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United States Life Tables, 2012

by Elizabeth Arias, Ph.D., Melonie Heron, Ph.D., and Jiaquan Xu, M.D., Division of Vital Statistics

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 2012.

Methods—Data used to prepare the 2012 life tables are 2012 final mortality statistics; July 1, 2012, population estimates based on the 2010 decennial census; and 2012 Medicare data for persons aged 66–99. The methodology used to estimate the 2012 life tables was first implemented with data year 2008. 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 2012, the overall expectation of life at birth was 78.8 years, increasing from 78.7 years in 2011. From 2011 to 2012, life expectancy at birth increased for both males (from 76.3 to 76.4) and females (81.1 to 81.2), for the white population (79.0 to 79.1), the black population (75.3 to 75.5), the Hispanic population (81.8 to 81.9), the non-Hispanic white population (78.7 to 78.9), and the non-Hispanic black population (75.0 to 75.1).

Keywords: life expectancy • survival • death rates • race • Hispanic origin

Introduction

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

Unlike the cohort life table, the period life table does not represent the mortality experience of an actual birth cohort. Rather, the period life table presents what would happen to a hypothetical cohort if it experienced throughout its entire life the mortality conditions of a particular period in time. For example, a period life table for 2012 assumes a hypothetical cohort that is subject throughout its lifetime to the age-specific death rates prevailing for the actual population in 2012. The period life table may thus be characterized as rendering a snapshot of current mortality experience and shows the long-range implications of a set of age-specific death rates that prevailed in a given year. In this report, the term "life table" refers only to the period life table and not to the cohort life table.

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 can easily be aggregated into 5- or 10-year age groups (see 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, and sex.

Data and Methods

The data used to prepare the U.S. life tables for 2012 are final numbers of deaths for the year 2012; July 1, 2012, population estimates based on the 2010 decennial census; and age-specific death and population counts for Medicare beneficiaries aged 66–99 for the year 2012 from the Centers for Medicare & Medicaid Services (CMS). Data from the Medicare program are used to supplement vital statistics and census data for ages 66 and over. The U.S. life tables by Hispanic origin are based on death rates that have been adjusted for race and ethnicity misclassification on death certificates using classification ratios (or correction factors) generated from an updated evaluation of race and Hispanic-origin misclassification

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on death certificates in the United States (5). To obtain comparable estimates across years, all Hispanic-origin life tables for data years 2010 and 2011 were re-estimated using the updated classification ratios. (See Technical Notes for a detailed description of the data sets and methodology used to estimate Hispanic-origin life tables and links for the updated 2010 and 2011 life tables.)

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 2012 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 2012 for the total population was 78.8 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, 57,855 persons out of the original 2012 hypothetical life table cohort of 100,000 (or 57.9 %) were alive at exact age 80. In other words, the probability that a person will survive from birth to age 80, given 2012 age-specific mortality, is 57.9%. 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, divide the number of survivors at age 85 (42,169) by the number of survivors at age 20 (98,940), which results in a 42.6% probability of survival.

Explanation of the life table columns

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

Column 2. Probability of dying (q_x)—For example, for males in the age interval 20–21, the probability of dying is 0.001053 (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, 99,457 will complete the first year of life and enter the second; 99,314 will reach age 10; 99,122 will reach age 20; and 48,874 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, 650 will die in the first year of life; 104 between ages 20 and 21; and 1,001 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 98,714 for males in the age interval 20–21 is the total number of years lived between the 20th and 21st birthdays by the 98,766 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 5,658,735 is the total number of years lived after attaining age 20 by the 98,766 males reaching that age (Table 2).

Column 7. Expectation of life (e_x)—The expectation of life at any given age is the average number of years remaining to be lived by those surviving to that age, 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 57.3 years (5,658,735 divided by 98,766) (Table 2).

Results

Life expectancy in the United States

Tables 1–18 show complete life tables for 2012 by race (white and black), Hispanic origin, and sex. Table A summarizes life expectancy by age, race, Hispanic origin, and sex. Life expectancy at birth for 2012 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 2012. In 2012, life expectancy at birth was 78.8 years, increasing by 0.1 year from 2011.

Changes in mortality levels by age and cause of death can have a major effect on changes in life expectancy. Life expectancy at birth increased 0.1 year in 2012 from 2011 primarily because of decreases in mortality from heart disease, cancer, Influenza and pneumonia, stroke, and Chronic lower respiratory diseases (CLRD) (6). Increases in life expectancy in 2012 from 2011 for the total population were slightly offset by increases in mortality from suicide and Chronic liver disease and cirrhosis. Decreases in mortality from cancer, heart disease, Influenza and pneumonia, CLRD, and unintentional injuries generated an increase in life expectancy among the male population. This increase in life expectancy for males was offset somewhat by increases in mortality from Chronic liver disease and cirrhosis, homicide, and suicide. Similarly, the increase in life expectancy for the female population was mainly brought about by decreases in mortality for heart disease, cancer, Influenza and pneumonia, stroke, and Alzheimer's disease. For females, however, the increase in life expectancy was offset by an increase in mortality from suicide (6).

The difference in life expectancy between the sexes was 4.8 years in 2012, unchanged from the difference in 2011. From 1900 to 1975, the difference in life expectancy between the sexes

Table A. Expectation of life, by race, Hispanic origin, age, and sex: United States, 2012

Age	All races and origins			White			Black			Hispanic[1]			Non-Hispanic white[1]			Non-Hispanic black[1]		
	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female
0	78.8	76.4	81.2	79.1	76.7	81.4	75.5	72.3	78.4	81.9	79.3	84.3	78.9	76.5	81.2	75.1	71.9	78.1
1	78.3	75.9	80.6	78.5	76.1	80.7	75.3	72.2	78.2	81.3	78.7	83.7	78.3	75.9	80.6	75.0	71.8	77.9
5	74.4	72.0	76.7	74.5	72.2	76.8	71.5	68.3	74.3	77.4	74.8	79.8	74.3	72.0	76.6	71.1	67.9	74.0
10	69.4	67.0	71.7	69.6	67.3	71.8	66.5	63.4	69.3	72.5	69.8	74.8	69.4	67.1	71.6	66.2	63.0	69.0
15	64.5	62.1	66.8	64.6	62.3	66.9	61.6	58.4	64.4	67.5	64.8	69.9	64.4	62.1	66.7	61.2	58.1	64.1
20	59.6	57.3	61.9	59.8	57.5	62.0	56.8	53.7	59.5	62.6	60.0	64.9	59.6	57.3	61.8	56.4	53.4	59.2
25	54.9	52.6	57.0	55.0	52.8	57.1	52.1	49.2	54.6	57.8	55.3	60.0	54.8	52.6	56.9	51.8	48.9	54.4
30	50.1	48.0	52.1	50.2	48.2	52.3	47.4	44.6	49.8	53.0	50.5	55.1	50.1	48.0	52.1	47.1	44.3	49.6
35	45.4	43.3	47.3	45.5	43.5	47.4	42.8	40.1	45.1	48.2	45.8	50.3	45.3	43.3	47.3	42.5	39.8	44.8
40	40.7	38.7	42.6	40.8	38.8	42.7	38.2	35.6	40.4	43.4	41.1	45.4	40.7	38.7	42.5	38.0	35.4	40.2
45	36.1	34.1	37.9	36.2	34.3	38.0	33.7	31.2	35.9	38.7	36.4	40.6	36.1	34.2	37.8	33.5	31.0	35.6
50	31.6	29.7	33.3	31.7	29.9	33.4	29.4	27.0	31.5	34.1	31.9	35.9	31.6	29.8	33.3	29.2	26.8	31.3
55	27.3	25.6	28.9	27.4	25.7	28.9	25.4	23.0	27.3	29.7	27.6	31.4	27.3	25.6	28.8	25.2	22.9	27.1
60	23.2	21.7	24.6	23.3	21.7	24.6	21.6	19.5	23.3	25.4	23.5	26.9	23.2	21.7	24.5	21.5	19.3	23.2
65	19.3	17.9	20.5	19.3	18.0	20.4	18.1	16.2	19.5	21.4	19.6	22.6	19.2	17.9	20.4	18.0	16.1	19.4
70	15.6	14.4	16.5	15.6	14.4	16.5	14.8	13.2	15.9	17.5	15.9	18.5	15.5	14.4	16.5	14.7	13.1	15.8
75	12.2	11.2	12.9	12.1	11.1	12.9	11.8	10.4	12.6	13.8	12.5	14.6	12.1	11.1	12.9	11.7	10.4	12.6
80	9.1	8.3	9.7	9.1	8.3	9.7	9.1	8.0	9.7	10.5	9.4	11.1	9.1	8.2	9.6	9.0	8.0	9.7
85	6.6	5.9	6.9	6.5	5.9	6.9	6.8	6.0	7.2	7.7	6.8	8.1	6.5	5.9	6.9	6.8	6.0	7.2
90	4.6	4.1	4.8	4.5	4.0	4.8	5.1	4.5	5.2	5.5	4.7	5.7	4.5	4.0	4.8	5.1	4.5	5.2
95	3.2	2.8	3.3	3.1	2.8	3.2	3.7	3.4	3.8	3.8	3.3	3.9	3.1	2.8	3.2	3.7	3.4	3.8
100	2.3	2.0	2.3	2.2	2.0	2.3	2.8	2.6	2.8	2.7	2.4	2.7	2.2	2.0	2.3	2.8	2.6	2.8

[1]Life tables by Hispanic origin are based on death rates that have been adjusted for race and ethnicity misclassification on death certificates. Updated classification ratios were applied; see Technical Notes.

SOURCE: NCHS, National Vital Statistics System, Mortality.

Table B. Number of survivors out of 100,000 born alive, by, race, Hispanic origin, age, and sex: United States, 2012

Age	All races and origins			White			Black			Hispanic[1]			Non-Hispanic white[1]			Non-Hispanic black[1]		
	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	99,402	99,350	99,457	99,492	99,450	99,535	98,881	98,767	98,999	99,489	99,452	99,528	99,496	99,454	99,541	98,881	98,756	99,010
5	99,298	99,234	99,364	99,394	99,341	99,449	98,732	98,602	98,867	99,404	99,362	99,448	99,398	99,335	99,465	98,717	98,589	98,870
10	99,241	99,171	99,314	99,341	99,284	99,401	98,651	98,508	98,799	99,354	99,309	99,402	99,347	99,274	99,424	98,628	98,495	98,797
15	99,172	99,091	99,258	99,276	99,209	99,346	98,558	98,393	98,729	99,293	99,244	99,349	99,282	99,193	99,377	98,529	98,382	98,724
20	98,940	98,766	99,122	99,054	98,907	99,209	98,242	97,918	98,578	99,107	98,984	99,241	99,056	98,889	99,233	98,188	97,873	98,558
25	98,522	98,160	98,903	98,654	98,331	98,997	97,665	97,044	98,304	98,795	98,542	99,079	98,643	98,293	99,010	97,563	96,927	98,258
30	98,040	97,485	98,620	98,184	97,679	98,719	96,999	96,073	97,930	98,449	98,051	98,899	98,140	97,595	98,708	96,867	95,923	97,861
35	97,488	96,752	98,253	97,645	96,970	98,358	96,218	94,994	97,424	98,064	97,521	98,674	97,558	96,833	98,311	96,047	94,799	97,323
40	96,805	95,891	97,752	96,983	96,133	97,879	95,224	93,744	96,665	97,612	96,909	98,391	96,838	95,929	97,780	94,990	93,468	96,515
45	95,850	94,728	97,006	96,052	94,998	97,160	93,886	92,140	95,571	96,942	96,035	97,937	95,854	94,736	97,012	93,585	91,782	95,367
50	94,351	92,921	95,817	94,589	93,224	96,016	91,839	89,735	93,855	95,859	94,696	97,125	94,332	92,902	95,807	91,469	89,297	93,590
55	92,060	90,117	94,035	92,366	90,491	94,310	88,656	85,921	91,255	94,157	92,577	95,850	92,053	90,114	94,045	88,199	85,381	90,917
60	88,805	86,088	91,546	89,220	86,587	91,926	84,037	80,246	87,598	91,594	89,254	94,032	88,858	86,177	91,602	83,479	79,608	87,161
65	84,391	80,724	88,070	84,920	81,377	88,544	77,940	72,711	82,792	87,936	84,666	91,255	84,522	80,948	88,173	77,287	72,000	82,244
70	78,340	73,695	82,987	78,933	74,446	83,506	70,280	63,597	76,435	83,077	78,664	87,412	78,502	74,009	83,087	69,494	62,755	75,753
75	69,781	64,068	75,465	70,384	64,831	76,003	60,426	52,536	67,644	76,140	70,294	81,699	69,919	64,392	75,528	59,562	51,637	66,864
80	57,855	51,239	64,365	58,374	51,921	64,818	48,301	39,553	56,215	66,005	58,923	72,554	57,890	51,492	64,306	47,447	38,715	55,397
85	42,169	35,181	48,874	42,484	35,629	49,146	34,051	25,528	41,608	51,768	43,636	58,924	42,062	35,269	48,687	33,329	24,834	40,878
90	24,202	18,287	29,624	24,285	18,443	29,697	19,543	13,052	25,183	33,755	25,799	40,200	24,008	18,218	29,385	19,063	12,618	24,670
95	9,319	5,971	12,201	9,198	5,893	12,056	8,327	4,781	11,254	16,007	10,343	20,065	9,083	5,812	11,919	8,103	4,622	11,002
100	1,987	1,001	2,784	1,890	940	2,658	2,345	1,120	3,245	4,689	2,348	6,119	1,867	927	2,628	2,282	1,095	3,175

[1]Life tables by Hispanic origin are based on death rates that have been adjusted for race and ethnicity misclassification on death certificates. Updated classification ratios were applied; see Technical Notes.

SOURCE: NCHS, National Vital Statistics System, Mortality.

increased from 2.0 years to 7.8 years (Table 19). The increasing gap during these years is attributed to increases in male mortality due to ischemic heart disease and lung cancer, both of which increased largely as the result of men's early and widespread adoption of cigarette smoking (7,8). Between 1979 and 2010, the difference in life expectancy between the sexes narrowed from 7.8 years to 4.8 years (Table 19). 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 (7,8).

The 2012 life table may be used to compare life expectancy at any age from birth onward. On the basis of mortality experienced in 2012, a person aged 65 could expect to live an average of 19.3 more years for a total of 84.3 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

From 2011 to 2012, life expectancy increased by 0.2 year to 75.5 years for the black population, and by 0.1 year to 79.1 years for the white population. The difference in life expectancy between the white and black populations was 3.6 years in 2012, 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 increased to 7.1 years in 1993 before beginning to decline again in 1994 (Table 19). 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 (8).

Among the four race/sex groups (Figure 1), white females continued to have the highest life expectancy at birth (81.4 years), followed by black females (78.4), white males (76.7), and black males (72.3). From 2011 to 2012, life expectancy increased by 0.1 year for black males (from 72.2 to 72.3) and by 0.2 year for black females (from 78.2 to 78.4). Black males experienced a decline in life expectancy every year during 1984–1989 (8), followed by annual increases in 1990–1992 and 1994–2012. From 2011 to 2012, life expectancy increased by 0.1 year for both white males (from 76.6 to 76.7) and white females (from 81.3 to 81.4). Overall, gains in life expectancy between 1980 and 2012 were 8.5 years for black males, 6.0 years for white males, 5.9 years for black females, and 3.3 years for white females (Table 19).

Life expectancy by Hispanic origin

From 2011 to 2012, life expectancy increased by 0.1 year for the non-Hispanic black population (from 75.0 to 75.1) and for the Hispanic population (from 81.8 to 81.9). It increased by 0.2 year for the non-Hispanic white population (from 78.7 to 78.9) (Table A). In 2012, the Hispanic population had a life expectancy advantage at birth of 3.0 years over the non-Hispanic white population and 6.8 years over the non-Hispanic black population. The U.S. life tables by Hispanic origin are based on death rates that have been adjusted for race and ethnicity misclassification on death certificates

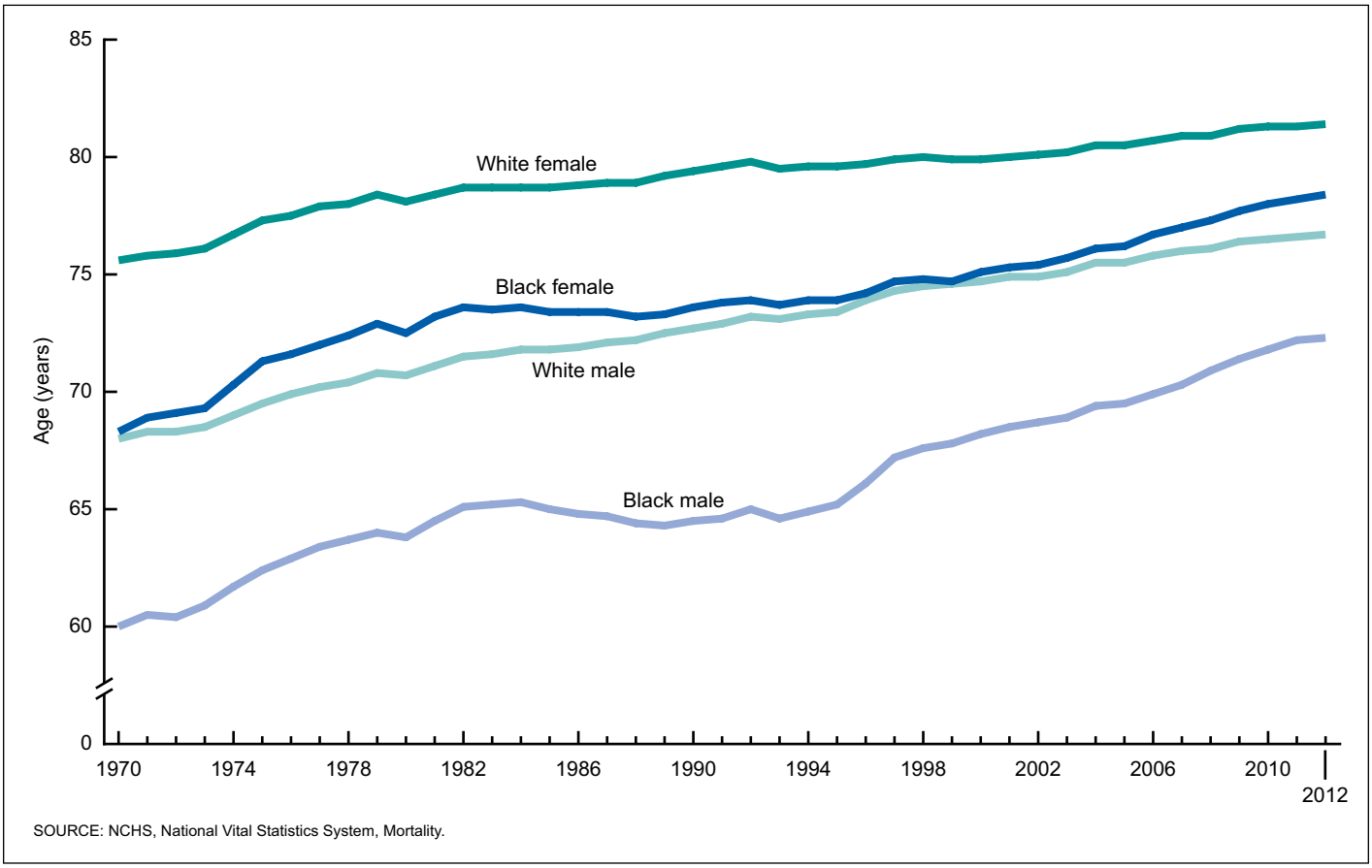

Figure 1. Life expectancy at birth, by race and sex: 1970–2012

(see Technical Notes for a detailed description of the methodology). Among the six Hispanic-origin race/sex groups (Figure 2), Hispanic females continued to have the highest life expectancy at birth (84.3 years), followed by non-Hispanic white females (81.2), Hispanic males (79.3), non-Hispanic black females (78.1), non-Hispanic white males (76.5), and non-Hispanic black males (71.9). The smallest difference is between Hispanic males and non-Hispanic black females, with Hispanic males having an advantage of 1.2 years. The largest difference is between Hispanic females and non-Hispanic black males, with Hispanic females having a life expectancy at birth that is 12.4 years greater.

The Hispanic mortality advantage is also evident 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 only by race (white and black), regardless 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, regardless of Hispanic origin, life expectancy at birth was 75.5 years in 2012, but it was 75.1 years when only the non-Hispanic segment of the black population was included. Similarly, life expectancy for the white population, regardless of Hispanic origin, was 79.1 years in 2012, but was 78.9 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 also observed 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 2012. Table 20 shows trends in survivorship from 1900 to 2012. In 2012, 99.4% of all infants born in the United States survived the first year of life. In contrast, 87.6% of infants born in 1900 survived the first year. Of the 2012 period life table cohort, 57.9% survived to age 80 and 2.0% survived to age 100. In 1900, 13.5% of the life table cohort survived to age 80 and 0.03% survived to age 100 (Table 20). The U.S. life tables by Hispanic origin are based on death rates that have been adjusted for race and ethnicity misclassification on death certificates (see Technical Notes for a detailed description of the methodology).

Survivorship by race

Among the four race/sex groups, white females have the highest median age at death, with about 52.7% surviving to age 84 (Tables 4–9). Of the original hypothetical cohort of 100,000 infant white females, 99.2% survive to age 20, 88.5% survive to age 65, and 49.1% survive to age 85. White males have slightly higher survival rates than black females at the younger ages, with 98.9% surviving to age 20 compared with 98.6% of black females (Tables 5 and 9).

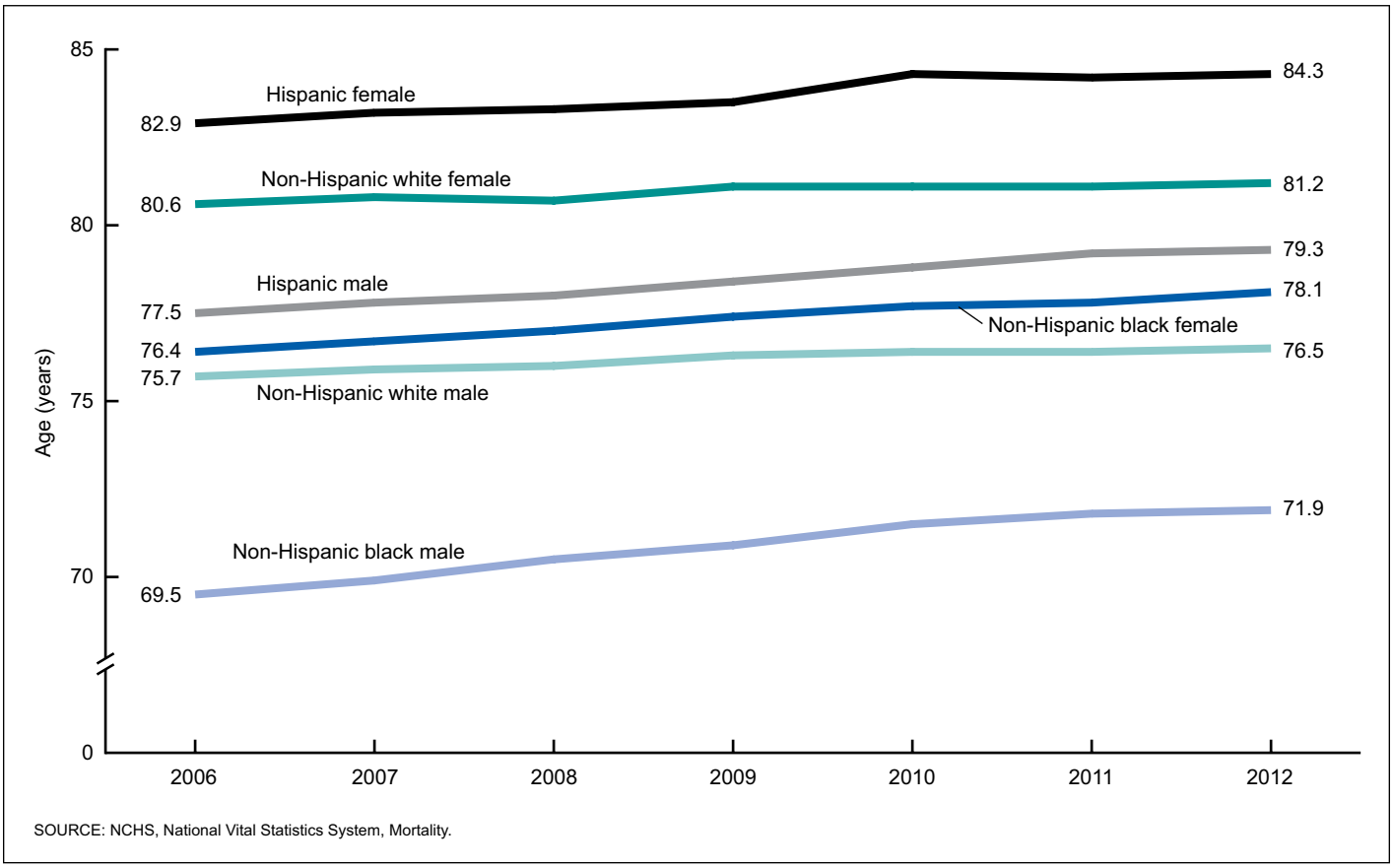

Figure 2. Life expectancy at birth, by Hispanic origin, race, and sex: United States, 2006–2012

At the older ages, however, black female survival surpasses white male survival. By age 85, white male survival is 35.6% compared with 41.6% for black females. The median age at death for black males is close to 76 years, about 9 years less than that for white females (Table 8). Among black males, 97.9% survive to age 20, 72.7% to age 65, and 25.5% to age 85. By age 100, very little difference is seen between the white and black populations in terms of survival. Around 1% of white males and black males, and around 3% of white females and black females, survive to age 100.

Survivorship by Hispanic origin

In 2012, 99.5% of both Hispanic and non-Hispanic white infants survived the first year of life, compared with 98.9% of non-Hispanic black infants (Tables 10–19). In adulthood, 99.1% of both the Hispanic and non-Hispanic white populations survived to age 20, while 98.2% 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, 87.9% of the Hispanic population survived to age 65, compared with 84.5% of the non-Hispanic white and 77.3% of the non-Hispanic black populations. The Hispanic survival advantage increases with age, so that by age 85, 51.8% of the Hispanic population has survived compared with 42.1% of the non-Hispanic white and 33.3% of the non-Hispanic black populations.

Among the six Hispanic-origin race/sex groups, Hispanic females have the highest median age at death, with 48.2% surviving to age 88 (Figure 3). The group with the next highest median age at death is non-Hispanic white females, with 48.7% surviving to age 85. Among Hispanic males, 50.2% survived to age 83, followed by non-Hispanic black females with 49.9% surviving to age 82, non-Hispanic white males with 48.5% surviving to age 81, and non-Hispanic black males with 49.2% surviving to age 76 (see Technical Notes).

Effects of updated corrections of race and Hispanic-origin misclassification on U.S. death certificates

A new study about misclassification of race and Hispanic origin on U.S. death certificates revealed that classification improved significantly for the Hispanic population, where the proportion of Hispanic decedents incorrectly classified as non-Hispanic declined from 5% to 3% (5). Classification for the non-Hispanic white and non-Hispanic black populations remained very good. The life tables by Hispanic origin shown in this report are based on death rates that were corrected for misclassification of Hispanic origin (and race for the non-Hispanic white and black populations) on death certificates, using correction factors from the new study (5). To provide accurate comparisons across years, the Hispanic-origin life tables for 2010

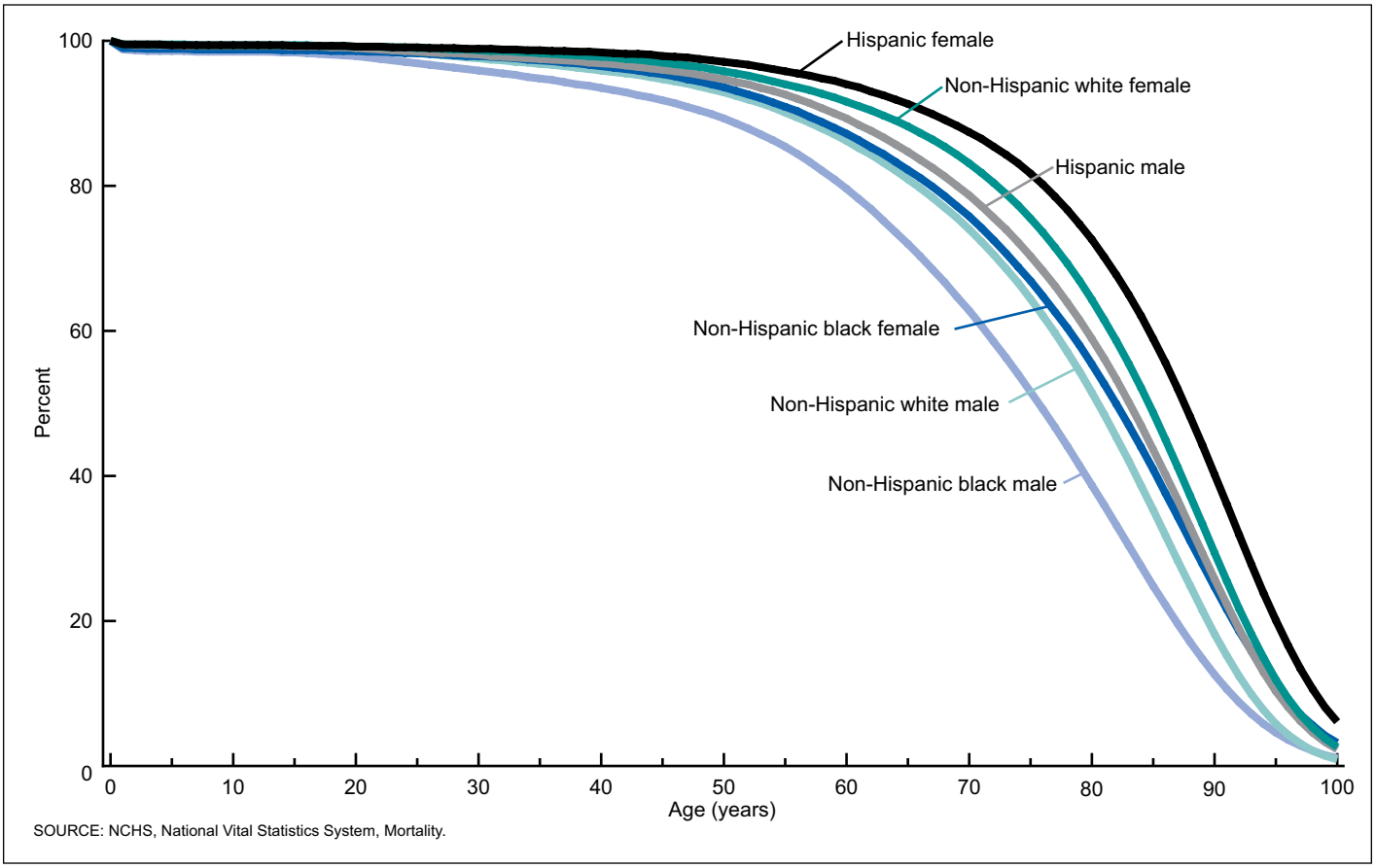

Figure 3. Percentage surviving, by Hispanic origin, race, age, and sex: United States, 2012

Table C. Comparison of life expectancy, based on previous and updated corrections for race and Hispanic-origin misclassification on death certificates: United States, 2010 and 2011

Age, Hispanic origin, and race	Total				Male				Female			
	2010		2011		2010		2011		2010		2011	
	PC	NC	PC	NC	PC	NC	PC	NC	PC	NC	PC	NC
Hispanic												
0	81.4	81.7	81.6	81.8	78.7	78.8	79.0	79.2	83.8	84.3	83.8	84.2
65	20.8	21.2	20.9	21.2	19.1	19.2	19.3	19.5	22.1	22.6	22.0	22.5
85	7.4	7.6	7.4	7.6	6.4	6.6	6.6	6.8	7.8	8.2	7.6	8.0
100	2.6	2.8	2.5	2.7	2.3	2.4	2.3	2.4	2.6	2.8	2.4	2.6
Non-Hispanic white												
0	78.8	78.8	78.8	78.7	76.4	76.4	76.4	76.4	81.1	81.1	81.1	81.1
65	19.1	19.1	19.1	19.1	17.7	17.7	17.8	17.8	20.3	20.3	20.3	20.3
85	6.5	6.5	6.5	6.5	5.8	5.8	5.8	5.8	6.9	6.9	6.8	6.8
100	2.3	2.3	2.2	2.2	2.0	2.0	2.0	2.0	2.3	2.3	2.2	2.2
Non-Hispanic black												
0	74.7	74.7	74.9	75.0	71.4	71.5	71.7	71.8	77.7	77.7	77.9	77.8
65	17.7	17.7	17.9	17.9	15.8	15.8	16.1	16.0	19.1	19.1	19.2	19.2
85	6.7	6.7	6.8	6.8	5.9	5.9	6.0	6.0	7.1	7.1	7.2	7.2
100	2.8	2.8	2.9	2.9	2.5	2.5	2.6	2.6	2.8	2.8	2.9	2.9

NOTE: PC denotes data based on previous correction factors; NC denotes data based on new correction factors.

