,105	14,054	11,051	16,173	9,089	7,084	7,832	4,313	3,519
Separation factor ( <i>f</i> )									
	0.120	0.121	0.119	0.121	0.121	0.121	0.116	0.117	0.114

considered acceptable when age intervals are 1 year in length (4). Under this assumption,  $l_x = L_x + \frac{1}{2}d_x$ , 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  $x + 1$ . The value,  $q_x$ , 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,  $N_x = P_x + \frac{1}{2}D_x$ , 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  $x + 1$ . The value,  $q_x$ , is calculated as

$$q_x = \frac{D_x}{N_x} = \frac{D_x}{P_x + \frac{1}{2}D_x} \quad [3]$$

where  $D_x$  is the observed number of deaths adjusted for not-stated age and  $P_x$  is the observed population at risk of dying between ages  $x$  and  $x + 1$ .

*Use of Medicare data at ages 66 to 100*—For ages 66–94, the probability of dying was obtained by blending vital statistics ( $q_x^V$ ) with Medicare ( $q_x^M$ ) through a weighting process that gives gradually declining weight to vital statistics data and gradually increasing weight to Medicare data. For ages 95 to 100, Medicare ( $q_x^M$ ) is used exclusively. For ages 66–100,  $q_x$  is then estimated as

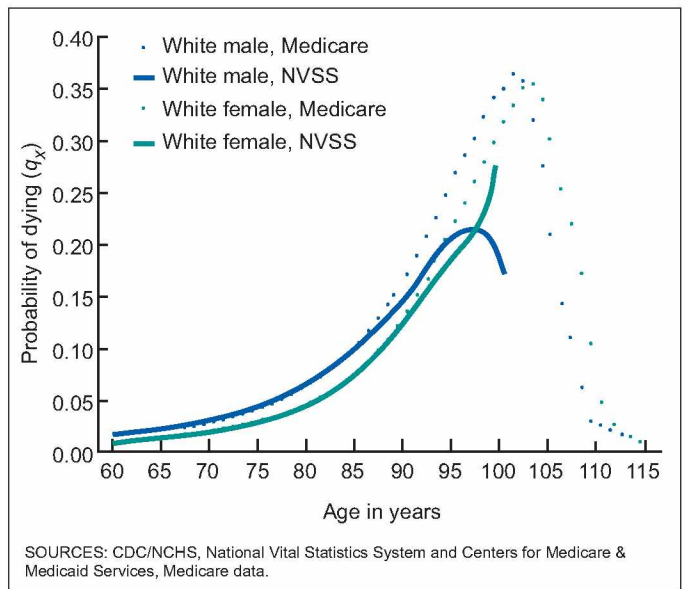
$$q_x = \frac{1}{30} [(95 - x) q_x^V + (x - 65) q_x^M], \text{ when } x = 66, \dots, 94$$

and

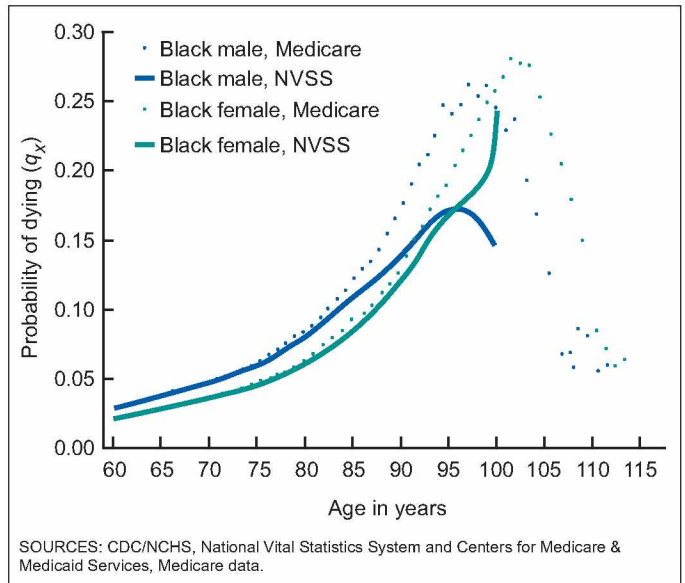
$$q_x = q_x^M, \text{ when } x = 95, \dots, 100, \quad [4]$$

