

## United States Life Tables, 2011

by Elizabeth Arias, Ph.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 2011.

**Methods**—Data used to prepare the 2011 life tables are 2011 final mortality statistics; July 1, 2011, population estimates based on the 2010 decennial census; and 2011 Medicare data for persons aged 66–99. The methodology used to estimate the 2011 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 2011, the overall expectation of life at birth was 78.7 years—unchanged from 2010. Between 2010 and 2011, life expectancy at birth increased for both males (from 76.2 to 76.3) and females (81.0 to 81.1), and for the white population (78.9 to 79.0), the black population (75.1 to 75.3), the Hispanic population (81.4 to 81.6), and the non-Hispanic black population (74.7 to 74.9).

**Keywords:** life expectancy • survival • 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, it 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 2011 assumes a hypothetical cohort that is subject throughout its lifetime to the age-specific death rates prevailing for the actual population in 2011. 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, whereas 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 to produce an abridged life table (refer to the [Technical Notes](#) at the end of this report for instructions). Other than the decennial life tables, U.S. life tables based on data prior to 1997 are abridged life tables constructed by reference to a standard table (4). This report presents complete period life tables by race, Hispanic origin, race for the non-Hispanic population, and sex. The life tables by Hispanic origin are based on death rates that have been adjusted for Hispanic origin misclassification. (See [Technical Notes](#) for a detailed description of the methodology used to estimate Hispanic origin life tables.)

### Data and Methods

The data used to prepare the U.S. life tables for 2011 are final numbers of deaths for the year 2011; July 1, 2011, population estimates based on the 2010 decennial census; and age-specific death and population counts for Medicare beneficiaries aged 66–99 for the year 2011 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

(see [Technical Notes](#) for a detailed description of the data sets and methodology used).

## 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 2011 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 2011 for the total population was 78.7 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, 57,493 persons out of the original 2011 hypothetical life table cohort of 100,000 (or 57.5 %) were alive at exact age 80. In other words, the probability that a person will survive from birth to age 80, given 2011 age-specific mortality, is 57.5%. Probabilities of survival can be calculated at any age by simply dividing the number of survivors at the terminal age by the number at the beginning age. For example, to calculate the probability of surviving from age 20 to age 85, one would divide the number of survivors at age 85 (41,733) by the number of survivors at age 20 (98,917), which results in a 42.2% probability of survival.

## Explanation of the columns of the life table

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

**Column 2. Probability of dying ( $q_x$ )**—Shows the probability of dying between ages  $x$  and  $x + 1$ . For example, for males in the age interval 20–21, the probability of dying is 0.001085 ([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 females born alive, 99,448 will complete the first year of life and enter the second; 99,302 will reach age 10; 99,106 will reach age 20; and 48,470 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, 658 will die in the first year of life; 107 between ages 20 and 21; and 987 after reaching age 100 ([Table 2](#)). Each value in column 4 is the difference between two successive values 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 value in column 5 represents the total time (in years) lived between two indicated birthdays by all those reaching the earlier birthday. Thus, the value 98,685 for males in the age interval 20–21 is the total number of years lived between the 20th and 21st birthdays by the 98,739 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 value 5,646,602 is the total number of years lived after attaining age 20 by the 98,739 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 57.2 years (5,646,602 divided by 98,739) ([Table 2](#)).

## Results

### Life expectancy in the United States

[Tables 1–18](#) show complete life tables for 2011 by race (white and black), Hispanic origin, race for the non-Hispanic population, and sex. [Table A](#) summarizes life expectancy by age, race, Hispanic origin, and sex. Life expectancy at birth for 2011 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 2011. In 2011, life expectancy at birth was 78.7 years, unchanged from 2010.

Changes in mortality levels by age and cause of death can have a major effect on changes in life expectancy. Although causes of death changed in 2011 from 2010, life expectancy at birth for the total population did not change. Decreases in mortality from cancer, heart disease, stroke, and HIV disease were offset by increases in mortality from unintentional injuries, Influenza and pneumonia, suicide, and Chronic liver disease and cirrhosis. Decreases in mortality from cancer, heart disease, stroke, and HIV disease 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 unintentional injuries, Influenza and pneumonia, suicide, and congenital malformations. Similarly, the increase in life expectancy for the female population was mainly brought about by decreases in mortality for heart disease, cancer, and stroke. For females, however, the increase in life expectancy was offset by increases in mortality from unintentional injuries, Influenza and pneumonia, Chronic liver disease and cirrhosis, and Chronic lower respiratory diseases (5).

The difference in life expectancy between the sexes was 4.8 years in 2011, unchanged from 2010. From 1900 to 1975, the difference in life expectancy between the sexes 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

**Table A. Expectation of life, by age, race, Hispanic origin, race for the non-Hispanic population, and sex: United States, 2011**

| Age      | All races and origins |      |        | White |      |        | Black |      |        | Hispanic <sup>1</sup> |      |        | Non-Hispanic white <sup>1</sup> |      |        | Non-Hispanic black <sup>1</sup> |      |        |
|----------|-----------------------|------|--------|-------|------|--------|-------|------|--------|-----------------------|------|--------|---------------------------------|------|--------|---------------------------------|------|--------|
|          | Total                 | Male | Female | Total | Male | Female | Total | Male | Female | Total                 | Male | Female | Total                           | Male | Female | Total                           | Male | Female |
| 0.....   | 78.7                  | 76.3 | 81.1   | 79.0  | 76.6 | 81.3   | 75.3  | 72.2 | 78.2   | 81.6                  | 79.0 | 83.8   | 78.8                            | 76.4 | 81.1   | 74.9                            | 71.7 | 77.9   |
| 1.....   | 78.2                  | 75.8 | 80.5   | 78.4  | 76.0 | 80.6   | 75.2  | 72.1 | 78.0   | 81.0                  | 78.5 | 83.2   | 78.2                            | 75.9 | 80.4   | 74.8                            | 71.6 | 77.7   |
| 5.....   | 74.3                  | 71.9 | 76.6   | 74.4  | 72.1 | 76.7   | 71.3  | 68.2 | 74.1   | 77.1                  | 74.5 | 79.3   | 74.2                            | 71.9 | 76.5   | 70.9                            | 67.8 | 73.8   |
| 10.....  | 69.3                  | 66.9 | 71.6   | 69.5  | 67.1 | 71.8   | 66.4  | 63.3 | 69.1   | 72.1                  | 69.6 | 74.3   | 69.3                            | 67.0 | 71.5   | 66.0                            | 62.8 | 68.8   |
| 15.....  | 64.4                  | 62.0 | 66.7   | 64.5  | 62.2 | 66.8   | 61.4  | 58.4 | 64.2   | 67.1                  | 64.6 | 69.3   | 64.3                            | 62.0 | 66.6   | 61.1                            | 57.9 | 63.9   |
| 20.....  | 59.5                  | 57.2 | 61.7   | 59.7  | 57.4 | 61.9   | 56.6  | 53.6 | 59.3   | 62.3                  | 59.8 | 64.4   | 59.5                            | 57.2 | 61.7   | 56.3                            | 53.2 | 59.0   |
| 25.....  | 54.8                  | 52.5 | 56.9   | 54.9  | 52.7 | 57.0   | 52.0  | 49.1 | 54.4   | 57.5                  | 55.1 | 59.5   | 54.7                            | 52.6 | 56.8   | 51.6                            | 48.7 | 54.2   |
| 30.....  | 50.0                  | 47.9 | 52.0   | 50.1  | 48.0 | 52.2   | 47.3  | 44.6 | 49.6   | 52.6                  | 50.3 | 54.6   | 50.0                            | 47.9 | 52.0   | 47.0                            | 44.2 | 49.4   |
| 35.....  | 45.3                  | 43.2 | 47.2   | 45.4  | 43.4 | 47.3   | 42.7  | 40.1 | 44.9   | 47.8                  | 45.6 | 49.7   | 45.3                            | 43.3 | 47.2   | 42.4                            | 39.7 | 44.7   |
| 40.....  | 40.6                  | 38.6 | 42.4   | 40.7  | 38.7 | 42.6   | 38.1  | 35.5 | 40.3   | 43.0                  | 40.9 | 44.8   | 40.6                            | 38.6 | 42.4   | 37.8                            | 35.2 | 40.0   |
| 45.....  | 36.0                  | 34.0 | 37.8   | 36.1  | 34.2 | 37.9   | 33.6  | 31.1 | 35.7   | 38.3                  | 36.2 | 40.0   | 36.0                            | 34.1 | 37.7   | 33.3                            | 30.8 | 35.5   |
| 50.....  | 31.5                  | 29.7 | 33.2   | 31.6  | 29.8 | 33.3   | 29.3  | 26.9 | 31.3   | 33.7                  | 31.7 | 35.3   | 31.5                            | 29.7 | 33.2   | 29.1                            | 26.6 | 31.1   |
| 55.....  | 27.2                  | 25.5 | 28.8   | 27.3  | 25.6 | 28.8   | 25.3  | 23.0 | 27.1   | 29.3                  | 27.4 | 30.8   | 27.2                            | 25.6 | 28.8   | 25.1                            | 22.8 | 26.9   |
| 60.....  | 23.1                  | 21.6 | 24.5   | 23.2  | 21.6 | 24.5   | 21.5  | 19.4 | 23.2   | 25.0                  | 23.3 | 26.3   | 23.1                            | 21.6 | 24.5   | 21.3                            | 19.3 | 23.0   |
| 65.....  | 19.2                  | 17.8 | 20.3   | 19.2  | 17.8 | 20.3   | 18.0  | 16.2 | 19.4   | 20.9                  | 19.3 | 22.0   | 19.1                            | 17.8 | 20.3   | 17.9                            | 16.1 | 19.2   |
| 70.....  | 15.5                  | 14.3 | 16.5   | 15.5  | 14.3 | 16.4   | 14.7  | 13.2 | 15.8   | 17.0                  | 15.7 | 17.9   | 15.4                            | 14.3 | 16.4   | 14.6                            | 13.1 | 15.7   |
| 75.....  | 12.1                  | 11.1 | 12.9   | 12.1  | 11.0 | 12.8   | 11.7  | 10.4 | 12.5   | 13.4                  | 12.3 | 14.1   | 12.0                            | 11.0 | 12.8   | 11.7                            | 10.4 | 12.5   |
| 80.....  | 9.1                   | 8.2  | 9.6    | 9.0   | 8.2  | 9.6    | 9.1   | 8.0  | 9.6    | 10.2                  | 9.2  | 10.6   | 9.0                             | 8.2  | 9.6    | 9.0                             | 8.0  | 9.6    |
| 85.....  | 6.5                   | 5.9  | 6.9    | 6.5   | 5.8  | 6.8    | 6.8   | 6.0  | 7.2    | 7.4                   | 6.6  | 7.6    | 6.5                             | 5.8  | 6.8    | 6.8                             | 6.0  | 7.2    |
| 90.....  | 4.6                   | 4.1  | 4.8    | 4.5   | 4.0  | 4.7    | 5.1   | 4.5  | 5.3    | 5.2                   | 4.6  | 5.2    | 4.5                             | 4.0  | 4.7    | 5.1                             | 4.5  | 5.3    |
| 95.....  | 3.2                   | 2.9  | 3.3    | 3.1   | 2.8  | 3.2    | 3.8   | 3.4  | 3.9    | 3.6                   | 3.2  | 3.5    | 3.1                             | 2.8  | 3.2    | 3.8                             | 3.4  | 3.9    |
| 100..... | 2.3                   | 2.1  | 2.3    | 2.2   | 2.0  | 2.2    | 2.8   | 2.6  | 2.9    | 2.5                   | 2.3  | 2.4    | 2.2                             | 2.0  | 2.2    | 2.9                             | 2.6  | 2.9    |

<sup>1</sup>Life tables by Hispanic origin are based on death rates that have been adjusted for race and ethnicity misclassification on death certificates.  
SOURCE: CDC/NCHS, National Vital Statistics System.

**Table B. Number of survivors out of 100,000 born alive, by age, race, Hispanic origin, race for non-Hispanic population, and sex: United States, 2011**

| Age      | All races and origins |         |         | White   |         |         | Black   |         |         | Hispanic <sup>1</sup> |         |         | Non-Hispanic white <sup>1</sup> |         |         | Non-Hispanic black <sup>1</sup> |         |         |
|----------|-----------------------|---------|---------|---------|---------|---------|---------|---------|---------|-----------------------|---------|---------|---------------------------------|---------|---------|---------------------------------|---------|---------|
|          | 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.....   | 99,394                | 99,342  | 99,448  | 99,489  | 99,447  | 99,534  | 98,850  | 98,740  | 98,964  | 99,490                | 99,451  | 99,523  | 99,493                          | 99,448  | 99,542  | 98,857                          | 98,750  | 98,967  |
| 5.....   | 99,289                | 99,226  | 99,356  | 99,391  | 99,338  | 99,447  | 98,698  | 98,570  | 98,829  | 99,397                | 99,350  | 99,438  | 99,398                          | 99,341  | 99,457  | 98,691                          | 98,568  | 98,824  |
| 10.....  | 99,230                | 99,160  | 99,302  | 99,334  | 99,275  | 99,397  | 98,616  | 98,481  | 98,756  | 99,347                | 99,296  | 99,393  | 99,340                          | 99,277  | 99,406  | 98,603                          | 98,473  | 98,746  |
| 15.....  | 99,159                | 99,077  | 99,246  | 99,267  | 99,195  | 99,343  | 98,525  | 98,370  | 98,686  | 99,287                | 99,225  | 99,343  | 99,272                          | 99,197  | 99,352  | 98,504                          | 98,355  | 98,672  |
| 20.....  | 98,917                | 98,739  | 99,106  | 99,034  | 98,875  | 99,203  | 98,206  | 97,894  | 98,531  | 99,095                | 98,942  | 99,249  | 99,034                          | 98,875  | 99,202  | 98,169                          | 97,854  | 98,510  |
| 25.....  | 98,493                | 98,116  | 98,888  | 98,626  | 98,285  | 98,987  | 97,616  | 96,987  | 98,257  | 98,776                | 98,468  | 99,106  | 98,610                          | 98,263  | 98,973  | 97,543                          | 96,891  | 98,220  |
| 30.....  | 98,017                | 97,449  | 98,612  | 98,165  | 97,644  | 98,717  | 96,934  | 95,986  | 97,878  | 98,447                | 97,989  | 98,946  | 98,118                          | 97,583  | 98,673  | 96,811                          | 95,818  | 97,812  |
| 35.....  | 97,465                | 96,722  | 98,237  | 97,627  | 96,936  | 98,358  | 96,148  | 94,948  | 97,324  | 98,068                | 97,449  | 98,746  | 97,540                          | 96,836  | 98,269  | 95,969                          | 94,709  | 97,216  |
| 40.....  | 96,784                | 95,866  | 97,733  | 96,967  | 96,100  | 97,879  | 95,159  | 93,723  | 96,552  | 97,590                | 96,812  | 98,435  | 96,832                          | 95,950  | 97,743  | 94,919                          | 93,403  | 96,399  |
| 45.....  | 95,816                | 94,691  | 96,973  | 96,024  | 94,950  | 97,152  | 93,796  | 92,108  | 95,419  | 96,906                | 95,936  | 97,957  | 95,839                          | 94,750  | 96,963  | 93,488                          | 91,706  | 95,213  |
| 50.....  | 94,281                | 92,831  | 95,764  | 94,528  | 93,120  | 95,996  | 91,712  | 89,673  | 93,658  | 95,809                | 94,567  | 97,145  | 94,287                          | 92,865  | 95,750  | 91,326                          | 89,156  | 93,406  |
| 55.....  | 91,975                | 90,009  | 93,972  | 92,292  | 90,375  | 94,278  | 88,487  | 85,786  | 91,045  | 94,097                | 92,404  | 95,887  | 92,005                          | 90,081  | 93,978  | 88,009                          | 85,126  | 90,744  |
| 60.....  | 88,746                | 85,999  | 91,515  | 89,174  | 86,495  | 91,929  | 83,864  | 80,083  | 87,402  | 91,661                | 89,248  | 94,155  | 88,854                          | 86,183  | 91,583  | 83,221                          | 79,213  | 86,978  |
| 65.....  | 84,368                | 80,723  | 88,027  | 84,915  | 81,380  | 88,535  | 77,760  | 72,557  | 82,581  | 88,218                | 84,911  | 91,554  | 84,574                          | 81,072  | 88,148  | 76,934                          | 71,466  | 82,013  |
| 70.....  | 78,184                | 73,558  | 82,807  | 78,803  | 74,318  | 83,371  | 69,915  | 63,341  | 75,956  | 83,045                | 78,616  | 87,384  | 78,425                          | 73,991  | 82,938  | 68,979                          | 62,216  | 75,226  |
| 75.....  | 69,513                | 63,804  | 75,184  | 70,134  | 64,578  | 75,747  | 60,041  | 52,185  | 67,206  | 75,688                | 70,035  | 81,063  | 69,725                          | 64,234  | 75,280  | 59,052                          | 51,097  | 66,358  |
| 80.....  | 57,493                | 50,846  | 64,010  | 58,030  | 51,513  | 64,517  | 47,885  | 39,372  | 55,549  | 65,221                | 58,368  | 71,531  | 57,615                          | 51,184  | 64,030  | 46,938                          | 38,383  | 54,695  |
| 85.....  | 41,733                | 34,665  | 48,470  | 42,075  | 35,102  | 48,829  | 33,579  | 25,356  | 40,709  | 50,440                | 42,690  | 57,134  | 41,722                          | 34,804  | 48,410  | 32,748                          | 24,587  | 39,964  |
| 90.....  | 23,798                | 17,846  | 29,226  | 23,895  | 17,970  | 29,346  | 19,251  | 12,924  | 24,558  | 31,891                | 24,599  | 37,422  | 23,667                          | 17,750  | 29,066  | 18,675                          | 12,467  | 24,035  |
| 95.....  | 9,097                 | 5,812   | 11,914  | 8,973   | 5,723   | 11,777  | 8,241   | 4,767   | 11,057  | 14,233                | 9,550   | 17,098  | 8,880                           | 5,662   | 11,656  | 8,003                           | 4,584   | 10,798  |
| 100..... | 1,928                 | 987     | 2,672   | 1,826   | 925     | 2,544   | 2,355   | 1,144   | 3,278   | 3,745                 | 2,090   | 4,408   | 1,807                           | 926     | 2,518   | 2,316                           | 1,101   | 3,201   |

<sup>1</sup>Life tables by Hispanic origin are based on death rates that have been adjusted for race and ethnicity misclassification on death certificates.

SOURCE: CDC/NCHS, National Vital Statistics System.

(6,7). Between 1979 and 2013, 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 (6,7).

The 2011 life table may be used to compare life expectancy at any age from birth onward. On the basis of mortality experienced in 2011, a person aged 65 could expect to live an average of 19.2 more years, for a total of 84.2 years; a person aged 85 could expect to live an additional 6.5 years, for a total of 91.5 years; and a person aged 100 could expect to live an additional 2.3 years, on average (Table A).

### Life expectancy by race

Between 2010 and 2011, life expectancy increased 0.2 years, to 75.3 years, for the black population, and increased 0.1 years, to 79.0 years, for the white population. The difference in life expectancy between the white and black populations was 3.7 years in 2011, 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 (7).

Among the four race-sex groups (Figure 1), white females continued to have the highest life expectancy at birth (81.3 years),

followed by black females (78.2), white males (76.6), and black males (72.2). Between 2010 and 2011, life expectancy increased 0.4 years for black males (from 71.8 to 72.2) and 0.2 years for black females (from 78.0 to 78.2). Black males experienced a decline in life expectancy every year for 1984–1989 (12), followed by annual increases in 1990–1992, 1994–2004, and 2005–2011. Between 2010 and 2011, life expectancy increased 0.1 years for white males (from 76.5 to 76.6). Life expectancy did not increase between 2010 and 2011 for white females (81.3). Overall, gains in life expectancy between 1980 and 2011 were 8.4 years for black males, 5.9 years for white males, 5.7 years for black females, and 3.2 years for white females (Table 19).

### Life expectancy by Hispanic origin

Between 2010 and 2011, life expectancy increased 0.2 years for the non-Hispanic black population (from 74.7 to 74.9) and for the Hispanic population (from 81.4 to 81.6). It remained at 78.8 years for the non-Hispanic white population (Table A). In 2011, the Hispanic population had a life expectancy advantage at birth of 2.8 years over the non-Hispanic white population and 6.7 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 (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

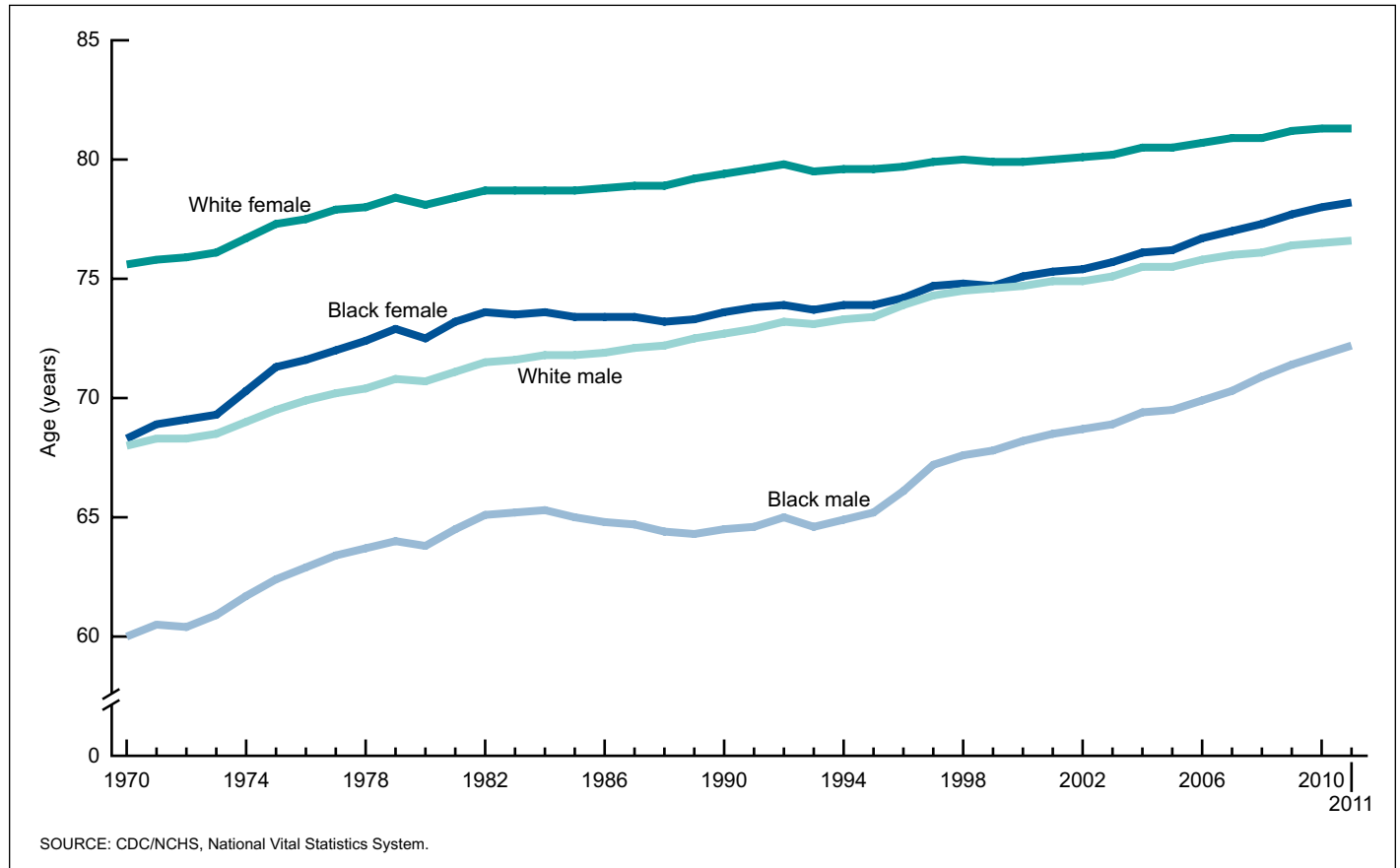


Figure 1. Life expectancy at birth, by race and sex: 1970–2011

birth (83.8 years), followed by non-Hispanic white females (81.1), Hispanic males (79.0), non-Hispanic black females (77.9), non-Hispanic white males (76.4), and non-Hispanic black males (71.7). The smallest difference is between Hispanic and non-Hispanic white females, with Hispanic females having an advantage of 2.7 years. The largest difference is between Hispanic females and non-Hispanic black males, with Hispanic females having a life expectancy at birth 12.1 years greater.

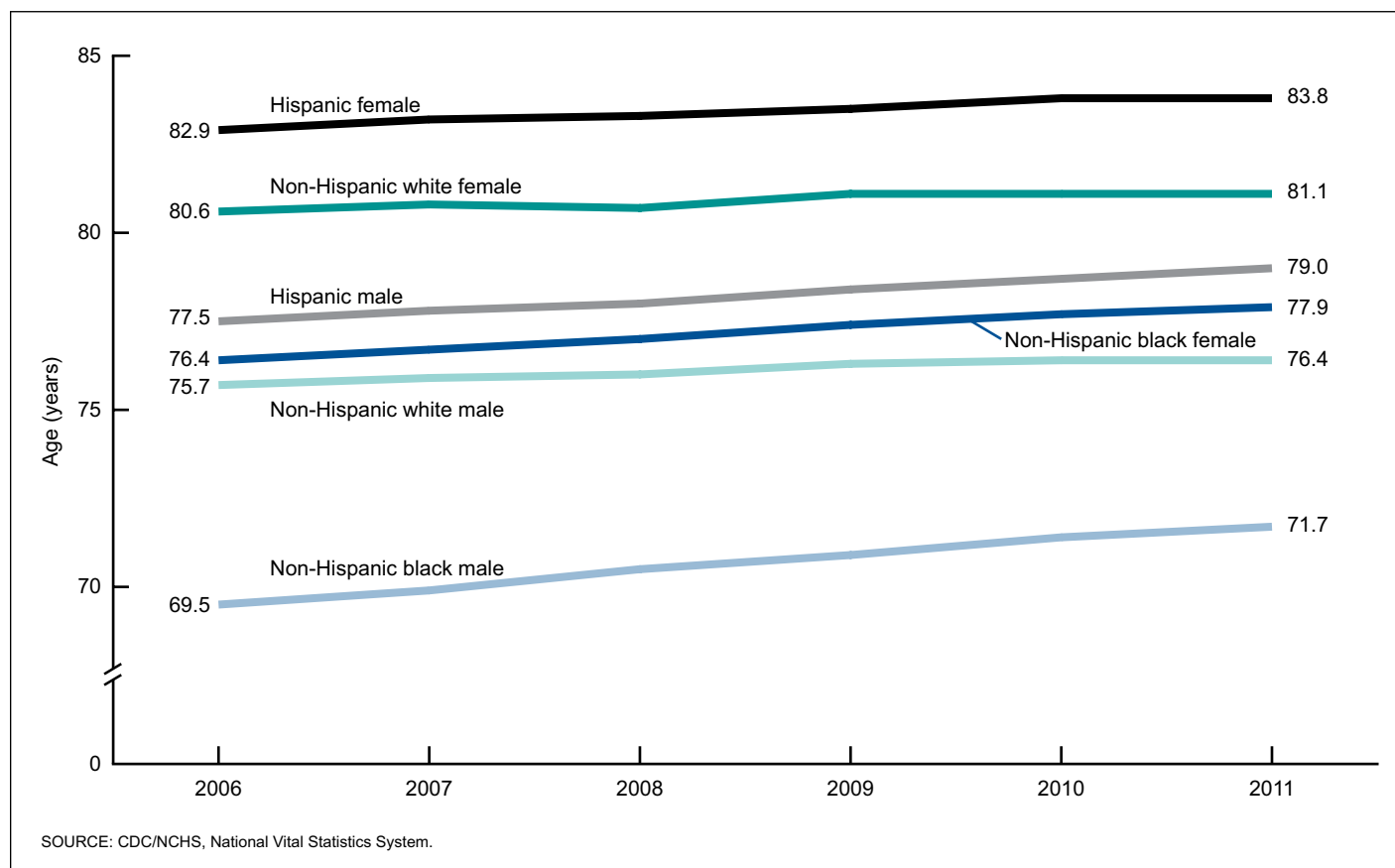
The Hispanic mortality advantage is also evident in the effect produced on life expectancy at birth when race and Hispanic origin are considered separately. Until 2006, U.S. life tables were produced by race (white and black), irrespective of Hispanic origin. When the Hispanic population is excluded from the two race groups and only the non-Hispanic black and non-Hispanic white populations are included, life expectancy at birth declines. For example, for the black population, irrespective of Hispanic origin, life expectancy at birth was 75.3 years in 2011 but was 74.9 years when only the non-Hispanic segment of the black population was included. Similarly, life expectancy for the white population, irrespective of Hispanic origin, was 79.0 years in 2011, but was 78.8 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 2011. [Table 20](#) shows trends in survivorship from 1900 to 2011. In 2011, 99.4% of all infants born in the United States survived the first year of life, compared with only 87.6% of infants born in 1900. Of the 2011 period life table cohort, 57.5% survived to age 80 and 1.9% survived to age 100. In 1900, 13.5% of the life table cohort survived to age 80 and only 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 ([Table B](#)), white females have the highest median age at death, with about 52.3% surviving to age 84. Of the original hypothetical cohort of 100,000 infant white females, 99.2% survive to age 20, 88.5% survive to age 65, and 48.8% 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 98.5% of black females. At the older ages, however, black female survival surpasses white male survival. By age 85, white male survival is 35.1%, compared with 40.7% for black females. The median age at death for black males is close to 76 years, about 9 years less than for white females. Among black males, 97.9% survive to age 20, 72.6% to age 65, and 25.4% to age



**Figure 2. Life expectancy at birth, by Hispanic origin, race, and sex: United States, 2006–2011**



85. By age 100, there is very little difference between the white and black populations in terms of survival. Around 1% of white and black males and around 3% of white and black females survive to age 100.