SOURCE: NCHS, National Vital Statistics System, Mortality.

and 2011 were re-estimated using the updated correction factors. Table C shows life expectancy at selected ages for 2010 and 2011 that are based on the previous and revised life tables. As expected, life expectancy at birth for the Hispanic population in 2010 and 2011 is higher than that based on the previous correction factors (5).

References

1. Shryock HS, Siegel JS, Larmon EA. The methods and materials of demography, vol 2. U.S. Bureau of the Census. Washington, DC: U.S. Government Printing Office. 1971.
2. Moriyama IM, Gustavus SO. Cohort mortality and survivorship, United States death-registration states, 1900–1968. National Center for Health Statistics. Vital Health Stat 3(16). 1972. Available from: http://www.cdc.gov/nchs/data/series/sr_03/sr03_016.pdf.
3. Preston SH, Heuveline P, Guillot M. Demography: Measuring and modeling population processes. Oxford, United Kingdom: Blackwell Publishers. 2001.
4. Sirken MG. Comparison of two methods of constructing abridged life tables by reference to a "standard" table. National Center for Health Statistics. Vital Health Stat 2(4). 1966. Available from: http://www.cdc.gov/nchs/data/series/sr_02/sr02_004.pdf.
5. Arias E, Heron M, Hakes JK. The validity of race and Hispanic-origin reporting on death certificates in the United States: An update. Vital Health Stat 2(172). Hyattsville, MD: National Center for Health Statistics. 2016. Available from: http://www.cdc.gov/nchs/data/series/sr_02/sr02_172.pdf.
6. Murphy SL, Kochanek KD, Xu JQ, Heron M. Deaths: Final data for 2012. National vital statistics reports; vol 63 no 9. Hyattsville, MD: National Center for Health Statistics. 2015. Available from: http://www.cdc.gov/nchs/data/nvsr/nvsr63/nvsr63_09.pdf.
7. Waldron I. Recent trends in sex mortality ratios for adults in developed countries. Soc Sci Med 36(4):451–62. 1993.
8. Kochanek KD, Maurer JD, Rosenberg HM. Causes of death contributing to changes in life expectancy: United States, 1984–89. National Center for Health Statistics. Vital Health Stat 20(23). 1994. Available from: http://www.cdc.gov/nchs/data/series/sr_20/sr20_023.pdf.
9. Anderson RN. Method for constructing complete annual U.S. life tables. National Center for Health Statistics. Vital Health Stat 2(129). 1999. Available from: http://www.cdc.gov/nchs/data/series/sr_02/sr02_129.pdf.
10. Arias E, Rostron BL, Tejada-Vera B. United States life tables, 2005. National vital statistics reports; vol 58 no 10. Hyattsville, MD: National Center for Health Statistics. 2010. Available from: http://www.cdc.gov/nchs/data/nvsr/nvsr58/nvsr58_10.pdf.
11. Arias E. United States life tables, 2008. National vital statistics reports; vol 61 no 3. Hyattsville, MD: National Center for Health Statistics. 2012. Available from: http://www.cdc.gov/nchs/data/nvsr/nvsr61/nvsr61_03.pdf.
12. Arias E. United States life tables by Hispanic origin. National Center for Health Statistics. Vital Health Stat 2(152). 2010. Available from: http://www.cdc.gov/nchs/data/series/sr_02/sr02_152.pdf.
13. Arias E, Schauman WS, Eschbach K, et al. The validity of race and Hispanic origin reporting on death certificates in the United States. National Center for Health Statistics. Vital Health Stat 2(148). 2008. Available from: http://www.cdc.gov/nchs/data/series/sr_02/sr02_148.pdf.
14. Arias E, Eschbach K, Schauman WS, Backlund EL, Sorlie PD. The Hispanic mortality advantage and ethnic misclassification on US death certificates. Am J Public Health 100(Suppl 1):S171–7. 2010.
15. Arias E. United States life tables, 2009. National vital statistics reports; vol 62 no 7. Hyattsville, MD: National Center for Health Statistics. 2014. Available from: http://www.cdc.gov/nchs/data/nvsr/nvsr62/nvsr62_07.pdf.
16. Greville TNE, Carlson GA. Estimated average length of life in the death-registration states. National Center for Health Statistics. Vital statistics—Special reports 33(9). Washington, DC: Public Health Service. 1951.
17. Office of Management and Budget. Revisions to the standards for the classification of federal data on race and ethnicity. Fed Regist 62(210):58782–90. 1997. Available from: http://www.whitehouse.gov/omb/fedreg_1997standards.

18. Office of Management and Budget. Race and ethnic standards for federal statistics and administrative reporting. Statistical Policy Directive 15. 1977. Available from: http://wonder.cdc.gov/WONDER/help/populations/bridged-race/Directive15.html.
19. Ingram DD, Parker JD, Schenker N, et al. United States Census 2000 population with bridged race categories. National Center for Health Statistics. Vital Health Stat 2(135). 2003. Available from: http://www.cdc.gov/nchs/data/series/sr_02/sr02_135.pdf.
20. U.S. Census Bureau. Age, sex, race, and Hispanic origin information from the 1990 census: A comparison of census results with results where age and race have been modified, 1990. CPH–L–74. Washington, DC: U.S. Department of Commerce. 1991.
21. Bell FC, Miller ML. Life tables for the United States Social Security Area 1900–2100. Actuarial study no. 120. Baltimore, MD: Social Security Administration, Office of the Chief Actuary. SSA Pub. No. 11–11536. 2005.
22. Research Data Assistance Center. Introduction to the use of Medicare data for research. Minneapolis, MN: University of Minnesota School of Public Health. 2004.
23. National Center for Health Statistics. 2011 period linked birth/infant death data set. National Vital Statistics System. Available from: http://www.cdc.gov/nchs/data_access/vitalstatsonline.htm.
24. National Center for Health Statistics. 2012 period linked birth/infant death data set. National Vital Statistics System. Available from: http://www.cdc.gov/nchs/data_access/vitalstatsonline.htm.
25. Turra CM, Elo IT. The impact of salmon bias on the Hispanic mortality advantage: New evidence from Social Security data. Popul Res Policy Rev 27(5):515–30. 2008.
26. Chiang CL. The life table and its applications. Malabar, FL: Krieger Publishing. 1984.
27. Thatcher AR, Kannisto V, Vaupel JW. The force of mortality at ages 80 to 120. Odense, Denmark: Odense University Press. 1998.
28. Andreev KF, Bourbeau RR. Frailty modeling of Canadian and Swedish mortality at adult and advanced ages. In: Population Association of America 2007 Annual Meeting Program. Silver Spring, MD: Population Association of America. 2007.
29. Elo IT, Turra CM, Kestenbaum B, Ferguson BR. Mortality among elderly Hispanics in the United States: Past evidence and new results. Demography 41(1):109–28. 2004.
30. Brass W. On the scale of mortality. In: Brass W, ed., Biological aspects of demography. London: Taylor & Francis; 99–110. 1971.
31. Himes CL, Preston SH, Condran GA. A relational model of mortality at older ages in low mortality countries. Popul Stud 48(2):269–91. 1994.
32. Preston SH, Elo IT. Black mortality at very old ages in official U.S. life tables: A skeptical appraisal. Popul Dev Rev 32(3):557–65. 2006.

List of Detailed Tables

Table 1. Life table for the total population: United States, 2012

Spreadsheet version available from: ftp://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/65_8/Table01.xlsx.

Age (years)	Probability of dying between ages x and $x+1$ q_x	Number surviving to age x l_x	Number dying between ages x and $x+1$ d_x	Person-years lived between ages x and $x+1$ L_x	Total number of person-years lived above age x T_x	Expectation of life at age x e_x
0–1	0.005978	100,000	598	99,474	7,882,683	78.8
1–2	0.000409	99,402	41	99,382	7,783,209	78.3
2–3	0.000270	99,362	27	99,348	7,683,827	77.3
3–4	0.000204	99,335	20	99,325	7,584,479	76.4
4–5	0.000171	99,315	17	99,306	7,485,154	75.4
5–6	0.000146	99,298	15	99,290	7,385,848	74.4
6–7	0.000127	99,283	13	99,277	7,286,558	73.4
7–8	0.000112	99,270	11	99,265	7,187,281	72.4
8–9	0.000098	99,259	10	99,254	7,088,016	71.4
9–10	0.000087	99,250	9	99,245	6,988,762	70.4
10–11	0.000082	99,241	8	99,237	6,889,517	69.4
11–12	0.000089	99,233	9	99,228	6,790,280	68.4
12–13	0.000117	99,224	12	99,218	6,691,052	67.4
13–14	0.000167	99,212	17	99,204	6,591,833	66.4
14–15	0.000236	99,196	23	99,184	6,492,629	65.5
15–16	0.000310	99,172	31	99,157	6,393,445	64.5
16–17	0.000384	99,142	38	99,123	6,294,288	63.5
17–18	0.000465	99,103	46	99,080	6,195,166	62.5
18–19	0.000551	99,057	55	99,030	6,096,086	61.5
19–20	0.000637	99,003	63	98,971	5,997,055	60.6
20–21	0.000726	98,940	72	98,904	5,898,084	59.6
21–22	0.000806	98,868	80	98,828	5,799,181	58.7
22–23	0.000868	98,788	86	98,745	5,700,353	57.7
23–24	0.000905	98,702	89	98,658	5,601,607	56.8
24–25	0.000924	98,613	91	98,568	5,502,949	55.8
25–26	0.000939	98,522	93	98,476	5,404,382	54.9
26–27	0.000957	98,430	94	98,382	5,305,906	53.9
27–28	0.000977	98,335	96	98,287	5,207,524	53.0
28–29	0.001002	98,239	98	98,190	5,109,237	52.0
29–30	0.001030	98,141	101	98,090	5,011,047	51.1
30–31	0.001061	98,040	104	97,988	4,912,956	50.1
31–32	0.001094	97,936	107	97,882	4,814,969	49.2
32–33	0.001127	97,829	110	97,773	4,717,087	48.2
33–34	0.001161	97,718	113	97,662	4,619,313	47.3
34–35	0.001200	97,605	117	97,546	4,521,652	46.3
35–36	0.001251	97,488	122	97,427	4,424,105	45.4
36–37	0.001317	97,366	128	97,302	4,326,679	44.4
37–38	0.001394	97,237	136	97,170	4,229,377	43.5
38–39	0.001480	97,102	144	97,030	4,132,207	42.6
39–40	0.001575	96,958	153	96,882	4,035,177	41.6
40–41	0.001680	96,805	163	96,724	3,938,295	40.7
41–42	0.001802	96,643	174	96,556	3,841,571	39.8
42–43	0.001950	96,469	188	96,375	3,745,016	38.8
43–44	0.002130	96,281	205	96,178	3,648,641	37.9
44–45	0.002344	96,075	225	95,963	3,552,463	37.0
45–46	0.002575	95,850	247	95,727	3,456,500	36.1
46–47	0.002824	95,603	270	95,468	3,360,773	35.2
47–48	0.003112	95,333	297	95,185	3,265,305	34.3
48–49	0.003437	95,037	327	94,873	3,170,120	33.4
49–50	0.003787	94,710	359	94,531	3,075,246	32.5
50–51	0.004146	94,351	391	94,156	2,980,715	31.6
51–52	0.004509	93,960	424	93,748	2,886,560	30.7
52–53	0.004884	93,537	457	93,308	2,792,811	29.9
53–54	0.005282	93,080	492	92,834	2,699,503	29.0
54–55	0.005708	92,588	528	92,324	2,606,669	28.2
55–56	0.006167	92,060	568	91,776	2,514,345	27.3
56–57	0.006651	91,492	609	91,188	2,422,569	26.5
57–58	0.007156	90,883	650	90,558	2,331,382	25.7
58–59	0.007673	90,233	692	89,887	2,240,823	24.8
59–60	0.008210	89,541	735	89,173	2,150,937	24.0
60–61	0.008784	88,805	780	88,415	2,061,763	23.2

See footnote at end of table.

Table 1. Life table for the total population: United States, 2012—Con.

Spreadsheet version available from: ftp://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/65_8/Table01.xlsx.

Age (years)	Probability of dying between ages x and $x+1$ q_x	Number surviving to age x l_x	Number dying between ages x and $x+1$ d_x	Person-years lived between ages x and $x+1$ L_x	Total number of person-years lived above age x T_x	Expectation of life at age x e_x
61–62	0.009408	88,025	828	87,611	1,973,348	22.4
62–63	0.010083	87,197	879	86,758	1,885,737	21.6
63–64	0.010819	86,318	934	85,851	1,798,979	20.8
64–65	0.011628	85,384	993	84,888	1,713,128	20.1
65–66	0.012530	84,391	1,057	83,863	1,628,240	19.3
66–67	0.013534	83,334	1,128	82,770	1,544,378	18.5
67–68	0.014658	82,206	1,205	81,604	1,461,608	17.8
68–69	0.015888	81,001	1,287	80,358	1,380,004	17.0
69–70	0.017236	79,714	1,374	79,027	1,299,647	16.3
70–71	0.018831	78,340	1,475	77,603	1,220,619	15.6
71–72	0.020693	76,865	1,591	76,070	1,143,017	14.9
72–73	0.022723	75,274	1,710	74,419	1,066,947	14.2
73–74	0.024884	73,564	1,831	72,649	992,528	13.5
74–75	0.027216	71,733	1,952	70,757	919,879	12.8
75–76	0.029822	69,781	2,081	68,741	849,122	12.2
76–77	0.032876	67,700	2,226	66,587	780,381	11.5
77–78	0.036328	65,474	2,379	64,285	713,794	10.9
78–79	0.040156	63,096	2,534	61,829	649,509	10.3
79–80	0.044699	60,562	2,707	59,209	587,680	9.7
80–81	0.049419	57,855	2,859	56,426	528,471	9.1
81–82	0.054529	54,996	2,999	53,497	472,046	8.6
82–83	0.060341	51,997	3,138	50,428	418,549	8.0
83–84	0.067163	48,860	3,282	47,219	368,121	7.5
84–85	0.074785	45,578	3,409	43,874	320,902	7.0
85–86	0.083577	42,169	3,524	40,407	277,029	6.6
86–87	0.093319	38,645	3,606	36,842	236,621	6.1
87–88	0.103993	35,039	3,644	33,217	199,779	5.7
88–89	0.115643	31,395	3,631	29,580	166,562	5.3
89–90	0.128300	27,764	3,562	25,983	136,983	4.9
90–91	0.141986	24,202	3,436	22,484	111,000	4.6
91–92	0.156706	20,766	3,254	19,139	88,516	4.3
92–93	0.172451	17,512	3,020	16,002	69,377	4.0
93–94	0.189191	14,492	2,742	13,121	53,375	3.7
94–95	0.206875	11,750	2,431	10,535	40,254	3.4
95–96	0.225433	9,319	2,101	8,269	29,719	3.2
96–97	0.244768	7,218	1,767	6,335	21,451	3.0
97–98	0.264767	5,452	1,443	4,730	15,116	2.8
98–99	0.285296	4,008	1,144	3,436	10,386	2.6
99–100	0.306203	2,865	877	2,426	6,949	2.4
100 and over	1.000000	1,987	1,987	4,523	4,523	2.3

SOURCE: NCHS, National Vital Statistics System, Mortality.

Table 2. Life table for males: United States, 2012

Spreadsheet version available from: ftp://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/65_8/Table02.xlsx.

Age (years)	Probability of dying between ages x and $x+1$ q_x	Number surviving to age x l_x	Number dying between ages x and $x+1$ d_x	Person-years lived between ages x and $x+1$ L_x	Total number of person-years lived above age x T_x	Expectation of life at age x e_x
0–1	0.006499	100,000	650	99,427	7,641,761	76.4
1–2	0.000443	99,350	44	99,328	7,542,334	75.9
2–3	0.000303	99,306	30	99,291	7,443,006	75.0
3–4	0.000224	99,276	22	99,265	7,343,715	74.0
4–5	0.000200	99,254	20	99,244	7,244,451	73.0
5–6	0.000165	99,234	16	99,226	7,145,207	72.0
6–7	0.000144	99,217	14	99,210	7,045,981	71.0
7–8	0.000125	99,203	12	99,197	6,946,771	70.0
8–9	0.000107	99,191	11	99,185	6,847,574	69.0
9–10	0.000090	99,180	9	99,176	6,748,389	68.0
10–11	0.000081	99,171	8	99,167	6,649,213	67.0
11–12	0.000090	99,163	9	99,159	6,550,046	66.1
12–13	0.000128	99,154	13	99,148	6,450,887	65.1
13–14	0.000204	99,141	20	99,131	6,351,739	64.1
14–15	0.000307	99,121	30	99,106	6,252,608	63.1
15–16	0.000415	99,091	41	99,070	6,153,502	62.1
16–17	0.000524	99,050	52	99,024	6,054,432	61.1
17–18	0.000646	98,998	64	98,966	5,955,408	60.2
18–19	0.000779	98,934	77	98,895	5,856,442	59.2
19–20	0.000914	98,857	90	98,812	5,757,547	58.2
20–21	0.001053	98,766	104	98,714	5,658,735	57.3
21–22	0.001178	98,662	116	98,604	5,560,021	56.4
22–23	0.001270	98,546	125	98,484	5,461,417	55.4
23–24	0.001319	98,421	130	98,356	5,362,933	54.5
24–25	0.001337	98,291	131	98,225	5,264,577	53.6
25–26	0.001346	98,160	132	98,094	5,166,351	52.6
26–27	0.001359	98,028	133	97,961	5,068,258	51.7
27–28	0.001373	97,894	134	97,827	4,970,297	50.8
28–29	0.001394	97,760	136	97,692	4,872,469	49.8
29–30	0.001420	97,624	139	97,554	4,774,778	48.9
30–31	0.001448	97,485	141	97,415	4,677,223	48.0
31–32	0.001477	97,344	144	97,272	4,579,809	47.0
32–33	0.001506	97,200	146	97,127	4,482,536	46.1
33–34	0.001537	97,054	149	96,979	4,385,409	45.2
34–35	0.001574	96,905	153	96,828	4,288,430	44.3
35–36	0.001625	96,752	157	96,673	4,191,602	43.3
36–37	0.001694	96,595	164	96,513	4,094,928	42.4
37–38	0.001775	96,431	171	96,346	3,998,415	41.5
38–39	0.001867	96,260	180	96,170	3,902,069	40.5
39–40	0.001970	96,080	189	95,986	3,805,899	39.6
40–41	0.002087	95,891	200	95,791	3,709,914	38.7
41–42	0.002227	95,691	213	95,584	3,614,123	37.8
42–43	0.002398	95,478	229	95,363	3,518,538	36.9
43–44	0.002609	95,249	248	95,125	3,423,175	35.9
44–45	0.002862	95,000	272	94,864	3,328,050	35.0
45–46	0.003136	94,728	297	94,580	3,233,186	34.1
46–47	0.003438	94,431	325	94,269	3,138,606	33.2
47–48	0.003793	94,107	357	93,928	3,044,337	32.3
48–49	0.004205	93,750	394	93,553	2,950,408	31.5
49–50	0.004654	93,356	434	93,138	2,856,856	30.6
50–51	0.005115	92,921	475	92,683	2,763,717	29.7
51–52	0.005581	92,446	516	92,188	2,671,034	28.9
52–53	0.006072	91,930	558	91,651	2,578,846	28.1
53–54	0.006600	91,372	603	91,070	2,487,196	27.2
54–55	0.007173	90,769	651	90,443	2,396,125	26.4
55–56	0.007791	90,117	702	89,766	2,305,682	25.6
56–57	0.008438	89,415	754	89,038	2,215,916	24.8
57–58	0.009100	88,661	807	88,257	2,126,878	24.0
58–59	0.009765	87,854	858	87,425	2,038,620	23.2
59–60	0.010439	86,996	908	86,542	1,951,195	22.4
60–61	0.011156	86,088	960	85,608	1,864,653	21.7

See footnote at end of table.

Table 2. Life table for males: United States, 2012—Con.

Spreadsheet version available from: ftp://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/65_8/Table02.xlsx.

Age (years)	Probability of dying between ages x and $x+1$ q_x	Number surviving to age x l_x	Number dying between ages x and $x+1$ d_x	Person-years lived between ages x and $x+1$ L_x	Total number of person-years lived above age x T_x	Expectation of life at age x e_x
61–62	0.011929	85,128	1,016	84,620	1,779,045	20.9
62–63	0.012740	84,112	1,072	83,576	1,694,426	20.1
63–64	0.013593	83,040	1,129	82,476	1,610,849	19.4
64–65	0.014505	81,912	1,188	81,318	1,528,373	18.7
65–66	0.015501	80,724	1,251	80,098	1,447,056	17.9
66–67	0.016614	79,472	1,320	78,812	1,366,958	17.2
67–68	0.017888	78,152	1,398	77,453	1,288,146	16.5
68–69	0.019327	76,754	1,483	76,012	1,210,693	15.8
69–70	0.020930	75,270	1,575	74,483	1,134,681	15.1
70–71	0.022834	73,695	1,683	72,854	1,060,198	14.4
71–72	0.025025	72,012	1,802	71,111	987,344	13.7
72–73	0.027449	70,210	1,927	69,247	916,233	13.0
73–74	0.030017	68,283	2,050	67,258	846,986	12.4
74–75	0.032687	66,233	2,165	65,151	779,728	11.8
75–76	0.035636	64,068	2,283	62,927	714,577	11.2
76–77	0.039103	61,785	2,416	60,577	651,650	10.5
77–78	0.043133	59,369	2,561	58,089	591,073	10.0
78–79	0.047638	56,808	2,706	55,455	532,984	9.4
79–80	0.052915	54,102	2,863	52,671	477,529	8.8
80–81	0.058450	51,239	2,995	49,742	424,858	8.3
81–82	0.064422	48,245	3,108	46,691	375,116	7.8
82–83	0.071408	45,137	3,223	43,525	328,426	7.3
83–84	0.079491	41,913	3,332	40,248	284,901	6.8
84–85	0.088144	38,582	3,401	36,881	244,653	6.3
85–86	0.097713	35,181	3,438	33,462	207,772	5.9
86–87	0.109044	31,743	3,461	30,013	174,310	5.5
87–88	0.121408	28,282	3,434	26,565	144,297	5.1
88–89	0.134836	24,848	3,350	23,173	117,732	4.7
89–90	0.149341	21,498	3,211	19,893	94,559	4.4
90–91	0.164923	18,287	3,016	16,779	74,667	4.1
91–92	0.181561	15,271	2,773	13,885	57,888	3.8
92–93	0.199210	12,499	2,490	11,254	44,003	3.5
93–94	0.217805	10,009	2,180	8,919	32,749	3.3
94–95	0.237254	7,829	1,857	6,900	23,830	3.0
95–96	0.257445	5,971	1,537	5,203	16,930	2.8
96–97	0.278240	4,434	1,234	3,817	11,727	2.6
97–98	0.299485	3,200	958	2,721	7,910	2.5
98–99	0.321012	2,242	720	1,882	5,189	2.3
99–100	0.342642	1,522	522	1,261	3,307	2.2
100 and over	1.000000	1,001	1,001	2,046	2,046	2.0

SOURCE: NCHS, National Vital Statistics System, Mortality.

Table 3. Life table for females: United States, 2012

Spreadsheet version available from: ftp://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/65_8/Table03.xlsx.

Age (years)	Probability of dying between ages x and $x+1$ q_x	Number surviving to age x l_x	Number dying between ages x and $x+1$ d_x	Person-years lived between ages x and $x+1$ L_x	Total number of person-years lived above age x T_x	Expectation of life at age x e_x
0–1	0.005432	100,000	543	99,523	8,116,947	81.2
1–2	0.000374	99,457	37	99,438	8,017,424	80.6
2–3	0.000234	99,420	23	99,408	7,917,985	79.6
3–4	0.000182	99,396	18	99,387	7,818,577	78.7
4–5	0.000140	99,378	14	99,371	7,719,190	77.7
5–6	0.000127	99,364	13	99,358	7,619,819	76.7
6–7	0.000110	99,352	11	99,346	7,520,461	75.7
7–8	0.000097	99,341	10	99,336	7,421,115	74.7
8–9	0.000089	99,331	9	99,327	7,321,779	73.7
9–10	0.000084	99,322	8	99,318	7,222,452	72.7
10–11	0.000083	99,314	8	99,310	7,123,134	71.7
11–12	0.000089	99,306	9	99,301	7,023,824	70.7
12–13	0.000104	99,297	10	99,292	6,924,523	69.7
13–14	0.000129	99,286	13	99,280	6,825,231	68.7
14–15	0.000162	99,274	16	99,266	6,725,951	67.8
15–16	0.000199	99,258	20	99,248	6,626,686	66.8
16–17	0.000236	99,238	23	99,226	6,527,438	65.8
17–18	0.000274	99,214	27	99,201	6,428,212	64.8
18–19	0.000311	99,187	31	99,172	6,329,011	63.8
19–20	0.000346	99,156	34	99,139	6,229,840	62.8
20–21	0.000381	99,122	38	99,103	6,130,701	61.9
21–22	0.000416	99,084	41	99,064	6,031,597	60.9
22–23	0.000446	99,043	44	99,021	5,932,534	59.9
23–24	0.000471	98,999	47	98,975	5,833,513	58.9
24–25	0.000494	98,952	49	98,928	5,734,538	58.0
25–26	0.000517	98,903	51	98,878	5,635,610	57.0
26–27	0.000543	98,852	54	98,825	5,536,732	56.0
27–28	0.000571	98,798	56	98,770	5,437,907	55.0
28–29	0.000601	98,742	59	98,712	5,339,137	54.1
29–30	0.000632	98,683	62	98,652	5,240,424	53.1
30–31	0.000668	98,620	66	98,587	5,141,773	52.1
31–32	0.000707	98,554	70	98,520	5,043,185	51.2
32–33	0.000745	98,485	73	98,448	4,944,666	50.2
33–34	0.000784	98,411	77	98,373	4,846,218	49.2
34–35	0.000826	98,334	81	98,294	4,747,845	48.3
35–36	0.000878	98,253	86	98,210	4,649,551	47.3
36–37	0.000942	98,167	92	98,121	4,551,341	46.4
37–38	0.001015	98,074	100	98,025	4,453,221	45.4
38–39	0.001096	97,975	107	97,921	4,355,196	44.5
39–40	0.001183	97,867	116	97,809	4,257,275	43.5
40–41	0.001276	97,752	125	97,689	4,159,465	42.6
41–42	0.001381	97,627	135	97,559	4,061,776	41.6
42–43	0.001506	97,492	147	97,419	3,964,217	40.7
43–44	0.001657	97,345	161	97,265	3,866,798	39.7
44–45	0.001834	97,184	178	97,095	3,769,534	38.8
45–46	0.002022	97,006	196	96,908	3,672,439	37.9
46–47	0.002222	96,810	215	96,702	3,575,531	36.9
47–48	0.002444	96,594	236	96,476	3,478,829	36.0
48–49	0.002687	96,358	259	96,229	3,382,353	35.1
49–50	0.002942	96,099	283	95,958	3,286,124	34.2
50–51	0.003205	95,817	307	95,663	3,190,166	33.3
51–52	0.003470	95,510	331	95,344	3,094,503	32.4
52–53	0.003738	95,178	356	95,000	2,999,159	31.5
53–54	0.004014	94,822	381	94,632	2,904,159	30.6
54–55	0.004306	94,442	407	94,238	2,809,527	29.7
55–56	0.004622	94,035	435	93,818	2,715,288	28.9
56–57	0.004961	93,600	464	93,368	2,621,471	28.0
57–58	0.005324	93,136	496	92,888	2,528,102	27.1
58–59	0.005712	92,640	529	92,376	2,435,214	26.3
59–60	0.006129	92,111	565	91,829	2,342,838	25.4
60–61	0.006579	91,546	602	91,245	2,251,010	24.6

See footnote at end of table.

Table 3. Life table for females: United States, 2012—Con.

Spreadsheet version available from: ftp://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/65_8/Table03.xlsx.

Age (years)	Probability of dying between ages x and $x+1$ q_x	Number surviving to age x l_x	Number dying between ages x and $x+1$ d_x	Person-years lived between ages x and $x+1$ L_x	Total number of person-years lived above age x T_x	Expectation of life at age x e_x
61–62	0.007075	90,944	643	90,622	2,159,764	23.7
62–63	0.007634	90,301	689	89,956	2,069,142	22.9
63–64	0.008274	89,611	741	89,241	1,979,186	22.1
64–65	0.008998	88,870	800	88,470	1,889,945	21.3
65–66	0.009826	88,070	865	87,638	1,801,475	20.5
66–67	0.010745	87,205	937	86,736	1,713,837	19.7
67–68	0.011748	86,268	1,013	85,761	1,627,101	18.9
68–69	0.012811	85,254	1,092	84,708	1,541,340	18.1
69–70	0.013960	84,162	1,175	83,575	1,456,632	17.3
70–71	0.015317	82,987	1,271	82,352	1,373,057	16.5
71–72	0.016935	81,716	1,384	81,024	1,290,705	15.8
72–73	0.018674	80,332	1,500	79,582	1,209,681	15.1
73–74	0.020539	78,832	1,619	78,023	1,130,099	14.3
74–75	0.022642	77,213	1,748	76,339	1,052,076	13.6
75–76	0.025028	75,465	1,889	74,520	975,737	12.9
76–77	0.027826	73,576	2,047	72,552	901,217	12.2
77–78	0.030908	71,529	2,211	70,423	828,664	11.6
78–79	0.034321	69,318	2,379	68,128	758,241	10.9
79–80	0.038452	66,939	2,574	65,652	690,113	10.3
80–81	0.042724	64,365	2,750	62,990	624,461	9.7
81–82	0.047387	61,615	2,920	60,155	561,471	9.1
82–83	0.052600	58,695	3,087	57,152	501,315	8.5
83–84	0.058859	55,608	3,273	53,971	444,164	8.0
84–85	0.066132	52,335	3,461	50,604	390,192	7.5
85–86	0.074693	48,874	3,651	47,049	339,588	6.9
86–87	0.083936	45,223	3,796	43,325	292,539	6.5
87–88	0.094140	41,428	3,900	39,478	249,214	6.0
88–89	0.105361	37,528	3,954	35,551	209,736	5.6
89–90	0.117645	33,574	3,950	31,599	174,186	5.2
90–91	0.131027	29,624	3,882	27,683	142,587	4.8
91–92	0.145527	25,742	3,746	23,869	114,904	4.5
92–93	0.161149	21,996	3,545	20,224	91,035	4.1
93–94	0.177876	18,451	3,282	16,810	70,811	3.8
94–95	0.195666	15,169	2,968	13,685	54,001	3.6
95–96	0.214456	12,201	2,617	10,893	40,315	3.3
96–97	0.234153	9,585	2,244	8,462	29,422	3.1
97–98	0.254640	7,340	1,869	6,406	20,960	2.9
98–99	0.275777	5,471	1,509	4,717	14,554	2.7
99–100	0.297402	3,962	1,178	3,373	9,837	2.5
100 and over	1.000000	2,784	2,784	6,464	6,464	2.3

SOURCE: NCHS, National Vital Statistics System, Mortality.

