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United States Life Tables, 2009

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Abstract

Objectives—This report presents complete period life tables for the United States by race, Hispanic origin, and sex based on age-specific death rates in 2009.

Methods—Data used to prepare the 2009 life tables are 2009 final mortality statistics; July 1, 2009, population estimates based on the 2000 decennial census; and 2009 Medicare data for persons aged 66–99. The methodology used to estimate the 2009 life tables is the same as that used for data year 2008, which was revised from that used for data years 2000–2007. The methodology used to estimate the life tables for the Hispanic population remains unchanged from that developed for the publication of life tables by Hispanic origin for data year 2006.

Results—In 2009, the overall expectation of life at birth was 78.5 years. Between 2008 and 2009, life expectancy at birth increased for all groups considered. Life expectancy increased for both males (from 75.6 to 76.0) and females (80.6 to 80.9) and for the white population (78.5 to 78.8), the black population (74.0 to 74.5), the Hispanic population (81.0 to 81.2), the non-Hispanic white population (78.4 to 78.7), and the non-Hispanic black population (73.7 to 74.2).

Keywords: life expectancy • survival • death rates • race

Introduction

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

Unlike the cohort life table, the period life table does not represent the mortality experience of an actual birth cohort. Rather, the period life table presents what would happen to a hypothetical cohort if it experienced throughout its entire life the mortality conditions of a particular period in time. For example, a period life table for 2009 assumes a hypothetical cohort that is subject throughout its lifetime to the age-specific death rates prevailing for the actual population in 2009. The period life table may thus be characterized as rendering a "snapshot" of current mortality experience and showing 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.

Life tables can be classified in two ways according to the length of the age interval in which data are presented. A complete life table contains data for every single year of age. An abridged life table typically contains data by 5- or 10-year age intervals. A complete life table, of course, can easily be aggregated into 5- or 10-year age groups (refer to Technical Notes at the end of this report for instructions). Other than the decennial life tables, U.S. life tables based on data prior to 1997 are abridged life tables constructed by reference to a standard table (4). This report presents complete period life tables by race, Hispanic origin, race for the non-Hispanic population, and sex.

Data and Methods

The data used to prepare the U.S. life tables for 2009 are final numbers of deaths for the year 2009, postcensal population estimates for the year 2009, and age-specific death and population counts for Medicare beneficiaries aged 66–99 for the year 2009 from the Centers for Medicare & Medicaid Services. Data from the Medicare program are used to supplement vital statistics and census data for ages 66 and over. (See Technical Notes for a detailed description of the data sets used.)

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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 2009 are shown for the total population by race, Hispanic origin, and sex in Tables 1–18. Life expectancy is summarized by age, race, Hispanic origin, and sex in Table A.

Life expectancy at birth (e_0) for 2009 for the total population was 78.5 years. This represents the average number of years that the members of the hypothetical life table cohort can expect to live at the time of birth (Table A).

Survivors to specified ages

Another way of assessing the longevity of the period life table cohort is by determining the proportion that survives to specified ages. The l_x column of the life table provides the data for computing this proportion. Table B summarizes the number of survivors by age, race, Hispanic origin, and sex. To illustrate, 56,572 persons out of the original 2009 hypothetical life table cohort of 100,000 (or 56.6%) were alive at exact age 80. In other words, the probability that a person will survive from birth to age 80, given 2009 age-specific mortality, is 56.6%. Probabilities of survival can be calculated at any age by 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 (41,112) by the number of survivors at age 20 (98,857), which results in a 41.6% probability of survival.

Explanation of the columns of the life table

Column 1. Age (between x and $x + 1$)—Shows the age interval between the two exact ages indicated. For instance, "20–21" refers to 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 and $x + 1$. For example, for males in the age interval 20–21, the probability of dying is 0.001116 (Table 2). This 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 hypothetical 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, 99,427 will complete their first year of life and enter the second; 99,278 will reach age 10; 99,056 will reach age 20; and 48,035 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, 699 will die in their first year of life; 110 will die between ages 20 and 21; and 997 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 hypothetical 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 98,613 for males in the age interval 20–21 is the total number of years lived between the 20th and 21st birthdays by the 98,668 males (column 3) 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 hypothetical life table cohort. For example, the figure 5,614,200 is the total number of years lived after attaining age 20 by the 98,668 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, based on a given set of age-specific rates of dying. It is derived by dividing the total person-years that would be lived beyond 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 56.9 years (5,614,200 divided by 98,668) (Table 2).

Results

Life expectancy in the United States

Tables 1–18 show complete life tables for 2009 by race (white and black), Hispanic origin, race for the non-Hispanic population, and sex. Table A summarizes life expectancy by age, race, Hispanic origin, and sex. Life expectancy at birth for 2009 represents the average number of years that a group of infants would live if they were to experience throughout life the age-specific death rates prevailing in 2009. In 2009, life expectancy at birth was 78.5 years, an increase of 0.4 years, from 78.1 years in 2008.

Changes in mortality levels by age and cause of death have a major effect on changes in life expectancy. Life expectancy at birth increased in 2009 over 2008 because of decreases in mortality from heart disease, cancer, unintentional injuries, stroke, and Chronic lower respiratory diseases. Increases in life expectancy in 2009 from 2008 were slightly offset by increases in mortality from Chronic liver disease and suicide. Decreases in mortality from heart disease, unintentional injuries, cancer, Chronic lower respiratory diseases, and homicide contributed to increases in life expectancy among the male population. Increases in life expectancy for the female population were a result of decreases in mortality from heart disease, stroke, cancer, Alzheimer's disease, and Chronic lower respiratory diseases (5).

The difference in life expectancy between the sexes was 4.9 years in 2009, declining from 5.0 years in 2008. From 1900 to 1975, the difference in life expectancy between the sexes increased from 2.0 years to 7.8 years. The increasing gap during these years is attributed to increases in male mortality due to ischemic heart disease and lung cancer, both of which increased largely as the result of men's early and widespread adoption of cigarette smoking (6,7). Between 1979 and 2005, the difference in life expectancy between the sexes narrowed from 7.8 years to 5.0 years, increasing slightly to 5.1 years in 2006, and declining again to 5.0 years in 2007. The general decline in the sex difference 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 (6,7).

The 2009 life table may be used to compare life expectancy at any age from birth onward. On the basis of mortality experienced in 2009, a person aged 65 could expect to live an average of 19.1 more

Table A. Expectation of life, by age, sex, race, and Hispanic origin: United States, 2009

Age (years)	All races and origins			White			Black			Hispanic			Non-Hispanic white			Non-Hispanic black		
	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female
0	78.5	76.0	80.9	78.8	76.4	81.2	74.5	71.1	77.6	81.2	78.7	83.5	78.7	76.3	81.1	74.2	70.7	77.4
1	78.0	75.5	80.4	78.3	75.9	80.6	74.5	71.1	77.5	80.6	78.2	82.9	78.1	75.7	80.4	74.1	70.7	77.2
5	74.1	71.6	76.4	74.3	71.9	76.7	70.6	67.2	73.6	76.7	74.2	79.0	74.2	71.8	76.5	70.3	66.8	73.3
10	69.1	66.6	71.5	69.4	67.0	71.7	65.6	62.3	68.7	71.8	69.3	74.0	69.2	66.9	71.5	65.3	61.9	68.4
15	64.1	61.7	66.5	64.4	62.0	66.7	60.7	57.3	63.7	66.8	64.3	69.1	64.3	61.9	66.6	60.4	57.0	63.5
20	59.3	56.9	61.6	59.6	57.2	61.8	55.9	52.6	58.8	62.0	59.5	64.2	59.4	57.1	61.7	55.6	52.3	58.6
25	54.6	52.2	56.8	54.8	52.6	57.0	51.2	48.1	54.0	57.2	54.9	59.3	54.7	52.4	56.8	50.9	47.7	53.8
30	49.8	47.6	51.9	50.0	47.9	52.1	46.6	43.5	49.2	52.4	50.2	54.4	49.9	47.7	52.0	46.3	43.2	49.0
35	45.1	42.9	47.1	45.3	43.2	47.3	42.0	39.0	44.5	47.6	45.4	49.5	45.2	43.1	47.2	41.7	38.7	44.3
40	40.4	38.3	42.3	40.6	38.5	42.5	37.4	34.5	39.8	42.9	40.7	44.7	40.5	38.4	42.4	37.1	34.2	39.6
45	35.8	33.7	37.7	36.0	34.0	37.8	33.0	30.2	35.3	38.2	36.1	39.9	35.9	33.9	37.7	32.7	29.9	35.1
50	31.3	29.4	33.1	31.5	29.6	33.2	28.7	26.0	31.0	33.6	31.6	35.3	31.4	29.5	33.2	28.5	25.8	30.8
55	27.1	25.3	28.7	27.2	25.4	28.8	24.8	22.3	26.9	29.2	27.3	30.7	27.1	25.4	28.7	24.6	22.1	26.7
60	23.0	21.3	24.4	23.1	21.5	24.5	21.2	18.9	23.0	25.0	23.3	26.3	23.0	21.4	24.4	21.0	18.7	22.8
65	19.1	17.6	20.3	19.1	17.7	20.3	17.8	15.8	19.3	20.9	19.4	22.0	19.1	17.6	20.3	17.7	15.7	19.1
70	15.5	14.2	16.5	15.5	14.2	16.5	14.6	13.0	15.8	17.1	15.7	18.0	15.4	14.1	16.4	14.6	12.9	15.7
75	12.1	11.0	12.9	12.1	11.0	12.9	11.7	10.3	12.6	13.6	12.4	14.3	12.1	10.9	12.9	11.7	10.2	12.5
80	9.1	8.2	9.7	9.1	8.2	9.7	9.1	7.9	9.7	10.3	9.3	10.9	9.1	8.2	9.7	9.0	7.8	9.7
85	6.6	5.9	7.0	6.6	5.8	7.0	6.8	5.9	7.2	7.6	6.7	7.9	6.5	5.8	6.9	6.8	5.9	7.2
90	4.7	4.1	4.9	4.6	4.1	4.8	5.1	4.4	5.3	5.4	4.8	5.6	4.6	4.0	4.8	5.1	4.4	5.3
95	3.3	2.9	3.4	3.2	2.8	3.3	3.8	3.3	3.9	3.8	3.4	3.9	3.2	2.8	3.3	3.8	3.3	3.9
100	2.3	2.1	2.4	2.3	2.1	2.3	2.9	2.5	2.9	2.7	2.4	2.7	2.3	2.1	2.3	2.9	2.5	2.9

SOURCE: CDC/NCHS, National Vital Statistics System.

Table B. Number of survivors out of 100,000 born alive, by age, sex, race, and Hispanic origin: United States, 2009

Age (years)	All races and origins			White			Black			Hispanic			Non-Hispanic white			Non-Hispanic black		
	Total	Male	Female	Total	Male	Female	Total	Male	Female	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	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000
1	99,363	99,301	99,427	99,472	99,423	99,524	98,739	98,595	98,888	99,474	99,435	99,515	99,469	99,418	99,523	98,763	98,621	98,910
5	99,259	99,187	99,334	99,376	99,316	99,438	98,585	98,433	98,742	99,382	99,339	99,428	99,374	99,311	99,440	98,595	98,446	98,755
10	99,198	99,121	99,278	99,321	99,256	99,389	98,496	98,335	98,663	99,325	99,281	99,372	99,321	99,251	99,395	98,500	98,344	98,672
15	99,121	99,032	99,213	99,250	99,174	99,329	98,387	98,208	98,572	99,249	99,193	99,307	99,254	99,174	99,337	98,385	98,212	98,579
20	98,857	98,668	99,056	99,000	98,836	99,173	98,038	97,690	98,398	99,001	98,837	99,177	99,010	98,849	99,179	98,026	97,678	98,401
25	98,424	98,041	98,830	98,594	98,249	98,963	97,431	96,789	98,095	98,621	98,265	99,013	98,606	98,269	98,962	97,400	96,750	98,087
30	97,957	97,400	98,548	98,152	97,643	98,697	96,749	95,837	97,687	98,240	97,730	98,819	98,151	97,648	98,679	96,692	95,761	97,662
35	97,419	96,698	98,182	97,639	96,977	98,349	95,927	94,728	97,136	97,841	97,194	98,593	97,608	96,945	98,299	95,832	94,603	97,083
40	96,722	95,825	97,667	96,978	96,149	97,865	94,875	93,392	96,344	97,315	96,523	98,238	96,913	96,076	97,782	94,734	93,206	96,258
45	95,690	94,569	96,864	95,994	94,947	97,109	93,337	91,529	95,103	96,536	95,557	97,675	95,893	94,833	96,990	93,131	91,261	94,965
50	94,103	92,648	95,612	94,475	93,094	95,933	91,026	88,796	93,169	95,331	94,118	96,721	94,338	92,934	95,782	90,750	88,413	93,001
55	91,723	89,715	93,783	92,214	90,299	94,217	87,410	84,349	90,295	93,495	91,834	95,350	92,044	90,106	94,030	87,049	83,821	90,089
60	88,439	85,638	91,286	89,095	86,434	91,853	82,350	77,906	86,457	90,927	88,575	93,471	88,902	86,230	91,634	81,837	77,181	86,137
65	83,895	80,185	87,638	84,696	81,176	88,318	75,834	69,851	81,300	87,302	84,087	90,672	84,478	80,966	88,059	75,143	68,911	80,841
70	77,474	72,681	82,267	78,388	73,823	83,036	67,529	59,929	74,411	81,936	77,671	86,249	78,126	73,571	82,738	66,744	58,971	73,807
75	68,621	62,720	74,464	69,537	63,847	75,257	57,670	49,016	65,510	74,479	68,994	79,848	69,222	63,552	74,908	56,839	48,091	64,800
80	56,572	49,653	63,307	57,363	50,613	64,018	45,865	36,665	54,147	64,046	57,600	70,156	57,019	50,290	63,643	45,085	35,836	53,455
85	41,112	33,764	48,035	41,653	34,397	48,557	32,148	23,504	39,803	49,697	42,324	56,236	41,334	34,099	48,211	31,559	22,875	39,215
90	23,595	17,276	29,223	23,826	17,574	29,446	18,399	11,759	24,161	31,873	24,702	37,570	23,594	17,364	29,188	17,979	11,387	23,740
95	9,228	5,674	12,228	9,189	5,664	12,169	7,892	4,154	10,952	14,889	9,923	18,290	9,084	5,582	12,047	7,688	4,008	10,740
100	2,056	997	2,897	1,983	949	2,802	2,275	921	3,267	4,329	2,326	5,443	1,960	935	2,774	2,217	889	3,203

SOURCE: CDC/NCHS, National Vital Statistics System.

years for a total of 84.1 years; a person aged 85 could expect to live an additional 6.6 years for a total of 91.6 years; and a person aged 100 could expect to live an additional 2.3 years, on average (Table A).

Life expectancy by race

Between 2008 and 2009, life expectancy increased 0.5 years to 74.5 years for the black population, and 0.3 years to 78.8 years for the white population. The difference in life expectancy between the white and black populations was 4.3 years in 2009, a historically record-low level. The white-black difference in life expectancy narrowed from 14.6 years in 1900 to 5.7 years in 1982, but it 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 (7).

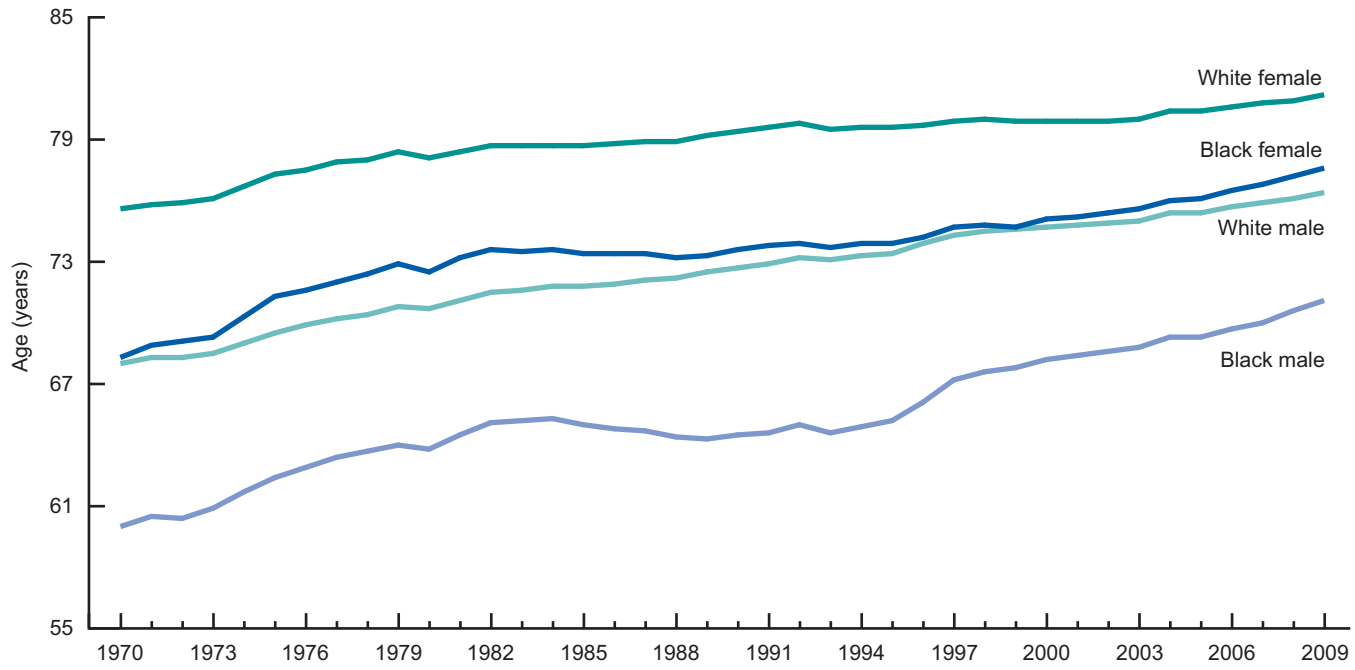
Among the four race-sex groups (Figure 1), white females continued to have the highest life expectancy at birth (81.2 years), followed by black females (77.6), white males (76.4), and black males (71.1). Between 2008 and 2009, life expectancy increased 0.5 years for black males (from 70.6 to 71.1) and 0.4 years for black females (from 77.2 to 77.6). Black males experienced a decline in life expectancy every year for 1984–1989 (7), followed by annual increases in 1990–1992, 1994–2004, and 2005–2009. Between 2008 and 2009, life expectancy increased 0.3 years for white males (from 76.1 to 76.4) and for white females (from 80.9 to 81.2). Overall, gains in life expectancy between 1980 and 2009 were 7.3 years for black males, 5.7 years for white males, 5.1 years for black females, and 3.1 years for white females (Table 19).

Life expectancy by Hispanic origin

Between 2008 and 2009, life expectancy increased 0.5 years (from 73.7 to 74.2) for the non-Hispanic black population, 0.3 years (from 78.4 to 78.7) for the non-Hispanic white population, and 0.2 years (from 81.0 to 81.2) for the Hispanic population (Table A). In 2009, the Hispanic population had a life expectancy advantage at birth of 2.5 years over the non-Hispanic white population and 7.0 years over the non-Hispanic black population.

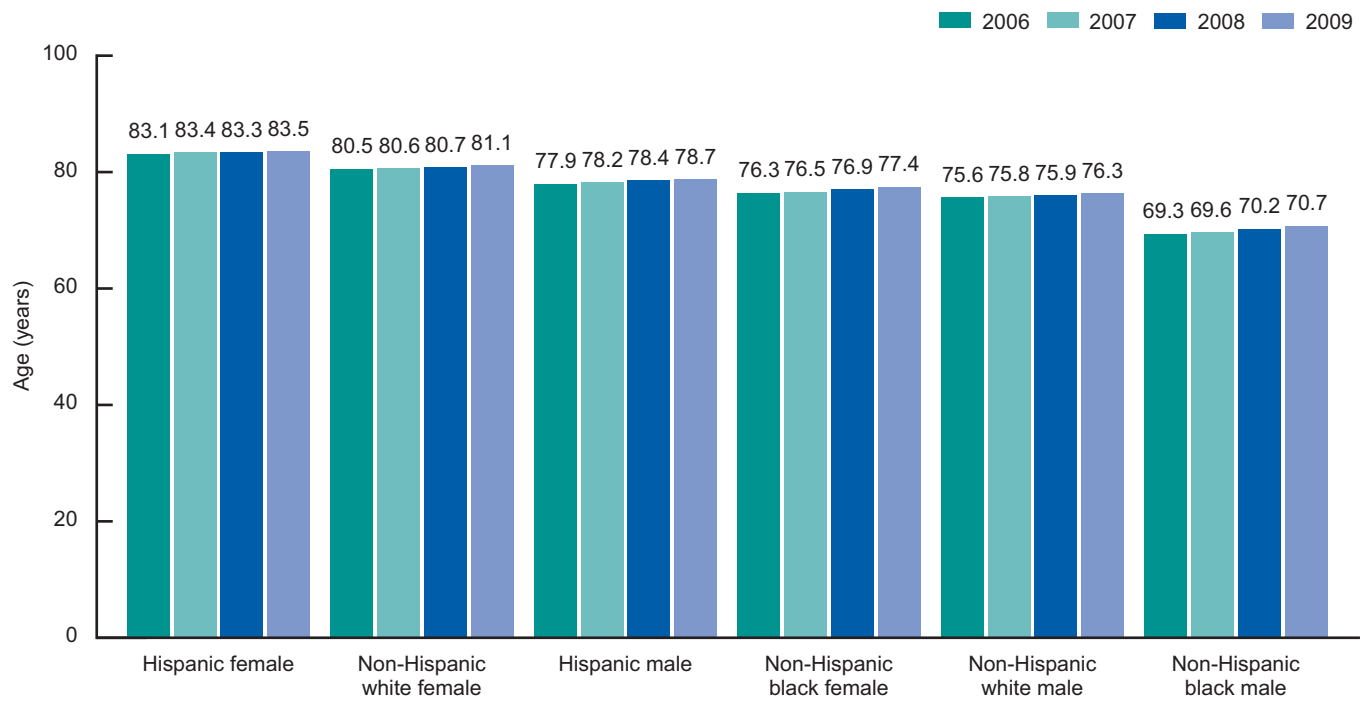
Among the six Hispanic-origin, race-sex groups (Figure 2), Hispanic females continued to have the highest life expectancy at birth (83.5 years), followed by non-Hispanic white females (81.1), Hispanic males (78.7), non-Hispanic black females (77.4), non-Hispanic white males (76.3), and non-Hispanic black males (70.7). The smallest difference is between Hispanic and non-Hispanic white females, with Hispanic females having an advantage of 2.4 years. The largest difference is between Hispanic females and non-Hispanic black males, with Hispanic females having a life expectancy at birth 12.8 years greater.

The Hispanic mortality advantage is evident also in the effect produced on life expectancy at birth when race and Hispanic origin are considered separately. Until 2006, U.S. life tables were produced by race (white and black), irrespective of Hispanic origin. When the Hispanic population is excluded from the two race groups and only the non-Hispanic black and non-Hispanic white populations are included, life expectancy at birth declines. For example, for the black population, irrespective of Hispanic origin, life expectancy at birth was 74.5 years in 2009 but was 74.2 years when only the non-Hispanic segment of the black population was included. Similarly, life expectancy for the



SOURCE: CDC/NCHS, National Vital Statistics System.

Figure 1. Life expectancy at birth, by race and sex: United States, 1970–2009



SOURCE: CDC/NCHS, National Vital Statistics System.

Figure 2. Life expectancy at birth, by Hispanic origin, race, and sex: United States, 2006–2009

white population, irrespective of Hispanic origin, was 78.8 years in 2009 but was 78.7 years when only the non-Hispanic segment of the white population was included. The effect of the Hispanic mortality advantage on race-specific life expectancy was observed also for each race-sex group. (See Technical Notes for a detailed description of the methodology used to estimate the Hispanic origin life tables.)

Survivorship in the United States

Table B summarizes the number of survivors out of 100,000 persons born alive (l_x) by age, race, Hispanic origin, and sex for 2009. Table 20 shows trends in survivorship from 1900 to 2009. In 2009, 99.4% of all infants born in the United States survived the first year of life. In contrast, only 87.6% of infants born in 1900 survived the first year. Of the 2009 period life table cohort, 56.6% survived to age 80, and about 2.1% survived to age 100. In 1900, the median age at death was 58 and only 0.03% survived to age 100.

Survivorship by race

Among the four race-sex groups (Table B), white females have the highest median age at death with about 52.0% surviving to age 84. Of the original hypothetical cohort of 100,000 infant white females, 99.2% survive to age 20, 88.3% survive to age 65, and 48.6% survive to age 85. White males have slightly higher survival rates than black females at the younger ages, with 98.8% surviving to age 20 compared with 98.4% of black females. At the older ages, however, black female survival surpasses white male survival. By age 85, white male survival is 34.4% compared with 39.8% for black females. The median age at death for black males is close to 75 years, about 10 years less than that for white females. Among black males, 97.7% survive to age 20, 69.9% to age 65, and 23.5% to age 85. By age 100, there is very little difference between the white and black populations in terms of survival. Slightly less than 1.0% of white and black males and around 3.0% of white and black females survive to age 100.

Survivorship by Hispanic origin

In 2009, 99.5% of Hispanic and non-Hispanic white infants survived the first year of life, compared with 98.8% of non-Hispanic black infants. Ninety-nine percent of both the Hispanic and non-Hispanic white populations survived to age 20, while 98.0% of the non-Hispanic black population survived to age 20. By age 65, the Hispanic population has a clear survival advantage compared with the other two populations. Overall, 87.3% of the Hispanic population survived to age 65, compared with 84.5% of the non-Hispanic white and 75.1% of the non-Hispanic black populations. The Hispanic survival advantage increases with age so that by age 85, 49.7% of the Hispanic population has survived, compared with 41.3% of the non-Hispanic white and 31.6% of the non-Hispanic black populations.

Among the six Hispanic-origin, race-sex groups, Hispanic females have the highest median age at death, with 49.2% surviving to age 87 (Figure 3). The next group with the highest median age at death is non-Hispanic white females, with 51.7% surviving to age 84. Hispanic males have 51.9% surviving to age 82, followed by non-Hispanic black females, with 50.8% surviving to age 81, non-Hispanic white males, with 50.3% surviving to age 80, and non-Hispanic black males, with 50.4% surviving to age 74 (see Technical Notes).

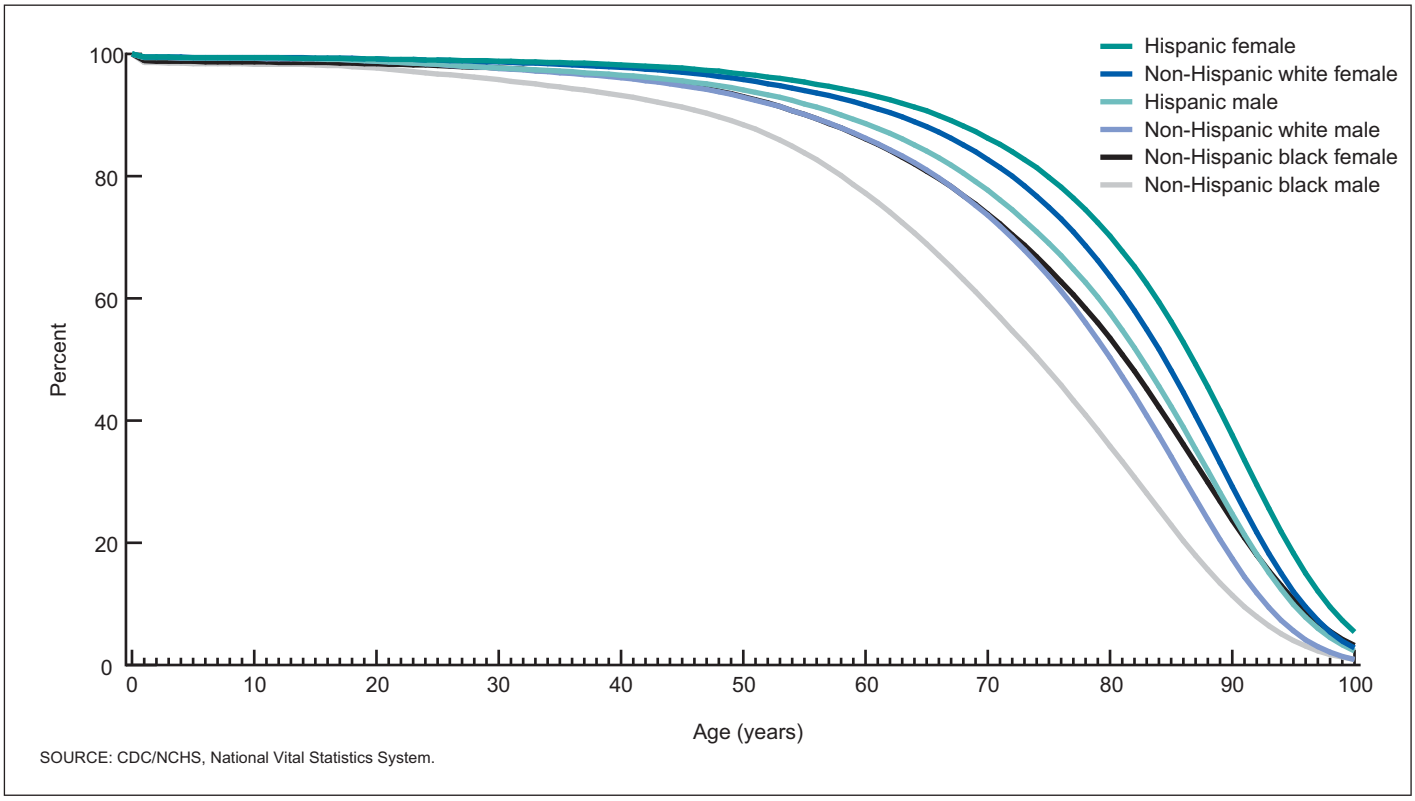


Figure 3. Percentage surviving, by Hispanic origin, race, age, and sex: United States, 2009

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Table 1. Life table for the total population: United States, 2009

Spreadsheet version available from: ftp://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/62_07/Table01.xls.