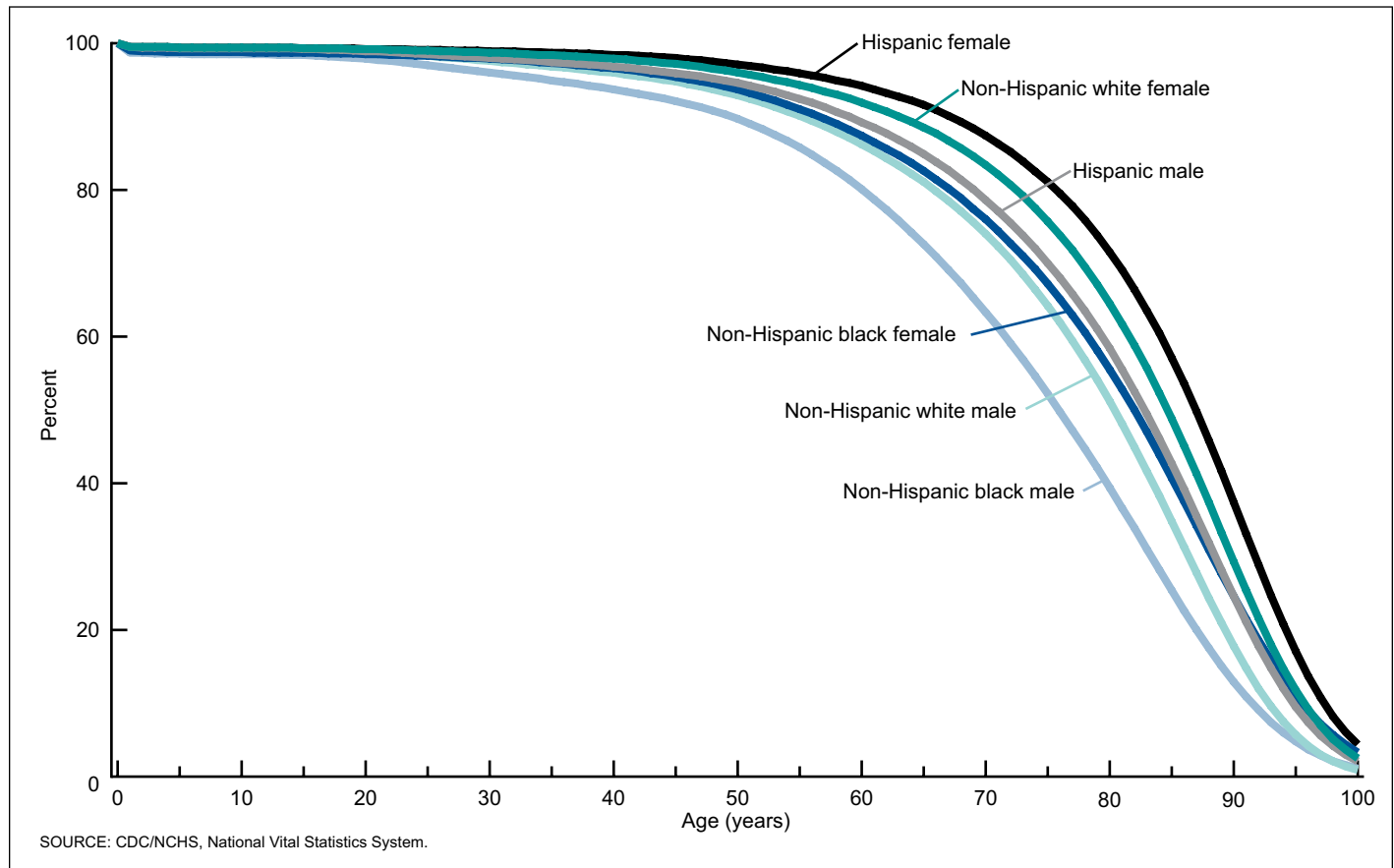
### Survivorship by Hispanic origin

In 2011, 99.5% of Hispanic and non-Hispanic white infants survived the first year of life, compared with 98.9% of non-Hispanic black infants. Ninety-nine percent 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, 88.2% of the Hispanic population survived to age 65, compared with 84.6% of the non-Hispanic white and 76.9% of the non-Hispanic black populations. The Hispanic survival advantage increases with age so that by age 85, 50.4% of the Hispanic population has survived, compared with 41.7% of the non-Hispanic white and 32.7% of the non-Hispanic black populations.

Among the six Hispanic-origin race-sex groups, Hispanic females have the highest median age at death, with 49.8% surviving to age 87 (Figure 3). The group with the next highest median age at death is non-Hispanic white females, with 48.4% surviving to age 85. Hispanic males had 49.4% surviving to age 83, followed by non-Hispanic black females with 49.1% surviving to age 82, non-Hispanic white males with 51.2% surviving to age 80, and non-Hispanic black males with 48.7% surviving to age 76 (see Technical Notes).

## 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](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, U.K.: 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](http://www.cdc.gov/nchs/data/series/sr_02/sr02_004.pdf).
5. Kenneth KD, Murphy SL, Xu JQ. Deaths: Final data for 2011. National vital statistics reports; vol 63 no 3. Hyattsville, MD: National Center for Health Statistics. 2015. Available from: [http://www.cdc.gov/nchs/data/nvsr/nvsr63/nvsr63\\_03.pdf](http://www.cdc.gov/nchs/data/nvsr/nvsr63/nvsr63_03.pdf).
6. Waldron I. Recent trends in sex mortality ratios for adults in developed countries. Soc Sci Med 36(4):451–62. 1993.
7. 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](http://www.cdc.gov/nchs/data/series/sr_20/sr20_023.pdf).
8. 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](http://www.cdc.gov/nchs/data/series/sr_02/sr02_129.pdf).



**Figure 3. Percentage surviving, by Hispanic origin, race, age, and sex: United States, 2011**

9. 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](http://www.cdc.gov/nchs/data/nvsr/nvsr58/nvsr58_10.pdf).
10. 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](http://www.cdc.gov/nchs/data/nvsr/nvsr61/nvsr61_03.pdf).
11. 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](http://www.cdc.gov/nchs/data/series/sr_02/sr02_152.pdf).
12. 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](http://www.cdc.gov/nchs/data/series/sr_02/sr02_148.pdf).
13. Arias E, Eschbach K, Schauman WS, Backlund EL, Sorlie PD. The Hispanic mortality advantage and ethnic misclassification on U.S. death certificates. Am J Public Health 100 Suppl 1:S171–7. 2010.
14. 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](http://www.cdc.gov/nchs/data/nvsr/nvsr62/nvsr62_07.pdf).
15. 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.
16. 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](http://www.whitehouse.gov/omb/fedreg_1997standards).
17. 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>.
18. 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](http://www.cdc.gov/nchs/data/series/sr_02/sr02_135.pdf).
19. 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.
20. Bell FC, Miller ML. Life tables for the United States Social Security Area 1900–2100. Actuarial Study No. 120. SSA Pub. No. 11–11536. Baltimore, MD: Social Security Administration, Office of the Chief Actuary. 2005. Available from: [http://www.ssa.gov/oact/NOTES/pdf\\_studies/study120.pdf](http://www.ssa.gov/oact/NOTES/pdf_studies/study120.pdf).
21. Research Data Assistance Center. Introduction to the use of Medicare data for research. Minneapolis, MN: University of Minnesota School of Public Health. 2004.
22. Mathews TJ, MacDorman MF. Infant mortality statistics from the 2010 period linked birth/infant death data set. National vital statistics reports; vol 62 no 8. Hyattsville, MD: National Center for Health Statistics. 2013. Available from: [http://www.cdc.gov/nchs/data/nvsr/nvsr62/nvsr62\\_08.pdf](http://www.cdc.gov/nchs/data/nvsr/nvsr62/nvsr62_08.pdf).
23. National Center for Health Statistics. User guide to the 2011 period linked birth/infant death public use file. Available from: [ftp://ftp.cdc.gov/pub/Health\\_Statistics/NCHS/Dataset\\_Documentation/DVS/periodlinked/LinkPE11Guide.pdf](ftp://ftp.cdc.gov/pub/Health_Statistics/NCHS/Dataset_Documentation/DVS/periodlinked/LinkPE11Guide.pdf).
24. 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.
25. Chiang CL. The life table and its applications. Malabar, FL: Krieger Publishing. 1984.
26. Thatcher AR, Kannisto V, Vaupel JW. The force of mortality at ages 80 to 120. Odense, Denmark: Odense University Press. 1998.
27. 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: PAA. 2007.
28. 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.
29. Brass W. On the scale of mortality. In: Brass W, editor. Biological aspects of demography: 69–110. London, UK: Taylor and Francis. 1971.
30. 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.
31. 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

|                                                                                                                                                             |    |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------|----|
| 1. Life table for the total population: United States, 2011 . . . . .                                                                                       | 9  |
| 2. Life table for males: United States, 2011 . . . . .                                                                                                      | 11 |
| 3. Life table for females: United States, 2011 . . . . .                                                                                                    | 13 |
| 4. Life table for the white population: United States, 2011 . . . . .                                                                                       | 15 |
| 5. Life table for white males: United States, 2011 . . . . .                                                                                                | 17 |
| 6. Life table for white females: United States, 2011 . . . . .                                                                                              | 19 |
| 7. Life table for the black population: United States, 2011 . . . . .                                                                                       | 21 |
| 8. Life table for black males: United States, 2011 . . . . .                                                                                                | 23 |
| 9. Life table for black females: United States, 2011 . . . . .                                                                                              | 25 |
| 10. Life table for the Hispanic population: United States, 2011 . . . . .                                                                                   | 27 |
| 11. Life table for Hispanic males: United States, 2011 . . . . .                                                                                            | 29 |
| 12. Life table for Hispanic females: United States, 2011 . . . . .                                                                                          | 31 |
| 13. Life table for the non-Hispanic white population: United States, 2011 . . . . .                                                                         | 33 |
| 14. Life table for non-Hispanic white males: United States, 2011 . . . . .                                                                                  | 35 |
| 15. Life table for non-Hispanic white females: United States, 2011 . . . . .                                                                                | 37 |
| 16. Life table for the non-Hispanic black population: United States, 2011 . . . . .                                                                         | 39 |
| 17. Life table for non-Hispanic black males: United States, 2011 . . . . .                                                                                  | 41 |
| 18. Life table for non-Hispanic black females: United States, 2011 . . . . .                                                                                | 43 |
| 19. Estimated life expectancy at birth, in years, by race and sex: Death-registration states, 1900–1928, and United States, 1929–2011 . . . . .             | 45 |
| 20. Survivorship, by age, race, Hispanic origin, and sex: Death-registration states, 1900–1902 to 1919–1921, and United States, 1929–1931 to 2011 . . . . . | 47 |
| 21. Life expectancy, by age, race, and sex: Death-registration states, 1900–1902 to 1919–1921, and United States, 1929–1931 to 2011 . . . . .               | 51 |



**Table 1. Life table for the total population: United States, 2011**Spreadsheet version available from: [ftp://ftp.cdc.gov/pub/Health\\_Statistics/NCHS/Publications/NVSR/64\\_11/Table01.xlsx](ftp://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/64_11/Table01.xlsx).

| Age (years) | Probability of dying between ages $x$ and $x + 1$ | Number surviving to age $x$ | Number dying between ages $x$ and $x + 1$ | Person-years lived between ages $x$ and $x + 1$ | Total number of person-years lived above age $x$ | Expectation of life at age $x$ |
|-------------|---------------------------------------------------|-----------------------------|-------------------------------------------|-------------------------------------------------|--------------------------------------------------|--------------------------------|
|             | $q_x$                                             | $l_x$                       | $d_x$                                     | $L_x$                                           | $T_x$                                            | $e_x$                          |
| 0-1         | 0.006058                                          | 100,000                     | 606                                       | 99,470                                          | 7,870,915                                        | 78.7                           |
| 1-2         | 0.000415                                          | 99,394                      | 41                                        | 99,374                                          | 7,771,445                                        | 78.2                           |
| 2-3         | 0.000264                                          | 99,353                      | 26                                        | 99,340                                          | 7,672,071                                        | 77.2                           |
| 3-4         | 0.000208                                          | 99,327                      | 21                                        | 99,316                                          | 7,572,731                                        | 76.2                           |
| 4-5         | 0.000167                                          | 99,306                      | 17                                        | 99,298                                          | 7,473,415                                        | 75.3                           |
| 5-6         | 0.000151                                          | 99,289                      | 15                                        | 99,282                                          | 7,374,117                                        | 74.3                           |
| 6-7         | 0.000134                                          | 99,274                      | 13                                        | 99,268                                          | 7,274,835                                        | 73.3                           |
| 7-8         | 0.000120                                          | 99,261                      | 12                                        | 99,255                                          | 7,175,567                                        | 72.3                           |
| 8-9         | 0.000106                                          | 99,249                      | 11                                        | 99,244                                          | 7,076,312                                        | 71.3                           |
| 9-10        | 0.000092                                          | 99,239                      | 9                                         | 99,234                                          | 6,977,068                                        | 70.3                           |
| 10-11       | 0.000084                                          | 99,230                      | 8                                         | 99,225                                          | 6,877,834                                        | 69.3                           |
| 11-12       | 0.000090                                          | 99,221                      | 9                                         | 99,217                                          | 6,778,609                                        | 68.3                           |
| 12-13       | 0.000117                                          | 99,212                      | 12                                        | 99,207                                          | 6,679,392                                        | 67.3                           |
| 13-14       | 0.000172                                          | 99,201                      | 17                                        | 99,192                                          | 6,580,185                                        | 66.3                           |
| 14-15       | 0.000246                                          | 99,184                      | 24                                        | 99,171                                          | 6,480,993                                        | 65.3                           |
| 15-16       | 0.000326                                          | 99,159                      | 32                                        | 99,143                                          | 6,381,822                                        | 64.4                           |
| 16-17       | 0.000404                                          | 99,127                      | 40                                        | 99,107                                          | 6,282,679                                        | 63.4                           |
| 17-18       | 0.000486                                          | 99,087                      | 48                                        | 99,063                                          | 6,183,572                                        | 62.4                           |
| 18-19       | 0.000570                                          | 99,039                      | 56                                        | 99,011                                          | 6,084,509                                        | 61.4                           |
| 19-20       | 0.000655                                          | 98,982                      | 65                                        | 98,950                                          | 5,985,499                                        | 60.5                           |
| 20-21       | 0.000743                                          | 98,917                      | 73                                        | 98,881                                          | 5,886,549                                        | 59.5                           |
| 21-22       | 0.000826                                          | 98,844                      | 82                                        | 98,803                                          | 5,787,668                                        | 58.6                           |
| 22-23       | 0.000886                                          | 98,762                      | 88                                        | 98,719                                          | 5,688,865                                        | 57.6                           |
| 23-24       | 0.000919                                          | 98,675                      | 91                                        | 98,630                                          | 5,590,146                                        | 56.7                           |
| 24-25       | 0.000930                                          | 98,584                      | 92                                        | 98,538                                          | 5,491,517                                        | 55.7                           |
| 25-26       | 0.000934                                          | 98,493                      | 92                                        | 98,447                                          | 5,392,978                                        | 54.8                           |
| 26-27       | 0.000943                                          | 98,400                      | 93                                        | 98,354                                          | 5,294,532                                        | 53.8                           |
| 27-28       | 0.000958                                          | 98,308                      | 94                                        | 98,261                                          | 5,196,178                                        | 52.9                           |
| 28-29       | 0.000983                                          | 98,214                      | 96                                        | 98,165                                          | 5,097,917                                        | 51.9                           |
| 29-30       | 0.001016                                          | 98,117                      | 100                                       | 98,067                                          | 4,999,752                                        | 51.0                           |
| 30-31       | 0.001055                                          | 98,017                      | 103                                       | 97,966                                          | 4,901,685                                        | 50.0                           |
| 31-32       | 0.001094                                          | 97,914                      | 107                                       | 97,860                                          | 4,803,719                                        | 49.1                           |
| 32-33       | 0.001132                                          | 97,807                      | 111                                       | 97,751                                          | 4,705,859                                        | 48.1                           |
| 33-34       | 0.001167                                          | 97,696                      | 114                                       | 97,639                                          | 4,608,107                                        | 47.2                           |
| 34-35       | 0.001203                                          | 97,582                      | 117                                       | 97,523                                          | 4,510,468                                        | 46.2                           |
| 35-36       | 0.001250                                          | 97,465                      | 122                                       | 97,404                                          | 4,412,945                                        | 45.3                           |
| 36-37       | 0.001313                                          | 97,343                      | 128                                       | 97,279                                          | 4,315,541                                        | 44.3                           |
| 37-38       | 0.001389                                          | 97,215                      | 135                                       | 97,148                                          | 4,218,262                                        | 43.4                           |
| 38-39       | 0.001476                                          | 97,080                      | 143                                       | 97,008                                          | 4,121,114                                        | 42.5                           |
| 39-40       | 0.001576                                          | 96,937                      | 153                                       | 96,860                                          | 4,024,106                                        | 41.5                           |
| 40-41       | 0.001685                                          | 96,784                      | 163                                       | 96,702                                          | 3,927,245                                        | 40.6                           |
| 41-42       | 0.001813                                          | 96,621                      | 175                                       | 96,533                                          | 3,830,543                                        | 39.6                           |
| 42-43       | 0.001972                                          | 96,446                      | 190                                       | 96,351                                          | 3,734,009                                        | 38.7                           |
| 43-44       | 0.002171                                          | 96,256                      | 209                                       | 96,151                                          | 3,637,659                                        | 37.8                           |
| 44-45       | 0.002405                                          | 96,047                      | 231                                       | 95,931                                          | 3,541,508                                        | 36.9                           |
| 45-46       | 0.002652                                          | 95,816                      | 254                                       | 95,688                                          | 3,445,577                                        | 36.0                           |
| 46-47       | 0.002910                                          | 95,561                      | 278                                       | 95,422                                          | 3,349,888                                        | 35.1                           |
| 47-48       | 0.003196                                          | 95,283                      | 305                                       | 95,131                                          | 3,254,466                                        | 34.2                           |
| 48-49       | 0.003513                                          | 94,979                      | 334                                       | 94,812                                          | 3,159,335                                        | 33.3                           |
| 49-50       | 0.003851                                          | 94,645                      | 364                                       | 94,463                                          | 3,064,523                                        | 32.4                           |
| 50-51       | 0.004204                                          | 94,281                      | 396                                       | 94,083                                          | 2,970,060                                        | 31.5                           |
| 51-52       | 0.004563                                          | 93,884                      | 428                                       | 93,670                                          | 2,875,977                                        | 30.6                           |
| 52-53       | 0.004928                                          | 93,456                      | 461                                       | 93,226                                          | 2,782,307                                        | 29.8                           |
| 53-54       | 0.005304                                          | 92,995                      | 493                                       | 92,749                                          | 2,689,081                                        | 28.9                           |
| 54-55       | 0.005702                                          | 92,502                      | 527                                       | 92,238                                          | 2,596,332                                        | 28.1                           |
| 55-56       | 0.006131                                          | 91,975                      | 564                                       | 91,693                                          | 2,504,094                                        | 27.2                           |
| 56-57       | 0.006596                                          | 91,411                      | 603                                       | 91,109                                          | 2,412,401                                        | 26.4                           |
| 57-58       | 0.007096                                          | 90,808                      | 644                                       | 90,486                                          | 2,321,292                                        | 25.6                           |
| 58-59       | 0.007621                                          | 90,164                      | 687                                       | 89,820                                          | 2,230,806                                        | 24.7                           |
| 59-60       | 0.008164                                          | 89,476                      | 730                                       | 89,111                                          | 2,140,986                                        | 23.9                           |
| 60-61       | 0.008732                                          | 88,746                      | 775                                       | 88,359                                          | 2,051,875                                        | 23.1                           |

See footnote at end of table.

**Table 1. Life table for the total population: United States, 2011—Con.**Spreadsheet version available from: [ftp://ftp.cdc.gov/pub/Health\\_Statistics/NCHS/Publications/NVSR/64\\_11/Table01.xlsx](ftp://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/64_11/Table01.xlsx).

| Age (years)  | Probability of<br>dying between<br>ages $x$ and $x + 1$ | Number<br>surviving to<br>age $x$ | Number dying<br>between<br>ages $x$ and $x + 1$ | Person-years lived<br>between<br>ages $x$ and $x + 1$ | Total number of<br>person-years lived<br>above age $x$ | Expectation of<br>life at age $x$ |
|--------------|---------------------------------------------------------|-----------------------------------|-------------------------------------------------|-------------------------------------------------------|--------------------------------------------------------|-----------------------------------|
|              | $q_x$                                                   | $l_x$                             | $d_x$                                           | $L_x$                                                 | $T_x$                                                  | $e_x$                             |
| 61–62        | 0.009335                                                | 87,971                            | 821                                             | 87,560                                                | 1,963,516                                              | 22.3                              |
| 62–63        | 0.009983                                                | 87,150                            | 870                                             | 86,715                                                | 1,875,956                                              | 21.5                              |
| 63–64        | 0.010715                                                | 86,280                            | 924                                             | 85,818                                                | 1,789,241                                              | 20.7                              |
| 64–65        | 0.011568                                                | 85,355                            | 987                                             | 84,862                                                | 1,703,423                                              | 20.0                              |
| 65–66        | 0.012586                                                | 84,368                            | 1,062                                           | 83,837                                                | 1,618,562                                              | 19.2                              |
| 66–67        | 0.013763                                                | 83,306                            | 1,147                                           | 82,733                                                | 1,534,725                                              | 18.4                              |
| 67–68        | 0.015057                                                | 82,160                            | 1,237                                           | 81,541                                                | 1,451,992                                              | 17.7                              |
| 68–69        | 0.016380                                                | 80,923                            | 1,326                                           | 80,260                                                | 1,370,451                                              | 16.9                              |
| 69–70        | 0.017756                                                | 79,597                            | 1,413                                           | 78,890                                                | 1,290,191                                              | 16.2                              |
| 70–71        | 0.019299                                                | 78,184                            | 1,509                                           | 77,429                                                | 1,211,301                                              | 15.5                              |
| 71–72        | 0.021039                                                | 76,675                            | 1,613                                           | 75,868                                                | 1,133,871                                              | 14.8                              |
| 72–73        | 0.022997                                                | 75,062                            | 1,726                                           | 74,199                                                | 1,058,003                                              | 14.1                              |
| 73–74        | 0.025182                                                | 73,335                            | 1,847                                           | 72,412                                                | 983,805                                                | 13.4                              |
| 74–75        | 0.027634                                                | 71,489                            | 1,975                                           | 70,501                                                | 911,392                                                | 12.7                              |
| 75–76        | 0.030322                                                | 69,513                            | 2,108                                           | 68,459                                                | 840,892                                                | 12.1                              |
| 76–77        | 0.033309                                                | 67,405                            | 2,245                                           | 66,283                                                | 772,432                                                | 11.5                              |
| 77–78        | 0.036740                                                | 65,160                            | 2,394                                           | 63,963                                                | 706,149                                                | 10.8                              |
| 78–79        | 0.040688                                                | 62,766                            | 2,554                                           | 61,489                                                | 642,186                                                | 10.2                              |
| 79–80        | 0.045172                                                | 60,212                            | 2,720                                           | 58,852                                                | 580,697                                                | 9.6                               |
| 80–81        | 0.050072                                                | 57,493                            | 2,879                                           | 56,053                                                | 521,844                                                | 9.1                               |
| 81–82        | 0.055306                                                | 54,614                            | 3,020                                           | 53,103                                                | 465,791                                                | 8.5                               |
| 82–83        | 0.061241                                                | 51,593                            | 3,160                                           | 50,013                                                | 412,688                                                | 8.0                               |
| 83–84        | 0.067893                                                | 48,434                            | 3,288                                           | 46,789                                                | 362,674                                                | 7.5                               |
| 84–85        | 0.075594                                                | 45,145                            | 3,413                                           | 43,439                                                | 315,885                                                | 7.0                               |
| 85–86        | 0.084649                                                | 41,733                            | 3,533                                           | 39,966                                                | 272,446                                                | 6.5                               |
| 86–87        | 0.094437                                                | 38,200                            | 3,607                                           | 36,396                                                | 232,480                                                | 6.1                               |
| 87–88        | 0.105152                                                | 34,593                            | 3,637                                           | 32,774                                                | 196,083                                                | 5.7                               |
| 88–89        | 0.116835                                                | 30,955                            | 3,617                                           | 29,147                                                | 163,309                                                | 5.3                               |
| 89–90        | 0.129516                                                | 27,338                            | 3,541                                           | 25,568                                                | 134,163                                                | 4.9                               |
| 90–91        | 0.143215                                                | 23,798                            | 3,408                                           | 22,094                                                | 108,595                                                | 4.6                               |
| 91–92        | 0.157937                                                | 20,389                            | 3,220                                           | 18,779                                                | 86,501                                                 | 4.2                               |
| 92–93        | 0.173671                                                | 17,169                            | 2,982                                           | 15,678                                                | 67,722                                                 | 3.9                               |
| 93–94        | 0.190385                                                | 14,187                            | 2,701                                           | 12,837                                                | 52,043                                                 | 3.7                               |
| 94–95        | 0.208029                                                | 11,486                            | 2,389                                           | 10,292                                                | 39,207                                                 | 3.4                               |
| 95–96        | 0.226531                                                | 9,097                             | 2,061                                           | 8,066                                                 | 28,915                                                 | 3.2                               |
| 96–97        | 0.245796                                                | 7,036                             | 1,729                                           | 6,171                                                 | 20,849                                                 | 3.0                               |
| 97–98        | 0.265711                                                | 5,307                             | 1,410                                           | 4,602                                                 | 14,677                                                 | 2.8                               |
| 98–99        | 0.286142                                                | 3,897                             | 1,115                                           | 3,339                                                 | 10,075                                                 | 2.6                               |
| 99–100       | 0.306941                                                | 2,782                             | 854                                             | 2,355                                                 | 6,736                                                  | 2.4                               |
| 100 and over | 1.000000                                                | 1,928                             | 1,928                                           | 4,382                                                 | 4,382                                                  | 2.3                               |

SOURCE: CDC/NCHS, National Vital Statistics System.