Table 4. Life table for the white population: United States, 2012

Spreadsheet version available from: ftp://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/65_8/Table04.xlsx.

Age (years)	Probability of dying between ages x and $x+1$ q_x	Number surviving to age x l_x	Number dying between ages x and $x+1$ d_x	Person-years lived between ages x and $x+1$ L_x	Total number of person-years lived above age x T_x	Expectation of life at age x e_x
0–1	0.005082	100,000	508	99,552	7,905,882	79.1
1–2	0.000383	99,492	38	99,473	7,806,330	78.5
2–3	0.000254	99,454	25	99,441	7,706,858	77.5
3–4	0.000189	99,428	19	99,419	7,607,417	76.5
4–5	0.000158	99,410	16	99,402	7,507,998	75.5
5–6	0.000136	99,394	13	99,387	7,408,596	74.5
6–7	0.000118	99,380	12	99,375	7,309,209	73.5
7–8	0.000104	99,369	10	99,364	7,209,834	72.6
8–9	0.000091	99,358	9	99,354	7,110,471	71.6
9–10	0.000081	99,349	8	99,345	7,011,117	70.6
10–11	0.000077	99,341	8	99,337	6,911,771	69.6
11–12	0.000084	99,334	8	99,329	6,812,434	68.6
12–13	0.000111	99,325	11	99,320	6,713,105	67.6
13–14	0.000159	99,314	16	99,306	6,613,785	66.6
14–15	0.000225	99,298	22	99,287	6,514,479	65.6
15–16	0.000295	99,276	29	99,261	6,415,191	64.6
16–17	0.000367	99,247	36	99,229	6,315,930	63.6
17–18	0.000444	99,210	44	99,188	6,216,701	62.7
18–19	0.000526	99,166	52	99,140	6,117,513	61.7
19–20	0.000607	99,114	60	99,084	6,018,373	60.7
20–21	0.000691	99,054	68	99,020	5,919,288	59.8
21–22	0.000768	98,986	76	98,948	5,820,269	58.8
22–23	0.000828	98,910	82	98,869	5,721,321	57.8
23–24	0.000866	98,828	86	98,785	5,622,452	56.9
24–25	0.000889	98,742	88	98,698	5,523,667	55.9
25–26	0.000908	98,654	90	98,609	5,424,969	55.0
26–27	0.000930	98,565	92	98,519	5,326,360	54.0
27–28	0.000952	98,473	94	98,426	5,227,841	53.1
28–29	0.000977	98,379	96	98,331	5,129,415	52.1
29–30	0.001005	98,283	99	98,234	5,031,084	51.2
30–31	0.001037	98,184	102	98,133	4,932,850	50.2
31–32	0.001070	98,083	105	98,030	4,834,716	49.3
32–33	0.001102	97,978	108	97,924	4,736,686	48.3
33–34	0.001133	97,870	111	97,814	4,638,763	47.4
34–35	0.001167	97,759	114	97,702	4,540,949	46.5
35–36	0.001214	97,645	118	97,585	4,443,247	45.5
36–37	0.001275	97,526	124	97,464	4,345,661	44.6
37–38	0.001349	97,402	131	97,336	4,248,197	43.6
38–39	0.001433	97,270	139	97,201	4,150,861	42.7
39–40	0.001527	97,131	148	97,057	4,053,660	41.7
40–41	0.001630	96,983	158	96,904	3,956,603	40.8
41–42	0.001750	96,825	169	96,740	3,859,700	39.9
42–43	0.001895	96,655	183	96,564	3,762,960	38.9
43–44	0.002073	96,472	200	96,372	3,666,396	38.0
44–45	0.002283	96,272	220	96,162	3,570,024	37.1
45–46	0.002509	96,052	241	95,932	3,473,862	36.2
46–47	0.002753	95,811	264	95,679	3,377,930	35.3
47–48	0.003033	95,548	290	95,403	3,282,250	34.4
48–49	0.003347	95,258	319	95,098	3,186,848	33.5
49–50	0.003682	94,939	350	94,764	3,091,749	32.6
50–51	0.004025	94,589	381	94,399	2,996,985	31.7
51–52	0.004371	94,209	412	94,003	2,902,586	30.8
52–53	0.004727	93,797	443	93,575	2,808,583	29.9
53–54	0.005103	93,354	476	93,115	2,715,008	29.1
54–55	0.005506	92,877	511	92,622	2,621,892	28.2
55–56	0.005941	92,366	549	92,092	2,529,271	27.4
56–57	0.006403	91,817	588	91,523	2,437,179	26.5
57–58	0.006888	91,229	628	90,915	2,345,656	25.7
58–59	0.007389	90,601	669	90,266	2,254,741	24.9
59–60	0.007913	89,931	712	89,576	2,164,475	24.1

See footnote at end of table.

Table 4. Life table for the white population: United States, 2012—Con.

Spreadsheet version available from: ftp://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/65_8/Table04.xlsx.

Age (years)	Probability of dying between ages x and $x+1$ q_x	Number surviving to age x l_x	Number dying between ages x and $x+1$ d_x	Person-years lived between ages x and $x+1$ L_x	Total number of person-years lived above age x T_x	Expectation of life at age x e_x
60–61	0.008472	89,220	756	88,842	2,074,899	23.3
61–62	0.009083	88,464	804	88,062	1,986,057	22.5
62–63	0.009756	87,660	855	87,233	1,897,995	21.7
63–64	0.010505	86,805	912	86,349	1,810,763	20.9
64–65	0.011335	85,893	974	85,406	1,724,414	20.1
65–66	0.012261	84,920	1,041	84,399	1,639,007	19.3
66–67	0.013282	83,878	1,114	83,321	1,554,608	18.5
67–68	0.014409	82,764	1,193	82,168	1,471,287	17.8
68–69	0.015637	81,572	1,276	80,934	1,389,119	17.0
69–70	0.016981	80,296	1,364	79,614	1,308,185	16.3
70–71	0.018567	78,933	1,466	78,200	1,228,570	15.6
71–72	0.020442	77,467	1,584	76,675	1,150,370	14.8
72–73	0.022518	75,884	1,709	75,029	1,073,695	14.1
73–74	0.024713	74,175	1,833	73,258	998,665	13.5
74–75	0.027059	72,342	1,957	71,363	925,407	12.8
75–76	0.029683	70,384	2,089	69,340	854,044	12.1
76–77	0.032774	68,295	2,238	67,176	784,704	11.5
77–78	0.036267	66,057	2,396	64,859	717,528	10.9
78–79	0.040130	63,661	2,555	62,384	652,669	10.3
79–80	0.044720	61,106	2,733	59,740	590,285	9.7
80–81	0.049492	58,374	2,889	56,929	530,545	9.1
81–82	0.054691	55,485	3,035	53,968	473,616	8.5
82–83	0.060592	52,450	3,178	50,861	419,648	8.0
83–84	0.067544	49,272	3,328	47,608	368,787	7.5
84–85	0.075316	45,944	3,460	44,214	321,179	7.0
85–86	0.083751	42,484	3,558	40,705	276,965	6.5
86–87	0.093720	38,926	3,648	37,102	236,260	6.1
87–88	0.104664	35,278	3,692	33,432	199,158	5.6
88–89	0.116625	31,585	3,684	29,744	165,727	5.2
89–90	0.129637	27,902	3,617	26,093	135,983	4.9
90–91	0.143723	24,285	3,490	22,540	109,890	4.5
91–92	0.158885	20,794	3,304	19,142	87,351	4.2
92–93	0.175112	17,490	3,063	15,959	68,208	3.9
93–94	0.192369	14,428	2,775	13,040	52,249	3.6
94–95	0.210597	11,652	2,454	10,425	39,209	3.4
95–96	0.229716	9,198	2,113	8,142	28,784	3.1
96–97	0.249620	7,085	1,769	6,201	20,642	2.9
97–98	0.270183	5,317	1,436	4,598	14,441	2.7
98–99	0.291257	3,880	1,130	3,315	9,843	2.5
99–100	0.312678	2,750	860	2,320	6,527	2.4
100 and over	1.000000	1,890	1,890	4,207	4,207	2.2

SOURCE: NCHS, National Vital Statistics System, Mortality.

Table 5. Life table for white males: United States, 2012

Spreadsheet version available from: ftp://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/65_8/Table05.xlsx.

Age (years)	Probability of dying between ages x and $x+1$ q_x	Number surviving to age x l_x	Number dying between ages x and $x+1$ d_x	Person-years lived between ages x and $x+1$ L_x	Total number of person-years lived above age x T_x	Expectation of life at age x e_x
0–1	0.005498	100,000	550	99,515	7,672,322	76.7
1–2	0.000419	99,450	42	99,429	7,572,808	76.1
2–3	0.000283	99,409	28	99,394	7,473,378	75.2
3–4	0.000210	99,380	21	99,370	7,373,984	74.2
4–5	0.000183	99,360	18	99,350	7,274,614	73.2
5–6	0.000151	99,341	15	99,334	7,175,264	72.2
6–7	0.000131	99,326	13	99,320	7,075,930	71.2
7–8	0.000114	99,313	11	99,308	6,976,610	70.2
8–9	0.000098	99,302	10	99,297	6,877,302	69.3
9–10	0.000083	99,292	8	99,288	6,778,005	68.3
10–11	0.000075	99,284	7	99,280	6,678,717	67.3
11–12	0.000084	99,277	8	99,272	6,579,437	66.3
12–13	0.000120	99,268	12	99,262	6,480,164	65.3
13–14	0.000189	99,256	19	99,247	6,380,902	64.3
14–15	0.000284	99,238	28	99,224	6,281,655	63.3
15–16	0.000384	99,209	38	99,190	6,182,431	62.3
16–17	0.000486	99,171	48	99,147	6,083,241	61.3
17–18	0.000600	99,123	59	99,093	5,984,094	60.4
18–19	0.000726	99,064	72	99,028	5,885,000	59.4
19–20	0.000856	98,992	85	98,949	5,785,973	58.4
20–21	0.000990	98,907	98	98,858	5,687,023	57.5
21–22	0.001112	98,809	110	98,754	5,588,165	56.6
22–23	0.001203	98,699	119	98,640	5,489,411	55.6
23–24	0.001254	98,581	124	98,519	5,390,771	54.7
24–25	0.001277	98,457	126	98,394	5,292,252	53.8
25–26	0.001291	98,331	127	98,268	5,193,858	52.8
26–27	0.001309	98,204	129	98,140	5,095,591	51.9
27–28	0.001326	98,076	130	98,011	4,997,451	51.0
28–29	0.001348	97,946	132	97,880	4,899,440	50.0
29–30	0.001372	97,814	134	97,747	4,801,560	49.1
30–31	0.001399	97,679	137	97,611	4,703,814	48.2
31–32	0.001426	97,543	139	97,473	4,606,203	47.2
32–33	0.001454	97,404	142	97,333	4,508,730	46.3
33–34	0.001485	97,262	144	97,190	4,411,397	45.4
34–35	0.001521	97,118	148	97,044	4,314,207	44.4
35–36	0.001573	96,970	153	96,894	4,217,163	43.5
36–37	0.001642	96,817	159	96,738	4,120,270	42.6
37–38	0.001723	96,658	167	96,575	4,023,532	41.6
38–39	0.001813	96,492	175	96,404	3,926,957	40.7
39–40	0.001914	96,317	184	96,225	3,830,552	39.8
40–41	0.002027	96,133	195	96,035	3,734,327	38.8
41–42	0.002164	95,938	208	95,834	3,638,292	37.9
42–43	0.002332	95,730	223	95,618	3,542,458	37.0
43–44	0.002542	95,507	243	95,385	3,446,840	36.1
44–45	0.002795	95,264	266	95,131	3,351,455	35.2
45–46	0.003068	94,998	291	94,852	3,256,324	34.3
46–47	0.003366	94,706	319	94,547	3,161,472	33.4
47–48	0.003716	94,387	351	94,212	3,066,925	32.5
48–49	0.004116	94,037	387	93,843	2,972,713	31.6
49–50	0.004548	93,650	426	93,437	2,878,869	30.7
50–51	0.004989	93,224	465	92,991	2,785,433	29.9
51–52	0.005435	92,759	504	92,507	2,692,441	29.0
52–53	0.005901	92,255	544	91,982	2,599,935	28.2
53–54	0.006401	91,710	587	91,417	2,507,952	27.3
54–55	0.006942	91,123	633	90,807	2,416,536	26.5
55–56	0.007527	90,491	681	90,150	2,325,729	25.7
56–57	0.008140	89,809	731	89,444	2,235,579	24.9
57–58	0.008771	89,078	781	88,688	2,146,135	24.1
58–59	0.009406	88,297	830	87,882	2,057,447	23.3
59–60	0.010051	87,467	879	87,027	1,969,565	22.5
60–61	0.010736	86,587	930	86,123	1,882,538	21.7

See footnote at end of table.

Table 5. Life table for white males: United States, 2012—Con.

Spreadsheet version available from: ftp://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/65_8/Table05.xlsx.

Age (years)	Probability of dying between ages x and $x+1$ q_x	Number surviving to age x l_x	Number dying between ages x and $x+1$ d_x	Person-years lived between ages x and $x+1$ L_x	Total number of person-years lived above age x T_x	Expectation of life at age x e_x
61–62	0.011478	85,658	983	85,166	1,796,416	21.0
62–63	0.012273	84,675	1,039	84,155	1,711,249	20.2
63–64	0.013128	83,635	1,098	83,086	1,627,094	19.5
64–65	0.014057	82,537	1,160	81,957	1,544,008	18.7
65–66	0.015076	81,377	1,227	80,764	1,462,051	18.0
66–67	0.016204	80,150	1,299	79,501	1,381,287	17.2
67–68	0.017483	78,852	1,379	78,162	1,301,786	16.5
68–69	0.018923	77,473	1,466	76,740	1,223,623	15.8
69–70	0.020533	76,007	1,561	75,227	1,146,883	15.1
70–71	0.022439	74,446	1,670	73,611	1,071,657	14.4
71–72	0.024653	72,776	1,794	71,879	998,045	13.7
72–73	0.027135	70,982	1,926	70,019	926,167	13.0
73–74	0.029737	69,056	2,053	68,029	856,148	12.4
74–75	0.032404	67,002	2,171	65,917	788,119	11.8
75–76	0.035321	64,831	2,290	63,686	722,202	11.1
76–77	0.038796	62,541	2,426	61,328	658,516	10.5
77–78	0.042852	60,115	2,576	58,827	597,188	9.9
78–79	0.047377	57,539	2,726	56,176	538,361	9.4
79–80	0.052749	54,813	2,891	53,367	482,186	8.8
80–81	0.058353	51,921	3,030	50,407	428,818	8.3
81–82	0.064396	48,892	3,148	47,317	378,412	7.7
82–83	0.071496	45,743	3,270	44,108	331,095	7.2
83–84	0.079699	42,473	3,385	40,780	286,987	6.8
84–85	0.088491	39,088	3,459	37,358	246,206	6.3
85–86	0.097689	35,629	3,481	33,889	208,848	5.9
86–87	0.109336	32,148	3,515	30,391	174,959	5.4
87–88	0.122073	28,633	3,495	26,886	144,569	5.0
88–89	0.135933	25,138	3,417	23,429	117,683	4.7
89–90	0.150930	21,721	3,278	20,082	94,253	4.3
90–91	0.167061	18,443	3,081	16,902	74,172	4.0
91–92	0.184300	15,362	2,831	13,946	57,270	3.7
92–93	0.202596	12,530	2,539	11,261	43,324	3.5
93–94	0.221873	9,992	2,217	8,883	32,063	3.2
94–95	0.242028	7,775	1,882	6,834	23,179	3.0
95–96	0.262931	5,893	1,549	5,118	16,345	2.8
96–97	0.284431	4,344	1,235	3,726	11,227	2.6
97–98	0.306354	3,108	952	2,632	7,501	2.4
98–99	0.328515	2,156	708	1,802	4,869	2.3
99–100	0.350719	1,448	508	1,194	3,067	2.1
100 and over	1.000000	940	940	1,873	1,873	2.0

SOURCE: NCHS, National Vital Statistics System, Mortality.

Table 6. Life table for white females: United States, 2012

Spreadsheet version available from: ftp://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/65_8/Table06.xlsx.

Age (years)	Probability of dying between ages x and $x+1$ q_x	Number surviving to age x l_x	Number dying between ages x and $x+1$ d_x	Person-years lived between ages x and $x+1$ L_x	Total number of person-years lived above age x T_x	Expectation of life at age x e_x
0–1	0.004647	100,000	465	99,590	8,136,248	81.4
1–2	0.000345	99,535	34	99,518	8,036,658	80.7
2–3	0.000223	99,501	22	99,490	7,937,140	79.8
3–4	0.000168	99,479	17	99,470	7,837,650	78.8
4–5	0.000133	99,462	13	99,456	7,738,180	77.8
5–6	0.000119	99,449	12	99,443	7,638,724	76.8
6–7	0.000103	99,437	10	99,432	7,539,281	75.8
7–8	0.000093	99,427	9	99,422	7,439,849	74.8
8–9	0.000085	99,418	8	99,413	7,340,427	73.8
9–10	0.000080	99,409	8	99,405	7,241,014	72.8
10–11	0.000079	99,401	8	99,397	7,141,608	71.8
11–12	0.000085	99,393	8	99,389	7,042,211	70.9
12–13	0.000101	99,385	10	99,380	6,942,822	69.9
13–14	0.000127	99,375	13	99,369	6,843,442	68.9
14–15	0.000162	99,362	16	99,354	6,744,073	67.9
15–16	0.000202	99,346	20	99,336	6,644,719	66.9
16–17	0.000241	99,326	24	99,314	6,545,383	65.9
17–18	0.000279	99,302	28	99,288	6,446,069	64.9
18–19	0.000313	99,274	31	99,259	6,346,781	63.9
19–20	0.000343	99,243	34	99,226	6,247,522	63.0
20–21	0.000373	99,209	37	99,191	6,148,296	62.0
21–22	0.000404	99,172	40	99,152	6,049,105	61.0
22–23	0.000432	99,132	43	99,111	5,949,953	60.0
23–24	0.000457	99,089	45	99,067	5,850,842	59.0
24–25	0.000480	99,044	48	99,020	5,751,775	58.1
25–26	0.000504	98,997	50	98,972	5,652,755	57.1
26–27	0.000530	98,947	52	98,920	5,553,783	56.1
27–28	0.000559	98,894	55	98,867	5,454,863	55.2
28–29	0.000589	98,839	58	98,810	5,355,996	54.2
29–30	0.000622	98,781	61	98,750	5,257,186	53.2
30–31	0.000659	98,719	65	98,687	5,158,436	52.3
31–32	0.000699	98,654	69	98,620	5,059,750	51.3
32–33	0.000735	98,585	72	98,549	4,961,130	50.3
33–34	0.000768	98,513	76	98,475	4,862,581	49.4
34–35	0.000802	98,437	79	98,398	4,764,106	48.4
35–36	0.000844	98,358	83	98,317	4,665,708	47.4
36–37	0.000899	98,275	88	98,231	4,567,392	46.5
37–38	0.000966	98,187	95	98,139	4,469,161	45.5
38–39	0.001044	98,092	102	98,041	4,371,021	44.6
39–40	0.001132	97,990	111	97,934	4,272,980	43.6
40–41	0.001225	97,879	120	97,819	4,175,046	42.7
41–42	0.001328	97,759	130	97,694	4,077,228	41.7
42–43	0.001450	97,629	142	97,558	3,979,534	40.8
43–44	0.001596	97,487	156	97,410	3,881,976	39.8
44–45	0.001765	97,332	172	97,246	3,784,566	38.9
45–46	0.001946	97,160	189	97,065	3,687,320	38.0
46–47	0.002137	96,971	207	96,867	3,590,255	37.0
47–48	0.002349	96,764	227	96,650	3,493,388	36.1
48–49	0.002579	96,536	249	96,412	3,396,738	35.2
49–50	0.002820	96,287	272	96,151	3,300,326	34.3
50–51	0.003068	96,016	295	95,868	3,204,175	33.4
51–52	0.003319	95,721	318	95,562	3,108,306	32.5
52–53	0.003571	95,403	341	95,233	3,012,744	31.6
53–54	0.003829	95,063	364	94,881	2,917,511	30.7
54–55	0.004103	94,699	389	94,505	2,822,630	29.8
55–56	0.004401	94,310	415	94,103	2,728,125	28.9
56–57	0.004725	93,895	444	93,673	2,634,023	28.1
57–58	0.005077	93,451	474	93,214	2,540,349	27.2
58–59	0.005458	92,977	507	92,723	2,447,135	26.3
59–60	0.005873	92,470	543	92,198	2,354,412	25.5
60–61	0.006319	91,926	581	91,636	2,262,214	24.6

See footnote at end of table.

Table 6. Life table for white females: United States, 2012—Con.

Spreadsheet version available from: ftp://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/65_8/Table06.xlsx.

Age (years)	Probability of dying between ages x and $x+1$ q_x	Number surviving to age x l_x	Number dying between ages x and $x+1$ d_x	Person-years lived between ages x and $x+1$ L_x	Total number of person-years lived above age x T_x	Expectation of life at age x e_x
61–62	0.006814	91,346	622	91,034	2,170,578	23.8
62–63	0.007382	90,723	670	90,388	2,079,543	22.9
63–64	0.008040	90,053	724	89,691	1,989,155	22.1
64–65	0.008790	89,329	785	88,937	1,899,464	21.3
65–66	0.009644	88,544	854	88,117	1,810,527	20.4
66–67	0.010582	87,690	928	87,226	1,722,410	19.6
67–68	0.011588	86,762	1,005	86,260	1,635,183	18.8
68–69	0.012644	85,757	1,084	85,215	1,548,924	18.1
69–70	0.013774	84,673	1,166	84,089	1,463,709	17.3
70–71	0.015108	83,506	1,262	82,876	1,379,619	16.5
71–72	0.016728	82,245	1,376	81,557	1,296,744	15.8
72–73	0.018498	80,869	1,496	80,121	1,215,187	15.0
73–74	0.020393	79,373	1,619	78,564	1,135,066	14.3
74–75	0.022519	77,754	1,751	76,879	1,056,502	13.6
75–76	0.024962	76,003	1,897	75,055	979,624	12.9
76–77	0.027813	74,106	2,061	73,076	904,569	12.2
77–78	0.030941	72,045	2,229	70,931	831,493	11.5
78–79	0.034390	69,816	2,401	68,615	760,562	10.9
79–80	0.038515	67,415	2,596	66,117	691,947	10.3
80–81	0.042815	64,818	2,775	63,431	625,830	9.7
81–82	0.047563	62,043	2,951	60,568	562,399	9.1
82–83	0.052831	59,092	3,122	57,531	501,832	8.5
83–84	0.059222	55,970	3,315	54,313	444,300	7.9
84–85	0.066654	52,656	3,510	50,901	389,987	7.4
85–86	0.074772	49,146	3,675	47,309	339,086	6.9
86–87	0.084212	45,471	3,829	43,557	291,778	6.4
87–88	0.094653	41,642	3,942	39,671	248,221	6.0
88–89	0.106152	37,701	4,002	35,700	208,550	5.5
89–90	0.118759	33,699	4,002	31,698	172,850	5.1
90–91	0.132509	29,697	3,935	27,729	141,153	4.8
91–92	0.147422	25,761	3,798	23,863	113,424	4.4
92–93	0.163500	21,964	3,591	20,168	89,561	4.1
93–94	0.180721	18,373	3,320	16,712	69,393	3.8
94–95	0.199039	15,052	2,996	13,554	52,680	3.5
95–96	0.218379	12,056	2,633	10,740	39,126	3.2
96–97	0.238639	9,423	2,249	8,299	28,386	3.0
97–98	0.259690	7,175	1,863	6,243	20,087	2.8
98–99	0.281377	5,311	1,495	4,564	13,844	2.6
99–100	0.303525	3,817	1,159	3,238	9,280	2.4
100 and over	1.000000	2,658	2,658	6,042	6,042	2.3

SOURCE: NCHS, National Vital Statistics System, Mortality.

Table 7. Life table for the black population: United States, 2012

Spreadsheet version available from: ftp://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/65_8/Table07.xlsx.

Age (years)	Probability of dying between ages x and $x+1$ q_x	Number surviving to age x l_x	Number dying between ages x and $x+1$ d_x	Person-years lived between ages x and $x+1$ L_x	Total number of person-years lived above age x T_x	Expectation of life at age x e_x
0–1	0.011193	100,000	1,119	99,018	7,549,040	75.5
1–2	0.000571	98,881	57	98,852	7,450,021	75.3
2–3	0.000382	98,824	38	98,805	7,351,169	74.4
3–4	0.000293	98,786	29	98,772	7,252,364	73.4
4–5	0.000253	98,757	25	98,745	7,153,592	72.4
5–6	0.000214	98,732	21	98,722	7,054,847	71.5
6–7	0.000185	98,711	18	98,702	6,956,125	70.5
7–8	0.000162	98,693	16	98,685	6,857,423	69.5
8–9	0.000140	98,677	14	98,670	6,758,738	68.5
9–10	0.000122	98,663	12	98,657	6,660,068	67.5
10–11	0.000113	98,651	11	98,646	6,561,410	66.5
11–12	0.000121	98,640	12	98,634	6,462,765	65.5
12–13	0.000158	98,628	16	98,620	6,364,131	64.5
13–14	0.000228	98,612	23	98,601	6,265,511	63.5
14–15	0.000323	98,590	32	98,574	6,166,909	62.6
15–16	0.000423	98,558	42	98,537	6,068,335	61.6
16–17	0.000522	98,516	51	98,491	5,969,798	60.6
17–18	0.000634	98,465	62	98,434	5,871,307	59.6
18–19	0.000755	98,403	74	98,365	5,772,874	58.7
19–20	0.000879	98,328	86	98,285	5,674,508	57.7
20–21	0.001007	98,242	99	98,192	5,576,223	56.8
21–22	0.001123	98,143	110	98,088	5,478,031	55.8
22–23	0.001209	98,033	119	97,973	5,379,943	54.9
23–24	0.001259	97,914	123	97,853	5,281,970	53.9
24–25	0.001284	97,791	126	97,728	5,184,117	53.0
25–26	0.001301	97,665	127	97,602	5,086,389	52.1
26–27	0.001327	97,538	129	97,474	4,988,788	51.1
27–28	0.001359	97,409	132	97,343	4,891,314	50.2
28–29	0.001401	97,276	136	97,208	4,793,971	49.3
29–30	0.001450	97,140	141	97,070	4,696,763	48.4
30–31	0.001501	96,999	146	96,926	4,599,693	47.4
31–32	0.001553	96,854	150	96,778	4,502,767	46.5
32–33	0.001609	96,703	156	96,625	4,405,989	45.6
33–34	0.001673	96,548	162	96,467	4,309,363	44.6
34–35	0.001749	96,386	169	96,302	4,212,896	43.7
35–36	0.001844	96,218	177	96,129	4,116,594	42.8
36–37	0.001955	96,040	188	95,946	4,020,466	41.9
37–38	0.002073	95,852	199	95,753	3,924,519	40.9
38–39	0.002188	95,654	209	95,549	3,828,766	40.0
39–40	0.002306	95,444	220	95,334	3,733,217	39.1
40–41	0.002435	95,224	232	95,108	3,637,883	38.2
41–42	0.002591	94,992	246	94,869	3,542,775	37.3
42–43	0.002782	94,746	264	94,615	3,447,905	36.4
43–44	0.003020	94,483	285	94,340	3,353,291	35.5
44–45	0.003305	94,197	311	94,042	3,258,951	34.6
45–46	0.003608	93,886	339	93,717	3,164,909	33.7
46–47	0.003938	93,547	368	93,363	3,071,192	32.8
47–48	0.004332	93,179	404	92,977	2,977,829	32.0
48–49	0.004797	92,775	445	92,553	2,884,852	31.1
49–50	0.005315	92,330	491	92,085	2,792,300	30.2
50–51	0.005851	91,839	537	91,571	2,700,215	29.4
51–52	0.006395	91,302	584	91,010	2,608,644	28.6
52–53	0.006978	90,718	633	90,402	2,517,634	27.8
53–54	0.007615	90,085	686	89,742	2,427,232	26.9
54–55	0.008311	89,399	743	89,028	2,337,490	26.1
55–56	0.009060	88,656	803	88,255	2,248,462	25.4
56–57	0.009843	87,853	865	87,421	2,160,207	24.6
57–58	0.010642	86,988	926	86,525	2,072,787	23.8
58–59	0.011440	86,063	985	85,570	1,986,261	23.1
59–60	0.012242	85,078	1,042	84,557	1,900,691	22.3
60–61	0.013109	84,037	1,102	83,486	1,816,134	21.6

See footnote at end of table.

Table 7. Life table for the black population: United States, 2012—Con.

Spreadsheet version available from: ftp://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/65_8/Table07.xlsx.

Age (years)	Probability of dying between ages x and $x+1$ q_x	Number surviving to age x l_x	Number dying between ages x and $x+1$ d_x	Person-years lived between ages x and $x+1$ L_x	Total number of person-years lived above age x T_x	Expectation of life at age x e_x
61–62	0.014040	82,935	1,164	82,353	1,732,648	20.9
62–63	0.014962	81,770	1,223	81,159	1,650,295	20.2
63–64	0.015859	80,547	1,277	79,908	1,569,137	19.5
64–65	0.016772	79,270	1,329	78,605	1,489,228	18.8
65–66	0.017766	77,940	1,385	77,248	1,410,624	18.1
66–67	0.018935	76,555	1,450	75,831	1,333,376	17.4
67–68	0.020323	75,106	1,526	74,343	1,257,545	16.7
68–69	0.021842	73,579	1,607	72,776	1,183,202	16.1
69–70	0.023519	71,972	1,693	71,126	1,110,427	15.4
70–71	0.025519	70,280	1,793	69,383	1,039,301	14.8
71–72	0.027580	68,486	1,889	67,542	969,918	14.2
72–73	0.029606	66,597	1,972	65,611	902,376	13.5
73–74	0.031836	64,626	2,057	63,597	836,764	12.9
74–75	0.034242	62,568	2,142	61,497	773,168	12.4
75–76	0.036862	60,426	2,227	59,312	711,671	11.8
76–77	0.039982	58,198	2,327	57,035	652,358	11.2
77–78	0.043251	55,871	2,417	54,663	595,324	10.7
78–79	0.047156	53,455	2,521	52,195	540,660	10.1
79–80	0.051689	50,934	2,633	49,618	488,466	9.6
80–81	0.056174	48,301	2,713	46,945	438,848	9.1
81–82	0.061220	45,588	2,791	44,193	391,903	8.6
82–83	0.066639	42,797	2,852	41,371	347,710	8.1
83–84	0.072714	39,945	2,905	38,493	306,339	7.7
84–85	0.080703	37,041	2,989	35,546	267,846	7.2
85–86	0.088043	34,051	2,998	32,552	232,300	6.8
86–87	0.095940	31,053	2,979	29,564	199,747	6.4
87–88	0.104418	28,074	2,931	26,608	170,183	6.1
88–89	0.113496	25,143	2,854	23,716	143,575	5.7
89–90	0.123191	22,289	2,746	20,916	119,859	5.4
90–91	0.133514	19,543	2,609	18,239	98,943	5.1
91–92	0.144471	16,934	2,446	15,711	80,704	4.8
92–93	0.156065	14,488	2,261	13,357	64,993	4.5
93–94	0.168290	12,227	2,058	11,198	51,636	4.2
94–95	0.181132	10,169	1,842	9,248	40,439	4.0
95–96	0.194572	8,327	1,620	7,517	31,191	3.7
96–97	0.208581	6,707	1,399	6,007	23,674	3.5
97–98	0.223121	5,308	1,184	4,716	17,666	3.3
98–99	0.238148	4,124	982	3,633	12,951	3.1
99–100	0.253609	3,142	797	2,743	9,318	3.0
100 and over	1.000000	2,345	2,345	6,575	6,575	2.8

SOURCE: NCHS, National Vital Statistics System, Mortality.