Age (years)	Probability of dying between ages x and $x + 1$	Number surviving to age x	Number dying between ages x and $x + 1$	Person-years lived between ages x and $x + 1$	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	0.006372	100,000	637	99,444	7,846,926	78.5
1–2	0.000407	99,363	40	99,343	7,747,481	78.0
2–3	0.000274	99,322	27	99,309	7,648,139	77.0
3–4	0.000209	99,295	21	99,285	7,548,830	76.0
4–5	0.000160	99,274	16	99,266	7,449,545	75.0
5–6	0.000150	99,259	15	99,251	7,350,279	74.1
6–7	0.000135	99,244	13	99,237	7,251,028	73.1
7–8	0.000122	99,230	12	99,224	7,151,791	72.1
8–9	0.000109	99,218	11	99,213	7,052,566	71.1
9–10	0.000095	99,207	9	99,203	6,953,354	70.1
10–11	0.000087	99,198	9	99,194	6,854,151	69.1
11–12	0.000093	99,189	9	99,185	6,754,957	68.1
12–13	0.000127	99,180	13	99,174	6,655,773	67.1
13–14	0.000193	99,167	19	99,158	6,556,599	66.1
14–15	0.000279	99,148	28	99,134	6,457,441	65.1
15–16	0.000370	99,121	37	99,102	6,358,307	64.1
16–17	0.000454	99,084	45	99,061	6,259,205	63.2
17–18	0.000537	99,039	53	99,012	6,160,143	62.2
18–19	0.000615	98,986	61	98,955	6,061,131	61.2
19–20	0.000691	98,925	68	98,891	5,962,175	60.3
20–21	0.000771	98,857	76	98,818	5,863,285	59.3
21–22	0.000848	98,780	84	98,739	5,764,466	58.4
22–23	0.000903	98,697	89	98,652	5,665,728	57.4
23–24	0.000929	98,608	92	98,562	5,567,076	56.5
24–25	0.000934	98,516	92	98,470	5,468,514	55.5
25–26	0.000932	98,424	92	98,378	5,370,044	54.6
26–27	0.000935	98,332	92	98,286	5,271,666	53.6
27–28	0.000943	98,240	93	98,194	5,173,380	52.7
28–29	0.000959	98,148	94	98,100	5,075,186	51.7
29–30	0.000985	98,053	97	98,005	4,977,086	50.8
30–31	0.001017	97,957	100	97,907	4,879,081	49.8
31–32	0.001053	97,857	103	97,806	4,781,173	48.9
32–33	0.001095	97,754	107	97,701	4,683,368	47.9
33–34	0.001143	97,647	112	97,591	4,585,667	47.0
34–35	0.001195	97,536	117	97,477	4,488,076	46.0
35–36	0.001257	97,419	122	97,358	4,390,598	45.1
36–37	0.001332	97,297	130	97,232	4,293,241	44.1
37–38	0.001420	97,167	138	97,098	4,196,009	43.2
38–39	0.001522	97,029	148	96,955	4,098,911	42.2
39–40	0.001643	96,881	159	96,802	4,001,956	41.3
40–41	0.001777	96,722	172	96,636	3,905,154	40.4
41–42	0.001932	96,550	186	96,457	3,808,518	39.4
42–43	0.002116	96,364	204	96,262	3,712,061	38.5
43–44	0.002330	96,160	224	96,048	3,615,799	37.6
44–45	0.002563	95,936	246	95,813	3,519,751	36.7
45–46	0.002795	95,690	267	95,556	3,423,938	35.8
46–47	0.003033	95,422	289	95,278	3,328,382	34.9
47–48	0.003299	95,133	314	94,976	3,233,105	34.0
48–49	0.003608	94,819	342	94,648	3,138,128	33.1
49–50	0.003956	94,477	374	94,290	3,043,480	32.2
50–51	0.004337	94,103	408	93,899	2,949,190	31.3
51–52	0.004728	93,695	443	93,474	2,855,291	30.5
52–53	0.005118	93,252	477	93,014	2,761,817	29.6
53–54	0.005496	92,775	510	92,520	2,668,804	28.8
54–55	0.005874	92,265	542	91,994	2,576,284	27.9
55–56	0.006277	91,723	576	91,435	2,484,290	27.1
56–57	0.006724	91,147	613	90,841	2,392,854	26.3
57–58	0.007216	90,534	653	90,208	2,302,013	25.4
58–59	0.007759	89,881	697	89,532	2,211,806	24.6
59–60	0.008349	89,184	745	88,812	2,122,273	23.8
60–61	0.008986	88,439	795	88,042	2,033,462	23.0
61–62	0.009671	87,645	848	87,221	1,945,420	22.2

See footnote at end of table.

Table 1. Life table for the total population: United States, 2009—Con.

Spreadsheet version available from: ftp://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/62_07/Table01.xls.

Age (years)	Probability of dying between ages x and $x + 1$	Number surviving to age x	Number dying between ages x and $x + 1$	Person-years lived between ages x and $x + 1$	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
62–63	0.010415	86,797	904	86,345	1,858,199	21.4
63–64	0.011237	85,893	965	85,410	1,771,854	20.6
64–65	0.012164	84,928	1,033	84,411	1,686,444	19.9
65–66	0.013241	83,895	1,111	83,339	1,602,032	19.1
66–67	0.014457	82,784	1,197	82,185	1,518,693	18.3
67–68	0.015750	81,587	1,285	80,945	1,436,508	17.6
68–69	0.017081	80,302	1,372	79,616	1,355,563	16.9
69–70	0.018452	78,930	1,456	78,202	1,275,947	16.2
70–71	0.019976	77,474	1,548	76,700	1,197,745	15.5
71–72	0.021736	75,926	1,650	75,101	1,121,045	14.8
72–73	0.023687	74,276	1,759	73,396	1,045,943	14.1
73–74	0.025963	72,517	1,883	71,575	972,547	13.4
74–75	0.028500	70,634	2,013	69,627	900,971	12.8
75–76	0.031120	68,621	2,135	67,553	831,344	12.1
76–77	0.034014	66,485	2,261	65,355	763,791	11.5
77–78	0.037380	64,224	2,401	63,024	698,436	10.9
78–79	0.041272	61,823	2,552	60,548	635,412	10.3
79–80	0.045547	59,272	2,700	57,922	574,865	9.7
80–81	0.050131	56,572	2,836	55,154	516,943	9.1
81–82	0.055106	53,736	2,961	52,256	461,789	8.6
82–83	0.061029	50,775	3,099	49,226	409,533	8.1
83–84	0.067705	47,676	3,228	46,062	360,308	7.6
84–85	0.075068	44,448	3,337	42,780	314,246	7.1
85–86	0.084240	41,112	3,463	39,380	271,466	6.6
86–87	0.093716	37,648	3,528	35,884	232,086	6.2
87–88	0.104067	34,120	3,551	32,345	196,201	5.8
88–89	0.115332	30,569	3,526	28,807	163,857	5.4
89–90	0.127539	27,044	3,449	25,319	135,050	5.0
90–91	0.140709	23,595	3,320	21,935	109,731	4.7
91–92	0.154848	20,275	3,139	18,705	87,796	4.3
92–93	0.169949	17,135	2,912	15,679	69,091	4.0
93–94	0.185987	14,223	2,645	12,900	53,412	3.8
94–95	0.202921	11,578	2,349	10,403	40,512	3.5
95–96	0.220689	9,228	2,037	8,210	30,109	3.3
96–97	0.239209	7,192	1,720	6,332	21,899	3.0
97–98	0.258384	5,471	1,414	4,765	15,567	2.8
98–99	0.278095	4,058	1,128	3,493	10,802	2.7
99–100	0.298212	2,929	874	2,493	7,309	2.5
100 and over	1.000000	2,056	2,056	4,816	4,816	2.3

SOURCE: CDC/NCHS, National Vital Statistics System.

Table 2. Life table for males: United States, 2009

Spreadsheet version available from: ftp://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/62_07/Table02.xls.

Age (years)	Probability of dying between ages x and $x + 1$	Number surviving to age x	Number dying between ages x and $x + 1$	Person-years lived between ages x and $x + 1$	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	0.006989	100,000	699	99,391	7,596,099	76.0
1–2	0.000442	99,301	44	99,279	7,496,709	75.5
2–3	0.000303	99,257	30	99,242	7,397,429	74.5
3–4	0.000233	99,227	23	99,216	7,298,187	73.6
4–5	0.000174	99,204	17	99,195	7,198,972	72.6
5–6	0.000164	99,187	16	99,179	7,099,776	71.6
6–7	0.000149	99,171	15	99,163	7,000,598	70.6
7–8	0.000135	99,156	13	99,149	6,901,435	69.6
8–9	0.000117	99,142	12	99,137	6,802,286	68.6
9–10	0.000097	99,131	10	99,126	6,703,149	67.6
10–11	0.000082	99,121	8	99,117	6,604,023	66.6
11–12	0.000089	99,113	9	99,109	6,504,906	65.6
12–13	0.000136	99,104	14	99,097	6,405,797	64.6
13–14	0.000232	99,091	23	99,079	6,306,700	63.6
14–15	0.000359	99,068	36	99,050	6,207,621	62.7
15–16	0.000490	99,032	49	99,008	6,108,571	61.7
16–17	0.000613	98,984	61	98,953	6,009,563	60.7
17–18	0.000737	98,923	73	98,886	5,910,610	59.7
18–19	0.000861	98,850	85	98,807	5,811,724	58.8
19–20	0.000984	98,765	97	98,716	5,712,916	57.8
20–21	0.001116	98,668	110	98,613	5,614,200	56.9
21–22	0.001238	98,557	122	98,496	5,515,588	56.0
22–23	0.001322	98,435	130	98,370	5,417,091	55.0
23–24	0.001351	98,305	133	98,239	5,318,721	54.1
24–25	0.001341	98,172	132	98,107	5,220,482	53.2
25–26	0.001317	98,041	129	97,976	5,122,375	52.2
26–27	0.001302	97,912	128	97,848	5,024,399	51.3
27–28	0.001296	97,784	127	97,721	4,926,551	50.4
28–29	0.001306	97,657	128	97,594	4,828,830	49.4
29–30	0.001331	97,530	130	97,465	4,731,236	48.5
30–31	0.001363	97,400	133	97,334	4,633,771	47.6
31–32	0.001399	97,267	136	97,199	4,536,438	46.6
32–33	0.001441	97,131	140	97,061	4,439,238	45.7
33–34	0.001489	96,991	144	96,919	4,342,177	44.8
34–35	0.001544	96,847	150	96,772	4,245,258	43.8
35–36	0.001612	96,698	156	96,620	4,148,485	42.9
36–37	0.001696	96,542	164	96,460	4,051,866	42.0
37–38	0.001794	96,378	173	96,291	3,955,406	41.0
38–39	0.001910	96,205	184	96,113	3,859,114	40.1
39–40	0.002047	96,021	197	95,923	3,763,001	39.2
40–41	0.002203	95,825	211	95,719	3,667,078	38.3
41–42	0.002384	95,614	228	95,500	3,571,359	37.4
42–43	0.002602	95,386	248	95,262	3,475,859	36.4
43–44	0.002855	95,137	272	95,002	3,380,598	35.5
44–45	0.003133	94,866	297	94,717	3,285,596	34.6
45–46	0.003412	94,569	323	94,407	3,190,879	33.7
46–47	0.003702	94,246	349	94,072	3,096,471	32.9
47–48	0.004036	93,897	379	93,708	3,002,400	32.0
48–49	0.004434	93,518	415	93,311	2,908,692	31.1
49–50	0.004891	93,103	455	92,876	2,815,381	30.2
50–51	0.005388	92,648	499	92,399	2,722,506	29.4
51–52	0.005898	92,149	543	91,877	2,630,107	28.5
52–53	0.006413	91,605	588	91,312	2,538,230	27.7
53–54	0.006924	91,018	630	90,703	2,446,918	26.9
54–55	0.007440	90,388	672	90,051	2,356,216	26.1
55–56	0.007994	89,715	717	89,357	2,266,164	25.3
56–57	0.008599	88,998	765	88,615	2,176,807	24.5
57–58	0.009234	88,233	815	87,825	2,088,192	23.7
58–59	0.009893	87,418	865	86,986	2,000,366	22.9
59–60	0.010579	86,553	916	86,095	1,913,381	22.1
60–61	0.011303	85,638	968	85,154	1,827,285	21.3
61–62	0.012087	84,670	1,023	84,158	1,742,132	20.6

See footnote at end of table.

Table 2. Life table for males: United States, 2009—Con.

Spreadsheet version available from: ftp://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/62_07/Table02.xls.

Age (years)	Probability of dying between ages x and $x + 1$	Number surviving to age x	Number dying between ages x and $x + 1$	Person-years lived between ages x and $x + 1$	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
62–63	0.012952	83,646	1,083	83,105	1,657,974	19.8
63–64	0.013937	82,563	1,151	81,988	1,574,870	19.1
64–65	0.015068	81,412	1,227	80,799	1,492,882	18.3
65–66	0.016389	80,185	1,314	79,528	1,412,083	17.6
66–67	0.017866	78,871	1,409	78,167	1,332,555	16.9
67–68	0.019423	77,462	1,505	76,710	1,254,388	16.2
68–69	0.021006	75,958	1,596	75,160	1,177,678	15.5
69–70	0.022610	74,362	1,681	73,521	1,102,518	14.8
70–71	0.024369	72,681	1,771	71,795	1,028,997	14.2
71–72	0.026382	70,910	1,871	69,974	957,202	13.5
72–73	0.028664	69,039	1,979	68,049	887,227	12.9
73–74	0.031394	67,060	2,105	66,007	819,178	12.2
74–75	0.034398	64,955	2,234	63,838	753,171	11.6
75–76	0.037521	62,720	2,353	61,544	689,333	11.0
76–77	0.041012	60,367	2,476	59,129	627,789	10.4
77–78	0.045093	57,891	2,610	56,586	568,660	9.8
78–79	0.049743	55,281	2,750	53,906	512,074	9.3
79–80	0.054791	52,531	2,878	51,092	458,168	8.7
80–81	0.060380	49,653	2,998	48,154	407,076	8.2
81–82	0.066415	46,655	3,099	45,105	358,923	7.7
82–83	0.073358	43,556	3,195	41,959	313,817	7.2
83–84	0.081063	40,361	3,272	38,725	271,859	6.7
84–85	0.089641	37,089	3,325	35,427	233,134	6.3
85–86	0.101322	33,764	3,421	32,054	197,707	5.9
86–87	0.112341	30,343	3,409	28,639	165,653	5.5
87–88	0.124296	26,935	3,348	25,261	137,014	5.1
88–89	0.137207	23,587	3,236	21,969	111,753	4.7
89–90	0.151086	20,350	3,075	18,813	89,785	4.4
90–91	0.165929	17,276	2,867	15,843	70,972	4.1
91–92	0.181716	14,409	2,618	13,100	55,129	3.8
92–93	0.198410	11,791	2,339	10,621	42,029	3.6
93–94	0.215955	9,451	2,041	8,431	31,408	3.3
94–95	0.234275	7,410	1,736	6,542	22,977	3.1
95–96	0.253276	5,674	1,437	4,956	16,435	2.9
96–97	0.272845	4,237	1,156	3,659	11,479	2.7
97–98	0.292856	3,081	902	2,630	7,820	2.5
98–99	0.313166	2,179	682	1,838	5,190	2.4
99–100	0.333629	1,496	499	1,247	3,352	2.2
100 and over	1.000000	997	997	2,106	2,106	2.1

SOURCE: CDC/NCHS, National Vital Statistics System.

Table 3. Life table for females: United States, 2009

Spreadsheet version available from: ftp://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/62_07/Table03.xls.

Age (years)	Probability of dying between ages x and $x + 1$	Number surviving to age x	Number dying between ages x and $x + 1$	Person-years lived between ages x and $x + 1$	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	0.005726	100,000	573	99,500	8,088,922	80.9
1–2	0.000369	99,427	37	99,409	7,989,422	80.4
2–3	0.000243	99,391	24	99,379	7,890,013	79.4
3–4	0.000185	99,367	18	99,357	7,790,634	78.4
4–5	0.000147	99,348	15	99,341	7,691,277	77.4
5–6	0.000134	99,334	13	99,327	7,591,936	76.4
6–7	0.000120	99,320	12	99,314	7,492,609	75.4
7–8	0.000109	99,308	11	99,303	7,393,295	74.4
8–9	0.000101	99,298	10	99,293	7,293,992	73.5
9–10	0.000094	99,288	9	99,283	7,194,699	72.5
10–11	0.000092	99,278	9	99,274	7,095,416	71.5
11–12	0.000098	99,269	10	99,264	6,996,143	70.5
12–13	0.000117	99,259	12	99,254	6,896,878	69.5
13–14	0.000151	99,248	15	99,240	6,797,625	68.5
14–15	0.000195	99,233	19	99,223	6,698,385	67.5
15–16	0.000242	99,213	24	99,201	6,599,162	66.5
16–17	0.000287	99,189	28	99,175	6,499,960	65.5
17–18	0.000326	99,161	32	99,145	6,400,785	64.5
18–19	0.000356	99,129	35	99,111	6,301,640	63.6
19–20	0.000380	99,093	38	99,074	6,202,529	62.6
20–21	0.000405	99,056	40	99,036	6,103,455	61.6
21–22	0.000432	99,015	43	98,994	6,004,419	60.6
22–23	0.000458	98,973	45	98,950	5,905,425	59.7
23–24	0.000481	98,927	48	98,904	5,806,475	58.7
24–25	0.000502	98,880	50	98,855	5,707,572	57.7
25–26	0.000524	98,830	52	98,804	5,608,717	56.8
26–27	0.000548	98,778	54	98,751	5,509,912	55.8
27–28	0.000571	98,724	56	98,696	5,411,161	54.8
28–29	0.000595	98,668	59	98,639	5,312,465	53.8
29–30	0.000622	98,609	61	98,578	5,213,826	52.9
30–31	0.000655	98,548	65	98,515	5,115,248	51.9
31–32	0.000695	98,483	68	98,449	5,016,733	50.9
32–33	0.000738	98,415	73	98,378	4,918,284	50.0
33–34	0.000786	98,342	77	98,303	4,819,905	49.0
34–35	0.000837	98,265	82	98,224	4,721,602	48.0
35–36	0.000894	98,182	88	98,139	4,623,378	47.1
36–37	0.000962	98,095	94	98,047	4,525,240	46.1
37–38	0.001039	98,000	102	97,949	4,427,192	45.2
38–39	0.001129	97,898	111	97,843	4,329,243	44.2
39–40	0.001234	97,788	121	97,728	4,231,400	43.3
40–41	0.001348	97,667	132	97,601	4,133,672	42.3
41–42	0.001476	97,536	144	97,464	4,036,071	41.4
42–43	0.001629	97,392	159	97,312	3,938,607	40.4
43–44	0.001806	97,233	176	97,145	3,841,294	39.5
44–45	0.001996	97,057	194	96,961	3,744,149	38.6
45–46	0.002186	96,864	212	96,758	3,647,189	37.7
46–47	0.002375	96,652	230	96,537	3,550,431	36.7
47–48	0.002577	96,422	249	96,298	3,453,894	35.8
48–49	0.002801	96,174	269	96,039	3,357,595	34.9
49–50	0.003046	95,905	292	95,758	3,261,556	34.0
50–51	0.003317	95,612	317	95,454	3,165,798	33.1
51–52	0.003596	95,295	343	95,124	3,070,344	32.2
52–53	0.003868	94,953	367	94,769	2,975,220	31.3
53–54	0.004124	94,585	390	94,390	2,880,451	30.5
54–55	0.004376	94,195	412	93,989	2,786,061	29.6
55–56	0.004641	93,783	435	93,565	2,692,072	28.7
56–57	0.004947	93,348	462	93,117	2,598,506	27.8
57–58	0.005313	92,886	493	92,639	2,505,389	27.0
58–59	0.005753	92,392	532	92,127	2,412,750	26.1
59–60	0.006262	91,861	575	91,573	2,320,623	25.3
60–61	0.006826	91,286	623	90,974	2,229,050	24.4
61–62	0.007429	90,663	674	90,326	2,138,076	23.6

See footnote at end of table.

Table 3. Life table for females: United States, 2009—Con.

Spreadsheet version available from: ftp://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/62_07/Table03.xls.

Age (years)	Probability of dying between ages x and $x + 1$	Number surviving to age x	Number dying between ages x and $x + 1$	Person-years lived between ages x and $x + 1$	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
62–63	0.008073	89,989	726	89,626	2,047,750	22.8
63–64	0.008763	89,263	782	88,872	1,958,124	21.9
64–65	0.009524	88,480	843	88,059	1,869,253	21.1
65–66	0.010410	87,638	912	87,182	1,781,194	20.3
66–67	0.011422	86,725	991	86,230	1,694,012	19.5
67–68	0.012511	85,735	1,073	85,199	1,607,782	18.8
68–69	0.013652	84,662	1,156	84,084	1,522,583	18.0
69–70	0.014847	83,506	1,240	82,887	1,438,499	17.2
70–71	0.016200	82,267	1,333	81,600	1,355,612	16.5
71–72	0.017783	80,934	1,439	80,214	1,274,012	15.7
72–73	0.019504	79,495	1,550	78,719	1,193,798	15.0
73–74	0.021466	77,944	1,673	77,108	1,115,078	14.3
74–75	0.023697	76,271	1,807	75,367	1,037,971	13.6
75–76	0.025997	74,464	1,936	73,496	962,603	12.9
76–77	0.028517	72,528	2,068	71,494	889,107	12.3
77–78	0.031445	70,460	2,216	69,352	817,614	11.6
78–79	0.034904	68,244	2,382	67,053	748,262	11.0
79–80	0.038790	65,862	2,555	64,585	681,209	10.3
80–81	0.042869	63,307	2,714	61,950	616,624	9.7
81–82	0.047338	60,593	2,868	59,159	554,674	9.2
82–83	0.052844	57,725	3,050	56,200	495,515	8.6
83–84	0.059186	54,675	3,236	53,057	439,315	8.0
84–85	0.066164	51,439	3,403	49,737	386,258	7.5
85–86	0.074211	48,035	3,565	46,253	336,522	7.0
86–87	0.083667	44,470	3,721	42,610	290,269	6.5
87–88	0.093608	40,750	3,815	38,843	247,659	6.1
88–89	0.104520	36,935	3,860	35,005	208,816	5.7
89–90	0.116444	33,075	3,851	31,149	173,811	5.3
90–91	0.129416	29,223	3,782	27,332	142,662	4.9
91–92	0.143456	25,441	3,650	23,617	115,329	4.5
92–93	0.158570	21,792	3,456	20,064	91,713	4.2
93–94	0.174744	18,336	3,204	16,734	71,649	3.9
94–95	0.191945	15,132	2,905	13,680	54,915	3.6
95–96	0.210116	12,228	2,569	10,943	41,235	3.4
96–97	0.229176	9,658	2,213	8,552	30,292	3.1
97–98	0.249023	7,445	1,854	6,518	21,740	2.9
98–99	0.269529	5,591	1,507	4,837	15,222	2.7
99–100	0.290550	4,084	1,187	3,491	10,385	2.5
100 and over	1.000000	2,897	2,897	6,894	6,894	2.4

SOURCE: CDC/NCHS, National Vital Statistics System.

Table 4. Life table for the white population: United States, 2009

Spreadsheet version available from: ftp://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/62_07/Table04.xls.

Age (years)	Probability of dying between ages x and $x + 1$	Number surviving to age x	Number dying between ages x and $x + 1$	Person-years lived between ages x and $x + 1$	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	0.005279	100,000	528	99,540	7,883,419	78.8
1–2	0.000373	99,472	37	99,454	7,783,879	78.3
2–3	0.000252	99,435	25	99,422	7,684,426	77.3
3–4	0.000195	99,410	19	99,400	7,585,003	76.3
4–5	0.000148	99,391	15	99,383	7,485,603	75.3
5–6	0.000136	99,376	14	99,369	7,386,220	74.3
6–7	0.000122	99,362	12	99,356	7,286,851	73.3
7–8	0.000110	99,350	11	99,345	7,187,495	72.3
8–9	0.000098	99,339	10	99,334	7,088,150	71.4
9–10	0.000085	99,330	8	99,325	6,988,816	70.4
10–11	0.000078	99,321	8	99,317	6,889,490	69.4
11–12	0.000084	99,313	8	99,309	6,790,173	68.4
12–13	0.000116	99,305	12	99,299	6,690,864	67.4
13–14	0.000179	99,293	18	99,285	6,591,565	66.4
14–15	0.000261	99,276	26	99,263	6,492,280	65.4
15–16	0.000348	99,250	35	99,232	6,393,018	64.4
16–17	0.000429	99,215	43	99,194	6,293,785	63.4
17–18	0.000507	99,173	50	99,147	6,194,591	62.5
18–19	0.000581	99,122	58	99,093	6,095,444	61.5
19–20	0.000651	99,065	64	99,032	5,996,350	60.5
20–21	0.000724	99,000	72	98,964	5,897,318	59.6
21–22	0.000794	98,929	79	98,889	5,798,354	58.6
22–23	0.000845	98,850	84	98,808	5,699,464	57.7
23–24	0.000870	98,766	86	98,723	5,600,656	56.7
24–25	0.000877	98,681	87	98,637	5,501,933	55.8
25–26	0.000878	98,594	87	98,551	5,403,296	54.8
26–27	0.000883	98,507	87	98,464	5,304,745	53.9
27–28	0.000892	98,421	88	98,377	5,206,281	52.9
28–29	0.000909	98,333	89	98,288	5,107,904	51.9
29–30	0.000934	98,243	92	98,198	5,009,616	51.0
30–31	0.000966	98,152	95	98,104	4,911,418	50.0
31–32	0.001003	98,057	98	98,008	4,813,314	49.1
32–33	0.001043	97,959	102	97,907	4,715,306	48.1
33–34	0.001087	97,856	106	97,803	4,617,399	47.2
34–35	0.001134	97,750	111	97,695	4,519,596	46.2
35–36	0.001191	97,639	116	97,581	4,421,901	45.3
36–37	0.001261	97,523	123	97,461	4,324,320	44.3
37–38	0.001343	97,400	131	97,334	4,226,859	43.4
38–39	0.001441	97,269	140	97,199	4,129,525	42.5
39–40	0.001556	97,129	151	97,053	4,032,326	41.5
40–41	0.001684	96,978	163	96,896	3,935,272	40.6
41–42	0.001830	96,814	177	96,726	3,838,376	39.6
42–43	0.002008	96,637	194	96,540	3,741,650	38.7
43–44	0.002216	96,443	214	96,336	3,645,110	37.8
44–45	0.002443	96,229	235	96,112	3,548,774	36.9
45–46	0.002670	95,994	256	95,866	3,452,662	36.0
46–47	0.002900	95,738	278	95,599	3,356,796	35.1
47–48	0.003153	95,460	301	95,310	3,261,197	34.2
48–49	0.003441	95,159	327	94,996	3,165,887	33.3
49–50	0.003763	94,832	357	94,654	3,070,891	32.4
50–51	0.004116	94,475	389	94,281	2,976,237	31.5
51–52	0.004480	94,086	421	93,876	2,881,957	30.6
52–53	0.004840	93,665	453	93,438	2,788,081	29.8
53–54	0.005188	93,211	484	92,970	2,694,643	28.9
54–55	0.005537	92,728	513	92,471	2,601,673	28.1
55–56	0.005907	92,214	545	91,942	2,509,202	27.2
56–57	0.006324	91,670	580	91,380	2,417,260	26.4
57–58	0.006796	91,090	619	90,780	2,325,880	25.5
58–59	0.007334	90,471	663	90,139	2,235,100	24.7
59–60	0.007928	89,807	712	89,451	2,144,960	23.9
60–61	0.008573	89,095	764	88,714	2,055,509	23.1
61–62	0.009260	88,332	818	87,923	1,966,795	22.3

See footnote at end of table.

Table 4. Life table for the white population: United States, 2009—Con.

Spreadsheet version available from: ftp://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/62_07/Table04.xls.

Age (years)	Probability of dying between ages x and $x + 1$	Number surviving to age x	Number dying between ages x and $x + 1$	Person-years lived between ages x and $x + 1$	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
62–63	0.010002	87,514	875	87,076	1,878,873	21.5
63–64	0.010816	86,638	937	86,170	1,791,797	20.7
64–65	0.011731	85,701	1,005	85,199	1,705,627	19.9
65–66	0.012801	84,696	1,084	84,154	1,620,428	19.1
66–67	0.014012	83,612	1,172	83,026	1,536,274	18.4
67–68	0.015305	82,440	1,262	81,809	1,453,248	17.6
68–69	0.016642	81,178	1,351	80,503	1,371,439	16.9
69–70	0.018028	79,828	1,439	79,108	1,290,936	16.2
70–71	0.019590	78,388	1,536	77,621	1,211,828	15.5
71–72	0.021390	76,853	1,644	76,031	1,134,207	14.8
72–73	0.023393	75,209	1,759	74,329	1,058,176	14.1
73–74	0.025713	73,450	1,889	72,505	983,847	13.4
74–75	0.028278	71,561	2,024	70,549	911,342	12.7
75–76	0.030898	69,537	2,149	68,463	840,793	12.1
76–77	0.033816	67,389	2,279	66,249	772,330	11.5
77–78	0.037278	65,110	2,427	63,896	706,080	10.8
78–79	0.041233	62,683	2,585	61,391	642,184	10.2
79–80	0.045514	60,098	2,735	58,731	580,793	9.7
80–81	0.050183	57,363	2,879	55,924	522,063	9.1
81–82	0.055227	54,484	3,009	52,980	466,139	8.6
82–83	0.061137	51,475	3,147	49,902	413,159	8.0
83–84	0.067865	48,328	3,280	46,688	363,258	7.5
84–85	0.075368	45,048	3,395	43,351	316,569	7.0
85–86	0.084360	41,653	3,514	39,896	273,219	6.6
86–87	0.094035	38,139	3,586	36,346	233,322	6.1
87–88	0.104620	34,553	3,615	32,745	196,976	5.7
88–89	0.116155	30,938	3,594	29,141	164,231	5.3
89–90	0.128670	27,344	3,518	25,585	135,090	4.9
90–91	0.142186	23,826	3,388	22,132	109,504	4.6
91–92	0.156707	20,438	3,203	18,837	87,372	4.3
92–93	0.172225	17,235	2,968	15,751	68,535	4.0
93–94	0.188711	14,267	2,692	12,921	52,784	3.7
94–95	0.206117	11,575	2,386	10,382	39,863	3.4
95–96	0.224375	9,189	2,062	8,158	29,481	3.2
96–97	0.243396	7,127	1,735	6,260	21,323	3.0
97–98	0.263070	5,392	1,419	4,683	15,064	2.8
98–99	0.283270	3,974	1,126	3,411	10,380	2.6
99–100	0.303853	2,848	865	2,415	6,969	2.4
100 and over	1.000000	1,983	1,983	4,554	4,554	2.3

SOURCE: CDC/NCHS, National Vital Statistics System.

Table 5. Life table for white males: United States, 2009

Spreadsheet version available from: ftp://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/62_07/Table05.xls.

Age (years)	Probability of dying between ages x and $x + 1$	Number surviving to age x	Number dying between ages x and $x + 1$	Person-years lived between ages x and $x + 1$	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	0.005773	100,000	577	99,498	7,641,039	76.4
1–2	0.000412	99,423	41	99,402	7,541,541	75.9
2–3	0.000275	99,382	27	99,368	7,442,139	74.9
3–4	0.000218	99,354	22	99,344	7,342,771	73.9
4–5	0.000167	99,333	17	99,325	7,243,427	72.9
5–6	0.000152	99,316	15	99,309	7,144,103	71.9
6–7	0.000136	99,301	14	99,294	7,044,794	70.9
7–8	0.000123	99,288	12	99,282	6,945,500	70.0
8–9	0.000106	99,275	11	99,270	6,846,218	69.0
9–10	0.000088	99,265	9	99,261	6,746,948	68.0
10–11	0.000075	99,256	7	99,252	6,647,688	67.0
11–12	0.000082	99,249	8	99,245	6,548,435	66.0
12–13	0.000126	99,241	12	99,234	6,449,191	65.0
13–14	0.000213	99,228	21	99,218	6,349,956	64.0
14–15	0.000330	99,207	33	99,191	6,250,739	63.0
15–16	0.000450	99,174	45	99,152	6,151,548	62.0
16–17	0.000564	99,130	56	99,102	6,052,396	61.1
17–18	0.000680	99,074	67	99,040	5,953,295	60.1
18–19	0.000799	99,006	79	98,967	5,854,255	59.1
19–20	0.000917	98,927	91	98,882	5,755,288	58.2
20–21	0.001042	98,836	103	98,785	5,656,406	57.2
21–22	0.001157	98,734	114	98,676	5,557,621	56.3
22–23	0.001237	98,619	122	98,558	5,458,945	55.4
23–24	0.001266	98,497	125	98,435	5,360,387	54.4
24–25	0.001258	98,373	124	98,311	5,261,952	53.5
25–26	0.001239	98,249	122	98,188	5,163,641	52.6
26–27	0.001228	98,127	120	98,067	5,065,453	51.6
27–28	0.001223	98,007	120	97,947	4,967,386	50.7
28–29	0.001234	97,887	121	97,826	4,869,439	49.7
29–30	0.001258	97,766	123	97,705	4,771,613	48.8
30–31	0.001289	97,643	126	97,580	4,673,909	47.9
31–32	0.001323	97,517	129	97,453	4,576,328	46.9
32–33	0.001362	97,388	133	97,322	4,478,876	46.0
33–34	0.001408	97,256	137	97,187	4,381,554	45.1
34–35	0.001458	97,119	142	97,048	4,284,367	44.1
35–36	0.001522	96,977	148	96,903	4,187,319	43.2
36–37	0.001603	96,829	155	96,752	4,090,416	42.2
37–38	0.001697	96,674	164	96,592	3,993,664	41.3
38–39	0.001808	96,510	174	96,423	3,897,072	40.4
39–40	0.001940	96,336	187	96,242	3,800,649	39.5
40–41	0.002089	96,149	201	96,048	3,704,407	38.5
41–42	0.002263	95,948	217	95,839	3,608,358	37.6
42–43	0.002475	95,731	237	95,612	3,512,519	36.7
43–44	0.002727	95,494	260	95,364	3,416,907	35.8
44–45	0.003003	95,233	286	95,090	3,321,543	34.9
45–46	0.003281	94,947	312	94,792	3,226,453	34.0
46–47	0.003566	94,636	338	94,467	3,131,661	33.1
47–48	0.003887	94,298	367	94,115	3,037,194	32.2
48–49	0.004259	93,932	400	93,732	2,943,079	31.3
49–50	0.004680	93,532	438	93,313	2,849,347	30.5
50–51	0.005139	93,094	478	92,855	2,756,034	29.6
51–52	0.005610	92,616	520	92,356	2,663,179	28.8
52–53	0.006083	92,096	560	91,816	2,570,824	27.9
53–54	0.006547	91,536	599	91,236	2,479,008	27.1
54–55	0.007015	90,937	638	90,618	2,387,772	26.3
55–56	0.007514	90,299	679	89,959	2,297,154	25.4
56–57	0.008066	89,620	723	89,259	2,207,195	24.6
57–58	0.008664	88,897	770	88,512	2,117,936	23.8
58–59	0.009307	88,127	820	87,717	2,029,424	23.0
59–60	0.009993	87,307	872	86,871	1,941,707	22.2
60–61	0.010723	86,434	927	85,971	1,854,836	21.5
61–62	0.011507	85,508	984	85,016	1,768,865	20.7

See footnote at end of table.