**Table 2. Life table for males: United States, 2011**Spreadsheet version available from: [ftp://ftp.cdc.gov/pub/Health\\_Statistics/NCHS/Publications/NVSR/64\\_11/Table02.xlsx](ftp://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/64_11/Table02.xlsx).

| Age (years) | Probability of<br>dying between<br>ages $x$ and $x + 1$ | Number<br>surviving to<br>age $x$ | Number dying<br>between<br>ages $x$ and $x + 1$ | Person-years lived<br>between<br>ages $x$ and $x + 1$ | Total number of<br>person-years lived<br>above age $x$ | Expectation of<br>life at age $x$ |
|-------------|---------------------------------------------------------|-----------------------------------|-------------------------------------------------|-------------------------------------------------------|--------------------------------------------------------|-----------------------------------|
|             | $q_x$                                                   | $l_x$                             | $d_x$                                           | $L_x$                                                 | $T_x$                                                  | $e_x$                             |
| 0-1         | 0.006575                                                | 100,000                           | 658                                             | 99,427                                                | 7,629,389                                              | 76.3                              |
| 1-2         | 0.000445                                                | 99,342                            | 44                                              | 99,320                                                | 7,529,961                                              | 75.8                              |
| 2-3         | 0.000301                                                | 99,298                            | 30                                              | 99,283                                                | 7,430,641                                              | 74.8                              |
| 3-4         | 0.000240                                                | 99,268                            | 24                                              | 99,256                                                | 7,331,358                                              | 73.9                              |
| 4-5         | 0.000183                                                | 99,244                            | 18                                              | 99,235                                                | 7,232,101                                              | 72.9                              |
| 5-6         | 0.000169                                                | 99,226                            | 17                                              | 99,218                                                | 7,132,866                                              | 71.9                              |
| 6-7         | 0.000150                                                | 99,210                            | 15                                              | 99,202                                                | 7,033,648                                              | 70.9                              |
| 7-8         | 0.000134                                                | 99,195                            | 13                                              | 99,188                                                | 6,934,446                                              | 69.9                              |
| 8-9         | 0.000115                                                | 99,181                            | 11                                              | 99,176                                                | 6,835,258                                              | 68.9                              |
| 9-10        | 0.000097                                                | 99,170                            | 10                                              | 99,165                                                | 6,736,082                                              | 67.9                              |
| 10-11       | 0.000085                                                | 99,160                            | 8                                               | 99,156                                                | 6,636,917                                              | 66.9                              |
| 11-12       | 0.000092                                                | 99,152                            | 9                                               | 99,147                                                | 6,537,761                                              | 65.9                              |
| 12-13       | 0.000132                                                | 99,143                            | 13                                              | 99,136                                                | 6,438,613                                              | 64.9                              |
| 13-14       | 0.000213                                                | 99,130                            | 21                                              | 99,119                                                | 6,339,477                                              | 64.0                              |
| 14-15       | 0.000323                                                | 99,109                            | 32                                              | 99,093                                                | 6,240,358                                              | 63.0                              |
| 15-16       | 0.000439                                                | 99,077                            | 43                                              | 99,055                                                | 6,141,265                                              | 62.0                              |
| 16-17       | 0.000552                                                | 99,033                            | 55                                              | 99,006                                                | 6,042,210                                              | 61.0                              |
| 17-18       | 0.000675                                                | 98,979                            | 67                                              | 98,945                                                | 5,943,204                                              | 60.0                              |
| 18-19       | 0.000807                                                | 98,912                            | 80                                              | 98,872                                                | 5,844,259                                              | 59.1                              |
| 19-20       | 0.000942                                                | 98,832                            | 93                                              | 98,785                                                | 5,745,387                                              | 58.1                              |
| 20-21       | 0.001085                                                | 98,739                            | 107                                             | 98,685                                                | 5,646,602                                              | 57.2                              |
| 21-22       | 0.001216                                                | 98,632                            | 120                                             | 98,572                                                | 5,547,917                                              | 56.2                              |
| 22-23       | 0.001310                                                | 98,512                            | 129                                             | 98,447                                                | 5,449,345                                              | 55.3                              |
| 23-24       | 0.001353                                                | 98,383                            | 133                                             | 98,316                                                | 5,350,898                                              | 54.4                              |
| 24-25       | 0.001358                                                | 98,250                            | 133                                             | 98,183                                                | 5,252,582                                              | 53.5                              |
| 25-26       | 0.001351                                                | 98,116                            | 133                                             | 98,050                                                | 5,154,399                                              | 52.5                              |
| 26-27       | 0.001349                                                | 97,984                            | 132                                             | 97,918                                                | 5,056,349                                              | 51.6                              |
| 27-28       | 0.001353                                                | 97,852                            | 132                                             | 97,785                                                | 4,958,431                                              | 50.7                              |
| 28-29       | 0.001371                                                | 97,719                            | 134                                             | 97,652                                                | 4,860,646                                              | 49.7                              |
| 29-30       | 0.001399                                                | 97,585                            | 137                                             | 97,517                                                | 4,762,994                                              | 48.8                              |
| 30-31       | 0.001432                                                | 97,449                            | 140                                             | 97,379                                                | 4,665,477                                              | 47.9                              |
| 31-32       | 0.001464                                                | 97,309                            | 143                                             | 97,238                                                | 4,568,098                                              | 46.9                              |
| 32-33       | 0.001496                                                | 97,167                            | 145                                             | 97,094                                                | 4,470,860                                              | 46.0                              |
| 33-34       | 0.001528                                                | 97,021                            | 148                                             | 96,947                                                | 4,373,766                                              | 45.1                              |
| 34-35       | 0.001563                                                | 96,873                            | 151                                             | 96,797                                                | 4,276,819                                              | 44.1                              |
| 35-36       | 0.001613                                                | 96,722                            | 156                                             | 96,643                                                | 4,180,022                                              | 43.2                              |
| 36-37       | 0.001682                                                | 96,565                            | 162                                             | 96,484                                                | 4,083,378                                              | 42.3                              |
| 37-38       | 0.001764                                                | 96,403                            | 170                                             | 96,318                                                | 3,986,894                                              | 41.4                              |
| 38-39       | 0.001857                                                | 96,233                            | 179                                             | 96,144                                                | 3,890,576                                              | 40.4                              |
| 39-40       | 0.001964                                                | 96,054                            | 189                                             | 95,960                                                | 3,794,432                                              | 39.5                              |
| 40-41       | 0.002083                                                | 95,866                            | 200                                             | 95,766                                                | 3,698,472                                              | 38.6                              |
| 41-42       | 0.002227                                                | 95,666                            | 213                                             | 95,560                                                | 3,602,706                                              | 37.7                              |
| 42-43       | 0.002414                                                | 95,453                            | 230                                             | 95,338                                                | 3,507,147                                              | 36.7                              |
| 43-44       | 0.002653                                                | 95,223                            | 253                                             | 95,096                                                | 3,411,809                                              | 35.8                              |
| 44-45       | 0.002939                                                | 94,970                            | 279                                             | 94,830                                                | 3,316,713                                              | 34.9                              |
| 45-46       | 0.003243                                                | 94,691                            | 307                                             | 94,537                                                | 3,221,882                                              | 34.0                              |
| 46-47       | 0.003563                                                | 94,384                            | 336                                             | 94,216                                                | 3,127,345                                              | 33.1                              |
| 47-48       | 0.003922                                                | 94,047                            | 369                                             | 93,863                                                | 3,033,129                                              | 32.3                              |
| 48-49       | 0.004320                                                | 93,679                            | 405                                             | 93,476                                                | 2,939,266                                              | 31.4                              |
| 49-50       | 0.004749                                                | 93,274                            | 443                                             | 93,052                                                | 2,845,790                                              | 30.5                              |
| 50-51       | 0.005193                                                | 92,831                            | 482                                             | 92,590                                                | 2,752,738                                              | 29.7                              |
| 51-52       | 0.005647                                                | 92,349                            | 522                                             | 92,088                                                | 2,660,148                                              | 28.8                              |
| 52-53       | 0.006122                                                | 91,827                            | 562                                             | 91,546                                                | 2,568,060                                              | 28.0                              |
| 53-54       | 0.006630                                                | 91,265                            | 605                                             | 90,963                                                | 2,476,514                                              | 27.1                              |
| 54-55       | 0.007181                                                | 90,660                            | 651                                             | 90,335                                                | 2,385,551                                              | 26.3                              |
| 55-56       | 0.007779                                                | 90,009                            | 700                                             | 89,659                                                | 2,295,216                                              | 25.5                              |
| 56-57       | 0.008415                                                | 89,309                            | 752                                             | 88,933                                                | 2,205,557                                              | 24.7                              |
| 57-58       | 0.009074                                                | 88,557                            | 804                                             | 88,156                                                | 2,116,624                                              | 23.9                              |
| 58-59       | 0.009727                                                | 87,754                            | 854                                             | 87,327                                                | 2,028,469                                              | 23.1                              |
| 59-60       | 0.010371                                                | 86,900                            | 901                                             | 86,450                                                | 1,941,141                                              | 22.3                              |
| 60-61       | 0.011034                                                | 85,999                            | 949                                             | 85,525                                                | 1,854,692                                              | 21.6                              |

See footnote at end of table.

**Table 2. Life table for males: United States, 2011—Con.**Spreadsheet version available from: [ftp://ftp.cdc.gov/pub/Health\\_Statistics/NCHS/Publications/NVSR/64\\_11/Table02.xlsx](ftp://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/64_11/Table02.xlsx).

| Age (years)        | Probability of<br>dying between<br>ages $x$ and $x + 1$ | Number<br>surviving to<br>age $x$ | Number dying<br>between<br>ages $x$ and $x + 1$ | Person-years lived<br>between<br>ages $x$ and $x + 1$ | Total number of<br>person-years lived<br>above age $x$ | Expectation of<br>life at age $x$ |
|--------------------|---------------------------------------------------------|-----------------------------------|-------------------------------------------------|-------------------------------------------------------|--------------------------------------------------------|-----------------------------------|
|                    | $q_x$                                                   | $l_x$                             | $d_x$                                           | $L_x$                                                 | $T_x$                                                  | $e_x$                             |
| 61–62 .....        | 0.011738                                                | 85,050                            | 998                                             | 84,551                                                | 1,769,167                                              | 20.8                              |
| 62–63 .....        | 0.012489                                                | 84,052                            | 1,050                                           | 83,527                                                | 1,684,616                                              | 20.0                              |
| 63–64 .....        | 0.013335                                                | 83,002                            | 1,107                                           | 82,449                                                | 1,601,089                                              | 19.3                              |
| 64–65 .....        | 0.014319                                                | 81,895                            | 1,173                                           | 81,309                                                | 1,518,641                                              | 18.5                              |
| 65–66 .....        | 0.015482                                                | 80,723                            | 1,250                                           | 80,098                                                | 1,437,332                                              | 17.8                              |
| 66–67 .....        | 0.016824                                                | 79,473                            | 1,337                                           | 78,804                                                | 1,357,234                                              | 17.1                              |
| 67–68 .....        | 0.018330                                                | 78,136                            | 1,432                                           | 77,420                                                | 1,278,430                                              | 16.4                              |
| 68–69 .....        | 0.019900                                                | 76,703                            | 1,526                                           | 75,940                                                | 1,201,010                                              | 15.7                              |
| 69–70 .....        | 0.021539                                                | 75,177                            | 1,619                                           | 74,367                                                | 1,125,070                                              | 15.0                              |
| 70–71 .....        | 0.023396                                                | 73,558                            | 1,721                                           | 72,697                                                | 1,050,702                                              | 14.3                              |
| 71–72 .....        | 0.025476                                                | 71,837                            | 1,830                                           | 70,922                                                | 978,005                                                | 13.6                              |
| 72–73 .....        | 0.027794                                                | 70,007                            | 1,946                                           | 69,034                                                | 907,083                                                | 13.0                              |
| 73–74 .....        | 0.030350                                                | 68,061                            | 2,066                                           | 67,028                                                | 838,049                                                | 12.3                              |
| 74–75 .....        | 0.033204                                                | 65,995                            | 2,191                                           | 64,900                                                | 771,021                                                | 11.7                              |
| 75–76 .....        | 0.036345                                                | 63,804                            | 2,319                                           | 62,645                                                | 706,121                                                | 11.1                              |
| 76–77 .....        | 0.039788                                                | 61,485                            | 2,446                                           | 60,262                                                | 643,477                                                | 10.5                              |
| 77–78 .....        | 0.043720                                                | 59,039                            | 2,581                                           | 57,748                                                | 583,215                                                | 9.9                               |
| 78–79 .....        | 0.048335                                                | 56,458                            | 2,729                                           | 55,093                                                | 525,467                                                | 9.3                               |
| 79–80 .....        | 0.053650                                                | 53,729                            | 2,883                                           | 52,287                                                | 470,374                                                | 8.8                               |
| 80–81 .....        | 0.059565                                                | 50,846                            | 3,029                                           | 49,332                                                | 418,086                                                | 8.2                               |
| 81–82 .....        | 0.065848                                                | 47,817                            | 3,149                                           | 46,243                                                | 368,754                                                | 7.7                               |
| 82–83 .....        | 0.072956                                                | 44,669                            | 3,259                                           | 43,039                                                | 322,511                                                | 7.2                               |
| 83–84 .....        | 0.080741                                                | 41,410                            | 3,343                                           | 39,738                                                | 279,472                                                | 6.7                               |
| 84–85 .....        | 0.089357                                                | 38,066                            | 3,402                                           | 36,366                                                | 239,734                                                | 6.3                               |
| 85–86 .....        | 0.099650                                                | 34,665                            | 3,454                                           | 32,938                                                | 203,368                                                | 5.9                               |
| 86–87 .....        | 0.110901                                                | 31,211                            | 3,461                                           | 29,480                                                | 170,430                                                | 5.5                               |
| 87–88 .....        | 0.123146                                                | 27,749                            | 3,417                                           | 26,041                                                | 140,950                                                | 5.1                               |
| 88–89 .....        | 0.136412                                                | 24,332                            | 3,319                                           | 22,672                                                | 114,910                                                | 4.7                               |
| 89–90 .....        | 0.150710                                                | 21,013                            | 3,167                                           | 19,429                                                | 92,237                                                 | 4.4                               |
| 90–91 .....        | 0.166038                                                | 17,846                            | 2,963                                           | 16,364                                                | 72,808                                                 | 4.1                               |
| 91–92 .....        | 0.182374                                                | 14,883                            | 2,714                                           | 13,526                                                | 56,443                                                 | 3.8                               |
| 92–93 .....        | 0.199676                                                | 12,169                            | 2,430                                           | 10,954                                                | 42,918                                                 | 3.5                               |
| 93–94 .....        | 0.217880                                                | 9,739                             | 2,122                                           | 8,678                                                 | 31,964                                                 | 3.3                               |
| 94–95 .....        | 0.236903                                                | 7,617                             | 1,804                                           | 6,715                                                 | 23,286                                                 | 3.1                               |
| 95–96 .....        | 0.256636                                                | 5,812                             | 1,492                                           | 5,067                                                 | 16,571                                                 | 2.9                               |
| 96–97 .....        | 0.276954                                                | 4,321                             | 1,197                                           | 3,722                                                 | 11,505                                                 | 2.7                               |
| 97–98 .....        | 0.297713                                                | 3,124                             | 930                                             | 2,659                                                 | 7,782                                                  | 2.5                               |
| 98–99 .....        | 0.318755                                                | 2,194                             | 699                                             | 1,844                                                 | 5,123                                                  | 2.3                               |
| 99–100 .....       | 0.339914                                                | 1,495                             | 508                                             | 1,241                                                 | 3,279                                                  | 2.2                               |
| 100 and over ..... | 1.000000                                                | 987                               | 987                                             | 2,038                                                 | 2,038                                                  | 2.1                               |

SOURCE: CDC/NCHS, National Vital Statistics System.

**Table 3. Life table for females: United States, 2011**Spreadsheet version available from: [http://ftp.cdc.gov/pub/Health\\_Statistics/NCHS/Publications/NVSR/64\\_11/Table03.xlsx](http://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/64_11/Table03.xlsx).

| Age (years) | Probability of<br>dying between<br>ages $x$ and $x + 1$ | Number<br>surviving to<br>age $x$ | Number dying<br>between<br>ages $x$ and $x + 1$ | Person-years lived<br>between<br>ages $x$ and $x + 1$ | Total number of<br>person-years lived<br>above age $x$ | Expectation of<br>life at age $x$ |
|-------------|---------------------------------------------------------|-----------------------------------|-------------------------------------------------|-------------------------------------------------------|--------------------------------------------------------|-----------------------------------|
|             | $q_x$                                                   | $l_x$                             | $d_x$                                           | $L_x$                                                 | $T_x$                                                  | $e_x$                             |
| 0-1         | 0.005516                                                | 100,000                           | 552                                             | 99,514                                                | 8,105,137                                              | 81.1                              |
| 1-2         | 0.000382                                                | 99,448                            | 38                                              | 99,429                                                | 8,005,623                                              | 80.5                              |
| 2-3         | 0.000225                                                | 99,410                            | 22                                              | 99,399                                                | 7,906,193                                              | 79.5                              |
| 3-4         | 0.000175                                                | 99,388                            | 17                                              | 99,379                                                | 7,806,794                                              | 78.5                              |
| 4-5         | 0.000151                                                | 99,371                            | 15                                              | 99,363                                                | 7,707,415                                              | 77.6                              |
| 5-6         | 0.000132                                                | 99,356                            | 13                                              | 99,349                                                | 7,608,052                                              | 76.6                              |
| 6-7         | 0.000117                                                | 99,342                            | 12                                              | 99,337                                                | 7,508,703                                              | 75.6                              |
| 7-8         | 0.000106                                                | 99,331                            | 10                                              | 99,326                                                | 7,409,366                                              | 74.6                              |
| 8-9         | 0.000096                                                | 99,320                            | 10                                              | 99,316                                                | 7,310,041                                              | 73.6                              |
| 9-10        | 0.000088                                                | 99,311                            | 9                                               | 99,306                                                | 7,210,725                                              | 72.6                              |
| 10-11       | 0.000084                                                | 99,302                            | 8                                               | 99,298                                                | 7,111,419                                              | 71.6                              |
| 11-12       | 0.000087                                                | 99,294                            | 9                                               | 99,289                                                | 7,012,121                                              | 70.6                              |
| 12-13       | 0.000102                                                | 99,285                            | 10                                              | 99,280                                                | 6,912,831                                              | 69.6                              |
| 13-14       | 0.000129                                                | 99,275                            | 13                                              | 99,269                                                | 6,813,551                                              | 68.6                              |
| 14-15       | 0.000166                                                | 99,262                            | 16                                              | 99,254                                                | 6,714,283                                              | 67.6                              |
| 15-16       | 0.000207                                                | 99,246                            | 21                                              | 99,235                                                | 6,615,029                                              | 66.7                              |
| 16-17       | 0.000247                                                | 99,225                            | 25                                              | 99,213                                                | 6,515,793                                              | 65.7                              |
| 17-18       | 0.000286                                                | 99,201                            | 28                                              | 99,187                                                | 6,416,580                                              | 64.7                              |
| 18-19       | 0.000320                                                | 99,172                            | 32                                              | 99,157                                                | 6,317,394                                              | 63.7                              |
| 19-20       | 0.000351                                                | 99,141                            | 35                                              | 99,123                                                | 6,218,237                                              | 62.7                              |
| 20-21       | 0.000384                                                | 99,106                            | 38                                              | 99,087                                                | 6,119,114                                              | 61.7                              |
| 21-22       | 0.000416                                                | 99,068                            | 41                                              | 99,047                                                | 6,020,027                                              | 60.8                              |
| 22-23       | 0.000445                                                | 99,027                            | 44                                              | 99,005                                                | 5,920,980                                              | 59.8                              |
| 23-24       | 0.000467                                                | 98,983                            | 46                                              | 98,959                                                | 5,821,976                                              | 58.8                              |
| 24-25       | 0.000486                                                | 98,936                            | 48                                              | 98,912                                                | 5,723,016                                              | 57.8                              |
| 25-26       | 0.000505                                                | 98,888                            | 50                                              | 98,863                                                | 5,624,104                                              | 56.9                              |
| 26-27       | 0.000526                                                | 98,838                            | 52                                              | 98,812                                                | 5,525,241                                              | 55.9                              |
| 27-28       | 0.000553                                                | 98,786                            | 55                                              | 98,759                                                | 5,426,429                                              | 54.9                              |
| 28-29       | 0.000587                                                | 98,732                            | 58                                              | 98,703                                                | 5,327,670                                              | 54.0                              |
| 29-30       | 0.000627                                                | 98,674                            | 62                                              | 98,643                                                | 5,228,967                                              | 53.0                              |
| 30-31       | 0.000673                                                | 98,612                            | 66                                              | 98,579                                                | 5,130,324                                              | 52.0                              |
| 31-32       | 0.000721                                                | 98,546                            | 71                                              | 98,510                                                | 5,031,745                                              | 51.1                              |
| 32-33       | 0.000766                                                | 98,475                            | 75                                              | 98,437                                                | 4,933,235                                              | 50.1                              |
| 33-34       | 0.000805                                                | 98,399                            | 79                                              | 98,360                                                | 4,834,798                                              | 49.1                              |
| 34-35       | 0.000842                                                | 98,320                            | 83                                              | 98,279                                                | 4,736,439                                              | 48.2                              |
| 35-36       | 0.000888                                                | 98,237                            | 87                                              | 98,193                                                | 4,638,160                                              | 47.2                              |
| 36-37       | 0.000947                                                | 98,150                            | 93                                              | 98,103                                                | 4,539,967                                              | 46.3                              |
| 37-38       | 0.001017                                                | 98,057                            | 100                                             | 98,007                                                | 4,441,864                                              | 45.3                              |
| 38-39       | 0.001099                                                | 97,957                            | 108                                             | 97,903                                                | 4,343,856                                              | 44.3                              |
| 39-40       | 0.001192                                                | 97,850                            | 117                                             | 97,791                                                | 4,245,953                                              | 43.4                              |
| 40-41       | 0.001291                                                | 97,733                            | 126                                             | 97,670                                                | 4,148,162                                              | 42.4                              |
| 41-42       | 0.001402                                                | 97,607                            | 137                                             | 97,538                                                | 4,050,492                                              | 41.5                              |
| 42-43       | 0.001535                                                | 97,470                            | 150                                             | 97,395                                                | 3,952,954                                              | 40.6                              |
| 43-44       | 0.001695                                                | 97,320                            | 165                                             | 97,238                                                | 3,855,558                                              | 39.6                              |
| 44-45       | 0.001879                                                | 97,155                            | 183                                             | 97,064                                                | 3,758,321                                              | 38.7                              |
| 45-46       | 0.002070                                                | 96,973                            | 201                                             | 96,873                                                | 3,661,256                                              | 37.8                              |
| 46-47       | 0.002268                                                | 96,772                            | 220                                             | 96,662                                                | 3,564,384                                              | 36.8                              |
| 47-48       | 0.002486                                                | 96,553                            | 240                                             | 96,433                                                | 3,467,721                                              | 35.9                              |
| 48-49       | 0.002725                                                | 96,313                            | 262                                             | 96,181                                                | 3,371,289                                              | 35.0                              |
| 49-50       | 0.002977                                                | 96,050                            | 286                                             | 95,907                                                | 3,275,107                                              | 34.1                              |
| 50-51       | 0.003245                                                | 95,764                            | 311                                             | 95,609                                                | 3,179,200                                              | 33.2                              |
| 51-52       | 0.003514                                                | 95,454                            | 335                                             | 95,286                                                | 3,083,591                                              | 32.3                              |
| 52-53       | 0.003776                                                | 95,118                            | 359                                             | 94,938                                                | 2,988,305                                              | 31.4                              |
| 53-54       | 0.004029                                                | 94,759                            | 382                                             | 94,568                                                | 2,893,367                                              | 30.5                              |
| 54-55       | 0.004289                                                | 94,377                            | 405                                             | 94,175                                                | 2,798,799                                              | 29.7                              |
| 55-56       | 0.004564                                                | 93,972                            | 429                                             | 93,758                                                | 2,704,624                                              | 28.8                              |
| 56-57       | 0.004875                                                | 93,543                            | 456                                             | 93,315                                                | 2,610,866                                              | 27.9                              |
| 57-58       | 0.005234                                                | 93,087                            | 487                                             | 92,844                                                | 2,517,551                                              | 27.0                              |
| 58-59       | 0.005647                                                | 92,600                            | 523                                             | 92,339                                                | 2,424,707                                              | 26.2                              |
| 59-60       | 0.006103                                                | 92,077                            | 562                                             | 91,796                                                | 2,332,369                                              | 25.3                              |
| 60-61       | 0.006589                                                | 91,515                            | 603                                             | 91,214                                                | 2,240,572                                              | 24.5                              |

See footnote at end of table.

**Table 3. Life table for females: United States, 2011—Con.**Spreadsheet version available from: [ftp://ftp.cdc.gov/pub/Health\\_Statistics/NCHS/Publications/NVSR/64\\_11/Table03.xlsx](ftp://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/64_11/Table03.xlsx).

| Age (years)        | Probability of<br>dying between<br>ages $x$ and $x + 1$ | Number<br>surviving to<br>age $x$ | Number dying<br>between<br>ages $x$ and $x + 1$ | Person-years lived<br>between<br>ages $x$ and $x + 1$ | Total number of<br>person-years lived<br>above age $x$ | Expectation of<br>life at age $x$ |
|--------------------|---------------------------------------------------------|-----------------------------------|-------------------------------------------------|-------------------------------------------------------|--------------------------------------------------------|-----------------------------------|
|                    | $q_x$                                                   | $l_x$                             | $d_x$                                           | $L_x$                                                 | $T_x$                                                  | $e_x$                             |
| 61–62 .....        | 0.007104                                                | 90,912                            | 646                                             | 90,589                                                | 2,149,359                                              | 23.6                              |
| 62–63 .....        | 0.007665                                                | 90,266                            | 692                                             | 89,921                                                | 2,058,769                                              | 22.8                              |
| 63–64 .....        | 0.008303                                                | 89,575                            | 744                                             | 89,203                                                | 1,968,849                                              | 22.0                              |
| 64–65 .....        | 0.009050                                                | 88,831                            | 804                                             | 88,429                                                | 1,879,646                                              | 21.2                              |
| 65–66 .....        | 0.009953                                                | 88,027                            | 876                                             | 87,589                                                | 1,791,217                                              | 20.3                              |
| 66–67 .....        | 0.011001                                                | 87,151                            | 959                                             | 86,671                                                | 1,703,628                                              | 19.5                              |
| 67–68 .....        | 0.012124                                                | 86,192                            | 1,045                                           | 85,670                                                | 1,616,957                                              | 18.8                              |
| 68–69 .....        | 0.013250                                                | 85,147                            | 1,128                                           | 84,583                                                | 1,531,287                                              | 18.0                              |
| 69–70 .....        | 0.014419                                                | 84,019                            | 1,211                                           | 83,413                                                | 1,446,704                                              | 17.2                              |
| 70–71 .....        | 0.015718                                                | 82,807                            | 1,302                                           | 82,157                                                | 1,363,291                                              | 16.5                              |
| 71–72 .....        | 0.017201                                                | 81,506                            | 1,402                                           | 80,805                                                | 1,281,135                                              | 15.7                              |
| 72–73 .....        | 0.018896                                                | 80,104                            | 1,514                                           | 79,347                                                | 1,200,330                                              | 15.0                              |
| 73–74 .....        | 0.020818                                                | 78,590                            | 1,636                                           | 77,772                                                | 1,120,983                                              | 14.3                              |
| 74–75 .....        | 0.022996                                                | 76,954                            | 1,770                                           | 76,069                                                | 1,043,211                                              | 13.6                              |
| 75–76 .....        | 0.025387                                                | 75,184                            | 1,909                                           | 74,230                                                | 967,142                                                | 12.9                              |
| 76–77 .....        | 0.028090                                                | 73,276                            | 2,058                                           | 72,247                                                | 892,911                                                | 12.2                              |
| 77–78 .....        | 0.031225                                                | 71,217                            | 2,224                                           | 70,106                                                | 820,665                                                | 11.5                              |
| 78–79 .....        | 0.034786                                                | 68,994                            | 2,400                                           | 67,794                                                | 750,559                                                | 10.9                              |
| 79–80 .....        | 0.038792                                                | 66,594                            | 2,583                                           | 65,302                                                | 682,766                                                | 10.3                              |
| 80–81 .....        | 0.043109                                                | 64,010                            | 2,759                                           | 62,631                                                | 617,463                                                | 9.6                               |
| 81–82 .....        | 0.047800                                                | 61,251                            | 2,928                                           | 59,787                                                | 554,833                                                | 9.1                               |
| 82–83 .....        | 0.053181                                                | 58,323                            | 3,102                                           | 56,772                                                | 495,046                                                | 8.5                               |
| 83–84 .....        | 0.059365                                                | 55,221                            | 3,278                                           | 53,582                                                | 438,273                                                | 7.9                               |
| 84–85 .....        | 0.066859                                                | 51,943                            | 3,473                                           | 50,207                                                | 384,691                                                | 7.4                               |
| 85–86 .....        | 0.075391                                                | 48,470                            | 3,654                                           | 46,643                                                | 334,484                                                | 6.9                               |
| 86–87 .....        | 0.084744                                                | 44,816                            | 3,798                                           | 42,917                                                | 287,841                                                | 6.4                               |
| 87–88 .....        | 0.095072                                                | 41,018                            | 3,900                                           | 39,068                                                | 244,924                                                | 6.0                               |
| 88–89 .....        | 0.106427                                                | 37,119                            | 3,950                                           | 35,143                                                | 205,855                                                | 5.5                               |
| 89–90 .....        | 0.118857                                                | 33,168                            | 3,942                                           | 31,197                                                | 170,712                                                | 5.1                               |
| 90–91 .....        | 0.132396                                                | 29,226                            | 3,869                                           | 27,291                                                | 139,515                                                | 4.8                               |
| 91–92 .....        | 0.147063                                                | 25,356                            | 3,729                                           | 23,492                                                | 112,224                                                | 4.4                               |
| 92–93 .....        | 0.162859                                                | 21,627                            | 3,522                                           | 19,866                                                | 88,732                                                 | 4.1                               |
| 93–94 .....        | 0.179765                                                | 18,105                            | 3,255                                           | 16,478                                                | 68,866                                                 | 3.8                               |
| 94–95 .....        | 0.197737                                                | 14,851                            | 2,937                                           | 13,382                                                | 52,388                                                 | 3.5                               |
| 95–96 .....        | 0.216706                                                | 11,914                            | 2,582                                           | 10,623                                                | 39,006                                                 | 3.3                               |
| 96–97 .....        | 0.236577                                                | 9,332                             | 2,208                                           | 8,228                                                 | 28,382                                                 | 3.0                               |
| 97–98 .....        | 0.257228                                                | 7,124                             | 1,833                                           | 6,208                                                 | 20,154                                                 | 2.8                               |
| 98–99 .....        | 0.278515                                                | 5,292                             | 1,474                                           | 4,555                                                 | 13,946                                                 | 2.6                               |
| 99–100 .....       | 0.300271                                                | 3,818                             | 1,146                                           | 3,245                                                 | 9,391                                                  | 2.5                               |
| 100 and over ..... | 1.000000                                                | 2,672                             | 2,672                                           | 6,146                                                 | 6,146                                                  | 2.3                               |

SOURCE: CDC/NCHS, National Vital Statistics System.