Table 8. Life table for black males: United States, 2012

Spreadsheet version available from: ftp://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/65_8/Table08.xlsx.

Age (years)	Probability of dying between ages x and $x+1$ q_x	Number surviving to age x l_x	Number dying between ages x and $x+1$ d_x	Person-years lived between ages x and $x+1$ L_x	Total number of person-years lived above age x T_x	Expectation of life at age x e_x
0–1	0.012334	100,000	1,233	98,912	7,228,803	72.3
1–2	0.000605	98,767	60	98,737	7,129,891	72.2
2–3	0.000457	98,707	45	98,684	7,031,154	71.2
3–4	0.000309	98,662	30	98,647	6,932,470	70.3
4–5	0.000299	98,631	29	98,617	6,833,823	69.3
5–6	0.000246	98,602	24	98,590	6,735,207	68.3
6–7	0.000216	98,578	21	98,567	6,636,617	67.3
7–8	0.000190	98,556	19	98,547	6,538,050	66.3
8–9	0.000162	98,537	16	98,530	6,439,503	65.4
9–10	0.000133	98,522	13	98,515	6,340,974	64.4
10–11	0.000115	98,508	11	98,503	6,242,459	63.4
11–12	0.000124	98,497	12	98,491	6,143,956	62.4
12–13	0.000182	98,485	18	98,476	6,045,465	61.4
13–14	0.000298	98,467	29	98,452	5,946,989	60.4
14–15	0.000456	98,438	45	98,415	5,848,536	59.4
15–16	0.000619	98,393	61	98,362	5,750,121	58.4
16–17	0.000780	98,332	77	98,294	5,651,759	57.5
17–18	0.000956	98,255	94	98,208	5,553,465	56.5
18–19	0.001147	98,161	113	98,105	5,455,257	55.6
19–20	0.001338	98,049	131	97,983	5,357,152	54.6
20–21	0.001537	97,918	151	97,842	5,259,168	53.7
21–22	0.001717	97,767	168	97,683	5,161,326	52.8
22–23	0.001847	97,599	180	97,509	5,063,643	51.9
23–24	0.001916	97,419	187	97,326	4,966,134	51.0
24–25	0.001941	97,232	189	97,138	4,868,808	50.1
25–26	0.001949	97,044	189	96,949	4,771,670	49.2
26–27	0.001966	96,854	190	96,759	4,674,721	48.3
27–28	0.001992	96,664	193	96,568	4,577,962	47.4
28–29	0.002036	96,471	196	96,373	4,481,395	46.5
29–30	0.002094	96,275	202	96,174	4,385,022	45.5
30–31	0.002152	96,073	207	95,970	4,288,847	44.6
31–32	0.002206	95,867	211	95,761	4,192,877	43.7
32–33	0.002257	95,655	216	95,547	4,097,116	42.8
33–34	0.002308	95,439	220	95,329	4,001,569	41.9
34–35	0.002364	95,219	225	95,106	3,906,240	41.0
35–36	0.002438	94,994	232	94,878	3,811,134	40.1
36–37	0.002531	94,762	240	94,642	3,716,256	39.2
37–38	0.002636	94,522	249	94,398	3,621,613	38.3
38–39	0.002748	94,273	259	94,144	3,527,216	37.4
39–40	0.002870	94,014	270	93,879	3,433,072	36.5
40–41	0.003012	93,744	282	93,603	3,339,193	35.6
41–42	0.003185	93,462	298	93,313	3,245,590	34.7
42–43	0.003398	93,164	317	93,006	3,152,277	33.8
43–44	0.003662	92,848	340	92,678	3,059,271	32.9
44–45	0.003980	92,508	368	92,324	2,966,593	32.1
45–46	0.004321	92,140	398	91,940	2,874,269	31.2
46–47	0.004704	91,741	432	91,526	2,782,329	30.3
47–48	0.005178	91,310	473	91,073	2,690,803	29.5
48–49	0.005757	90,837	523	90,576	2,599,730	28.6
49–50	0.006417	90,314	580	90,024	2,509,155	27.8
50–51	0.007101	89,735	637	89,416	2,419,130	27.0
51–52	0.007801	89,097	695	88,750	2,329,714	26.1
52–53	0.008563	88,402	757	88,024	2,240,965	25.3
53–54	0.009414	87,645	825	87,233	2,152,941	24.6
54–55	0.010358	86,820	899	86,371	2,065,708	23.8
55–56	0.011383	85,921	978	85,432	1,979,338	23.0
56–57	0.012455	84,943	1,058	84,414	1,893,906	22.3
57–58	0.013560	83,885	1,138	83,316	1,809,492	21.6
58–59	0.014671	82,747	1,214	82,140	1,726,176	20.9
59–60	0.015792	81,533	1,288	80,890	1,644,035	20.2
60–61	0.017014	80,246	1,365	79,563	1,563,146	19.5

See footnote at end of table.

Table 8. Life table for black males: United States, 2012—Con.

Spreadsheet version available from: ftp://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/65_8/Table08.xlsx.

Age (years)	Probability of dying between ages x and $x+1$ q_x	Number surviving to age x l_x	Number dying between ages x and $x+1$ d_x	Person-years lived between ages x and $x+1$ L_x	Total number of person-years lived above age x T_x	Expectation of life at age x e_x
61–62	0.018321	78,881	1,445	78,158	1,483,583	18.8
62–63	0.019592	77,435	1,517	76,677	1,405,425	18.1
63–64	0.020776	75,918	1,577	75,130	1,328,748	17.5
64–65	0.021923	74,341	1,630	73,526	1,253,618	16.9
65–66	0.023146	72,711	1,683	71,870	1,180,092	16.2
66–67	0.024581	71,028	1,746	70,155	1,108,223	15.6
67–68	0.026260	69,282	1,819	68,373	1,038,067	15.0
68–69	0.028094	67,463	1,895	66,515	969,695	14.4
69–70	0.030051	65,568	1,970	64,582	903,179	13.8
70–71	0.032364	63,597	2,058	62,568	838,597	13.2
71–72	0.034767	61,539	2,140	60,469	776,029	12.6
72–73	0.037197	59,399	2,209	58,295	715,560	12.0
73–74	0.040041	57,190	2,290	56,045	657,265	11.5
74–75	0.043065	54,900	2,364	53,718	601,220	11.0
75–76	0.046484	52,536	2,442	51,315	547,502	10.4
76–77	0.050468	50,094	2,528	48,830	496,187	9.9
77–78	0.054683	47,566	2,601	46,265	447,358	9.4
78–79	0.059636	44,964	2,681	43,624	401,093	8.9
79–80	0.064576	42,283	2,730	40,918	357,469	8.5
80–81	0.070126	39,553	2,774	38,166	316,551	8.0
81–82	0.076983	36,779	2,831	35,363	278,386	7.6
82–83	0.083475	33,948	2,834	32,531	243,022	7.2
83–84	0.090299	31,114	2,810	29,709	210,492	6.8
84–85	0.098099	28,304	2,777	26,916	180,783	6.4
85–86	0.106448	25,528	2,717	24,169	153,867	6.0
86–87	0.115364	22,810	2,631	21,495	129,698	5.7
87–88	0.124859	20,179	2,520	18,919	108,203	5.4
88–89	0.134945	17,659	2,383	16,468	89,284	5.1
89–90	0.145627	15,276	2,225	14,164	72,817	4.8
90–91	0.156905	13,052	2,048	12,028	58,653	4.5
91–92	0.168773	11,004	1,857	10,075	46,625	4.2
92–93	0.181220	9,147	1,658	8,318	36,550	4.0
93–94	0.194226	7,489	1,455	6,762	28,232	3.8
94–95	0.207767	6,034	1,254	5,408	21,470	3.6
95–96	0.221809	4,781	1,060	4,251	16,063	3.4
96–97	0.236310	3,720	879	3,281	11,812	3.2
97–98	0.251225	2,841	714	2,484	8,531	3.0
98–99	0.266498	2,127	567	1,844	6,047	2.8
99–100	0.282068	1,560	440	1,340	4,203	2.7
100 and over	1.000000	1,120	1,120	2,863	2,863	2.6

SOURCE: NCHS, National Vital Statistics System, Mortality.

Table 9. Life table for black females: United States, 2012

Spreadsheet version available from: ftp://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/65_8/Table09.xlsx.

Age (years)	Probability of dying between ages x and $x+1$ q_x	Number surviving to age x l_x	Number dying between ages x and $x+1$ d_x	Person-years lived between ages x and $x+1$ L_x	Total number of person-years lived above age x T_x	Expectation of life at age x e_x
0–1	0.010015	100,000	1,001	99,129	7,840,201	78.4
1–2	0.000536	98,999	53	98,972	7,741,073	78.2
2–3	0.000305	98,945	30	98,930	7,642,101	77.2
3–4	0.000277	98,915	27	98,902	7,543,170	76.3
4–5	0.000206	98,888	20	98,878	7,444,269	75.3
5–6	0.000181	98,867	18	98,858	7,345,391	74.3
6–7	0.000153	98,850	15	98,842	7,246,533	73.3
7–8	0.000132	98,834	13	98,828	7,147,691	72.3
8–9	0.000119	98,821	12	98,815	7,048,863	71.3
9–10	0.000111	98,810	11	98,804	6,950,048	70.3
10–11	0.000111	98,799	11	98,793	6,851,243	69.3
11–12	0.000118	98,788	12	98,782	6,752,450	68.4
12–13	0.000133	98,776	13	98,769	6,653,669	67.4
13–14	0.000156	98,763	15	98,755	6,554,899	66.4
14–15	0.000186	98,747	18	98,738	6,456,144	65.4
15–16	0.000218	98,729	22	98,718	6,357,406	64.4
16–17	0.000254	98,707	25	98,695	6,258,688	63.4
17–18	0.000298	98,682	29	98,668	6,159,993	62.4
18–19	0.000350	98,653	35	98,636	6,061,326	61.4
19–20	0.000406	98,618	40	98,598	5,962,690	60.5
20–21	0.000465	98,578	46	98,555	5,864,092	59.5
21–22	0.000520	98,532	51	98,507	5,765,536	58.5
22–23	0.000566	98,481	56	98,453	5,667,029	57.5
23–24	0.000603	98,425	59	98,396	5,568,576	56.6
24–25	0.000636	98,366	63	98,335	5,470,180	55.6
25–26	0.000672	98,304	66	98,271	5,371,845	54.6
26–27	0.000715	98,238	70	98,202	5,273,575	53.7
27–28	0.000761	98,167	75	98,130	5,175,372	52.7
28–29	0.000808	98,093	79	98,053	5,077,243	51.8
29–30	0.000854	98,013	84	97,972	4,979,190	50.8
30–31	0.000902	97,930	88	97,886	4,881,218	49.8
31–32	0.000955	97,841	93	97,795	4,783,333	48.9
32–33	0.001019	97,748	100	97,698	4,685,538	47.9
33–34	0.001099	97,648	107	97,595	4,587,840	47.0
34–35	0.001196	97,541	117	97,483	4,490,245	46.0
35–36	0.001313	97,424	128	97,360	4,392,763	45.1
36–37	0.001442	97,296	140	97,226	4,295,402	44.1
37–38	0.001572	97,156	153	97,080	4,198,176	43.2
38–39	0.001691	97,003	164	96,921	4,101,096	42.3
39–40	0.001804	96,839	175	96,752	4,004,175	41.3
40–41	0.001921	96,665	186	96,572	3,907,423	40.4
41–42	0.002060	96,479	199	96,380	3,810,851	39.5
42–43	0.002232	96,280	215	96,173	3,714,472	38.6
43–44	0.002447	96,065	235	95,948	3,618,299	37.7
44–45	0.002703	95,830	259	95,701	3,522,351	36.8
45–46	0.002972	95,571	284	95,429	3,426,651	35.9
46–47	0.003256	95,287	310	95,132	3,331,222	35.0
47–48	0.003578	94,977	340	94,807	3,236,090	34.1
48–49	0.003942	94,637	373	94,451	3,141,283	33.2
49–50	0.004335	94,264	409	94,060	3,046,832	32.3
50–51	0.004739	93,855	445	93,633	2,952,772	31.5
51–52	0.005149	93,411	481	93,170	2,859,139	30.6
52–53	0.005577	92,930	518	92,671	2,765,969	29.8
53–54	0.006032	92,411	557	92,133	2,673,299	28.9
54–55	0.006520	91,854	599	91,555	2,581,166	28.1
55–56	0.007043	91,255	643	90,934	2,489,612	27.3
56–57	0.007590	90,612	688	90,268	2,398,678	26.5
57–58	0.008146	89,925	732	89,558	2,308,409	25.7
58–59	0.008699	89,192	776	88,804	2,218,851	24.9
59–60	0.009258	88,416	819	88,007	2,130,047	24.1
60–61	0.009861	87,598	864	87,166	2,042,040	23.3

See footnote at end of table.

Table 9. Life table for black females: United States, 2012—Con.

Spreadsheet version available from: ftp://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/65_8/Table09.xlsx.

Age (years)	Probability of dying between ages x and $x+1$ q_x	Number surviving to age x l_x	Number dying between ages x and $x+1$ d_x	Person-years lived between ages x and $x+1$ L_x	Total number of person-years lived above age x T_x	Expectation of life at age x e_x
61–62	0.010515	86,734	912	86,278	1,954,874	22.5
62–63	0.011190	85,822	960	85,342	1,868,596	21.8
63–64	0.011890	84,861	1,009	84,357	1,783,254	21.0
64–65	0.012645	83,853	1,060	83,322	1,698,897	20.3
65–66	0.013493	82,792	1,117	82,234	1,615,575	19.5
66–67	0.014489	81,675	1,183	81,083	1,533,342	18.8
67–68	0.015694	80,492	1,263	79,860	1,452,258	18.0
68–69	0.017023	79,228	1,349	78,554	1,372,398	17.3
69–70	0.018544	77,880	1,444	77,158	1,293,844	16.6
70–71	0.020373	76,435	1,557	75,657	1,216,686	15.9
71–72	0.022261	74,878	1,667	74,045	1,141,030	15.2
72–73	0.024077	73,211	1,763	72,330	1,066,985	14.6
73–74	0.025952	71,449	1,854	70,522	994,655	13.9
74–75	0.028022	69,594	1,950	68,619	924,133	13.3
75–76	0.030211	67,644	2,044	66,622	855,514	12.6
76–77	0.032900	65,601	2,158	64,521	788,891	12.0
77–78	0.035697	63,442	2,265	62,310	724,370	11.4
78–79	0.039140	61,178	2,395	59,980	662,060	10.8
79–80	0.043686	58,783	2,568	57,499	602,080	10.2
80–81	0.047830	56,215	2,689	54,871	544,581	9.7
81–82	0.052167	53,526	2,792	52,130	489,710	9.1
82–83	0.057324	50,734	2,908	49,280	437,580	8.6
83–84	0.063255	47,826	3,025	46,313	388,300	8.1
84–85	0.071270	44,801	3,193	43,204	341,987	7.6
85–86	0.078471	41,608	3,265	39,975	298,782	7.2
86–87	0.086295	38,343	3,309	36,688	258,807	6.7
87–88	0.094774	35,034	3,320	33,374	222,119	6.3
88–89	0.103936	31,714	3,296	30,065	188,745	6.0
89–90	0.113808	28,417	3,234	26,800	158,680	5.6
90–91	0.124410	25,183	3,133	23,617	131,880	5.2
91–92	0.135758	22,050	2,993	20,553	108,263	4.9
92–93	0.147858	19,057	2,818	17,648	87,710	4.6
93–94	0.160710	16,239	2,610	14,934	70,062	4.3
94–95	0.174304	13,629	2,376	12,441	55,128	4.0
95–96	0.188619	11,254	2,123	10,192	42,686	3.8
96–97	0.203623	9,131	1,859	8,201	32,494	3.6
97–98	0.219274	7,272	1,594	6,474	24,292	3.3
98–99	0.235516	5,677	1,337	5,009	17,818	3.1
99–100	0.252282	4,340	1,095	3,793	12,809	3.0
100 and over	1.000000	3,245	3,245	9,017	9,017	2.8

SOURCE: NCHS, National Vital Statistics System, Mortality.

Table 10. Life table for the Hispanic population: United States, 2012

Spreadsheet version available from: ftp://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/65_8/Table10.xlsx.

Age (years)	Probability of dying between ages x and $x+1$ q_x	Number surviving to age x l_x	Number dying between ages x and $x+1$ d_x	Person-years lived between ages x and $x+1$ L_x	Total number of person-years lived above age x T_x	Expectation of life at age x e_x
0–1	0.005106	100,000	511	99,545	8,192,767	81.9
1–2	0.000345	99,489	34	99,472	8,093,222	81.3
2–3	0.000219	99,455	22	99,444	7,993,750	80.4
3–4	0.000156	99,433	15	99,426	7,894,305	79.4
4–5	0.000144	99,418	14	99,411	7,794,880	78.4
5–6	0.000123	99,404	12	99,397	7,695,469	77.4
6–7	0.000109	99,391	11	99,386	7,596,072	76.4
7–8	0.000099	99,381	10	99,376	7,496,686	75.4
8–9	0.000089	99,371	9	99,366	7,397,310	74.4
9–10	0.000082	99,362	8	99,358	7,297,944	73.4
10–11	0.000078	99,354	8	99,350	7,198,586	72.5
11–12	0.000084	99,346	8	99,342	7,099,236	71.5
12–13	0.000104	99,338	10	99,332	6,999,894	70.5
13–14	0.000144	99,327	14	99,320	6,900,562	69.5
14–15	0.000198	99,313	20	99,303	6,801,242	68.5
15–16	0.000257	99,293	25	99,281	6,701,939	67.5
16–17	0.000316	99,268	31	99,252	6,602,658	66.5
17–18	0.000377	99,237	37	99,218	6,503,406	65.5
18–19	0.000436	99,199	43	99,177	6,404,188	64.6
19–20	0.000493	99,156	49	99,131	6,305,011	63.6
20–21	0.000552	99,107	55	99,080	6,205,879	62.6
21–22	0.000607	99,052	60	99,022	6,106,800	61.7
22–23	0.000648	98,992	64	98,960	6,007,777	60.7
23–24	0.000670	98,928	66	98,895	5,908,817	59.7
24–25	0.000679	98,862	67	98,828	5,809,922	58.8
25–26	0.000683	98,795	67	98,761	5,711,094	57.8
26–27	0.000689	98,727	68	98,693	5,612,333	56.8
27–28	0.000697	98,659	69	98,625	5,513,640	55.9
28–29	0.000710	98,590	70	98,555	5,415,016	54.9
29–30	0.000728	98,520	72	98,484	5,316,460	54.0
30–31	0.000748	98,449	74	98,412	5,217,976	53.0
31–32	0.000768	98,375	76	98,337	5,119,564	52.0
32–33	0.000786	98,299	77	98,261	5,021,227	51.1
33–34	0.000800	98,222	79	98,183	4,922,966	50.1
34–35	0.000816	98,144	80	98,104	4,824,783	49.2
35–36	0.000834	98,064	82	98,023	4,726,680	48.2
36–37	0.000862	97,982	84	97,939	4,628,657	47.2
37–38	0.000905	97,897	89	97,853	4,530,717	46.3
38–39	0.000967	97,809	95	97,761	4,432,864	45.3
39–40	0.001048	97,714	102	97,663	4,335,103	44.4
40–41	0.001138	97,612	111	97,556	4,237,440	43.4
41–42	0.001239	97,501	121	97,440	4,139,884	42.5
42–43	0.001356	97,380	132	97,314	4,042,444	41.5
43–44	0.001494	97,248	145	97,175	3,945,130	40.6
44–45	0.001653	97,102	160	97,022	3,847,955	39.6
45–46	0.001828	96,942	177	96,853	3,750,933	38.7
46–47	0.002018	96,765	195	96,667	3,654,080	37.8
47–48	0.002226	96,569	215	96,462	3,557,413	36.8
48–49	0.002453	96,354	236	96,236	3,460,951	35.9
49–50	0.002698	96,118	259	95,988	3,364,714	35.0
50–51	0.002963	95,859	284	95,717	3,268,726	34.1
51–52	0.003247	95,575	310	95,420	3,173,009	33.2
52–53	0.003552	95,264	338	95,095	3,077,590	32.3
53–54	0.003881	94,926	368	94,742	2,982,494	31.4
54–55	0.004237	94,558	401	94,357	2,887,752	30.5
55–56	0.004623	94,157	435	93,939	2,793,395	29.7
56–57	0.005038	93,722	472	93,486	2,699,456	28.8
57–58	0.005480	93,250	511	92,994	2,605,970	27.9
58–59	0.005947	92,739	551	92,463	2,512,976	27.1
59–60	0.006437	92,187	593	91,890	2,420,513	26.3
60–61	0.006978	91,594	639	91,274	2,328,622	25.4

See footnotes at end of table.

Table 10. Life table for the Hispanic population: United States, 2012—Con.

Spreadsheet version available from: ftp://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/65_8/Table10.xlsx.

Age (years)	Probability of dying between ages x and $x+1$ q_x	Number surviving to age x l_x	Number dying between ages x and $x+1$ d_x	Person-years lived between ages x and $x+1$ L_x	Total number of person-years lived above age x T_x	Expectation of life at age x e_x
61–62	0.007560	90,955	688	90,611	2,237,348	24.6
62–63	0.008138	90,267	735	89,900	2,146,737	23.8
63–64	0.008686	89,532	778	89,143	2,056,838	23.0
64–65	0.009221	88,755	818	88,345	1,967,694	22.2
65–66	0.009783	87,936	860	87,506	1,879,349	21.4
66–67	0.010425	87,076	908	86,622	1,791,843	20.6
67–68	0.011168	86,168	962	85,687	1,705,221	19.8
68–69	0.012053	85,206	1,027	84,692	1,619,534	19.0
69–70	0.013090	84,179	1,102	83,628	1,534,842	18.2
70–71	0.014261	83,077	1,185	82,485	1,451,214	17.5
71–72	0.015575	81,892	1,275	81,254	1,368,729	16.7
72–73	0.017083	80,617	1,377	79,928	1,287,475	16.0
73–74	0.018797	79,239	1,489	78,495	1,207,547	15.2
74–75	0.020712	77,750	1,610	76,945	1,129,052	14.5
75–76	0.022751	76,140	1,732	75,274	1,052,107	13.8
76–77	0.025033	74,408	1,863	73,476	976,833	13.1
77–78	0.027724	72,545	2,011	71,539	903,357	12.5
78–79	0.030837	70,534	2,175	69,446	831,818	11.8
79–80	0.034426	68,359	2,353	67,182	762,372	11.2
80–81	0.038139	66,005	2,517	64,747	695,190	10.5
81–82	0.042102	63,488	2,673	62,151	630,443	9.9
82–83	0.046654	60,815	2,837	59,396	568,292	9.3
83–84	0.052043	57,978	3,017	56,469	508,895	8.8
84–85	0.058090	54,960	3,193	53,364	452,426	8.2
85–86	0.064627	51,768	3,346	50,095	399,062	7.7
86–87	0.072432	48,422	3,507	46,668	348,968	7.2
87–88	0.081038	44,915	3,640	43,095	302,299	6.7
88–89	0.090491	41,275	3,735	39,407	259,204	6.3
89–90	0.100832	37,540	3,785	35,647	219,797	5.9
90–91	0.112094	33,755	3,784	31,863	184,150	5.5
91–92	0.124300	29,971	3,725	28,108	152,287	5.1
92–93	0.137460	26,246	3,608	24,442	124,178	4.7
93–94	0.151568	22,638	3,431	20,922	99,737	4.4
94–95	0.166601	19,207	3,200	17,607	78,814	4.1
95–96	0.182516	16,007	2,922	14,546	61,208	3.8
96–97	0.199250	13,085	2,607	11,782	46,662	3.6
97–98	0.216718	10,478	2,271	9,343	34,880	3.3
98–99	0.234815	8,207	1,927	7,244	25,537	3.1
99–100	0.253419	6,280	1,591	5,484	18,294	2.9
100 and over	1.000000	4,689	4,689	12,809	12,809	2.7

NOTE: This life table is based on death rates that have been adjusted for race and ethnicity misclassification on death certificates. Updated classification ratios were applied; see Technical Notes.

SOURCE: NCHS, National Vital Statistics System, Mortality.

Table 11. Life table for Hispanic males: United States, 2012

Spreadsheet version available from: ftp://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/65_8/Table11.xlsx.

Age (years)	Probability of dying between ages x and $x+1$ q_x	Number surviving to age x l_x	Number dying between ages x and $x+1$ d_x	Person-years lived between ages x and $x+1$ L_x	Total number of person-years lived above age x T_x	Expectation of life at age x e_x
0–1	0.005478	100,000	548	99,511	7,925,948	79.3
1–2	0.000356	99,452	35	99,434	7,826,437	78.7
2–3	0.000242	99,417	24	99,405	7,727,003	77.7
3–4	0.000169	99,393	17	99,384	7,627,598	76.7
4–5	0.000140	99,376	14	99,369	7,528,214	75.8
5–6	0.000131	99,362	13	99,355	7,428,845	74.8
6–7	0.000118	99,349	12	99,343	7,329,490	73.8
7–8	0.000107	99,337	11	99,332	7,230,146	72.8
8–9	0.000094	99,327	9	99,322	7,130,815	71.8
9–10	0.000080	99,317	8	99,313	7,031,493	70.8
10–11	0.000070	99,309	7	99,306	6,932,179	69.8
11–12	0.000074	99,302	7	99,299	6,832,874	68.8
12–13	0.000103	99,295	10	99,290	6,733,575	67.8
13–14	0.000164	99,285	16	99,277	6,634,285	66.8
14–15	0.000249	99,268	25	99,256	6,535,009	65.8
15–16	0.000342	99,244	34	99,227	6,435,753	64.8
16–17	0.000434	99,210	43	99,188	6,336,526	63.9
17–18	0.000527	99,167	52	99,141	6,237,338	62.9
18–19	0.000616	99,114	61	99,084	6,138,197	61.9
19–20	0.000699	99,053	69	99,019	6,039,113	61.0
20–21	0.000782	98,984	77	98,945	5,940,095	60.0
21–22	0.000860	98,907	85	98,864	5,841,149	59.1
22–23	0.000918	98,822	91	98,776	5,742,285	58.1
23–24	0.000952	98,731	94	98,684	5,643,509	57.2
24–25	0.000967	98,637	95	98,589	5,544,825	56.2
25–26	0.000975	98,542	96	98,494	5,446,235	55.3
26–27	0.000985	98,446	97	98,397	5,347,742	54.3
27–28	0.000995	98,349	98	98,300	5,249,345	53.4
28–29	0.001009	98,251	99	98,201	5,151,045	52.4
29–30	0.001026	98,151	101	98,101	5,052,844	51.5
30–31	0.001045	98,051	102	97,999	4,954,743	50.5
31–32	0.001064	97,948	104	97,896	4,856,743	49.6
32–33	0.001082	97,844	106	97,791	4,758,847	48.6
33–34	0.001100	97,738	107	97,684	4,661,056	47.7
34–35	0.001121	97,631	109	97,576	4,563,372	46.7
35–36	0.001145	97,521	112	97,465	4,465,796	45.8
36–37	0.001180	97,410	115	97,352	4,368,330	44.8
37–38	0.001235	97,295	120	97,235	4,270,978	43.9
38–39	0.001314	97,175	128	97,111	4,173,743	43.0
39–40	0.001415	97,047	137	96,978	4,076,633	42.0
40–41	0.001530	96,909	148	96,835	3,979,655	41.1
41–42	0.001655	96,761	160	96,681	3,882,819	40.1
42–43	0.001795	96,601	173	96,514	3,786,138	39.2
43–44	0.001951	96,428	188	96,334	3,689,624	38.3
44–45	0.002125	96,240	205	96,137	3,593,290	37.3
45–46	0.002317	96,035	223	95,924	3,497,153	36.4
46–47	0.002531	95,812	242	95,691	3,401,229	35.5
47–48	0.002773	95,570	265	95,437	3,305,538	34.6
48–49	0.003048	95,305	290	95,160	3,210,101	33.7
49–50	0.003356	95,014	319	94,855	3,114,941	32.8
50–51	0.003689	94,696	349	94,521	3,020,086	31.9
51–52	0.004049	94,346	382	94,155	2,925,565	31.0
52–53	0.004457	93,964	419	93,755	2,831,410	30.1
53–54	0.004925	93,545	461	93,315	2,737,655	29.3
54–55	0.005452	93,085	508	92,831	2,644,340	28.4
55–56	0.006042	92,577	559	92,298	2,551,509	27.6
56–57	0.006671	92,018	614	91,711	2,459,211	26.7
57–58	0.007305	91,404	668	91,070	2,367,500	25.9
58–59	0.007912	90,736	718	90,377	2,276,430	25.1
59–60	0.008497	90,018	765	89,636	2,186,053	24.3
60–61	0.009121	89,254	814	88,847	2,096,417	23.5

See footnotes at end of table.

Table 11. Life table for Hispanic males: United States, 2012—Con.

Spreadsheet version available from: ftp://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/65_8/Table11.xlsx.

Age (years)	Probability of dying between ages x and $x+1$ q_x	Number surviving to age x l_x	Number dying between ages x and $x+1$ d_x	Person-years lived between ages x and $x+1$ L_x	Total number of person-years lived above age x T_x	Expectation of life at age x e_x
61–62	0.009804	88,439	867	88,006	2,007,570	22.7
62–63	0.010495	87,572	919	87,113	1,919,564	21.9
63–64	0.011184	86,653	969	86,169	1,832,451	21.1
64–65	0.011888	85,684	1,019	85,175	1,746,283	20.4
65–66	0.012623	84,666	1,069	84,131	1,661,108	19.6
66–67	0.013443	83,597	1,124	83,035	1,576,976	18.9
67–68	0.014405	82,473	1,188	81,879	1,493,941	18.1
68–69	0.015569	81,285	1,266	80,652	1,412,062	17.4
69–70	0.016942	80,020	1,356	79,342	1,331,410	16.6
70–71	0.018499	78,664	1,455	77,936	1,252,068	15.9
71–72	0.020218	77,209	1,561	76,428	1,174,132	15.2
72–73	0.022105	75,648	1,672	74,812	1,097,704	14.5
73–74	0.024124	73,975	1,785	73,083	1,022,892	13.8
74–75	0.026277	72,191	1,897	71,242	949,809	13.2
75–76	0.028512	70,294	2,004	69,292	878,567	12.5
76–77	0.030992	68,290	2,116	67,231	809,275	11.9
77–78	0.034034	66,173	2,252	65,047	742,044	11.2
78–79	0.037702	63,921	2,410	62,716	676,996	10.6
79–80	0.042068	61,511	2,588	60,217	614,280	10.0
80–81	0.046719	58,923	2,753	57,547	554,063	9.4
81–82	0.051750	56,171	2,907	54,717	496,516	8.8
82–83	0.057472	53,264	3,061	51,733	441,799	8.3
83–84	0.064110	50,203	3,219	48,593	390,065	7.8
84–85	0.071252	46,984	3,348	45,310	341,472	7.3
85–86	0.078730	43,636	3,436	41,919	296,162	6.8
86–87	0.088233	40,201	3,547	38,427	254,243	6.3
87–88	0.098669	36,654	3,617	34,846	215,816	5.9
88–89	0.110079	33,037	3,637	31,219	180,970	5.5
89–90	0.122491	29,401	3,601	27,600	149,751	5.1
90–91	0.135921	25,799	3,507	24,046	122,151	4.7
91–92	0.150369	22,293	3,352	20,617	98,105	4.4
92–93	0.165813	18,940	3,141	17,370	77,489	4.1
93–94	0.182211	15,800	2,879	14,360	60,119	3.8
94–95	0.199500	12,921	2,578	11,632	45,758	3.5
95–96	0.217591	10,343	2,251	9,218	34,126	3.3
96–97	0.236372	8,093	1,913	7,136	24,908	3.1
97–98	0.255711	6,180	1,580	5,390	17,772	2.9
98–99	0.275457	4,600	1,267	3,966	12,382	2.7
99–100	0.295446	3,333	985	2,840	8,416	2.5
100 and over	1.000000	2,348	2,348	5,576	5,576	2.4

NOTE: This life table is based on death rates that have been adjusted for race and ethnicity misclassification on death certificates. Updated classification ratios were applied; see Technical Notes.