Table 5. Life table for white males: United States, 2009—Con.

Spreadsheet version available from: ftp://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/62_07/Table05.xls.

Age (years)	Probability of dying between ages x and $x + 1$	Number surviving to age x	Number dying between ages x and $x + 1$	Person-years lived between ages x and $x + 1$	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
62–63	0.012365	84,524	1,045	84,001	1,683,849	19.9
63–64	0.013333	83,479	1,113	82,922	1,599,848	19.2
64–65	0.014442	82,366	1,190	81,771	1,516,926	18.4
65–66	0.015741	81,176	1,278	80,537	1,435,155	17.7
66–67	0.017204	79,898	1,375	79,211	1,354,618	17.0
67–68	0.018761	78,524	1,473	77,787	1,275,407	16.2
68–69	0.020355	77,051	1,568	76,266	1,197,620	15.5
69–70	0.021987	75,482	1,660	74,652	1,121,353	14.9
70–71	0.023814	73,823	1,758	72,944	1,046,701	14.2
71–72	0.025894	72,065	1,866	71,132	973,757	13.5
72–73	0.028246	70,199	1,983	69,207	902,626	12.9
73–74	0.031028	68,216	2,117	67,157	833,419	12.2
74–75	0.034068	66,099	2,252	64,973	766,261	11.6
75–76	0.037198	63,847	2,375	62,660	701,288	11.0
76–77	0.040676	61,472	2,500	60,222	638,628	10.4
77–78	0.044832	58,972	2,644	57,650	578,406	9.8
78–79	0.049554	56,328	2,791	54,932	520,756	9.2
79–80	0.054616	53,537	2,924	52,075	465,824	8.7
80–81	0.060338	50,613	3,054	49,086	413,749	8.2
81–82	0.066513	47,559	3,163	45,977	364,664	7.7
82–83	0.073450	44,396	3,261	42,765	318,686	7.2
83–84	0.081179	41,135	3,339	39,465	275,921	6.7
84–85	0.089905	37,795	3,398	36,096	236,456	6.3
85–86	0.100809	34,397	3,468	32,664	200,360	5.8
86–87	0.112144	30,930	3,469	29,196	167,696	5.4
87–88	0.124473	27,461	3,418	25,752	138,501	5.0
88–89	0.137821	24,043	3,314	22,386	112,749	4.7
89–90	0.152198	20,729	3,155	19,152	90,362	4.4
90–91	0.167600	17,574	2,945	16,102	71,211	4.1
91–92	0.184003	14,629	2,692	13,283	55,109	3.8
92–93	0.201364	11,937	2,404	10,735	41,826	3.5
93–94	0.219617	9,533	2,094	8,487	31,091	3.3
94–95	0.238676	7,440	1,776	6,552	22,604	3.0
95–96	0.258433	5,664	1,464	4,932	16,052	2.8
96–97	0.278760	4,200	1,171	3,615	11,120	2.6
97–98	0.299513	3,029	907	2,576	7,505	2.5
98–99	0.320535	2,122	680	1,782	4,929	2.3
99–100	0.341658	1,442	493	1,196	3,147	2.2
100 and over	1.000000	949	949	1,952	1,952	2.1

SOURCE: CDC/NCHS, National Vital Statistics System.

Table 6. Life table for white females: United States, 2009

Spreadsheet version available from: ftp://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/62_07/Table06.xls.

Age (years)	Probability of dying between ages x and $x + 1$	Number surviving to age x	Number dying between ages x and $x + 1$	Person-years lived between ages x and $x + 1$	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	0.004761	100,000	476	99,584	8,120,055	81.2
1–2	0.000332	99,524	33	99,507	8,020,471	80.6
2–3	0.000228	99,491	23	99,479	7,920,963	79.6
3–4	0.000170	99,468	17	99,460	7,821,484	78.6
4–5	0.000128	99,451	13	99,445	7,722,024	77.6
5–6	0.000120	99,438	12	99,432	7,622,579	76.7
6–7	0.000106	99,427	11	99,421	7,523,147	75.7
7–8	0.000097	99,416	10	99,411	7,423,726	74.7
8–9	0.000089	99,406	9	99,402	7,324,315	73.7
9–10	0.000083	99,397	8	99,393	7,224,913	72.7
10–11	0.000081	99,389	8	99,385	7,125,519	71.7
11–12	0.000087	99,381	9	99,377	7,026,134	70.7
12–13	0.000107	99,373	11	99,367	6,926,757	69.7
13–14	0.000143	99,362	14	99,355	6,827,390	68.7
14–15	0.000189	99,348	19	99,338	6,728,035	67.7
15–16	0.000239	99,329	24	99,317	6,628,697	66.7
16–17	0.000286	99,305	28	99,291	6,529,380	65.8
17–18	0.000324	99,277	32	99,261	6,430,089	64.8
18–19	0.000350	99,245	35	99,227	6,330,828	63.8
19–20	0.000368	99,210	37	99,192	6,231,601	62.8
20–21	0.000385	99,173	38	99,154	6,132,409	61.8
21–22	0.000405	99,135	40	99,115	6,033,255	60.9
22–23	0.000425	99,095	42	99,074	5,934,140	59.9
23–24	0.000446	99,053	44	99,031	5,835,066	58.9
24–25	0.000467	99,009	46	98,986	5,736,035	57.9
25–26	0.000490	98,963	48	98,938	5,637,049	57.0
26–27	0.000513	98,914	51	98,889	5,538,111	56.0
27–28	0.000537	98,863	53	98,837	5,439,222	55.0
28–29	0.000561	98,810	55	98,783	5,340,385	54.0
29–30	0.000588	98,755	58	98,726	5,241,603	53.1
30–31	0.000622	98,697	61	98,666	5,142,877	52.1
31–32	0.000662	98,635	65	98,603	5,044,211	51.1
32–33	0.000704	98,570	69	98,535	4,945,608	50.2
33–34	0.000748	98,501	74	98,464	4,847,073	49.2
34–35	0.000792	98,427	78	98,388	4,748,609	48.2
35–36	0.000843	98,349	83	98,308	4,650,221	47.3
36–37	0.000904	98,266	89	98,222	4,551,913	46.3
37–38	0.000975	98,178	96	98,130	4,453,691	45.4
38–39	0.001058	98,082	104	98,030	4,355,561	44.4
39–40	0.001157	97,978	113	97,921	4,257,531	43.5
40–41	0.001263	97,865	124	97,803	4,159,610	42.5
41–42	0.001383	97,741	135	97,673	4,061,807	41.6
42–43	0.001527	97,606	149	97,531	3,964,133	40.6
43–44	0.001694	97,457	165	97,374	3,866,602	39.7
44–45	0.001873	97,292	182	97,201	3,769,228	38.7
45–46	0.002052	97,109	199	97,010	3,672,027	37.8
46–47	0.002230	96,910	216	96,802	3,575,017	36.9
47–48	0.002418	96,694	234	96,577	3,478,215	36.0
48–49	0.002624	96,460	253	96,334	3,381,638	35.1
49–50	0.002850	96,207	274	96,070	3,285,305	34.1
50–51	0.003100	95,933	297	95,784	3,189,234	33.2
51–52	0.003360	95,636	321	95,475	3,093,450	32.3
52–53	0.003613	95,314	344	95,142	2,997,975	31.5
53–54	0.003852	94,970	366	94,787	2,902,833	30.6
54–55	0.004090	94,604	387	94,410	2,808,046	29.7
55–56	0.004340	94,217	409	94,013	2,713,636	28.8
56–57	0.004633	93,808	435	93,591	2,619,623	27.9
57–58	0.004992	93,374	466	93,141	2,526,033	27.1
58–59	0.005435	92,907	505	92,655	2,432,892	26.2
59–60	0.005950	92,403	550	92,128	2,340,237	25.3
60–61	0.006521	91,853	599	91,553	2,248,109	24.5
61–62	0.007128	91,254	650	90,929	2,156,556	23.6

See footnote at end of table.

Table 6. Life table for white females: United States, 2009—Con.

Spreadsheet version available from: ftp://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/62_07/Table06.xls.

Age (years)	Probability of dying between ages x and $x + 1$	Number surviving to age x	Number dying between ages x and $x + 1$	Person-years lived between ages x and $x + 1$	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
62–63	0.007771	90,603	704	90,251	2,065,627	22.8
63–64	0.008457	89,899	760	89,519	1,975,376	22.0
64–65	0.009214	89,139	821	88,728	1,885,857	21.2
65–66	0.010099	88,318	892	87,872	1,797,129	20.3
66–67	0.011112	87,426	971	86,940	1,709,257	19.6
67–68	0.012198	86,454	1,055	85,927	1,622,317	18.8
68–69	0.013336	85,400	1,139	84,830	1,536,390	18.0
69–70	0.014535	84,261	1,225	83,648	1,451,559	17.2
70–71	0.015898	83,036	1,320	82,376	1,367,911	16.5
71–72	0.017498	81,716	1,430	81,001	1,285,535	15.7
72–73	0.019253	80,286	1,546	79,513	1,204,534	15.0
73–74	0.021246	78,740	1,673	77,904	1,125,021	14.3
74–75	0.023491	77,067	1,810	76,162	1,047,117	13.6
75–76	0.025776	75,257	1,940	74,287	970,954	12.9
76–77	0.028340	73,317	2,078	72,278	896,667	12.2
77–78	0.031370	71,240	2,235	70,122	824,389	11.6
78–79	0.034871	69,005	2,406	67,802	754,267	10.9
79–80	0.038751	66,598	2,581	65,308	686,465	10.3
80–81	0.042871	64,018	2,745	62,645	621,157	9.7
81–82	0.047353	61,273	2,901	59,822	558,512	9.1
82–83	0.052842	58,372	3,084	56,829	498,689	8.5
83–84	0.059264	55,287	3,277	53,649	441,860	8.0
84–85	0.066393	52,011	3,453	50,284	388,211	7.5
85–86	0.074600	48,557	3,622	46,746	337,927	7.0
86–87	0.083962	44,935	3,773	43,049	291,181	6.5
87–88	0.094104	41,162	3,874	39,225	248,132	6.0
88–89	0.105249	37,289	3,925	35,326	208,907	5.6
89–90	0.117443	33,364	3,918	31,405	173,580	5.2
90–91	0.130721	29,446	3,849	27,521	142,175	4.8
91–92	0.145104	25,597	3,714	23,739	114,654	4.5
92–93	0.160596	21,882	3,514	20,125	90,915	4.2
93–94	0.177179	18,368	3,254	16,741	70,789	3.9
94–95	0.194815	15,114	2,944	13,642	54,048	3.6
95–96	0.213442	12,169	2,597	10,871	40,407	3.3
96–97	0.232970	9,572	2,230	8,457	29,536	3.1
97–98	0.253286	7,342	1,860	6,412	21,079	2.9
98–99	0.274254	5,482	1,504	4,731	14,667	2.7
99–100	0.295715	3,979	1,177	3,390	9,937	2.5
100 and over	1.000000	2,802	2,802	6,546	6,546	2.3

SOURCE: CDC/NCHS, National Vital Statistics System.

Table 7. Life table for the black population: United States, 2009

Spreadsheet version available from: ftp://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/62_07/Table07.xls.

Age (years)	Probability of dying between ages x and $x + 1$	Number surviving to age x	Number dying between ages x and $x + 1$	Person-years lived between ages x and $x + 1$	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	0.012610	100,000	1,261	98,897	7,450,324	74.5
1–2	0.000615	98,739	61	98,709	7,351,427	74.5
2–3	0.000415	98,678	41	98,658	7,252,719	73.5
3–4	0.000294	98,637	29	98,623	7,154,061	72.5
4–5	0.000237	98,608	23	98,597	7,055,438	71.6
5–6	0.000223	98,585	22	98,574	6,956,841	70.6
6–7	0.000200	98,563	20	98,553	6,858,267	69.6
7–8	0.000181	98,543	18	98,534	6,759,714	68.6
8–9	0.000161	98,526	16	98,518	6,661,180	67.6
9–10	0.000141	98,510	14	98,503	6,562,662	66.6
10–11	0.000129	98,496	13	98,490	6,464,159	65.6
11–12	0.000138	98,483	14	98,476	6,365,669	64.6
12–13	0.000183	98,470	18	98,461	6,267,193	63.6
13–14	0.000270	98,452	27	98,438	6,168,732	62.7
14–15	0.000383	98,425	38	98,406	6,070,294	61.7
15–16	0.000497	98,387	49	98,363	5,971,888	60.7
16–17	0.000603	98,338	59	98,309	5,873,525	59.7
17–18	0.000709	98,279	70	98,244	5,775,216	58.8
18–19	0.000818	98,210	80	98,169	5,676,972	57.8
19–20	0.000932	98,129	91	98,084	5,578,802	56.9
20–21	0.001059	98,038	104	97,986	5,480,719	55.9
21–22	0.001185	97,934	116	97,876	5,382,733	55.0
22–23	0.001282	97,818	125	97,755	5,284,857	54.0
23–24	0.001333	97,693	130	97,627	5,187,102	53.1
24–25	0.001348	97,562	132	97,496	5,089,474	52.2
25–26	0.001353	97,431	132	97,365	4,991,978	51.2
26–27	0.001366	97,299	133	97,232	4,894,613	50.3
27–28	0.001388	97,166	135	97,099	4,797,381	49.4
28–29	0.001427	97,031	138	96,962	4,700,282	48.4
29–30	0.001483	96,893	144	96,821	4,603,320	47.5
30–31	0.001550	96,749	150	96,674	4,506,499	46.6
31–32	0.001623	96,599	157	96,521	4,409,825	45.7
32–33	0.001716	96,442	166	96,359	4,313,305	44.7
33–34	0.001777	96,277	171	96,191	4,216,945	43.8
34–35	0.001854	96,106	178	96,017	4,120,754	42.9
35–36	0.001943	95,927	186	95,834	4,024,737	42.0
36–37	0.002050	95,741	196	95,643	3,928,903	41.0
37–38	0.002178	95,545	208	95,441	3,833,260	40.1
38–39	0.002333	95,337	222	95,226	3,737,819	39.2
39–40	0.002519	95,114	240	94,995	3,642,593	38.3
40–41	0.002730	94,875	259	94,745	3,547,599	37.4
41–42	0.002966	94,616	281	94,475	3,452,854	36.5
42–43	0.003235	94,335	305	94,182	3,358,378	35.6
43–44	0.003530	94,030	332	93,864	3,264,196	34.7
44–45	0.003847	93,698	360	93,518	3,170,332	33.8
45–46	0.004162	93,337	388	93,143	3,076,814	33.0
46–47	0.004497	92,949	418	92,740	2,983,671	32.1
47–48	0.004906	92,531	454	92,304	2,890,931	31.2
48–49	0.005421	92,077	499	91,827	2,798,627	30.4
49–50	0.006030	91,578	552	91,302	2,706,800	29.6
50–51	0.006694	91,026	609	90,721	2,615,498	28.7
51–52	0.007372	90,416	667	90,083	2,524,777	27.9
52–53	0.008067	89,750	724	89,388	2,434,694	27.1
53–54	0.008763	89,026	780	88,636	2,345,306	26.3
54–55	0.009467	88,246	835	87,828	2,256,670	25.6
55–56	0.010231	87,410	894	86,963	2,168,842	24.8
56–57	0.011053	86,516	956	86,038	2,081,879	24.1
57–58	0.011872	85,560	1,016	85,052	1,995,841	23.3
58–59	0.012666	84,544	1,071	84,009	1,910,789	22.6
59–60	0.013456	83,473	1,123	82,912	1,826,781	21.9
60–61	0.014296	82,350	1,177	81,761	1,743,869	21.2
61–62	0.015230	81,173	1,236	80,555	1,662,108	20.5

See footnote at end of table.

Table 7. Life table for the black population: United States, 2009—Con.

Spreadsheet version available from: ftp://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/62_07/Table07.xls.

Age (years)	Probability of dying between ages x and $x + 1$	Number surviving to age x	Number dying between ages x and $x + 1$	Person-years lived between ages x and $x + 1$	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
62–63	0.016251	79,936	1,299	79,287	1,581,553	19.8
63–64	0.017373	78,637	1,366	77,954	1,502,266	19.1
64–65	0.018599	77,271	1,437	76,553	1,424,312	18.4
65–66	0.019963	75,834	1,514	75,077	1,347,759	17.8
66–67	0.021439	74,320	1,593	73,524	1,272,682	17.1
67–68	0.022944	72,727	1,669	71,893	1,199,158	16.5
68–69	0.024426	71,058	1,736	70,190	1,127,266	15.9
69–70	0.025873	69,323	1,794	68,426	1,057,075	15.2
70–71	0.027353	67,529	1,847	66,605	988,650	14.6
71–72	0.029013	65,682	1,906	64,729	922,044	14.0
72–73	0.030739	63,776	1,960	62,796	857,315	13.4
73–74	0.032851	61,816	2,031	60,801	794,519	12.9
74–75	0.035383	59,785	2,115	58,727	733,719	12.3
75–76	0.038173	57,670	2,201	56,569	674,991	11.7
76–77	0.041086	55,468	2,279	54,329	618,422	11.1
77–78	0.044059	53,189	2,343	52,018	564,093	10.6
78–79	0.047912	50,846	2,436	49,628	512,076	10.1
79–80	0.052559	48,410	2,544	47,138	462,448	9.6
80–81	0.056855	45,865	2,608	44,562	415,310	9.1
81–82	0.061612	43,258	2,665	41,925	370,749	8.6
82–83	0.068094	40,593	2,764	39,210	328,824	8.1
83–84	0.074458	37,828	2,817	36,420	289,613	7.7
84–85	0.081795	35,012	2,864	33,580	253,193	7.2
85–86	0.088983	32,148	2,861	30,718	219,613	6.8
86–87	0.096698	29,287	2,832	27,871	188,895	6.4
87–88	0.104960	26,455	2,777	25,067	161,024	6.1
88–89	0.113788	23,679	2,694	22,331	135,957	5.7
89–90	0.123195	20,984	2,585	19,692	113,626	5.4
90–91	0.133192	18,399	2,451	17,174	93,934	5.1
91–92	0.143787	15,948	2,293	14,802	76,760	4.8
92–93	0.154979	13,655	2,116	12,597	61,958	4.5
93–94	0.166764	11,539	1,924	10,577	49,361	4.3
94–95	0.179132	9,615	1,722	8,754	38,784	4.0
95–96	0.192064	7,892	1,516	7,135	30,031	3.8
96–97	0.205537	6,377	1,311	5,721	22,896	3.6
97–98	0.219517	5,066	1,112	4,510	17,175	3.4
98–99	0.233967	3,954	925	3,491	12,665	3.2
99–100	0.248837	3,029	754	2,652	9,174	3.0
100 and over	1.000000	2,275	2,275	6,522	6,522	2.9

SOURCE: CDC/NCHS, National Vital Statistics System.

Table 8. Life table for black males: United States, 2009

Spreadsheet version available from: ftp://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/62_07/Table08.xls.

Age (years)	Probability of dying between ages x and $x + 1$	Number surviving to age x	Number dying between ages x and $x + 1$	Person-years lived between ages x and $x + 1$	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	0.014052	100,000	1,405	98,766	7,106,323	71.1
1–2	0.000624	98,595	62	98,564	7,007,557	71.1
2–3	0.000478	98,533	47	98,510	6,908,993	70.1
3–4	0.000304	98,486	30	98,471	6,810,483	69.2
4–5	0.000234	98,456	23	98,445	6,712,012	68.2
5–6	0.000245	98,433	24	98,421	6,613,567	67.2
6–7	0.000227	98,409	22	98,398	6,515,146	66.2
7–8	0.000208	98,387	20	98,377	6,416,748	65.2
8–9	0.000180	98,366	18	98,358	6,318,371	64.2
9–10	0.000144	98,349	14	98,342	6,220,013	63.2
10–11	0.000116	98,335	11	98,329	6,121,672	62.3
11–12	0.000122	98,323	12	98,317	6,023,343	61.3
12–13	0.000190	98,311	19	98,302	5,925,026	60.3
13–14	0.000334	98,292	33	98,276	5,826,724	59.3
14–15	0.000523	98,260	51	98,234	5,728,448	58.3
15–16	0.000714	98,208	70	98,173	5,630,214	57.3
16–17	0.000887	98,138	87	98,095	5,532,041	56.4
17–18	0.001057	98,051	104	97,999	5,433,946	55.4
18–19	0.001228	97,947	120	97,887	5,335,947	54.5
19–20	0.001401	97,827	137	97,759	5,238,060	53.5
20–21	0.001594	97,690	156	97,612	5,140,301	52.6
21–22	0.001783	97,534	174	97,447	5,042,689	51.7
22–23	0.001921	97,360	187	97,267	4,945,242	50.8
23–24	0.001979	97,173	192	97,077	4,847,975	49.9
24–25	0.001976	96,981	192	96,885	4,750,898	49.0
25–26	0.001950	96,789	189	96,695	4,654,012	48.1
26–27	0.001938	96,601	187	96,507	4,557,317	47.2
27–28	0.001944	96,413	187	96,320	4,460,810	46.3
28–29	0.001985	96,226	191	96,131	4,364,490	45.4
29–30	0.002058	96,035	198	95,936	4,268,360	44.4
30–31	0.002148	95,837	206	95,734	4,172,424	43.5
31–32	0.002238	95,632	214	95,525	4,076,689	42.6
32–33	0.002357	95,417	225	95,305	3,981,165	41.7
33–34	0.002407	95,193	229	95,078	3,885,860	40.8
34–35	0.002480	94,963	235	94,846	3,790,782	39.9
35–36	0.002562	94,728	243	94,607	3,695,936	39.0
36–37	0.002669	94,485	252	94,359	3,601,329	38.1
37–38	0.002803	94,233	264	94,101	3,506,970	37.2
38–39	0.002973	93,969	279	93,829	3,412,869	36.3
39–40	0.003181	93,690	298	93,541	3,319,040	35.4
40–41	0.003424	93,392	320	93,232	3,225,500	34.5
41–42	0.003697	93,072	344	92,900	3,132,268	33.7
42–43	0.003999	92,728	371	92,542	3,039,368	32.8
43–44	0.004320	92,357	399	92,157	2,946,826	31.9
44–45	0.004663	91,958	429	91,744	2,854,669	31.0
45–46	0.005003	91,529	458	91,300	2,762,925	30.2
46–47	0.005386	91,071	491	90,826	2,671,625	29.3
47–48	0.005889	90,581	533	90,314	2,580,799	28.5
48–49	0.006562	90,047	591	89,752	2,490,485	27.7
49–50	0.007385	89,456	661	89,126	2,400,733	26.8
50–51	0.008285	88,796	736	88,428	2,311,607	26.0
51–52	0.009206	88,060	811	87,655	2,223,180	25.2
52–53	0.010178	87,249	888	86,805	2,135,525	24.5
53–54	0.011190	86,361	966	85,878	2,048,720	23.7
54–55	0.012246	85,395	1,046	84,872	1,962,842	23.0
55–56	0.013415	84,349	1,132	83,783	1,877,970	22.3
56–57	0.014662	83,217	1,220	82,607	1,794,187	21.6
57–58	0.015863	81,997	1,301	81,347	1,711,579	20.9
58–59	0.016945	80,697	1,367	80,013	1,630,232	20.2
59–60	0.017946	79,329	1,424	78,617	1,550,219	19.5
60–61	0.018972	77,906	1,478	77,167	1,471,602	18.9
61–62	0.020124	76,428	1,538	75,658	1,394,435	18.2

See footnote at end of table.

Table 8. Life table for black males: United States, 2009—Con.

Spreadsheet version available from: ftp://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/62_07/Table08.xls.

Age (years)	Probability of dying between ages x and $x + 1$	Number surviving to age x	Number dying between ages x and $x + 1$	Person-years lived between ages x and $x + 1$	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
62–63	0.021411	74,889	1,603	74,088	1,318,777	17.6
63–64	0.022884	73,286	1,677	72,447	1,244,689	17.0
64–65	0.024543	71,609	1,757	70,730	1,172,242	16.4
65–66	0.026407	69,851	1,845	68,929	1,101,511	15.8
66–67	0.028381	68,007	1,930	67,042	1,032,582	15.2
67–68	0.030276	66,077	2,001	65,077	965,540	14.6
68–69	0.032061	64,076	2,054	63,049	900,464	14.1
69–70	0.033752	62,022	2,093	60,975	837,415	13.5
70–71	0.035243	59,929	2,112	58,872	776,440	13.0
71–72	0.036906	57,816	2,134	56,750	717,567	12.4
72–73	0.038865	55,683	2,164	54,601	660,818	11.9
73–74	0.041476	53,519	2,220	52,409	606,217	11.3
74–75	0.044510	51,299	2,283	50,157	553,808	10.8
75–76	0.047901	49,016	2,348	47,842	503,651	10.3
76–77	0.051942	46,668	2,424	45,456	455,809	9.8
77–78	0.055729	44,244	2,466	43,011	410,354	9.3
78–79	0.060349	41,778	2,521	40,517	367,343	8.8
79–80	0.066008	39,257	2,591	37,961	326,826	8.3
80–81	0.070883	36,665	2,599	35,366	288,865	7.9
81–82	0.076436	34,066	2,604	32,765	253,499	7.4
82–83	0.084314	31,463	2,653	30,136	220,734	7.0
83–84	0.092714	28,810	2,671	27,474	190,598	6.6
84–85	0.100815	26,139	2,635	24,821	163,124	6.2
85–86	0.109489	23,504	2,573	22,217	138,302	5.9
86–87	0.118753	20,930	2,486	19,687	116,085	5.5
87–88	0.128620	18,445	2,372	17,259	96,398	5.2
88–89	0.139098	16,072	2,236	14,955	79,139	4.9
89–90	0.150192	13,837	2,078	12,798	64,185	4.6
90–91	0.161899	11,759	1,904	10,807	51,387	4.4
91–92	0.174211	9,855	1,717	8,996	40,581	4.1
92–93	0.187111	8,138	1,523	7,377	31,584	3.9
93–94	0.200579	6,615	1,327	5,952	24,207	3.7
94–95	0.214581	5,288	1,135	4,721	18,256	3.5
95–96	0.229081	4,154	952	3,678	13,535	3.3
96–97	0.244032	3,202	781	2,811	9,857	3.1
97–98	0.259380	2,421	628	2,107	7,045	2.9
98–99	0.275065	1,793	493	1,546	4,938	2.8
99–100	0.291021	1,300	378	1,111	3,392	2.6
100 and over	1.000000	921	921	2,282	2,282	2.5

SOURCE: CDC/NCHS, National Vital Statistics System.

Table 9. Life table for black females: United States, 2009

Spreadsheet version available from: ftp://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/62_07/Table09.xls.

Age (years)	Probability of dying between ages x and $x + 1$	Number surviving to age x	Number dying between ages x and $x + 1$	Person-years lived between ages x and $x + 1$	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	0.011121	100,000	1,112	99,030	7,761,433	77.6
1–2	0.000605	98,888	60	98,858	7,662,403	77.5
2–3	0.000350	98,828	35	98,811	7,563,545	76.5
3–4	0.000284	98,794	28	98,780	7,464,734	75.6
4–5	0.000239	98,766	24	98,754	7,365,955	74.6
5–6	0.000201	98,742	20	98,732	7,267,201	73.6
6–7	0.000172	98,722	17	98,714	7,168,469	72.6
7–8	0.000152	98,705	15	98,698	7,069,756	71.6
8–9	0.000141	98,690	14	98,683	6,971,058	70.6
9–10	0.000137	98,676	14	98,669	6,872,375	69.6
10–11	0.000141	98,663	14	98,656	6,773,705	68.7
11–12	0.000154	98,649	15	98,641	6,675,050	67.7
12–13	0.000176	98,633	17	98,625	6,576,409	66.7
13–14	0.000205	98,616	20	98,606	6,477,784	65.7
14–15	0.000238	98,596	23	98,584	6,379,178	64.7
15–16	0.000273	98,572	27	98,559	6,280,594	63.7
16–17	0.000310	98,546	31	98,530	6,182,035	62.7
17–18	0.000350	98,515	34	98,498	6,083,504	61.8
18–19	0.000396	98,481	39	98,461	5,985,007	60.8
19–20	0.000448	98,442	44	98,420	5,886,545	59.8
20–21	0.000507	98,398	50	98,373	5,788,126	58.8
21–22	0.000569	98,348	56	98,320	5,689,753	57.9
22–23	0.000625	98,292	61	98,261	5,591,434	56.9
23–24	0.000671	98,230	66	98,197	5,493,172	55.9
24–25	0.000708	98,164	69	98,130	5,394,975	55.0
25–26	0.000746	98,095	73	98,058	5,296,845	54.0
26–27	0.000788	98,022	77	97,983	5,198,787	53.0
27–28	0.000831	97,944	81	97,904	5,100,804	52.1
28–29	0.000876	97,863	86	97,820	5,002,900	51.1
29–30	0.000924	97,777	90	97,732	4,905,080	50.2
30–31	0.000982	97,687	96	97,639	4,807,348	49.2
31–32	0.001049	97,591	102	97,540	4,709,709	48.3
32–33	0.001130	97,489	110	97,434	4,612,169	47.3
33–34	0.001203	97,379	117	97,320	4,514,735	46.4
34–35	0.001288	97,261	125	97,199	4,417,415	45.4
35–36	0.001383	97,136	134	97,069	4,320,217	44.5
36–37	0.001493	97,002	145	96,929	4,223,148	43.5
37–38	0.001617	96,857	157	96,779	4,126,218	42.6
38–39	0.001762	96,700	170	96,615	4,029,440	41.7
39–40	0.001930	96,530	186	96,437	3,932,824	40.7
40–41	0.002113	96,344	204	96,242	3,836,388	39.8
41–42	0.002316	96,140	223	96,029	3,740,146	38.9
42–43	0.002557	95,917	245	95,795	3,644,117	38.0
43–44	0.002833	95,672	271	95,537	3,548,322	37.1
44–45	0.003130	95,401	299	95,252	3,452,785	36.2
45–46	0.003425	95,103	326	94,940	3,357,533	35.3
46–47	0.003724	94,777	353	94,600	3,262,594	34.4
47–48	0.004054	94,424	383	94,232	3,167,993	33.6
48–49	0.004434	94,041	417	93,833	3,073,761	32.7
49–50	0.004862	93,624	455	93,396	2,979,928	31.8
50–51	0.005327	93,169	496	92,921	2,886,532	31.0
51–52	0.005802	92,673	538	92,404	2,793,611	30.1
52–53	0.006267	92,135	577	91,846	2,701,207	29.3
53–54	0.006704	91,558	614	91,251	2,609,361	28.5
54–55	0.007129	90,944	648	90,620	2,518,111	27.7
55–56	0.007575	90,295	684	89,953	2,427,491	26.9
56–57	0.008068	89,611	723	89,250	2,337,538	26.1
57–58	0.008599	88,888	764	88,506	2,248,288	25.3
58–59	0.009181	88,124	809	87,720	2,159,782	24.5
59–60	0.009823	87,315	858	86,886	2,072,062	23.7
60–61	0.010538	86,457	911	86,002	1,985,176	23.0
61–62	0.011327	85,546	969	85,062	1,899,174	22.2

See footnote at end of table.