**Table 4. Life table for the white population: United States, 2011**Spreadsheet version available from: [http://ftp.cdc.gov/pub/Health\\_Statistics/NCHS/Publications/NVSR/64\\_11/Table04.xlsx](http://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/64_11/Table04.xlsx).

| Age (years) | Probability of<br>dying between<br>ages $x$ and $x + 1$ | Number<br>surviving to<br>age $x$ | Number dying<br>between<br>ages $x$ and $x + 1$ | Person-years lived<br>between<br>ages $x$ and $x + 1$ | Total number of<br>person-years lived<br>above age $x$ | Expectation of<br>life at age $x$ |
|-------------|---------------------------------------------------------|-----------------------------------|-------------------------------------------------|-------------------------------------------------------|--------------------------------------------------------|-----------------------------------|
|             | $q_x$                                                   | $l_x$                             | $d_x$                                           | $L_x$                                                 | $T_x$                                                  | $e_x$                             |
| 0-1         | 0.005109                                                | 100,000                           | 511                                             | 99,551                                                | 7,895,065                                              | 79.0                              |
| 1-2         | 0.000386                                                | 99,489                            | 38                                              | 99,470                                                | 7,795,514                                              | 78.4                              |
| 2-3         | 0.000240                                                | 99,451                            | 24                                              | 99,439                                                | 7,696,044                                              | 77.4                              |
| 3-4         | 0.000200                                                | 99,427                            | 20                                              | 99,417                                                | 7,596,605                                              | 76.4                              |
| 4-5         | 0.000158                                                | 99,407                            | 16                                              | 99,399                                                | 7,497,188                                              | 75.4                              |
| 5-6         | 0.000142                                                | 99,391                            | 14                                              | 99,384                                                | 7,397,789                                              | 74.4                              |
| 6-7         | 0.000127                                                | 99,377                            | 13                                              | 99,371                                                | 7,298,405                                              | 73.4                              |
| 7-8         | 0.000115                                                | 99,365                            | 11                                              | 99,359                                                | 7,199,034                                              | 72.5                              |
| 8-9         | 0.000101                                                | 99,353                            | 10                                              | 99,348                                                | 7,099,675                                              | 71.5                              |
| 9-10        | 0.000089                                                | 99,343                            | 9                                               | 99,339                                                | 7,000,327                                              | 70.5                              |
| 10-11       | 0.000081                                                | 99,334                            | 8                                               | 99,330                                                | 6,900,988                                              | 69.5                              |
| 11-12       | 0.000086                                                | 99,326                            | 8                                               | 99,322                                                | 6,801,658                                              | 68.5                              |
| 12-13       | 0.000112                                                | 99,318                            | 11                                              | 99,312                                                | 6,702,336                                              | 67.5                              |
| 13-14       | 0.000164                                                | 99,307                            | 16                                              | 99,298                                                | 6,603,024                                              | 66.5                              |
| 14-15       | 0.000236                                                | 99,290                            | 23                                              | 99,279                                                | 6,503,725                                              | 65.5                              |
| 15-16       | 0.000313                                                | 99,267                            | 31                                              | 99,251                                                | 6,404,447                                              | 64.5                              |
| 16-17       | 0.000388                                                | 99,236                            | 39                                              | 99,217                                                | 6,305,196                                              | 63.5                              |
| 17-18       | 0.000467                                                | 99,197                            | 46                                              | 99,174                                                | 6,205,979                                              | 62.6                              |
| 18-19       | 0.000548                                                | 99,151                            | 54                                              | 99,124                                                | 6,106,805                                              | 61.6                              |
| 19-20       | 0.000628                                                | 99,097                            | 62                                              | 99,065                                                | 6,007,681                                              | 60.6                              |
| 20-21       | 0.000712                                                | 99,034                            | 71                                              | 98,999                                                | 5,908,616                                              | 59.7                              |
| 21-22       | 0.000791                                                | 98,964                            | 78                                              | 98,925                                                | 5,809,617                                              | 58.7                              |
| 22-23       | 0.000850                                                | 98,885                            | 84                                              | 98,843                                                | 5,710,692                                              | 57.8                              |
| 23-24       | 0.000882                                                | 98,801                            | 87                                              | 98,758                                                | 5,611,849                                              | 56.8                              |
| 24-25       | 0.000895                                                | 98,714                            | 88                                              | 98,670                                                | 5,513,091                                              | 55.8                              |
| 25-26       | 0.000901                                                | 98,626                            | 89                                              | 98,582                                                | 5,414,421                                              | 54.9                              |
| 26-27       | 0.000912                                                | 98,537                            | 90                                              | 98,492                                                | 5,315,839                                              | 53.9                              |
| 27-28       | 0.000927                                                | 98,447                            | 91                                              | 98,402                                                | 5,217,347                                              | 53.0                              |
| 28-29       | 0.000953                                                | 98,356                            | 94                                              | 98,309                                                | 5,118,945                                              | 52.0                              |
| 29-30       | 0.000986                                                | 98,262                            | 97                                              | 98,214                                                | 5,020,636                                              | 51.1                              |
| 30-31       | 0.001025                                                | 98,165                            | 101                                             | 98,115                                                | 4,922,422                                              | 50.1                              |
| 31-32       | 0.001065                                                | 98,065                            | 104                                             | 98,013                                                | 4,824,307                                              | 49.2                              |
| 32-33       | 0.001102                                                | 97,960                            | 108                                             | 97,906                                                | 4,726,295                                              | 48.2                              |
| 33-34       | 0.001134                                                | 97,852                            | 111                                             | 97,797                                                | 4,628,388                                              | 47.3                              |
| 34-35       | 0.001167                                                | 97,741                            | 114                                             | 97,684                                                | 4,530,591                                              | 46.4                              |
| 35-36       | 0.001211                                                | 97,627                            | 118                                             | 97,568                                                | 4,432,907                                              | 45.4                              |
| 36-37       | 0.001271                                                | 97,509                            | 124                                             | 97,447                                                | 4,335,339                                              | 44.5                              |
| 37-38       | 0.001344                                                | 97,385                            | 131                                             | 97,320                                                | 4,237,892                                              | 43.5                              |
| 38-39       | 0.001430                                                | 97,254                            | 139                                             | 97,185                                                | 4,140,572                                              | 42.6                              |
| 39-40       | 0.001528                                                | 97,115                            | 148                                             | 97,041                                                | 4,043,387                                              | 41.6                              |
| 40-41       | 0.001634                                                | 96,967                            | 158                                             | 96,888                                                | 3,946,346                                              | 40.7                              |
| 41-42       | 0.001759                                                | 96,808                            | 170                                             | 96,723                                                | 3,849,458                                              | 39.8                              |
| 42-43       | 0.001915                                                | 96,638                            | 185                                             | 96,546                                                | 3,752,735                                              | 38.8                              |
| 43-44       | 0.002110                                                | 96,453                            | 204                                             | 96,351                                                | 3,656,190                                              | 37.9                              |
| 44-45       | 0.002339                                                | 96,250                            | 225                                             | 96,137                                                | 3,559,838                                              | 37.0                              |
| 45-46       | 0.002582                                                | 96,024                            | 248                                             | 95,900                                                | 3,463,701                                              | 36.1                              |
| 46-47       | 0.002833                                                | 95,776                            | 271                                             | 95,641                                                | 3,367,801                                              | 35.2                              |
| 47-48       | 0.003112                                                | 95,505                            | 297                                             | 95,357                                                | 3,272,160                                              | 34.3                              |
| 48-49       | 0.003416                                                | 95,208                            | 325                                             | 95,045                                                | 3,176,804                                              | 33.4                              |
| 49-50       | 0.003740                                                | 94,883                            | 355                                             | 94,705                                                | 3,081,758                                              | 32.5                              |
| 50-51       | 0.004078                                                | 94,528                            | 385                                             | 94,335                                                | 2,987,053                                              | 31.6                              |
| 51-52       | 0.004420                                                | 94,142                            | 416                                             | 93,934                                                | 2,892,718                                              | 30.7                              |
| 52-53       | 0.004766                                                | 93,726                            | 447                                             | 93,503                                                | 2,798,784                                              | 29.9                              |
| 53-54       | 0.005120                                                | 93,279                            | 478                                             | 93,041                                                | 2,705,281                                              | 29.0                              |
| 54-55       | 0.005495                                                | 92,802                            | 510                                             | 92,547                                                | 2,612,240                                              | 28.1                              |
| 55-56       | 0.005899                                                | 92,292                            | 544                                             | 92,020                                                | 2,519,694                                              | 27.3                              |
| 56-57       | 0.006339                                                | 91,748                            | 582                                             | 91,457                                                | 2,427,674                                              | 26.5                              |
| 57-58       | 0.006818                                                | 91,166                            | 622                                             | 90,855                                                | 2,336,217                                              | 25.6                              |
| 58-59       | 0.007328                                                | 90,544                            | 664                                             | 90,213                                                | 2,245,362                                              | 24.8                              |
| 59-60       | 0.007860                                                | 89,881                            | 706                                             | 89,528                                                | 2,155,149                                              | 24.0                              |
| 60-61       | 0.008415                                                | 89,174                            | 750                                             | 88,799                                                | 2,065,622                                              | 23.2                              |

See footnote at end of table.

**Table 4. Life table for the white population: United States, 2011—Con.**Spreadsheet version available from: [ftp://ftp.cdc.gov/pub/Health\\_Statistics/NCHS/Publications/NVSR/64\\_11/Table04.xlsx](ftp://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/64_11/Table04.xlsx).

| Age (years)        | Probability of<br>dying between<br>ages $x$ and $x + 1$ | Number<br>surviving to<br>age $x$ | Number dying<br>between<br>ages $x$ and $x + 1$ | Person-years lived<br>between<br>ages $x$ and $x + 1$ | Total number of<br>person-years lived<br>above age $x$ | Expectation of<br>life at age $x$ |
|--------------------|---------------------------------------------------------|-----------------------------------|-------------------------------------------------|-------------------------------------------------------|--------------------------------------------------------|-----------------------------------|
|                    | $q_x$                                                   | $l_x$                             | $d_x$                                           | $L_x$                                                 | $T_x$                                                  | $e_x$                             |
| 61–62 .....        | 0.009004                                                | 88,424                            | 796                                             | 88,026                                                | 1,976,823                                              | 22.4                              |
| 62–63 .....        | 0.009646                                                | 87,628                            | 845                                             | 87,205                                                | 1,888,797                                              | 21.6                              |
| 63–64 .....        | 0.010382                                                | 86,782                            | 901                                             | 86,332                                                | 1,801,592                                              | 20.8                              |
| 64–65 .....        | 0.011248                                                | 85,881                            | 966                                             | 85,398                                                | 1,715,260                                              | 20.0                              |
| 65–66 .....        | 0.012285                                                | 84,915                            | 1,043                                           | 84,394                                                | 1,629,861                                              | 19.2                              |
| 66–67 .....        | 0.013480                                                | 83,872                            | 1,131                                           | 83,307                                                | 1,545,468                                              | 18.4                              |
| 67–68 .....        | 0.014784                                                | 82,742                            | 1,223                                           | 82,130                                                | 1,462,161                                              | 17.7                              |
| 68–69 .....        | 0.016109                                                | 81,518                            | 1,313                                           | 80,862                                                | 1,380,031                                              | 16.9                              |
| 69–70 .....        | 0.017484                                                | 80,205                            | 1,402                                           | 79,504                                                | 1,299,169                                              | 16.2                              |
| 70–71 .....        | 0.019042                                                | 78,803                            | 1,501                                           | 78,053                                                | 1,219,665                                              | 15.5                              |
| 71–72 .....        | 0.020818                                                | 77,302                            | 1,609                                           | 76,498                                                | 1,141,612                                              | 14.8                              |
| 72–73 .....        | 0.022805                                                | 75,693                            | 1,726                                           | 74,830                                                | 1,065,115                                              | 14.1                              |
| 73–74 .....        | 0.025017                                                | 73,967                            | 1,850                                           | 73,042                                                | 990,285                                                | 13.4                              |
| 74–75 .....        | 0.027484                                                | 72,116                            | 1,982                                           | 71,125                                                | 917,243                                                | 12.7                              |
| 75–76 .....        | 0.030164                                                | 70,134                            | 2,116                                           | 69,077                                                | 846,118                                                | 12.1                              |
| 76–77 .....        | 0.033184                                                | 68,019                            | 2,257                                           | 66,890                                                | 777,041                                                | 11.4                              |
| 77–78 .....        | 0.036677                                                | 65,762                            | 2,412                                           | 64,556                                                | 710,151                                                | 10.8                              |
| 78–79 .....        | 0.040650                                                | 63,350                            | 2,575                                           | 62,062                                                | 645,595                                                | 10.2                              |
| 79–80 .....        | 0.045163                                                | 60,775                            | 2,745                                           | 59,402                                                | 583,533                                                | 9.6                               |
| 80–81 .....        | 0.050134                                                | 58,030                            | 2,909                                           | 56,575                                                | 524,131                                                | 9.0                               |
| 81–82 .....        | 0.055416                                                | 55,121                            | 3,055                                           | 53,593                                                | 467,556                                                | 8.5                               |
| 82–83 .....        | 0.061397                                                | 52,066                            | 3,197                                           | 50,468                                                | 413,962                                                | 8.0                               |
| 83–84 .....        | 0.068175                                                | 48,869                            | 3,332                                           | 47,203                                                | 363,495                                                | 7.4                               |
| 84–85 .....        | 0.076044                                                | 45,538                            | 3,463                                           | 43,806                                                | 316,291                                                | 6.9                               |
| 85–86 .....        | 0.084781                                                | 42,075                            | 3,567                                           | 40,291                                                | 272,485                                                | 6.5                               |
| 86–87 .....        | 0.094818                                                | 38,508                            | 3,651                                           | 36,682                                                | 232,194                                                | 6.0                               |
| 87–88 .....        | 0.105828                                                | 34,856                            | 3,689                                           | 33,012                                                | 195,512                                                | 5.6                               |
| 88–89 .....        | 0.117852                                                | 31,168                            | 3,673                                           | 29,331                                                | 162,500                                                | 5.2                               |
| 89–90 .....        | 0.130923                                                | 27,494                            | 3,600                                           | 25,695                                                | 133,169                                                | 4.8                               |
| 90–91 .....        | 0.145061                                                | 23,895                            | 3,466                                           | 22,162                                                | 107,475                                                | 4.5                               |
| 91–92 .....        | 0.160270                                                | 20,429                            | 3,274                                           | 18,792                                                | 85,313                                                 | 4.2                               |
| 92–93 .....        | 0.176532                                                | 17,154                            | 3,028                                           | 15,640                                                | 66,521                                                 | 3.9                               |
| 93–94 .....        | 0.193814                                                | 14,126                            | 2,738                                           | 12,757                                                | 50,881                                                 | 3.6                               |
| 94–95 .....        | 0.212055                                                | 11,388                            | 2,415                                           | 10,181                                                | 38,124                                                 | 3.3                               |
| 95–96 .....        | 0.231174                                                | 8,973                             | 2,074                                           | 7,936                                                 | 27,943                                                 | 3.1                               |
| 96–97 .....        | 0.251064                                                | 6,899                             | 1,732                                           | 6,033                                                 | 20,007                                                 | 2.9                               |
| 97–98 .....        | 0.271599                                                | 5,167                             | 1,403                                           | 4,465                                                 | 13,974                                                 | 2.7                               |
| 98–99 .....        | 0.292631                                                | 3,764                             | 1,101                                           | 3,213                                                 | 9,509                                                  | 2.5                               |
| 99–100 .....       | 0.313996                                                | 2,662                             | 836                                             | 2,244                                                 | 6,296                                                  | 2.4                               |
| 100 and over ..... | 1.000000                                                | 1,826                             | 1,826                                           | 4,052                                                 | 4,052                                                  | 2.2                               |

SOURCE: CDC/NCHS, National Vital Statistics System.

**Table 5. Life table for white males: United States, 2011**Spreadsheet version available from: [ftp://ftp.cdc.gov/pub/Health\\_Statistics/NCHS/Publications/NVSR/64\\_11/Table05.xlsx](ftp://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/64_11/Table05.xlsx).

| Age (years) | Probability of<br>dying between<br>ages $x$ and $x + 1$ | Number<br>surviving to<br>age $x$ | Number dying<br>between<br>ages $x$ and $x + 1$ | Person-years lived<br>between<br>ages $x$ and $x + 1$ | Total number of<br>person-years lived<br>above age $x$ | Expectation of<br>life at age $x$ |
|-------------|---------------------------------------------------------|-----------------------------------|-------------------------------------------------|-------------------------------------------------------|--------------------------------------------------------|-----------------------------------|
|             | $q_x$                                                   | $l_x$                             | $d_x$                                           | $L_x$                                                 | $T_x$                                                  | $e_x$                             |
| 0-1         | 0.005535                                                | 100,000                           | 554                                             | 99,515                                                | 7,659,433                                              | 76.6                              |
| 1-2         | 0.000418                                                | 99,447                            | 42                                              | 99,426                                                | 7,559,918                                              | 76.0                              |
| 2-3         | 0.000277                                                | 99,405                            | 28                                              | 99,391                                                | 7,460,492                                              | 75.1                              |
| 3-4         | 0.000229                                                | 99,377                            | 23                                              | 99,366                                                | 7,361,101                                              | 74.1                              |
| 4-5         | 0.000167                                                | 99,355                            | 17                                              | 99,346                                                | 7,261,735                                              | 73.1                              |
| 5-6         | 0.000159                                                | 99,338                            | 16                                              | 99,330                                                | 7,162,389                                              | 72.1                              |
| 6-7         | 0.000143                                                | 99,322                            | 14                                              | 99,315                                                | 7,063,059                                              | 71.1                              |
| 7-8         | 0.000129                                                | 99,308                            | 13                                              | 99,302                                                | 6,963,743                                              | 70.1                              |
| 8-9         | 0.000112                                                | 99,295                            | 11                                              | 99,290                                                | 6,864,442                                              | 69.1                              |
| 9-10        | 0.000094                                                | 99,284                            | 9                                               | 99,279                                                | 6,765,152                                              | 68.1                              |
| 10-11       | 0.000083                                                | 99,275                            | 8                                               | 99,271                                                | 6,665,873                                              | 67.1                              |
| 11-12       | 0.000089                                                | 99,267                            | 9                                               | 99,262                                                | 6,566,602                                              | 66.2                              |
| 12-13       | 0.000127                                                | 99,258                            | 13                                              | 99,251                                                | 6,467,340                                              | 65.2                              |
| 13-14       | 0.000202                                                | 99,245                            | 20                                              | 99,235                                                | 6,368,088                                              | 64.2                              |
| 14-15       | 0.000306                                                | 99,225                            | 30                                              | 99,210                                                | 6,268,853                                              | 63.2                              |
| 15-16       | 0.000415                                                | 99,195                            | 41                                              | 99,174                                                | 6,169,643                                              | 62.2                              |
| 16-17       | 0.000522                                                | 99,154                            | 52                                              | 99,128                                                | 6,070,469                                              | 61.2                              |
| 17-18       | 0.000638                                                | 99,102                            | 63                                              | 99,070                                                | 5,971,341                                              | 60.3                              |
| 18-19       | 0.000763                                                | 99,039                            | 76                                              | 99,001                                                | 5,872,271                                              | 59.3                              |
| 19-20       | 0.000891                                                | 98,963                            | 88                                              | 98,919                                                | 5,773,270                                              | 58.3                              |
| 20-21       | 0.001025                                                | 98,875                            | 101                                             | 98,824                                                | 5,674,351                                              | 57.4                              |
| 21-22       | 0.001149                                                | 98,774                            | 114                                             | 98,717                                                | 5,575,527                                              | 56.4                              |
| 22-23       | 0.001238                                                | 98,660                            | 122                                             | 98,599                                                | 5,476,810                                              | 55.5                              |
| 23-24       | 0.001281                                                | 98,538                            | 126                                             | 98,475                                                | 5,378,211                                              | 54.6                              |
| 24-25       | 0.001289                                                | 98,412                            | 127                                             | 98,348                                                | 5,279,736                                              | 53.6                              |
| 25-26       | 0.001285                                                | 98,285                            | 126                                             | 98,222                                                | 5,181,388                                              | 52.7                              |
| 26-27       | 0.001287                                                | 98,159                            | 126                                             | 98,095                                                | 5,083,166                                              | 51.8                              |
| 27-28       | 0.001295                                                | 98,032                            | 127                                             | 97,969                                                | 4,985,071                                              | 50.9                              |
| 28-29       | 0.001317                                                | 97,905                            | 129                                             | 97,841                                                | 4,887,102                                              | 49.9                              |
| 29-30       | 0.001349                                                | 97,776                            | 132                                             | 97,710                                                | 4,789,261                                              | 49.0                              |
| 30-31       | 0.001386                                                | 97,644                            | 135                                             | 97,577                                                | 4,691,551                                              | 48.0                              |
| 31-32       | 0.001423                                                | 97,509                            | 139                                             | 97,440                                                | 4,593,974                                              | 47.1                              |
| 32-33       | 0.001458                                                | 97,370                            | 142                                             | 97,299                                                | 4,496,534                                              | 46.2                              |
| 33-34       | 0.001489                                                | 97,228                            | 145                                             | 97,156                                                | 4,399,235                                              | 45.2                              |
| 34-35       | 0.001522                                                | 97,084                            | 148                                             | 97,010                                                | 4,302,079                                              | 44.3                              |
| 35-36       | 0.001570                                                | 96,936                            | 152                                             | 96,860                                                | 4,205,069                                              | 43.4                              |
| 36-37       | 0.001637                                                | 96,784                            | 158                                             | 96,705                                                | 4,108,209                                              | 42.4                              |
| 37-38       | 0.001717                                                | 96,625                            | 166                                             | 96,542                                                | 4,011,505                                              | 41.5                              |
| 38-39       | 0.001809                                                | 96,459                            | 175                                             | 96,372                                                | 3,914,962                                              | 40.6                              |
| 39-40       | 0.001915                                                | 96,285                            | 184                                             | 96,193                                                | 3,818,590                                              | 39.7                              |
| 40-41       | 0.002031                                                | 96,100                            | 195                                             | 96,003                                                | 3,722,398                                              | 38.7                              |
| 41-42       | 0.002171                                                | 95,905                            | 208                                             | 95,801                                                | 3,626,395                                              | 37.8                              |
| 42-43       | 0.002355                                                | 95,697                            | 225                                             | 95,584                                                | 3,530,594                                              | 36.9                              |
| 43-44       | 0.002594                                                | 95,472                            | 248                                             | 95,348                                                | 3,435,010                                              | 36.0                              |
| 44-45       | 0.002880                                                | 95,224                            | 274                                             | 95,087                                                | 3,339,662                                              | 35.1                              |
| 45-46       | 0.003185                                                | 94,950                            | 302                                             | 94,799                                                | 3,244,575                                              | 34.2                              |
| 46-47       | 0.003503                                                | 94,647                            | 332                                             | 94,482                                                | 3,149,776                                              | 33.3                              |
| 47-48       | 0.003854                                                | 94,316                            | 363                                             | 94,134                                                | 3,055,295                                              | 32.4                              |
| 48-49       | 0.004236                                                | 93,952                            | 398                                             | 93,753                                                | 2,961,161                                              | 31.5                              |
| 49-50       | 0.004641                                                | 93,554                            | 434                                             | 93,337                                                | 2,867,408                                              | 30.6                              |
| 50-51       | 0.005059                                                | 93,120                            | 471                                             | 92,885                                                | 2,774,070                                              | 29.8                              |
| 51-52       | 0.005487                                                | 92,649                            | 508                                             | 92,395                                                | 2,681,186                                              | 28.9                              |
| 52-53       | 0.005935                                                | 92,141                            | 547                                             | 91,867                                                | 2,588,791                                              | 28.1                              |
| 53-54       | 0.006415                                                | 91,594                            | 588                                             | 91,300                                                | 2,496,924                                              | 27.3                              |
| 54-55       | 0.006937                                                | 91,006                            | 631                                             | 90,691                                                | 2,405,624                                              | 26.4                              |
| 55-56       | 0.007505                                                | 90,375                            | 678                                             | 90,036                                                | 2,314,933                                              | 25.6                              |
| 56-57       | 0.008111                                                | 89,697                            | 727                                             | 89,333                                                | 2,224,897                                              | 24.8                              |
| 57-58       | 0.008737                                                | 88,969                            | 777                                             | 88,580                                                | 2,135,564                                              | 24.0                              |
| 58-59       | 0.009360                                                | 88,192                            | 825                                             | 87,779                                                | 2,046,984                                              | 23.2                              |
| 59-60       | 0.009974                                                | 87,366                            | 871                                             | 86,931                                                | 1,959,205                                              | 22.4                              |
| 60-61       | 0.010604                                                | 86,495                            | 917                                             | 86,036                                                | 1,872,274                                              | 21.6                              |

See footnote at end of table.

**Table 5. Life table for white males: United States, 2011—Con.**Spreadsheet version available from: [ftp://ftp.cdc.gov/pub/Health\\_Statistics/NCHS/Publications/NVSR/64\\_11/Table05.xlsx](ftp://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/64_11/Table05.xlsx).

| Age (years)        | Probability of<br>dying between<br>ages $x$ and $x + 1$ | Number<br>surviving to<br>age $x$ | Number dying<br>between<br>ages $x$ and $x + 1$ | Person-years lived<br>between<br>ages $x$ and $x + 1$ | Total number of<br>person-years lived<br>above age $x$ | Expectation of<br>life at age $x$ |
|--------------------|---------------------------------------------------------|-----------------------------------|-------------------------------------------------|-------------------------------------------------------|--------------------------------------------------------|-----------------------------------|
|                    | $q_x$                                                   | $l_x$                             | $d_x$                                           | $L_x$                                                 | $T_x$                                                  | $e_x$                             |
| 61–62 .....        | 0.011276                                                | 85,578                            | 965                                             | 85,095                                                | 1,786,238                                              | 20.9                              |
| 62–63 .....        | 0.012007                                                | 84,613                            | 1,016                                           | 84,105                                                | 1,701,143                                              | 20.1                              |
| 63–64 .....        | 0.012850                                                | 83,597                            | 1,074                                           | 83,060                                                | 1,617,038                                              | 19.3                              |
| 64–65 .....        | 0.013848                                                | 82,523                            | 1,143                                           | 81,951                                                | 1,533,978                                              | 18.6                              |
| 65–66 .....        | 0.015034                                                | 81,380                            | 1,223                                           | 80,768                                                | 1,452,027                                              | 17.8                              |
| 66–67 .....        | 0.016400                                                | 80,156                            | 1,315                                           | 79,499                                                | 1,371,259                                              | 17.1                              |
| 67–68 .....        | 0.017917                                                | 78,842                            | 1,413                                           | 78,136                                                | 1,291,759                                              | 16.4                              |
| 68–69 .....        | 0.019481                                                | 77,429                            | 1,508                                           | 76,675                                                | 1,213,624                                              | 15.7                              |
| 69–70 .....        | 0.021114                                                | 75,921                            | 1,603                                           | 75,119                                                | 1,136,949                                              | 15.0                              |
| 70–71 .....        | 0.022988                                                | 74,318                            | 1,708                                           | 73,464                                                | 1,061,829                                              | 14.3                              |
| 71–72 .....        | 0.025101                                                | 72,609                            | 1,823                                           | 71,698                                                | 988,366                                                | 13.6                              |
| 72–73 .....        | 0.027439                                                | 70,787                            | 1,942                                           | 69,816                                                | 916,668                                                | 12.9                              |
| 73–74 .....        | 0.030023                                                | 68,845                            | 2,067                                           | 67,811                                                | 846,852                                                | 12.3                              |
| 74–75 .....        | 0.032932                                                | 66,778                            | 2,199                                           | 65,678                                                | 779,041                                                | 11.7                              |
| 75–76 .....        | 0.036068                                                | 64,578                            | 2,329                                           | 63,414                                                | 713,363                                                | 11.0                              |
| 76–77 .....        | 0.039531                                                | 62,249                            | 2,461                                           | 61,019                                                | 649,949                                                | 10.4                              |
| 77–78 .....        | 0.043564                                                | 59,788                            | 2,605                                           | 58,486                                                | 588,930                                                | 9.9                               |
| 78–79 .....        | 0.048194                                                | 57,184                            | 2,756                                           | 55,806                                                | 530,444                                                | 9.3                               |
| 79–80 .....        | 0.053550                                                | 54,428                            | 2,915                                           | 52,971                                                | 474,638                                                | 8.7                               |
| 80–81 .....        | 0.059588                                                | 51,513                            | 3,070                                           | 49,979                                                | 421,667                                                | 8.2                               |
| 81–82 .....        | 0.065918                                                | 48,444                            | 3,193                                           | 46,847                                                | 371,689                                                | 7.7                               |
| 82–83 .....        | 0.073081                                                | 45,250                            | 3,307                                           | 43,597                                                | 324,841                                                | 7.2                               |
| 83–84 .....        | 0.081020                                                | 41,944                            | 3,398                                           | 40,244                                                | 281,244                                                | 6.7                               |
| 84–85 .....        | 0.089324                                                | 38,545                            | 3,443                                           | 36,824                                                | 241,000                                                | 6.3                               |
| 85–86 .....        | 0.099884                                                | 35,102                            | 3,506                                           | 33,349                                                | 204,176                                                | 5.8                               |
| 86–87 .....        | 0.111452                                                | 31,596                            | 3,521                                           | 29,835                                                | 170,827                                                | 5.4                               |
| 87–88 .....        | 0.124067                                                | 28,075                            | 3,483                                           | 26,333                                                | 140,992                                                | 5.0                               |
| 88–89 .....        | 0.137755                                                | 24,591                            | 3,388                                           | 22,898                                                | 114,659                                                | 4.7                               |
| 89–90 .....        | 0.152529                                                | 21,204                            | 3,234                                           | 19,587                                                | 91,761                                                 | 4.3                               |
| 90–91 .....        | 0.168383                                                | 17,970                            | 3,026                                           | 16,457                                                | 72,174                                                 | 4.0                               |
| 91–92 .....        | 0.185291                                                | 14,944                            | 2,769                                           | 13,559                                                | 55,718                                                 | 3.7                               |
| 92–93 .....        | 0.203204                                                | 12,175                            | 2,474                                           | 10,938                                                | 42,158                                                 | 3.5                               |
| 93–94 .....        | 0.222050                                                | 9,701                             | 2,154                                           | 8,624                                                 | 31,220                                                 | 3.2                               |
| 94–95 .....        | 0.241733                                                | 7,547                             | 1,824                                           | 6,635                                                 | 22,596                                                 | 3.0                               |
| 95–96 .....        | 0.262131                                                | 5,723                             | 1,500                                           | 4,972                                                 | 15,962                                                 | 2.8                               |
| 96–97 .....        | 0.283104                                                | 4,222                             | 1,195                                           | 3,625                                                 | 10,989                                                 | 2.6                               |
| 97–98 .....        | 0.304492                                                | 3,027                             | 922                                             | 2,566                                                 | 7,364                                                  | 2.4                               |
| 98–99 .....        | 0.326122                                                | 2,105                             | 687                                             | 1,762                                                 | 4,798                                                  | 2.3                               |
| 99–100 .....       | 0.347813                                                | 1,419                             | 493                                             | 1,172                                                 | 3,036                                                  | 2.1                               |
| 100 and over ..... | 1.000000                                                | 925                               | 925                                             | 1,864                                                 | 1,864                                                  | 2.0                               |

SOURCE: CDC/NCHS, National Vital Statistics System.