SOURCE: NCHS, National Vital Statistics System, Mortality.

Table 12. Life table for Hispanic females: United States, 2012

Spreadsheet version available from: ftp://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/65_8/Table12.xlsx.

Age (years)	Probability of dying between ages x and $x+1$ q_x	Number surviving to age x l_x	Number dying between ages x and $x+1$ d_x	Person-years lived between ages x and $x+1$ L_x	Total number of person-years lived above age x T_x	Expectation of life at age x e_x
0–1	0.004719	100,000	472	99,581	8,432,312	84.3
1–2	0.000326	99,528	32	99,512	8,332,731	83.7
2–3	0.000190	99,496	19	99,486	8,233,220	82.7
3–4	0.000139	99,477	14	99,470	8,133,733	81.8
4–5	0.000147	99,463	15	99,456	8,034,264	80.8
5–6	0.000111	99,448	11	99,443	7,934,808	79.8
6–7	0.000098	99,437	10	99,432	7,835,365	78.8
7–8	0.000088	99,428	9	99,423	7,735,933	77.8
8–9	0.000083	99,419	8	99,415	7,636,510	76.8
9–10	0.000082	99,410	8	99,406	7,537,095	75.8
10–11	0.000084	99,402	8	99,398	7,437,689	74.8
11–12	0.000091	99,394	9	99,390	7,338,290	73.8
12–13	0.000103	99,385	10	99,380	7,238,901	72.8
13–14	0.000120	99,375	12	99,369	7,139,521	71.8
14–15	0.000142	99,363	14	99,356	7,040,152	70.9
15–16	0.000166	99,349	16	99,341	6,940,796	69.9
16–17	0.000191	99,332	19	99,323	6,841,456	68.9
17–18	0.000217	99,313	22	99,303	6,742,133	67.9
18–19	0.000242	99,292	24	99,280	6,642,830	66.9
19–20	0.000266	99,268	26	99,255	6,543,550	65.9
20–21	0.000292	99,241	29	99,227	6,444,296	64.9
21–22	0.000316	99,212	31	99,197	6,345,069	64.0
22–23	0.000334	99,181	33	99,164	6,245,872	63.0
23–24	0.000344	99,148	34	99,131	6,146,708	62.0
24–25	0.000347	99,114	34	99,097	6,047,577	61.0
25–26	0.000347	99,079	34	99,062	5,948,480	60.0
26–27	0.000350	99,045	35	99,028	5,849,418	59.1
27–28	0.000358	99,010	35	98,993	5,750,390	58.1
28–29	0.000372	98,975	37	98,956	5,651,398	57.1
29–30	0.000393	98,938	39	98,919	5,552,441	56.1
30–31	0.000416	98,899	41	98,879	5,453,523	55.1
31–32	0.000439	98,858	43	98,836	5,354,644	54.2
32–33	0.000459	98,815	45	98,792	5,255,808	53.2
33–34	0.000474	98,769	47	98,746	5,157,015	52.2
34–35	0.000488	98,723	48	98,698	5,058,270	51.2
35–36	0.000505	98,674	50	98,650	4,959,571	50.3
36–37	0.000529	98,625	52	98,599	4,860,922	49.3
37–38	0.000563	98,572	56	98,545	4,762,323	48.3
38–39	0.000610	98,517	60	98,487	4,663,778	47.3
39–40	0.000669	98,457	66	98,424	4,565,292	46.4
40–41	0.000734	98,391	72	98,355	4,466,868	45.4
41–42	0.000807	98,319	79	98,279	4,368,513	44.4
42–43	0.000901	98,239	89	98,195	4,270,234	43.5
43–44	0.001020	98,151	100	98,101	4,172,039	42.5
44–45	0.001161	98,051	114	97,994	4,073,938	41.5
45–46	0.001318	97,937	129	97,872	3,975,944	40.6
46–47	0.001483	97,808	145	97,735	3,878,072	39.6
47–48	0.001657	97,663	162	97,582	3,780,336	38.7
48–49	0.001837	97,501	179	97,411	3,682,755	37.8
49–50	0.002022	97,322	197	97,223	3,585,343	36.8
50–51	0.002223	97,125	216	97,017	3,488,120	35.9
51–52	0.002437	96,909	236	96,791	3,391,103	35.0
52–53	0.002647	96,673	256	96,545	3,294,312	34.1
53–54	0.002847	96,417	274	96,280	3,197,767	33.2
54–55	0.003046	96,142	293	95,996	3,101,488	32.3
55–56	0.003248	95,850	311	95,694	3,005,492	31.4
56–57	0.003475	95,538	332	95,372	2,909,798	30.5
57–58	0.003754	95,206	357	95,028	2,814,426	29.6
58–59	0.004106	94,849	389	94,654	2,719,398	28.7
59–60	0.004525	94,459	427	94,246	2,624,744	27.8
60–61	0.005006	94,032	471	93,797	2,530,499	26.9

See footnotes at end of table.

Table 12. Life table for Hispanic females: United States, 2012—Con.

Spreadsheet version available from: ftp://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/65_8/Table12.xlsx.

Age (years)	Probability of dying between ages x and $x+1$ q_x	Number surviving to age x l_x	Number dying between ages x and $x+1$ d_x	Person-years lived between ages x and $x+1$ L_x	Total number of person-years lived above age x T_x	Expectation of life at age x e_x
61–62	0.005514	93,561	516	93,303	2,436,702	26.0
62–63	0.006012	93,045	559	92,766	2,343,399	25.2
63–64	0.006464	92,486	598	92,187	2,250,633	24.3
64–65	0.006887	91,888	633	91,572	2,158,446	23.5
65–66	0.007343	91,255	670	90,920	2,066,875	22.6
66–67	0.007878	90,585	714	90,228	1,975,955	21.8
67–68	0.008480	89,871	762	89,490	1,885,727	21.0
68–69	0.009172	89,109	817	88,701	1,796,237	20.2
69–70	0.009971	88,292	880	87,852	1,707,536	19.3
70–71	0.010868	87,412	950	86,937	1,619,684	18.5
71–72	0.011905	86,462	1,029	85,947	1,532,748	17.7
72–73	0.013165	85,432	1,125	84,870	1,446,801	16.9
73–74	0.014697	84,308	1,239	83,688	1,361,931	16.2
74–75	0.016490	83,068	1,370	82,384	1,278,243	15.4
75–76	0.018440	81,699	1,507	80,945	1,195,859	14.6
76–77	0.020625	80,192	1,654	79,365	1,114,914	13.9
77–78	0.023130	78,538	1,817	77,630	1,035,549	13.2
78–79	0.025943	76,722	1,990	75,726	957,919	12.5
79–80	0.029130	74,731	2,177	73,643	882,193	11.8
80–81	0.032384	72,554	2,350	71,379	808,550	11.1
81–82	0.035872	70,205	2,518	68,945	737,170	10.5
82–83	0.039921	67,686	2,702	66,335	668,225	9.9
83–84	0.044868	64,984	2,916	63,526	601,890	9.3
84–85	0.050655	62,068	3,144	60,496	538,363	8.7
85–86	0.056951	58,924	3,356	57,246	477,867	8.1
86–87	0.064378	55,569	3,577	53,780	420,621	7.6
87–88	0.072644	51,991	3,777	50,103	366,841	7.1
88–89	0.081809	48,214	3,944	46,242	316,738	6.6
89–90	0.091931	44,270	4,070	42,235	270,496	6.1
90–91	0.103057	40,200	4,143	38,129	228,261	5.7
91–92	0.115225	36,057	4,155	33,980	190,132	5.3
92–93	0.128462	31,903	4,098	29,853	156,152	4.9
93–94	0.142775	27,804	3,970	25,819	126,298	4.5
94–95	0.158152	23,835	3,769	21,950	100,479	4.2
95–96	0.174560	20,065	3,503	18,314	78,529	3.9
96–97	0.191937	16,563	3,179	14,973	60,215	3.6
97–98	0.210200	13,384	2,813	11,977	45,242	3.4
98–99	0.229237	10,570	2,423	9,359	33,265	3.1
99–100	0.248911	8,147	2,028	7,133	23,907	2.9
100 and over	1.000000	6,119	6,119	16,773	16,773	2.7

NOTE: This life table is based on death rates that have been adjusted for race and ethnicity misclassification on death certificates. Updated classification ratios were applied; see Technical Notes.

SOURCE: NCHS, National Vital Statistics System, Mortality.

Table 13. Life table for the non-Hispanic white population: United States, 2012

Spreadsheet version available from: ftp://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/65_8/Table13.xlsx.

Age (years)	Probability of dying between ages x and $x+1$ q_x	Number surviving to age x l_x	Number dying between ages x and $x+1$ d_x	Person-years lived between ages x and $x+1$ L_x	Total number of person-years lived above age x T_x	Expectation of life at age x e_x
0–1	0.005038	100,000	504	99,558	7,885,828	78.9
1–2	0.000382	99,496	38	99,477	7,786,269	78.3
2–3	0.000255	99,458	25	99,446	7,686,792	77.3
3–4	0.000197	99,433	20	99,423	7,587,347	76.3
4–5	0.000155	99,413	15	99,406	7,487,924	75.3
5–6	0.000134	99,398	13	99,391	7,388,518	74.3
6–7	0.000116	99,385	11	99,379	7,289,127	73.3
7–8	0.000101	99,373	10	99,368	7,189,748	72.4
8–9	0.000088	99,363	9	99,359	7,090,380	71.4
9–10	0.000077	99,354	8	99,350	6,991,021	70.4
10–11	0.000073	99,347	7	99,343	6,891,671	69.4
11–12	0.000081	99,339	8	99,335	6,792,328	68.4
12–13	0.000108	99,331	11	99,326	6,692,993	67.4
13–14	0.000158	99,321	16	99,313	6,593,667	66.4
14–15	0.000226	99,305	22	99,294	6,494,354	65.4
15–16	0.000298	99,282	30	99,268	6,395,060	64.4
16–17	0.000372	99,253	37	99,234	6,295,793	63.4
17–18	0.000452	99,216	45	99,193	6,196,559	62.5
18–19	0.000536	99,171	53	99,144	6,097,365	61.5
19–20	0.000621	99,118	62	99,087	5,998,221	60.5
20–21	0.000708	99,056	70	99,021	5,899,134	59.6
21–22	0.000788	98,986	78	98,947	5,800,112	58.6
22–23	0.000853	98,908	84	98,866	5,701,165	57.6
23–24	0.000898	98,824	89	98,779	5,602,299	56.7
24–25	0.000931	98,735	92	98,689	5,503,520	55.7
25–26	0.000960	98,643	95	98,596	5,404,831	54.8
26–27	0.000992	98,548	98	98,500	5,306,235	53.8
27–28	0.001023	98,451	101	98,400	5,207,736	52.9
28–29	0.001053	98,350	104	98,298	5,109,335	52.0
29–30	0.001083	98,246	106	98,193	5,011,037	51.0
30–31	0.001116	98,140	110	98,085	4,912,844	50.1
31–32	0.001151	98,031	113	97,974	4,814,759	49.1
32–33	0.001187	97,918	116	97,860	4,716,785	48.2
33–34	0.001224	97,801	120	97,742	4,618,925	47.2
34–35	0.001266	97,682	124	97,620	4,521,184	46.3
35–36	0.001322	97,558	129	97,494	4,423,564	45.3
36–37	0.001395	97,429	136	97,361	4,326,070	44.4
37–38	0.001476	97,293	144	97,221	4,228,709	43.5
38–39	0.001561	97,150	152	97,074	4,131,487	42.5
39–40	0.001649	96,998	160	96,918	4,034,413	41.6
40–41	0.001746	96,838	169	96,753	3,937,495	40.7
41–42	0.001863	96,669	180	96,579	3,840,742	39.7
42–43	0.002006	96,489	194	96,392	3,744,163	38.8
43–44	0.002186	96,295	211	96,190	3,647,771	37.9
44–45	0.002402	96,085	231	95,969	3,551,581	37.0
45–46	0.002633	95,854	252	95,728	3,455,612	36.1
46–47	0.002881	95,602	275	95,464	3,359,884	35.1
47–48	0.003165	95,326	302	95,175	3,264,420	34.2
48–49	0.003483	95,024	331	94,859	3,169,245	33.4
49–50	0.003820	94,693	362	94,513	3,074,386	32.5
50–51	0.004162	94,332	393	94,135	2,979,873	31.6
51–52	0.004504	93,939	423	93,728	2,885,738	30.7
52–53	0.004857	93,516	454	93,289	2,792,010	29.9
53–54	0.005232	93,062	487	92,818	2,698,721	29.0
54–55	0.005636	92,575	522	92,314	2,605,903	28.1
55–56	0.006074	92,053	559	91,774	2,513,589	27.3
56–57	0.006538	91,494	598	91,195	2,421,815	26.5
57–58	0.007022	90,896	638	90,577	2,330,620	25.6
58–59	0.007521	90,258	679	89,918	2,240,044	24.8
59–60	0.008042	89,579	720	89,219	2,150,126	24.0
60–61	0.008597	88,858	764	88,476	2,060,907	23.2

See footnotes at end of table.

Table 13. Life table for the non-Hispanic white population: United States, 2012—Con.

Spreadsheet version available from: ftp://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/65_8/Table13.xlsx.

Age (years)	Probability of dying between ages x and $x+1$ q_x	Number surviving to age x l_x	Number dying between ages x and $x+1$ d_x	Person-years lived between ages x and $x+1$ L_x	Total number of person-years lived above age x T_x	Expectation of life at age x e_x
61–62	0.009205	88,094	811	87,689	1,972,431	22.4
62–63	0.009878	87,283	862	86,852	1,884,742	21.6
63–64	0.010630	86,421	919	85,962	1,797,890	20.8
64–65	0.011468	85,503	981	85,012	1,711,928	20.0
65–66	0.012405	84,522	1,048	83,998	1,626,915	19.2
66–67	0.013431	83,474	1,121	82,913	1,542,917	18.5
67–68	0.014562	82,353	1,199	81,753	1,460,004	17.7
68–69	0.015796	81,153	1,282	80,512	1,378,251	17.0
69–70	0.017148	79,871	1,370	79,187	1,297,739	16.2
70–71	0.018749	78,502	1,472	77,766	1,218,552	15.5
71–72	0.020646	77,030	1,590	76,235	1,140,787	14.8
72–73	0.022747	75,440	1,716	74,582	1,064,552	14.1
73–74	0.024964	73,724	1,840	72,803	989,970	13.4
74–75	0.027327	71,883	1,964	70,901	917,167	12.8
75–76	0.029971	69,919	2,096	68,871	846,266	12.1
76–77	0.033086	67,823	2,244	66,701	777,395	11.5
77–78	0.036599	65,579	2,400	64,379	710,693	10.8
78–79	0.040472	63,179	2,557	61,901	646,314	10.2
79–80	0.045061	60,622	2,732	59,256	584,413	9.6
80–81	0.049818	57,890	2,884	56,449	525,157	9.1
81–82	0.054999	55,007	3,025	53,494	468,709	8.5
82–83	0.060891	51,981	3,165	50,399	415,215	8.0
83–84	0.067849	48,816	3,312	47,160	364,816	7.5
84–85	0.075633	45,504	3,442	43,783	317,656	7.0
85–86	0.084016	42,062	3,534	40,295	273,873	6.5
86–87	0.093988	38,528	3,621	36,718	233,578	6.1
87–88	0.104930	34,907	3,663	33,076	196,860	5.6
88–89	0.116886	31,244	3,652	29,418	163,784	5.2
89–90	0.129889	27,592	3,584	25,800	134,366	4.9
90–91	0.143960	24,008	3,456	22,280	108,565	4.5
91–92	0.159104	20,552	3,270	18,917	86,285	4.2
92–93	0.175307	17,282	3,030	15,767	67,368	3.9
93–94	0.192533	14,253	2,744	12,880	51,601	3.6
94–95	0.210726	11,508	2,425	10,296	38,720	3.4
95–96	0.229806	9,083	2,087	8,040	28,424	3.1
96–97	0.249666	6,996	1,747	6,123	20,385	2.9
97–98	0.270182	5,249	1,418	4,540	14,262	2.7
98–99	0.291206	3,831	1,116	3,273	9,722	2.5
99–100	0.312576	2,715	849	2,291	6,449	2.4
100 and over	1.000000	1,867	1,867	4,158	4,158	2.2

NOTE: This life table is based on death rates that have been adjusted for race and ethnicity misclassification on death certificates. Updated classification ratios were applied; see Technical Notes.

SOURCE: NCHS, National Vital Statistics System, Mortality.

Table 14. Life table for non-Hispanic white males: United States, 2012

Spreadsheet version available from: ftp://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/65_8/Table14.xlsx.

Age (years)	Probability of dying between ages x and $x+1$ q_x	Number surviving to age x l_x	Number dying between ages x and $x+1$ d_x	Person-years lived between ages x and $x+1$ L_x	Total number of person-years lived above age x T_x	Expectation of life at age x e_x
0–1	0.005460	100,000	546	99,521	7,650,835	76.5
1–2	0.000455	99,454	45	99,431	7,551,314	75.9
2–3	0.000305	99,409	30	99,394	7,451,883	75.0
3–4	0.000236	99,378	23	99,367	7,352,489	74.0
4–5	0.000205	99,355	20	99,345	7,253,123	73.0
5–6	0.000163	99,335	16	99,326	7,153,778	72.0
6–7	0.000138	99,318	14	99,311	7,054,452	71.0
7–8	0.000119	99,305	12	99,299	6,955,140	70.0
8–9	0.000102	99,293	10	99,288	6,855,841	69.0
9–10	0.000090	99,283	9	99,278	6,756,554	68.1
10–11	0.000085	99,274	8	99,269	6,657,275	67.1
11–12	0.000098	99,265	10	99,260	6,558,006	66.1
12–13	0.000135	99,256	13	99,249	6,458,746	65.1
13–14	0.000202	99,242	20	99,232	6,359,497	64.1
14–15	0.000293	99,222	29	99,208	6,260,265	63.1
15–16	0.000387	99,193	38	99,174	6,161,057	62.1
16–17	0.000485	99,155	48	99,131	6,061,883	61.1
17–18	0.000599	99,107	59	99,077	5,962,753	60.2
18–19	0.000731	99,047	72	99,011	5,863,676	59.2
19–20	0.000869	98,975	86	98,932	5,764,665	58.2
20–21	0.001011	98,889	100	98,839	5,665,733	57.3
21–22	0.001141	98,789	113	98,732	5,566,895	56.4
22–23	0.001241	98,676	122	98,615	5,468,162	55.4
23–24	0.001304	98,553	129	98,489	5,369,547	54.5
24–25	0.001339	98,425	132	98,359	5,271,058	53.6
25–26	0.001367	98,293	134	98,226	5,172,699	52.6
26–27	0.001399	98,159	137	98,090	5,074,473	51.7
27–28	0.001427	98,021	140	97,952	4,976,383	50.8
28–29	0.001453	97,882	142	97,811	4,878,431	49.8
29–30	0.001477	97,739	144	97,667	4,780,621	48.9
30–31	0.001503	97,595	147	97,522	4,682,954	48.0
31–32	0.001530	97,448	149	97,374	4,585,432	47.1
32–33	0.001561	97,299	152	97,223	4,488,058	46.1
33–34	0.001596	97,147	155	97,070	4,390,835	45.2
34–35	0.001640	96,992	159	96,913	4,293,765	44.3
35–36	0.001703	96,833	165	96,751	4,196,852	43.3
36–37	0.001783	96,668	172	96,582	4,100,101	42.4
37–38	0.001872	96,496	181	96,406	4,003,519	41.5
38–39	0.001960	96,315	189	96,221	3,907,113	40.6
39–40	0.002053	96,127	197	96,028	3,810,892	39.6
40–41	0.002159	95,929	207	95,826	3,714,864	38.7
41–42	0.002291	95,722	219	95,612	3,619,038	37.8
42–43	0.002457	95,503	235	95,386	3,523,426	36.9
43–44	0.002668	95,268	254	95,141	3,428,041	36.0
44–45	0.002924	95,014	278	94,875	3,332,899	35.1
45–46	0.003200	94,736	303	94,585	3,238,024	34.2
46–47	0.003501	94,433	331	94,268	3,143,440	33.3
47–48	0.003856	94,102	363	93,921	3,049,172	32.4
48–49	0.004262	93,740	400	93,540	2,955,251	31.5
49–50	0.004698	93,340	439	93,121	2,861,711	30.7
50–51	0.005139	92,902	477	92,663	2,768,590	29.8
51–52	0.005580	92,424	516	92,166	2,675,927	29.0
52–53	0.006040	91,909	555	91,631	2,583,761	28.1
53–54	0.006535	91,353	597	91,055	2,492,130	27.3
54–55	0.007073	90,756	642	90,435	2,401,075	26.5
55–56	0.007654	90,114	690	89,770	2,310,639	25.6
56–57	0.008261	89,425	739	89,055	2,220,870	24.8
57–58	0.008886	88,686	788	88,292	2,131,815	24.0
58–59	0.009517	87,898	836	87,480	2,043,523	23.2
59–60	0.010160	87,061	885	86,619	1,956,043	22.5
60–61	0.010843	86,177	934	85,710	1,869,424	21.7

See footnotes at end of table.

Table 14. Life table for non-Hispanic white males: United States, 2012—Con.

Spreadsheet version available from: ftp://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/65_8/Table14.xlsx.

Age (years)	Probability of dying between ages x and $x+1$ q_x	Number surviving to age x l_x	Number dying between ages x and $x+1$ d_x	Person-years lived between ages x and $x+1$ L_x	Total number of person-years lived above age x T_x	Expectation of life at age x e_x
61–62	0.011583	85,242	987	84,749	1,783,714	20.9
62–63	0.012377	84,255	1,043	83,734	1,698,966	20.2
63–64	0.013235	83,212	1,101	82,662	1,615,232	19.4
64–65	0.014167	82,111	1,163	81,529	1,532,570	18.7
65–66	0.015191	80,948	1,230	80,333	1,451,041	17.9
66–67	0.016321	79,718	1,301	79,067	1,370,708	17.2
67–68	0.017600	78,417	1,380	77,727	1,291,641	16.5
68–69	0.019041	77,037	1,467	76,303	1,213,914	15.8
69–70	0.020655	75,570	1,561	74,789	1,137,611	15.1
70–71	0.022572	74,009	1,671	73,174	1,062,822	14.4
71–72	0.024804	72,338	1,794	71,441	989,648	13.7
72–73	0.027310	70,544	1,927	69,581	918,207	13.0
73–74	0.029934	68,618	2,054	67,591	848,626	12.4
74–75	0.032621	66,564	2,171	65,478	781,035	11.7
75–76	0.035561	64,392	2,290	63,247	715,557	11.1
76–77	0.039064	62,102	2,426	60,889	652,310	10.5
77–78	0.043147	59,676	2,575	58,389	591,421	9.9
78–79	0.047694	57,101	2,723	55,740	533,032	9.3
79–80	0.053080	54,378	2,886	52,935	477,292	8.8
80–81	0.058684	51,492	3,022	49,981	424,357	8.2
81–82	0.064723	48,470	3,137	46,901	374,376	7.7
82–83	0.071826	45,333	3,256	43,705	327,475	7.2
83–84	0.080046	42,077	3,368	40,393	283,770	6.7
84–85	0.088863	38,709	3,440	36,989	243,377	6.3
85–86	0.098065	35,269	3,459	33,540	206,389	5.9
86–87	0.109715	31,810	3,490	30,065	172,849	5.4
87–88	0.122450	28,320	3,468	26,586	142,784	5.0
88–89	0.136301	24,852	3,387	23,159	116,198	4.7
89–90	0.151284	21,465	3,247	19,841	93,039	4.3
90–91	0.167393	18,218	3,050	16,693	73,197	4.0
91–92	0.184604	15,168	2,800	13,768	56,505	3.7
92–93	0.202866	12,368	2,509	11,114	42,736	3.5
93–94	0.222101	9,859	2,190	8,764	31,623	3.2
94–95	0.242208	7,669	1,858	6,741	22,859	3.0
95–96	0.263058	5,812	1,529	5,047	16,118	2.8
96–97	0.284500	4,283	1,218	3,674	11,071	2.6
97–98	0.306363	3,064	939	2,595	7,397	2.4
98–99	0.328463	2,126	698	1,777	4,802	2.3
99–100	0.350605	1,427	500	1,177	3,026	2.1
100 and over	1.000000	927	927	1,848	1,848	2.0

NOTE: This life table is based on death rates that have been adjusted for race and ethnicity misclassification on death certificates. Updated classification ratios were applied; see Technical Notes.

SOURCE: NCHS, National Vital Statistics System, Mortality.

Table 15. Life table for non-Hispanic white females: United States, 2012

Spreadsheet version available from: ftp://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/65_8/Table15.xlsx.

Age (years)	Probability of dying between ages x and $x+1$ q_x	Number surviving to age x l_x	Number dying between ages x and $x+1$ d_x	Person-years lived between ages x and $x+1$ L_x	Total number of person-years lived above age x T_x	Expectation of life at age x e_x
0–1	0.004593	100,000	459	99,597	8,117,698	81.2
1–2	0.000302	99,541	30	99,526	8,018,101	80.6
2–3	0.000200	99,511	20	99,501	7,918,576	79.6
3–4	0.000155	99,491	15	99,483	7,819,075	78.6
4–5	0.000106	99,475	11	99,470	7,719,592	77.6
5–6	0.000104	99,465	10	99,460	7,620,122	76.6
6–7	0.000091	99,454	9	99,450	7,520,663	75.6
7–8	0.000081	99,445	8	99,441	7,421,213	74.6
8–9	0.000072	99,437	7	99,434	7,321,771	73.6
9–10	0.000064	99,430	6	99,427	7,222,338	72.6
10–11	0.000061	99,424	6	99,421	7,122,911	71.6
11–12	0.000065	99,418	6	99,415	7,023,490	70.6
12–13	0.000081	99,411	8	99,407	6,924,075	69.7
13–14	0.000113	99,403	11	99,398	6,824,668	68.7
14–15	0.000156	99,392	15	99,384	6,725,270	67.7
15–16	0.000204	99,377	20	99,366	6,625,886	66.7
16–17	0.000251	99,356	25	99,344	6,526,520	65.7
17–18	0.000295	99,331	29	99,317	6,427,176	64.7
18–19	0.000331	99,302	33	99,286	6,327,859	63.7
19–20	0.000361	99,269	36	99,251	6,228,574	62.7
20–21	0.000391	99,233	39	99,214	6,129,322	61.8
21–22	0.000421	99,195	42	99,174	6,030,108	60.8
22–23	0.000451	99,153	45	99,130	5,930,935	59.8
23–24	0.000480	99,108	48	99,084	5,831,804	58.8
24–25	0.000511	99,060	51	99,035	5,732,720	57.9
25–26	0.000542	99,010	54	98,983	5,633,685	56.9
26–27	0.000575	98,956	57	98,928	5,534,702	55.9
27–28	0.000610	98,899	60	98,869	5,435,774	55.0
28–29	0.000645	98,839	64	98,807	5,336,905	54.0
29–30	0.000681	98,775	67	98,742	5,238,098	53.0
30–31	0.000722	98,708	71	98,672	5,139,356	52.1
31–32	0.000765	98,637	76	98,599	5,040,684	51.1
32–33	0.000807	98,561	80	98,521	4,942,085	50.1
33–34	0.000845	98,482	83	98,440	4,843,563	49.2
34–35	0.000886	98,398	87	98,355	4,745,123	48.2
35–36	0.000936	98,311	92	98,265	4,646,768	47.3
36–37	0.001002	98,219	98	98,170	4,548,503	46.3
37–38	0.001076	98,121	106	98,068	4,450,333	45.4
38–39	0.001156	98,015	113	97,959	4,352,265	44.4
39–40	0.001240	97,902	121	97,841	4,254,307	43.5
40–41	0.001329	97,780	130	97,716	4,156,465	42.5
41–42	0.001429	97,651	140	97,581	4,058,750	41.6
42–43	0.001551	97,511	151	97,435	3,961,169	40.6
43–44	0.001701	97,360	166	97,277	3,863,734	39.7
44–45	0.001878	97,194	183	97,103	3,766,457	38.8
45–46	0.002066	97,012	200	96,911	3,669,354	37.8
46–47	0.002263	96,811	219	96,702	3,572,442	36.9
47–48	0.002479	96,592	239	96,472	3,475,741	36.0
48–49	0.002712	96,353	261	96,222	3,379,269	35.1
49–50	0.002953	96,091	284	95,949	3,283,047	34.2
50–51	0.003198	95,807	306	95,654	3,187,097	33.3
51–52	0.003445	95,501	329	95,337	3,091,443	32.4
52–53	0.003695	95,172	352	94,996	2,996,107	31.5
53–54	0.003956	94,820	375	94,633	2,901,110	30.6
54–55	0.004235	94,445	400	94,245	2,806,477	29.7
55–56	0.004540	94,045	427	93,832	2,712,232	28.8
56–57	0.004870	93,618	456	93,390	2,618,400	28.0
57–58	0.005225	93,163	487	92,919	2,525,009	27.1
58–59	0.005604	92,676	519	92,416	2,432,090	26.2
59–60	0.006014	92,156	554	91,879	2,339,674	25.4
60–61	0.006453	91,602	591	91,307	2,247,795	24.5

See footnotes at end of table.

Table 15. Life table for non-Hispanic white females: United States, 2012—Con.

Spreadsheet version available from: ftp://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/65_8/Table15.xlsx.