Table 9. Life table for black females: United States, 2009—Con.

Spreadsheet version available from: ftp://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/62_07/Table09.xls.

Age (years)	Probability of dying between ages x and $x + 1$	Number surviving to age x	Number dying between ages x and $x + 1$	Person-years lived between ages x and $x + 1$	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
62–63	0.012174	84,577	1,030	84,062	1,814,112	21.4
63–64	0.013067	83,548	1,092	83,002	1,730,050	20.7
64–65	0.014017	82,456	1,156	81,878	1,647,048	20.0
65–66	0.015069	81,300	1,225	80,688	1,565,170	19.3
66–67	0.016236	80,075	1,300	79,425	1,484,482	18.5
67–68	0.017515	78,775	1,380	78,085	1,405,057	17.8
68–69	0.018823	77,395	1,457	76,667	1,326,972	17.1
69–70	0.020120	75,938	1,528	75,174	1,250,305	16.5
70–71	0.021622	74,411	1,609	73,606	1,175,131	15.8
71–72	0.023318	72,802	1,698	71,953	1,101,525	15.1
72–73	0.024937	71,104	1,773	70,217	1,029,572	14.5
73–74	0.026793	69,331	1,858	68,402	959,354	13.8
74–75	0.029093	67,473	1,963	66,492	890,952	13.2
75–76	0.031623	65,510	2,072	64,474	824,461	12.6
76–77	0.033938	63,439	2,153	62,362	759,986	12.0
77–78	0.036595	61,286	2,243	60,164	697,624	11.4
78–79	0.040217	59,043	2,375	57,856	637,460	10.8
79–80	0.044497	56,668	2,522	55,408	579,604	10.2
80–81	0.048781	54,147	2,641	52,826	524,196	9.7
81–82	0.053418	51,505	2,751	50,130	471,370	9.2
82–83	0.059455	48,754	2,899	47,305	421,240	8.6
83–84	0.065396	45,855	2,999	44,356	373,936	8.2
84–85	0.071252	42,857	3,054	41,330	329,580	7.7
85–86	0.078477	39,803	3,124	38,241	288,250	7.2
86–87	0.086078	36,679	3,157	35,101	250,008	6.8
87–88	0.094296	33,522	3,161	31,942	214,908	6.4
88–89	0.103159	30,361	3,132	28,795	182,966	6.0
89–90	0.112691	27,229	3,068	25,695	154,171	5.7
90–91	0.122912	24,161	2,970	22,676	128,476	5.3
91–92	0.133837	21,191	2,836	19,773	105,800	5.0
92–93	0.145472	18,355	2,670	17,020	86,027	4.7
93–94	0.157819	15,685	2,475	14,447	69,007	4.4
94–95	0.170871	13,209	2,257	12,081	54,560	4.1
95–96	0.184610	10,952	2,022	9,941	42,479	3.9
96–97	0.199011	8,930	1,777	8,042	32,538	3.6
97–98	0.214036	7,153	1,531	6,388	24,496	3.4
98–99	0.229639	5,622	1,291	4,977	18,109	3.2
99–100	0.245762	4,331	1,064	3,799	13,132	3.0
100 and over	1.000000	3,267	3,267	9,333	9,333	2.9

SOURCE: CDC/NCHS, National Vital Statistics System.

Table 10. Life table for the Hispanic population: United States, 2009

Spreadsheet version available from: ftp://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/62_07/Table10.xls.

Age (years)	Probability of dying between ages x and $x + 1$	Number surviving to age x	Number dying between ages x and $x + 1$	Person-years lived between ages x and $x + 1$	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	0.005261	100,000	526	99,541	8,121,408	81.2
1–2	0.000359	99,474	36	99,456	8,021,867	80.6
2–3	0.000254	99,438	25	99,426	7,922,411	79.7
3–4	0.000178	99,413	18	99,404	7,822,986	78.7
4–5	0.000129	99,395	13	99,389	7,723,582	77.7
5–6	0.000136	99,382	13	99,376	7,624,193	76.7
6–7	0.000124	99,369	12	99,363	7,524,817	75.7
7–8	0.000114	99,357	11	99,351	7,425,454	74.7
8–9	0.000105	99,345	10	99,340	7,326,103	73.7
9–10	0.000095	99,335	9	99,330	7,226,763	72.8
10–11	0.000090	99,325	9	99,321	7,127,433	71.8
11–12	0.000097	99,316	10	99,312	7,028,112	70.8
12–13	0.000128	99,307	13	99,300	6,928,800	69.8
13–14	0.000188	99,294	19	99,285	6,829,500	68.8
14–15	0.000267	99,276	26	99,262	6,730,215	67.8
15–16	0.000352	99,249	35	99,232	6,630,953	66.8
16–17	0.000433	99,214	43	99,193	6,531,721	65.8
17–18	0.000507	99,171	50	99,146	6,432,529	64.9
18–19	0.000574	99,121	57	99,092	6,333,383	63.9
19–20	0.000633	99,064	63	99,033	6,234,290	62.9
20–21	0.000695	99,001	69	98,967	6,135,258	62.0
21–22	0.000754	98,932	75	98,895	6,036,291	61.0
22–23	0.000794	98,858	79	98,819	5,937,396	60.1
23–24	0.000807	98,779	80	98,739	5,838,577	59.1
24–25	0.000799	98,700	79	98,660	5,739,838	58.2
25–26	0.000786	98,621	78	98,582	5,641,178	57.2
26–27	0.000776	98,543	77	98,505	5,542,596	56.2
27–28	0.000769	98,467	76	98,429	5,444,091	55.3
28–29	0.000767	98,391	75	98,353	5,345,662	54.3
29–30	0.000770	98,315	76	98,278	5,247,309	53.4
30–31	0.000774	98,240	76	98,202	5,149,031	52.4
31–32	0.000781	98,164	77	98,125	5,050,830	51.5
32–33	0.000793	98,087	78	98,048	4,952,704	50.5
33–34	0.000834	98,009	82	97,968	4,854,656	49.5
34–35	0.000881	97,928	86	97,884	4,756,688	48.6
35–36	0.000936	97,841	92	97,795	4,658,803	47.6
36–37	0.000999	97,750	98	97,701	4,561,008	46.7
37–38	0.001069	97,652	104	97,600	4,463,307	45.7
38–39	0.001149	97,548	112	97,492	4,365,707	44.8
39–40	0.001240	97,436	121	97,375	4,268,216	43.8
40–41	0.001340	97,315	130	97,250	4,170,840	42.9
41–42	0.001455	97,184	141	97,114	4,073,591	41.9
42–43	0.001588	97,043	154	96,966	3,976,477	41.0
43–44	0.001741	96,889	169	96,805	3,879,511	40.0
44–45	0.001909	96,720	185	96,628	3,782,707	39.1
45–46	0.002088	96,536	202	96,435	3,686,079	38.2
46–47	0.002277	96,334	219	96,224	3,589,644	37.3
47–48	0.002484	96,115	239	95,995	3,493,420	36.3
48–49	0.002715	95,876	260	95,746	3,397,425	35.4
49–50	0.002974	95,615	284	95,473	3,301,679	34.5
50–51	0.003265	95,331	311	95,175	3,206,206	33.6
51–52	0.003578	95,020	340	94,850	3,111,030	32.7
52–53	0.003893	94,680	369	94,496	3,016,181	31.9
53–54	0.004193	94,311	395	94,114	2,921,685	31.0
54–55	0.004485	93,916	421	93,705	2,827,571	30.1
55–56	0.004794	93,495	448	93,270	2,733,866	29.2
56–57	0.005141	93,046	478	92,807	2,640,596	28.4
57–58	0.005519	92,568	511	92,313	2,547,789	27.5
58–59	0.005933	92,057	546	91,784	2,455,476	26.7
59–60	0.006386	91,511	584	91,219	2,363,692	25.8
60–61	0.006874	90,927	625	90,614	2,272,473	25.0
61–62	0.007408	90,302	669	89,967	2,181,859	24.2

See footnote at end of table.

Table 10. Life table for the Hispanic population: United States, 2009—Con.

Spreadsheet version available from: ftp://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/62_07/Table10.xls.

Age (years)	Probability of dying between ages x and $x + 1$	Number surviving to age x	Number dying between ages x and $x + 1$	Person-years lived between ages x and $x + 1$	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
62–63	0.008010	89,633	718	89,274	2,091,892	23.3
63–64	0.008706	88,915	774	88,528	2,002,619	22.5
64–65	0.009510	88,141	838	87,721	1,914,091	21.7
65–66	0.010439	87,302	911	86,847	1,826,370	20.9
66–67	0.011478	86,391	992	85,895	1,739,523	20.1
67–68	0.012587	85,399	1,075	84,862	1,653,628	19.4
68–69	0.013705	84,324	1,156	83,747	1,568,766	18.6
69–70	0.014822	83,169	1,233	82,552	1,485,019	17.9
70–71	0.015967	81,936	1,308	81,282	1,402,467	17.1
71–72	0.017225	80,628	1,389	79,933	1,321,185	16.4
72–73	0.018657	79,239	1,478	78,500	1,241,252	15.7
73–74	0.020348	77,760	1,582	76,969	1,162,752	15.0
74–75	0.022306	76,178	1,699	75,329	1,085,783	14.3
75–76	0.024382	74,479	1,816	73,571	1,010,454	13.6
76–77	0.026628	72,663	1,935	71,696	936,883	12.9
77–78	0.029273	70,728	2,070	69,693	865,188	12.2
78–79	0.032405	68,658	2,225	67,545	795,495	11.6
79–80	0.035926	66,433	2,387	65,240	727,949	11.0
80–81	0.039802	64,046	2,549	62,772	662,710	10.3
81–82	0.044056	61,497	2,709	60,142	599,938	9.8
82–83	0.048800	58,788	2,869	57,353	539,796	9.2
83–84	0.054229	55,919	3,032	54,403	482,442	8.6
84–85	0.060307	52,887	3,189	51,292	428,040	8.1
85–86	0.067606	49,697	3,360	48,017	376,748	7.6
86–87	0.075467	46,337	3,497	44,589	328,731	7.1
87–88	0.084100	42,840	3,603	41,039	284,142	6.6
88–89	0.093548	39,237	3,671	37,402	243,103	6.2
89–90	0.103847	35,567	3,694	33,720	205,701	5.8
90–91	0.115027	31,873	3,666	30,040	171,980	5.4
91–92	0.127109	28,207	3,585	26,414	141,940	5.0
92–93	0.140100	24,622	3,449	22,897	115,526	4.7
93–94	0.153994	21,172	3,260	19,542	92,629	4.4
94–95	0.168771	17,912	3,023	16,400	73,087	4.1
95–96	0.184391	14,889	2,745	13,516	56,687	3.8
96–97	0.200798	12,143	2,438	10,924	43,170	3.6
97–98	0.217915	9,705	2,115	8,648	32,246	3.3
98–99	0.235650	7,590	1,789	6,696	23,599	3.1
99–100	0.253890	5,802	1,473	5,065	16,903	2.9
100 and over	1.000000	4,329	4,329	11,838	11,838	2.7

SOURCE: CDC/NCHS, National Vital Statistics System.

Table 11. Life table for Hispanic males: United States, 2009

Spreadsheet version available from: ftp://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/62_07/Table11.xls.

Age (years)	Probability of dying between ages x and $x + 1$	Number surviving to age x	Number dying between ages x and $x + 1$	Person-years lived between ages x and $x + 1$	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	0.005652	100,000	565	99,506	7,870,375	78.7
1–2	0.000366	99,435	36	99,417	7,770,869	78.2
2–3	0.000275	99,398	27	99,385	7,671,453	77.2
3–4	0.000184	99,371	18	99,362	7,572,068	76.2
4–5	0.000143	99,353	14	99,346	7,472,706	75.2
5–6	0.000141	99,339	14	99,332	7,373,360	74.2
6–7	0.000129	99,325	13	99,318	7,274,029	73.2
7–8	0.000118	99,312	12	99,306	7,174,711	72.2
8–9	0.000105	99,300	10	99,295	7,075,405	71.3
9–10	0.000090	99,290	9	99,285	6,976,110	70.3
10–11	0.000080	99,281	8	99,277	6,876,825	69.3
11–12	0.000088	99,273	9	99,268	6,777,548	68.3
12–13	0.000134	99,264	13	99,257	6,678,280	67.3
13–14	0.000227	99,251	23	99,239	6,579,023	66.3
14–15	0.000352	99,228	35	99,211	6,479,783	65.3
15–16	0.000484	99,193	48	99,169	6,380,573	64.3
16–17	0.000609	99,145	60	99,115	6,281,404	63.4
17–18	0.000727	99,085	72	99,049	6,182,289	62.4
18–19	0.000838	99,013	83	98,971	6,083,240	61.4
19–20	0.000940	98,930	93	98,883	5,984,269	60.5
20–21	0.001048	98,837	104	98,785	5,885,385	59.5
21–22	0.001147	98,733	113	98,677	5,786,600	58.6
22–23	0.001206	98,620	119	98,561	5,687,924	57.7
23–24	0.001213	98,501	119	98,441	5,589,363	56.7
24–25	0.001181	98,382	116	98,323	5,490,922	55.8
25–26	0.001139	98,265	112	98,209	5,392,598	54.9
26–27	0.001104	98,153	108	98,099	5,294,389	53.9
27–28	0.001078	98,045	106	97,992	5,196,290	53.0
28–29	0.001067	97,939	104	97,887	5,098,297	52.1
29–30	0.001067	97,835	104	97,783	5,000,410	51.1
30–31	0.001069	97,730	105	97,678	4,902,628	50.2
31–32	0.001073	97,626	105	97,574	4,804,949	49.2
32–33	0.001074	97,521	105	97,469	4,707,376	48.3
33–34	0.001120	97,416	109	97,362	4,609,907	47.3
34–35	0.001167	97,307	114	97,251	4,512,545	46.4
35–36	0.001224	97,194	119	97,134	4,415,295	45.4
36–37	0.001289	97,075	125	97,012	4,318,160	44.5
37–38	0.001369	96,950	133	96,883	4,221,148	43.5
38–39	0.001464	96,817	142	96,746	4,124,265	42.6
39–40	0.001574	96,675	152	96,599	4,027,518	41.7
40–41	0.001701	96,523	164	96,441	3,930,919	40.7
41–42	0.001843	96,359	178	96,270	3,834,478	39.8
42–43	0.001999	96,181	192	96,085	3,738,208	38.9
43–44	0.002165	95,989	208	95,885	3,642,123	37.9
44–45	0.002342	95,781	224	95,669	3,546,238	37.0
45–46	0.002528	95,557	242	95,436	3,450,568	36.1
46–47	0.002733	95,315	261	95,185	3,355,132	35.2
47–48	0.002978	95,055	283	94,913	3,259,947	34.3
48–49	0.003277	94,772	311	94,617	3,165,034	33.4
49–50	0.003633	94,461	343	94,290	3,070,417	32.5
50–51	0.004040	94,118	380	93,928	2,976,128	31.6
51–52	0.004475	93,738	419	93,528	2,882,200	30.7
52–53	0.004916	93,318	459	93,089	2,788,671	29.9
53–54	0.005337	92,860	496	92,612	2,695,582	29.0
54–55	0.005743	92,364	530	92,099	2,602,971	28.2
55–56	0.006177	91,834	567	91,550	2,510,872	27.3
56–57	0.006662	91,266	608	90,962	2,419,322	26.5
57–58	0.007174	90,658	650	90,333	2,328,359	25.7
58–59	0.007710	90,008	694	89,661	2,238,026	24.9
59–60	0.008274	89,314	739	88,945	2,148,365	24.1
60–61	0.008870	88,575	786	88,182	2,059,421	23.3
61–62	0.009517	87,789	836	87,372	1,971,238	22.5

See footnote at end of table.

Table 11. Life table for Hispanic males: United States, 2009—Con.

Spreadsheet version available from: ftp://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/62_07/Table11.xls.

Age (years)	Probability of dying between ages x and $x + 1$	Number surviving to age x	Number dying between ages x and $x + 1$	Person-years lived between ages x and $x + 1$	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
62–63	0.010239	86,954	890	86,509	1,883,867	21.7
63–64	0.011068	86,064	953	85,587	1,797,358	20.9
64–65	0.012027	85,111	1,024	84,599	1,711,771	20.1
65–66	0.013120	84,087	1,103	83,536	1,627,172	19.4
66–67	0.014341	82,984	1,190	82,389	1,543,636	18.6
67–68	0.015682	81,794	1,283	81,153	1,461,247	17.9
68–69	0.017083	80,511	1,375	79,824	1,380,094	17.1
69–70	0.018513	79,136	1,465	78,403	1,300,270	16.4
70–71	0.019988	77,671	1,552	76,895	1,221,867	15.7
71–72	0.021559	76,118	1,641	75,298	1,144,972	15.0
72–73	0.023242	74,477	1,731	73,612	1,069,674	14.4
73–74	0.025102	72,746	1,826	71,833	996,062	13.7
74–75	0.027167	70,920	1,927	69,957	924,229	13.0
75–76	0.029305	68,994	2,022	67,983	854,272	12.4
76–77	0.031731	66,972	2,125	65,909	786,290	11.7
77–78	0.034765	64,847	2,254	63,719	720,380	11.1
78–79	0.038532	62,592	2,412	61,386	656,661	10.5
79–80	0.042879	60,180	2,580	58,890	595,275	9.9
80–81	0.047899	57,600	2,759	56,220	536,385	9.3
81–82	0.053532	54,841	2,936	53,373	480,164	8.8
82–83	0.059159	51,905	3,071	50,370	426,791	8.2
83–84	0.065459	48,834	3,197	47,236	376,421	7.7
84–85	0.072602	45,638	3,313	43,981	329,185	7.2
85–86	0.081605	42,324	3,454	40,597	285,204	6.7
86–87	0.090915	38,871	3,534	37,104	244,607	6.3
87–88	0.101085	35,337	3,572	33,551	207,503	5.9
88–89	0.112146	31,765	3,562	29,984	173,952	5.5
89–90	0.124124	28,202	3,501	26,452	143,969	5.1
90–91	0.137029	24,702	3,385	23,009	117,517	4.8
91–92	0.150859	21,317	3,216	19,709	94,507	4.4
92–93	0.165596	18,101	2,997	16,602	74,798	4.1
93–94	0.181205	15,104	2,737	13,735	58,196	3.9
94–95	0.197631	12,367	2,444	11,145	44,461	3.6
95–96	0.214801	9,923	2,131	8,857	33,316	3.4
96–97	0.232620	7,791	1,812	6,885	24,459	3.1
97–98	0.250978	5,979	1,501	5,229	17,574	2.9
98–99	0.269749	4,478	1,208	3,874	12,346	2.8
99–100	0.288794	3,270	944	2,798	8,471	2.6
100 and over	1.000000	2,326	2,326	5,673	5,673	2.4

SOURCE: CDC/NCHS, National Vital Statistics System.

Table 12. Life table for Hispanic females: United States, 2009

Spreadsheet version available from: ftp://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/62_07/Table12.xls.

Age (years)	Probability of dying between ages x and $x + 1$	Number surviving to age x	Number dying between ages x and $x + 1$	Person-years lived between ages x and $x + 1$	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	0.004852	100,000	485	99,577	8,351,451	83.5
1–2	0.000352	99,515	35	99,497	8,251,874	82.9
2–3	0.000232	99,480	23	99,468	8,152,376	82.0
3–4	0.000171	99,457	17	99,448	8,052,908	81.0
4–5	0.000114	99,440	11	99,434	7,953,460	80.0
5–6	0.000130	99,428	13	99,422	7,854,026	79.0
6–7	0.000118	99,415	12	99,409	7,754,604	78.0
7–8	0.000110	99,404	11	99,398	7,655,195	77.0
8–9	0.000104	99,393	10	99,387	7,555,797	76.0
9–10	0.000101	99,382	10	99,377	7,456,409	75.0
10–11	0.000101	99,372	10	99,367	7,357,032	74.0
11–12	0.000107	99,362	11	99,357	7,257,665	73.0
12–13	0.000122	99,352	12	99,346	7,158,308	72.1
13–14	0.000146	99,339	15	99,332	7,058,963	71.1
14–15	0.000177	99,325	18	99,316	6,959,630	70.1
15–16	0.000211	99,307	21	99,297	6,860,314	69.1
16–17	0.000244	99,286	24	99,274	6,761,017	68.1
17–18	0.000271	99,262	27	99,249	6,661,743	67.1
18–19	0.000288	99,235	29	99,221	6,562,494	66.1
19–20	0.000298	99,207	30	99,192	6,463,273	65.1
20–21	0.000307	99,177	30	99,162	6,364,081	64.2
21–22	0.000318	99,147	32	99,131	6,264,919	63.2
22–23	0.000329	99,115	33	99,099	6,165,788	62.2
23–24	0.000342	99,083	34	99,066	6,066,689	61.2
24–25	0.000356	99,049	35	99,031	5,967,624	60.2
25–26	0.000371	99,013	37	98,995	5,868,593	59.3
26–27	0.000385	98,977	38	98,958	5,769,598	58.3
27–28	0.000396	98,939	39	98,919	5,670,640	57.3
28–29	0.000402	98,899	40	98,880	5,571,721	56.3
29–30	0.000407	98,860	40	98,840	5,472,841	55.4
30–31	0.000412	98,819	41	98,799	5,374,002	54.4
31–32	0.000422	98,779	42	98,758	5,275,203	53.4
32–33	0.000443	98,737	44	98,715	5,176,445	52.4
33–34	0.000483	98,693	48	98,670	5,077,730	51.4
34–35	0.000534	98,646	53	98,619	4,979,060	50.5
35–36	0.000594	98,593	59	98,564	4,880,441	49.5
36–37	0.000657	98,534	65	98,502	4,781,877	48.5
37–38	0.000721	98,470	71	98,434	4,683,375	47.6
38–39	0.000785	98,399	77	98,360	4,584,941	46.6
39–40	0.000853	98,321	84	98,279	4,486,581	45.6
40–41	0.000924	98,238	91	98,192	4,388,301	44.7
41–42	0.001008	98,147	99	98,097	4,290,109	43.7
42–43	0.001119	98,048	110	97,993	4,192,012	42.8
43–44	0.001263	97,938	124	97,876	4,094,019	41.8
44–45	0.001431	97,814	140	97,745	3,996,142	40.9
45–46	0.001613	97,675	158	97,596	3,898,398	39.9
46–47	0.001794	97,517	175	97,430	3,800,802	39.0
47–48	0.001968	97,342	192	97,246	3,703,373	38.0
48–49	0.002132	97,150	207	97,047	3,606,126	37.1
49–50	0.002292	96,943	222	96,832	3,509,079	36.2
50–51	0.002467	96,721	239	96,602	3,412,247	35.3
51–52	0.002659	96,483	257	96,354	3,315,645	34.4
52–53	0.002853	96,226	274	96,089	3,219,291	33.5
53–54	0.003042	95,951	292	95,806	3,123,202	32.5
54–55	0.003232	95,660	309	95,505	3,027,397	31.6
55–56	0.003433	95,350	327	95,187	2,931,892	30.7
56–57	0.003662	95,023	348	94,849	2,836,705	29.9
57–58	0.003927	94,675	372	94,489	2,741,856	29.0
58–59	0.004242	94,303	400	94,103	2,647,367	28.1
59–60	0.004608	93,903	433	93,687	2,553,264	27.2
60–61	0.005013	93,471	469	93,236	2,459,577	26.3
61–62	0.005461	93,002	508	92,748	2,366,341	25.4

See footnote at end of table.

Table 12. Life table for Hispanic females: United States, 2009—Con.

Spreadsheet version available from: ftp://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/62_07/Table12.xls.

Age (years)	Probability of dying between ages x and $x + 1$	Number surviving to age x	Number dying between ages x and $x + 1$	Person-years lived between ages x and $x + 1$	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
62–63	0.005976	92,494	553	92,218	2,273,593	24.6
63–64	0.006578	91,941	605	91,639	2,181,375	23.7
64–65	0.007276	91,337	665	91,004	2,089,736	22.9
65–66	0.008098	90,672	734	90,305	1,998,731	22.0
66–67	0.009020	89,938	811	89,532	1,908,427	21.2
67–68	0.009973	89,127	889	88,682	1,818,894	20.4
68–69	0.010888	88,238	961	87,757	1,730,212	19.6
69–70	0.011779	87,277	1,028	86,763	1,642,455	18.8
70–71	0.012683	86,249	1,094	85,702	1,555,692	18.0
71–72	0.013719	85,155	1,168	84,571	1,469,990	17.3
72–73	0.014986	83,987	1,259	83,357	1,385,419	16.5
73–74	0.016594	82,728	1,373	82,042	1,302,061	15.7
74–75	0.018528	81,355	1,507	80,602	1,220,020	15.0
75–76	0.020615	79,848	1,646	79,025	1,139,418	14.3
76–77	0.022778	78,202	1,781	77,311	1,060,393	13.6
77–78	0.025213	76,421	1,927	75,457	983,082	12.9
78–79	0.027999	74,494	2,086	73,451	907,624	12.2
79–80	0.031098	72,408	2,252	71,282	834,173	11.5
80–81	0.034400	70,156	2,413	68,950	762,891	10.9
81–82	0.037997	67,743	2,574	66,456	693,941	10.2
82–83	0.042470	65,169	2,768	63,785	627,485	9.6
83–84	0.047738	62,401	2,979	60,912	563,700	9.0
84–85	0.053614	59,422	3,186	57,829	502,789	8.5
85–86	0.060397	56,236	3,397	54,538	444,959	7.9
86–87	0.068130	52,840	3,600	51,040	390,421	7.4
87–88	0.076565	49,240	3,770	47,355	339,381	6.9
88–89	0.085879	45,470	3,905	43,517	292,026	6.4
89–90	0.096126	41,565	3,995	39,567	248,509	6.0
90–91	0.107347	37,570	4,033	35,553	208,942	5.6
91–92	0.119577	33,537	4,010	31,531	173,389	5.2
92–93	0.132837	29,526	3,922	27,565	141,857	4.8
93–94	0.147132	25,604	3,767	23,721	114,292	4.5
94–95	0.162450	21,837	3,547	20,063	90,571	4.1
95–96	0.178756	18,290	3,269	16,655	70,508	3.9
96–97	0.195994	15,020	2,944	13,548	53,853	3.6
97–98	0.214084	12,076	2,585	10,784	40,305	3.3
98–99	0.232921	9,491	2,211	8,386	29,521	3.1
99–100	0.252380	7,280	1,837	6,362	21,136	2.9
100 and over	1.000000	5,443	5,443	14,774	14,774	2.7

SOURCE: CDC/NCHS, National Vital Statistics System.

Table 13. Life table for the non-Hispanic white population: United States, 2009

Spreadsheet version available from: ftp://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/62_07/Table13.xls.

Age (years)	Probability of dying between ages x and $x + 1$	Number surviving to age x	Number dying between ages x and $x + 1$	Person-years lived between ages x and $x + 1$	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	0.005310	100,000	531	99,538	7,870,938	78.7
1–2	0.000365	99,469	36	99,451	7,771,401	78.1
2–3	0.000245	99,433	24	99,421	7,671,950	77.2
3–4	0.000194	99,408	19	99,399	7,572,529	76.2
4–5	0.000153	99,389	15	99,382	7,473,130	75.2
5–6	0.000133	99,374	13	99,367	7,373,749	74.2
6–7	0.000118	99,361	12	99,355	7,274,381	73.2
7–8	0.000106	99,349	11	99,344	7,175,027	72.2
8–9	0.000093	99,338	9	99,334	7,075,683	71.2
9–10	0.000080	99,329	8	99,325	6,976,349	70.2
10–11	0.000071	99,321	7	99,318	6,877,024	69.2
11–12	0.000078	99,314	8	99,310	6,777,706	68.2
12–13	0.000109	99,306	11	99,301	6,678,396	67.3
13–14	0.000171	99,296	17	99,287	6,579,095	66.3
14–15	0.000252	99,279	25	99,266	6,479,808	65.3
15–16	0.000337	99,254	33	99,237	6,380,542	64.3
16–17	0.000417	99,220	41	99,199	6,281,305	63.3
17–18	0.000495	99,179	49	99,154	6,182,106	62.3
18–19	0.000569	99,130	56	99,101	6,082,951	61.4
19–20	0.000640	99,073	63	99,041	5,983,850	60.4
20–21	0.000714	99,010	71	98,974	5,884,809	59.4
21–22	0.000785	98,939	78	98,900	5,785,834	58.5
22–23	0.000838	98,861	83	98,820	5,686,934	57.5
23–24	0.000868	98,779	86	98,736	5,588,114	56.6
24–25	0.000881	98,693	87	98,649	5,489,378	55.6
25–26	0.000889	98,606	88	98,562	5,390,729	54.7
26–27	0.000901	98,518	89	98,474	5,292,167	53.7
27–28	0.000917	98,429	90	98,384	5,193,693	52.8
28–29	0.000941	98,339	93	98,293	5,095,308	51.8
29–30	0.000973	98,247	96	98,199	4,997,016	50.9
30–31	0.001014	98,151	100	98,101	4,898,817	49.9
31–32	0.001061	98,052	104	98,000	4,800,715	49.0
32–33	0.001112	97,948	109	97,893	4,702,716	48.0
33–34	0.001156	97,839	113	97,782	4,604,823	47.1
34–35	0.001202	97,726	118	97,667	4,507,041	46.1
35–36	0.001259	97,608	123	97,547	4,409,374	45.2
36–37	0.001330	97,485	130	97,420	4,311,827	44.2
37–38	0.001413	97,355	138	97,287	4,214,407	43.3
38–39	0.001511	97,218	147	97,144	4,117,120	42.3
39–40	0.001627	97,071	158	96,992	4,019,976	41.4
40–41	0.001756	96,913	170	96,828	3,922,984	40.5
41–42	0.001904	96,743	184	96,651	3,826,156	39.5
42–43	0.002084	96,559	201	96,458	3,729,505	38.6
43–44	0.002296	96,357	221	96,247	3,633,047	37.7
44–45	0.002526	96,136	243	96,015	3,536,800	36.8
45–46	0.002752	95,893	264	95,761	3,440,785	35.9
46–47	0.002980	95,629	285	95,487	3,345,024	35.0
47–48	0.003232	95,344	308	95,190	3,249,537	34.1
48–49	0.003521	95,036	335	94,869	3,154,346	33.2
49–50	0.003845	94,702	364	94,520	3,059,477	32.3
50–51	0.004200	94,338	396	94,139	2,964,958	31.4
51–52	0.004562	93,941	429	93,727	2,870,818	30.6
52–53	0.004920	93,513	460	93,283	2,777,091	29.7
53–54	0.005264	93,053	490	92,808	2,683,809	28.8
54–55	0.005608	92,563	519	92,303	2,591,001	28.0
55–56	0.005973	92,044	550	91,769	2,498,698	27.1
56–57	0.006387	91,494	584	91,202	2,406,929	26.3
57–58	0.006858	90,910	623	90,598	2,315,727	25.5
58–59	0.007396	90,286	668	89,952	2,225,129	24.6
59–60	0.007993	89,618	716	89,260	2,135,177	23.8
60–61	0.008640	88,902	768	88,518	2,045,917	23.0
61–62	0.009331	88,134	822	87,723	1,957,399	22.2

See footnote at end of table.

Table 13. Life table for the non-Hispanic white population: United States, 2009—Con.

Spreadsheet version available from: ftp://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/62_07/Table13.xls.