**Table 6. Life table for white females: United States, 2011**Spreadsheet version available from: [ftp://ftp.cdc.gov/pub/Health\\_Statistics/NCHS/Publications/NVSR/64\\_11/Table06.xlsx](ftp://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/64_11/Table06.xlsx).

| Age (years) | Probability of<br>dying between<br>ages $x$ and $x + 1$ | Number<br>surviving to<br>age $x$ | Number dying<br>between<br>ages $x$ and $x + 1$ | Person-years lived<br>between<br>ages $x$ and $x + 1$ | Total number of<br>person-years lived<br>above age $x$ | Expectation of<br>life at age $x$ |
|-------------|---------------------------------------------------------|-----------------------------------|-------------------------------------------------|-------------------------------------------------------|--------------------------------------------------------|-----------------------------------|
|             | $q_x$                                                   | $l_x$                             | $d_x$                                           | $L_x$                                                 | $T_x$                                                  | $e_x$                             |
| 0-1         | 0.004661                                                | 100,000                           | 466                                             | 99,589                                                | 8,126,919                                              | 81.3                              |
| 1-2         | 0.000352                                                | 99,534                            | 35                                              | 99,516                                                | 8,027,329                                              | 80.6                              |
| 2-3         | 0.000201                                                | 99,499                            | 20                                              | 99,489                                                | 7,927,813                                              | 79.7                              |
| 3-4         | 0.000170                                                | 99,479                            | 17                                              | 99,470                                                | 7,828,324                                              | 78.7                              |
| 4-5         | 0.000149                                                | 99,462                            | 15                                              | 99,455                                                | 7,728,854                                              | 77.7                              |
| 5-6         | 0.000124                                                | 99,447                            | 12                                              | 99,441                                                | 7,629,399                                              | 76.7                              |
| 6-7         | 0.000110                                                | 99,435                            | 11                                              | 99,429                                                | 7,529,958                                              | 75.7                              |
| 7-8         | 0.000100                                                | 99,424                            | 10                                              | 99,419                                                | 7,430,529                                              | 74.7                              |
| 8-9         | 0.000091                                                | 99,414                            | 9                                               | 99,409                                                | 7,331,110                                              | 73.7                              |
| 9-10        | 0.000083                                                | 99,405                            | 8                                               | 99,401                                                | 7,231,701                                              | 72.7                              |
| 10-11       | 0.000079                                                | 99,397                            | 8                                               | 99,393                                                | 7,132,300                                              | 71.8                              |
| 11-12       | 0.000082                                                | 99,389                            | 8                                               | 99,385                                                | 7,032,907                                              | 70.8                              |
| 12-13       | 0.000096                                                | 99,381                            | 10                                              | 99,376                                                | 6,933,522                                              | 69.8                              |
| 13-14       | 0.000125                                                | 99,371                            | 12                                              | 99,365                                                | 6,834,146                                              | 68.8                              |
| 14-15       | 0.000163                                                | 99,359                            | 16                                              | 99,351                                                | 6,734,781                                              | 67.8                              |
| 15-16       | 0.000205                                                | 99,343                            | 20                                              | 99,332                                                | 6,635,431                                              | 66.8                              |
| 16-17       | 0.000247                                                | 99,322                            | 25                                              | 99,310                                                | 6,536,098                                              | 65.8                              |
| 17-18       | 0.000286                                                | 99,298                            | 28                                              | 99,284                                                | 6,436,788                                              | 64.8                              |
| 18-19       | 0.000320                                                | 99,269                            | 32                                              | 99,253                                                | 6,337,505                                              | 63.8                              |
| 19-20       | 0.000350                                                | 99,238                            | 35                                              | 99,220                                                | 6,238,251                                              | 62.9                              |
| 20-21       | 0.000381                                                | 99,203                            | 38                                              | 99,184                                                | 6,139,031                                              | 61.9                              |
| 21-22       | 0.000412                                                | 99,165                            | 41                                              | 99,145                                                | 6,039,847                                              | 60.9                              |
| 22-23       | 0.000439                                                | 99,124                            | 44                                              | 99,102                                                | 5,940,703                                              | 59.9                              |
| 23-24       | 0.000461                                                | 99,081                            | 46                                              | 99,058                                                | 5,841,600                                              | 59.0                              |
| 24-25       | 0.000480                                                | 99,035                            | 48                                              | 99,011                                                | 5,742,542                                              | 58.0                              |
| 25-26       | 0.000498                                                | 98,987                            | 49                                              | 98,963                                                | 5,643,531                                              | 57.0                              |
| 26-27       | 0.000518                                                | 98,938                            | 51                                              | 98,913                                                | 5,544,569                                              | 56.0                              |
| 27-28       | 0.000542                                                | 98,887                            | 54                                              | 98,860                                                | 5,445,656                                              | 55.1                              |
| 28-29       | 0.000572                                                | 98,833                            | 57                                              | 98,805                                                | 5,346,796                                              | 54.1                              |
| 29-30       | 0.000608                                                | 98,777                            | 60                                              | 98,747                                                | 5,247,991                                              | 53.1                              |
| 30-31       | 0.000649                                                | 98,717                            | 64                                              | 98,685                                                | 5,149,244                                              | 52.2                              |
| 31-32       | 0.000693                                                | 98,653                            | 68                                              | 98,618                                                | 5,050,559                                              | 51.2                              |
| 32-33       | 0.000733                                                | 98,584                            | 72                                              | 98,548                                                | 4,951,941                                              | 50.2                              |
| 33-34       | 0.000768                                                | 98,512                            | 76                                              | 98,474                                                | 4,853,393                                              | 49.3                              |
| 34-35       | 0.000801                                                | 98,436                            | 79                                              | 98,397                                                | 4,754,919                                              | 48.3                              |
| 35-36       | 0.000842                                                | 98,358                            | 83                                              | 98,316                                                | 4,656,522                                              | 47.3                              |
| 36-37       | 0.000896                                                | 98,275                            | 88                                              | 98,231                                                | 4,558,206                                              | 46.4                              |
| 37-38       | 0.000964                                                | 98,187                            | 95                                              | 98,139                                                | 4,459,975                                              | 45.4                              |
| 38-39       | 0.001043                                                | 98,092                            | 102                                             | 98,041                                                | 4,361,836                                              | 44.5                              |
| 39-40       | 0.001134                                                | 97,990                            | 111                                             | 97,934                                                | 4,263,795                                              | 43.5                              |
| 40-41       | 0.001230                                                | 97,879                            | 120                                             | 97,818                                                | 4,165,860                                              | 42.6                              |
| 41-42       | 0.001338                                                | 97,758                            | 131                                             | 97,693                                                | 4,068,042                                              | 41.6                              |
| 42-43       | 0.001466                                                | 97,627                            | 143                                             | 97,556                                                | 3,970,349                                              | 40.7                              |
| 43-44       | 0.001619                                                | 97,484                            | 158                                             | 97,405                                                | 3,872,793                                              | 39.7                              |
| 44-45       | 0.001793                                                | 97,326                            | 175                                             | 97,239                                                | 3,775,388                                              | 38.8                              |
| 45-46       | 0.001975                                                | 97,152                            | 192                                             | 97,056                                                | 3,678,149                                              | 37.9                              |
| 46-47       | 0.002162                                                | 96,960                            | 210                                             | 96,855                                                | 3,581,093                                              | 36.9                              |
| 47-48       | 0.002371                                                | 96,750                            | 229                                             | 96,636                                                | 3,484,238                                              | 36.0                              |
| 48-49       | 0.002601                                                | 96,521                            | 251                                             | 96,395                                                | 3,387,602                                              | 35.1                              |
| 49-50       | 0.002846                                                | 96,270                            | 274                                             | 96,133                                                | 3,291,207                                              | 34.2                              |
| 50-51       | 0.003106                                                | 95,996                            | 298                                             | 95,847                                                | 3,195,074                                              | 33.3                              |
| 51-52       | 0.003367                                                | 95,698                            | 322                                             | 95,537                                                | 3,099,227                                              | 32.4                              |
| 52-53       | 0.003616                                                | 95,376                            | 345                                             | 95,203                                                | 3,003,690                                              | 31.5                              |
| 53-54       | 0.003851                                                | 95,031                            | 366                                             | 94,848                                                | 2,908,487                                              | 30.6                              |
| 54-55       | 0.004088                                                | 94,665                            | 387                                             | 94,471                                                | 2,813,639                                              | 29.7                              |
| 55-56       | 0.004339                                                | 94,278                            | 409                                             | 94,073                                                | 2,719,168                                              | 28.8                              |
| 56-57       | 0.004628                                                | 93,869                            | 434                                             | 93,652                                                | 2,625,094                                              | 28.0                              |
| 57-58       | 0.004973                                                | 93,434                            | 465                                             | 93,202                                                | 2,531,443                                              | 27.1                              |
| 58-59       | 0.005383                                                | 92,970                            | 500                                             | 92,719                                                | 2,438,241                                              | 26.2                              |
| 59-60       | 0.005842                                                | 92,469                            | 540                                             | 92,199                                                | 2,345,521                                              | 25.4                              |
| 60-61       | 0.006332                                                | 91,929                            | 582                                             | 91,638                                                | 2,253,322                                              | 24.5                              |

See footnote at end of table.

**Table 6. Life table for white females: United States, 2011—Con.**Spreadsheet version available from: [ftp://ftp.cdc.gov/pub/Health\\_Statistics/NCHS/Publications/NVSR/64\\_11/Table06.xlsx](ftp://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/64_11/Table06.xlsx).

| Age (years)  | Probability of<br>dying between<br>ages $x$ and $x + 1$ | Number<br>surviving to<br>age $x$ | Number dying<br>between<br>ages $x$ and $x + 1$ | Person-years lived<br>between<br>ages $x$ and $x + 1$ | Total number of<br>person-years lived<br>above age $x$ | Expectation of<br>life at age $x$ |
|--------------|---------------------------------------------------------|-----------------------------------|-------------------------------------------------|-------------------------------------------------------|--------------------------------------------------------|-----------------------------------|
|              | $q_x$                                                   | $l_x$                             | $d_x$                                           | $L_x$                                                 | $T_x$                                                  | $e_x$                             |
| 61–62        | 0.006849                                                | 91,347                            | 626                                             | 91,034                                                | 2,161,684                                              | 23.7                              |
| 62–63        | 0.007415                                                | 90,721                            | 673                                             | 90,385                                                | 2,070,650                                              | 22.8                              |
| 63–64        | 0.008061                                                | 90,049                            | 726                                             | 89,686                                                | 1,980,265                                              | 22.0                              |
| 64–65        | 0.008818                                                | 89,323                            | 788                                             | 88,929                                                | 1,890,580                                              | 21.2                              |
| 65–66        | 0.009734                                                | 88,535                            | 862                                             | 88,104                                                | 1,801,651                                              | 20.3                              |
| 66–67        | 0.010792                                                | 87,673                            | 946                                             | 87,200                                                | 1,713,547                                              | 19.5                              |
| 67–68        | 0.011923                                                | 86,727                            | 1,034                                           | 86,210                                                | 1,626,346                                              | 18.8                              |
| 68–69        | 0.013056                                                | 85,693                            | 1,119                                           | 85,134                                                | 1,540,136                                              | 18.0                              |
| 69–70        | 0.014225                                                | 84,574                            | 1,203                                           | 83,973                                                | 1,455,003                                              | 17.2                              |
| 70–71        | 0.015535                                                | 83,371                            | 1,295                                           | 82,724                                                | 1,371,030                                              | 16.4                              |
| 71–72        | 0.017054                                                | 82,076                            | 1,400                                           | 81,376                                                | 1,288,307                                              | 15.7                              |
| 72–73        | 0.018781                                                | 80,676                            | 1,515                                           | 79,919                                                | 1,206,930                                              | 15.0                              |
| 73–74        | 0.020723                                                | 79,161                            | 1,640                                           | 78,341                                                | 1,127,012                                              | 14.2                              |
| 74–75        | 0.022878                                                | 77,521                            | 1,773                                           | 76,634                                                | 1,048,671                                              | 13.5                              |
| 75–76        | 0.025250                                                | 75,747                            | 1,913                                           | 74,791                                                | 972,037                                                | 12.8                              |
| 76–77        | 0.027990                                                | 73,835                            | 2,067                                           | 72,801                                                | 897,246                                                | 12.2                              |
| 77–78        | 0.031146                                                | 71,768                            | 2,235                                           | 70,650                                                | 824,445                                                | 11.5                              |
| 78–79        | 0.034731                                                | 69,533                            | 2,415                                           | 68,325                                                | 753,795                                                | 10.8                              |
| 79–80        | 0.038746                                                | 67,118                            | 2,601                                           | 65,817                                                | 685,470                                                | 10.2                              |
| 80–81        | 0.043080                                                | 64,517                            | 2,779                                           | 63,127                                                | 619,652                                                | 9.6                               |
| 81–82        | 0.047808                                                | 61,738                            | 2,952                                           | 60,262                                                | 556,525                                                | 9.0                               |
| 82–83        | 0.053223                                                | 58,786                            | 3,129                                           | 57,222                                                | 496,263                                                | 8.4                               |
| 83–84        | 0.059515                                                | 55,657                            | 3,312                                           | 54,001                                                | 439,041                                                | 7.9                               |
| 84–85        | 0.067166                                                | 52,345                            | 3,516                                           | 50,587                                                | 385,040                                                | 7.4                               |
| 85–86        | 0.075456                                                | 48,829                            | 3,684                                           | 46,987                                                | 334,452                                                | 6.8                               |
| 86–87        | 0.085024                                                | 45,145                            | 3,838                                           | 43,226                                                | 287,465                                                | 6.4                               |
| 87–88        | 0.095610                                                | 41,306                            | 3,949                                           | 39,332                                                | 244,240                                                | 5.9                               |
| 88–89        | 0.107271                                                | 37,357                            | 4,007                                           | 35,353                                                | 204,908                                                | 5.5                               |
| 89–90        | 0.120055                                                | 33,350                            | 4,004                                           | 31,348                                                | 169,555                                                | 5.1                               |
| 90–91        | 0.133997                                                | 29,346                            | 3,932                                           | 27,380                                                | 138,207                                                | 4.7                               |
| 91–92        | 0.149117                                                | 25,414                            | 3,790                                           | 23,519                                                | 110,827                                                | 4.4                               |
| 92–93        | 0.165414                                                | 21,624                            | 3,577                                           | 19,836                                                | 87,308                                                 | 4.0                               |
| 93–94        | 0.182862                                                | 18,047                            | 3,300                                           | 16,397                                                | 67,473                                                 | 3.7                               |
| 94–95        | 0.201411                                                | 14,747                            | 2,970                                           | 13,262                                                | 51,076                                                 | 3.5                               |
| 95–96        | 0.220982                                                | 11,777                            | 2,602                                           | 10,476                                                | 37,814                                                 | 3.2                               |
| 96–97        | 0.241467                                                | 9,174                             | 2,215                                           | 8,067                                                 | 27,338                                                 | 3.0                               |
| 97–98        | 0.262733                                                | 6,959                             | 1,828                                           | 6,045                                                 | 19,271                                                 | 2.8                               |
| 98–99        | 0.284617                                                | 5,131                             | 1,460                                           | 4,401                                                 | 13,227                                                 | 2.6                               |
| 99–100       | 0.306939                                                | 3,670                             | 1,127                                           | 3,107                                                 | 8,826                                                  | 2.4                               |
| 100 and over | 1.000000                                                | 2,544                             | 2,544                                           | 5,719                                                 | 5,719                                                  | 2.2                               |

SOURCE: CDC/NCHS, National Vital Statistics System.



**Table 7. Life table for the black population: United States, 2011**Spreadsheet version available from: [ftp://ftp.cdc.gov/pub/Health\\_Statistics/NCHS/Publications/NVSR/64\\_11/Table07.xlsx](ftp://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/64_11/Table07.xlsx).

| Age (years) | Probability of<br>dying between<br>ages $x$ and $x + 1$ | Number<br>surviving to<br>age $x$ | Number dying<br>between<br>ages $x$ and $x + 1$ | Person-years lived<br>between<br>ages $x$ and $x + 1$ | Total number of<br>person-years lived<br>above age $x$ | Expectation of<br>life at age $x$ |
|-------------|---------------------------------------------------------|-----------------------------------|-------------------------------------------------|-------------------------------------------------------|--------------------------------------------------------|-----------------------------------|
|             | $q_x$                                                   | $l_x$                             | $d_x$                                           | $L_x$                                                 | $T_x$                                                  | $e_x$                             |
| 0-1         | 0.011502                                                | 100,000                           | 1,150                                           | 99,001                                                | 7,533,429                                              | 75.3                              |
| 1-2         | 0.000607                                                | 98,850                            | 60                                              | 98,820                                                | 7,434,429                                              | 75.2                              |
| 2-3         | 0.000410                                                | 98,790                            | 40                                              | 98,770                                                | 7,335,609                                              | 74.3                              |
| 3-4         | 0.000280                                                | 98,749                            | 28                                              | 98,736                                                | 7,236,839                                              | 73.3                              |
| 4-5         | 0.000245                                                | 98,722                            | 24                                              | 98,710                                                | 7,138,104                                              | 72.3                              |
| 5-6         | 0.000215                                                | 98,698                            | 21                                              | 98,687                                                | 7,039,394                                              | 71.3                              |
| 6-7         | 0.000187                                                | 98,676                            | 18                                              | 98,667                                                | 6,940,707                                              | 70.3                              |
| 7-8         | 0.000163                                                | 98,658                            | 16                                              | 98,650                                                | 6,842,040                                              | 69.4                              |
| 8-9         | 0.000140                                                | 98,642                            | 14                                              | 98,635                                                | 6,743,390                                              | 68.4                              |
| 9-10        | 0.000120                                                | 98,628                            | 12                                              | 98,622                                                | 6,644,755                                              | 67.4                              |
| 10-11       | 0.000108                                                | 98,616                            | 11                                              | 98,611                                                | 6,546,133                                              | 66.4                              |
| 11-12       | 0.000115                                                | 98,606                            | 11                                              | 98,600                                                | 6,447,522                                              | 65.4                              |
| 12-13       | 0.000153                                                | 98,594                            | 15                                              | 98,587                                                | 6,348,922                                              | 64.4                              |
| 13-14       | 0.000226                                                | 98,579                            | 22                                              | 98,568                                                | 6,250,335                                              | 63.4                              |
| 14-15       | 0.000326                                                | 98,557                            | 32                                              | 98,541                                                | 6,151,767                                              | 62.4                              |
| 15-16       | 0.000429                                                | 98,525                            | 42                                              | 98,504                                                | 6,053,226                                              | 61.4                              |
| 16-17       | 0.000529                                                | 98,483                            | 52                                              | 98,457                                                | 5,954,722                                              | 60.5                              |
| 17-18       | 0.000638                                                | 98,431                            | 63                                              | 98,399                                                | 5,856,266                                              | 59.5                              |
| 18-19       | 0.000758                                                | 98,368                            | 75                                              | 98,330                                                | 5,757,866                                              | 58.5                              |
| 19-20       | 0.000883                                                | 98,293                            | 87                                              | 98,250                                                | 5,659,536                                              | 57.6                              |
| 20-21       | 0.001017                                                | 98,206                            | 100                                             | 98,156                                                | 5,561,286                                              | 56.6                              |
| 21-22       | 0.001145                                                | 98,107                            | 112                                             | 98,050                                                | 5,463,130                                              | 55.7                              |
| 22-23       | 0.001242                                                | 97,994                            | 122                                             | 97,933                                                | 5,365,079                                              | 54.7                              |
| 23-24       | 0.001298                                                | 97,873                            | 127                                             | 97,809                                                | 5,267,146                                              | 53.8                              |
| 24-25       | 0.001324                                                | 97,745                            | 129                                             | 97,681                                                | 5,169,337                                              | 52.9                              |
| 25-26       | 0.001341                                                | 97,616                            | 131                                             | 97,551                                                | 5,071,656                                              | 52.0                              |
| 26-27       | 0.001366                                                | 97,485                            | 133                                             | 97,419                                                | 4,974,106                                              | 51.0                              |
| 27-28       | 0.001394                                                | 97,352                            | 136                                             | 97,284                                                | 4,876,687                                              | 50.1                              |
| 28-29       | 0.001432                                                | 97,216                            | 139                                             | 97,147                                                | 4,779,403                                              | 49.2                              |
| 29-30       | 0.001476                                                | 97,077                            | 143                                             | 97,005                                                | 4,682,256                                              | 48.2                              |
| 30-31       | 0.001522                                                | 96,934                            | 148                                             | 96,860                                                | 4,585,251                                              | 47.3                              |
| 31-32       | 0.001569                                                | 96,786                            | 152                                             | 96,710                                                | 4,488,391                                              | 46.4                              |
| 32-33       | 0.001620                                                | 96,635                            | 157                                             | 96,556                                                | 4,391,680                                              | 45.4                              |
| 33-34       | 0.001679                                                | 96,478                            | 162                                             | 96,397                                                | 4,295,124                                              | 44.5                              |
| 34-35       | 0.001748                                                | 96,316                            | 168                                             | 96,232                                                | 4,198,727                                              | 43.6                              |
| 35-36       | 0.001836                                                | 96,148                            | 176                                             | 96,059                                                | 4,102,495                                              | 42.7                              |
| 36-37       | 0.001940                                                | 95,971                            | 186                                             | 95,878                                                | 4,006,436                                              | 41.7                              |
| 37-38       | 0.002056                                                | 95,785                            | 197                                             | 95,687                                                | 3,910,558                                              | 40.8                              |
| 38-39       | 0.002178                                                | 95,588                            | 208                                             | 95,484                                                | 3,814,871                                              | 39.9                              |
| 39-40       | 0.002310                                                | 95,380                            | 220                                             | 95,270                                                | 3,719,387                                              | 39.0                              |
| 40-41       | 0.002457                                                | 95,159                            | 234                                             | 95,043                                                | 3,624,117                                              | 38.1                              |
| 41-42       | 0.002629                                                | 94,926                            | 250                                             | 94,801                                                | 3,529,075                                              | 37.2                              |
| 42-43       | 0.002839                                                | 94,676                            | 269                                             | 94,542                                                | 3,434,274                                              | 36.3                              |
| 43-44       | 0.003094                                                | 94,407                            | 292                                             | 94,261                                                | 3,339,732                                              | 35.4                              |
| 44-45       | 0.003389                                                | 94,115                            | 319                                             | 93,956                                                | 3,245,471                                              | 34.5                              |
| 45-46       | 0.003697                                                | 93,796                            | 347                                             | 93,623                                                | 3,151,515                                              | 33.6                              |
| 46-47       | 0.004025                                                | 93,450                            | 376                                             | 93,261                                                | 3,057,892                                              | 32.7                              |
| 47-48       | 0.004415                                                | 93,073                            | 411                                             | 92,868                                                | 2,964,631                                              | 31.9                              |
| 48-49       | 0.004881                                                | 92,662                            | 452                                             | 92,436                                                | 2,871,763                                              | 31.0                              |
| 49-50       | 0.005406                                                | 92,210                            | 499                                             | 91,961                                                | 2,779,327                                              | 30.1                              |
| 50-51       | 0.005959                                                | 91,712                            | 546                                             | 91,438                                                | 2,687,366                                              | 29.3                              |
| 51-52       | 0.006518                                                | 91,165                            | 594                                             | 90,868                                                | 2,595,928                                              | 28.5                              |
| 52-53       | 0.007099                                                | 90,571                            | 643                                             | 90,249                                                | 2,505,060                                              | 27.7                              |
| 53-54       | 0.007713                                                | 89,928                            | 694                                             | 89,581                                                | 2,414,810                                              | 26.9                              |
| 54-55       | 0.008373                                                | 89,234                            | 747                                             | 88,861                                                | 2,325,229                                              | 26.1                              |
| 55-56       | 0.009090                                                | 88,487                            | 804                                             | 88,085                                                | 2,236,368                                              | 25.3                              |
| 56-57       | 0.009860                                                | 87,683                            | 865                                             | 87,251                                                | 2,148,283                                              | 24.5                              |
| 57-58       | 0.010664                                                | 86,818                            | 926                                             | 86,355                                                | 2,061,033                                              | 23.7                              |
| 58-59       | 0.011475                                                | 85,892                            | 986                                             | 85,400                                                | 1,974,677                                              | 23.0                              |
| 59-60       | 0.012286                                                | 84,907                            | 1,043                                           | 84,385                                                | 1,889,278                                              | 22.3                              |
| 60-61       | 0.013145                                                | 83,864                            | 1,102                                           | 83,313                                                | 1,804,892                                              | 21.5                              |

See footnote at end of table.

**Table 7. Life table for the black population: United States, 2011—Con.**Spreadsheet version available from: [ftp://ftp.cdc.gov/pub/Health\\_Statistics/NCHS/Publications/NVSR/64\\_11/Table07.xlsx](ftp://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/64_11/Table07.xlsx).

| Age (years)        | Probability of<br>dying between<br>ages $x$ and $x + 1$ | Number<br>surviving to<br>age $x$ | Number dying<br>between<br>ages $x$ and $x + 1$ | Person-years lived<br>between<br>ages $x$ and $x + 1$ | Total number of<br>person-years lived<br>above age $x$ | Expectation of<br>life at age $x$ |
|--------------------|---------------------------------------------------------|-----------------------------------|-------------------------------------------------|-------------------------------------------------------|--------------------------------------------------------|-----------------------------------|
|                    | $q_x$                                                   | $l_x$                             | $d_x$                                           | $L_x$                                                 | $T_x$                                                  | $e_x$                             |
| 61–62 .....        | 0.014056                                                | 82,761                            | 1,163                                           | 82,180                                                | 1,721,580                                              | 20.8                              |
| 62–63 .....        | 0.014971                                                | 81,598                            | 1,222                                           | 80,987                                                | 1,639,400                                              | 20.1                              |
| 63–64 .....        | 0.015906                                                | 80,376                            | 1,278                                           | 79,737                                                | 1,558,413                                              | 19.4                              |
| 64–65 .....        | 0.016914                                                | 79,098                            | 1,338                                           | 78,429                                                | 1,478,676                                              | 18.7                              |
| 65–66 .....        | 0.018071                                                | 77,760                            | 1,405                                           | 77,058                                                | 1,400,247                                              | 18.0                              |
| 66–67 .....        | 0.019441                                                | 76,355                            | 1,484                                           | 75,613                                                | 1,323,189                                              | 17.3                              |
| 67–68 .....        | 0.020960                                                | 74,871                            | 1,569                                           | 74,086                                                | 1,247,576                                              | 16.7                              |
| 68–69 .....        | 0.022542                                                | 73,301                            | 1,652                                           | 72,475                                                | 1,173,490                                              | 16.0                              |
| 69–70 .....        | 0.024196                                                | 71,649                            | 1,734                                           | 70,782                                                | 1,101,015                                              | 15.4                              |
| 70–71 .....        | 0.025906                                                | 69,915                            | 1,811                                           | 69,010                                                | 1,030,233                                              | 14.7                              |
| 71–72 .....        | 0.027689                                                | 68,104                            | 1,886                                           | 67,161                                                | 961,224                                                | 14.1                              |
| 72–73 .....        | 0.029712                                                | 66,218                            | 1,967                                           | 65,235                                                | 894,062                                                | 13.5                              |
| 73–74 .....        | 0.032007                                                | 64,251                            | 2,056                                           | 63,223                                                | 828,828                                                | 12.9                              |
| 74–75 .....        | 0.034630                                                | 62,194                            | 2,154                                           | 61,117                                                | 765,605                                                | 12.3                              |
| 75–76 .....        | 0.037486                                                | 60,041                            | 2,251                                           | 58,915                                                | 704,488                                                | 11.7                              |
| 76–77 .....        | 0.040247                                                | 57,790                            | 2,326                                           | 56,627                                                | 645,572                                                | 11.2                              |
| 77–78 .....        | 0.043586                                                | 55,464                            | 2,417                                           | 54,255                                                | 588,946                                                | 10.6                              |
| 78–79 .....        | 0.047699                                                | 53,047                            | 2,530                                           | 51,781                                                | 534,690                                                | 10.1                              |
| 79–80 .....        | 0.052079                                                | 50,516                            | 2,631                                           | 49,201                                                | 482,909                                                | 9.6                               |
| 80–81 .....        | 0.056852                                                | 47,885                            | 2,722                                           | 46,524                                                | 433,708                                                | 9.1                               |
| 81–82 .....        | 0.061846                                                | 45,163                            | 2,793                                           | 43,766                                                | 387,184                                                | 8.6                               |
| 82–83 .....        | 0.067901                                                | 42,370                            | 2,877                                           | 40,931                                                | 343,417                                                | 8.1                               |
| 83–84 .....        | 0.074532                                                | 39,493                            | 2,943                                           | 38,021                                                | 302,486                                                | 7.7                               |
| 84–85 .....        | 0.081262                                                | 36,549                            | 2,970                                           | 35,064                                                | 264,465                                                | 7.2                               |
| 85–86 .....        | 0.088508                                                | 33,579                            | 2,972                                           | 32,093                                                | 229,400                                                | 6.8                               |
| 86–87 .....        | 0.096294                                                | 30,607                            | 2,947                                           | 29,134                                                | 197,307                                                | 6.4                               |
| 87–88 .....        | 0.104641                                                | 27,660                            | 2,894                                           | 26,213                                                | 168,173                                                | 6.1                               |
| 88–89 .....        | 0.113567                                                | 24,766                            | 2,813                                           | 23,359                                                | 141,960                                                | 5.7                               |
| 89–90 .....        | 0.123088                                                | 21,953                            | 2,702                                           | 20,602                                                | 118,601                                                | 5.4                               |
| 90–91 .....        | 0.133215                                                | 19,251                            | 2,565                                           | 17,969                                                | 97,999                                                 | 5.1                               |
| 91–92 .....        | 0.143955                                                | 16,686                            | 2,402                                           | 15,485                                                | 80,030                                                 | 4.8                               |
| 92–93 .....        | 0.155309                                                | 14,284                            | 2,218                                           | 13,175                                                | 64,545                                                 | 4.5                               |
| 93–94 .....        | 0.167271                                                | 12,066                            | 2,018                                           | 11,057                                                | 51,370                                                 | 4.3                               |
| 94–95 .....        | 0.179830                                                | 10,048                            | 1,807                                           | 9,144                                                 | 40,313                                                 | 4.0                               |
| 95–96 .....        | 0.192969                                                | 8,241                             | 1,590                                           | 7,446                                                 | 31,169                                                 | 3.8                               |
| 96–97 .....        | 0.206659                                                | 6,651                             | 1,374                                           | 5,963                                                 | 23,724                                                 | 3.6                               |
| 97–98 .....        | 0.220869                                                | 5,276                             | 1,165                                           | 4,693                                                 | 17,760                                                 | 3.4                               |
| 98–99 .....        | 0.235554                                                | 4,111                             | 968                                             | 3,627                                                 | 13,067                                                 | 3.2                               |
| 99–100 .....       | 0.250668                                                | 3,142                             | 788                                             | 2,749                                                 | 9,440                                                  | 3.0                               |
| 100 and over ..... | 1.000000                                                | 2,355                             | 2,355                                           | 6,691                                                 | 6,691                                                  | 2.8                               |

SOURCE: CDC/NCHS, National Vital Statistics System.