Age (years)	Probability of dying between ages x and $x+1$ q_x	Number surviving to age x l_x	Number dying between ages x and $x+1$ d_x	Person-years lived between ages x and $x+1$ L_x	Total number of person-years lived above age x T_x	Expectation of life at age x e_x
61–62	0.006942	91,011	632	90,695	2,156,488	23.7
62–63	0.007508	90,379	679	90,040	2,065,793	22.9
63–64	0.008171	89,701	733	89,334	1,975,753	22.0
64–65	0.008929	88,968	794	88,571	1,886,419	21.2
65–66	0.009796	88,173	864	87,741	1,797,848	20.4
66–67	0.010740	87,310	938	86,841	1,710,107	19.6
67–68	0.011752	86,372	1,015	85,864	1,623,266	18.8
68–69	0.012816	85,357	1,094	84,810	1,537,402	18.0
69–70	0.013956	84,263	1,176	83,675	1,452,592	17.2
70–71	0.015307	83,087	1,272	82,451	1,368,917	16.5
71–72	0.016951	81,815	1,387	81,122	1,286,466	15.7
72–73	0.018745	80,428	1,508	79,674	1,205,344	15.0
73–74	0.020659	78,921	1,630	78,105	1,125,670	14.3
74–75	0.022799	77,290	1,762	76,409	1,047,565	13.6
75–76	0.025259	75,528	1,908	74,574	971,156	12.9
76–77	0.028131	73,620	2,071	72,585	896,581	12.2
77–78	0.031274	71,549	2,238	70,430	823,997	11.5
78–79	0.034725	69,312	2,407	68,108	753,566	10.9
79–80	0.038839	66,905	2,599	65,606	685,458	10.2
80–81	0.043113	64,306	2,772	62,920	619,853	9.6
81–82	0.047837	61,534	2,944	60,062	556,933	9.1
82–83	0.053092	58,590	3,111	57,035	496,871	8.5
83–84	0.059487	55,480	3,300	53,829	439,836	7.9
84–85	0.066929	52,179	3,492	50,433	386,006	7.4
85–86	0.074982	48,687	3,651	46,862	335,573	6.9
86–87	0.084425	45,036	3,802	43,135	288,712	6.4
87–88	0.094866	41,234	3,912	39,278	245,577	6.0
88–89	0.106363	37,322	3,970	35,337	206,298	5.5
89–90	0.118964	33,353	3,968	31,369	170,961	5.1
90–91	0.132703	29,385	3,899	27,435	139,592	4.8
91–92	0.147602	25,485	3,762	23,605	112,157	4.4
92–93	0.163661	21,724	3,555	19,946	88,553	4.1
93–94	0.180858	18,168	3,286	16,525	68,606	3.8
94–95	0.199147	14,882	2,964	13,401	52,081	3.5
95–96	0.218454	11,919	2,604	10,617	38,680	3.2
96–97	0.238677	9,315	2,223	8,203	28,064	3.0
97–98	0.259687	7,092	1,842	6,171	19,860	2.8
98–99	0.281331	5,250	1,477	4,512	13,689	2.6
99–100	0.303434	3,773	1,145	3,201	9,178	2.4
100 and over	1.000000	2,628	2,628	5,977	5,977	2.3

NOTE: This life table is based on death rates that have been adjusted for race and ethnicity misclassification on death certificates. Updated classification ratios were applied; see Technical Notes.

SOURCE: NCHS, National Vital Statistics System, Mortality.

Table 16. Life table for the non-Hispanic black population: United States, 2012

Spreadsheet version available from: ftp://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/65_8/Table16.xlsx.

Age (years)	Probability of dying between ages x and $x+1$ q_x	Number surviving to age x l_x	Number dying between ages x and $x+1$ d_x	Person-years lived between ages x and $x+1$ L_x	Total number of person-years lived above age x T_x	Expectation of life at age x e_x
0–1	0.011191	100,000	1,119	99,019	7,513,514	75.1
1–2	0.000631	98,881	62	98,850	7,414,496	75.0
2–3	0.000426	98,819	42	98,798	7,315,646	74.0
3–4	0.000317	98,776	31	98,761	7,216,848	73.1
4–5	0.000283	98,745	28	98,731	7,118,087	72.1
5–6	0.000236	98,717	23	98,706	7,019,356	71.1
6–7	0.000204	98,694	20	98,684	6,920,651	70.1
7–8	0.000178	98,674	18	98,665	6,821,967	69.1
8–9	0.000153	98,656	15	98,649	6,723,302	68.1
9–10	0.000132	98,641	13	98,635	6,624,653	67.2
10–11	0.000121	98,628	12	98,622	6,526,019	66.2
11–12	0.000129	98,616	13	98,610	6,427,397	65.2
12–13	0.000168	98,603	17	98,595	6,328,787	64.2
13–14	0.000244	98,587	24	98,575	6,230,192	63.2
14–15	0.000348	98,563	34	98,546	6,131,617	62.2
15–16	0.000454	98,529	45	98,506	6,033,071	61.2
16–17	0.000561	98,484	55	98,456	5,934,565	60.3
17–18	0.000681	98,429	67	98,395	5,836,109	59.3
18–19	0.000815	98,362	80	98,321	5,737,714	58.3
19–20	0.000953	98,281	94	98,234	5,639,392	57.4
20–21	0.001096	98,188	108	98,134	5,541,158	56.4
21–22	0.001226	98,080	120	98,020	5,443,024	55.5
22–23	0.001318	97,960	129	97,895	5,345,004	54.6
23–24	0.001364	97,831	133	97,764	5,247,109	53.6
24–25	0.001378	97,697	135	97,630	5,149,345	52.7
25–26	0.001380	97,563	135	97,495	5,051,715	51.8
26–27	0.001392	97,428	136	97,360	4,954,220	50.9
27–28	0.001415	97,292	138	97,224	4,856,860	49.9
28–29	0.001455	97,155	141	97,084	4,759,636	49.0
29–30	0.001510	97,013	146	96,940	4,662,552	48.1
30–31	0.001567	96,867	152	96,791	4,565,612	47.1
31–32	0.001624	96,715	157	96,636	4,468,821	46.2
32–33	0.001688	96,558	163	96,476	4,372,185	45.3
33–34	0.001762	96,395	170	96,310	4,275,708	44.4
34–35	0.001850	96,225	178	96,136	4,179,398	43.4
35–36	0.001960	96,047	188	95,953	4,083,262	42.5
36–37	0.002086	95,859	200	95,759	3,987,309	41.6
37–38	0.002215	95,659	212	95,553	3,891,550	40.7
38–39	0.002336	95,447	223	95,336	3,795,997	39.8
39–40	0.002454	95,224	234	95,107	3,700,662	38.9
40–41	0.002583	94,990	245	94,868	3,605,555	38.0
41–42	0.002740	94,745	260	94,615	3,510,687	37.1
42–43	0.002932	94,485	277	94,347	3,416,072	36.2
43–44	0.003171	94,208	299	94,059	3,321,725	35.3
44–45	0.003457	93,910	325	93,747	3,227,666	34.4
45–46	0.003762	93,585	352	93,409	3,133,918	33.5
46–47	0.004094	93,233	382	93,042	3,040,509	32.6
47–48	0.004494	92,851	417	92,643	2,947,467	31.7
48–49	0.004970	92,434	459	92,204	2,854,825	30.9
49–50	0.005501	91,975	506	91,722	2,762,621	30.0
50–51	0.006049	91,469	553	91,192	2,670,899	29.2
51–52	0.006605	90,915	600	90,615	2,579,707	28.4
52–53	0.007200	90,315	650	89,990	2,489,092	27.6
53–54	0.007850	89,665	704	89,313	2,399,103	26.8
54–55	0.008561	88,961	762	88,580	2,309,790	26.0
55–56	0.009328	88,199	823	87,788	2,221,210	25.2
56–57	0.010127	87,376	885	86,934	2,133,422	24.4
57–58	0.010940	86,491	946	86,018	2,046,489	23.7
58–59	0.011746	85,545	1,005	85,043	1,960,470	22.9
59–60	0.012552	84,540	1,061	84,010	1,875,427	22.2
60–61	0.013421	83,479	1,120	82,919	1,791,418	21.5

See footnotes at end of table.

Table 16. Life table for the non-Hispanic black population: United States, 2012—Con.

Spreadsheet version available from: ftp://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/65_8/Table16.xlsx.

Age (years)	Probability of dying between ages x and $x+1$ q_x	Number surviving to age x l_x	Number dying between ages x and $x+1$ d_x	Person-years lived between ages x and $x+1$ L_x	Total number of person-years lived above age x T_x	Expectation of life at age x e_x
61–62	0.014355	82,359	1,182	81,768	1,708,498	20.7
62–63	0.015293	81,177	1,241	80,556	1,626,731	20.0
63–64	0.016223	79,935	1,297	79,287	1,546,175	19.3
64–65	0.017184	78,638	1,351	77,963	1,466,888	18.7
65–66	0.018242	77,287	1,410	76,582	1,388,925	18.0
66–67	0.019463	75,877	1,477	75,139	1,312,343	17.3
67–68	0.020895	74,400	1,555	73,623	1,237,204	16.6
68–69	0.022439	72,846	1,635	72,028	1,163,581	16.0
69–70	0.024121	71,211	1,718	70,352	1,091,553	15.3
70–71	0.026120	69,494	1,815	68,586	1,021,200	14.7
71–72	0.028184	67,678	1,907	66,725	952,615	14.1
72–73	0.030214	65,771	1,987	64,777	885,890	13.5
73–74	0.032453	63,784	2,070	62,749	821,113	12.9
74–75	0.034873	61,714	2,152	60,638	758,364	12.3
75–76	0.037506	59,562	2,234	58,445	697,726	11.7
76–77	0.040634	57,328	2,329	56,163	639,282	11.2
77–78	0.043912	54,998	2,415	53,791	583,119	10.6
78–79	0.047824	52,583	2,515	51,326	529,328	10.1
79–80	0.052362	50,068	2,622	48,758	478,002	9.5
80–81	0.056847	47,447	2,697	46,098	429,245	9.0
81–82	0.061893	44,749	2,770	43,365	383,147	8.6
82–83	0.067316	41,980	2,826	40,567	339,782	8.1
83–84	0.073400	39,154	2,874	37,717	299,215	7.6
84–85	0.081353	36,280	2,951	34,804	261,498	7.2
85–86	0.088688	33,329	2,956	31,851	226,694	6.8
86–87	0.096575	30,373	2,933	28,906	194,843	6.4
87–88	0.105036	27,439	2,882	25,998	165,937	6.0
88–89	0.114090	24,557	2,802	23,156	139,939	5.7
89–90	0.123752	21,756	2,692	20,409	116,783	5.4
90–91	0.134034	19,063	2,555	17,786	96,373	5.1
91–92	0.144943	16,508	2,393	15,312	78,587	4.8
92–93	0.156478	14,115	2,209	13,011	63,276	4.5
93–94	0.168635	11,907	2,008	10,903	50,265	4.2
94–95	0.181400	9,899	1,796	9,001	39,362	4.0
95–96	0.194754	8,103	1,578	7,314	30,361	3.7
96–97	0.208668	6,525	1,362	5,844	23,047	3.5
97–98	0.223106	5,163	1,152	4,587	17,203	3.3
98–99	0.238025	4,011	955	3,534	12,615	3.1
99–100	0.253370	3,057	774	2,669	9,081	3.0
100 and over	1.000000	2,282	2,282	6,412	6,412	2.8

NOTE: This life table is based on death rates that have been adjusted for race and ethnicity misclassification on death certificates. Updated classification ratios were applied; see Technical Notes.

SOURCE: NCHS, National Vital Statistics System, Mortality.

Table 17. Life table for non-Hispanic black males: United States, 2012

Spreadsheet version available from: ftp://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/65_8/Table17.xlsx.

Age (years)	Probability of dying between ages x and $x+1$ q_x	Number surviving to age x l_x	Number dying between ages x and $x+1$ d_x	Person-years lived between ages x and $x+1$ L_x	Total number of person-years lived above age x T_x	Expectation of life at age x e_x
0–1	0.012436	100,000	1,244	98,903	7,191,849	71.9
1–2	0.000610	98,756	60	98,726	7,092,946	71.8
2–3	0.000467	98,696	46	98,673	6,994,219	70.9
3–4	0.000307	98,650	30	98,635	6,895,546	69.9
4–5	0.000311	98,620	31	98,604	6,796,911	68.9
5–6	0.000251	98,589	25	98,577	6,698,307	67.9
6–7	0.000222	98,564	22	98,553	6,599,730	67.0
7–8	0.000194	98,543	19	98,533	6,501,177	66.0
8–9	0.000161	98,523	16	98,515	6,402,644	65.0
9–10	0.000126	98,508	12	98,501	6,304,128	64.0
10–11	0.000101	98,495	10	98,490	6,205,627	63.0
11–12	0.000107	98,485	11	98,480	6,107,137	62.0
12–13	0.000169	98,475	17	98,466	6,008,657	61.0
13–14	0.000297	98,458	29	98,443	5,910,190	60.0
14–15	0.000473	98,429	47	98,406	5,811,747	59.0
15–16	0.000653	98,382	64	98,350	5,713,341	58.1
16–17	0.000829	98,318	82	98,277	5,614,991	57.1
17–18	0.001024	98,237	101	98,186	5,516,714	56.2
18–19	0.001235	98,136	121	98,075	5,418,528	55.2
19–20	0.001448	98,015	142	97,944	5,320,452	54.3
20–21	0.001671	97,873	164	97,791	5,222,508	53.4
21–22	0.001871	97,709	183	97,618	5,124,717	52.4
22–23	0.002010	97,527	196	97,429	5,027,099	51.5
23–24	0.002072	97,331	202	97,230	4,929,671	50.6
24–25	0.002076	97,129	202	97,028	4,832,441	49.8
25–26	0.002057	96,927	199	96,828	4,735,413	48.9
26–27	0.002048	96,728	198	96,629	4,638,585	48.0
27–28	0.002053	96,530	198	96,431	4,541,956	47.1
28–29	0.002093	96,332	202	96,231	4,445,526	46.1
29–30	0.002158	96,130	207	96,026	4,349,295	45.2
30–31	0.002226	95,923	213	95,816	4,253,269	44.3
31–32	0.002286	95,709	219	95,600	4,157,453	43.4
32–33	0.002349	95,490	224	95,378	4,061,853	42.5
33–34	0.002415	95,266	230	95,151	3,966,475	41.6
34–35	0.002490	95,036	237	94,918	3,871,324	40.7
35–36	0.002587	94,799	245	94,677	3,776,406	39.8
36–37	0.002704	94,554	256	94,426	3,681,730	38.9
37–38	0.002826	94,298	266	94,165	3,587,303	38.0
38–39	0.002943	94,032	277	93,894	3,493,138	37.1
39–40	0.003063	93,755	287	93,612	3,399,245	36.3
40–41	0.003200	93,468	299	93,319	3,305,633	35.4
41–42	0.003372	93,169	314	93,012	3,212,314	34.5
42–43	0.003584	92,855	333	92,688	3,119,303	33.6
43–44	0.003846	92,522	356	92,344	3,026,614	32.7
44–45	0.004164	92,166	384	91,974	2,934,270	31.8
45–46	0.004505	91,782	414	91,576	2,842,296	31.0
46–47	0.004888	91,369	447	91,146	2,750,720	30.1
47–48	0.005369	90,922	488	90,678	2,659,575	29.3
48–49	0.005965	90,434	539	90,164	2,568,897	28.4
49–50	0.006646	89,895	597	89,596	2,478,732	27.6
50–51	0.007352	89,297	656	88,969	2,389,137	26.8
51–52	0.008069	88,641	715	88,283	2,300,168	25.9
52–53	0.008846	87,925	778	87,537	2,211,885	25.2
53–54	0.009709	87,148	846	86,725	2,124,348	24.4
54–55	0.010663	86,301	920	85,841	2,037,623	23.6
55–56	0.011699	85,381	999	84,882	1,951,782	22.9
56–57	0.012784	84,382	1,079	83,843	1,866,900	22.1
57–58	0.013897	83,304	1,158	82,725	1,783,057	21.4
58–59	0.015009	82,146	1,233	81,529	1,700,333	20.7
59–60	0.016127	80,913	1,305	80,261	1,618,803	20.0
60–61	0.017340	79,608	1,380	78,918	1,538,543	19.3

See footnotes at end of table.

Table 17. Life table for non-Hispanic black males: United States, 2012—Con.

Spreadsheet version available from: ftp://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/65_8/Table17.xlsx.

Age (years)	Probability of dying between ages x and $x+1$ q_x	Number surviving to age x l_x	Number dying between ages x and $x+1$ d_x	Person-years lived between ages x and $x+1$ L_x	Total number of person-years lived above age x T_x	Expectation of life at age x e_x
61–62	0.018643	78,228	1,458	77,498	1,459,625	18.7
62–63	0.019927	76,769	1,530	76,004	1,382,126	18.0
63–64	0.021156	75,240	1,592	74,444	1,306,122	17.4
64–65	0.022378	73,648	1,648	72,824	1,231,678	16.7
65–66	0.023700	72,000	1,706	71,146	1,158,854	16.1
66–67	0.025220	70,293	1,773	69,407	1,087,708	15.5
67–68	0.026969	68,520	1,848	67,597	1,018,301	14.9
68–69	0.028840	66,673	1,923	65,711	950,705	14.3
69–70	0.030803	64,750	1,994	63,752	884,994	13.7
70–71	0.033112	62,755	2,078	61,716	821,241	13.1
71–72	0.035519	60,677	2,155	59,600	759,525	12.5
72–73	0.037951	58,522	2,221	57,412	699,925	12.0
73–74	0.040800	56,301	2,297	55,152	642,514	11.4
74–75	0.043832	54,004	2,367	52,820	587,361	10.9
75–76	0.047253	51,637	2,440	50,417	534,541	10.4
76–77	0.051237	49,197	2,521	47,937	484,124	9.8
77–78	0.055458	46,676	2,589	45,382	436,187	9.3
78–79	0.060429	44,088	2,664	42,756	390,806	8.9
79–80	0.065396	41,423	2,709	40,069	348,050	8.4
80–81	0.070974	38,715	2,748	37,341	307,981	8.0
81–82	0.077854	35,967	2,800	34,567	270,640	7.5
82–83	0.084370	33,167	2,798	31,768	236,074	7.1
83–84	0.091828	30,368	2,789	28,974	204,306	6.7
84–85	0.099557	27,580	2,746	26,207	175,332	6.4
85–86	0.107813	24,834	2,677	23,495	149,125	6.0
86–87	0.116614	22,157	2,584	20,865	125,630	5.7
87–88	0.125971	19,573	2,466	18,340	104,765	5.4
88–89	0.135893	17,107	2,325	15,945	86,425	5.1
89–90	0.146386	14,782	2,164	13,700	70,481	4.8
90–91	0.157448	12,618	1,987	11,625	56,780	4.5
91–92	0.169074	10,632	1,798	9,733	45,155	4.2
92–93	0.181254	8,834	1,601	8,034	35,422	4.0
93–94	0.193968	7,233	1,403	6,531	27,389	3.8
94–95	0.207194	5,830	1,208	5,226	20,857	3.6
95–96	0.220901	4,622	1,021	4,112	15,631	3.4
96–97	0.235050	3,601	846	3,178	11,520	3.2
97–98	0.249598	2,755	688	2,411	8,342	3.0
98–99	0.264495	2,067	547	1,794	5,931	2.9
99–100	0.279684	1,520	425	1,308	4,137	2.7
100 and over	1.000000	1,095	1,095	2,830	2,830	2.6

NOTE: This life table is based on death rates that have been adjusted for race and ethnicity misclassification on death certificates. Updated classification ratios were applied; see Technical Notes.

SOURCE: NCHS, National Vital Statistics System, Mortality.

Table 18. Life table for non-Hispanic black females: United States, 2012

Spreadsheet version available from: ftp://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/65_8/Table18.xlsx.

Age (years)	Probability of dying between ages x and $x+1$ q_x	Number surviving to age x l_x	Number dying between ages x and $x+1$ d_x	Person-years lived between ages x and $x+1$ L_x	Total number of person-years lived above age x T_x	Expectation of life at age x e_x
0–1	0.009905	100,000	990	99,137	7,810,039	78.1
1–2	0.000577	99,010	57	98,981	7,710,902	77.9
2–3	0.000329	98,952	33	98,936	7,611,921	76.9
3–4	0.000291	98,920	29	98,905	7,512,984	76.0
4–5	0.000218	98,891	22	98,880	7,414,079	75.0
5–6	0.000193	98,870	19	98,860	7,315,199	74.0
6–7	0.000163	98,851	16	98,842	7,216,338	73.0
7–8	0.000141	98,834	14	98,827	7,117,496	72.0
8–9	0.000126	98,820	12	98,814	7,018,669	71.0
9–10	0.000116	98,808	11	98,802	6,919,854	70.0
10–11	0.000114	98,797	11	98,791	6,821,052	69.0
11–12	0.000121	98,785	12	98,779	6,722,261	68.0
12–13	0.000137	98,773	14	98,767	6,623,482	67.1
13–14	0.000164	98,760	16	98,752	6,524,716	66.1
14–15	0.000200	98,744	20	98,734	6,425,964	65.1
15–16	0.000238	98,724	23	98,712	6,327,230	64.1
16–17	0.000279	98,700	28	98,687	6,228,518	63.1
17–18	0.000328	98,673	32	98,657	6,129,831	62.1
18–19	0.000386	98,641	38	98,622	6,031,175	61.1
19–20	0.000447	98,603	44	98,580	5,932,553	60.2
20–21	0.000511	98,558	50	98,533	5,833,973	59.2
21–22	0.000572	98,508	56	98,480	5,735,439	58.2
22–23	0.000621	98,452	61	98,421	5,636,959	57.3
23–24	0.000658	98,391	65	98,358	5,538,538	56.3
24–25	0.000688	98,326	68	98,292	5,440,180	55.3
25–26	0.000721	98,258	71	98,223	5,341,888	54.4
26–27	0.000762	98,187	75	98,150	5,243,665	53.4
27–28	0.000807	98,113	79	98,073	5,145,515	52.4
28–29	0.000856	98,033	84	97,991	5,047,442	51.5
29–30	0.000906	97,950	89	97,905	4,949,451	50.5
30–31	0.000959	97,861	94	97,814	4,851,546	49.6
31–32	0.001017	97,767	99	97,717	4,753,732	48.6
32–33	0.001086	97,667	106	97,614	4,656,015	47.7
33–34	0.001172	97,561	114	97,504	4,558,400	46.7
34–35	0.001275	97,447	124	97,385	4,460,896	45.8
35–36	0.001400	97,323	136	97,255	4,363,511	44.8
36–37	0.001537	97,187	149	97,112	4,266,256	43.9
37–38	0.001674	97,037	162	96,956	4,169,145	43.0
38–39	0.001798	96,875	174	96,788	4,072,189	42.0
39–40	0.001914	96,700	185	96,608	3,975,401	41.1
40–41	0.002033	96,515	196	96,417	3,878,793	40.2
41–42	0.002176	96,319	210	96,214	3,782,376	39.3
42–43	0.002350	96,110	226	95,997	3,686,161	38.4
43–44	0.002569	95,884	246	95,761	3,590,165	37.4
44–45	0.002827	95,637	270	95,502	3,494,404	36.5
45–46	0.003100	95,367	296	95,219	3,398,902	35.6
46–47	0.003388	95,071	322	94,910	3,303,683	34.7
47–48	0.003715	94,749	352	94,573	3,208,772	33.9
48–49	0.004085	94,397	386	94,205	3,114,199	33.0
49–50	0.004485	94,012	422	93,801	3,019,994	32.1
50–51	0.004895	93,590	458	93,361	2,926,193	31.3
51–52	0.005310	93,132	495	92,885	2,832,832	30.4
52–53	0.005747	92,637	532	92,371	2,739,948	29.6
53–54	0.006216	92,105	573	91,819	2,647,576	28.7
54–55	0.006722	91,533	615	91,225	2,555,758	27.9
55–56	0.007266	90,917	661	90,587	2,464,533	27.1
56–57	0.007832	90,257	707	89,903	2,373,946	26.3
57–58	0.008405	89,550	753	89,173	2,284,043	25.5
58–59	0.008971	88,797	797	88,399	2,194,869	24.7
59–60	0.009539	88,000	839	87,581	2,106,470	23.9
60–61	0.010152	87,161	885	86,719	2,018,890	23.2

See footnotes at end of table.

Table 18. Life table for non-Hispanic black females: United States, 2012—Con.

Spreadsheet version available from: ftp://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/65_8/Table18.xlsx.

Age (years)	Probability of dying between ages x and $x+1$ q_x	Number surviving to age x l_x	Number dying between ages x and $x+1$ d_x	Person-years lived between ages x and $x+1$ L_x	Total number of person-years lived above age x T_x	Expectation of life at age x e_x
61–62	0.010818	86,276	933	85,809	1,932,171	22.4
62–63	0.011509	85,343	982	84,852	1,846,362	21.6
63–64	0.012231	84,361	1,032	83,845	1,761,510	20.9
64–65	0.013018	83,329	1,085	82,786	1,677,665	20.1
65–66	0.013903	82,244	1,143	81,672	1,594,879	19.4
66–67	0.014929	81,100	1,211	80,495	1,513,207	18.7
67–68	0.016159	79,890	1,291	79,244	1,432,712	17.9
68–69	0.017506	78,599	1,376	77,911	1,353,467	17.2
69–70	0.019034	77,223	1,470	76,488	1,275,557	16.5
70–71	0.020868	75,753	1,581	74,963	1,199,069	15.8
71–72	0.022761	74,172	1,688	73,328	1,124,106	15.2
72–73	0.024585	72,484	1,782	71,593	1,050,778	14.5
73–74	0.026475	70,702	1,872	69,766	979,185	13.8
74–75	0.028567	68,830	1,966	67,847	909,419	13.2
75–76	0.030778	66,864	2,058	65,835	841,572	12.6
76–77	0.033486	64,806	2,170	63,721	775,737	12.0
77–78	0.036294	62,636	2,273	61,499	712,016	11.4
78–79	0.039739	60,363	2,399	59,163	650,517	10.8
79–80	0.044280	57,964	2,567	56,680	591,354	10.2
80–81	0.048412	55,397	2,682	54,056	534,674	9.7
81–82	0.052739	52,715	2,780	51,325	480,617	9.1
82–83	0.057892	49,935	2,891	48,490	429,292	8.6
83–84	0.063830	47,044	3,003	45,543	380,803	8.1
84–85	0.071825	44,041	3,163	42,460	335,260	7.6
85–86	0.079026	40,878	3,230	39,263	292,800	7.2
86–87	0.086843	37,648	3,269	36,013	253,537	6.7
87–88	0.095309	34,378	3,277	32,740	217,524	6.3
88–89	0.104451	31,102	3,249	29,477	184,784	5.9
89–90	0.114295	27,853	3,183	26,261	155,307	5.6
90–91	0.124860	24,670	3,080	23,130	129,045	5.2
91–92	0.136161	21,589	2,940	20,120	105,916	4.9
92–93	0.148205	18,650	2,764	17,268	85,796	4.6
93–94	0.160991	15,886	2,557	14,607	68,528	4.3
94–95	0.174509	13,328	2,326	12,165	53,921	4.0
95–96	0.188739	11,002	2,077	9,964	41,756	3.8
96–97	0.203648	8,926	1,818	8,017	31,792	3.6
97–98	0.219196	7,108	1,558	6,329	23,775	3.3
98–99	0.235326	5,550	1,306	4,897	17,446	3.1
99–100	0.251976	4,244	1,069	3,709	12,549	3.0
100 and over	1.000000	3,175	3,175	8,840	8,840	2.8

NOTE: This life table is based on death rates that have been adjusted for race and ethnicity misclassification on death certificates. Updated classification ratios were applied; see Technical Notes.

SOURCE: NCHS, National Vital Statistics System, Mortality.

Table 19. Estimated life expectancy at birth, in years, by race, Hispanic origin, and sex: Death-registration states, 1900–1928, and United States, 1929–2012

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

Area and year	All races and origins			White			Black[1]			Hispanic[2]			Non-Hispanic white[2]			Non-Hispanic black[2]		
	Both sexes	Male	Female	Both sexes	Male	Female	Both sexes	Male	Female	Both sexes	Male	Female	Both sexes	Male	Female	Both sexes	Male	Female
United States[3]																		
2012[4]	78.8	76.4	81.2	79.1	76.7	81.4	75.5	72.3	78.4	81.9	79.3	84.3	78.9	76.5	81.2	75.1	71.9	78.1
2011[4]	78.7	76.3	81.1	79.0	76.6	81.3	75.3	72.2	78.2	81.8	79.2	84.2	78.7	76.4	81.1	75.0	71.8	77.8
2010[4]	78.7	76.2	81.0	78.9	76.5	81.3	75.1	71.8	78.0	81.7	78.8	84.3	78.8	76.4	81.1	74.7	71.5	77.7
2009[4,5]	78.5	76.0	80.9	78.8	76.4	81.2	74.7	71.4	77.7	81.1	78.4	83.5	78.7	76.3	81.1	74.3	70.9	77.4
2008[4,5]	78.2	75.6	80.6	78.5	76.1	80.9	74.3	70.9	77.3	80.8	78.0	83.3	78.4	76.0	80.7	73.9	70.5	77.0
2007[4,5]	78.1	75.5	80.6	78.5	76.0	80.9	73.8	70.3	77.0	80.7	77.8	83.2	78.4	75.9	80.8	73.5	69.9	76.7
2006[4,5]	77.8	75.2	80.3	78.3	75.8	80.7	73.4	69.9	76.7	80.3	77.5	82.9	78.2	75.7	80.6	73.1	69.5	76.4
2005[4,5]	77.6	75.0	80.1	78.0	75.5	80.5	73.0	69.5	76.2	---	---	---	---	---	---	---	---	---
2004[4,5]	77.6	75.0	80.1	78.1	75.5	80.5	72.9	69.4	76.1	---	---	---	---	---	---	---	---	---
2003[4,5]	77.2	74.5	79.7	77.7	75.1	80.2	72.4	68.9	75.7	---	---	---	---	---	---	---	---	---
2002[4,5]	77.0	74.4	79.6	77.5	74.9	80.1	72.2	68.7	75.4	---	---	---	---	---	---	---	---	---
2001[4,5]	77.0	74.3	79.5	77.5	74.9	80.0	72.0	68.5	75.3	---	---	---	---	---	---	---	---	---
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[6]	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	---	---	---	---	---	---	---	---	---

See footnotes at end of table.

Table 19. Estimated life expectancy at birth, in years, by race, Hispanic origin, and sex: Death-registration states, 1900–1928, and United States, 1929–2012—Con.