Age (years)	Probability of dying between ages x and $x + 1$	Number surviving to age x	Number dying between ages x and $x + 1$	Person-years lived between ages x and $x + 1$	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
62–63	0.010077	87,312	880	86,872	1,869,676	21.4
63–64	0.010902	86,432	942	85,961	1,782,804	20.6
64–65	0.011832	85,489	1,012	84,984	1,696,844	19.8
65–66	0.012923	84,478	1,092	83,932	1,611,860	19.1
66–67	0.014154	83,386	1,180	82,796	1,527,928	18.3
67–68	0.015463	82,206	1,271	81,570	1,445,132	17.6
68–69	0.016810	80,935	1,361	80,255	1,363,562	16.8
69–70	0.018204	79,574	1,449	78,850	1,283,307	16.1
70–71	0.019780	78,126	1,545	77,353	1,204,457	15.4
71–72	0.021603	76,580	1,654	75,753	1,127,104	14.7
72–73	0.023629	74,926	1,770	74,041	1,051,351	14.0
73–74	0.025966	73,156	1,900	72,206	977,310	13.4
74–75	0.028541	71,256	2,034	70,239	905,104	12.7
75–76	0.031167	69,222	2,157	68,144	834,864	12.1
76–77	0.034091	67,065	2,286	65,922	766,721	11.4
77–78	0.037561	64,779	2,433	63,562	700,799	10.8
78–79	0.041526	62,345	2,589	61,051	637,237	10.2
79–80	0.045818	59,756	2,738	58,388	576,186	9.6
80–81	0.050483	57,019	2,878	55,579	517,798	9.1
81–82	0.055518	54,140	3,006	52,637	462,219	8.5
82–83	0.061433	51,134	3,141	49,564	409,582	8.0
83–84	0.068184	47,993	3,272	46,357	360,018	7.5
84–85	0.075721	44,721	3,386	43,027	313,661	7.0
85–86	0.084742	41,334	3,503	39,583	270,634	6.5
86–87	0.094419	37,832	3,572	36,046	231,051	6.1
87–88	0.105002	34,260	3,597	32,461	195,006	5.7
88–89	0.116529	30,662	3,573	28,876	162,545	5.3
89–90	0.129032	27,089	3,495	25,341	133,669	4.9
90–91	0.142528	23,594	3,363	21,912	108,328	4.6
91–92	0.157023	20,231	3,177	18,643	86,415	4.3
92–93	0.172507	17,054	2,942	15,583	67,772	4.0
93–94	0.188952	14,112	2,667	12,779	52,189	3.7
94–95	0.206311	11,446	2,361	10,265	39,410	3.4
95–96	0.224514	9,084	2,040	8,065	29,145	3.2
96–97	0.243474	7,045	1,715	6,187	21,081	3.0
97–98	0.263083	5,330	1,402	4,629	14,893	2.8
98–99	0.283214	3,927	1,112	3,371	10,265	2.6
99–100	0.303726	2,815	855	2,388	6,894	2.4
100 and over	1.000000	1,960	1,960	4,506	4,506	2.3

SOURCE: CDC/NCHS, National Vital Statistics System.

Table 14. Life table for non-Hispanic white males: United States, 2009

Spreadsheet version available from: ftp://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/62_07/Table14.xls.

Age (years)	Probability of dying between ages x and $x + 1$	Number surviving to age x	Number dying between ages x and $x + 1$	Person-years lived between ages x and $x + 1$	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	0.005824	100,000	582	99,495	7,628,853	76.3
1–2	0.000365	99,418	41	99,397	7,529,358	75.7
2–3	0.000265	99,377	26	99,363	7,429,961	74.8
3–4	0.000224	99,350	22	99,339	7,330,598	73.8
4–5	0.000173	99,328	17	99,319	7,231,258	72.8
5–6	0.000152	99,311	15	99,303	7,131,939	71.8
6–7	0.000136	99,296	14	99,289	7,032,636	70.8
7–8	0.000122	99,282	12	99,276	6,933,347	69.8
8–9	0.000104	99,270	10	99,265	6,834,070	68.8
9–10	0.000084	99,260	8	99,256	6,734,806	67.9
10–11	0.000070	99,251	7	99,248	6,635,550	66.9
11–12	0.000076	99,245	8	99,241	6,536,302	65.9
12–13	0.000118	99,237	12	99,231	6,437,061	64.9
13–14	0.000202	99,225	20	99,215	6,337,830	63.9
14–15	0.000314	99,205	31	99,190	6,238,615	62.9
15–16	0.000429	99,174	43	99,153	6,139,425	61.9
16–17	0.000538	99,132	53	99,105	6,040,272	60.9
17–18	0.000651	99,078	65	99,046	5,941,167	60.0
18–19	0.000770	99,014	76	98,976	5,842,121	59.0
19–20	0.000890	98,937	88	98,893	5,743,146	58.0
20–21	0.001017	98,849	101	98,799	5,644,252	57.1
21–22	0.001135	98,749	112	98,693	5,545,453	56.2
22–23	0.001219	98,637	120	98,577	5,446,760	55.2
23–24	0.001256	98,517	124	98,455	5,348,184	54.3
24–25	0.001258	98,393	124	98,331	5,249,729	53.4
25–26	0.001250	98,269	123	98,208	5,151,398	52.4
26–27	0.001250	98,146	123	98,085	5,053,190	51.5
27–28	0.001255	98,023	123	97,962	4,955,106	50.6
28–29	0.001274	97,900	125	97,838	4,857,144	49.6
29–30	0.001306	97,776	128	97,712	4,759,306	48.7
30–31	0.001347	97,648	132	97,582	4,661,594	47.7
31–32	0.001393	97,516	136	97,449	4,564,011	46.8
32–33	0.001447	97,381	141	97,310	4,466,563	45.9
33–34	0.001491	97,240	145	97,167	4,369,253	44.9
34–35	0.001542	97,095	150	97,020	4,272,085	44.0
35–36	0.001607	96,945	156	96,867	4,175,065	43.1
36–37	0.001689	96,789	164	96,708	4,078,198	42.1
37–38	0.001784	96,626	172	96,540	3,981,491	41.2
38–39	0.001894	96,453	183	96,362	3,884,951	40.3
39–40	0.002026	96,271	195	96,173	3,788,589	39.4
40–41	0.002173	96,076	209	95,971	3,692,416	38.4
41–42	0.002346	95,867	225	95,754	3,596,445	37.5
42–43	0.002562	95,642	245	95,519	3,500,690	36.6
43–44	0.002820	95,397	269	95,262	3,405,171	35.7
44–45	0.003104	95,128	295	94,980	3,309,908	34.8
45–46	0.003385	94,833	321	94,672	3,214,928	33.9
46–47	0.003669	94,512	347	94,338	3,120,256	33.0
47–48	0.003989	94,165	376	93,977	3,025,918	32.1
48–49	0.004361	93,789	409	93,585	2,931,941	31.3
49–50	0.004781	93,380	446	93,157	2,838,356	30.4
50–51	0.005237	92,934	487	92,690	2,745,199	29.5
51–52	0.005701	92,447	527	92,184	2,652,508	28.7
52–53	0.006166	91,920	567	91,637	2,560,325	27.9
53–54	0.006621	91,353	605	91,051	2,468,688	27.0
54–55	0.007081	90,748	643	90,427	2,377,637	26.2
55–56	0.007573	90,106	682	89,765	2,287,210	25.4
56–57	0.008118	89,424	726	89,061	2,197,445	24.6
57–58	0.008709	88,698	772	88,311	2,108,385	23.8
58–59	0.009347	87,925	822	87,514	2,020,073	23.0
59–60	0.010029	87,103	874	86,666	1,932,559	22.2
60–61	0.010754	86,230	927	85,766	1,845,893	21.4
61–62	0.011534	85,302	984	84,810	1,760,127	20.6

See footnote at end of table.

Table 14. Life table for non-Hispanic white males: United States, 2009—Con.

Spreadsheet version available from: ftp://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/62_07/Table14.xls.

Age (years)	Probability of dying between ages x and $x + 1$	Number surviving to age x	Number dying between ages x and $x + 1$	Person-years lived between ages x and $x + 1$	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
62–63	0.012396	84,319	1,045	83,796	1,675,316	19.9
63–64	0.013380	83,273	1,114	82,716	1,591,520	19.1
64–65	0.014516	82,159	1,193	81,563	1,508,804	18.4
65–66	0.015853	80,966	1,284	80,325	1,427,241	17.6
66–67	0.017352	79,683	1,383	78,991	1,346,917	16.9
67–68	0.018936	78,300	1,483	77,559	1,267,925	16.2
68–69	0.020541	76,817	1,578	76,029	1,190,366	15.5
69–70	0.022174	75,240	1,668	74,405	1,114,338	14.8
70–71	0.024008	73,571	1,766	72,688	1,039,932	14.1
71–72	0.026106	71,805	1,875	70,868	967,244	13.5
72–73	0.028483	69,930	1,992	68,934	896,377	12.8
73–74	0.031290	67,939	2,126	66,876	827,442	12.2
74–75	0.034352	65,813	2,261	64,682	760,567	11.6
75–76	0.037497	63,552	2,383	62,360	695,884	10.9
76–77	0.040988	61,169	2,507	59,915	633,524	10.4
77–78	0.045162	58,662	2,649	57,337	573,609	9.8
78–79	0.049908	56,012	2,795	54,615	516,271	9.2
79–80	0.054996	53,217	2,927	51,754	461,657	8.7
80–81	0.060733	50,290	3,054	48,763	409,903	8.2
81–82	0.066914	47,236	3,161	45,656	361,140	7.6
82–83	0.073865	44,075	3,256	42,447	315,484	7.2
83–84	0.081625	40,820	3,332	39,154	273,037	6.7
84–85	0.090396	37,488	3,389	35,793	233,883	6.2
85–86	0.101406	34,099	3,458	32,370	198,090	5.8
86–87	0.112743	30,641	3,455	28,914	165,720	5.4
87–88	0.125066	27,187	3,400	25,486	136,806	5.0
88–89	0.138399	23,786	3,292	22,140	111,320	4.7
89–90	0.152753	20,494	3,131	18,929	89,179	4.4
90–91	0.168122	17,364	2,919	15,904	70,250	4.0
91–92	0.184482	14,445	2,665	13,112	54,346	3.8
92–93	0.201790	11,780	2,377	10,591	41,234	3.5
93–94	0.219980	9,403	2,068	8,369	30,642	3.3
94–95	0.238968	7,334	1,753	6,458	22,274	3.0
95–96	0.258646	5,582	1,444	4,860	15,816	2.8
96–97	0.278887	4,138	1,154	3,561	10,956	2.6
97–98	0.299549	2,984	894	2,537	7,395	2.5
98–99	0.320478	2,090	670	1,755	4,858	2.3
99–100	0.341508	1,420	485	1,178	3,103	2.2
100 and over	1.000000	935	935	1,925	1,925	2.1

SOURCE: CDC/NCHS, National Vital Statistics System.

Table 15. Life table for non-Hispanic white females: United States, 2009

Spreadsheet version available from: ftp://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/62_07/Table15.xls.

Age (years)	Probability of dying between ages x and $x + 1$	Number surviving to age x	Number dying between ages x and $x + 1$	Person-years lived between ages x and $x + 1$	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	0.004769	100,000	477	99,582	8,105,843	81.1
1–2	0.000315	99,523	31	99,507	8,006,261	80.4
2–3	0.000224	99,492	22	99,481	7,906,754	79.5
3–4	0.000162	99,470	16	99,461	7,906,754	78.5
4–5	0.000132	99,453	13	99,447	7,707,811	77.5
5–6	0.000113	99,440	11	99,435	7,608,365	76.5
6–7	0.000099	99,429	10	99,424	7,508,930	75.5
7–8	0.000090	99,419	9	99,415	7,409,506	74.5
8–9	0.000082	99,410	8	99,406	7,310,091	73.5
9–10	0.000075	99,402	7	99,398	7,210,685	72.5
10–11	0.000072	99,395	7	99,391	7,111,287	71.5
11–12	0.000079	99,387	8	99,384	7,011,896	70.6
12–13	0.000100	99,380	10	99,375	6,912,512	69.6
13–14	0.000139	99,370	14	99,363	6,813,138	68.6
14–15	0.000187	99,356	19	99,347	6,713,775	67.6
15–16	0.000241	99,337	24	99,325	6,614,428	66.6
16–17	0.000290	99,313	29	99,299	6,515,103	65.6
17–18	0.000330	99,285	33	99,268	6,415,804	64.6
18–19	0.000357	99,252	35	99,234	6,316,536	63.6
19–20	0.000376	99,216	37	99,198	6,217,302	62.7
20–21	0.000393	99,179	39	99,160	6,118,104	61.7
21–22	0.000414	99,140	41	99,120	6,018,945	60.7
22–23	0.000436	99,099	43	99,077	5,919,825	59.7
23–24	0.000460	99,056	46	99,033	5,820,748	58.8
24–25	0.000486	99,010	48	98,986	5,721,715	57.8
25–26	0.000513	98,962	51	98,937	5,622,729	56.8
26–27	0.000541	98,911	54	98,884	5,523,792	55.8
27–28	0.000570	98,858	56	98,830	5,424,908	54.9
28–29	0.000600	98,801	59	98,772	5,326,078	53.9
29–30	0.000635	98,742	63	98,711	5,227,306	52.9
30–31	0.000678	98,679	67	98,646	5,128,596	52.0
31–32	0.000728	98,613	72	98,577	5,029,950	51.0
32–33	0.000777	98,541	77	98,503	4,931,373	50.0
33–34	0.000821	98,464	81	98,424	4,832,870	49.1
34–35	0.000862	98,383	85	98,341	4,734,447	48.1
35–36	0.000909	98,299	89	98,254	4,636,106	47.2
36–37	0.000968	98,209	95	98,162	4,537,852	46.2
37–38	0.001038	98,114	102	98,063	4,439,690	45.3
38–39	0.001124	98,012	110	97,957	4,341,626	44.3
39–40	0.001226	97,902	120	97,842	4,243,669	43.3
40–41	0.001337	97,782	131	97,717	4,145,826	42.4
41–42	0.001461	97,652	143	97,580	4,048,110	41.5
42–43	0.001607	97,509	157	97,431	3,950,529	40.5
43–44	0.001773	97,352	173	97,266	3,853,099	39.6
44–45	0.001950	97,180	190	97,085	3,755,833	38.6
45–46	0.002124	96,990	206	96,887	3,658,748	37.7
46–47	0.002297	96,784	222	96,673	3,561,861	36.8
47–48	0.002483	96,562	240	96,442	3,465,188	35.9
48–49	0.002692	96,322	259	96,192	3,368,746	35.0
49–50	0.002923	96,063	281	95,922	3,272,554	34.1
50–51	0.003179	95,782	305	95,630	3,176,631	33.2
51–52	0.003443	95,478	329	95,313	3,081,001	32.3
52–53	0.003698	95,149	352	94,973	2,985,688	31.4
53–54	0.003935	94,797	373	94,610	2,890,716	30.5
54–55	0.004169	94,424	394	94,227	2,796,105	29.6
55–56	0.004416	94,030	415	93,823	2,701,878	28.7
56–57	0.004706	93,615	441	93,395	2,608,055	27.9
57–58	0.005067	93,174	472	92,938	2,514,661	27.0
58–59	0.005516	92,702	511	92,447	2,421,722	26.1
59–60	0.006039	92,191	557	91,913	2,329,276	25.3
60–61	0.006619	91,634	607	91,331	2,237,363	24.4
61–62	0.007234	91,028	658	90,698	2,146,032	23.6

See footnote at end of table.

Table 15. Life table for non-Hispanic white females: United States, 2009—Con.

Spreadsheet version available from: ftp://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/62_07/Table15.xls.

Age (years)	Probability of dying between ages x and $x + 1$	Number surviving to age x	Number dying between ages x and $x + 1$	Person-years lived between ages x and $x + 1$	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
62–63	0.007882	90,369	712	90,013	2,055,333	22.7
63–64	0.008572	89,657	768	89,273	1,965,320	21.9
64–65	0.009330	88,888	829	88,474	1,876,048	21.1
65–66	0.010219	88,059	900	87,609	1,787,574	20.3
66–67	0.011234	87,159	979	86,670	1,699,965	19.5
67–68	0.012325	86,180	1,062	85,649	1,613,295	18.7
68–69	0.013471	85,118	1,147	84,545	1,527,646	17.9
69–70	0.014683	83,971	1,233	83,355	1,443,102	17.2
70–71	0.016066	82,738	1,329	82,074	1,359,747	16.4
71–72	0.017691	81,409	1,440	80,689	1,277,674	15.7
72–73	0.019469	79,969	1,557	79,190	1,196,985	15.0
73–74	0.021474	78,412	1,684	77,570	1,117,795	14.3
74–75	0.023722	76,728	1,820	75,818	1,040,225	13.6
75–76	0.026006	74,908	1,948	73,934	964,407	12.9
76–77	0.028573	72,960	2,085	71,918	890,473	12.2
77–78	0.031607	70,875	2,240	69,755	818,555	11.5
78–79	0.035113	68,635	2,410	67,430	748,800	10.9
79–80	0.038996	66,225	2,583	64,934	681,370	10.3
80–81	0.043106	63,643	2,743	62,271	616,436	9.7
81–82	0.047575	60,899	2,897	59,450	554,165	9.1
82–83	0.053067	58,002	3,078	56,463	494,715	8.5
83–84	0.059512	54,924	3,269	53,290	438,252	8.0
84–85	0.066675	51,655	3,444	49,933	384,963	7.5
85–86	0.074910	48,211	3,611	46,405	335,029	6.9
86–87	0.084255	44,600	3,758	42,721	288,624	6.5
87–88	0.094397	40,842	3,855	38,914	245,903	6.0
88–89	0.105539	36,987	3,904	35,035	206,989	5.6
89–90	0.117726	33,083	3,895	31,136	171,954	5.2
90–91	0.130991	29,188	3,823	27,277	140,819	4.8
91–92	0.145355	25,365	3,687	23,521	113,542	4.5
92–93	0.160821	21,678	3,486	19,935	90,021	4.2
93–94	0.177373	18,192	3,227	16,578	70,086	3.9
94–95	0.194972	14,965	2,918	13,506	53,507	3.6
95–96	0.213555	12,047	2,573	10,761	40,001	3.3
96–97	0.233034	9,475	2,208	8,371	29,240	3.1
97–98	0.253296	7,267	1,841	6,346	20,870	2.9
98–99	0.274207	5,426	1,488	4,682	14,524	2.7
99–100	0.295609	3,938	1,164	3,356	9,841	2.5
100 and over	1.000000	2,774	2,774	6,485	6,485	2.3

SOURCE: CDC/NCHS, National Vital Statistics System.

Table 16. Life table for the non-Hispanic black population: United States, 2009

Spreadsheet version available from: ftp://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/62_07/Table16.xls.

Age (years)	Probability of dying between ages x and $x + 1$	Number surviving to age x	Number dying between ages x and $x + 1$	Person-years lived between ages x and $x + 1$	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	0.012368	100,000	1,237	98,919	7,420,036	74.2
1–2	0.000681	98,763	67	98,730	7,321,116	74.1
2–3	0.000443	98,696	44	98,674	7,222,387	73.2
3–4	0.000327	98,652	32	98,636	7,123,713	72.2
4–5	0.000255	98,620	25	98,607	7,025,077	71.2
5–6	0.000238	98,595	23	98,583	6,926,469	70.3
6–7	0.000211	98,571	21	98,561	6,827,886	69.3
7–8	0.000190	98,551	19	98,541	6,729,325	68.3
8–9	0.000169	98,532	17	98,524	6,630,784	67.3
9–10	0.000150	98,515	15	98,508	6,532,260	66.3
10–11	0.000139	98,500	14	98,494	6,433,753	65.3
11–12	0.000150	98,487	15	98,479	6,335,259	64.3
12–13	0.000197	98,472	19	98,462	6,236,780	63.3
13–14	0.000285	98,452	28	98,438	6,138,318	62.3
14–15	0.000399	98,424	39	98,405	6,039,879	61.4
15–16	0.000513	98,385	50	98,360	5,941,474	60.4
16–17	0.000619	98,335	61	98,304	5,843,114	59.4
17–18	0.000727	98,274	71	98,238	5,744,810	58.5
18–19	0.000839	98,202	82	98,161	5,646,572	57.5
19–20	0.000958	98,120	94	98,073	5,548,411	56.5
20–21	0.001091	98,026	107	97,973	5,450,338	55.6
21–22	0.001222	97,919	120	97,859	5,352,365	54.7
22–23	0.001323	97,800	129	97,735	5,254,506	53.7
23–24	0.001377	97,670	135	97,603	5,156,771	52.8
24–25	0.001394	97,536	136	97,468	5,059,168	51.9
25–26	0.001401	97,400	136	97,331	4,961,700	50.9
26–27	0.001416	97,263	138	97,194	4,864,369	50.0
27–28	0.001441	97,125	140	97,055	4,767,175	49.1
28–29	0.001484	96,985	144	96,914	4,670,119	48.2
29–30	0.001545	96,842	150	96,767	4,573,206	47.2
30–31	0.001619	96,692	157	96,614	4,476,439	46.3
31–32	0.001699	96,535	164	96,453	4,379,825	45.4
32–33	0.001799	96,371	173	96,285	4,283,372	44.4
33–34	0.001862	96,198	179	96,108	4,187,087	43.5
34–35	0.001941	96,019	186	95,926	4,090,979	42.6
35–36	0.002030	95,832	195	95,735	3,995,053	41.7
36–37	0.002139	95,638	205	95,536	3,899,318	40.8
37–38	0.002272	95,433	217	95,325	3,803,782	39.9
38–39	0.002437	95,217	232	95,101	3,708,457	38.9
39–40	0.002635	94,985	250	94,859	3,613,357	38.0
40–41	0.002859	94,734	271	94,599	3,518,497	37.1
41–42	0.003108	94,463	294	94,317	3,423,899	36.2
42–43	0.003386	94,170	319	94,010	3,329,582	35.4
43–44	0.003686	93,851	346	93,678	3,235,572	34.5
44–45	0.004003	93,505	374	93,318	3,141,894	33.6
45–46	0.004317	93,131	402	92,930	3,048,576	32.7
46–47	0.004653	92,729	432	92,513	2,955,646	31.9
47–48	0.005065	92,297	468	92,063	2,863,133	31.0
48–49	0.005586	91,830	513	91,573	2,771,070	30.2
49–50	0.006204	91,317	567	91,034	2,679,496	29.3
50–51	0.006876	90,750	624	90,438	2,588,463	28.5
51–52	0.007564	90,126	682	89,785	2,498,024	27.7
52–53	0.008277	89,445	740	89,074	2,408,239	26.9
53–54	0.009003	88,704	799	88,305	2,319,165	26.1
54–55	0.009749	87,906	857	87,477	2,230,860	25.4
55–56	0.010561	87,049	919	86,589	2,143,382	24.6
56–57	0.011430	86,129	984	85,637	2,056,793	23.9
57–58	0.012294	85,145	1,047	84,622	1,971,156	23.2
58–59	0.013126	84,098	1,104	83,546	1,886,535	22.4
59–60	0.013948	82,994	1,158	82,416	1,802,988	21.7
60–61	0.014824	81,837	1,213	81,230	1,720,573	21.0
61–62	0.015796	80,624	1,274	79,987	1,639,343	20.3

See footnote at end of table.

Table 16. Life table for the non-Hispanic black population: United States, 2009—Con.

Spreadsheet version available from: ftp://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/62_07/Table16.xls.

Age (years)	Probability of dying between ages x and $x + 1$	Number surviving to age x	Number dying between ages x and $x + 1$	Person-years lived between ages x and $x + 1$	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
62–63	0.016842	79,350	1,336	78,682	1,559,356	19.7
63–64	0.017967	78,014	1,402	77,313	1,480,674	19.0
64–65	0.019178	76,612	1,469	75,877	1,403,361	18.3
65–66	0.020510	75,143	1,541	74,372	1,327,484	17.7
66–67	0.021937	73,602	1,615	72,794	1,253,112	17.0
67–68	0.023411	71,987	1,685	71,144	1,180,318	16.4
68–69	0.024893	70,302	1,750	69,427	1,109,173	15.8
69–70	0.026364	68,552	1,807	67,648	1,039,747	15.2
70–71	0.027875	66,744	1,861	65,814	972,099	14.6
71–72	0.029559	64,884	1,918	63,925	906,285	14.0
72–73	0.031300	62,966	1,971	61,980	842,360	13.4
73–74	0.033411	60,995	2,038	59,976	780,379	12.8
74–75	0.035929	58,957	2,118	57,898	720,403	12.2
75–76	0.038702	56,839	2,200	55,739	662,505	11.7
76–77	0.041601	54,639	2,273	53,503	606,766	11.1
77–78	0.044561	52,366	2,333	51,199	553,263	10.6
78–79	0.048404	50,033	2,422	48,822	502,064	10.0
79–80	0.053045	47,611	2,526	46,348	453,242	9.5
80–81	0.057330	45,085	2,585	43,793	406,894	9.0
81–82	0.062076	42,501	2,638	41,181	363,101	8.5
82–83	0.068562	39,862	2,733	38,496	321,920	8.1
83–84	0.074950	37,129	2,783	35,738	283,424	7.6
84–85	0.081158	34,346	2,787	32,953	247,686	7.2
85–86	0.089865	31,559	2,836	30,141	214,733	6.8
86–87	0.097562	28,723	2,802	27,322	184,592	6.4
87–88	0.105797	25,921	2,742	24,549	157,270	6.1
88–89	0.114587	23,178	2,656	21,850	132,721	5.7
89–90	0.123947	20,522	2,544	19,251	110,871	5.4
90–91	0.133885	17,979	2,407	16,775	91,620	5.1
91–92	0.144408	15,572	2,249	14,447	74,845	4.8
92–93	0.155516	13,323	2,072	12,287	60,398	4.5
93–94	0.167206	11,251	1,881	10,310	48,111	4.3
94–95	0.179466	9,370	1,682	8,529	37,800	4.0
95–96	0.192279	7,688	1,478	6,949	29,271	3.8
96–97	0.205620	6,210	1,277	5,571	22,322	3.6
97–98	0.219459	4,933	1,083	4,392	16,751	3.4
98–99	0.233757	3,850	900	3,400	12,359	3.2
99–100	0.248469	2,950	733	2,584	8,959	3.0
100 and over	1.000000	2,217	2,217	6,375	6,375	2.9

SOURCE: CDC/NCHS, National Vital Statistics System.

Table 17. Life table for non-Hispanic black males: United States, 2009

Spreadsheet version available from: ftp://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/62_07/Table17.xls.

Age (years)	Probability of dying between ages x and $x + 1$	Number surviving to age x	Number dying between ages x and $x + 1$	Person-years lived between ages x and $x + 1$	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	0.013788	100,000	1,379	98,791	7,070,649	70.7
1–2	0.000688	98,621	68	98,587	6,971,859	70.7
2–3	0.000506	98,553	50	98,528	6,873,271	69.7
3–4	0.000331	98,503	33	98,487	6,774,743	68.8
4–5	0.000249	98,471	25	98,459	6,676,256	67.8
5–6	0.000255	98,446	25	98,434	6,577,797	66.8
6–7	0.000234	98,421	23	98,410	6,479,363	65.8
7–8	0.000213	98,398	21	98,388	6,380,954	64.8
8–9	0.000184	98,377	18	98,368	6,282,566	63.9
9–10	0.000149	98,359	15	98,352	6,184,198	62.9
10–11	0.000121	98,344	12	98,338	6,085,846	61.9
11–12	0.000129	98,333	13	98,326	5,987,508	60.9
12–13	0.000201	98,320	20	98,310	5,889,181	59.9
13–14	0.000349	98,300	34	98,283	5,790,871	58.9
14–15	0.000543	98,266	53	98,239	5,692,588	57.9
15–16	0.000738	98,212	73	98,176	5,594,349	57.0
16–17	0.000915	98,140	90	98,095	5,496,173	56.0
17–18	0.001089	98,050	107	97,997	5,398,078	55.1
18–19	0.001264	97,943	124	97,881	5,300,081	54.1
19–20	0.001443	97,820	141	97,749	5,202,200	53.2
20–21	0.001642	97,678	160	97,598	5,104,451	52.3
21–22	0.001837	97,518	179	97,428	5,006,853	51.3
22–23	0.001980	97,339	193	97,242	4,909,425	50.4
23–24	0.002042	97,146	198	97,047	4,812,182	49.5
24–25	0.002042	96,948	198	96,849	4,715,135	48.6
25–26	0.002019	96,750	195	96,652	4,618,287	47.7
26–27	0.002010	96,554	194	96,457	4,521,635	46.8
27–28	0.002020	96,360	195	96,263	4,425,177	45.9
28–29	0.002065	96,166	199	96,066	4,328,915	45.0
29–30	0.002143	95,967	206	95,864	4,232,848	44.1
30–31	0.002239	95,761	214	95,654	4,136,984	43.2
31–32	0.002337	95,547	223	95,435	4,041,330	42.3
32–33	0.002466	95,324	235	95,206	3,945,895	41.4
33–34	0.002518	95,089	239	94,969	3,850,689	40.5
34–35	0.002595	94,849	246	94,726	3,755,720	39.6
35–36	0.002682	94,603	254	94,476	3,660,994	38.7
36–37	0.002794	94,349	264	94,217	3,566,518	37.8
37–38	0.002934	94,086	276	93,948	3,472,300	36.9
38–39	0.003112	93,810	292	93,664	3,378,353	36.0
39–40	0.003329	93,518	311	93,362	3,284,689	35.1
40–41	0.003584	93,206	334	93,039	3,191,327	34.2
41–42	0.003869	92,872	359	92,693	3,098,288	33.4
42–43	0.004185	92,513	387	92,319	3,005,595	32.5
43–44	0.004523	92,126	417	91,918	2,913,276	31.6
44–45	0.004884	91,709	448	91,485	2,821,358	30.8
45–46	0.005242	91,261	478	91,022	2,729,873	29.9
46–47	0.005642	90,783	512	90,527	2,638,851	29.1
47–48	0.006163	90,271	556	89,993	2,548,324	28.2
48–49	0.006855	89,714	615	89,407	2,458,331	27.4
49–50	0.007699	89,099	686	88,756	2,368,924	26.6
50–51	0.008620	88,413	762	88,032	2,280,168	25.8
51–52	0.009562	87,651	838	87,232	2,192,136	25.0
52–53	0.010560	86,813	917	86,355	2,104,904	24.2
53–54	0.011606	85,896	997	85,398	2,018,549	23.5
54–55	0.012704	84,899	1,079	84,360	1,933,151	22.8
55–56	0.013917	83,821	1,167	83,238	1,848,791	22.1
56–57	0.015210	82,654	1,257	82,026	1,765,553	21.4
57–58	0.016460	81,397	1,340	80,727	1,683,527	20.7
58–59	0.017597	80,057	1,409	79,353	1,602,800	20.0
59–60	0.018655	78,649	1,467	77,915	1,523,447	19.4
60–61	0.019749	77,181	1,524	76,419	1,445,532	18.7
61–62	0.020970	75,657	1,587	74,864	1,369,113	18.1

See footnote at end of table.

Table 17. Life table for non-Hispanic black males: United States, 2009—Con.

Spreadsheet version available from: ftp://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/62_07/Table17.xls.

Age (years)	Probability of dying between ages x and $x + 1$	Number surviving to age x	Number dying between ages x and $x + 1$	Person-years lived between ages x and $x + 1$	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
62–63	0.022289	74,071	1,651	73,245	1,294,249	17.5
63–64	0.023737	72,420	1,719	71,560	1,221,004	16.9
64–65	0.025318	70,701	1,790	69,806	1,149,444	16.3
65–66	0.027068	68,911	1,865	67,978	1,079,638	15.7
66–67	0.028909	67,045	1,938	66,076	1,011,660	15.1
67–68	0.030709	65,107	1,999	64,107	945,584	14.5
68–69	0.032470	63,108	2,049	62,083	881,477	14.0
69–70	0.034194	61,059	2,088	60,015	819,393	13.4
70–71	0.035732	58,971	2,107	57,917	759,379	12.9
71–72	0.037432	56,864	2,129	55,799	701,461	12.3
72–73	0.039432	54,735	2,158	53,656	645,662	11.8
73–74	0.042080	52,577	2,212	51,471	592,006	11.3
74–75	0.045148	50,364	2,274	49,227	540,535	10.7
75–76	0.048581	48,091	2,336	46,922	491,308	10.2
76–77	0.052665	45,754	2,410	44,549	444,385	9.7
77–78	0.056475	43,345	2,448	42,121	399,836	9.2
78–79	0.061092	40,897	2,498	39,648	357,715	8.7
79–80	0.066729	38,398	2,562	37,117	318,068	8.3
80–81	0.071569	35,836	2,565	34,554	280,951	7.8
81–82	0.077092	33,271	2,565	31,989	246,397	7.4
82–83	0.084963	30,706	2,609	29,402	214,408	7.0
83–84	0.093643	28,097	2,631	26,782	185,006	6.6
84–85	0.101743	25,466	2,591	24,171	158,225	6.2
85–86	0.110409	22,875	2,526	21,612	134,054	5.9
86–87	0.119657	20,350	2,435	19,132	112,441	5.5
87–88	0.129499	17,915	2,320	16,755	93,309	5.2
88–89	0.139944	15,595	2,182	14,504	76,555	4.9
89–90	0.150994	13,412	2,025	12,400	62,051	4.6
90–91	0.162647	11,387	1,852	10,461	49,651	4.4
91–92	0.174895	9,535	1,668	8,701	39,190	4.1
92–93	0.187721	7,867	1,477	7,129	30,489	3.9
93–94	0.201103	6,391	1,285	5,748	23,360	3.7
94–95	0.215011	5,105	1,098	4,557	17,612	3.4
95–96	0.229407	4,008	919	3,548	13,056	3.3
96–97	0.244246	3,088	754	2,711	9,508	3.1
97–98	0.259475	2,334	606	2,031	6,796	2.9
98–99	0.275035	1,728	475	1,491	4,765	2.8
99–100	0.290861	1,253	364	1,071	3,275	2.6
100 and over	1.000000	889	889	2,204	2,204	2.5

SOURCE: CDC/NCHS, National Vital Statistics System.