**Table 8. Life table for black males: United States, 2011**Spreadsheet version available from: [ftp://ftp.cdc.gov/pub/Health\\_Statistics/NCHS/Publications/NVSR/64\\_11/Table08.xlsx](ftp://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/64_11/Table08.xlsx).

| Age (years) | Probability of<br>dying between<br>ages $x$ and $x + 1$ | Number<br>surviving to<br>age $x$ | Number dying<br>between<br>ages $x$ and $x + 1$ | Person-years lived<br>between<br>ages $x$ and $x + 1$ | Total number of<br>person-years lived<br>above age $x$ | Expectation of<br>life at age $x$ |
|-------------|---------------------------------------------------------|-----------------------------------|-------------------------------------------------|-------------------------------------------------------|--------------------------------------------------------|-----------------------------------|
|             | $q_x$                                                   | $l_x$                             | $d_x$                                           | $L_x$                                                 | $T_x$                                                  | $e_x$                             |
| 0-1         | 0.012602                                                | 100,000                           | 1,260                                           | 98,919                                                | 7,219,226                                              | 72.2                              |
| 1-2         | 0.000628                                                | 98,740                            | 62                                              | 98,709                                                | 7,120,308                                              | 72.1                              |
| 2-3         | 0.000462                                                | 98,678                            | 46                                              | 98,655                                                | 7,021,599                                              | 71.2                              |
| 3-4         | 0.000333                                                | 98,632                            | 33                                              | 98,616                                                | 6,922,944                                              | 70.2                              |
| 4-5         | 0.000295                                                | 98,599                            | 29                                              | 98,585                                                | 6,824,328                                              | 69.2                              |
| 5-6         | 0.000243                                                | 98,570                            | 24                                              | 98,558                                                | 6,725,743                                              | 68.2                              |
| 6-7         | 0.000211                                                | 98,546                            | 21                                              | 98,536                                                | 6,627,185                                              | 67.2                              |
| 7-8         | 0.000182                                                | 98,526                            | 18                                              | 98,517                                                | 6,528,649                                              | 66.3                              |
| 8-9         | 0.000152                                                | 98,508                            | 15                                              | 98,500                                                | 6,430,132                                              | 65.3                              |
| 9-10        | 0.000121                                                | 98,493                            | 12                                              | 98,487                                                | 6,331,632                                              | 64.3                              |
| 10-11       | 0.000101                                                | 98,481                            | 10                                              | 98,476                                                | 6,233,145                                              | 63.3                              |
| 11-12       | 0.000111                                                | 98,471                            | 11                                              | 98,465                                                | 6,134,669                                              | 62.3                              |
| 12-13       | 0.000171                                                | 98,460                            | 17                                              | 98,452                                                | 6,036,203                                              | 61.3                              |
| 13-14       | 0.000292                                                | 98,443                            | 29                                              | 98,429                                                | 5,937,752                                              | 60.3                              |
| 14-15       | 0.000454                                                | 98,414                            | 45                                              | 98,392                                                | 5,839,323                                              | 59.3                              |
| 15-16       | 0.000620                                                | 98,370                            | 61                                              | 98,339                                                | 5,740,931                                              | 58.4                              |
| 16-17       | 0.000779                                                | 98,309                            | 77                                              | 98,270                                                | 5,642,592                                              | 57.4                              |
| 17-18       | 0.000953                                                | 98,232                            | 94                                              | 98,185                                                | 5,544,321                                              | 56.4                              |
| 18-19       | 0.001144                                                | 98,139                            | 112                                             | 98,082                                                | 5,446,136                                              | 55.5                              |
| 19-20       | 0.001346                                                | 98,026                            | 132                                             | 97,960                                                | 5,348,054                                              | 54.6                              |
| 20-21       | 0.001565                                                | 97,894                            | 153                                             | 97,818                                                | 5,250,093                                              | 53.6                              |
| 21-22       | 0.001770                                                | 97,741                            | 173                                             | 97,655                                                | 5,152,275                                              | 52.7                              |
| 22-23       | 0.001925                                                | 97,568                            | 188                                             | 97,474                                                | 5,054,621                                              | 51.8                              |
| 23-24       | 0.002008                                                | 97,380                            | 196                                             | 97,283                                                | 4,957,147                                              | 50.9                              |
| 24-25       | 0.002034                                                | 97,185                            | 198                                             | 97,086                                                | 4,859,864                                              | 50.0                              |
| 25-26       | 0.002043                                                | 96,987                            | 198                                             | 96,888                                                | 4,762,778                                              | 49.1                              |
| 26-27       | 0.002060                                                | 96,789                            | 199                                             | 96,689                                                | 4,665,890                                              | 48.2                              |
| 27-28       | 0.002072                                                | 96,590                            | 200                                             | 96,489                                                | 4,569,201                                              | 47.3                              |
| 28-29       | 0.002086                                                | 96,389                            | 201                                             | 96,289                                                | 4,472,711                                              | 46.4                              |
| 29-30       | 0.002103                                                | 96,188                            | 202                                             | 96,087                                                | 4,376,423                                              | 45.5                              |
| 30-31       | 0.002115                                                | 95,986                            | 203                                             | 95,885                                                | 4,280,335                                              | 44.6                              |
| 31-32       | 0.002127                                                | 95,783                            | 204                                             | 95,681                                                | 4,184,451                                              | 43.7                              |
| 32-33       | 0.002152                                                | 95,579                            | 206                                             | 95,476                                                | 4,088,770                                              | 42.8                              |
| 33-34       | 0.002199                                                | 95,374                            | 210                                             | 95,269                                                | 3,993,293                                              | 41.9                              |
| 34-35       | 0.002267                                                | 95,164                            | 216                                             | 95,056                                                | 3,898,024                                              | 41.0                              |
| 35-36       | 0.002359                                                | 94,948                            | 224                                             | 94,836                                                | 3,802,969                                              | 40.1                              |
| 36-37       | 0.002469                                                | 94,724                            | 234                                             | 94,607                                                | 3,708,132                                              | 39.1                              |
| 37-38       | 0.002589                                                | 94,490                            | 245                                             | 94,368                                                | 3,613,525                                              | 38.2                              |
| 38-39       | 0.002713                                                | 94,246                            | 256                                             | 94,118                                                | 3,519,157                                              | 37.3                              |
| 39-40       | 0.002846                                                | 93,990                            | 267                                             | 93,856                                                | 3,425,039                                              | 36.4                              |
| 40-41       | 0.003000                                                | 93,723                            | 281                                             | 93,582                                                | 3,331,183                                              | 35.5                              |
| 41-42       | 0.003190                                                | 93,441                            | 298                                             | 93,292                                                | 3,237,601                                              | 34.6                              |
| 42-43       | 0.003421                                                | 93,143                            | 319                                             | 92,984                                                | 3,144,309                                              | 33.8                              |
| 43-44       | 0.003703                                                | 92,825                            | 344                                             | 92,653                                                | 3,051,325                                              | 32.9                              |
| 44-45       | 0.004034                                                | 92,481                            | 373                                             | 92,294                                                | 2,958,672                                              | 32.0                              |
| 45-46       | 0.004378                                                | 92,108                            | 403                                             | 91,906                                                | 2,866,378                                              | 31.1                              |
| 46-47       | 0.004757                                                | 91,705                            | 436                                             | 91,487                                                | 2,774,472                                              | 30.3                              |
| 47-48       | 0.005233                                                | 91,268                            | 478                                             | 91,030                                                | 2,682,985                                              | 29.4                              |
| 48-49       | 0.005830                                                | 90,791                            | 529                                             | 90,526                                                | 2,591,955                                              | 28.5                              |
| 49-50       | 0.006521                                                | 90,261                            | 589                                             | 89,967                                                | 2,501,429                                              | 27.7                              |
| 50-51       | 0.007253                                                | 89,673                            | 650                                             | 89,348                                                | 2,411,462                                              | 26.9                              |
| 51-52       | 0.007994                                                | 89,022                            | 712                                             | 88,667                                                | 2,322,114                                              | 26.1                              |
| 52-53       | 0.008770                                                | 88,311                            | 775                                             | 87,924                                                | 2,233,448                                              | 25.3                              |
| 53-54       | 0.009598                                                | 87,536                            | 840                                             | 87,116                                                | 2,145,524                                              | 24.5                              |
| 54-55       | 0.010496                                                | 86,696                            | 910                                             | 86,241                                                | 2,058,408                                              | 23.7                              |
| 55-56       | 0.011477                                                | 85,786                            | 985                                             | 85,294                                                | 1,972,167                                              | 23.0                              |
| 56-57       | 0.012533                                                | 84,802                            | 1,063                                           | 84,270                                                | 1,886,873                                              | 22.3                              |
| 57-58       | 0.013644                                                | 83,739                            | 1,143                                           | 83,168                                                | 1,802,603                                              | 21.5                              |
| 58-59       | 0.014770                                                | 82,596                            | 1,220                                           | 81,986                                                | 1,719,435                                              | 20.8                              |
| 59-60       | 0.015894                                                | 81,376                            | 1,293                                           | 80,730                                                | 1,637,449                                              | 20.1                              |
| 60-61       | 0.017095                                                | 80,083                            | 1,369                                           | 79,398                                                | 1,556,719                                              | 19.4                              |

See footnote at end of table.

**Table 8. Life table for black males: United States, 2011—Con.**Spreadsheet version available from: [ftp://ftp.cdc.gov/pub/Health\\_Statistics/NCHS/Publications/NVSR/64\\_11/Table08.xlsx](ftp://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/64_11/Table08.xlsx).

| Age (years)        | Probability of<br>dying between<br>ages $x$ and $x + 1$ | Number<br>surviving to<br>age $x$ | Number dying<br>between<br>ages $x$ and $x + 1$ | Person-years lived<br>between<br>ages $x$ and $x + 1$ | Total number of<br>person-years lived<br>above age $x$ | Expectation of<br>life at age $x$ |
|--------------------|---------------------------------------------------------|-----------------------------------|-------------------------------------------------|-------------------------------------------------------|--------------------------------------------------------|-----------------------------------|
|                    | $q_x$                                                   | $l_x$                             | $d_x$                                           | $L_x$                                                 | $T_x$                                                  | $e_x$                             |
| 61–62 .....        | 0.018359                                                | 78,714                            | 1,445                                           | 77,991                                                | 1,477,320                                              | 18.8                              |
| 62–63 .....        | 0.019580                                                | 77,269                            | 1,513                                           | 76,512                                                | 1,399,329                                              | 18.1                              |
| 63–64 .....        | 0.020746                                                | 75,756                            | 1,572                                           | 74,970                                                | 1,322,817                                              | 17.5                              |
| 64–65 .....        | 0.021933                                                | 74,184                            | 1,627                                           | 73,371                                                | 1,247,846                                              | 16.8                              |
| 65–66 .....        | 0.023245                                                | 72,557                            | 1,687                                           | 71,714                                                | 1,174,476                                              | 16.2                              |
| 66–67 .....        | 0.024800                                                | 70,871                            | 1,758                                           | 69,992                                                | 1,102,762                                              | 15.6                              |
| 67–68 .....        | 0.026622                                                | 69,113                            | 1,840                                           | 68,193                                                | 1,032,770                                              | 14.9                              |
| 68–69 .....        | 0.028632                                                | 67,273                            | 1,926                                           | 66,310                                                | 964,577                                                | 14.3                              |
| 69–70 .....        | 0.030702                                                | 65,347                            | 2,006                                           | 64,344                                                | 898,266                                                | 13.7                              |
| 70–71 .....        | 0.032896                                                | 63,341                            | 2,084                                           | 62,299                                                | 833,923                                                | 13.2                              |
| 71–72 .....        | 0.035212                                                | 61,257                            | 2,157                                           | 60,179                                                | 771,624                                                | 12.6                              |
| 72–73 .....        | 0.037788                                                | 59,100                            | 2,233                                           | 57,983                                                | 711,445                                                | 12.0                              |
| 73–74 .....        | 0.040605                                                | 56,867                            | 2,309                                           | 55,712                                                | 653,462                                                | 11.5                              |
| 74–75 .....        | 0.043482                                                | 54,558                            | 2,372                                           | 53,372                                                | 597,749                                                | 11.0                              |
| 75–76 .....        | 0.046961                                                | 52,185                            | 2,451                                           | 50,960                                                | 544,378                                                | 10.4                              |
| 76–77 .....        | 0.050250                                                | 49,735                            | 2,499                                           | 48,485                                                | 493,417                                                | 9.9                               |
| 77–78 .....        | 0.053784                                                | 47,236                            | 2,540                                           | 45,965                                                | 444,932                                                | 9.4                               |
| 78–79 .....        | 0.058762                                                | 44,695                            | 2,626                                           | 43,382                                                | 398,967                                                | 8.9                               |
| 79–80 .....        | 0.064095                                                | 42,069                            | 2,696                                           | 40,721                                                | 355,585                                                | 8.5                               |
| 80–81 .....        | 0.069788                                                | 39,372                            | 2,748                                           | 37,999                                                | 314,864                                                | 8.0                               |
| 81–82 .....        | 0.075751                                                | 36,625                            | 2,774                                           | 35,237                                                | 276,866                                                | 7.6                               |
| 82–83 .....        | 0.084482                                                | 33,850                            | 2,860                                           | 32,420                                                | 241,628                                                | 7.1                               |
| 83–84 .....        | 0.091636                                                | 30,991                            | 2,840                                           | 29,571                                                | 209,208                                                | 6.8                               |
| 84–85 .....        | 0.099292                                                | 28,151                            | 2,795                                           | 26,753                                                | 179,637                                                | 6.4                               |
| 85–86 .....        | 0.107468                                                | 25,356                            | 2,725                                           | 23,993                                                | 152,884                                                | 6.0                               |
| 86–87 .....        | 0.116179                                                | 22,631                            | 2,629                                           | 21,316                                                | 128,891                                                | 5.7                               |
| 87–88 .....        | 0.125438                                                | 20,001                            | 2,509                                           | 18,747                                                | 107,575                                                | 5.4                               |
| 88–89 .....        | 0.135254                                                | 17,493                            | 2,366                                           | 16,310                                                | 88,828                                                 | 5.1                               |
| 89–90 .....        | 0.145632                                                | 15,127                            | 2,203                                           | 14,025                                                | 72,518                                                 | 4.8                               |
| 90–91 .....        | 0.156570                                                | 12,924                            | 2,023                                           | 11,912                                                | 58,493                                                 | 4.5                               |
| 91–92 .....        | 0.168066                                                | 10,900                            | 1,832                                           | 9,984                                                 | 46,581                                                 | 4.3                               |
| 92–93 .....        | 0.180107                                                | 9,068                             | 1,633                                           | 8,252                                                 | 36,597                                                 | 4.0                               |
| 93–94 .....        | 0.192678                                                | 7,435                             | 1,433                                           | 6,719                                                 | 28,346                                                 | 3.8                               |
| 94–95 .....        | 0.205755                                                | 6,002                             | 1,235                                           | 5,385                                                 | 21,627                                                 | 3.6                               |
| 95–96 .....        | 0.219310                                                | 4,767                             | 1,046                                           | 4,245                                                 | 16,242                                                 | 3.4                               |
| 96–97 .....        | 0.233305                                                | 3,722                             | 868                                             | 3,288                                                 | 11,997                                                 | 3.2                               |
| 97–98 .....        | 0.247698                                                | 2,854                             | 707                                             | 2,500                                                 | 8,710                                                  | 3.1                               |
| 98–99 .....        | 0.262442                                                | 2,147                             | 563                                             | 1,865                                                 | 6,209                                                  | 2.9                               |
| 99–100 .....       | 0.277482                                                | 1,583                             | 439                                             | 1,364                                                 | 4,344                                                  | 2.7                               |
| 100 and over ..... | 1.000000                                                | 1,144                             | 1,144                                           | 2,981                                                 | 2,981                                                  | 2.6                               |

SOURCE: CDC/NCHS, National Vital Statistics System.

**Table 9. Life table for black females: United States, 2011**Spreadsheet version available from: [ftp://ftp.cdc.gov/pub/Health\\_Statistics/NCHS/Publications/NVSR/64\\_11/Table09.xlsx](ftp://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/64_11/Table09.xlsx).

| Age (years) | Probability of<br>dying between<br>ages $x$ and $x + 1$ | Number<br>surviving to<br>age $x$ | Number dying<br>between<br>ages $x$ and $x + 1$ | Person-years lived<br>between<br>ages $x$ and $x + 1$ | Total number of<br>person-years lived<br>above age $x$ | Expectation of<br>life at age $x$ |
|-------------|---------------------------------------------------------|-----------------------------------|-------------------------------------------------|-------------------------------------------------------|--------------------------------------------------------|-----------------------------------|
|             | $q_x$                                                   | $l_x$                             | $d_x$                                           | $L_x$                                                 | $T_x$                                                  | $e_x$                             |
| 0-1         | 0.010364                                                | 100,000                           | 1,036                                           | 99,085                                                | 7,816,761                                              | 78.2                              |
| 1-2         | 0.000584                                                | 98,964                            | 58                                              | 98,935                                                | 7,717,676                                              | 78.0                              |
| 2-3         | 0.000356                                                | 98,906                            | 35                                              | 98,888                                                | 7,618,741                                              | 77.0                              |
| 3-4         | 0.000225                                                | 98,871                            | 22                                              | 98,859                                                | 7,519,853                                              | 76.1                              |
| 4-5         | 0.000193                                                | 98,848                            | 19                                              | 98,839                                                | 7,420,994                                              | 75.1                              |
| 5-6         | 0.000186                                                | 98,829                            | 18                                              | 98,820                                                | 7,322,155                                              | 74.1                              |
| 6-7         | 0.000162                                                | 98,811                            | 16                                              | 98,803                                                | 7,223,335                                              | 73.1                              |
| 7-8         | 0.000143                                                | 98,795                            | 14                                              | 98,788                                                | 7,124,532                                              | 72.1                              |
| 8-9         | 0.000128                                                | 98,781                            | 13                                              | 98,774                                                | 7,025,744                                              | 71.1                              |
| 9-10        | 0.000118                                                | 98,768                            | 12                                              | 98,762                                                | 6,926,970                                              | 70.1                              |
| 10-11       | 0.000115                                                | 98,756                            | 11                                              | 98,751                                                | 6,828,208                                              | 69.1                              |
| 11-12       | 0.000119                                                | 98,745                            | 12                                              | 98,739                                                | 6,729,457                                              | 68.1                              |
| 12-13       | 0.000133                                                | 98,733                            | 13                                              | 98,727                                                | 6,630,718                                              | 67.2                              |
| 13-14       | 0.000158                                                | 98,720                            | 16                                              | 98,712                                                | 6,531,991                                              | 66.2                              |
| 14-15       | 0.000192                                                | 98,705                            | 19                                              | 98,695                                                | 6,433,279                                              | 65.2                              |
| 15-16       | 0.000229                                                | 98,686                            | 23                                              | 98,674                                                | 6,334,583                                              | 64.2                              |
| 16-17       | 0.000268                                                | 98,663                            | 26                                              | 98,650                                                | 6,235,909                                              | 63.2                              |
| 17-18       | 0.000310                                                | 98,637                            | 31                                              | 98,621                                                | 6,137,259                                              | 62.2                              |
| 18-19       | 0.000357                                                | 98,606                            | 35                                              | 98,588                                                | 6,038,638                                              | 61.2                              |
| 19-20       | 0.000407                                                | 98,571                            | 40                                              | 98,551                                                | 5,940,050                                              | 60.3                              |
| 20-21       | 0.000463                                                | 98,531                            | 46                                              | 98,508                                                | 5,841,499                                              | 59.3                              |
| 21-22       | 0.000517                                                | 98,485                            | 51                                              | 98,460                                                | 5,742,991                                              | 58.3                              |
| 22-23       | 0.000565                                                | 98,434                            | 56                                              | 98,406                                                | 5,644,532                                              | 57.3                              |
| 23-24       | 0.000602                                                | 98,378                            | 59                                              | 98,349                                                | 5,546,125                                              | 56.4                              |
| 24-25       | 0.000634                                                | 98,319                            | 62                                              | 98,288                                                | 5,447,777                                              | 55.4                              |
| 25-26       | 0.000667                                                | 98,257                            | 66                                              | 98,224                                                | 5,349,489                                              | 54.4                              |
| 26-27       | 0.000709                                                | 98,191                            | 70                                              | 98,156                                                | 5,251,265                                              | 53.5                              |
| 27-28       | 0.000761                                                | 98,122                            | 75                                              | 98,084                                                | 5,153,108                                              | 52.5                              |
| 28-29       | 0.000826                                                | 98,047                            | 81                                              | 98,007                                                | 5,055,024                                              | 51.6                              |
| 29-30       | 0.000899                                                | 97,966                            | 88                                              | 97,922                                                | 4,957,017                                              | 50.6                              |
| 30-31       | 0.000979                                                | 97,878                            | 96                                              | 97,830                                                | 4,859,095                                              | 49.6                              |
| 31-32       | 0.001061                                                | 97,782                            | 104                                             | 97,730                                                | 4,761,265                                              | 48.7                              |
| 32-33       | 0.001138                                                | 97,678                            | 111                                             | 97,623                                                | 4,663,535                                              | 47.7                              |
| 33-34       | 0.001210                                                | 97,567                            | 118                                             | 97,508                                                | 4,565,912                                              | 46.8                              |
| 34-35       | 0.001284                                                | 97,449                            | 125                                             | 97,387                                                | 4,468,404                                              | 45.9                              |
| 35-36       | 0.001369                                                | 97,324                            | 133                                             | 97,257                                                | 4,371,017                                              | 44.9                              |
| 36-37       | 0.001470                                                | 97,191                            | 143                                             | 97,119                                                | 4,273,760                                              | 44.0                              |
| 37-38       | 0.001583                                                | 97,048                            | 154                                             | 96,971                                                | 4,176,640                                              | 43.0                              |
| 38-39       | 0.001704                                                | 96,894                            | 165                                             | 96,812                                                | 4,079,669                                              | 42.1                              |
| 39-40       | 0.001835                                                | 96,729                            | 178                                             | 96,641                                                | 3,982,857                                              | 41.2                              |
| 40-41       | 0.001973                                                | 96,552                            | 191                                             | 96,457                                                | 3,886,217                                              | 40.3                              |
| 41-42       | 0.002130                                                | 96,361                            | 205                                             | 96,259                                                | 3,789,760                                              | 39.3                              |
| 42-43       | 0.002319                                                | 96,156                            | 223                                             | 96,045                                                | 3,693,502                                              | 38.4                              |
| 43-44       | 0.002550                                                | 95,933                            | 245                                             | 95,811                                                | 3,597,457                                              | 37.5                              |
| 44-45       | 0.002814                                                | 95,688                            | 269                                             | 95,554                                                | 3,501,646                                              | 36.6                              |
| 45-46       | 0.003088                                                | 95,419                            | 295                                             | 95,272                                                | 3,406,092                                              | 35.7                              |
| 46-47       | 0.003371                                                | 95,124                            | 321                                             | 94,964                                                | 3,310,821                                              | 34.8                              |
| 47-48       | 0.003686                                                | 94,804                            | 349                                             | 94,629                                                | 3,215,856                                              | 33.9                              |
| 48-49       | 0.004036                                                | 94,454                            | 381                                             | 94,264                                                | 3,121,227                                              | 33.0                              |
| 49-50       | 0.004415                                                | 94,073                            | 415                                             | 93,866                                                | 3,026,964                                              | 32.2                              |
| 50-51       | 0.004809                                                | 93,658                            | 450                                             | 93,433                                                | 2,933,098                                              | 31.3                              |
| 51-52       | 0.005209                                                | 93,207                            | 486                                             | 92,965                                                | 2,839,665                                              | 30.5                              |
| 52-53       | 0.005622                                                | 92,722                            | 521                                             | 92,461                                                | 2,746,701                                              | 29.6                              |
| 53-54       | 0.006056                                                | 92,201                            | 558                                             | 91,921                                                | 2,654,239                                              | 28.8                              |
| 54-55       | 0.006519                                                | 91,642                            | 597                                             | 91,344                                                | 2,562,318                                              | 28.0                              |
| 55-56       | 0.007024                                                | 91,045                            | 639                                             | 90,725                                                | 2,470,974                                              | 27.1                              |
| 56-57       | 0.007565                                                | 90,405                            | 684                                             | 90,063                                                | 2,380,249                                              | 26.3                              |
| 57-58       | 0.008126                                                | 89,722                            | 729                                             | 89,357                                                | 2,290,186                                              | 25.5                              |
| 58-59       | 0.008691                                                | 88,992                            | 773                                             | 88,606                                                | 2,200,829                                              | 24.7                              |
| 59-60       | 0.009258                                                | 88,219                            | 817                                             | 87,811                                                | 2,112,223                                              | 23.9                              |
| 60-61       | 0.009856                                                | 87,402                            | 861                                             | 86,971                                                | 2,024,412                                              | 23.2                              |

See footnote at end of table.