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

Area and year	All races and origins			White			Black[1]			Hispanic[2]			Non-Hispanic white[2]			Non-Hispanic black[2]		
	Both sexes	Male	Female	Both sexes	Male	Female	Both sexes	Male	Female	Both sexes	Male	Female	Both sexes	Male	Female	Both sexes	Male	Female
United States[3]—Con.																		
1964	70.2	66.8	73.7	71.0	67.7	74.7	64.2	61.3	67.3	---	---	---	---	---	---	---	---	---
1963[7]	69.9	66.6	73.4	70.8	67.4	74.4	63.7	61.0	66.6	---	---	---	---	---	---	---	---	---
1962[7]	70.1	66.9	73.5	70.9	67.7	74.5	64.2	61.6	66.9	---	---	---	---	---	---	---	---	---
1961	70.2	67.1	73.6	71.0	67.8	74.6	64.5	62.0	67.1	---	---	---	---	---	---	---	---	---
1960	69.7	66.6	73.1	70.6	67.4	74.1	63.6	61.1	66.3	---	---	---	---	---	---	---	---	---
1959	69.9	66.8	73.2	70.7	67.5	74.2	63.9	61.3	66.5	---	---	---	---	---	---	---	---	---
1958	69.6	66.6	72.9	70.5	67.4	73.9	63.4	61.0	65.8	---	---	---	---	---	---	---	---	---
1957	69.5	66.4	72.7	70.3	67.2	73.7	63.0	60.7	65.5	---	---	---	---	---	---	---	---	---
1956	69.7	66.7	72.9	70.5	67.5	73.9	63.6	61.3	66.1	---	---	---	---	---	---	---	---	---
1955	69.6	66.7	72.8	70.5	67.4	73.7	63.7	61.4	66.1	---	---	---	---	---	---	---	---	---
1954	69.6	66.7	72.8	70.5	67.5	73.7	63.4	61.1	65.9	---	---	---	---	---	---	---	---	---
1953	68.8	66.0	72.0	69.7	66.8	73.0	62.0	59.7	64.5	---	---	---	---	---	---	---	---	---
1952	68.6	65.8	71.6	69.5	66.6	72.6	61.4	59.1	63.8	---	---	---	---	---	---	---	---	---
1951	68.4	65.6	71.4	69.3	66.5	72.4	61.2	59.2	63.4	---	---	---	---	---	---	---	---	---
1950	68.2	65.6	71.1	69.1	66.5	72.2	60.8	59.1	62.9	---	---	---	---	---	---	---	---	---
1949	68.0	65.2	70.7	68.8	66.2	71.9	60.6	58.9	62.7	---	---	---	---	---	---	---	---	---
1948	67.2	64.6	69.9	68.0	65.5	71.0	60.0	58.1	62.5	---	---	---	---	---	---	---	---	---
1947	66.8	64.4	69.7	67.6	65.2	70.5	59.7	57.9	61.9	---	---	---	---	---	---	---	---	---
1946	66.7	64.4	69.4	67.5	65.1	70.3	59.1	57.5	61.0	---	---	---	---	---	---	---	---	---
1945	65.9	63.6	67.9	66.8	64.4	69.5	57.7	56.1	59.6	---	---	---	---	---	---	---	---	---
1944	65.2	63.6	66.8	66.2	64.5	68.4	56.6	55.8	57.7	---	---	---	---	---	---	---	---	---
1943	63.3	62.4	64.4	64.2	63.2	65.7	55.6	55.4	56.1	---	---	---	---	---	---	---	---	---
1942	66.2	64.7	67.9	67.3	65.9	69.4	56.6	55.4	58.2	---	---	---	---	---	---	---	---	---
1941	64.8	63.1	66.8	66.2	64.4	68.5	53.8	52.5	55.3	---	---	---	---	---	---	---	---	---
1940	62.9	60.8	65.2	64.2	62.1	66.6	53.1	51.5	54.9	---	---	---	---	---	---	---	---	---
1939	63.7	62.1	65.4	64.9	63.3	66.6	54.5	53.2	56.0	---	---	---	---	---	---	---	---	---
1938	63.5	61.9	65.3	65.0	63.2	66.8	52.9	51.7	54.3	---	---	---	---	---	---	---	---	---
1937	60.0	58.0	62.4	61.4	59.3	63.8	50.3	48.3	52.5	---	---	---	---	---	---	---	---	---
1936	58.5	56.6	60.6	59.8	58.0	61.9	49.0	47.0	51.4	---	---	---	---	---	---	---	---	---
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	---	---	---	---	---	---	---	---	---

See footnotes at end of table.

Table 19. Estimated life expectancy at birth, in years, by race, Hispanic origin, and sex: Death-registration states, 1900–1928, and United States, 1929–2012—Con.

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

Area and year	All races and origins			White			Black[1]			Hispanic[2]			Non-Hispanic white[2]			Non-Hispanic black[2]		
	Both sexes	Male	Female	Both sexes	Male	Female	Both sexes	Male	Female	Both sexes	Male	Female	Both sexes	Male	Female	Both sexes	Male	Female
Death-registration states—Con.																		
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	---	---	---	---	---	---	---	---	---

--- Data not available.

[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]Life tables by Hispanic origin are based on death rates that have been adjusted for race and ethnicity misclassification on death certificates. Updated classification ratios were applied to data years 2010–2012; see Technical Notes.

[3]Includes Alaska in 1959 and Hawaii in 1960.

[4]Life expectancies for 2001–2012 were calculated using a revised methodology described in the Technical Notes.

[5]Life expectancies for 2001–2009 have been re-estimated using new intercensal population estimates and may differ from data previously published; see Technical Notes.

[6]Deaths based on a 50% sample.

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

SOURCE: NCHS, National Vital Statistics System, Mortality.

Table 20. Survivorship, by age, race, and sex: Death-registration states, 1900–1902 to 1919–1921, and United States, 1929–1931 to 2012

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

Age, race, and sex	Number of survivors out of 100,000 born alive, l_x											
	2012	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	99,402	99,305	99,064	98,740	97,998	97,407	97,024	95,290	94,028	92,515	88,538	87,552
5	99,298	99,176	98,877	98,495	97,668	96,998	96,482	94,220	91,978	83,389	83,887	81,804
10	99,241	99,097	98,766	98,347	97,460	96,765	96,177	93,710	91,106	88,129	82,458	80,052
15	99,172	98,998	98,635	98,196	97,261	96,551	95,885	93,235	90,385	87,144	81,506	78,963
20	98,940	98,664	98,215	97,741	96,716	96,111	95,366	92,435	89,089	85,441	80,074	77,239
25	98,522	98,203	97,671	97,110	96,000	95,517	94,676	91,335	87,269	83,146	78,046	74,768
30	98,040	97,751	97,070	96,477	95,307	94,905	93,919	90,078	85,302	80,642	75,779	72,043
35	97,488	97,201	96,322	95,808	94,482	94,144	92,976	88,573	83,118	77,961	73,127	69,078
40	96,805	96,422	95,373	94,926	93,322	93,064	91,648	86,650	80,557	75,114	70,042	65,890
45	95,850	95,274	94,154	93,599	91,587	91,378	89,634	84,069	77,343	72,036	66,561	62,436
50	94,351	93,601	92,370	91,526	88,972	88,756	86,591	80,487	73,321	68,429	62,460	58,514
55	92,060	91,232	89,658	88,348	85,110	84,711	82,176	75,557	68,182	63,947	57,555	53,852
60	88,805	87,642	85,537	83,726	79,529	79,067	75,921	68,924	61,563	58,079	51,138	47,946
65	84,391	82,330	79,519	77,107	71,933	71,147	67,555	60,366	53,195	50,560	43,194	40,911
70	78,340	74,891	71,357	68,248	61,984	60,857	56,987	49,655	42,768	41,090	33,816	32,390
75	69,781	64,644	60,449	56,799	49,705	48,170	43,903	36,735	30,789	29,729	23,552	22,960
80	57,855	50,885	47,084	43,180	35,285	33,576	29,313	22,883	18,580	18,298	13,712	13,529
85	42,169	34,515	31,770	27,960	20,908	18,542	15,785	11,073	8,542	8,683	6,001	6,053
90	24,202	18,496	17,046	14,154	9,297	7,080	6,144	3,796	2,998	2,941	1,868	1,867
95	9,319	6,879	6,282	5,043	2,786	1,524	1,511	857	636	646	361	344
100	1,987	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	99,350	99,239	98,961	98,607	97,755	97,087	96,661	94,762	93,440	91,745	87,505	86,426
5	99,234	99,095	98,754	98,333	97,395	96,643	96,077	93,624	91,294	88,505	82,718	80,548
10	99,171	99,008	98,627	98,160	97,151	96,375	95,726	93,054	90,346	87,184	81,249	78,775
15	99,091	98,890	98,464	97,972	96,904	96,107	95,366	92,508	89,561	86,156	80,261	77,681
20	98,766	98,426	97,854	97,316	96,126	95,491	94,695	91,617	88,220	84,440	78,792	75,984
25	98,160	97,747	97,049	96,361	95,040	94,631	93,791	90,385	86,359	82,252	76,675	73,472
30	97,485	97,114	96,166	95,430	94,072	93,826	92,861	89,009	84,346	79,890	74,378	70,747
35	96,752	96,385	95,091	94,501	92,997	92,889	91,760	87,371	82,075	77,514	71,614	67,752
40	95,891	95,389	93,761	93,345	91,541	91,572	90,207	85,246	79,357	74,432	68,297	64,447
45	94,728	93,940	92,139	91,649	89,369	89,492	87,819	82,336	75,882	71,244	64,518	60,849
50	92,921	91,818	89,865	89,007	86,070	86,199	84,158	78,254	71,518	67,553	60,118	56,736
55	90,117	88,897	86,492	84,936	81,139	81,039	78,781	72,627	65,981	62,965	54,970	51,939
60	86,088	84,551	81,378	79,012	73,958	73,887	71,246	65,142	58,909	56,917	48,343	45,895
65	80,724	78,241	73,971	70,646	64,318	64,177	61,566	55,776	50,154	49,218	40,264	38,736
70	73,695	69,491	64,107	59,681	52,296	52,244	49,950	44,588	39,516	39,668	31,023	30,217
75	64,068	57,688	51,385	46,272	38,797	38,950	36,756	31,864	27,718	28,316	21,213	21,076
80	51,239	42,769	36,749	31,810	24,921	25,300	25,237	18,995	16,172	17,128	11,942	12,084
85	35,181	26,527	21,815	18,020	13,168	12,845	11,750	8,693	7,107	7,920	5,059	5,179
90	18,287	12,473	9,878	7,732	5,107	4,609	4,197	2,787	2,283	2,527	1,502	1,508
95	5,971	3,855	2,927	2,279	1,326	970	955	586	451	556	289	262
100	1,001	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	99,457	99,375	99,172	98,880	98,254	97,744	97,406	95,848	94,728	93,383	89,623	88,733
5	99,364	99,261	99,006	98,666	97,955	97,371	96,908	94,848	92,789	90,380	85,117	83,119
10	99,314	99,190	98,911	98,544	97,784	97,173	96,652	94,402	92,008	89,186	83,728	81,390
15	99,258	99,111	98,814	98,432	97,636	97,016	96,431	94,000	91,364	88,247	82,813	80,307
20	99,122	98,915	98,597	98,184	97,331	96,756	96,066	93,293	90,116	86,556	81,418	78,555
25	98,903	98,682	98,325	97,883	96,966	96,418	95,583	92,322	88,328	84,135	79,481	76,119
30	98,620	98,418	98,013	97,551	96,544	95,996	94,933	91,182	86,398	81,463	77,247	73,394
35	98,253	98,052	97,596	97,140	95,966	95,409	94,206	89,810	84,304	78,713	74,719	70,463
40	97,752	97,493	97,033	96,531	95,097	94,560	93,101	88,092	81,927	75,907	71,894	67,407
45	97,006	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 2012—Con.

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

Age, race, and sex	Number of survivors out of 100,000 born alive, l_x											
	2012	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	95,817	95,425	94,932	94,060	91,852	91,327	89,075	82,828	75,456	69,452	65,001	60,415
55	94,035	93,609	92,881	91,760	89,066	88,451	85,694	78,708	70,832	65,099	60,392	55,908
60	91,546	90,767	89,742	88,414	85,139	84,430	80,890	73,093	64,795	59,438	54,226	50,155
65	88,070	86,433	85,075	83,520	79,698	78,462	74,119	65,523	56,924	52,126	46,438	43,246
70	82,987	80,219	78,522	76,720	71,955	70,100	64,873	55,449	46,774	42,741	36,916	34,721
75	75,465	71,311	69,287	67,186	61,107	58,394	52,111	42,425	34,600	31,344	26,155	24,994
80	64,365	58,455	56,986	54,372	46,445	43,063	36,486	27,524	21,578	19,613	15,682	15,129
85	48,874	41,830	41,115	37,772	29,538	25,269	20,668	13,972	10,322	9,515	7,051	7,063
90	29,624	23,936	23,666	20,578	14,160	10,056	8,548	5,044	3,656	3,314	2,269	2,306
95	12,201	9,560	9,346	7,862	4,565	2,193	2,207	1,195	807	728	441	452
100	2,784	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	99,492	99,429	99,233	98,898	98,224	97,714	97,278	95,685	94,392	92,780	88,709	87,762
5	99,394	99,313	99,068	98,675	97,930	97,353	96,790	94,713	92,466	89,771	84,147	82,071
10	99,341	99,239	98,966	98,536	97,733	97,131	96,502	94,228	91,627	88,536	82,734	80,371
15	99,276	99,146	98,843	98,391	97,546	96,928	96,228	93,792	90,982	87,633	81,816	79,344
20	99,054	98,826	98,455	97,939	97,036	96,508	95,763	93,117	89,933	86,159	80,407	77,998
25	98,654	98,406	97,972	97,340	96,406	95,965	95,169	92,213	88,454	84,106	78,392	75,202
30	98,184	98,000	97,451	96,774	95,824	95,440	94,536	91,185	86,836	81,787	76,167	72,317
35	97,645	97,506	96,810	96,192	95,152	94,798	93,750	89,941	85,004	79,277	73,568	69,522
40	96,983	96,799	96,000	95,427	94,190	93,870	92,616	88,318	82,803	76,642	70,525	66,082
45	96,052	95,759	94,932	94,257	92,681	92,374	90,847	86,069	79,989	73,705	67,090	62,920
50	94,589	94,242	93,326	92,384	90,306	89,958	88,110	82,833	76,340	70,250	62,994	58,647
55	92,366	92,050	90,833	89,427	86,688	86,173	84,027	78,218	71,551	65,875	58,163	54,450
60	89,220	88,655	86,943	85,031	81,323	80,811	78,066	71,785	65,100	60,013	51,822	48,288
65	84,920	83,518	81,123	78,585	73,889	73,102	69,850	63,201	56,655	52,411	43,904	41,505
70	78,933	76,219	73,106	69,801	63,991	62,834	59,189	52,165	45,841	42,736	34,484	32,902
75	70,384	66,022	62,175	58,299	51,586	49,895	45,688	38,610	33,406	31,086	24,151	23,356
80	58,374	52,160	48,583	44,409	36,659	34,697	30,438	23,976	20,260	19,149	14,100	13,794
85	42,484	35,461	32,850	28,768	21,578	19,017	16,239	11,483	9,325	9,078	6,178	6,192
90	24,285	18,964	17,571	14,471	9,433	7,149	6,201	3,819	3,066	2,991	1,918	1,919
95	9,198	6,971	6,416	5,067	2,743	1,521	1,500	801	636	643	364	355
100	1,890	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	99,450	99,373	99,138	98,769	97,994	97,408	96,931	95,188	93,768	91,975	87,674	86,655
5	99,341	99,243	98,956	98,519	97,671	97,015	96,403	94,150	91,738	88,842	82,972	80,864
10	99,284	99,163	98,839	98,357	97,441	96,758	96,069	93,601	90,810	87,530	81,519	79,109
15	99,209	99,052	98,686	98,176	97,208	96,503	95,728	93,089	90,074	86,546	80,549	78,037
20	98,907	98,616	98,134	97,525	96,480	95,908	95,104	92,293	88,904	84,997	79,116	76,376
25	98,331	98,003	97,430	96,616	95,524	95,106	94,294	91,241	87,371	83,061	77,047	73,907
30	97,679	97,436	96,662	95,783	94,716	94,401	93,489	90,092	85,707	80,888	74,810	71,219
35	96,970	96,774	95,731	94,980	93,843	93,589	92,543	88,713	83,812	78,441	72,108	68,245
40	96,133	95,859	94,588	93,984	92,631	92,427	91,173	86,880	81,457	75,733	68,848	64,954
45	94,998	94,530	93,167	92,494	90,725	90,533	89,002	84,285	78,345	72,696	65,115	61,369
50	93,224	92,588	91,124	90,105	87,690	87,424	85,601	80,521	74,288	69,107	60,741	57,274
55	90,491	89,883	88,022	86,303	83,001	82,463	80,496	75,156	68,981	64,574	55,622	52,491
60	86,587	85,773	83,182	80,625	75,969	75,485	73,172	67,787	61,933	58,498	48,987	46,452
65	81,377	79,657	75,962	72,393	66,343	65,834	63,541	58,305	52,964	50,663	40,862	39,245
70	74,446	71,039	66,181	61,384	54,138	53,825	51,735	46,739	41,880	40,873	31,527	30,640
75	64,831	59,245	53,308	47,712	40,324	40,207	38,104	33,404	29,471	29,205	21,585	21,387
80	51,921	44,121	38,245	32,788	25,885	25,993	24,005	19,860	17,221	17,655	12,160	12,266
85	35,629	27,425	22,720	18,538	13,527	13,065	12,015	9,013	7,572	8,154	5,145	5,252
90	18,443	12,840	10,214	7,891	5,125	4,600	4,209	2,812	2,356	2,568	1,523	1,523
95	5,893	3,899	2,988	2,279	1,274	956	942	552	461	556	289	263
100	940	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 2012—Con.

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

Age, race, and sex	Number of survivors out of 100,000 born alive, l_x											
	2012	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	99,535	99,488	99,333	99,035	98,468	98,036	97,645	96,211	95,037	93,608	89,774	88,939
5	99,449	99,385	99,187	98,841	98,203	97,709	97,199	95,309	93,216	90,721	85,349	83,426
10	99,401	99,319	99,099	98,725	98,042	97,525	96,960	94,890	92,466	89,564	83,979	81,723
15	99,346	99,245	99,007	98,618	97,902	97,375	96,756	94,534	91,894	88,712	83,093	80,680
20	99,209	99,049	98,795	98,374	97,618	97,135	96,454	93,984	90,939	87,281	81,750	78,978
25	98,997	98,835	98,547	98,093	97,299	96,844	96,072	93,228	89,524	85,163	79,865	76,588
30	98,719	98,602	98,283	97,802	96,945	96,499	95,605	92,320	87,972	82,740	77,676	73,887
35	98,358	98,282	97,939	97,445	96,474	96,026	94,977	91,211	86,248	80,206	75,200	70,971
40	97,879	97,790	97,472	96,913	95,762	95,326	94,080	89,805	84,256	77,624	72,425	67,935
45	97,160	97,049	96,768	96,065	94,649	94,228	92,725	87,920	81,780	74,871	69,341	64,677
50	96,016	95,962	95,608	94,710	92,924	92,522	90,685	85,267	78,572	71,547	65,629	61,005
55	94,310	94,293	93,730	92,594	90,383	89,967	87,699	81,520	74,321	67,323	61,053	56,509
60	91,926	91,615	90,789	89,451	86,726	86,339	83,279	76,200	68,462	61,704	54,900	50,752
65	88,544	87,449	86,339	84,764	81,579	80,739	76,773	68,701	60,499	54,299	47,086	43,806
70	83,506	81,400	79,984	78,139	74,101	72,507	67,545	58,363	49,932	44,638	37,482	35,206
75	76,003	72,595	70,834	68,712	63,290	60,461	54,397	44,685	37,024	32,777	26,569	25,362
80	64,818	59,721	58,454	55,770	48,182	44,676	38,026	28,882	23,053	20,492	15,929	15,349
85	49,146	42,848	42,274	38,774	30,490	26,046	21,348	14,487	10,937	9,909	7,152	7,149
90	29,697	24,491	24,270	20,996	14,406	10,219	8,662	5,061	3,719	3,372	2,291	2,322
95	12,056	9,680	9,495	7,900	4,526	2,203	2,200	1,109	797	721	434	448
100	2,658	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	98,881	98,578	98,187	97,885	96,731	95,732	95,407	92,584	92,035	90,379	79,784	76,609
5	98,732	98,382	97,884	97,522	96,207	95,051	94,482	90,983	89,303	86,174	70,691	66,222
10	98,651	98,271	97,720	97,322	95,928	94,745	94,060	90,339	88,258	84,690	68,437	63,410
15	98,558	98,139	97,539	97,134	95,661	94,460	93,646	89,591	87,156	83,180	66,410	61,060
20	98,242	97,701	96,925	96,652	94,887	93,880	92,738	87,839	84,386	79,641	63,165	57,931
25	97,665	96,946	95,972	95,804	93,513	92,925	91,321	85,210	80,320	74,973	59,608	54,512
30	96,999	96,143	94,809	94,680	91,934	91,699	89,584	82,194	75,962	70,492	56,112	51,287
35	96,218	95,164	93,260	93,288	89,977	90,046	87,402	78,683	71,141	65,865	52,125	48,007
40	95,224	93,809	91,239	91,439	87,304	87,766	84,478	74,466	65,974	61,244	47,866	44,518
45	93,886	91,770	88,689	88,834	83,700	84,501	80,507	69,284	59,827	56,442	43,054	40,628
50	91,839	88,761	85,285	85,044	78,938	80,172	74,976	62,702	53,141	51,422	37,800	36,103
55	88,656	84,657	80,635	79,816	72,826	73,893	67,660	54,846	45,558	45,803	32,233	31,404
60	84,037	79,007	74,335	72,913	65,250	65,795	58,593	46,318	37,654	39,418	26,046	25,698
65	77,940	71,704	66,154	64,391	56,102	56,038	48,649	37,838	30,015	32,738	19,806	20,474
70	70,280	62,349	56,192	54,617	45,785	45,434	38,616	29,654	22,505	25,585	14,021	14,960
75	60,426	50,987	44,872	43,274	34,262	34,531	28,968	21,798	15,546	18,011	9,139	9,956
80	48,301	37,964	33,149	31,711	23,710	24,815	20,003	14,408	9,589	11,376	5,158	5,750
85	34,051	24,677	21,352	19,939	15,044	15,337	12,433	8,326	4,900	5,794	2,414	2,782
90	19,543	13,204	11,646	10,713	8,087	7,195	6,394	4,077	2,044	2,317	913	1,054
95	8,327	5,368	4,729	4,463	3,252	1,777	2,010	1,557	638	689	324	296
100	2,345	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	98,767	98,437	98,023	97,703	96,394	95,301	94,911	91,772	91,268	89,499	78,065	74,674
5	98,602	98,219	97,688	97,300	95,826	94,570	93,921	90,082	88,412	85,195	68,589	64,385
10	98,508	98,093	97,501	97,061	95,497	94,234	93,453	89,393	87,311	83,768	66,377	61,730
15	98,393	97,930	97,268	96,826	95,161	93,874	92,965	88,610	86,152	82,332	64,478	59,667
20	97,918	97,275	96,301	96,132	94,053	93,108	91,941	86,968	83,621	79,057	61,426	56,733
25	97,044	96,103	94,809	94,827	91,904	91,825	90,285	84,227	79,516	74,540	57,736	53,285
30	96,073	94,940	93,070	93,125	89,584	90,270	88,327	80,979	75,083	70,344	54,073	49,867
35	94,994	93,641	90,827	91,080	86,885	88,331	85,940	77,221	70,049	65,873	49,865	46,541
40	93,744	91,945	87,948	88,490	83,441	85,744	82,832	72,780	64,710	61,353	45,414	42,989
45	92,140	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 2012—Con.

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

Age, race, and sex	Number of survivors out of 100,000 born alive, l_x											
	2012	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	89,735	85,653	79,984	80,065	73,282	77,239	72,891	60,495	51,748	51,880	35,427	34,766
55	85,921	80,529	74,095	73,413	66,101	70,351	65,122	52,426	44,436	46,581	29,754	29,987
60	80,246	73,588	66,334	64,980	57,457	61,669	55,535	43,833	36,790	40,506	23,750	24,194
65	72,711	64,980	56,795	55,061	47,485	51,392	45,198	35,371	29,314	34,042	17,806	19,015
70	63,597	54,253	45,690	44,213	36,925	39,914	35,018	27,236	21,741	26,923	12,295	13,829
75	52,536	41,693	33,755	32,717	25,921	29,064	25,472	19,456	14,419	18,854	7,494	8,892
80	39,553	28,497	22,549	22,017	16,560	19,994	16,904	12,186	8,239	11,615	3,894	4,831
85	25,528	16,532	12,709	12,383	9,648	11,620	9,898	6,444	3,660	5,605	1,747	2,030
90	13,052	7,625	5,972	5,708	4,696	5,174	4,642	2,836	1,246	2,040	595	634
95	4,781	2,565	1,971	2,009	1,721	1,240	1,342	961	307	552	189	137
100	1,120	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	98,999	98,723	98,356	98,073	97,076	96,172	95,913	93,416	92,796	91,251	81,493	78,525
5	98,867	98,550	98,087	97,751	96,598	95,543	95,055	91,906	90,185	87,149	72,768	68,056
10	98,799	98,456	97,946	97,590	96,369	95,265	94,679	91,308	89,201	85,607	70,508	65,111
15	98,729	98,354	97,818	97,450	96,172	95,057	94,343	90,594	88,088	83,954	68,218	62,384
20	98,578	98,141	97,566	97,180	95,729	94,660	93,544	88,736	85,078	80,154	64,764	59,053
25	98,304	97,785	97,140	96,754	95,035	94,005	92,336	86,198	81,067	75,359	61,430	55,795
30	97,930	97,314	96,514	96,150	94,114	93,070	90,799	83,384	76,816	70,633	58,281	52,773
35	97,424	96,632	95,599	95,338	92,807	91,670	88,805	80,092	72,192	65,857	54,595	49,567
40	96,665	95,588	94,364	94,137	90,817	89,676	86,052	76,084	67,271	61,130	50,568	46,146
45	95,571	93,979	92,676	92,322	88,001	86,793	82,257	71,157	61,365	56,230	45,947	42,279
50	93,855	91,680	90,277	89,563	84,168	82,979	77,007	64,885	54,920	50,780	40,886	37,681
55	91,255	88,517	86,793	85,653	79,177	77,362	70,196	57,314	47,074	44,742	35,415	33,124
60	87,598	84,044	81,886	80,293	72,820	69,941	61,758	48,928	38,761	37,954	28,908	27,524
65	82,792	77,941	75,031	73,266	64,716	60,825	52,358	40,504	30,852	31,044	22,302	21,995
70	76,435	69,778	66,278	64,729	54,873	51,274	42,612	32,354	23,341	24,107	15,871	16,140
75	67,644	59,361	55,684	53,831	43,193	40,540	32,981	24,502	16,576	17,216	10,657	11,066
80	56,215	46,453	43,622	41,686	31,756	30,315	23,712	17,039	10,822	11,151	6,324	6,708
85	41,608	32,053	30,089	28,004	21,358	19,744	15,550	10,622	6,033	5,972	3,029	3,567
90	25,183	18,347	17,536	16,260	12,210	9,675	8,590	5,652	2,774	2,579	1,206	1,492
95	11,254	7,989	7,687	7,312	5,217	2,438	2,875	2,345	941	818	448	462
100	3,245	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 separately for the black population. See Technical Notes.

SOURCE: NCHS, National Vital Statistics System, Mortality.

Table 21. Life expectancy, by age, race, and sex: Death-registration states, 1900–1902 to 1919–1921, and United States, 1929–1931 to 2012

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

Age, race, and sex	Average number of years of life remaining, e_x											
	2012	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	78.83	76.86	75.37	73.88	70.75	69.89	68.07	63.62	59.20	56.40	51.49	49.24
1	78.30	76.40	75.08	73.82	71.19	70.75	69.16	65.76	61.94	59.94	57.11	55.20
5	74.38	72.49	71.22	70.00	67.43	67.04	65.54	62.49	59.29	57.99	56.21	54.98
10	69.42	67.55	66.29	65.10	62.57	62.19	60.74	57.82	54.84	53.79	52.15	51.14
15	64.47	62.61	61.38	60.19	57.69	57.33	55.91	53.10	50.25	49.37	47.73	46.81
20	59.61	57.82	56.63	55.46	53.00	52.58	51.20	48.54	45.94	45.30	43.53	42.79
25	54.85	53.08	51.93	50.81	48.37	47.89	46.56	44.09	41.85	41.47	39.60	39.12
30	50.11	48.31	47.23	46.12	43.71	43.18	41.91	39.67	37.75	37.68	35.70	35.51
35	45.38	43.57	42.58	41.43	39.07	38.51	37.31	35.30	33.68	33.89	31.90	31.92
40	40.68	38.90	37.98	36.79	34.52	33.92	32.81	31.03	29.67	30.08	28.20	28.34
45	36.06	34.34	33.44	32.27	30.12	29.50	28.49	26.90	25.79	26.25	24.54	24.77
50	31.59	29.90	29.03	27.94	25.93	25.29	24.40	22.98	22.06	22.50	20.98	21.26
55	27.31	25.61	24.83	23.85	21.99	21.37	20.57	19.31	18.53	18.90	17.55	17.88
60	23.22	21.55	20.90	20.02	18.34	17.71	17.04	15.91	15.24	15.54	14.42	14.76
65	19.29	17.77	17.28	16.51	15.00	14.39	13.83	12.80	12.23	12.47	11.60	11.86
70	15.58	14.27	13.96	13.32	12.00	11.38	10.92	10.00	9.58	9.74	9.11	9.30
75	12.17	11.12	11.00	10.48	9.32	8.71	8.40	7.62	7.32	7.49	6.99	7.08
80	9.13	8.42	8.40	7.98	7.10	6.39	6.34	5.73	5.50	5.63	5.25	5.30
85	6.57	6.22	6.23	5.96	5.28	4.58	4.69	4.31	4.19	4.21	4.00	3.96
90	4.59	4.49	4.50	4.43	3.94	3.22	3.44	3.30	3.15	3.22	3.03	2.95
95	3.19	3.19	3.29	3.34	3.06	2.43	2.54	2.61	2.26	2.32	2.35	2.18
100	2.28	2.27	2.46	2.73	2.62	1.91	1.92	2.13	1.51	1.53	1.85	1.58
Male												
0	76.42	74.13	71.83	70.11	67.04	66.80	65.47	61.60	57.71	55.50	49.86	47.88
1	75.92	73.70	71.58	70.10	67.58	67.80	66.73	64.00	60.75	59.47	55.95	54.35
5	72.00	69.80	67.73	66.29	63.82	64.10	63.12	60.76	58.14	57.60	55.11	54.22
10	67.05	64.86	62.81	61.41	58.98	59.27	58.35	56.12	53.75	53.44	51.07	50.39
15	62.10	59.94	57.91	56.52	54.12	54.43	53.56	51.43	49.18	49.05	46.66	46.06
20	57.29	55.21	53.25	51.88	49.54	49.77	48.92	46.91	44.88	44.99	42.48	42.03
25	52.63	50.57	48.67	47.37	45.07	45.19	44.36	42.51	40.79	41.11	38.59	38.38
30	47.98	45.89	44.10	42.81	40.51	40.56	39.78	38.13	36.71	37.26	34.70	34.76
35	43.32	41.21	39.57	38.20	35.95	35.94	35.23	33.79	32.65	33.43	30.94	31.19
40	38.69	36.62	35.09	33.64	31.48	31.42	30.79	29.57	28.68	29.63	27.32	27.65
45	34.13	32.14	30.66	29.22	27.18	27.09	26.55	25.52	24.87	25.84	23.77	24.14
50	29.74	27.82	26.37	25.00	23.12	23.02	22.59	21.72	21.25	22.11	20.32	20.70
55	25.59	23.65	22.30	21.08	19.36	19.32	18.96	18.20	17.79	18.53	16.98	17.38
60	21.66	19.73	18.53	17.46	15.99	15.94	15.68	14.99	14.62	15.22	13.95	14.33
65	17.93	16.11	15.12	14.21	12.99	12.95	12.74	12.07	11.72	12.20	11.24	11.50
70	14.39	12.80	12.05	11.35	10.39	10.33	10.11	9.46	9.18	9.52	8.83	9.02
75	11.15	9.89	9.39	8.90	8.13	7.99	7.83	7.22	7.02	7.31	6.75	6.84
80	8.29	7.44	7.12	6.80	6.27	5.95	5.94	5.44	5.27	5.49	5.10	5.11
85	5.91	5.47	5.31	5.13	4.73	4.39	4.41	4.11	4.02	4.10	3.90	3.82
90	4.08	3.95	3.89	3.89	3.60	3.18	3.30	3.17	3.06	3.21	3.01	2.86
95	2.84	2.82	2.92	2.98	2.82	2.43	2.49	2.52	2.21	2.38	2.36	2.13
100	2.04	2.03	2.25	2.49	2.43	1.91	1.92	2.05	1.50	1.58	1.81	1.55
Female												
0	81.17	79.47	78.81	77.62	74.64	73.24	70.96	65.89	60.90	57.40	53.24	50.70
1	80.61	78.97	78.47	77.50	74.97	73.93	71.84	67.73	65.37	60.45	58.37	56.10
5	76.69	75.06	74.60	73.67	71.19	70.21	68.21	64.43	60.66	58.41	57.39	55.80
10	71.72	70.11	69.67	68.75	66.31	65.35	63.38	59.73	56.16	54.16	53.31	51.94
15	66.76	65.16	64.73	63.83	61.41	60.45	58.52	54.97	51.54	49.71	48.87	47.60
20	61.85	60.29	59.87	58.98	56.59	55.60	53.73	50.37	47.21	45.63	44.66	43.60
25	56.98	55.42	55.03	54.16	51.80	50.79	48.99	45.87	43.11	41.86	40.69	39.92
30	52.14	50.57	50.19	49.33	47.01	46.00	44.28	41.41	39.02	38.15	36.79	36.30
35	47.32	45.75	45.40	44.53	42.28	41.27	39.63	37.01	34.92	34.40	32.95	32.71
40	42.55	40.99	40.65	39.80	37.64	36.61	35.06	32.68	30.86	30.58	29.15	29.08
45	37.86	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 2012—Con.