Table 18. Life table for non-Hispanic black females: United States, 2009

Spreadsheet version available from: ftp://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/62_07/Table18.xls.

Age (years)	Probability of dying between ages x and $x + 1$	Number surviving to age x	Number dying between ages x and $x + 1$	Person-years lived between ages x and $x + 1$	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	0.010898	100,000	1,090	99,052	7,737,833	77.4
1–2	0.000647	98,910	64	98,878	7,638,781	77.2
2–3	0.000359	98,846	36	98,828	7,539,903	76.3
3–4	0.000309	98,811	31	98,795	7,441,074	75.3
4–5	0.000251	98,780	25	98,768	7,342,279	74.3
5–6	0.000211	98,755	21	98,745	7,243,511	73.3
6–7	0.000180	98,735	18	98,726	7,144,766	72.4
7–8	0.000159	98,717	16	98,709	7,046,040	71.4
8–9	0.000147	98,701	15	98,694	6,947,331	70.4
9–10	0.000144	98,687	14	98,679	6,848,638	69.4
10–11	0.000148	98,672	15	98,665	6,749,958	68.4
11–12	0.000161	98,658	16	98,650	6,651,293	67.4
12–13	0.000182	98,642	18	98,633	6,552,643	66.4
13–14	0.000211	98,624	21	98,614	6,454,010	65.4
14–15	0.000243	98,603	24	98,591	6,355,397	64.5
15–16	0.000278	98,579	27	98,565	6,256,806	63.5
16–17	0.000314	98,552	31	98,536	6,158,240	62.5
17–18	0.000354	98,521	35	98,503	6,059,704	61.5
18–19	0.000403	98,486	40	98,466	5,961,200	60.5
19–20	0.000459	98,446	45	98,424	5,862,734	59.6
20–21	0.000523	98,401	51	98,375	5,764,311	58.6
21–22	0.000588	98,350	58	98,321	5,665,935	57.6
22–23	0.000649	98,292	64	98,260	5,567,614	56.6
23–24	0.000697	98,228	68	98,194	5,469,354	55.7
24–25	0.000736	98,160	72	98,124	5,371,161	54.7
25–26	0.000775	98,087	76	98,049	5,273,037	53.8
26–27	0.000819	98,011	80	97,971	5,174,988	52.8
27–28	0.000865	97,931	85	97,889	5,077,016	51.8
28–29	0.000913	97,846	89	97,802	4,979,128	50.9
29–30	0.000968	97,757	95	97,710	4,881,326	49.9
30–31	0.001032	97,662	101	97,612	4,783,616	49.0
31–32	0.001105	97,562	108	97,508	4,686,004	48.0
32–33	0.001192	97,454	116	97,396	4,588,496	47.1
33–34	0.001266	97,338	123	97,276	4,491,100	46.1
34–35	0.001351	97,214	131	97,149	4,393,824	45.2
35–36	0.001444	97,083	140	97,013	4,296,676	44.3
36–37	0.001552	96,943	150	96,868	4,199,663	43.3
37–38	0.001680	96,792	163	96,711	4,102,795	42.4
38–39	0.001834	96,630	177	96,541	4,006,084	41.5
39–40	0.002016	96,453	194	96,355	3,909,542	40.5
40–41	0.002215	96,258	213	96,152	3,813,187	39.6
41–42	0.002433	96,045	234	95,928	3,717,036	38.7
42–43	0.002678	95,811	257	95,683	3,621,108	37.8
43–44	0.002948	95,555	282	95,414	3,525,425	36.9
44–45	0.003232	95,273	308	95,119	3,430,011	36.0
45–46	0.003512	94,965	333	94,798	3,334,892	35.1
46–47	0.003798	94,632	359	94,452	3,240,093	34.2
47–48	0.004120	94,272	388	94,078	3,145,642	33.4
48–49	0.004497	93,884	422	93,673	3,051,564	32.5
49–50	0.004927	93,462	460	93,231	2,957,891	31.6
50–51	0.005394	93,001	502	92,750	2,864,660	30.8
51–52	0.005871	92,499	543	92,228	2,771,909	30.0
52–53	0.006349	91,956	584	91,664	2,679,681	29.1
53–54	0.006816	91,373	623	91,061	2,588,017	28.3
54–55	0.007282	90,750	661	90,419	2,496,956	27.5
55–56	0.007779	90,089	701	89,739	2,406,537	26.7
56–57	0.008321	89,388	744	89,016	2,316,798	25.9
57–58	0.008894	88,644	788	88,250	2,227,782	25.1
58–59	0.009503	87,856	835	87,438	2,139,532	24.4
59–60	0.010158	87,021	884	86,579	2,052,093	23.6
60–61	0.010885	86,137	938	85,668	1,965,514	22.8
61–62	0.011690	85,199	996	84,702	1,879,846	22.1

See footnote at end of table.

Table 18. Life table for non-Hispanic black females: United States, 2009—Con.

Spreadsheet version available from: ftp://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/62_07/Table18.xls.

Age (years)	Probability of dying between ages x and $x + 1$	Number surviving to age x	Number dying between ages x and $x + 1$	Person-years lived between ages x and $x + 1$	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
62–63	0.012556	84,204	1,057	83,675	1,795,144	21.3
63–64	0.013473	83,146	1,120	82,586	1,711,469	20.6
64–65	0.014451	82,026	1,185	81,433	1,628,883	19.9
65–66	0.015530	80,841	1,255	80,213	1,547,450	19.1
66–67	0.016706	79,585	1,330	78,920	1,467,237	18.4
67–68	0.017997	78,256	1,408	77,551	1,388,317	17.7
68–69	0.019323	76,847	1,485	76,105	1,310,765	17.1
69–70	0.020640	75,362	1,555	74,585	1,234,660	16.4
70–71	0.022165	73,807	1,636	72,989	1,160,076	15.7
71–72	0.023879	72,171	1,723	71,309	1,087,087	15.1
72–73	0.025498	70,448	1,796	69,550	1,015,777	14.4
73–74	0.027328	68,651	1,876	67,713	946,228	13.8
74–75	0.029583	66,775	1,975	65,788	878,514	13.2
75–76	0.032060	64,800	2,077	63,761	812,727	12.5
76–77	0.034330	62,722	2,153	61,646	748,965	11.9
77–78	0.036954	60,569	2,238	59,450	687,319	11.3
78–79	0.040565	58,331	2,366	57,148	627,869	10.8
79–80	0.044849	55,965	2,510	54,710	570,722	10.2
80–81	0.049137	53,455	2,627	52,141	516,012	9.7
81–82	0.053775	50,828	2,733	49,462	463,870	9.1
82–83	0.059824	48,095	2,877	46,656	414,409	8.6
83–84	0.065791	45,218	2,975	43,730	367,752	8.1
84–85	0.071683	42,243	3,028	40,729	324,022	7.7
85–86	0.078981	39,215	3,097	37,666	283,294	7.2
86–87	0.086578	36,117	3,127	34,554	245,628	6.8
87–88	0.094788	32,990	3,127	31,427	211,074	6.4
88–89	0.103637	29,863	3,095	28,316	179,647	6.0
89–90	0.113149	26,768	3,029	25,254	151,331	5.7
90–91	0.123343	23,740	2,928	22,275	126,077	5.3
91–92	0.134232	20,811	2,794	19,415	103,802	5.0
92–93	0.145825	18,018	2,627	16,704	84,387	4.7
93–94	0.158122	15,390	2,434	14,174	67,683	4.4
94–95	0.171114	12,957	2,217	11,848	53,509	4.1
95–96	0.184787	10,740	1,985	9,747	41,661	3.9
96–97	0.199113	8,755	1,743	7,884	31,913	3.6
97–98	0.214056	7,012	1,501	6,261	24,030	3.4
98–99	0.229570	5,511	1,265	4,878	17,768	3.2
99–100	0.245598	4,246	1,043	3,724	12,890	3.0
100 and over	1.000000	3,203	3,203	9,166	9,166	2.9

SOURCE: CDC/NCHS, National Vital Statistics System.

Table 19. Estimated life expectancy at birth, in years, by race and sex: Death-registration states, 1900–1928, and United States, 1929–2009

Spreadsheet version available from: ftp://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/62_07/Table19.xls.

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

Area and year	All races			White			Black[1]		
	Both sexes	Male	Female	Both sexes	Male	Female	Both sexes	Male	Female
United States[2]									
2009[3]	78.5	76.0	80.9	78.8	76.4	81.2	74.5	71.1	77.6
2008[3]	78.1	75.6	80.6	78.5	76.1	80.9	74.0	70.6	77.2
2007	77.9	75.4	80.4	78.4	75.9	80.8	73.6	70.0	76.8
2006	77.7	75.1	80.2	78.2	75.7	80.6	73.2	69.7	76.5
2005	77.4	74.9	79.9	77.9	75.4	80.4	72.8	69.3	76.1
2004	77.5	74.9	79.9	77.9	75.4	80.4	72.8	69.3	76.0
2003	77.1	74.5	79.6	77.6	75.0	80.0	72.3	68.8	75.6
2002	76.9	74.3	79.5	77.4	74.9	79.9	72.1	68.6	75.4
2001	76.9	74.2	79.4	77.4	74.8	79.9	72.0	68.4	75.2
2000	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[4]	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[5]	69.9	66.6	73.4	70.8	67.4	74.4	63.7	61.0	66.6
1962[5]	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

See footnotes at end of table.

Table 19. Estimated life expectancy at birth, in years, by race and sex: Death-registration states, 1900–1928, and United States, 1929–2009—Con.

Spreadsheet version available from: ftp://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/62_07/Table19.xls.

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

Area and year	All races			White			Black[1]		
	Both sexes	Male	Female	Both sexes	Male	Female	Both sexes	Male	Female
1950	68.2	65.6	71.1	69.1	66.5	72.2	60.8	59.1	62.9
United States[2]—Con.									
1949	68.0	65.2	70.7	68.8	66.2	71.9	60.6	58.9	62.7
1948	67.2	64.6	69.9	68.0	65.5	71.0	60.0	58.1	62.5
1947	66.8	64.4	69.7	67.6	65.2	70.5	59.7	57.9	61.9
1946	66.7	64.4	69.4	67.5	65.1	70.3	59.1	57.5	61.0
1945	65.9	63.6	67.9	66.8	64.4	69.5	57.7	56.1	59.6
1944	65.2	63.6	66.8	66.2	64.5	68.4	56.6	55.8	57.7
1943	63.3	62.4	64.4	64.2	63.2	65.7	55.6	55.4	56.1
1942	66.2	64.7	67.9	67.3	65.9	69.4	56.6	55.4	58.2
1941	64.8	63.1	66.8	66.2	64.4	68.5	53.8	52.5	55.3
1940	62.9	60.8	65.2	64.2	62.1	66.6	53.1	51.5	54.9
1939	63.7	62.1	65.4	64.9	63.3	66.6	54.5	53.2	56.0
1938	63.5	61.9	65.3	65.0	63.2	66.8	52.9	51.7	54.3
1937	60.0	58.0	62.4	61.4	59.3	63.8	50.3	48.3	52.5
1936	58.5	56.6	60.6	59.8	58.0	61.9	49.0	47.0	51.4
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

[1]Prior to 1970, data for the black population are not available. Data shown for 1900–1969 are for the nonwhite population; see Technical Notes.

[2]Alaska included in 1959 and Hawaii included in 1960.

[3]Life expectancies for 2008 and 2009 were calculated using a revised methodology described in Technical Notes.

[4]Deaths based on a 50% sample.

[5]Figures by race exclude data for residents of New Jersey; see Technical Notes.

SOURCE: CDC/NCHS, National Vital Statistics System.

Table 20. Survivorship by age, race, and sex: Death-registration states, 1900–1902 to 1919–1921, and United States, 1929–1931 to 2009

Spreadsheet version available from: ftp://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/62_07/Table20.xls.

[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; 1919–1921, 34 states and the District of Columbia. Beginning 1970 excludes deaths of nonresidents of the United States; see Technical Notes]

Age (years), race, and sex	Number of survivors out of 100,000 born alive (l_x)											
	2009	1999–2001	1989–1991	1979–1981	1969–1971	1959–1961	1949–1951	1939–1941	1929–1931	1919–1921	1909–1911	1900–1902
All races												
0	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000
1	99,363	99,305	99,064	98,740	97,998	97,407	97,024	95,290	94,028	92,515	88,538	87,552
5	99,259	99,176	98,877	98,495	97,668	96,998	96,482	94,220	91,978	83,389	83,887	81,804
10	99,198	99,097	98,766	98,347	97,460	96,765	96,177	93,710	91,106	88,129	82,458	80,052
15	99,121	98,998	98,635	98,196	97,261	96,551	95,885	93,235	90,385	87,144	81,506	78,963
20	98,857	98,664	98,215	97,741	96,716	96,111	95,366	92,435	89,089	85,441	80,074	77,239
25	98,424	98,203	97,671	97,110	96,000	95,517	94,676	91,335	87,269	83,146	78,046	74,768
30	97,957	97,751	97,070	96,477	95,307	94,905	93,919	90,078	85,302	80,642	75,779	72,043
35	97,419	97,201	96,322	95,808	94,482	94,144	92,976	88,573	83,118	77,961	73,127	69,078
40	96,722	96,422	95,373	94,926	93,322	93,064	91,648	86,650	80,557	75,114	70,042	65,890
45	95,690	95,274	94,154	93,599	91,587	91,378	89,634	84,069	77,343	72,036	66,561	62,436
50	94,103	93,601	92,370	91,526	88,972	88,756	86,591	80,487	73,321	68,429	62,460	58,514
55	91,723	91,232	89,658	88,348	85,110	84,711	82,176	75,557	68,182	63,947	57,555	53,852
60	88,439	87,642	85,537	83,726	79,529	79,067	75,921	68,924	61,563	58,079	51,138	47,946
65	83,895	82,330	79,519	77,107	71,933	71,147	67,555	60,366	53,195	50,560	43,194	40,911
70	77,474	74,891	71,357	68,248	61,984	60,857	56,987	49,655	42,768	41,090	33,816	32,390
75	68,621	64,644	60,449	56,799	49,705	48,170	43,903	36,735	30,789	29,729	23,552	22,960
80	56,572	50,885	47,084	43,180	35,285	33,576	29,313	22,883	18,580	18,298	13,712	13,529
85	41,112	34,515	31,770	27,960	20,908	18,542	15,785	11,073	8,542	8,683	6,001	6,053
90	23,595	18,496	17,046	14,154	9,297	7,080	6,144	3,796	2,998	2,941	1,868	1,867
95	9,228	6,879	6,282	5,043	2,786	1,524	1,511	857	636	646	361	344
100	2,056	1,479	1,424	1,150	542	183	199	123	62	67	40	31
Male												
0	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000
1	99,301	99,239	98,961	98,607	97,755	97,087	96,661	94,762	93,440	91,745	87,505	86,426
5	99,187	99,095	98,754	98,333	97,395	96,643	96,077	93,624	91,294	88,505	82,718	80,548
10	99,121	99,008	98,627	98,160	97,151	96,375	95,726	93,054	90,346	87,184	81,249	78,775
15	99,032	98,890	98,464	97,972	96,904	96,107	95,366	92,508	89,561	86,156	80,261	77,681
20	98,668	98,426	97,854	97,316	96,126	95,491	94,695	91,617	88,220	84,440	78,792	75,984
25	98,041	97,747	97,049	96,361	95,040	94,631	93,791	90,385	86,359	82,252	76,675	73,472
30	97,400	97,114	96,166	95,430	94,072	93,826	92,861	89,009	84,346	79,890	74,378	70,747
35	96,698	96,385	95,091	94,501	92,997	92,889	91,760	87,371	82,075	77,514	71,614	67,752
40	95,825	95,389	93,761	93,345	91,541	91,572	90,207	85,246	79,357	74,432	68,297	64,447
45	94,569	93,940	92,139	91,649	89,369	89,492	87,819	82,336	75,882	71,244	64,518	60,849
50	92,648	91,818	89,865	89,007	86,070	86,199	84,158	78,254	71,518	67,553	60,118	56,736
55	89,715	88,897	86,492	84,936	81,139	81,039	78,781	72,627	65,981	62,965	54,970	51,939
60	85,638	84,551	81,378	79,012	73,958	73,887	71,246	65,142	58,909	56,917	48,343	45,895
65	80,185	78,241	73,971	70,646	64,318	64,177	61,566	55,776	50,154	49,218	40,264	38,736
70	72,681	69,491	64,107	59,681	52,296	52,244	49,950	44,588	39,516	39,668	31,023	30,217
75	62,720	57,688	51,385	46,272	38,797	38,950	36,756	31,864	27,718	28,316	21,213	21,076
80	49,653	42,769	36,749	31,810	24,921	25,300	25,237	18,995	16,172	17,128	11,942	12,084
85	33,764	26,527	21,815	18,020	13,168	12,845	11,750	8,693	7,107	7,920	5,059	5,179
90	17,276	12,473	9,878	7,732	5,107	4,609	4,197	2,787	2,283	2,527	1,502	1,508
95	5,674	3,855	2,927	2,279	1,326	970	955	586	451	556	289	262
100	997	645	529	423	222	117	121	78	40	62	33	22
Female												
0	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000
1	99,427	99,375	99,172	98,880	98,254	97,744	97,406	95,848	94,728	93,383	89,623	88,733
5	99,334	99,261	99,006	98,666	97,955	97,371	96,908	94,848	92,789	90,380	85,117	83,119
10	99,278	99,190	98,911	98,544	97,784	97,173	96,652	94,402	92,008	89,186	83,728	81,390
15	99,213	99,111	98,814	98,432	97,636	97,016	96,431	94,000	91,364	88,247	82,813	80,307
20	99,056	98,915	98,597	98,184	97,331	96,756	96,066	93,293	90,116	86,556	81,418	78,555
25	98,830	98,682	98,325	97,883	96,966	96,418	95,583	92,322	88,328	84,135	79,481	76,119
30	98,548	98,418	98,013	97,551	96,544	95,996	94,933	91,182	86,398	81,463	77,247	73,394
35	98,182	98,052	97,596	97,140	95,966	95,409	94,206	89,810	84,304	78,713	74,719	70,463
40	97,667	97,493	97,033	96,531	95,097	94,560	93,101	88,092	81,927	75,907	71,894	67,407
45	96,864	96,648	96,222	95,570	93,793	93,265	91,469	85,856	79,041	72,954	68,755	64,121

See footnotes at end of table.

Table 20. Survivorship by age, race, and sex: Death-registration states, 1900–1902 to 1919–1921, and United States, 1929–1931 to 2009—Con.

Spreadsheet version available from: ftp://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/62_07/Table20.xls.

[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; 1919–1921, 34 states and the District of Columbia. Beginning 1970 excludes deaths of nonresidents of the United States; see Technical Notes]

Age (years), race, and sex	Number of survivors out of 100,000 born alive (l_x)											
	2009	1999–2001	1989–1991	1979–1981	1969–1971	1959–1961	1949–1951	1939–1941	1929–1931	1919–1921	1909–1911	1900–1902
Female—Con.												
50	95,612	95,425	94,932	94,060	91,852	91,327	89,075	82,828	75,456	69,452	65,001	60,415
55	93,783	93,609	92,881	91,760	89,066	88,451	85,694	78,708	70,832	65,099	60,392	55,908
60	91,286	90,767	89,742	88,414	85,139	84,430	80,890	73,093	64,795	59,438	54,226	50,155
65	87,638	86,433	85,075	83,520	79,698	78,462	74,119	65,523	56,924	52,126	46,438	43,246
70	82,267	80,219	78,522	76,720	71,955	70,100	64,873	55,449	46,774	42,741	36,916	34,721
75	74,464	71,311	69,287	67,186	61,107	58,394	52,111	42,425	34,600	31,344	26,155	24,994
80	63,307	58,455	56,986	54,372	46,445	43,063	36,486	27,524	21,578	19,613	15,682	15,129
85	48,035	41,830	41,115	37,772	29,538	25,269	20,668	13,972	10,322	9,515	7,051	7,063
90	29,223	23,936	23,666	20,578	14,160	10,056	8,548	5,044	3,656	3,314	2,269	2,306
95	12,228	9,560	9,346	7,862	4,565	2,193	2,207	1,195	807	728	441	452
100	2,897	2,183	2,251	1,927	954	264	298	179	82	72	49	43
White												
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	99,472	99,429	99,233	98,898	98,224	97,714	97,278	95,685	94,392	92,780	88,709	87,762
5	99,376	99,313	99,068	98,675	97,930	97,353	96,790	94,713	92,466	89,771	84,147	82,071
10	99,321	99,239	98,966	98,536	97,733	97,131	96,502	94,228	91,627	88,536	82,734	80,371
15	99,250	99,146	98,843	98,391	97,546	96,928	96,228	93,792	90,982	87,633	81,816	79,344
20	99,000	98,826	98,455	97,939	97,036	96,508	95,763	93,117	89,933	86,159	80,407	77,998
25	98,594	98,406	97,972	97,340	96,406	95,965	95,169	92,213	88,454	84,106	78,392	75,202
30	98,152	98,000	97,451	96,774	95,824	95,440	94,536	91,185	86,836	81,787	76,167	72,317
35	97,639	97,506	96,810	96,192	95,152	94,798	93,750	89,941	85,004	79,277	73,568	69,522
40	96,978	96,799	96,000	95,427	94,190	93,870	92,616	88,318	82,803	76,642	70,525	66,082
45	95,994	95,759	94,932	94,257	92,681	92,374	90,847	86,069	79,989	73,705	67,090	62,920
50	94,475	94,242	93,326	92,384	90,306	89,958	88,110	82,833	76,340	70,250	62,994	58,647
55	92,214	92,050	90,833	89,427	86,688	86,173	84,027	78,218	71,551	65,875	58,163	54,450
60	89,095	88,655	86,943	85,031	81,323	80,811	78,066	71,785	65,100	60,013	51,822	48,288
65	84,696	83,518	81,123	78,585	73,889	73,102	69,850	63,201	56,655	52,411	43,904	41,505
70	78,388	76,219	73,106	69,801	63,991	62,834	59,189	52,165	45,841	42,736	34,484	32,902
75	69,537	66,022	62,175	58,299	51,586	49,895	45,688	38,610	33,406	31,086	24,151	23,356
80	57,363	52,160	48,583	44,409	36,659	34,697	30,438	23,976	20,260	19,149	14,100	13,794
85	41,653	35,461	32,850	28,768	21,578	19,017	16,239	11,483	9,325	9,078	6,178	6,192
90	23,826	18,964	17,571	14,471	9,433	7,149	6,201	3,819	3,066	2,991	1,918	1,919
95	9,189	6,971	6,416	5,067	2,743	1,521	1,500	801	636	643	364	355
100	1,983	1,454	1,423	1,105	487	183	196	98	58	62	38	31
White male												
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	99,423	99,373	99,138	98,769	97,994	97,408	96,931	95,188	93,768	91,975	87,674	86,655
5	99,316	99,243	98,956	98,519	97,671	97,015	96,403	94,150	91,738	88,842	82,972	80,864
10	99,256	99,163	98,839	98,357	97,441	96,758	96,069	93,601	90,810	87,530	81,519	79,109
15	99,174	99,052	98,686	98,176	97,208	96,503	95,728	93,089	90,074	86,546	80,549	78,037
20	98,836	98,616	98,134	97,525	96,480	95,908	95,104	92,293	88,904	84,997	79,116	76,376
25	98,249	98,003	97,430	96,616	95,524	95,106	94,294	91,241	87,371	83,061	77,047	73,907
30	97,643	97,436	96,662	95,783	94,716	94,401	93,489	90,092	85,707	80,888	74,810	71,219
35	96,977	96,774	95,731	94,980	93,843	93,589	92,543	88,713	83,812	78,441	72,108	68,245
40	96,149	95,859	94,588	93,984	92,631	92,427	91,173	86,880	81,457	75,733	68,848	64,954
45	94,947	94,530	93,167	92,494	90,725	90,533	89,002	84,285	78,345	72,696	65,115	61,369
50	93,094	92,588	91,124	90,105	87,690	87,424	85,601	80,521	74,288	69,107	60,741	57,274
55	90,299	89,883	88,022	86,303	83,001	82,463	80,496	75,156	68,981	64,574	55,622	52,491
60	86,434	85,773	83,182	80,625	75,969	75,485	73,172	67,787	61,933	58,498	48,987	46,452
65	81,176	79,657	75,962	72,393	66,343	65,834	63,541	58,305	52,964	50,663	40,862	39,245
70	73,823	71,039	66,181	61,384	54,138	53,825	51,735	46,739	41,880	40,873	31,527	30,640
75	63,847	59,245	53,308	47,712	40,324	40,207	38,104	33,404	29,471	29,205	21,585	21,387
80	50,613	44,121	38,245	32,788	25,885	25,993	24,005	19,860	17,221	17,655	12,160	12,266
85	34,397	27,425	22,720	18,538	13,527	13,065	12,015	9,013	7,572	8,154	5,145	5,252
90	17,574	12,840	10,214	7,891	5,125	4,600	4,209	2,812	2,356	2,568	1,523	1,523
95	5,664	3,899	2,988	2,279	1,274	956	942	552	461	556	289	263
100	949	625	523	404	189	115	118	65	40	61	31	22

See footnotes at end of table.

Table 20. Survivorship by age, race, and sex: Death-registration states, 1900–1902 to 1919–1921, and United States, 1929–1931 to 2009—Con.

Spreadsheet version available from: ftp://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/62_07/Table20.xls.

[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; 1919–1921, 34 states and the District of Columbia. Beginning 1970 excludes deaths of nonresidents of the United States; see Technical Notes]

Age (years), race, and sex	Number of survivors out of 100,000 born alive (l_x)											
	2009	1999–2001	1989–1991	1979–1981	1969–1971	1959–1961	1949–1951	1939–1941	1929–1931	1919–1921	1909–1911	1900–1902
White female												
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	99,524	99,488	99,333	99,035	98,468	98,036	97,645	96,211	95,037	93,608	89,774	88,939
5	99,438	99,385	99,187	98,841	98,203	97,709	97,199	95,309	93,216	90,721	85,349	83,426
10	99,389	99,319	99,099	98,725	98,042	97,525	96,960	94,890	92,466	89,564	83,979	81,723
15	99,329	99,245	99,007	98,618	97,902	97,375	96,756	94,534	91,894	88,712	83,093	80,680
20	99,173	99,049	98,795	98,374	97,618	97,135	96,454	93,984	90,939	87,281	81,750	78,978
25	98,963	98,835	98,547	98,093	97,299	96,844	96,072	93,228	89,524	85,163	79,865	76,588
30	98,697	98,602	98,283	97,802	96,945	96,499	95,605	92,320	87,972	82,740	77,676	73,887
35	98,349	98,282	97,939	97,445	96,474	96,026	94,977	91,211	86,248	80,206	75,200	70,971
40	97,865	97,790	97,472	96,913	95,762	95,326	94,080	89,805	84,256	77,624	72,425	67,935
45	97,109	97,049	96,768	96,065	94,649	94,228	92,725	87,920	81,780	74,871	69,341	64,677
50	95,933	95,962	95,608	94,710	92,924	92,522	90,685	85,267	78,572	71,547	65,629	61,005
55	94,217	94,293	93,730	92,594	90,383	89,967	87,699	81,520	74,321	67,323	61,053	56,509
60	91,853	91,615	90,789	89,451	86,726	86,339	83,279	76,200	68,462	61,704	54,900	50,752
65	88,318	87,449	86,339	84,764	81,579	80,739	76,773	68,701	60,499	54,299	47,086	43,806
70	83,036	81,400	79,984	78,139	74,101	72,507	67,545	58,363	49,932	44,638	37,482	35,206
75	75,257	72,595	70,834	68,712	63,290	60,461	54,397	44,685	37,024	32,777	26,569	25,362
80	64,018	59,721	58,454	55,770	48,182	44,676	38,026	28,882	23,053	20,492	15,929	15,349
85	48,557	42,848	42,274	38,774	30,490	26,046	21,348	14,487	10,937	9,909	7,152	7,149
90	29,446	24,491	24,270	20,996	14,406	10,219	8,662	5,061	3,719	3,372	2,291	2,322
95	12,169	9,680	9,495	7,900	4,526	2,203	2,200	1,109	797	721	434	448
100	2,802	2,147	2,239	1,858	872	265	294	139	74	63	44	41
Black[1]												
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	98,739	98,578	98,187	97,885	96,731	95,732	95,407	92,584	92,035	90,379	79,784	76,609
5	98,585	98,382	97,884	97,522	96,207	95,051	94,482	90,983	89,303	86,174	70,691	66,222
10	98,496	98,271	97,720	97,322	95,928	94,745	94,060	90,339	88,258	84,690	68,437	63,410
15	98,387	98,139	97,539	97,134	95,661	94,460	93,646	89,591	87,156	83,180	66,410	61,060
20	98,038	97,701	96,925	96,652	94,887	93,880	92,738	87,839	84,386	79,641	63,165	57,931
25	97,431	96,946	95,972	95,804	93,513	92,925	91,321	85,210	80,320	74,973	59,608	54,512
30	96,749	96,143	94,809	94,680	91,934	91,699	89,584	82,194	75,962	70,492	56,112	51,287
35	95,927	95,164	93,260	93,288	89,977	90,046	87,402	78,683	71,141	65,865	52,125	48,007
40	94,875	93,809	91,239	91,439	87,304	87,766	84,478	74,466	65,974	61,244	47,866	44,518
45	93,337	91,770	88,689	88,834	83,700	84,501	80,507	69,284	59,827	56,442	43,054	40,628
50	91,026	88,761	85,285	85,044	78,938	80,172	74,976	62,702	53,141	51,422	37,800	36,103
55	87,410	84,657	80,635	79,816	72,826	73,893	67,660	54,846	45,558	45,803	32,233	31,404
60	82,350	79,007	74,335	72,913	65,250	65,795	58,593	46,318	37,654	39,418	26,046	25,698
65	75,834	71,704	66,154	64,391	56,102	56,038	48,649	37,838	30,015	32,738	19,806	20,474
70	67,529	62,349	56,192	54,617	45,785	45,434	38,616	29,654	22,505	25,585	14,021	14,960
75	57,670	50,987	44,872	43,274	34,262	34,531	28,968	21,798	15,546	18,011	9,139	9,956
80	45,865	37,964	33,149	31,711	23,710	24,815	20,003	14,408	9,589	11,376	5,158	5,750
85	32,148	24,677	21,352	19,939	15,044	15,337	12,433	8,326	4,900	5,794	2,414	2,782
90	18,399	13,204	11,646	10,713	8,087	7,195	6,394	4,077	2,044	2,317	913	1,054
95	7,892	5,368	4,729	4,463	3,252	1,777	2,010	1,557	638	689	324	296
100	2,275	1,491	1,376	1,360	1,036	214	301	399	120	129	77	57
Black male[1]												
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	98,595	98,437	98,023	97,703	96,394	95,301	94,911	91,772	91,268	89,499	78,065	74,674
5	98,433	98,219	97,688	97,300	95,826	94,570	93,921	90,082	88,412	85,195	68,589	64,385
10	98,335	98,093	97,501	97,061	95,497	94,234	93,453	89,393	87,311	83,768	66,377	61,730
15	98,208	97,930	97,268	96,826	95,161	93,874	92,965	88,610	86,152	82,332	64,478	59,667
20	97,690	97,275	96,301	96,132	94,053	93,108	91,941	86,968	83,621	79,057	61,426	56,733
25	96,789	96,103	94,809	94,827	91,904	91,825	90,285	84,227	79,516	74,540	57,736	53,285
30	95,837	94,940	93,070	93,125	89,584	90,270	88,327	80,979	75,083	70,344	54,073	49,867
35	94,728	93,641	90,827	91,080	86,885	88,331	85,940	77,221	70,049	65,873	49,865	46,541
40	93,392	91,945	87,948	88,490	83,441	85,744	82,832	72,780	64,710	61,353	45,414	42,989
45	91,529	89,439	84,467	84,997	78,976	82,075	78,686	67,346	58,432	56,589	40,563	39,230

See footnotes at end of table.