**Table 9. Life table for black females: United States, 2011—Con.**Spreadsheet version available from: [ftp://ftp.cdc.gov/pub/Health\\_Statistics/NCHS/Publications/NVSR/64\\_11/Table09.xlsx](ftp://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/64_11/Table09.xlsx).

| Age (years)  | Probability of<br>dying between<br>ages $x$ and $x + 1$ | Number<br>surviving to<br>age $x$ | Number dying<br>between<br>ages $x$ and $x + 1$ | Person-years lived<br>between<br>ages $x$ and $x + 1$ | Total number of<br>person-years lived<br>above age $x$ | Expectation of<br>life at age $x$ |
|--------------|---------------------------------------------------------|-----------------------------------|-------------------------------------------------|-------------------------------------------------------|--------------------------------------------------------|-----------------------------------|
|              | $q_x$                                                   | $l_x$                             | $d_x$                                           | $L_x$                                                 | $T_x$                                                  | $e_x$                             |
| 61–62        | 0.010503                                                | 86,541                            | 909                                             | 86,086                                                | 1,937,441                                              | 22.4                              |
| 62–63        | 0.011198                                                | 85,632                            | 959                                             | 85,152                                                | 1,851,355                                              | 21.6                              |
| 63–64        | 0.011978                                                | 84,673                            | 1,014                                           | 84,166                                                | 1,766,202                                              | 20.9                              |
| 64–65        | 0.012882                                                | 83,659                            | 1,078                                           | 83,120                                                | 1,682,036                                              | 20.1                              |
| 65–66        | 0.013962                                                | 82,581                            | 1,153                                           | 82,005                                                | 1,598,916                                              | 19.4                              |
| 66–67        | 0.015236                                                | 81,428                            | 1,241                                           | 80,808                                                | 1,516,912                                              | 18.6                              |
| 67–68        | 0.016574                                                | 80,187                            | 1,329                                           | 79,523                                                | 1,436,104                                              | 17.9                              |
| 68–69        | 0.017876                                                | 78,858                            | 1,410                                           | 78,154                                                | 1,356,581                                              | 17.2                              |
| 69–70        | 0.019270                                                | 77,449                            | 1,492                                           | 76,703                                                | 1,278,427                                              | 16.5                              |
| 70–71        | 0.020679                                                | 75,956                            | 1,571                                           | 75,171                                                | 1,201,725                                              | 15.8                              |
| 71–72        | 0.022133                                                | 74,386                            | 1,646                                           | 73,562                                                | 1,126,554                                              | 15.1                              |
| 72–73        | 0.023825                                                | 72,739                            | 1,733                                           | 71,873                                                | 1,052,992                                              | 14.5                              |
| 73–74        | 0.025837                                                | 71,006                            | 1,835                                           | 70,089                                                | 981,119                                                | 13.8                              |
| 74–75        | 0.028413                                                | 69,172                            | 1,965                                           | 68,189                                                | 911,030                                                | 13.2                              |
| 75–76        | 0.030984                                                | 67,206                            | 2,082                                           | 66,165                                                | 842,841                                                | 12.5                              |
| 76–77        | 0.033528                                                | 65,124                            | 2,183                                           | 64,032                                                | 776,676                                                | 11.9                              |
| 77–78        | 0.036927                                                | 62,940                            | 2,324                                           | 61,778                                                | 712,644                                                | 11.3                              |
| 78–79        | 0.040687                                                | 60,616                            | 2,466                                           | 59,383                                                | 650,866                                                | 10.7                              |
| 79–80        | 0.044720                                                | 58,150                            | 2,600                                           | 56,850                                                | 591,482                                                | 10.2                              |
| 80–81        | 0.049240                                                | 55,549                            | 2,735                                           | 54,182                                                | 534,633                                                | 9.6                               |
| 81–82        | 0.053959                                                | 52,814                            | 2,850                                           | 51,389                                                | 480,451                                                | 9.1                               |
| 82–83        | 0.059484                                                | 49,964                            | 2,972                                           | 48,478                                                | 429,062                                                | 8.6                               |
| 83–84        | 0.066000                                                | 46,992                            | 3,102                                           | 45,442                                                | 380,583                                                | 8.1                               |
| 84–85        | 0.072495                                                | 43,891                            | 3,182                                           | 42,300                                                | 335,142                                                | 7.6                               |
| 85–86        | 0.079543                                                | 40,709                            | 3,238                                           | 39,090                                                | 292,842                                                | 7.2                               |
| 86–87        | 0.087177                                                | 37,471                            | 3,267                                           | 35,838                                                | 253,752                                                | 6.8                               |
| 87–88        | 0.095424                                                | 34,204                            | 3,264                                           | 32,572                                                | 217,914                                                | 6.4                               |
| 88–89        | 0.104311                                                | 30,940                            | 3,227                                           | 29,327                                                | 185,342                                                | 6.0                               |
| 89–90        | 0.113860                                                | 27,713                            | 3,155                                           | 26,135                                                | 156,015                                                | 5.6                               |
| 90–91        | 0.124091                                                | 24,558                            | 3,047                                           | 23,034                                                | 129,880                                                | 5.3                               |
| 91–92        | 0.135016                                                | 21,510                            | 2,904                                           | 20,058                                                | 106,846                                                | 5.0                               |
| 92–93        | 0.146643                                                | 18,606                            | 2,728                                           | 17,242                                                | 86,788                                                 | 4.7                               |
| 93–94        | 0.158973                                                | 15,878                            | 2,524                                           | 14,615                                                | 69,546                                                 | 4.4                               |
| 94–95        | 0.171996                                                | 13,353                            | 2,297                                           | 12,205                                                | 54,931                                                 | 4.1                               |
| 95–96        | 0.185695                                                | 11,057                            | 2,053                                           | 10,030                                                | 42,726                                                 | 3.9                               |
| 96–97        | 0.200045                                                | 9,004                             | 1,801                                           | 8,103                                                 | 32,696                                                 | 3.6                               |
| 97–98        | 0.215008                                                | 7,202                             | 1,549                                           | 6,428                                                 | 24,593                                                 | 3.4                               |
| 98–99        | 0.230537                                                | 5,654                             | 1,303                                           | 5,002                                                 | 18,164                                                 | 3.2                               |
| 99–100       | 0.246575                                                | 4,350                             | 1,073                                           | 3,814                                                 | 13,162                                                 | 3.0                               |
| 100 and over | 1.000000                                                | 3,278                             | 3,278                                           | 9,348                                                 | 9,348                                                  | 2.9                               |

SOURCE: CDC/NCHS, National Vital Statistics System.

**Table 10. Life table for the Hispanic population: United States, 2011**Spreadsheet version available from: [ftp://ftp.cdc.gov/pub/Health\\_Statistics/NCHS/Publications/NVSR/64\\_11/Table10.xlsx](ftp://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/64_11/Table10.xlsx).

| Age (years) | Probability of<br>dying between<br>ages $x$ and $x + 1$ | Number<br>surviving to<br>age $x$ | Number dying<br>between<br>ages $x$ and $x + 1$ | Person-years lived<br>between<br>ages $x$ and $x + 1$ | Total number of<br>person-years lived<br>above age $x$ | Expectation of<br>life at age $x$ |
|-------------|---------------------------------------------------------|-----------------------------------|-------------------------------------------------|-------------------------------------------------------|--------------------------------------------------------|-----------------------------------|
|             | $q_x$                                                   | $l_x$                             | $d_x$                                           | $L_x$                                                 | $T_x$                                                  | $e_x$                             |
| 0-1         | 0.005100                                                | 100,000                           | 510                                             | 99,551                                                | 8,156,196                                              | 81.6                              |
| 1-2         | 0.000369                                                | 99,490                            | 37                                              | 99,472                                                | 8,056,645                                              | 81.0                              |
| 2-3         | 0.000229                                                | 99,453                            | 23                                              | 99,442                                                | 7,957,173                                              | 80.0                              |
| 3-4         | 0.000182                                                | 99,430                            | 18                                              | 99,421                                                | 7,857,731                                              | 79.0                              |
| 4-5         | 0.000159                                                | 99,412                            | 16                                              | 99,405                                                | 7,758,310                                              | 78.0                              |
| 5-6         | 0.000127                                                | 99,397                            | 13                                              | 99,390                                                | 7,658,905                                              | 77.1                              |
| 6-7         | 0.000110                                                | 99,384                            | 11                                              | 99,379                                                | 7,559,515                                              | 76.1                              |
| 7-8         | 0.000097                                                | 99,373                            | 10                                              | 99,368                                                | 7,460,136                                              | 75.1                              |
| 8-9         | 0.000086                                                | 99,363                            | 9                                               | 99,359                                                | 7,360,768                                              | 74.1                              |
| 9-10        | 0.000078                                                | 99,355                            | 8                                               | 99,351                                                | 7,261,409                                              | 73.1                              |
| 10-11       | 0.000074                                                | 99,347                            | 7                                               | 99,344                                                | 7,162,058                                              | 72.1                              |
| 11-12       | 0.000081                                                | 99,340                            | 8                                               | 99,336                                                | 7,062,714                                              | 71.1                              |
| 12-13       | 0.000104                                                | 99,332                            | 10                                              | 99,327                                                | 6,963,378                                              | 70.1                              |
| 13-14       | 0.000146                                                | 99,321                            | 15                                              | 99,314                                                | 6,864,052                                              | 69.1                              |
| 14-15       | 0.000203                                                | 99,307                            | 20                                              | 99,297                                                | 6,764,738                                              | 68.1                              |
| 15-16       | 0.000265                                                | 99,287                            | 26                                              | 99,274                                                | 6,665,441                                              | 67.1                              |
| 16-17       | 0.000326                                                | 99,260                            | 32                                              | 99,244                                                | 6,566,167                                              | 66.2                              |
| 17-18       | 0.000388                                                | 99,228                            | 38                                              | 99,209                                                | 6,466,923                                              | 65.2                              |
| 18-19       | 0.000449                                                | 99,190                            | 44                                              | 99,167                                                | 6,367,714                                              | 64.2                              |
| 19-20       | 0.000507                                                | 99,145                            | 50                                              | 99,120                                                | 6,268,547                                              | 63.2                              |
| 20-21       | 0.000569                                                | 99,095                            | 56                                              | 99,067                                                | 6,169,427                                              | 62.3                              |
| 21-22       | 0.000628                                                | 99,038                            | 62                                              | 99,007                                                | 6,070,361                                              | 61.3                              |
| 22-23       | 0.000667                                                | 98,976                            | 66                                              | 98,943                                                | 5,971,353                                              | 60.3                              |
| 23-24       | 0.000681                                                | 98,910                            | 67                                              | 98,876                                                | 5,872,410                                              | 59.4                              |
| 24-25       | 0.000677                                                | 98,843                            | 67                                              | 98,809                                                | 5,773,534                                              | 58.4                              |
| 25-26       | 0.000665                                                | 98,776                            | 66                                              | 98,743                                                | 5,674,724                                              | 57.5                              |
| 26-27       | 0.000657                                                | 98,710                            | 65                                              | 98,678                                                | 5,575,981                                              | 56.5                              |
| 27-28       | 0.000657                                                | 98,645                            | 65                                              | 98,613                                                | 5,477,303                                              | 55.5                              |
| 28-29       | 0.000668                                                | 98,581                            | 66                                              | 98,548                                                | 5,378,690                                              | 54.6                              |
| 29-30       | 0.000690                                                | 98,515                            | 68                                              | 98,481                                                | 5,280,143                                              | 53.6                              |
| 30-31       | 0.000715                                                | 98,447                            | 70                                              | 98,411                                                | 5,181,662                                              | 52.6                              |
| 31-32       | 0.000740                                                | 98,376                            | 73                                              | 98,340                                                | 5,083,251                                              | 51.7                              |
| 32-33       | 0.000767                                                | 98,303                            | 75                                              | 98,266                                                | 4,984,911                                              | 50.7                              |
| 33-34       | 0.000796                                                | 98,228                            | 78                                              | 98,189                                                | 4,886,645                                              | 49.7                              |
| 34-35       | 0.000830                                                | 98,150                            | 81                                              | 98,109                                                | 4,788,456                                              | 48.8                              |
| 35-36       | 0.000870                                                | 98,068                            | 85                                              | 98,026                                                | 4,690,347                                              | 47.8                              |
| 36-37       | 0.000917                                                | 97,983                            | 90                                              | 97,938                                                | 4,592,321                                              | 46.9                              |
| 37-38       | 0.000971                                                | 97,893                            | 95                                              | 97,846                                                | 4,494,383                                              | 45.9                              |
| 38-39       | 0.001032                                                | 97,798                            | 101                                             | 97,748                                                | 4,396,537                                              | 45.0                              |
| 39-40       | 0.001103                                                | 97,697                            | 108                                             | 97,643                                                | 4,298,789                                              | 44.0                              |
| 40-41       | 0.001180                                                | 97,590                            | 115                                             | 97,532                                                | 4,201,146                                              | 43.0                              |
| 41-42       | 0.001269                                                | 97,474                            | 124                                             | 97,413                                                | 4,103,614                                              | 42.1                              |
| 42-43       | 0.001380                                                | 97,351                            | 134                                             | 97,284                                                | 4,006,201                                              | 41.2                              |
| 43-44       | 0.001518                                                | 97,216                            | 148                                             | 97,143                                                | 3,908,918                                              | 40.2                              |
| 44-45       | 0.001680                                                | 97,069                            | 163                                             | 96,987                                                | 3,811,775                                              | 39.3                              |
| 45-46       | 0.001856                                                | 96,906                            | 180                                             | 96,816                                                | 3,714,788                                              | 38.3                              |
| 46-47       | 0.002044                                                | 96,726                            | 198                                             | 96,627                                                | 3,617,972                                              | 37.4                              |
| 47-48       | 0.002252                                                | 96,528                            | 217                                             | 96,419                                                | 3,521,345                                              | 36.5                              |
| 48-49       | 0.002482                                                | 96,311                            | 239                                             | 96,191                                                | 3,424,926                                              | 35.6                              |
| 49-50       | 0.002735                                                | 96,072                            | 263                                             | 95,940                                                | 3,328,735                                              | 34.6                              |
| 50-51       | 0.003014                                                | 95,809                            | 289                                             | 95,665                                                | 3,232,794                                              | 33.7                              |
| 51-52       | 0.003309                                                | 95,520                            | 316                                             | 95,362                                                | 3,137,130                                              | 32.8                              |
| 52-53       | 0.003605                                                | 95,204                            | 343                                             | 95,033                                                | 3,041,767                                              | 31.9                              |
| 53-54       | 0.003893                                                | 94,861                            | 369                                             | 94,676                                                | 2,946,735                                              | 31.1                              |
| 54-55       | 0.004180                                                | 94,492                            | 395                                             | 94,294                                                | 2,852,059                                              | 30.2                              |
| 55-56       | 0.004489                                                | 94,097                            | 422                                             | 93,885                                                | 2,757,765                                              | 29.3                              |
| 56-57       | 0.004833                                                | 93,674                            | 453                                             | 93,448                                                | 2,663,879                                              | 28.4                              |
| 57-58       | 0.005204                                                | 93,221                            | 485                                             | 92,979                                                | 2,570,431                                              | 27.6                              |
| 58-59       | 0.005601                                                | 92,736                            | 519                                             | 92,477                                                | 2,477,452                                              | 26.7                              |
| 59-60       | 0.006025                                                | 92,217                            | 556                                             | 91,939                                                | 2,384,976                                              | 25.9                              |
| 60-61       | 0.006476                                                | 91,661                            | 594                                             | 91,365                                                | 2,293,037                                              | 25.0                              |

See footnotes at end of table.



**Table 10. Life table for the Hispanic population: United States, 2011—Con.**Spreadsheet version available from: [ftp://ftp.cdc.gov/pub/Health\\_Statistics/NCHS/Publications/NVSR/64\\_11/Table10.xlsx](ftp://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/64_11/Table10.xlsx).

| Age (years)  | Probability of<br>dying between<br>ages $x$ and $x + 1$ | Number<br>surviving to<br>age $x$ | Number dying<br>between<br>ages $x$ and $x + 1$ | Person-years lived<br>between<br>ages $x$ and $x + 1$ | Total number of<br>person-years lived<br>above age $x$ | Expectation of<br>life at age $x$ |
|--------------|---------------------------------------------------------|-----------------------------------|-------------------------------------------------|-------------------------------------------------------|--------------------------------------------------------|-----------------------------------|
|              | $q_x$                                                   | $l_x$                             | $d_x$                                           | $L_x$                                                 | $T_x$                                                  | $e_x$                             |
| 61–62        | 0.006970                                                | 91,068                            | 635                                             | 90,750                                                | 2,201,672                                              | 24.2                              |
| 62–63        | 0.007533                                                | 90,433                            | 681                                             | 90,092                                                | 2,110,922                                              | 23.3                              |
| 63–64        | 0.008194                                                | 89,752                            | 735                                             | 89,384                                                | 2,020,829                                              | 22.5                              |
| 64–65        | 0.008970                                                | 89,016                            | 798                                             | 88,617                                                | 1,931,445                                              | 21.7                              |
| 65–66        | 0.009877                                                | 88,218                            | 871                                             | 87,782                                                | 1,842,828                                              | 20.9                              |
| 66–67        | 0.010895                                                | 87,347                            | 952                                             | 86,871                                                | 1,755,046                                              | 20.1                              |
| 67–68        | 0.011987                                                | 86,395                            | 1,036                                           | 85,877                                                | 1,668,175                                              | 19.3                              |
| 68–69        | 0.013091                                                | 85,359                            | 1,117                                           | 84,801                                                | 1,582,298                                              | 18.5                              |
| 69–70        | 0.014203                                                | 84,242                            | 1,196                                           | 83,644                                                | 1,497,497                                              | 17.8                              |
| 70–71        | 0.015382                                                | 83,045                            | 1,277                                           | 82,407                                                | 1,413,854                                              | 17.0                              |
| 71–72        | 0.016706                                                | 81,768                            | 1,366                                           | 81,085                                                | 1,331,447                                              | 16.3                              |
| 72–73        | 0.018181                                                | 80,402                            | 1,462                                           | 79,671                                                | 1,250,362                                              | 15.6                              |
| 73–74        | 0.019863                                                | 78,940                            | 1,568                                           | 78,156                                                | 1,170,691                                              | 14.8                              |
| 74–75        | 0.021774                                                | 77,372                            | 1,685                                           | 76,530                                                | 1,092,534                                              | 14.1                              |
| 75–76        | 0.023783                                                | 75,688                            | 1,800                                           | 74,788                                                | 1,016,004                                              | 13.4                              |
| 76–77        | 0.026018                                                | 73,888                            | 1,922                                           | 72,926                                                | 941,217                                                | 12.7                              |
| 77–78        | 0.028775                                                | 71,965                            | 2,071                                           | 70,930                                                | 868,290                                                | 12.1                              |
| 78–79        | 0.032106                                                | 69,894                            | 2,244                                           | 68,772                                                | 797,361                                                | 11.4                              |
| 79–80        | 0.035915                                                | 67,650                            | 2,430                                           | 66,435                                                | 728,588                                                | 10.8                              |
| 80–81        | 0.040050                                                | 65,221                            | 2,612                                           | 63,915                                                | 662,153                                                | 10.2                              |
| 81–82        | 0.044427                                                | 62,608                            | 2,782                                           | 61,218                                                | 598,238                                                | 9.6                               |
| 82–83        | 0.049353                                                | 59,827                            | 2,953                                           | 58,351                                                | 537,021                                                | 9.0                               |
| 83–84        | 0.054974                                                | 56,874                            | 3,127                                           | 55,311                                                | 478,670                                                | 8.4                               |
| 84–85        | 0.061537                                                | 53,748                            | 3,307                                           | 52,094                                                | 423,359                                                | 7.9                               |
| 85–86        | 0.068820                                                | 50,440                            | 3,471                                           | 48,705                                                | 371,265                                                | 7.4                               |
| 86–87        | 0.077267                                                | 46,969                            | 3,629                                           | 45,154                                                | 322,560                                                | 6.9                               |
| 87–88        | 0.086588                                                | 43,340                            | 3,753                                           | 41,463                                                | 277,406                                                | 6.4                               |
| 88–89        | 0.096833                                                | 39,587                            | 3,833                                           | 37,670                                                | 235,943                                                | 6.0                               |
| 89–90        | 0.108043                                                | 35,754                            | 3,863                                           | 33,822                                                | 198,272                                                | 5.5                               |
| 90–91        | 0.120253                                                | 31,891                            | 3,835                                           | 29,973                                                | 164,450                                                | 5.2                               |
| 91–92        | 0.133484                                                | 28,056                            | 3,745                                           | 26,183                                                | 134,477                                                | 4.8                               |
| 92–93        | 0.147741                                                | 24,311                            | 3,592                                           | 22,515                                                | 108,293                                                | 4.5                               |
| 93–94        | 0.163012                                                | 20,719                            | 3,377                                           | 19,030                                                | 85,778                                                 | 4.1                               |
| 94–95        | 0.179264                                                | 17,342                            | 3,109                                           | 15,787                                                | 66,748                                                 | 3.8                               |
| 95–96        | 0.196444                                                | 14,233                            | 2,796                                           | 12,835                                                | 50,961                                                 | 3.6                               |
| 96–97        | 0.214475                                                | 11,437                            | 2,453                                           | 10,210                                                | 38,126                                                 | 3.3                               |
| 97–98        | 0.233255                                                | 8,984                             | 2,096                                           | 7,936                                                 | 27,915                                                 | 3.1                               |
| 98–99        | 0.252664                                                | 6,888                             | 1,740                                           | 6,018                                                 | 19,979                                                 | 2.9                               |
| 99–100       | 0.272561                                                | 5,148                             | 1,403                                           | 4,446                                                 | 13,961                                                 | 2.7                               |
| 100 and over | 1.000000                                                | 3,745                             | 3,745                                           | 9,515                                                 | 9,515                                                  | 2.5                               |

NOTE: This life table is based on death rates that have been adjusted for race and ethnicity misclassification on death certificates.

SOURCE: CDC/NCHS, National Vital Statistics System.

**Table 11. Life table for Hispanic males: United States, 2011**Spreadsheet version available from: [ftp://ftp.cdc.gov/pub/Health\\_Statistics/NCHS/Publications/NVSR/64\\_11/Table11.xlsx](ftp://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/64_11/Table11.xlsx).

| Age (years) | Probability of<br>dying between<br>ages $x$ and $x + 1$ | Number<br>surviving to<br>age $x$ | Number dying<br>between<br>ages $x$ and $x + 1$ | Person-years lived<br>between<br>ages $x$ and $x + 1$ | Total number of<br>person-years lived<br>above age $x$ | Expectation of<br>life at age $x$ |
|-------------|---------------------------------------------------------|-----------------------------------|-------------------------------------------------|-------------------------------------------------------|--------------------------------------------------------|-----------------------------------|
|             | $q_x$                                                   | $l_x$                             | $d_x$                                           | $L_x$                                                 | $T_x$                                                  | $e_x$                             |
| 0-1         | 0.005489                                                | 100,000                           | 549                                             | 99,518                                                | 7,902,526                                              | 79.0                              |
| 1-2         | 0.000386                                                | 99,451                            | 38                                              | 99,432                                                | 7,803,008                                              | 78.5                              |
| 2-3         | 0.000253                                                | 99,413                            | 25                                              | 99,400                                                | 7,703,577                                              | 77.5                              |
| 3-4         | 0.000207                                                | 99,388                            | 21                                              | 99,377                                                | 7,604,176                                              | 76.5                              |
| 4-5         | 0.000174                                                | 99,367                            | 17                                              | 99,358                                                | 7,504,799                                              | 75.5                              |
| 5-6         | 0.000140                                                | 99,350                            | 14                                              | 99,343                                                | 7,405,441                                              | 74.5                              |
| 6-7         | 0.000122                                                | 99,336                            | 12                                              | 99,330                                                | 7,306,098                                              | 73.5                              |
| 7-8         | 0.000107                                                | 99,324                            | 11                                              | 99,318                                                | 7,206,768                                              | 72.6                              |
| 8-9         | 0.000092                                                | 99,313                            | 9                                               | 99,309                                                | 7,107,450                                              | 71.6                              |
| 9-10        | 0.000078                                                | 99,304                            | 8                                               | 99,300                                                | 7,008,141                                              | 70.6                              |
| 10-11       | 0.000070                                                | 99,296                            | 7                                               | 99,293                                                | 6,908,841                                              | 69.6                              |
| 11-12       | 0.000077                                                | 99,289                            | 8                                               | 99,285                                                | 6,809,548                                              | 68.6                              |
| 12-13       | 0.000112                                                | 99,282                            | 11                                              | 99,276                                                | 6,710,263                                              | 67.6                              |
| 13-14       | 0.000181                                                | 99,271                            | 18                                              | 99,262                                                | 6,610,987                                              | 66.6                              |
| 14-15       | 0.000275                                                | 99,253                            | 27                                              | 99,239                                                | 6,511,725                                              | 65.6                              |
| 15-16       | 0.000377                                                | 99,225                            | 37                                              | 99,207                                                | 6,412,486                                              | 64.6                              |
| 16-17       | 0.000475                                                | 99,188                            | 47                                              | 99,164                                                | 6,313,280                                              | 63.6                              |
| 17-18       | 0.000574                                                | 99,141                            | 57                                              | 99,112                                                | 6,214,115                                              | 62.7                              |
| 18-19       | 0.000669                                                | 99,084                            | 66                                              | 99,051                                                | 6,115,003                                              | 61.7                              |
| 19-20       | 0.000759                                                | 99,018                            | 75                                              | 98,980                                                | 6,015,953                                              | 60.8                              |
| 20-21       | 0.000852                                                | 98,942                            | 84                                              | 98,900                                                | 5,916,973                                              | 59.8                              |
| 21-22       | 0.000939                                                | 98,858                            | 93                                              | 98,812                                                | 5,818,072                                              | 58.9                              |
| 22-23       | 0.000996                                                | 98,765                            | 98                                              | 98,716                                                | 5,719,261                                              | 57.9                              |
| 23-24       | 0.001014                                                | 98,667                            | 100                                             | 98,617                                                | 5,620,545                                              | 57.0                              |
| 24-25       | 0.001003                                                | 98,567                            | 99                                              | 98,517                                                | 5,521,928                                              | 56.0                              |
| 25-26       | 0.000979                                                | 98,468                            | 96                                              | 98,420                                                | 5,423,411                                              | 55.1                              |
| 26-27       | 0.000962                                                | 98,371                            | 95                                              | 98,324                                                | 5,324,991                                              | 54.1                              |
| 27-28       | 0.000956                                                | 98,277                            | 94                                              | 98,230                                                | 5,226,667                                              | 53.2                              |
| 28-29       | 0.000972                                                | 98,183                            | 95                                              | 98,135                                                | 5,128,437                                              | 52.2                              |
| 29-30       | 0.001004                                                | 98,087                            | 99                                              | 98,038                                                | 5,030,302                                              | 51.3                              |
| 30-31       | 0.001042                                                | 97,989                            | 102                                             | 97,938                                                | 4,932,264                                              | 50.3                              |
| 31-32       | 0.001076                                                | 97,887                            | 105                                             | 97,834                                                | 4,834,326                                              | 49.4                              |
| 32-33       | 0.001108                                                | 97,782                            | 108                                             | 97,727                                                | 4,736,492                                              | 48.4                              |
| 33-34       | 0.001136                                                | 97,673                            | 111                                             | 97,618                                                | 4,638,764                                              | 47.5                              |
| 34-35       | 0.001163                                                | 97,562                            | 114                                             | 97,505                                                | 4,541,147                                              | 46.5                              |
| 35-36       | 0.001196                                                | 97,449                            | 117                                             | 97,390                                                | 4,443,641                                              | 45.6                              |
| 36-37       | 0.001239                                                | 97,332                            | 121                                             | 97,272                                                | 4,346,251                                              | 44.7                              |
| 37-38       | 0.001295                                                | 97,212                            | 126                                             | 97,149                                                | 4,248,979                                              | 43.7                              |
| 38-39       | 0.001365                                                | 97,086                            | 133                                             | 97,019                                                | 4,151,830                                              | 42.8                              |
| 39-40       | 0.001451                                                | 96,953                            | 141                                             | 96,883                                                | 4,054,811                                              | 41.8                              |
| 40-41       | 0.001546                                                | 96,812                            | 150                                             | 96,738                                                | 3,957,928                                              | 40.9                              |
| 41-42       | 0.001655                                                | 96,663                            | 160                                             | 96,583                                                | 3,861,190                                              | 39.9                              |
| 42-43       | 0.001788                                                | 96,503                            | 173                                             | 96,417                                                | 3,764,607                                              | 39.0                              |
| 43-44       | 0.001952                                                | 96,330                            | 188                                             | 96,236                                                | 3,668,191                                              | 38.1                              |
| 44-45       | 0.002144                                                | 96,142                            | 206                                             | 96,039                                                | 3,571,955                                              | 37.2                              |
| 45-46       | 0.002354                                                | 95,936                            | 226                                             | 95,823                                                | 3,475,916                                              | 36.2                              |
| 46-47       | 0.002580                                                | 95,710                            | 247                                             | 95,587                                                | 3,380,092                                              | 35.3                              |
| 47-48       | 0.002836                                                | 95,463                            | 271                                             | 95,328                                                | 3,284,506                                              | 34.4                              |
| 48-49       | 0.003129                                                | 95,193                            | 298                                             | 95,044                                                | 3,189,178                                              | 33.5                              |
| 49-50       | 0.003456                                                | 94,895                            | 328                                             | 94,731                                                | 3,094,134                                              | 32.6                              |
| 50-51       | 0.003819                                                | 94,567                            | 361                                             | 94,386                                                | 2,999,403                                              | 31.7                              |
| 51-52       | 0.004206                                                | 94,206                            | 396                                             | 94,007                                                | 2,905,017                                              | 30.8                              |
| 52-53       | 0.004607                                                | 93,809                            | 432                                             | 93,593                                                | 2,811,010                                              | 30.0                              |
| 53-54       | 0.005014                                                | 93,377                            | 468                                             | 93,143                                                | 2,717,416                                              | 29.1                              |
| 54-55       | 0.005433                                                | 92,909                            | 505                                             | 92,657                                                | 2,624,273                                              | 28.2                              |
| 55-56       | 0.005893                                                | 92,404                            | 545                                             | 92,132                                                | 2,531,617                                              | 27.4                              |
| 56-57       | 0.006400                                                | 91,860                            | 588                                             | 91,566                                                | 2,439,485                                              | 26.6                              |
| 57-58       | 0.006924                                                | 91,272                            | 632                                             | 90,956                                                | 2,347,919                                              | 25.7                              |
| 58-59       | 0.007447                                                | 90,640                            | 675                                             | 90,302                                                | 2,256,964                                              | 24.9                              |
| 59-60       | 0.007971                                                | 89,965                            | 717                                             | 89,606                                                | 2,166,662                                              | 24.1                              |
| 60-61       | 0.008514                                                | 89,248                            | 760                                             | 88,868                                                | 2,077,055                                              | 23.3                              |

See footnotes at end of table.