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

Age, race, and sex	Average number of years of life remaining, e_x											
	2012	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	33.29	31.76	31.42	30.69	28.77	27.71	26.40	24.40	23.05	22.92	21.67	21.84
55	28.88	27.32	27.05	26.39	24.59	23.53	22.33	20.54	19.38	19.28	18.13	18.39
60	24.59	23.10	22.90	22.29	20.60	19.52	18.50	16.92	15.94	15.87	14.90	15.21
65	20.45	19.12	19.02	18.44	16.83	15.80	14.95	13.57	12.78	12.73	11.96	12.22
70	16.55	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	9.70	9.05	9.13	8.69	7.68	6.72	6.67	5.99	5.70	5.75	5.37	5.51
85	6.95	6.62	6.66	6.38	5.63	4.71	4.90	4.47	4.32	4.30	4.08	4.12
90	4.81	4.71	4.73	4.66	4.14	3.25	3.54	3.39	3.24	3.23	3.05	3.04
95	3.30	3.29	3.40	3.48	3.18	2.43	2.57	2.67	2.30	2.27	2.34	2.24
100	2.32	2.29	2.52	2.81	2.69	1.91	1.93	2.17	1.52	1.48	1.91	1.61
White												
0	79.06	77.43	76.13	74.53	71.62	70.73	69.02	64.92	60.86	57.42	51.90	49.64
1	78.46	76.87	75.72	74.35	71.91	71.38	69.95	66.84	63.46	60.87	57.46	55.47
5	74.54	72.96	71.84	70.52	68.12	67.64	66.29	63.52	60.75	58.86	56.51	55.18
10	69.58	68.01	66.92	65.62	63.26	62.79	61.48	58.83	56.29	54.65	52.43	51.34
15	64.62	63.07	61.99	60.71	58.37	57.92	56.65	54.09	51.69	50.21	48.01	47.01
20	59.76	58.27	57.23	55.98	53.66	53.16	51.91	49.47	47.28	46.04	43.77	43.17
25	54.99	53.51	52.50	51.30	49.00	48.44	47.22	44.92	43.02	42.07	39.79	39.26
30	50.24	48.72	47.76	46.59	44.28	43.69	42.52	40.40	38.76	38.17	35.86	35.51
35	45.50	43.95	43.06	41.86	39.58	38.97	37.86	35.93	34.50	34.27	32.03	32.01
40	40.80	39.25	38.41	37.17	34.95	34.33	33.29	31.54	30.33	30.38	28.29	28.28
45	36.17	34.65	33.81	32.60	30.48	29.84	28.88	27.29	26.29	26.45	24.60	24.82
50	31.68	30.17	29.34	28.21	26.21	25.57	24.70	23.26	22.42	22.64	21.01	21.18
55	27.38	25.82	25.08	24.05	22.19	21.58	20.77	19.47	18.75	18.97	17.57	17.91
60	23.26	21.71	21.08	20.16	18.48	17.84	17.15	15.98	15.37	15.57	14.43	14.73
65	19.30	17.88	17.40	16.59	15.08	14.44	13.86	12.80	12.28	12.47	11.60	11.87
70	15.56	14.34	14.02	13.35	12.01	11.37	10.89	9.96	9.58	9.72	9.10	9.31
75	12.13	11.15	11.03	10.47	9.27	8.65	8.34	7.55	7.30	7.47	6.98	7.08
80	9.09	8.42	8.39	7.95	7.01	6.33	6.27	5.64	5.45	5.59	5.22	5.30
85	6.52	6.19	6.20	5.90	5.19	4.53	4.62	4.20	4.12	4.15	3.97	3.95
90	4.53	4.44	4.46	4.36	3.84	3.20	3.41	3.16	3.10	3.17	3.00	2.93
95	3.13	3.14	3.25	3.25	2.92	2.43	2.53	2.45	2.22	2.28	2.29	2.16
100	2.23	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	76.72	74.78	72.72	70.82	67.94	67.55	66.31	62.81	59.12	56.34	50.23	48.23
1	76.15	74.25	72.35	70.70	68.33	68.34	67.41	64.98	62.04	60.24	56.26	54.61
5	72.23	70.34	68.48	66.87	64.55	64.61	63.77	61.68	59.38	58.31	55.37	54.43
10	67.27	65.40	63.55	61.98	59.69	59.78	58.98	57.03	54.96	54.15	51.32	50.59
15	62.32	60.47	58.65	57.09	54.83	54.93	54.18	52.33	50.39	49.74	46.91	46.25
20	57.50	55.72	53.96	52.45	50.22	50.25	49.52	47.76	46.02	45.60	42.71	42.19
25	52.82	51.05	49.33	47.92	45.70	45.65	44.93	43.28	41.78	41.60	38.79	38.52
30	48.16	46.34	44.71	43.31	41.07	40.97	40.29	38.80	37.54	37.65	34.87	34.88
35	43.49	41.64	40.12	38.66	36.43	36.31	35.68	34.36	33.33	33.74	31.08	31.29
40	38.85	37.01	35.57	34.04	31.87	31.73	31.17	30.03	29.22	29.86	27.43	27.74
45	34.28	32.49	31.07	29.55	27.48	27.34	26.87	25.87	25.28	26.00	23.86	24.21
50	29.88	28.12	26.71	25.26	23.34	23.22	22.83	21.96	21.51	22.22	20.39	20.76
55	25.70	23.88	22.56	21.25	19.51	19.45	19.11	18.34	17.97	18.59	17.03	17.42
60	21.74	19.90	18.71	17.56	16.07	16.01	15.76	15.05	14.72	15.25	13.98	14.35
65	17.97	16.22	15.24	14.26	13.02	12.97	12.75	12.07	11.77	12.21	11.25	11.51
70	14.40	12.87	12.11	11.35	10.38	10.29	10.07	9.42	9.20	9.51	8.83	9.03
75	11.14	9.92	9.40	8.87	8.06	7.92	7.77	7.17	7.02	7.30	6.75	6.84
80	8.26	7.43	7.11	6.76	6.18	5.89	5.88	5.38	5.26	5.47	5.09	5.10
85	5.86	5.43	5.28	5.09	4.63	4.34	4.35	4.02	3.99	4.06	3.88	3.81
90	4.02	3.90	3.85	3.83	3.49	3.16	3.27	3.06	3.03	3.18	2.99	2.85
95	2.77	2.77	2.88	2.91	2.67	2.43	2.48	2.40	2.19	2.36	2.31	2.12
100	1.99	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 2012—Con.

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

Age, race, and sex	Average number of years of life remaining, e_x											
	2012	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	81.36	79.99	79.45	78.22	75.49	74.19	72.03	67.29	62.67	58.53	53.62	51.08
1	80.74	79.40	78.99	77.98	75.66	74.68	72.77	68.93	64.93	61.51	58.69	56.39
5	76.81	75.48	75.10	74.13	71.86	70.92	69.09	65.57	62.17	59.43	57.67	56.03
10	71.85	70.53	70.16	69.21	66.97	66.05	64.26	60.85	57.65	55.17	53.57	52.15
15	66.88	65.58	65.23	64.29	62.07	61.15	59.39	56.07	53.00	50.67	49.12	47.79
20	61.97	60.70	60.36	59.44	57.24	56.29	54.56	51.38	48.52	46.46	44.88	43.77
25	57.10	55.83	55.51	54.60	52.42	51.45	49.77	46.78	44.25	42.55	40.88	40.05
30	52.25	50.95	50.65	49.76	47.60	46.63	45.00	42.21	39.99	38.72	36.96	36.42
35	47.44	46.11	45.82	44.93	42.82	41.84	40.28	37.70	35.73	34.86	33.09	32.82
40	42.66	41.33	41.03	40.16	38.12	37.13	35.64	33.25	31.52	30.94	29.26	29.17
45	37.95	36.62	36.30	35.49	33.54	32.53	31.12	28.90	27.39	26.98	25.45	25.51
50	33.37	32.01	31.71	30.96	29.11	28.08	26.76	24.72	23.41	23.12	21.74	21.89
55	28.93	27.53	27.29	26.61	24.85	23.81	22.58	20.73	19.60	19.40	18.18	18.43
60	24.61	23.25	23.09	22.45	20.79	19.69	18.64	17.00	16.05	15.93	14.92	15.23
65	20.45	19.23	19.14	18.55	16.93	15.88	15.00	13.56	12.81	12.75	11.97	12.23
70	16.52	15.47	15.46	14.89	13.37	12.38	11.68	10.50	9.98	9.94	9.38	9.59
75	12.89	12.02	12.11	11.58	10.21	9.28	8.87	7.92	7.56	7.62	7.20	7.33
80	9.66	9.04	9.12	8.65	7.59	6.67	6.59	5.88	5.63	5.70	5.35	5.50
85	6.90	6.59	6.62	6.32	5.54	4.66	4.83	4.34	4.24	4.24	4.06	4.10
90	4.75	4.67	4.69	4.59	4.05	3.23	3.51	3.24	3.17	3.16	3.00	3.02
95	3.25	3.24	3.36	3.39	3.04	2.43	2.56	2.47	2.24	2.20	2.27	2.21
100	2.27	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	75.49	71.81	69.16	68.52	64.11	63.91	60.73	53.85	48.53	47.03	35.87	33.80
1	75.34	71.84	69.43	68.99	65.27	65.75	62.65	57.15	51.71	51.01	43.84	43.00
5	71.45	67.98	65.64	65.25	61.62	62.21	59.25	54.13	49.25	49.44	45.34	45.55
10	66.51	63.05	60.75	60.38	56.79	57.41	54.50	49.50	44.80	45.26	41.74	42.46
15	61.57	58.13	55.86	55.49	51.94	52.57	49.73	44.89	40.37	41.02	38.02	39.04
20	56.76	53.38	51.19	50.75	47.34	47.88	45.19	40.73	36.62	37.72	34.86	36.03
25	52.08	48.78	46.67	46.18	43.00	43.35	40.85	36.91	33.32	34.91	31.72	33.04
30	47.42	44.16	42.22	41.69	38.70	38.89	36.59	33.17	30.07	31.98	28.43	29.96
35	42.78	39.59	37.87	37.28	34.48	34.56	32.44	29.53	26.94	29.07	25.39	26.82
40	38.20	35.12	33.65	32.98	30.46	30.39	28.48	26.06	23.82	26.07	22.41	23.73
45	33.71	30.84	29.55	28.87	26.65	26.46	24.75	22.82	20.97	23.17	19.58	20.67
50	29.40	26.80	25.62	25.03	23.11	22.74	21.38	19.94	18.22	20.17	16.84	17.95
55	25.36	22.97	21.95	21.50	19.83	19.45	18.41	17.43	15.80	17.33	14.33	15.23
60	21.61	19.43	18.59	18.29	16.83	16.53	15.87	15.18	13.62	14.72	12.16	13.06
65	18.10	16.14	15.56	15.37	14.16	13.96	13.59	13.02	11.49	12.22	10.22	10.87
70	14.79	13.18	12.87	12.67	11.77	11.63	11.48	10.93	9.54	9.90	8.59	8.96
75	11.78	10.54	10.48	10.32	9.89	9.52	9.48	8.97	7.84	8.00	7.08	7.24
80	9.09	8.29	8.30	8.17	8.20	7.28	7.62	7.31	6.19	6.22	5.80	5.79
85	6.82	6.41	6.51	6.54	6.54	5.27	5.79	5.91	4.92	4.88	4.80	4.56
90	5.06	4.90	4.94	5.13	5.09	3.48	3.97	4.64	3.83	3.84	4.26	3.60
95	3.75	3.71	3.82	4.08	4.28	2.43	2.70	3.51	2.83	2.90	3.31	2.82
100	2.80	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	72.29	68.17	64.47	64.10	60.00	61.48	58.91	52.26	47.55	47.14	34.05	32.54
1	72.19	68.25	64.76	64.60	61.24	63.50	61.06	55.93	51.08	51.63	42.53	42.46
5	68.31	64.40	60.98	60.86	57.60	59.98	57.69	52.95	48.69	50.18	44.25	45.06
10	63.37	59.48	56.09	56.01	52.79	55.19	52.96	48.34	44.27	45.99	40.65	41.90
15	58.44	54.57	51.22	51.14	47.96	50.39	48.23	43.74	39.83	41.75	36.77	38.26
20	53.71	49.92	46.71	46.48	43.49	45.78	43.73	39.52	35.95	38.36	33.46	35.11
25	49.17	45.50	42.40	42.09	39.45	41.38	39.49	35.72	32.67	35.54	30.44	32.21
30	44.64	41.02	38.14	37.81	35.40	37.05	35.31	32.05	29.45	32.51	27.33	29.25
35	40.12	36.56	34.02	33.60	31.42	32.81	31.21	28.48	26.39	29.54	24.42	26.16
40	35.62	32.18	30.05	29.51	27.61	28.72	27.29	25.06	23.36	26.53	21.57	23.12
45	31.19	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 2012—Con.

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

Age, race, and sex	Average number of years of life remaining, e_x											
	2012	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	26.96	24.13	22.50	22.03	20.69	21.28	20.25	19.06	17.92	20.47	16.21	17.34
55	23.04	20.50	19.08	18.79	17.66	18.11	17.36	16.60	15.46	17.50	13.82	14.69
60	19.48	17.19	16.01	15.89	14.93	15.29	14.91	14.37	13.15	14.74	11.67	12.62
65	16.23	14.12	13.27	13.29	12.53	12.84	12.75	12.21	10.87	12.07	9.74	10.38
70	13.19	11.40	10.88	10.94	10.40	10.81	10.74	10.11	8.78	9.58	8.00	8.33
75	10.42	9.07	8.84	8.90	8.76	8.93	8.83	8.17	6.99	7.61	6.58	6.60
80	8.00	7.12	7.01	7.03	7.35	6.87	7.07	6.58	5.42	5.83	5.53	5.12
85	6.03	5.52	5.58	5.61	5.92	5.08	5.38	5.34	4.30	4.53	4.48	4.04
90	4.49	4.23	4.24	4.47	4.68	3.42	3.78	4.23	3.42	3.60	4.01	3.21
95	3.36	3.24	3.37	3.62	3.92	2.43	2.64	3.20	2.54	2.61	3.15	2.50
100	2.56	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	78.40	75.16	73.73	72.88	68.32	66.47	62.70	55.56	49.51	46.92	37.67	35.04
1	78.19	75.13	73.96	73.31	69.37	68.10	64.37	58.46	52.33	50.39	45.15	43.54
5	74.30	71.26	70.16	69.54	65.70	64.54	60.93	55.40	49.81	48.70	46.42	46.04
10	69.35	66.32	65.26	64.65	60.85	59.72	56.17	50.75	45.33	44.54	42.84	43.02
15	64.39	61.39	60.34	59.74	55.97	54.85	51.36	46.13	40.87	40.36	39.18	39.79
20	59.49	56.52	55.49	54.90	51.22	50.07	46.77	42.04	37.22	37.15	36.14	36.89
25	54.65	51.71	50.72	50.13	46.57	45.40	42.35	38.20	33.93	34.35	32.97	33.90
30	49.84	46.95	46.03	45.43	42.00	40.83	38.02	34.40	30.67	31.48	29.61	30.70
35	45.09	42.26	41.45	40.79	37.56	36.41	33.82	30.83	27.47	28.58	26.44	27.52
40	40.42	37.69	36.96	36.28	33.32	32.16	29.82	27.19	24.30	25.60	23.34	24.37
45	35.85	33.29	32.58	31.94	29.31	28.14	26.07	23.89	21.39	22.61	20.43	21.36
50	31.46	29.06	28.38	27.84	25.52	24.31	22.67	20.95	18.60	19.76	17.65	18.67
55	27.28	25.01	24.41	24.00	21.97	20.89	19.62	18.38	16.27	17.09	14.98	15.88
60	23.31	21.20	20.71	20.42	18.66	17.83	16.95	16.10	14.22	14.69	12.78	13.60
65	19.51	17.65	17.37	17.13	15.67	15.12	14.54	13.95	12.24	12.41	10.82	11.38
70	15.92	14.41	14.32	14.05	13.02	12.46	12.29	11.82	10.38	10.25	9.22	9.62
75	12.65	11.49	11.56	11.37	10.85	10.10	10.15	9.81	8.62	8.37	7.55	7.90
80	9.69	8.96	9.05	8.95	8.87	7.66	8.15	8.02	6.90	6.58	6.05	6.48
85	7.18	6.86	6.99	7.09	7.00	5.44	6.15	6.41	5.48	5.22	5.09	5.10
90	5.24	5.16	5.24	5.47	5.41	3.52	4.13	4.96	4.20	4.07	4.50	4.01
95	3.79	3.84	3.97	4.30	4.58	2.43	2.74	3.71	3.09	3.18	3.45	3.15
100	2.78	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 separately for the black population. See Technical Notes.

SOURCE: NCHS, National Vital Statistics System, Mortality.

Technical Notes

The life table program

Three series of complete life tables for the U.S. population are prepared by the 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 (9). The methodology was again revised for data years 2000–2007 using a methodology similar to that of the 1999–2001 decennial life tables (10). Beginning 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 (11).

The methodology used to estimate the 2008–2012 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 2008–2012 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 and ethnic 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 (11). A full description of the methodology used to estimate the 2012 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 (5,12–14). 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" (12).

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), and tables for 1919–1921 used mortality data from the 1920 death-registration states (34 states and the District of Columbia). 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 (available from: http://www.cdc.gov/nchs/products/vsus.htm). Life table values for 1991–1999 presented in this report are based on postcensal population estimates of the population enumerated in the 1990 decennial census. Life table values for 2001–2009 presented in this report are based on revised intercensal population estimates based on the 2010 decennial census and the revised methodology used to estimate the 2008–2012 life tables. As a result, the values may differ from those previously published in annual final mortality and life table reports (15).

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, as well as for 1963. For computing vital rates, populations by age, race, and sex (excluding New Jersey) were estimated to obtain comparable denominators. Approximately 7% of the New Jersey death records for 1964 did not contain the race designation. When 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, values for the black

population during 1939–1941 and 1949–1951 were estimated using values for the nonwhite population. Life table functions were also missing in Tables 20 and 21 for some race/sex groups for the periods from 1900–1902 to 1939–1941. Values 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 values 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 values in Table 19 by race and sex for the following years were estimated using a procedure other than the abridged life table methodology (16):

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 values 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 2012 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 (17). 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 2012, 40 states and the District of Columbia had adopted the 1997 OMB standards, while 10 others continued to collect race and ethnicity data according to the 1977 OMB standards (6,18). To attain uniformity and comparability during the transition period until all states implement the 1997 standards, multiple-race responses are "bridged" 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 (19).

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 2010 census. Reflecting the 1997 OMB guidelines on race and ethnicity reporting (17), the 2010 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 (NHOPI) 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 2010 census (the denominators for the rates). To produce death rates for 2012, it was necessary to bridge the reported population data for multiple-race persons to single-race categories. In addition, the 2010 census counts were modified to be consistent with the 1977 OMB race categories, that is, to report the data for Asian persons and NHOPI persons as a combined category, Asian or Pacific Islander (API), and to reflect age as of the census reference date (20). The procedures used to produce the bridged populations are described elsewhere (19).

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 (9). 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 to enroll (21). 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 (21). Further, the Medicare race and ethnicity classification system makes it impossible to correctly identify the Hispanic, American Indian or Alaska Native, or API populations (12,22). 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 (12). 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 (12).

To estimate death rates for the Medicare white, black, non-Hispanic white, and non-Hispanic black populations in 2012, age-specific numbers of deaths and population counts by sex and race for the population aged 66–99 from the 2014 and 2015 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 2014 file contains final Medicare population counts

as of January 1, 2012, and the 2015 file contains final Medicare population counts as of January 1, 2013, and final Medicare death counts as of January 1, 2012. Medicare death data is 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 is 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:

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

where D is the total number of deaths and D^a is the total number of deaths for which age is stated. F is then applied by multiplying it times the number of deaths in each age group. Table I shows values for F by sex used to adjust mortality data for the total, white, black, Hispanic, non-Hispanic white, and non-Hispanic black populations in 2012.

Table I. Values for *F* used to adjust for not-stated age based on 2012 mortality data

Race, Hispanic origin, and sex	Total deaths	Total deaths for which age was not stated	*F*
Total	2,543,279	147	1.00005780
Male	1,273,722	100	1.00007852
Female	1,269,557	47	1.00003702
White	2,175,178	97	1.00004460
Male	1,085,250	64	1.00005898
Female	1,089,928	33	1.00003028
Black	295,222	43	1.00014567
Male	150,586	31	1.00020590
Female	144,636	12	1.00008297
Hispanic	156,419	7	1.00004475
Male	85,238	7	1.00008213
Female	71,181	0	1.00000000
Non-Hispanic white	2,016,896	66	1.00003272
Male	998,832	41	1.00004105
Female	1,018,064	25	1.00002456
Non-Hispanic black	291,179	31	1.00010648
Male	148,344	21	1.00014158
Female	142,835	10	1.00007002

SOURCE: NCHS, National Vital Statistics System, Mortality.

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 3% for total Hispanic deaths, a net underestimate of less than one-half percent for total non-Hispanic black deaths, and no under- or overestimate for total non-Hispanic white deaths or for the population racially classified as white or black, regardless of Hispanic origin (5). 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 1999–2011 (5).

NLMS-linked records are used to estimate sex/age-specific ratios of CPS race and Hispanic-origin counts to death certificate counts (5,13,14). The CPS/death certificate ratio, or "classification ratio," is 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 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 (5,13,14). 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 using self-identification as the standard for collecting and recording race and ethnicity information (17).

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:

$$_nD_x = {}_nD_x^F \bullet {}_nCR_x \quad [2]$$

where ${}_nD_x^F$ is the age-specific number of deaths adjusted for unknown age as described above, ${}_nCR_x$ are the sex- and age-specific classification ratios used to correct for the misclassification of race and Hispanic origin on death certificates, and ${}_nD_x$ 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, ${}_nCR_x$, 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 2011 and 2012 linked birth/infant death data files rather than the traditional birth and death data files (23,24). 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

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	1.0329	1.0362	1.0294	0.9995	0.9993	0.9997	1.0047	1.0041	1.0053
0[1]	1.0377	1.0498	1.0223	0.9856	0.9850	0.9860	1.0361	1.0294	1.0459
1–14	0.9905	0.9659	*1.0299	0.9918	1.0755	0.8770	1.0266	0.9379	*1.1751
15–24	0.9668	0.9325	1.0604	0.9976	1.0019	0.9869	1.0248	1.0215	1.0343
25–34	1.0354	1.0401	1.0232	1.0021	1.0034	0.9994	0.9855	0.9770	1.0008
35–44	1.0434	1.0645	1.0066	0.9980	0.9997	0.9951	1.0062	1.0073	1.0048
45–54	1.0584	1.0372	1.0953	0.9969	0.9965	0.9976	1.0002	1.0019	0.9982
55–64	1.0571	1.0517	1.0659	0.9994	0.9992	0.9997	1.0003	0.9965	1.0046
65–74	1.0295	1.0485	1.0072	0.9967	0.9967	0.9966	1.0062	1.0055	1.0070
75–84	1.0192	1.0188	1.0196	1.0004	1.0003	1.0004	1.0057	1.0057	1.0058
85–94	1.0208	1.0313	1.0137	1.0008	1.0007	1.0009	1.0110	1.0155	1.0086
95 and over	1.0732	1.0509	1.0842	1.0005	0.9995	1.0008	0.9980	0.9872	0.9954

* Ratio is unreliable because either the unweighted number of Current Population Survey deaths or 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 2012 linked birth/infant death data file. Ratios are shown for illustrative purposes only; see text for details.

SOURCE: U.S. Census Bureau, National Longitudinal Mortality Study.

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 that using the traditional files overestimates the infant mortality rate by 4% for Hispanic and non-Hispanic black infants, and underestimates the rate by 1% 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 no conclusive evidence supports 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 regardless of correction for ethnic misclassification (12,25).

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 (1,9). Graduation techniques are often used to eliminate these anomalies and to derive a smooth curve by age. Beers 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 age 0 to 99 and ${}_nD_x$ from age 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 9 for details on the application of Beers 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 (3,26). 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:

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

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 Beers smoothed number of deaths adjusted for not-stated age and race and Hispanic-origin misclassification on the death certificate (for the Hispanic, non-Hispanic white, and non-Hispanic black populations), and P_x is the Beers 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 2012, B^t is the number of live births in 2012, and B^{t-1} is the number of live births in 2011. Table III shows separation factors and numbers of births for 2011–2012.

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 at ages 66 and over for the total, white, black, non-Hispanic white, and non-Hispanic black populations.

The method used 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 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:

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

when $x = 66,\ldots,94$

and $M_x = M_x^M$

when $x = 95,\ldots,99$. [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:

$$M_x^{\,M} = \left[\, M_{x-\frac{1}{2}}^{M_1} + M_{x+\frac{1}{2}}^{M_1} \,\right]/2$$

where $M_{x-\frac{1}{2}}^{M_1} = \dfrac{D_{y,x}}{[P_{y,x-1} + P_{y+1,x}]/2}$,

$$M_{x+\frac{1}{2}}^{M_1} = \frac{D_{y,x+1}}{[P_{y,x} + P_{y+1,x+1}]/2},$$

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 (27). 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 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 oversmoothing and, thus, altering the underlying mortality pattern observed in the population of interest (28). 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 (27). It is expressed as:

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

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

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

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

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

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 2012, are presented in Table IV.

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

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

The probability of death is extrapolated to age 120 in order to estimate the life table population until no survivors remain. 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 III. Births in 2011 and 2012, deaths in 2012 of infants born in 2011 and 2012, and separation factors, by race, Hispanic origin, and sex: United States

Births, deaths, and separation factors	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:																		
2011	3,953,590	2,024,052	1,929,538	3,020,355	1,547,927	1,472,428	632,901	321,666	311,235	918,129	468,150	449,979	2,146,566	1,102,161	1,044,405	582,345	295,948	286,397
2012	3,952,841	2,021,434	1,931,407	2,999,820	1,535,177	1,464,643	634,126	322,164	311,962	907,677	461,893	445,784	2,134,044	1,094,469	1,039,575	583,489	296,354	287,135
Deaths in 2012 of infants born in:																		
2011	2,835	1,550	1,280	180	988	804	873	469	406	510	271	236	1,323	736	588	803	43	364
2012	20,794	11,589	9,210	15,078	7,460	6,006	6,222	3,503	2,717	4,130	2,263	1,870	9,436	5,245	4,190	5,725	3,642	2,479
Separation factor, *f*	0.120	0.118	0.122	0.118	0.117	0.118	0.123	0.118	0.130	0.110	0.107	0.112	0.123	0.123	0.123	0.123	0.118	0.128

SOURCE: NCHS, National Vital Statistics System, Mortality.

Table IV. Estimated parameters α and β used for predicting m_x and starting age of modeled age span: United States Life Tables, 2012

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	85	85	85	85	84	83	84	85	85	85	84	83	84
ln(α)	–13.15174	–13.20283	–13.72983	–13.37206	–13.49961	–13.94663	–10.75817	–10.26633	–11.6367	–13.34273	–13.46355	–13.92096	–10.68941	–10.06991	–11.56838
(SE)	(0.115)	(0.195)	(0.098)	(0.091)	(0.156)	(0.077)	(0.137)	(0.106)	(0.088)	(0.089)	(0.154)	(0.075)	(0.133)	(0.103)	(0.086)
β	0.1271023	0.1298307	0.1324033	0.1297222	0.1333187	0.134968	0.0996455	0.0964729	0.1084342	0.1294198	0.1329475	0.1347031	0.0989356	0.0943406	0.1077244
(SE)	(0.001)	(0.002)	(0.001)	(0.001)	(0.002)	(0.001)	(0.002)	(0.001)	(0.001)	(0.001)	(0.002)	(0.001)	(0.001)	(0.001)	(0.001)

NOTE: SE is standard error.

SOURCE: NCHS, National Vital Statistics System, Mortality.

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 (13,14,25,29). 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 older ages (3,30–32). 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 (3,30–32).

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, that is,

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

Y_x^s is the logit of the probability of death in the standard population, q_x^s, that is,

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

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 (3,30–32). Table V shows values of predicted α and β and their standard errors.

A maximum-likelihood generalized linear model estimation procedure is 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 for Hispanic-origin population, 2012

Parameter	Total (SE)	Male (SE)	Female (SE)
α	–0.2968018 (0.022)	–0.2572619 (0.034)	–0.2630809 (0.029)
β	0.9943611 (0.006)	0.9925896 (0.009)	1.012449 (0.007)

NOTE: SE is standard error.

SOURCE: NCHS, National Vital Statistics System, Mortality.

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 $x = 76,\ldots,80$. [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 is calculated assuming that the survivor function declines linearly between ages x and $x+1$. This gives the formula

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

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

$$L_0 = fl_0 + (1 - f)l_1 \quad [18]$$

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:

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

Life expectancy at age x (e_x)

Life expectancy at exact age x is calculated as

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

Abridging the complete life table

An abridged or collapsed version of the complete life table, in which life table functions are shown for 5-year rather than single-year age intervals, can be easily calculated. It is often desirable to summarize the life table and save space, compared with the space required when data are published by single years of age. 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 2012 U.S. total population abridged from Table 1.

Table VI. Life table for the total population: United States, 2012

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	0.005978	100,000	598	99,474	7,882,683	78.8
1–5	0.001053	99,402	105	397,361	7,783,209	78.3
5–10	0.000570	99,298	57	496,332	7,385,848	74.4
10–15	0.000692	99,241	69	496,072	6,889,517	69.4
15–20	0.002346	99,172	233	495,361	6,393,445	64.5
20–25	0.004221	98,940	418	493,703	5,898,084	59.6
25–30	0.004895	98,522	482	491,426	5,404,382	54.9
30–35	0.005631	98,040	552	488,851	4,912,956	50.1
35–40	0.006998	97,488	682	485,810	4,424,105	45.4
40–45	0.009868	96,805	955	481,795	3,938,295	40.7
45–50	0.015637	95,850	1,499	475,785	3,456,500	36.1
50–55	0.024290	94,351	2,292	466,370	2,980,715	31.6
55–60	0.035348	92,060	3,254	452,582	2,514,345	27.3
60–65	0.049706	88,805	4,414	433,523	2,061,763	23.2
65–70	0.071703	84,391	6,051	407,621	1,628,240	19.3
70–75	0.109255	78,340	8,559	371,497	1,220,619	15.6
75–80	0.170906	69,781	11,926	320,651	849,122	12.2
80–85	0.271119	57,855	15,686	251,443	528,471	9.1
85–90	0.426073	42,169	17,967	166,029	277,029	6.6
90–95	0.614941	24,202	14,883	81,280	111,000	4.6
95–100	0.786733	9,319	7,332	25,196	29,719	3.2
100 and over	1.000000	1,987	1,987	4,523	4,523	2.3

SOURCE: NCHS, National Vital Statistics System, Mortality.

U.S. DEPARTMENT OF HEALTH & HUMAN SERVICES

Centers for Disease Control and Prevention
National Center for Health Statistics
3311 Toledo Road, Room 5419
Hyattsville, MD 20782–2064

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