where  $q_x$  is a combination of  $q_x^V$  and  $q_x^M$ ,  $q_x^V$  is the probability of dying calculated with formula 3, and  $q_x^M$  is the probability of dying based on Medicare data [see Figures I and II for a comparison of Medicare ( $q_x^M$ ) and vital statistics ( $q_x^V$ ) for white and black males and females in 2006].

*Smoothing combined probabilities of death ( $q_x$ ) at ages 66–100*—The third component of the Heligman-Pollard model is used to smooth the probabilities of death at ages 66–100. The Heligman-Pollard model



**Figure I. Probability of dying ( $q_x$ ) for the white population aged 60–115: United States, 2006**



**Figure II. Probability of dying ( $q_x$ ) for the black population aged 60–115: United States, 2006**

is a nonlinear model consisting of three components and eight parameters:

$q_x / 1 - q_x = A^{(x+B)^C} + D \exp[-E(\log x - \log F)^2] + GH^x$ , where, in the first component, parameter  $A$  measures mortality in the first year of life, parameter  $B$  measures the rate of change in mortality from birth to the first year of life, and parameter  $C$  measures the rate of mortality decline in childhood. The second component of the model describes mortality from ages 10 through 40, where an “accident hump” appears, and parameters  $D$ ,  $E$ , and  $F$  measure the location, width, and height of the “accident hump.” Parameters  $G$  and  $H$  in the third component of the model measure mortality levels and changes for ages approximately 40 years and over (22,23).

Using STATA’s nonlinear weighted least squares procedure, with weights defined as  $w_x = 1/q_x^2$ ,  $q_x$  was fitted with the third component of the Heligman-Pollard model for ages 65–100 years, where  $q_x^V$  was used for age 65 and  $q_x$  as defined in equation 4 above was used for ages 66–100. The inclusion of  $q_x^V$  for age 65 was the first step taken to ensure a smooth transition between vital  $q_x^V$  and predicted  $q_x$  (defined below). The model was estimated as

$$\frac{q_x}{1 - q_x} = GH^x, \tag{5}$$

where the two fitted parameters  $G$  and  $H$  are used to smooth  $q_x$  for ages 66–100 and extrapolate  $q_x$  for ages 101–130 years. Although the probabilities of death  $q_x^M$  estimated from Medicare data range from age 66 to approximately 115,  $q_x$  was extrapolated to age 130 in order to estimate the life table population until no survivors remain. This information is then used to estimate  $L_x$  for ages 100–130, which is used to close the table with the age category 100 and over, combined (discussed below). Predicted  $\hat{q}_x$  was then estimated as

$$\hat{q}_x = \frac{\hat{G} \hat{H}^x}{1 + \hat{G} \hat{H}^x}, \tag{6}$$

where  $\hat{G}$  and  $\hat{H}$  are the predicted parameters given by fitting model 5. Predicted parameters for 2006 are presented in Table III.

A second step taken to ensure a smooth transition from vital  $q_x^V$  and predicted  $\hat{q}_x$  was to blend predicted  $\hat{q}_x$  and vital  $q_x^V$  from ages 66–74 with a graduating process:

$$q_x = \frac{1}{10} [(75 - x) q_x^V + (x - 65) \hat{q}_x], \text{ when } x = 66, \dots, 74. \tag{7}$$

Finally, to close the table at age 100 and over (combined),  ${}_∞q_{100}$  is set equal to 1.0 because all survivors to this age will die at some point in the open-ended age interval. Once  $q_x$  is obtained for each single year of age, the other life table functions may be easily calculated.