Table 20. Survivorship by age, race, and sex: Death-registration states, 1900–1902 to 1919–1921, and United States, 1929–1931 to 2009—Con.

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Age (years), race, and sex	Number of survivors out of 100,000 born alive (l_x)											
	2009	1999–2001	1989–1991	1979–1981	1969–1971	1959–1961	1949–1951	1939–1941	1929–1931	1919–1921	1909–1911	1900–1902
Black male[1]—Con.												
50	88,796	85,653	79,984	80,065	73,282	77,239	72,891	60,495	51,748	51,880	35,427	34,766
55	84,349	80,529	74,095	73,413	66,101	70,351	65,122	52,426	44,436	46,581	29,754	29,987
60	77,906	73,588	66,334	64,980	57,457	61,669	55,535	43,833	36,790	40,506	23,750	24,194
65	69,851	64,980	56,795	55,061	47,485	51,392	45,198	35,371	29,314	34,042	17,806	19,015
70	59,929	54,253	45,690	44,213	36,925	39,914	35,018	27,236	21,741	26,923	12,295	13,829
75	49,016	41,693	33,755	32,717	25,921	29,064	25,472	19,456	14,419	18,854	7,494	8,892
80	36,665	28,497	22,549	22,017	16,560	19,994	16,904	12,186	8,239	11,615	3,894	4,831
85	23,504	16,532	12,709	12,383	9,648	11,620	9,898	6,444	3,660	5,605	1,747	2,030
90	11,759	7,625	5,972	5,708	4,696	5,174	4,642	2,836	1,246	2,040	595	634
95	4,154	2,565	1,971	2,009	1,721	1,240	1,342	961	307	552	189	137
100	921	563	466	513	489	149	192	209	41	77	40	18
Black female[1]												
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	98,888	98,723	98,356	98,073	97,076	96,172	95,913	93,416	92,796	91,251	81,493	78,525
5	98,742	98,550	98,087	97,751	96,598	95,543	95,055	91,906	90,185	87,149	72,768	68,056
10	98,663	98,456	97,946	97,590	96,369	95,265	94,679	91,308	89,201	85,607	70,508	65,111
15	98,572	98,354	97,818	97,450	96,172	95,057	94,343	90,594	88,088	83,954	68,218	62,384
20	98,398	98,141	97,566	97,180	95,729	94,660	93,544	88,736	85,078	80,154	64,764	59,053
25	98,095	97,785	97,140	96,754	95,035	94,005	92,336	86,198	81,067	75,359	61,430	55,795
30	97,687	97,314	96,514	96,150	94,114	93,070	90,799	83,384	76,816	70,633	58,281	52,773
35	97,136	96,632	95,599	95,338	92,807	91,670	88,805	80,092	72,192	65,857	54,595	49,567
40	96,344	95,588	94,364	94,137	90,817	89,676	86,052	76,084	67,271	61,130	50,568	46,146
45	95,103	93,979	92,676	92,322	88,001	86,793	82,257	71,157	61,365	56,230	45,947	42,279
50	93,169	91,680	90,277	89,563	84,168	82,979	77,007	64,885	54,920	50,780	40,886	37,681
55	90,295	88,517	86,793	85,653	79,177	77,362	70,196	57,314	47,074	44,742	35,415	33,124
60	86,457	84,044	81,886	80,293	72,820	69,941	61,758	48,928	38,761	37,954	28,908	27,524
65	81,300	77,941	75,031	73,266	64,716	60,825	52,358	40,504	30,852	31,044	22,302	21,995
70	74,411	69,778	66,278	64,729	54,873	51,274	42,612	32,354	23,341	24,107	15,871	16,140
75	65,510	59,361	55,684	53,831	43,193	40,540	32,981	24,502	16,576	17,216	10,657	11,066
80	54,147	46,453	43,622	41,686	31,756	30,315	23,712	17,039	10,822	11,151	6,324	6,708
85	39,803	32,053	30,089	28,004	21,358	19,744	15,550	10,622	6,033	5,972	3,029	3,567
90	24,161	18,347	17,536	16,260	12,210	9,675	8,590	5,652	2,774	2,579	1,206	1,492
95	10,952	7,989	7,687	7,312	5,217	2,438	2,875	2,345	941	818	448	462
100	3,267	2,351	2,364	2,398	1,803	293	445	659	193	179	112	97

[1]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.

SOURCE: CDC/NCHS, National Vital Statistics System.

Table 21. Life expectancy by age, race, and sex: Death-registration states, 1900–1902 to 1919–1921, and United States, 1929–1931 to 2009

Spreadsheet version available from: ftp://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/62_07/Table21.xls.

[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; 1919–1921, 34 states and the District of Columbia. Beginning 1970 excludes deaths of nonresidents of the United States; see Technical Notes]

Age (years), race, and sex	Average number of years of life remaining (e_x)											
	2009	1999–2001	1989–1991	1979–1981	1969–1971	1959–1961	1949–1951	1939–1941	1929–1931	1919–1921	1909–1911	1900–1902
All races												
0	78.47	76.86	75.37	73.88	70.75	69.89	68.07	63.62	59.20	56.40	51.49	49.24
1	77.97	76.40	75.08	73.82	71.19	70.75	69.16	65.76	61.94	59.94	57.11	55.20
5	74.05	72.49	71.22	70.00	67.43	67.04	65.54	62.49	59.29	57.99	56.21	54.98
10	69.10	67.55	66.29	65.10	62.57	62.19	60.74	57.82	54.84	53.79	52.15	51.14
15	64.15	62.61	61.38	60.19	57.69	57.33	55.91	53.10	50.25	49.37	47.73	46.81
20	59.31	57.82	56.63	55.46	53.00	52.58	51.20	48.54	45.94	45.30	43.53	42.79
25	54.56	53.08	51.93	50.81	48.37	47.89	46.56	44.09	41.85	41.47	39.60	39.12
30	49.81	48.31	47.23	46.12	43.71	43.18	41.91	39.67	37.75	37.68	35.70	35.51
35	45.07	43.57	42.58	41.43	39.07	38.51	37.31	35.30	33.68	33.89	31.90	31.92
40	40.37	38.90	37.98	36.79	34.52	33.92	32.81	31.03	29.67	30.08	28.20	28.34
45	35.78	34.34	33.44	32.27	30.12	29.50	28.49	26.90	25.79	26.25	24.54	24.77
50	31.34	29.90	29.03	27.94	25.93	25.29	24.40	22.98	22.06	22.50	20.98	21.26
55	27.08	25.61	24.83	23.85	21.99	21.37	20.57	19.31	18.53	18.90	17.55	17.88
60	22.99	21.55	20.90	20.02	18.34	17.71	17.04	15.91	15.24	15.54	14.42	14.76
65	19.10	17.77	17.28	16.51	15.00	14.39	13.83	12.80	12.23	12.47	11.60	11.86
70	15.46	14.27	13.96	13.32	12.00	11.38	10.92	10.00	9.58	9.74	9.11	9.30
75	12.12	11.12	11.00	10.48	9.32	8.71	8.40	7.62	7.32	7.49	6.99	7.08
80	9.14	8.42	8.40	7.98	7.10	6.39	6.34	5.73	5.50	5.63	5.25	5.30
85	6.60	6.22	6.23	5.96	5.28	4.58	4.69	4.31	4.19	4.21	4.00	3.96
90	4.65	4.49	4.50	4.43	3.94	3.22	3.44	3.30	3.15	3.22	3.03	2.95
95	3.26	3.19	3.29	3.34	3.06	2.43	2.54	2.61	2.26	2.32	2.35	2.18
100	2.34	2.27	2.46	2.73	2.62	1.91	1.92	2.13	1.51	1.53	1.85	1.58
Male												
0	75.96	74.13	71.83	70.11	67.04	66.80	65.47	61.60	57.71	55.50	49.86	47.88
1	75.49	73.70	71.58	70.10	67.58	67.80	66.73	64.00	60.75	59.47	55.95	54.35
5	71.58	69.80	67.73	66.29	63.82	64.10	63.12	60.76	58.14	57.60	55.11	54.22
10	66.63	64.86	62.81	61.41	58.98	59.27	58.35	56.12	53.75	53.44	51.07	50.39
15	61.68	59.94	57.91	56.52	54.12	54.43	53.56	51.43	49.18	49.05	46.66	46.06
20	56.90	55.21	53.25	51.88	49.54	49.77	48.92	46.91	44.88	44.99	42.48	42.03
25	52.25	50.57	48.67	47.37	45.07	45.19	44.36	42.51	40.79	41.11	38.59	38.38
30	47.57	45.89	44.10	42.81	40.51	40.56	39.78	38.13	36.71	37.26	34.70	34.76
35	42.90	41.21	39.57	38.20	35.95	35.94	35.23	33.79	32.65	33.43	30.94	31.19
40	38.27	36.62	35.09	33.64	31.48	31.42	30.79	29.57	28.68	29.63	27.32	27.65
45	33.74	32.14	30.66	29.22	27.18	27.09	26.55	25.52	24.87	25.84	23.77	24.14
50	29.39	27.82	26.37	25.00	23.12	23.02	22.59	21.72	21.25	22.11	20.32	20.70
55	25.26	23.65	22.30	21.08	19.36	19.32	18.96	18.20	17.79	18.53	16.98	17.38
60	21.34	19.73	18.53	17.46	15.99	15.94	15.68	14.99	14.62	15.22	13.95	14.33
65	17.61	16.11	15.12	14.21	12.99	12.95	12.74	12.07	11.72	12.20	11.24	11.50
70	14.16	12.80	12.05	11.35	10.39	10.33	10.11	9.46	9.18	9.52	8.83	9.02
75	10.99	9.89	9.39	8.90	8.13	7.99	7.83	7.22	7.02	7.31	6.75	6.84
80	8.20	7.44	7.12	6.80	6.27	5.95	5.94	5.44	5.27	5.49	5.10	5.11
85	5.86	5.47	5.31	5.13	4.73	4.39	4.41	4.11	4.02	4.10	3.90	3.82
90	4.11	3.95	3.89	3.89	3.60	3.18	3.30	3.17	3.06	3.21	3.01	2.86
95	2.90	2.82	2.92	2.98	2.82	2.43	2.49	2.52	2.21	2.38	2.36	2.13
100	2.11	2.03	2.25	2.49	2.43	1.91	1.92	2.05	1.50	1.58	1.81	1.55
Female												
0	80.89	79.47	78.81	77.62	74.64	73.24	70.96	65.89	60.90	57.40	53.24	50.70
1	80.35	78.97	78.47	77.50	74.97	73.93	71.84	67.73	65.37	60.45	58.37	56.10
5	76.43	75.06	74.60	73.67	71.19	70.21	68.21	64.43	60.66	58.41	57.39	55.80
10	71.47	70.11	69.67	68.75	66.31	65.35	63.38	59.73	56.16	54.16	53.31	51.94
15	66.51	65.16	64.73	63.83	61.41	60.45	58.52	54.97	51.54	49.71	48.87	47.60
20	61.62	60.29	59.87	58.98	56.59	55.60	53.73	50.37	47.21	45.63	44.66	43.60
25	56.75	55.42	55.03	54.16	51.80	50.79	48.99	45.87	43.11	41.86	40.69	39.92
30	51.91	50.57	50.19	49.33	47.01	46.00	44.28	41.41	39.02	38.15	36.79	36.30
35	47.09	45.75	45.40	44.53	42.28	41.27	39.63	37.01	34.92	34.40	32.95	32.71
40	42.32	40.99	40.65	39.80	37.64	36.61	35.06	32.68	30.86	30.58	29.15	29.08
45	37.65	36.33	35.97	35.17	33.13	32.09	30.64	28.46	26.89	26.71	25.36	25.44

See footnotes at end of table.

Table 21. Life expectancy by age, race, and sex: Death-registration states, 1900–1902 to 1919–1921, and United States, 1929–1931 to 2009—Con.

Spreadsheet version available from: ftp://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/62_07/Table21.xls.

[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; 1919–1921, 34 states and the District of Columbia. Beginning 1970 excludes deaths of nonresidents of the United States; see Technical Notes]

Age (years), race, and sex	Average number of years of life remaining (e_x)											
	2009	1999–2001	1989–1991	1979–1981	1969–1971	1959–1961	1949–1951	1939–1941	1929–1931	1919–1921	1909–1911	1900–1902
Female—Con.												
50	33.11	31.76	31.42	30.69	28.77	27.71	26.40	24.40	23.05	22.92	21.67	21.84
55	28.71	27.32	27.05	26.39	24.59	23.53	22.33	20.54	19.38	19.28	18.13	18.39
60	24.42	23.10	22.90	22.29	20.60	19.52	18.50	16.92	15.94	15.87	14.90	15.21
65	20.32	19.12	19.02	18.44	16.83	15.80	14.95	13.57	12.78	12.73	11.96	12.22
70	16.48	15.40	15.38	14.84	13.35	12.37	11.71	10.56	9.99	9.96	9.38	9.59
75	12.93	11.99	12.08	11.58	10.26	9.33	8.94	8.01	7.61	7.65	7.20	7.34
80	9.74	9.05	9.13	8.69	7.68	6.72	6.67	5.99	5.70	5.75	5.37	5.51
85	7.01	6.62	6.66	6.38	5.63	4.71	4.90	4.47	4.32	4.30	4.08	4.12
90	4.88	4.71	4.73	4.66	4.14	3.25	3.54	3.39	3.24	3.23	3.05	3.04
95	3.37	3.29	3.40	3.48	3.18	2.43	2.57	2.67	2.30	2.27	2.34	2.24
100	2.38	2.29	2.52	2.81	2.69	1.91	1.93	2.17	1.52	1.48	1.91	1.61
White												
0	78.83	77.43	76.13	74.53	71.62	70.73	69.02	64.92	60.86	57.42	51.90	49.64
1	78.25	76.87	75.72	74.35	71.91	71.38	69.95	66.84	63.46	60.87	57.46	55.47
5	74.33	72.96	71.84	70.52	68.12	67.64	66.29	63.52	60.75	58.86	56.51	55.18
10	69.37	68.01	66.92	65.62	63.26	62.79	61.48	58.83	56.29	54.65	52.43	51.34
15	64.41	63.07	61.99	60.71	58.37	57.92	56.65	54.09	51.69	50.21	48.01	47.01
20	59.57	58.27	57.23	55.98	53.66	53.16	51.91	49.47	47.28	46.04	43.77	43.17
25	54.80	53.51	52.50	51.30	49.00	48.44	47.22	44.92	43.02	42.07	39.79	39.26
30	50.04	48.72	47.76	46.59	44.28	43.69	42.52	40.40	38.76	38.17	35.86	35.51
35	45.29	43.95	43.06	41.86	39.58	38.97	37.86	35.93	34.50	34.27	32.03	32.01
40	40.58	39.25	38.41	37.17	34.95	34.33	33.29	31.54	30.33	30.38	28.29	28.28
45	35.97	34.65	33.81	32.60	30.48	29.84	28.88	27.29	26.29	26.45	24.60	24.82
50	31.50	30.17	29.34	28.21	26.21	25.57	24.70	23.26	22.42	22.64	21.01	21.18
55	27.21	25.82	25.08	24.05	22.19	21.58	20.77	19.47	18.75	18.97	17.57	17.91
60	23.07	21.71	21.08	20.16	18.48	17.84	17.15	15.98	15.37	15.57	14.43	14.73
65	19.13	17.88	17.40	16.59	15.08	14.44	13.86	12.80	12.28	12.47	11.60	11.87
70	15.46	14.34	14.02	13.35	12.01	11.37	10.89	9.96	9.58	9.72	9.10	9.31
75	12.09	11.15	11.03	10.47	9.27	8.65	8.34	7.55	7.30	7.47	6.98	7.08
80	9.10	8.42	8.39	7.95	7.01	6.33	6.27	5.64	5.45	5.59	5.22	5.30
85	6.56	6.19	6.20	5.90	5.19	4.53	4.62	4.20	4.12	4.15	3.97	3.95
90	4.60	4.44	4.46	4.36	3.84	3.20	3.41	3.16	3.10	3.17	3.00	2.93
95	3.21	3.14	3.25	3.25	2.92	2.43	2.53	2.45	2.22	2.28	2.29	2.16
100	2.30	2.22	2.43	2.62	2.41	1.91	1.92	1.95	1.48	1.50	1.71	1.56
White male												
0	76.41	74.78	72.72	70.82	67.94	67.55	66.31	62.81	59.12	56.34	50.23	48.23
1	75.85	74.25	72.35	70.70	68.33	68.34	67.41	64.98	62.04	60.24	56.26	54.61
5	71.93	70.34	68.48	66.87	64.55	64.61	63.77	61.68	59.38	58.31	55.37	54.43
10	66.98	65.40	63.55	61.98	59.69	59.78	58.98	57.03	54.96	54.15	51.32	50.59
15	62.03	60.47	58.65	57.09	54.83	54.93	54.18	52.33	50.39	49.74	46.91	46.25
20	57.23	55.72	53.96	52.45	50.22	50.25	49.52	47.76	46.02	45.60	42.71	42.19
25	52.56	51.05	49.33	47.92	45.70	45.65	44.93	43.28	41.78	41.60	38.79	38.52
30	47.87	46.34	44.71	43.31	41.07	40.97	40.29	38.80	37.54	37.65	34.87	34.88
35	43.18	41.64	40.12	38.66	36.43	36.31	35.68	34.36	33.33	33.74	31.08	31.29
40	38.53	37.01	35.57	34.04	31.87	31.73	31.17	30.03	29.22	29.86	27.43	27.74
45	33.98	32.49	31.07	29.55	27.48	27.34	26.87	25.87	25.28	26.00	23.86	24.21
50	29.60	28.12	26.71	25.26	23.34	23.22	22.83	21.96	21.51	22.22	20.39	20.76
55	25.44	23.88	22.56	21.25	19.51	19.45	19.11	18.34	17.97	18.59	17.03	17.42
60	21.46	19.90	18.71	17.56	16.07	16.01	15.76	15.05	14.72	15.25	13.98	14.35
65	17.68	16.22	15.24	14.26	13.02	12.97	12.75	12.07	11.77	12.21	11.25	11.51
70	14.18	12.87	12.11	11.35	10.38	10.29	10.07	9.42	9.20	9.51	8.83	9.03
75	10.98	9.92	9.40	8.87	8.06	7.92	7.77	7.17	7.02	7.30	6.75	6.84
80	8.17	7.43	7.11	6.76	6.18	5.89	5.88	5.38	5.26	5.47	5.09	5.10
85	5.82	5.43	5.28	5.09	4.63	4.34	4.35	4.02	3.99	4.06	3.88	3.81
90	4.05	3.90	3.85	3.83	3.49	3.16	3.27	3.06	3.03	3.18	2.99	2.85
95	2.83	2.77	2.88	2.91	2.67	2.43	2.48	2.40	2.19	2.36	2.31	2.12
100	2.06	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 21. Life expectancy by age, race, and sex: Death-registration states, 1900–1902 to 1919–1921, and United States, 1929–1931 to 2009—Con.

Spreadsheet version available from: ftp://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/62_07/Table21.xls.

[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; 1919–1921, 34 states and the District of Columbia. Beginning 1970 excludes deaths of nonresidents of the United States; see Technical Notes]

Age (years), race, and sex	Average number of years of life remaining (e_x)											
	2009	1999–2001	1989–1991	1979–1981	1969–1971	1959–1961	1949–1951	1939–1941	1929–1931	1919–1921	1909–1911	1900–1902
White female												
0	81.20	79.99	79.45	78.22	75.49	74.19	72.03	67.29	62.67	58.53	53.62	51.08
1	80.59	79.40	78.99	77.98	75.66	74.68	72.77	68.93	64.93	61.51	58.69	56.39
5	76.66	75.48	75.10	74.13	71.86	70.92	69.09	65.57	62.17	59.43	57.67	56.03
10	71.69	70.53	70.16	69.21	66.97	66.05	64.26	60.85	57.65	55.17	53.57	52.15
15	66.73	65.58	65.23	64.29	62.07	61.15	59.39	56.07	53.00	50.67	49.12	47.79
20	61.84	60.70	60.36	59.44	57.24	56.29	54.56	51.38	48.52	46.46	44.88	43.77
25	56.96	55.83	55.51	54.60	52.42	51.45	49.77	46.78	44.25	42.55	40.88	40.05
30	52.11	50.95	50.65	49.76	47.60	46.63	45.00	42.21	39.99	38.72	36.96	36.42
35	47.28	46.11	45.82	44.93	42.82	41.84	40.28	37.70	35.73	34.86	33.09	32.82
40	42.50	41.33	41.03	40.16	38.12	37.13	35.64	33.25	31.52	30.94	29.26	29.17
45	37.81	36.62	36.30	35.49	33.54	32.53	31.12	28.90	27.39	26.98	25.45	25.51
50	33.24	32.01	31.71	30.96	29.11	28.08	26.76	24.72	23.41	23.12	21.74	21.89
55	28.80	27.53	27.29	26.61	24.85	23.81	22.58	20.73	19.60	19.40	18.18	18.43
60	24.48	23.25	23.09	22.45	20.79	19.69	18.64	17.00	16.05	15.93	14.92	15.23
65	20.35	19.23	19.14	18.55	16.93	15.88	15.00	13.56	12.81	12.75	11.97	12.23
70	16.47	15.47	15.46	14.89	13.37	12.38	11.68	10.50	9.98	9.94	9.38	9.59
75	12.90	12.02	12.11	11.58	10.21	9.28	8.87	7.92	7.56	7.62	7.20	7.33
80	9.70	9.04	9.12	8.65	7.59	6.67	6.59	5.88	5.63	5.70	5.35	5.50
85	6.96	6.59	6.62	6.32	5.54	4.66	4.83	4.34	4.24	4.24	4.06	4.10
90	4.83	4.67	4.69	4.59	4.05	3.23	3.51	3.24	3.17	3.16	3.00	3.02
95	3.32	3.24	3.36	3.39	3.04	2.43	2.56	2.47	2.24	2.20	2.27	2.21
100	2.34	2.24	2.49	2.70	2.49	1.91	1.92	1.95	1.48	1.42	1.74	1.58
Black[1]												
0	74.50	71.81	69.16	68.52	64.11	63.91	60.73	53.85	48.53	47.03	35.87	33.80
1	74.45	71.84	69.43	68.99	65.27	65.75	62.65	57.15	51.71	51.01	43.84	43.00
5	70.57	67.98	65.64	65.25	61.62	62.21	59.25	54.13	49.25	49.44	45.34	45.55
10	65.63	63.05	60.75	60.38	56.79	57.41	54.50	49.50	44.80	45.26	41.74	42.46
15	60.70	58.13	55.86	55.49	51.94	52.57	49.73	44.89	40.37	41.02	38.02	39.04
20	55.90	53.38	51.19	50.75	47.34	47.88	45.19	40.73	36.62	37.72	34.86	36.03
25	51.24	48.78	46.67	46.18	43.00	43.35	40.85	36.91	33.32	34.91	31.72	33.04
30	46.58	44.16	42.22	41.69	38.70	38.89	36.59	33.17	30.07	31.98	28.43	29.96
35	41.96	39.59	37.87	37.28	34.48	34.56	32.44	29.53	26.94	29.07	25.39	26.82
40	37.39	35.12	33.65	32.98	30.46	30.39	28.48	26.06	23.82	26.07	22.41	23.73
45	32.96	30.84	29.55	28.87	26.65	26.46	24.75	22.82	20.97	23.17	19.58	20.67
50	28.73	26.80	25.62	25.03	23.11	22.74	21.38	19.94	18.22	20.17	16.84	17.95
55	24.81	22.97	21.95	21.50	19.83	19.45	18.41	17.43	15.80	17.33	14.33	15.23
60	21.18	19.43	18.59	18.29	16.83	16.53	15.87	15.18	13.62	14.72	12.16	13.06
65	17.77	16.14	15.56	15.37	14.16	13.96	13.59	13.02	11.49	12.22	10.22	10.87
70	14.64	13.18	12.87	12.67	11.77	11.63	11.48	10.93	9.54	9.90	8.59	8.96
75	11.70	10.54	10.48	10.32	9.89	9.52	9.48	8.97	7.84	8.00	7.08	7.24
80	9.05	8.29	8.30	8.17	8.20	7.28	7.62	7.31	6.19	6.22	5.80	5.79
85	6.83	6.41	6.51	6.54	6.54	5.27	5.79	5.91	4.92	4.88	4.80	4.56
90	5.11	4.90	4.94	5.13	5.09	3.48	3.97	4.64	3.83	3.84	4.26	3.60
95	3.80	3.71	3.82	4.08	4.28	2.43	2.70	3.51	2.83	2.90	3.31	2.82
100	2.87	2.81	2.91	3.58	3.93	1.91	1.94	2.57	1.87	1.94	2.27	2.18
Black male[1]												
0	71.06	68.17	64.47	64.10	60.00	61.48	58.91	52.26	47.55	47.14	34.05	32.54
1	71.07	68.25	64.76	64.60	61.24	63.50	61.06	55.93	51.08	51.63	42.53	42.46
5	67.19	64.40	60.98	60.86	57.60	59.98	57.69	52.95	48.69	50.18	44.25	45.06
10	62.25	59.48	56.09	56.01	52.79	55.19	52.96	48.34	44.27	45.99	40.65	41.90
15	57.33	54.57	51.22	51.14	47.96	50.39	48.23	43.74	39.83	41.75	36.77	38.26
20	52.62	49.92	46.71	46.48	43.49	45.78	43.73	39.52	35.95	38.36	33.46	35.11
25	48.08	45.50	42.40	42.09	39.45	41.38	39.49	35.72	32.67	35.54	30.44	32.21
30	43.54	41.02	38.14	37.81	35.40	37.05	35.31	32.05	29.45	32.51	27.33	29.25
35	39.02	36.56	34.02	33.60	31.42	32.81	31.21	28.48	26.39	29.54	24.42	26.16
40	34.54	32.18	30.05	29.51	27.61	28.72	27.29	25.06	23.36	26.53	21.57	23.12
45	30.19	28.01	26.18	25.61	24.03	24.89	23.59	21.88	20.59	23.55	18.85	20.09

See footnotes at end of table.

Table 21. Life expectancy by age, race, and sex: Death-registration states, 1900–1902 to 1919–1921, and United States, 1929–1931 to 2009—Con.

Spreadsheet version available from: ftp://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/62_07/Table21.xls.

[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; 1919–1921, 34 states and the District of Columbia. Beginning 1970 excludes deaths of nonresidents of the United States; see Technical Notes]

Age (years), race, and sex	Average number of years of life remaining (e_x)											
	2009	1999–2001	1989–1991	1979–1981	1969–1971	1959–1961	1949–1951	1939–1941	1929–1931	1919–1921	1909–1911	1900–1902
Black male[1]—Con.												
50	26.03	24.13	22.50	22.03	20.69	21.28	20.25	19.06	17.92	20.47	16.21	17.34
55	22.26	20.50	19.08	18.79	17.66	18.11	17.36	16.60	15.46	17.50	13.82	14.69
60	18.89	17.19	16.01	15.89	14.93	15.29	14.91	14.37	13.15	14.74	11.67	12.62
65	15.77	14.12	13.27	13.29	12.53	12.84	12.75	12.21	10.87	12.07	9.74	10.38
70	12.96	11.40	10.88	10.94	10.40	10.81	10.74	10.11	8.78	9.58	8.00	8.33
75	10.28	9.07	8.84	8.90	8.76	8.93	8.83	8.17	6.99	7.61	6.58	6.60
80	7.88	7.12	7.01	7.03	7.35	6.87	7.07	6.58	5.42	5.83	5.53	5.12
85	5.88	5.52	5.58	5.61	5.92	5.08	5.38	5.34	4.30	4.53	4.48	4.04
90	4.37	4.23	4.24	4.47	4.68	3.42	3.78	4.23	3.42	3.60	4.01	3.21
95	3.26	3.24	3.37	3.62	3.92	2.43	2.64	3.20	2.54	2.61	3.15	2.50
100	2.48	2.48	2.63	3.24	3.61	1.91	1.93	2.29	1.68	1.64	2.14	1.89
Black female[1]												
0	77.61	75.16	73.73	72.88	68.32	66.47	62.70	55.56	49.51	46.92	37.67	35.04
1	77.49	75.13	73.96	73.31	69.37	68.10	64.37	58.46	52.33	50.39	45.15	43.54
5	73.60	71.26	70.16	69.54	65.70	64.54	60.93	55.40	49.81	48.70	46.42	46.04
10	68.66	66.32	65.26	64.65	60.85	59.72	56.17	50.75	45.33	44.54	42.84	43.02
15	63.72	61.39	60.34	59.74	55.97	54.85	51.36	46.13	40.87	40.36	39.18	39.79
20	58.82	56.52	55.49	54.90	51.22	50.07	46.77	42.04	37.22	37.15	36.14	36.89
25	54.00	51.71	50.72	50.13	46.57	45.40	42.35	38.20	33.93	34.35	32.97	33.90
30	49.21	46.95	46.03	45.43	42.00	40.83	38.02	34.40	30.67	31.48	29.61	30.70
35	44.48	42.26	41.45	40.79	37.56	36.41	33.82	30.83	27.47	28.58	26.44	27.52
40	39.82	37.69	36.96	36.28	33.32	32.16	29.82	27.19	24.30	25.60	23.34	24.37
45	35.30	33.29	32.58	31.94	29.31	28.14	26.07	23.89	21.39	22.61	20.43	21.36
50	30.98	29.06	28.38	27.84	25.52	24.31	22.67	20.95	18.60	19.76	17.65	18.67
55	26.88	25.01	24.41	24.00	21.97	20.89	19.62	18.38	16.27	17.09	14.98	15.88
60	22.96	21.20	20.71	20.42	18.66	17.83	16.95	16.10	14.22	14.69	12.78	13.60
65	19.25	17.65	17.37	17.13	15.67	15.12	14.54	13.95	12.24	12.41	10.82	11.38
70	15.79	14.41	14.32	14.05	13.02	12.46	12.29	11.82	10.38	10.25	9.22	9.62
75	12.59	11.49	11.56	11.37	10.85	10.10	10.15	9.81	8.62	8.37	7.55	7.90
80	9.68	8.96	9.05	8.95	8.87	7.66	8.15	8.02	6.90	6.58	6.05	6.48
85	7.24	6.86	6.99	7.09	7.00	5.44	6.15	6.41	5.48	5.22	5.09	5.10
90	5.32	5.16	5.24	5.47	5.41	3.52	4.13	4.96	4.20	4.07	4.50	4.01
95	3.88	3.84	3.97	4.30	4.58	2.43	2.74	3.71	3.09	3.18	3.45	3.15
100	2.86	2.84	2.97	3.69	4.20	1.91	1.94	2.70	2.04	2.23	2.39	2.49

[1]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.

SOURCE: CDC/NCHS, National Vital Statistics System.

Technical Notes

The life table program

Three series of complete life tables for the U.S. population are prepared by the Centers for Disease Control and Prevention's National Center for Health Statistics (NCHS). *Decennial life tables* are based on decennial U.S. census data and final deaths for a 3-year period around the census year. *Annual preliminary life tables* are based on a sample of approximately 90% of death records. *Annual final life tables* (referred to here as "annual life tables") are based on a complete count of all reported deaths.