## Calculation of remaining life table functions

**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

$$l_x = l_{x-1}(1 - q_{x-1}). \tag{8}$$

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

$$d_x = l_x - l_{x+1} = l_x q_x. \tag{9}$$

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

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

$$L_x = \frac{1}{2}(l_x + l_{x+1}) = l_x - \frac{1}{2}d_x. \tag{10}$$

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

$$L_0 = f l_0 + (1 - f) l_1. \tag{11}$$

Finally,  ${}_∞L_{100}$  is estimated as the sum of the extrapolated  $L_x$  values for ages 100 to 130.

**Person-years lived at and above age  $x$  ( $T_x$ )**—Calculated by summing  $L_x$  values at and above age  $x$ :

$$T_x = \sum_{x=0}^{\infty} L_x. \tag{12}$$

**Life expectancy at age  $x$  ( $e_x$ )**—Calculated as

$$e_x = \frac{T_x}{l_x}. \tag{13}$$

## Abriding 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 age years. 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  $x$ , that is, the beginning of the age interval  $x$  to  $x + n$  ( $n$  denotes the length of

**Table III. Estimated parameters  $G$  and  $H$  used for predicting  $q_x$  for ages 66–130: U.S. life tables, 2006**

	Population								
	Total	Male	Female	White	White male	White female	Black	Black male	Black female
$G$ . . . . .	0.0000141	0.0000205	0.0000072	0.0000121	0.0000168	0.0000062	0.0000923	0.0001892	0.0000416
$H$ . . . . .	1.1101	1.1077	1.1173	1.1122	1.1103	1.1193	1.0862	1.0797	1.0948

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 or 20–25. 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 IV 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 and will obviously be somewhat larger than  $q_{20}$ , the probability of dying between ages 20 and 21. 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

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

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

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

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 IV shows each of the life table functions for the 2006 U.S. total population abridged from Table 1.

**Table IV. Life table for the total population: United States, 2006**

Age	Probability of dying between ages $x$ to $x+n$ ${}_nq_x$	Number surviving to age $x$ $l_x$	Number dying between ages $x$ to $x+n$ ${}_nd_x$	Person-years lived between ages $x$ to $x+n$ ${}_nL_x$	Total number of person-years lived above age $x$ $T_x$	Expectation of life at age $x$ $e_x$
0–1	0.006713	100,000	671	99,409	7,770,850	77.7
1–4	0.001138	99,329	113	397,045	7,671,441	77.2
5–9	0.000694	99,216	69	495,891	7,274,396	73.3
10–14	0.000822	99,147	81	495,587	6,778,505	68.4
15–19	0.003214	99,065	318	494,627	6,282,918	63.4
20–24	0.004998	98,747	494	492,532	5,788,291	58.6
25–29	0.005033	98,253	495	490,029	5,295,759	53.9
30–34	0.005583	97,759	546	487,470	4,805,730	49.2
35–39	0.007389	97,213	718	484,380	4,318,260	44.4
40–44	0.011381	96,495	1,098	479,916	3,833,880	39.7
45–49	0.017264	95,397	1,647	473,118	3,353,964	35.2
50–54	0.025576	93,750	2,398	463,087	2,880,846	30.7
55–59	0.036064	91,352	3,295	448,955	2,417,759	26.5
60–64	0.054578	88,057	4,806	428,979	1,968,804	22.4
65–69	0.079166	83,251	6,591	400,600	1,539,825	18.5
70–74	0.121699	76,661	9,330	361,363	1,139,225	14.9
75–79	0.195009	67,331	13,130	305,372	777,862	11.6
80–84	0.302509	54,201	16,396	230,960	472,489	8.7
85–89	0.447212	37,805	16,907	146,101	241,530	6.4
90–94	0.617641	20,898	12,907	69,775	95,429	4.6
95–99	0.782678	7,991	6,254	21,745	25,654	3.2
100 and over	1.000000	1,737	1,737	3,909	3,909	2.3

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