Available since 1945, the annual life tables are based on deaths occurring during the calendar year and on midyear postcensal population estimates provided by the U.S. Census Bureau. From 1945 to 1996, the annual life tables were abridged life tables, closed at age 85 and over, and were constructed by reference to a standard table (4). Beginning with 1997 mortality data, a new methodology similar to that of the 1989–1991 decennial life tables was employed to estimate annual complete life tables to age 100, with combined life table values presented for ages 100 and over (8). The methodology was again revised for data years 2000–2007 using a methodology similar to that of the 1999–2001 decennial life tables (9). With data year 2008, the life table methodology was refined by changing the smoothing technique used to estimate the life table functions at the oldest ages (9).

The methodology used to estimate the 2008 and 2009 life tables is different from that used to estimate the 2000–2007 life tables with respect to the technique used to estimate the probabilities of death for ages over 65. The methodology used to produce the life tables for 2008–2009 does not model the probabilities of death beginning at age 66, as was done for data years 2000–2007, but rather at ages above 85 or so. (The exact ages at which smoothing techniques are used depends on the specific racial-ethnic-sex population.) Research into the methodology developed and used for the 1999–2001 decennial life tables and applied to the annual life tables has revealed that it is not necessary to model (or "smooth") the probabilities of death beginning at age 66. The observed blended vital statistics and Medicare data for ages 66–85 are robust enough and do not require additional smoothing (9). A full description of the methodology used to estimate the 2009 life tables is provided below. See "United States Life Tables, 2005" (10) for a detailed description of the methodology used for data years 2000–2007.

Beginning with 2006 mortality data, life tables by Hispanic origin were added to the annual life table program. Prior to this time, concerns over data limitations such as racial and ethnic misclassification on U.S. death certificates and lack of Medicare data for older populations other than the white and black populations prevented the estimation of life tables for the Hispanic origin population. Recent research that identified and quantified these data limitations has led to the development of reliable methodological strategies to address these data problems (11–13). The methodology developed to estimate life tables for the Hispanic and non-Hispanic white and black populations is described in detail below and in "United States Life Tables by Hispanic Origin" (11).

Geographic coverage

The geographic areas covered in life tables before 1929–1931 were limited to 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 (DC)], and tables for 1919–1921 used mortality data from the 1920 death-registration states (34 states and DC). The tables for 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 20 and 21). Data for each year shown in Table 19 include Alaska beginning in 1959 and Hawaii beginning in 1960. However, it is believed that the inclusion of these two states does not materially affect 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 report are based on revised intercensal estimates of the populations for those years. As a result, the life table values for these years may differ from the life table values for those years published in Vital Statistics of the United States for 1989 and earlier years (http://www.cdc.gov/nchs/products/vsus.htm). Life table values for 1991–1999 are based on postcensal population estimates of the population enumerated in the 1990 decennial census, whereas life table values for 2000–2009 are based on postcensal population estimates of the population enumerated in the 2000 decennial census. As a result, life expectancy values across the 1990s are not comparable with those estimated for 2000–2009. A comparison of life expectancy values for 2000, estimated alternately with 1990-based postcensal estimates of the 2000 population and population counts based on the 2000 census, revealed that 2000 life expectancy values estimated using the 2000 census population counts were slightly higher throughout the entire age range (14).

New Jersey data, 1962–1964

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

Nonresidents

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

Estimation of life table functions

For some years, it was necessary to estimate life table functions for some race-sex groups. In Tables 20 and 21, figures for the black

population during the periods 1939–1941 and 1949–1951 were estimated using figures for the nonwhite population. Life table functions also were missing in Tables 20 and 21 for some 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 19 by race and sex for the following years were estimated using a procedure other than the abridged life table methodology (15):

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 19, life expectancy for the black population for years prior to 1970 is estimated using figures for the total nonwhite population.

Data for calculating life table functions

The data used to prepare the U.S. life tables include final death counts from the National Vital Statistics System (NVSS), population estimates from the U.S. Census Bureau, and death and population counts for Medicare beneficiaries aged 66–99 from the Centers for Medicare & Medicaid Services (CMS).

Vital statistics data

Death counts used for computing the life tables presented in this report are final numbers of deaths for 2009 collected from death certificates filed in state vital statistics offices and reported to NCHS as part of NVSS. Race and Hispanic origin are reported separately on the death certificate.

The U.S. Standard Certificate of Death was revised in 2003, and its race and Hispanic origin items reflect the mandate of the 1997 Office of Management and Budget (OMB) standards (16). This revision allowed individuals to report more than one race and increased the race choices from four to five by separating the Asian and Pacific Islander groups. In 2009, 30 states and DC had adopted the 1997 OMB standards, while 20 others continued to collect race and ethnicity data according to the 1977 OMB standards (17). To attain uniformity and comparability during the transition period until all states implement the 1997 standards, multiple-race responses are "bridged" back to the 1977 single-race standard, and Asian and Pacific Islander groups are combined according to the 1977 standards. The bridging procedure is the same as that used to bridge multiple-race population estimates, as discussed below (18).

Census population data

The population data 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 1997 OMB guidelines on race and ethnicity reporting (16), the 2000 census included an option for individuals to report more than one race and provided for the reporting of Asian persons separately from Native Hawaiian or other Pacific Islander persons. Death certificate data by race for states that have not yet implemented the 1997 OMB standards are thus currently incompatible with the population data collected in the 2000 census (the denominators for the rates). To produce death rates for 2009, 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 (19). The procedures used to produce the bridged populations are described elsewhere (18).

Medicare data

Medicare data have traditionally been employed in the estimation of U.S. decennial life tables and in the estimation of U.S. annual life tables since 1997 (8). Medicare data are considered to be more accurate than vital statistics and census data at the oldest ages because Medicare enrollees must have proof of age in order to enroll (20). However, the reliability of Medicare data beyond age 100 declines because of the small percentage of persons who enrolled at the start of the Medicare program in 1965 and for whom it was not possible to verify exact age (20). Further, the Medicare race and ethnicity classification system makes it impossible to correctly identify the Hispanic, American Indian or Alaska Native, or Asian or Pacific Islander populations (11,21). It is, however, possible to use Medicare data to estimate old-age mortality for both the white and black race groups, irrespective of Hispanic origin, as has been done traditionally, and to estimate old-age mortality for the non-Hispanic segments of these populations (11). As a result, data from the Medicare program are used to supplement vital statistics and census data for ages 66–99 for the total population and for the white, black, non-Hispanic white, and non-Hispanic black populations (11).

To estimate death rates for the Medicare white, black, non-Hispanic white, and non-Hispanic black populations in 2009, age-specific numbers of deaths and population counts by sex and race for the population aged 66–99 from the 2011 and 2012 Medicare files were used. The data files are created by CMS for the Social Security Administration, which shares the files with NCHS under a special agreement. The 2011 file contains final Medicare population counts as

of January 1, 2009, and the 2012 file contains final Medicare population counts as of January 1, 2010, and final Medicare death counts as of January 1, 2009. Medicare death data are reported on a calendar-year age basis, by subtracting the year of birth from the year of death. As a result, for a given reporting year, deaths reported as age x are on average exact age $x - 1/2$ as of January 1 of the reporting year. Medicare enrollment (population) data are reported on an age-at-last-birthday basis. As a result, persons with reported age x as of January 1 of the reporting year are on average exact age $x + 1/2$.

Preliminary adjustment of the data

Adjustments for unknown age

An adjustment is made to account for the small proportion of deaths each year for which age is not reported on the death certificate. The number of deaths in each age category is adjusted proportionally to account for those with not-stated ages. The following factor (F) is used to make the adjustment. F is calculated for the total and for each sex group within a racial and ethnic population for which life tables are constructed:

$$F = \frac{D}{D^{a}} \qquad [1]$$

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 by the number of deaths in each age group. Table I shows values for F by sex used to adjust mortality data for the total, white, black, Hispanic, non-Hispanic white, and non-Hispanic black populations in 2009.

Table I. Values for *F* used to adjust for not-stated age based on 2009 mortality data

Race, Hispanic origin, and sex	Total deaths	Total deaths for which age was not stated	*F*
Total	2,437,163	245	1.00010054
Male	1,217,379	177	1.00014542
Female	1,219,784	78	1.00006395
White	2,086,355	216	1.00010354
Male	1,037,475	150	1.00014460
Female	1,048,880	66	1.00006293
Black	286,623	30	1.00010468
Male	146,239	20	1.00013678
Female	140,384	10	1.00007124
Hispanic	141,576	29	1.00020488
Male	78,157	19	1.00024316
Female	63,419	10	1.00015771
Non-Hispanic white	1,944,606	77	1.00003960
Male	959,014	46	1.00004797
Female	985,592	31	1.00003145
Non-Hispanic black	282,982	23	1.00008128
Male	144,197	16	1.00011097
Female	138,785	7	1.00005044

SOURCE: CDC/NCHS, National Vital Statistics System.

Adjustment for misclassification of race and Hispanic origin on death certificates

The latest research to evaluate race and Hispanic origin reporting on U.S. death certificates found that the misclassification of race and Hispanic origin on death certificates in the United States accounts for a net underestimate of 5.0% for total Hispanic deaths, a net underestimate of 1.0% for total non-Hispanic black deaths, and a net overestimate of less than 0.5% for non-Hispanic white deaths, but no underestimate for the population racially classified as white or black, irrespective of Hispanic origin (12,13). These results are based on a comparison of self-reported race and Hispanic origin on Current Population Surveys (CPS) with race and Hispanic origin reported on the death certificates of a sample of decedents in the National Longitudinal Mortality Study (NLMS) who died during the period 1990–1998 (12,13).

NLMS-linked records are used to estimate sex-age-specific ratios of CPS race and Hispanic origin counts to death certificate counts (12,13). The CPS to death-certificate ratio, or "classification ratio," is specifically the ratio of the weighted count of self-reported race and ethnicity on CPS to the weighted count of the same racial or ethnic category on the death certificates of the sample of NLMS decedents described above. It can be interpreted as the net difference in assignment of a specific race and Hispanic origin category between the two classification systems and can be used as a correction factor for race and Hispanic origin misclassification (12,13). The assumption is made that the race and ethnicity reported by a CPS respondent is more reliable than proxy reporting of race and ethnicity by a funeral director who has little personal knowledge of the decedent. Further, public policy embodied in the 1997 OMB standard mandates that self-identification should be the standard used for the collection and recording of race and ethnicity information (16).

The NLMS-based classification ratios discussed above are used to adjust the age-specific number of deaths for ages 1–95 and over for the total Hispanic, non-Hispanic white, and non-Hispanic black populations, and by sex for each group, as follows:

$${}_{n}D_{x} = {}_{n}D_{x}^{F} \bullet {}_{n}CR_{x} \qquad [2]$$

where ${}_{n}D_{x}^{F}$ is the age-specific number of deaths adjusted for unknown age as described above, ${}_{n}CR_{x}$ are the sex- and age-specific classification ratios used to correct for the misclassification of race and Hispanic origin on death certificates, and ${}_{n}D_{x}$ are the final age-specific counts of death adjusted for age and race and Hispanic origin misclassification. Table II shows values of the sex- and age-specific classification ratios, ${}_{n}CR_{x}$, by Hispanic origin and race for the non-Hispanic population (black and white).

Because NLMS classification ratios for infant deaths are unreliable due to small sample sizes, corrections for racial and ethnic misclassification of infant deaths are addressed by using infant death counts and live birth counts from the 2008 and 2009 linked birth/infant death data files rather than the traditional birth and death data files (22,23). In the linked file, each infant death record is linked to its corresponding birth record so that the race and ethnicity reported on the birth record can be ascribed to the infant death record. As a result, race- and ethnicity-specific infant mortality rates estimated with the linked file do not suffer from the problem of racial and ethnic discrepancies between the numerator and denominator of the rate. A ratio of infant mortality rates based on the traditional birth and death data files to infant mortality rates based on the linked birth/infant death data file shows

Table II. Classification ratios, by Hispanic origin, race for the non-Hispanic white and black populations, age, and sex

Age (years)	Hispanic			Non-Hispanic white			Non-Hispanic black		
	Total	Male	Female	Total	Male	Female	Total	Male	Female
All ages	1.0501	1.0415	1.0614	0.9960	0.9954	0.9966	1.0055	1.0066	1.0043
0[1]	1.0258	1.0309	1.0203	0.9843	0.9855	0.9856	1.0540	1.0564	1.0512
1–14	*0.9198	*1.0000	*0.7994	0.9930	0.9869	1.0011	1.0200	1.0000	*1.0689
15–24	0.9650	0.9770	0.9290	1.0032	1.0040	1.0010	0.9997	0.9996	1.0000
25–34	1.0189	1.0542	0.9288	0.9975	0.9872	1.0212	1.0043	1.0034	1.0060
35–44	1.0803	1.0863	1.0657	0.9902	0.9864	0.9971	1.0066	1.0081	1.0045
45–54	1.0501	1.0152	1.1208	0.9938	0.9943	0.9930	1.0023	1.0144	0.9880
55–64	1.0260	1.0291	1.0216	0.9932	0.9915	0.9958	1.0135	1.0174	1.0087
65–74	1.0700	1.0640	1.0779	0.9950	0.9961	0.9935	1.0036	0.9979	1.0095
75–84	1.0473	1.0316	1.0651	0.9967	0.9964	0.9971	1.0040	1.0058	1.0023
85–94	1.0468	1.0261	1.0614	0.9978	0.9975	0.9979	1.0083	1.0101	1.0072
95 and over	1.1277	1.1700	1.1000	0.9981	0.9927	0.9998	0.9979	1.0300	0.9881

* Ratio is unreliable because either the unweighted number of Current Population Survey deaths, the unweighted number of death certificate deaths, or both are based on fewer than 20 deaths.

[1]Ratios for age 0 are estimated as the ratio of infant mortality rates based on the traditional death and birth files to the infant mortality rates based on the 2009 linked birth/infant death data file. Ratios only shown for illustration purposes; see Technical Notes for details.

SOURCE: CDC/NCHS, National Vital Statistics System.

that using the traditional files overestimates the infant mortality rate by 3% for Hispanic infants and by 5% for non-Hispanic black infants. It underestimates the infant mortality rate by 2% for non-Hispanic white infants (see ratios for age 0 in Table II). Because the probability of death at age 0 used to calculate the life table uses live births in the denominator (procedure described below), it is preferable to use the linked birth/infant death data file.

Note that although there is no conclusive evidence supporting return migration as a factor in the lower mortality of the Hispanic population, the possibility remains that Hispanic deaths are missed in NVSS due to return migration, and therefore the resulting death rates may be biased, irrespective of correction for ethnic misclassification (11,24).

Interpolation of P_x and D_x

Anomalies—both random and those associated with reporting age at death—can be problematic when using vital statistics and census data by single years of age to estimate the probability of death (1,8). 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 population counts (P_x) and death counts (D_x) from 5-year age groupings of ${}_nP_x$ from ages 0 to 99 and ${}_nD_x$ from ages 5 to 99, and where ${}_nD_x$ has first been adjusted for not-reported age and race and Hispanic origin misclassification on the death certificate (see reference 8 for details on the application of Beer's method).

Calculation of the probability of dying (q_x)

The first step in the calculation of a complete period life table is the estimation of the age-specific probability of dying, q_x, which is derived from the age-specific death rate, m_x (3,25). In the life table cohort,

$$m_x = \frac{d_x}{L_x}$$

where d_x is the number of deaths occurring between ages x and $x + 1$, and L_x is the number of person-years lived by the life table cohort between ages x and $x + 1$. The conversion of the age-specific death rate, m_x, to the age-specific probability of death, q_x, is as follows:

$$q_x = \frac{m_x}{1 + (1 - a_x)m_x} \qquad [3]$$

where a_x is the number of person-years lived in the age interval by members of the life table cohort who died in the interval. When the age interval is 1 year, except at infancy, $a_x = 1/2$; in other words, deaths occur on average midway through the age interval. As a result,

$$q_x = \frac{m_x}{1 + \frac{1}{2} m_x} \qquad [4].$$

Because the complete period life table is based on the age-specific death rates of a current population observed for a specific calendar year, the life table death rate is equivalent to the observed death rates of the current population:

$$m_x = \frac{d_x}{L_x} = M_x = \frac{D_x}{P_x}$$

where D_x is the Beer's smoothed number of deaths adjusted for not-stated age and race and Hispanic origin misclassification on the death certificate (for the Hispanic and non-Hispanic white and black populations) and P_x is the Beer's smoothed population at risk of dying between ages x and $x + 1$. Then,

$$q_x = \frac{M_x}{1 + \frac{1}{2} M_x} = \frac{D_x}{P_x + \frac{1}{2} D_x} \qquad [5]$$

This procedure is used to estimate vital statistics age-specific probabilities of death for ages 1–99.

Calculation of q_x at age 0

The higher mortality observed in infancy is associated with a high concentration of deaths occurring at the beginning of the age interval rather than in the middle. As a result, whenever possible, it is best to assign deaths to the appropriate birth cohorts. Therefore, the probability of death at birth, q_0, is calculated using a birth cohort method that employs 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 is estimated by categorizing infant deaths by date of birth. The probability of death is then calculated as

$$q_0 = \frac{D_0\,(1-f)}{B^t} + \frac{D_0\,(f)}{B^{t-1}}, \qquad [6]$$

where D_0 is the number of infant deaths adjusted for not-stated age in 2009, B^t is the number of live births in 2009, and B^{t-1} is the number of live births in 2008. Table III shows separation factors and numbers of births for 2008–2009.

Probabilities of dying at the oldest ages for the total, white, black, non-Hispanic white, and non-Hispanic black populations

Medicare data are used to supplement vital statistics data for the estimation of q_x at the oldest ages because these data are more accurate, given that proof of age is required for enrollment in the Medicare program. Medicare data are used here to estimate the probability of dying for ages 66 and over for the total, white, black, non-Hispanic white, and non-Hispanic black populations.

The method described in this section consists of the following steps. First, vital statistics and Medicare death rates are blended in the age range 66–99. Second, a logistic model is used to smooth the blended death rates in the age range 85–99 and to predict death rates for ages 100–120. Third, final resulting death rates, M_x, are converted to q_x.

For ages 66–94, vital statistics death rates, M_x^V, and Medicare death rates, M_x^M, are blended with a weighting process that gives gradually declining weight to vital statistics data and gradually increasing weight to Medicare data. For ages 95–99, M_x^M is used exclusively. Blended M_x is thus obtained as follows:

$$M_x = \frac{1}{30}[(95-x)M_x^v + (x-65)M_x^M]$$

when x = 66,...,94,

and $M_x = M_x^M$

when x = 95,...,99. [7]

Because of the manner in which age is reported in Medicare death and enrollment data as of January 1 of the reporting year, Medicare death rates are in one-half years of age. As a result, M_x^M is estimated as follows:

$$M_x^M = \left[M^{\mathrm{M}}_{x-\frac{1}{2}} + M^{\mathrm{M}}_{x+\frac{1}{2}}\right]/2,$$

where $M^M_{x-\frac{1}{2}} = \dfrac{D_{y,x}}{[P_{y,x-1} + P_{y+1,x}]/2}$,

$$M^M_{x+\frac{1}{2}} = \frac{D_{y,x+1}}{[P_{y,x} + P_{y+1,x+1}]/2},$$

and $D_{y,x}$ is reported age x at death in the Medicare data as of January 1, year y; $P_{y,\,x-1}$ is the Medicare population count with reported age $x-1$ on January 1, year y; and $P_{y+1,\,x}$ is the Medicare population count with reported age x on January 1, year $y+1$.

A logistic model proposed by Kannisto is then used to smooth M_x in the age range 85–99 and predict M_x in the age range 100–120 (26). The start of the modeled age range varies by race- and ethnicity-specific population because it is a function of the age at which the rate of change in the age-specific death rates peaks. In current times, the rate of change in the age-specific death rate rises steadily up to approximately ages 80–85 or so and then begins to decline. As a result, it is difficult to model a large age span, such as 65–100, with one simple model without over smoothing and thus altering the underlying mortality pattern observed in the population of interest (27). Further, the observed data for the age range 65–85 or so is reliable and robust, as indicated by the very close similarity between vital statistics and Medicare death rates, so it is unnecessary to model (smooth) the entire age span (65–100).

The Kannisto model is a simple form of a logistic model in which the logit of u_x (or the natural log of the odds of u_x) is a linear function of age x (26). It is expressed as:

$$\ln\left[\frac{u_x}{1-u_x}\right] = \ln(\alpha) + \beta x \qquad [8]$$

where u_x, the force of mortality (or the instantaneous death rate), is defined as:

$$u_x = \frac{\alpha e^{\beta x}}{1+\alpha e^{\beta x}}.$$

Because u_x is not directly observed but is closely approximated by m_x, and $m_x = M_x$, then the logit of M_x is modeled instead. A maximum-likelihood generalized linear model estimation procedure is used to fit the following model in the age range 85–99 years:

$$\ln\left[\frac{M_x}{1-M_x}\right] = \ln(\alpha) + \beta x \qquad [9]$$

Then, the estimated parameters are used to predict $\bar{M}_x$ as follows:

$$\bar{M}_x = \frac{e^a e^{bx}}{1+e^a e^{bx}}, \text{ or equivalently, } \bar{M}_x = \frac{e^{a+bx}}{1+e^{a+bx}} \qquad [10]$$

where a and b are the predicted values of parameters $\ln(\alpha)$ and β, respectively, given by fitting model [9]. Estimated parameters and the starting age for the modeled age span by population in 2009 are presented in Table IV.

Finally, the predicted probability of death, $\bar{q}_x$, for ages 85–120 is estimated by converting $\bar{M}_x$ as follows:

$$\bar{q}_x = \frac{\bar{M}_x}{1+\frac{1}{2}\bar{M}_x} \qquad [11]$$

The probability of death is extrapolated to age 120 in order to estimate the life table population until no survivors remain.

Table III. Births in 2008 and 2009, deaths in 2009 of infants born in 2008 and 2009, and separation factors, by race, Hispanic origin, and sex: United States

Births and deaths	Total			White			Black			Hispanic			Non-Hispanic white			Non-Hispanic black		
	Both sexes	Male	Female	Both sexes	Male	Female	Both sexes	Male	Female	Both sexes	Male	Female	Both sexes	Male	Female	Both sexes	Male	Female
Births:																		
2008	4,247,694	2,173,389	2,074,305	3,274,163	1,676,718	1,597,445	670,809	340,885	329,924	1,041,239	531,999	509,240	2,267,817	1,162,622	1,105,195	623,031	316,447	306,584
2009	4,130,665	2,113,856	2,016,809	3,173,293	1,625,436	1,547,857	657,618	334,142	323,476	999,548	510,477	489,071	2,212,552	1,134,654	1,077,898	609,584	309,751	299,833
Deaths in 2009 of infants born in:																		
2008	3,379	1,902	1,477	2,160	1,229	931	1,038	576	462	671	368	305	1,520	882	639	953	527	426
2009	23,033	12,921	10,112	14,657	8,190	6,467	7,274	4,130	3,144	4,614	2,532	2,080	10,265	5,748	4,517	6,607	3,755	2,851
Separation factor (*f*)	0.128	0.128	0.127	0.128	0.130	0.126	0.125	0.122	0.128	0.127	0.127	0.128	0.129	0.133	0.124	0.126	0.123	0.130

SOURCE: CDC/NCHS, National Vital Statistics System.

Table IV. Estimated parameters α and β used for predicting m_x and starting age of modeled age span: United States life tables, 2009

[Values in parentheses are standard errors]

Parameter	Total			White			Black			Non-Hispanic white			Non-Hispanic black		
	Both sexes	Male	Female	Both sexes	Male	Female	Both sexes	Male	Female	Both sexes	Male	Female	Both sexes	Male	Female
Starting age	85	85	86	85	85	86	84	83	85	85	85	86	85	83	85
ln(α)	–12.7942	–12.5729	–13.4820	–12.9900	–12.9078	–14.6593	–10.4865	–10.3614	–11.3823	–12.9488	–12.8531	–13.6247	–10.3915	–10.2846	–11.3246
	(0.126)	(0.237)	(0.122)	(0.110)	(0.171)	(0.117)	(0.123)	(0.138)	(0.084)	(0.107)	(0.167)	(0.114)	(0.128)	(0.144)	(0.083)
β	0.1230	0.1229	0.1295	0.1253	0.1268	0.1316	0.0966	0.0980	0.1054	0.1249	0.1262	0.1312	0.0956	0.0972	0.1049
	(0.001)	(0.003)	(0.001)	(0.001)	(0.002)	(0.001)	(0.001)	(0.002)	(0.001)	(0.001)	(0.002)	(0.001)	(0.001)	(0.002)	(0.001)

SOURCE: CDC/NCHS, National Vital Statistics System.

This information is then used to estimate L_x for ages 100–120, which is used to close the table with the age category 100 and over, combined (discussed below).

Probabilities of dying at the oldest ages for the Hispanic population

As noted above, Medicare data are unreliable for the Hispanic population due to inconsistencies in the Medicare race and ethnicity classification system. As a result, it was necessary to use other methods to estimate mortality at the oldest ages for this population. Beyond age 80, mortality estimates based strictly on vital statistics for the Hispanic population are too low, despite correction for ethnic misclassification on the death certificate.

A consistent finding across diverse studies has been that Hispanic mortality in the adult and advanced ages varies between approximately 80% and 89% of that of the non-Hispanic white population (12,13,24,28). The Brass relational-logit model takes advantage of the relationship between Hispanic and non-Hispanic white mortality previously identified and has been widely and successfully used to predict the mortality of one population relative to another at the older ages (3,29–31). Using the age-specific mortality pattern of the non-Hispanic white population as the "standard," the Brass relational-logit model is used to predict Hispanic mortality in the older ages. The standard is fit to Hispanic data in the age interval 45–80, and the predicted parameters are used to estimate the probabilities of death for ages 76–100. This method allows the relationship between the two populations in the younger ages to be carried over to the older ages (3,29–31).

The Brass relational-logit model expresses the age-specific mortality pattern of a population of interest as a function of the age-specific mortality pattern of a standard population, and is expressed as:

$$\overline{Y}_x = \alpha + \beta Y_x^S \qquad [12]$$

where $\overline{Y}_x$ is the predicted logit of the probability of death, q_x, in the population of interest, i.e.,

$$\text{logit}[q_x] = \ln\left[\frac{q_x}{1-q_x}\right]$$

Y_x^S is the logit of the probability of death in the standard population, q_x^S, i.e.,

$$\text{logit}[q_x^S] = \ln\left[\frac{q_x^S}{1-q_x^S}\right]$$

α is the predicted parameter that measures the level of mortality of the population of interest relative to the standard population, and β is the predicted parameter that measures the slope of the mortality function of the population of interest relative to the standard population (3,29–31). Table V shows values of predicted α and β and their standard errors.

Ordinary least squares regression was used to fit equation 12 in the age range 45–80. The resulting predicted parameters α and β were then used to estimate the predicted probability of death for ages 76–120 in the Hispanic population. The value q_x was predicted to age 120 in order to estimate the life table population until no survivors remain, as was done for the other population groups. This information is then used to estimate L_x for ages 100–120, which is used to close the table with the age category 100 and over, combined (discussed below).

Table V. Estimated Brass relational logit model parameters α and β, Hispanic origin population, 2009

Parameter	Total (SE)	Male (SE)	Female (SE)
α	–0.2504 (0.020)	–0.2471 (0.039)	–0.2107 (0.016)
β	0.9975 (0.004)	0.9963 (0.009)	1.0081 (0.003)

NOTE: SE is standard error.

SOURCE: CDC/NCHS, National Vital Statistics System.

Predicted $\overline{q}_x$, is estimated by transforming its logit, $\overline{Y}_x$, back as follows:

$$\overline{q}_x = \frac{\exp[\overline{Y}_x]}{1+\exp[\overline{Y}_x]} = \frac{\exp[\alpha+\beta Y_x^S]}{1+\exp[\alpha+\beta Y_x^S]} \qquad [13]$$

To ensure a smooth transition from vital q_x^V and predicted $\overline{q}_x$, the two were blended from ages 76 to 80 with a graduating process as follows:

$$q_x = \frac{1}{6}[(81-x)q_x^V + (x-75)\overline{q}_x]$$

when $x = 76,...,80$. [14]

Finally, to close the table at age 100 and over (combined), ${}_\infty q_{100}$ 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 are easily calculated.

Calculation of remaining life table functions for all groups

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

$$l_x = l_{x-1}(1-q_{x-1}) \qquad [15]$$

Decrement function (d_x)

The number of deaths occurring between ages x and $x+1$ is calculated from the survivor function:

$$d_x = l_x - l_{x+1} = l_x q_x \qquad [16]$$

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

Person-years lived (L_x)

Person-years lived for ages 1–99 are calculated assuming that the survivor function declines linearly between ages x and $x+1$. This gives the formula

$$L_x = \tfrac{1}{2}(l_x + l_{x+1}) = l_x - \tfrac{1}{2}d_x \qquad [17]$$

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

$$L_0 = f\, l_0 + (1 - f)\, l_1 \qquad [18]$$

Finally, ${}_{\infty}L_{100}$ is estimated as the sum of the extrapolated L_x values for ages 100–120.

Person-years lived at and above age x (T_x)

T_x is calculated by summing L_x values at and above age x:

$$T_x = \sum_{x=0}^{\infty} L_x \qquad [19]$$

Life expectancy at age x (e_x)

Life expectancy at exact age x is calculated as

$$e_x = \frac{T_x}{l_x} \qquad [20]$$

Abridging the complete life table

An abridged or collapsed version of the complete life table can be easily calculated in which life table functions are shown for 5-year rather than single-year age intervals. It is often desirable to summarize the life table and save space when publishing life table data by single years of age. 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 $x + n$ (where n denotes the length of the age interval; for 5-year age intervals, $n = 5$). Life expectancy at age 20 (e_{20}), for example, has the same value regardless of whether the age interval is 20–21 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 VI 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 1–18. The q_x, d_x, and L_x functions, in contrast, describe the age interval x to $x + n$. In fact, for abridged life tables, the notation for these functions is different (${}_nq_x$, ${}_nd_x$, and ${}_nL_x$, respectively). 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 follows:

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

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

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

Note that for the open-ended interval, ages 100 and over: ${}_{\infty}d_{100} = l_{100}$, ${}_{\infty}q_{100} = 1.0$, and ${}_{\infty}L_{100} = T_{100}$. Table VI shows each of the life table functions for the 2009 U.S. total population abridged from Table 1.

Table VI. Life table for the total population: United States, 2009

Age (years)	Probability of dying between ages x and $x + n$ ${}_nq_x$	Number surviving to age x l_x	Number dying between ages x and $x + n$ ${}_nd_x$	Person-years lived between ages x and $x + n$ ${}_nL_x$	Total number of person-years lived above age x T_x	Expectation of life at age x e_x
0–1	0.006372	100,000	637	99,444	7,846,926	78.5
1–5	0.001049	99,363	104	397,203	7,747,481	78.0
5–10	0.000611	99,259	61	496,128	7,350,279	74.1
10–15	0.000779	99,198	77	495,845	6,854,151	69.1
15–20	0.002664	99,121	264	495,022	6,358,307	64.1
20–25	0.004377	98,857	433	493,241	5,863,285	59.3
25–30	0.004745	98,424	467	490,964	5,370,044	54.6
30–35	0.005491	97,957	538	488,483	4,879,081	49.8
35–40	0.007153	97,419	697	485,444	4,390,598	45.1
40–45	0.010672	96,722	1,032	481,216	3,905,154	40.4
45–50	0.016580	95,690	1,587	474,748	3,423,938	35.8
50–55	0.025295	94,103	2,380	464,901	2,949,190	31.3
55–60	0.035801	91,723	3,284	450,828	2,484,290	27.1
60–65	0.051385	88,439	4,544	431,429	2,033,462	23.0
65–70	0.076533	83,895	6,421	404,288	1,602,032	19.1
70–75	0.114272	77,474	8,853	366,401	1,197,745	15.5
75–80	0.175585	68,621	12,049	314,401	831,344	12.1
80–85	0.273287	56,572	15,460	245,477	516,943	9.1
85–90	0.426085	41,112	17,517	161,735	271,466	6.6
90–95	0.608878	23,595	14,366	79,622	109,731	4.7
95–100	0.777238	9,228	7,173	25,292	30,109	3.3
100 and over	1.000000	2,056	2,056	4,816	4,816	2.3

SOURCE: CDC/NCHS, National Vital Statistics System.

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