**Table 11. Life table for Hispanic males: United States, 2011—Con.**Spreadsheet version available from: [ftp://ftp.cdc.gov/pub/Health\\_Statistics/NCHS/Publications/NVSR/64\\_11/Table11.xlsx](ftp://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/64_11/Table11.xlsx).

| Age (years)  | Probability of<br>dying between<br>ages $x$ and $x + 1$ | Number<br>surviving to<br>age $x$ | Number dying<br>between<br>ages $x$ and $x + 1$ | Person-years lived<br>between<br>ages $x$ and $x + 1$ | Total number of<br>person-years lived<br>above age $x$ | Expectation of<br>life at age $x$ |
|--------------|---------------------------------------------------------|-----------------------------------|-------------------------------------------------|-------------------------------------------------------|--------------------------------------------------------|-----------------------------------|
|              | $q_x$                                                   | $l_x$                             | $d_x$                                           | $L_x$                                                 | $T_x$                                                  | $e_x$                             |
| 61–62        | 0.009109                                                | 88,488                            | 806                                             | 88,085                                                | 1,988,188                                              | 22.5                              |
| 62–63        | 0.009788                                                | 87,682                            | 858                                             | 87,253                                                | 1,900,103                                              | 21.7                              |
| 63–64        | 0.010597                                                | 86,824                            | 920                                             | 86,363                                                | 1,812,850                                              | 20.9                              |
| 64–65        | 0.011557                                                | 85,903                            | 993                                             | 85,407                                                | 1,726,487                                              | 20.1                              |
| 65–66        | 0.012678                                                | 84,911                            | 1,077                                           | 84,372                                                | 1,641,080                                              | 19.3                              |
| 66–67        | 0.013931                                                | 83,834                            | 1,168                                           | 83,250                                                | 1,556,707                                              | 18.6                              |
| 67–68        | 0.015271                                                | 82,666                            | 1,262                                           | 82,035                                                | 1,473,457                                              | 17.8                              |
| 68–69        | 0.016610                                                | 81,404                            | 1,352                                           | 80,728                                                | 1,391,422                                              | 17.1                              |
| 69–70        | 0.017936                                                | 80,052                            | 1,436                                           | 79,334                                                | 1,310,694                                              | 16.4                              |
| 70–71        | 0.019310                                                | 78,616                            | 1,518                                           | 77,857                                                | 1,231,360                                              | 15.7                              |
| 71–72        | 0.020843                                                | 77,098                            | 1,607                                           | 76,294                                                | 1,153,504                                              | 15.0                              |
| 72–73        | 0.022572                                                | 75,491                            | 1,704                                           | 74,639                                                | 1,077,209                                              | 14.3                              |
| 73–74        | 0.024592                                                | 73,787                            | 1,815                                           | 72,880                                                | 1,002,570                                              | 13.6                              |
| 74–75        | 0.026920                                                | 71,972                            | 1,937                                           | 71,004                                                | 929,690                                                | 12.9                              |
| 75–76        | 0.029393                                                | 70,035                            | 2,059                                           | 69,006                                                | 858,687                                                | 12.3                              |
| 76–77        | 0.032032                                                | 67,976                            | 2,177                                           | 66,888                                                | 789,681                                                | 11.6                              |
| 77–78        | 0.035175                                                | 65,799                            | 2,314                                           | 64,642                                                | 722,793                                                | 11.0                              |
| 78–79        | 0.038935                                                | 63,485                            | 2,472                                           | 62,249                                                | 658,151                                                | 10.4                              |
| 79–80        | 0.043354                                                | 61,013                            | 2,645                                           | 59,690                                                | 595,903                                                | 9.8                               |
| 80–81        | 0.048431                                                | 58,368                            | 2,827                                           | 56,954                                                | 536,212                                                | 9.2                               |
| 81–82        | 0.053967                                                | 55,541                            | 2,997                                           | 54,042                                                | 479,258                                                | 8.6                               |
| 82–83        | 0.059937                                                | 52,543                            | 3,149                                           | 50,969                                                | 425,216                                                | 8.1                               |
| 83–84        | 0.066581                                                | 49,394                            | 3,289                                           | 47,750                                                | 374,247                                                | 7.6                               |
| 84–85        | 0.074074                                                | 46,105                            | 3,415                                           | 44,398                                                | 326,497                                                | 7.1                               |
| 85–86        | 0.082924                                                | 42,690                            | 3,540                                           | 40,920                                                | 282,100                                                | 6.6                               |
| 86–87        | 0.092651                                                | 39,150                            | 3,627                                           | 37,337                                                | 241,180                                                | 6.2                               |
| 87–88        | 0.103300                                                | 35,523                            | 3,670                                           | 33,688                                                | 203,843                                                | 5.7                               |
| 88–89        | 0.114906                                                | 31,853                            | 3,660                                           | 30,023                                                | 170,155                                                | 5.3                               |
| 89–90        | 0.127493                                                | 28,193                            | 3,594                                           | 26,396                                                | 140,132                                                | 5.0                               |
| 90–91        | 0.141073                                                | 24,599                            | 3,470                                           | 22,864                                                | 113,736                                                | 4.6                               |
| 91–92        | 0.155643                                                | 21,129                            | 3,289                                           | 19,484                                                | 90,872                                                 | 4.3                               |
| 92–93        | 0.171179                                                | 17,840                            | 3,054                                           | 16,313                                                | 71,388                                                 | 4.0                               |
| 93–94        | 0.187638                                                | 14,786                            | 2,774                                           | 13,399                                                | 55,075                                                 | 3.7                               |
| 94–95        | 0.204958                                                | 12,012                            | 2,462                                           | 10,781                                                | 41,676                                                 | 3.5                               |
| 95–96        | 0.223051                                                | 9,550                             | 2,130                                           | 8,485                                                 | 30,895                                                 | 3.2                               |
| 96–97        | 0.241812                                                | 7,420                             | 1,794                                           | 6,523                                                 | 22,410                                                 | 3.0                               |
| 97–98        | 0.261113                                                | 5,626                             | 1,469                                           | 4,891                                                 | 15,887                                                 | 2.8                               |
| 98–99        | 0.280813                                                | 4,157                             | 1,167                                           | 3,573                                                 | 10,996                                                 | 2.6                               |
| 99–100       | 0.300754                                                | 2,989                             | 899                                             | 2,540                                                 | 7,423                                                  | 2.5                               |
| 100 and over | 1.000000                                                | 2,090                             | 2,090                                           | 4,883                                                 | 4,883                                                  | 2.3                               |

NOTE: This life table is based on death rates that have been adjusted for race and ethnicity misclassification on death certificates.

SOURCE: CDC/NCHS, National Vital Statistics System.

**Table 12. Life table for Hispanic females: United States, 2011**Spreadsheet version available from: [ftp://ftp.cdc.gov/pub/Health\\_Statistics/NCHS/Publications/NVSR/64\\_11/Table12.xlsx](ftp://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/64_11/Table12.xlsx).

| Age (years) | Probability of<br>dying between<br>ages $x$ and $x + 1$ | Number<br>surviving to<br>age $x$ | Number dying<br>between<br>ages $x$ and $x + 1$ | Person-years lived<br>between<br>ages $x$ and $x + 1$ | Total number of<br>person-years lived<br>above age $x$ | Expectation of<br>life at age $x$ |
|-------------|---------------------------------------------------------|-----------------------------------|-------------------------------------------------|-------------------------------------------------------|--------------------------------------------------------|-----------------------------------|
|             | $q_x$                                                   | $l_x$                             | $d_x$                                           | $L_x$                                                 | $T_x$                                                  | $e_x$                             |
| 0-1         | 0.004770                                                | 100,000                           | 477                                             | 99,580                                                | 8,378,620                                              | 83.8                              |
| 1-2         | 0.000352                                                | 99,523                            | 35                                              | 99,506                                                | 8,279,039                                              | 83.2                              |
| 2-3         | 0.000203                                                | 99,488                            | 20                                              | 99,478                                                | 8,179,534                                              | 82.2                              |
| 3-4         | 0.000156                                                | 99,468                            | 15                                              | 99,460                                                | 8,080,056                                              | 81.2                              |
| 4-5         | 0.000143                                                | 99,452                            | 14                                              | 99,445                                                | 7,980,596                                              | 80.2                              |
| 5-6         | 0.000114                                                | 99,438                            | 11                                              | 99,432                                                | 7,881,151                                              | 79.3                              |
| 6-7         | 0.000097                                                | 99,427                            | 10                                              | 99,422                                                | 7,781,718                                              | 78.3                              |
| 7-8         | 0.000086                                                | 99,417                            | 9                                               | 99,413                                                | 7,682,297                                              | 77.3                              |
| 8-9         | 0.000079                                                | 99,408                            | 8                                               | 99,405                                                | 7,582,884                                              | 76.3                              |
| 9-10        | 0.000077                                                | 99,401                            | 8                                               | 99,397                                                | 7,483,479                                              | 75.3                              |
| 10-11       | 0.000079                                                | 99,393                            | 8                                               | 99,389                                                | 7,384,082                                              | 74.3                              |
| 11-12       | 0.000085                                                | 99,385                            | 8                                               | 99,381                                                | 7,284,693                                              | 73.3                              |
| 12-13       | 0.000096                                                | 99,377                            | 10                                              | 99,372                                                | 7,185,313                                              | 72.3                              |
| 13-14       | 0.000110                                                | 99,367                            | 11                                              | 99,362                                                | 7,085,941                                              | 71.3                              |
| 14-15       | 0.000128                                                | 99,356                            | 13                                              | 99,350                                                | 6,986,579                                              | 70.3                              |
| 15-16       | 0.000147                                                | 99,343                            | 15                                              | 99,336                                                | 6,887,229                                              | 69.3                              |
| 16-17       | 0.000168                                                | 99,329                            | 17                                              | 99,320                                                | 6,787,893                                              | 68.3                              |
| 17-18       | 0.000190                                                | 99,312                            | 19                                              | 99,303                                                | 6,688,573                                              | 67.3                              |
| 18-19       | 0.000211                                                | 99,293                            | 21                                              | 99,283                                                | 6,589,270                                              | 66.4                              |
| 19-20       | 0.000232                                                | 99,272                            | 23                                              | 99,261                                                | 6,489,987                                              | 65.4                              |
| 20-21       | 0.000255                                                | 99,249                            | 25                                              | 99,237                                                | 6,390,726                                              | 64.4                              |
| 21-22       | 0.000278                                                | 99,224                            | 28                                              | 99,210                                                | 6,291,490                                              | 63.4                              |
| 22-23       | 0.000295                                                | 99,196                            | 29                                              | 99,182                                                | 6,192,279                                              | 62.4                              |
| 23-24       | 0.000305                                                | 99,167                            | 30                                              | 99,152                                                | 6,093,098                                              | 61.4                              |
| 24-25       | 0.000308                                                | 99,137                            | 31                                              | 99,122                                                | 5,993,946                                              | 60.5                              |
| 25-26       | 0.000311                                                | 99,106                            | 31                                              | 99,091                                                | 5,894,824                                              | 59.5                              |
| 26-27       | 0.000316                                                | 99,075                            | 31                                              | 99,060                                                | 5,795,733                                              | 58.5                              |
| 27-28       | 0.000322                                                | 99,044                            | 32                                              | 99,028                                                | 5,696,673                                              | 57.5                              |
| 28-29       | 0.000331                                                | 99,012                            | 33                                              | 98,996                                                | 5,597,645                                              | 56.5                              |
| 29-30       | 0.000343                                                | 98,980                            | 34                                              | 98,963                                                | 5,498,649                                              | 55.6                              |
| 30-31       | 0.000355                                                | 98,946                            | 35                                              | 98,928                                                | 5,399,687                                              | 54.6                              |
| 31-32       | 0.000370                                                | 98,910                            | 37                                              | 98,892                                                | 5,300,759                                              | 53.6                              |
| 32-33       | 0.000394                                                | 98,874                            | 39                                              | 98,854                                                | 5,201,867                                              | 52.6                              |
| 33-34       | 0.000428                                                | 98,835                            | 42                                              | 98,814                                                | 5,103,012                                              | 51.6                              |
| 34-35       | 0.000471                                                | 98,793                            | 47                                              | 98,769                                                | 5,004,199                                              | 50.7                              |
| 35-36       | 0.000522                                                | 98,746                            | 52                                              | 98,720                                                | 4,905,429                                              | 49.7                              |
| 36-37       | 0.000577                                                | 98,694                            | 57                                              | 98,666                                                | 4,806,709                                              | 48.7                              |
| 37-38       | 0.000631                                                | 98,638                            | 62                                              | 98,606                                                | 4,708,043                                              | 47.7                              |
| 38-39       | 0.000684                                                | 98,575                            | 67                                              | 98,542                                                | 4,609,437                                              | 46.8                              |
| 39-40       | 0.000738                                                | 98,508                            | 73                                              | 98,472                                                | 4,510,895                                              | 45.8                              |
| 40-41       | 0.000795                                                | 98,435                            | 78                                              | 98,396                                                | 4,412,424                                              | 44.8                              |
| 41-42       | 0.000863                                                | 98,357                            | 85                                              | 98,315                                                | 4,314,028                                              | 43.9                              |
| 42-43       | 0.000950                                                | 98,272                            | 93                                              | 98,225                                                | 4,215,713                                              | 42.9                              |
| 43-44       | 0.001062                                                | 98,179                            | 104                                             | 98,127                                                | 4,117,488                                              | 41.9                              |
| 44-45       | 0.001196                                                | 98,074                            | 117                                             | 98,016                                                | 4,019,361                                              | 41.0                              |
| 45-46       | 0.001341                                                | 97,957                            | 131                                             | 97,891                                                | 3,921,345                                              | 40.0                              |
| 46-47       | 0.001491                                                | 97,826                            | 146                                             | 97,753                                                | 3,823,454                                              | 39.1                              |
| 47-48       | 0.001653                                                | 97,680                            | 161                                             | 97,599                                                | 3,725,701                                              | 38.1                              |
| 48-49       | 0.001825                                                | 97,518                            | 178                                             | 97,429                                                | 3,628,102                                              | 37.2                              |
| 49-50       | 0.002007                                                | 97,340                            | 195                                             | 97,243                                                | 3,530,672                                              | 36.3                              |
| 50-51       | 0.002208                                                | 97,145                            | 215                                             | 97,038                                                | 3,433,430                                              | 35.3                              |
| 51-52       | 0.002420                                                | 96,931                            | 235                                             | 96,813                                                | 3,336,392                                              | 34.4                              |
| 52-53       | 0.002621                                                | 96,696                            | 253                                             | 96,569                                                | 3,239,578                                              | 33.5                              |
| 53-54       | 0.002801                                                | 96,443                            | 270                                             | 96,308                                                | 3,143,009                                              | 32.6                              |
| 54-55       | 0.002969                                                | 96,173                            | 286                                             | 96,030                                                | 3,046,701                                              | 31.7                              |
| 55-56       | 0.003144                                                | 95,887                            | 301                                             | 95,736                                                | 2,950,671                                              | 30.8                              |
| 56-57       | 0.003347                                                | 95,586                            | 320                                             | 95,426                                                | 2,854,935                                              | 29.9                              |
| 57-58       | 0.003590                                                | 95,266                            | 342                                             | 95,095                                                | 2,759,509                                              | 29.0                              |
| 58-59       | 0.003885                                                | 94,924                            | 369                                             | 94,739                                                | 2,664,415                                              | 28.1                              |
| 59-60       | 0.004231                                                | 94,555                            | 400                                             | 94,355                                                | 2,569,675                                              | 27.2                              |
| 60-61       | 0.004614                                                | 94,155                            | 434                                             | 93,938                                                | 2,475,321                                              | 26.3                              |

See footnotes at end of table.

**Table 12. Life table for Hispanic females: United States, 2011—Con.**Spreadsheet version available from: [ftp://ftp.cdc.gov/pub/Health\\_Statistics/NCHS/Publications/NVSR/64\\_11/Table12.xlsx](ftp://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/64_11/Table12.xlsx).

| Age (years)  | Probability of<br>dying between<br>ages $x$ and $x + 1$ | Number<br>surviving to<br>age $x$ | Number dying<br>between<br>ages $x$ and $x + 1$ | Person-years lived<br>between<br>ages $x$ and $x + 1$ | Total number of<br>person-years lived<br>above age $x$ | Expectation of<br>life at age $x$ |
|--------------|---------------------------------------------------------|-----------------------------------|-------------------------------------------------|-------------------------------------------------------|--------------------------------------------------------|-----------------------------------|
|              | $q_x$                                                   | $l_x$                             | $d_x$                                           | $L_x$                                                 | $T_x$                                                  | $e_x$                             |
| 61–62        | 0.005033                                                | 93,720                            | 472                                             | 93,485                                                | 2,381,383                                              | 25.4                              |
| 62–63        | 0.005511                                                | 93,249                            | 514                                             | 92,992                                                | 2,287,898                                              | 24.5                              |
| 63–64        | 0.006064                                                | 92,735                            | 562                                             | 92,454                                                | 2,194,907                                              | 23.7                              |
| 64–65        | 0.006708                                                | 92,172                            | 618                                             | 91,863                                                | 2,102,453                                              | 22.8                              |
| 65–66        | 0.007463                                                | 91,554                            | 683                                             | 91,213                                                | 2,010,590                                              | 22.0                              |
| 66–67        | 0.008320                                                | 90,871                            | 756                                             | 90,493                                                | 1,919,377                                              | 21.1                              |
| 67–68        | 0.009246                                                | 90,115                            | 833                                             | 89,698                                                | 1,828,884                                              | 20.3                              |
| 68–69        | 0.010196                                                | 89,282                            | 910                                             | 88,827                                                | 1,739,186                                              | 19.5                              |
| 69–70        | 0.011172                                                | 88,371                            | 987                                             | 87,878                                                | 1,650,359                                              | 18.7                              |
| 70–71        | 0.012234                                                | 87,384                            | 1,069                                           | 86,850                                                | 1,562,481                                              | 17.9                              |
| 71–72        | 0.013434                                                | 86,315                            | 1,160                                           | 85,735                                                | 1,475,632                                              | 17.1                              |
| 72–73        | 0.014755                                                | 85,156                            | 1,256                                           | 84,527                                                | 1,389,896                                              | 16.3                              |
| 73–74        | 0.016224                                                | 83,899                            | 1,361                                           | 83,218                                                | 1,305,369                                              | 15.6                              |
| 74–75        | 0.017874                                                | 82,538                            | 1,475                                           | 81,800                                                | 1,222,151                                              | 14.8                              |
| 75–76        | 0.019591                                                | 81,063                            | 1,588                                           | 80,269                                                | 1,140,350                                              | 14.1                              |
| 76–77        | 0.021582                                                | 79,474                            | 1,715                                           | 78,617                                                | 1,060,082                                              | 13.3                              |
| 77–78        | 0.024147                                                | 77,759                            | 1,878                                           | 76,820                                                | 981,465                                                | 12.6                              |
| 78–79        | 0.027307                                                | 75,882                            | 2,072                                           | 74,845                                                | 904,645                                                | 11.9                              |
| 79–80        | 0.030865                                                | 73,809                            | 2,278                                           | 72,670                                                | 829,799                                                | 11.2                              |
| 80–81        | 0.034573                                                | 71,531                            | 2,473                                           | 70,295                                                | 757,129                                                | 10.6                              |
| 81–82        | 0.038471                                                | 69,058                            | 2,657                                           | 67,730                                                | 686,834                                                | 9.9                               |
| 82–83        | 0.043060                                                | 66,402                            | 2,859                                           | 64,972                                                | 619,104                                                | 9.3                               |
| 83–84        | 0.048453                                                | 63,542                            | 3,079                                           | 62,003                                                | 554,132                                                | 8.7                               |
| 84–85        | 0.055068                                                | 60,463                            | 3,330                                           | 58,799                                                | 492,129                                                | 8.1                               |
| 85–86        | 0.062244                                                | 57,134                            | 3,556                                           | 55,356                                                | 433,331                                                | 7.6                               |
| 86–87        | 0.070635                                                | 53,578                            | 3,784                                           | 51,685                                                | 377,975                                                | 7.1                               |
| 87–88        | 0.079999                                                | 49,793                            | 3,983                                           | 47,801                                                | 326,290                                                | 6.6                               |
| 88–89        | 0.090403                                                | 45,810                            | 4,141                                           | 43,739                                                | 278,488                                                | 6.1                               |
| 89–90        | 0.101912                                                | 41,668                            | 4,246                                           | 39,545                                                | 234,749                                                | 5.6                               |
| 90–91        | 0.114576                                                | 37,422                            | 4,288                                           | 35,278                                                | 195,204                                                | 5.2                               |
| 91–92        | 0.128435                                                | 33,134                            | 4,256                                           | 31,006                                                | 159,926                                                | 4.8                               |
| 92–93        | 0.143510                                                | 28,879                            | 4,144                                           | 26,806                                                | 128,919                                                | 4.5                               |
| 93–94        | 0.159798                                                | 24,734                            | 3,952                                           | 22,758                                                | 102,113                                                | 4.1                               |
| 94–95        | 0.177273                                                | 20,782                            | 3,684                                           | 18,940                                                | 79,355                                                 | 3.8                               |
| 95–96        | 0.195880                                                | 17,098                            | 3,349                                           | 15,423                                                | 60,415                                                 | 3.5                               |
| 96–97        | 0.215531                                                | 13,749                            | 2,963                                           | 12,267                                                | 44,992                                                 | 3.3                               |
| 97–98        | 0.236109                                                | 10,785                            | 2,547                                           | 9,512                                                 | 32,725                                                 | 3.0                               |
| 98–99        | 0.257469                                                | 8,239                             | 2,121                                           | 7,178                                                 | 23,213                                                 | 2.8                               |
| 99–100       | 0.279436                                                | 6,118                             | 1,709                                           | 5,263                                                 | 16,034                                                 | 2.6                               |
| 100 and over | 1.000000                                                | 4,408                             | 4,408                                           | 10,771                                                | 10,771                                                 | 2.4                               |

NOTE: This life table is based on death rates that have been adjusted for race and ethnicity misclassification on death certificates.

SOURCE: CDC/NCHS, National Vital Statistics System.

**Table 13. Life table for the non-Hispanic white population: United States, 2011**Spreadsheet version available from: [ftp://ftp.cdc.gov/pub/Health\\_Statistics/NCHS/Publications/NVSR/64\\_11/Table13.xlsx](ftp://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/64_11/Table13.xlsx).

| Age (years) | Probability of<br>dying between<br>ages $x$ and $x + 1$ | Number<br>surviving to<br>age $x$ | Number dying<br>between<br>ages $x$ and $x + 1$ | Person-years lived<br>between<br>ages $x$ and $x + 1$ | Total number of<br>person-years lived<br>above age $x$ | Expectation of<br>life at age $x$ |
|-------------|---------------------------------------------------------|-----------------------------------|-------------------------------------------------|-------------------------------------------------------|--------------------------------------------------------|-----------------------------------|
|             | $q_x$                                                   | $l_x$                             | $d_x$                                           | $L_x$                                                 | $T_x$                                                  | $e_x$                             |
| 0-1         | 0.005067                                                | 100,000                           | 507                                             | 99,555                                                | 7,877,379                                              | 78.8                              |
| 1-2         | 0.000376                                                | 99,493                            | 37                                              | 99,475                                                | 7,777,824                                              | 78.2                              |
| 2-3         | 0.000235                                                | 99,456                            | 23                                              | 99,444                                                | 7,678,350                                              | 77.2                              |
| 3-4         | 0.000199                                                | 99,433                            | 20                                              | 99,423                                                | 7,578,906                                              | 76.2                              |
| 4-5         | 0.000152                                                | 99,413                            | 15                                              | 99,405                                                | 7,479,483                                              | 75.2                              |
| 5-6         | 0.000143                                                | 99,398                            | 14                                              | 99,391                                                | 7,380,078                                              | 74.2                              |
| 6-7         | 0.000129                                                | 99,383                            | 13                                              | 99,377                                                | 7,280,687                                              | 73.3                              |
| 7-8         | 0.000117                                                | 99,371                            | 12                                              | 99,365                                                | 7,181,310                                              | 72.3                              |
| 8-9         | 0.000103                                                | 99,359                            | 10                                              | 99,354                                                | 7,081,945                                              | 71.3                              |
| 9-10        | 0.000089                                                | 99,349                            | 9                                               | 99,344                                                | 6,982,592                                              | 70.3                              |
| 10-11       | 0.000080                                                | 99,340                            | 8                                               | 99,336                                                | 6,883,247                                              | 69.3                              |
| 11-12       | 0.000084                                                | 99,332                            | 8                                               | 99,328                                                | 6,783,911                                              | 68.3                              |
| 12-13       | 0.000111                                                | 99,324                            | 11                                              | 99,318                                                | 6,684,584                                              | 67.3                              |
| 13-14       | 0.000165                                                | 99,313                            | 16                                              | 99,304                                                | 6,585,266                                              | 66.3                              |
| 14-15       | 0.000240                                                | 99,296                            | 24                                              | 99,284                                                | 6,485,961                                              | 65.3                              |
| 15-16       | 0.000319                                                | 99,272                            | 32                                              | 99,257                                                | 6,386,677                                              | 64.3                              |
| 16-17       | 0.000397                                                | 99,241                            | 39                                              | 99,221                                                | 6,287,420                                              | 63.4                              |
| 17-18       | 0.000479                                                | 99,201                            | 48                                              | 99,178                                                | 6,188,199                                              | 62.4                              |
| 18-19       | 0.000564                                                | 99,154                            | 56                                              | 99,126                                                | 6,089,022                                              | 61.4                              |
| 19-20       | 0.000648                                                | 99,098                            | 64                                              | 99,066                                                | 5,989,896                                              | 60.4                              |
| 20-21       | 0.000735                                                | 99,034                            | 73                                              | 98,997                                                | 5,890,830                                              | 59.5                              |
| 21-22       | 0.000816                                                | 98,961                            | 81                                              | 98,921                                                | 5,791,833                                              | 58.5                              |
| 22-23       | 0.000879                                                | 98,880                            | 87                                              | 98,837                                                | 5,692,913                                              | 57.6                              |
| 23-24       | 0.000917                                                | 98,793                            | 91                                              | 98,748                                                | 5,594,076                                              | 56.6                              |
| 24-25       | 0.000938                                                | 98,703                            | 93                                              | 98,656                                                | 5,495,328                                              | 55.7                              |
| 25-26       | 0.000953                                                | 98,610                            | 94                                              | 98,563                                                | 5,396,672                                              | 54.7                              |
| 26-27       | 0.000972                                                | 98,516                            | 96                                              | 98,468                                                | 5,298,109                                              | 53.8                              |
| 27-28       | 0.000995                                                | 98,420                            | 98                                              | 98,371                                                | 5,199,641                                              | 52.8                              |
| 28-29       | 0.001024                                                | 98,322                            | 101                                             | 98,272                                                | 5,101,269                                              | 51.9                              |
| 29-30       | 0.001059                                                | 98,222                            | 104                                             | 98,170                                                | 5,002,997                                              | 50.9                              |
| 30-31       | 0.001101                                                | 98,118                            | 108                                             | 98,064                                                | 4,904,828                                              | 50.0                              |
| 31-32       | 0.001144                                                | 98,010                            | 112                                             | 97,954                                                | 4,806,764                                              | 49.0                              |
| 32-33       | 0.001184                                                | 97,897                            | 116                                             | 97,840                                                | 4,708,811                                              | 48.1                              |
| 33-34       | 0.001218                                                | 97,782                            | 119                                             | 97,722                                                | 4,610,971                                              | 47.2                              |
| 34-35       | 0.001253                                                | 97,662                            | 122                                             | 97,601                                                | 4,513,249                                              | 46.2                              |
| 35-36       | 0.001302                                                | 97,540                            | 127                                             | 97,477                                                | 4,415,648                                              | 45.3                              |
| 36-37       | 0.001368                                                | 97,413                            | 133                                             | 97,346                                                | 4,318,171                                              | 44.3                              |
| 37-38       | 0.001447                                                | 97,280                            | 141                                             | 97,209                                                | 4,220,825                                              | 43.4                              |
| 38-39       | 0.001534                                                | 97,139                            | 149                                             | 97,065                                                | 4,123,615                                              | 42.5                              |
| 39-40       | 0.001632                                                | 96,990                            | 158                                             | 96,911                                                | 4,026,550                                              | 41.5                              |
| 40-41       | 0.001737                                                | 96,832                            | 168                                             | 96,748                                                | 3,929,640                                              | 40.6                              |
| 41-42       | 0.001861                                                | 96,664                            | 180                                             | 96,574                                                | 3,832,892                                              | 39.7                              |
| 42-43       | 0.002019                                                | 96,484                            | 195                                             | 96,386                                                | 3,736,318                                              | 38.7                              |
| 43-44       | 0.002219                                                | 96,289                            | 214                                             | 96,182                                                | 3,639,932                                              | 37.8                              |
| 44-45       | 0.002454                                                | 96,075                            | 236                                             | 95,957                                                | 3,543,750                                              | 36.9                              |
| 45-46       | 0.002701                                                | 95,839                            | 259                                             | 95,710                                                | 3,447,793                                              | 36.0                              |
| 46-47       | 0.002956                                                | 95,581                            | 283                                             | 95,439                                                | 3,352,083                                              | 35.1                              |
| 47-48       | 0.003236                                                | 95,298                            | 308                                             | 95,144                                                | 3,256,643                                              | 34.2                              |
| 48-49       | 0.003543                                                | 94,990                            | 337                                             | 94,821                                                | 3,161,500                                              | 33.3                              |
| 49-50       | 0.003866                                                | 94,653                            | 366                                             | 94,470                                                | 3,066,678                                              | 32.4                              |
| 50-51       | 0.004200                                                | 94,287                            | 396                                             | 94,089                                                | 2,972,208                                              | 31.5                              |
| 51-52       | 0.004537                                                | 93,891                            | 426                                             | 93,678                                                | 2,878,119                                              | 30.7                              |
| 52-53       | 0.004877                                                | 93,465                            | 456                                             | 93,237                                                | 2,784,441                                              | 29.8                              |
| 53-54       | 0.005226                                                | 93,009                            | 486                                             | 92,766                                                | 2,691,203                                              | 28.9                              |
| 54-55       | 0.005599                                                | 92,523                            | 518                                             | 92,264                                                | 2,598,437                                              | 28.1                              |
| 55-56       | 0.006001                                                | 92,005                            | 552                                             | 91,729                                                | 2,506,173                                              | 27.2                              |
| 56-57       | 0.006439                                                | 91,453                            | 589                                             | 91,159                                                | 2,414,443                                              | 26.4                              |
| 57-58       | 0.006916                                                | 90,864                            | 628                                             | 90,550                                                | 2,323,284                                              | 25.6                              |
| 58-59       | 0.007423                                                | 90,236                            | 670                                             | 89,901                                                | 2,232,734                                              | 24.7                              |
| 59-60       | 0.007951                                                | 89,566                            | 712                                             | 89,210                                                | 2,142,833                                              | 23.9                              |
| 60-61       | 0.008501                                                | 88,854                            | 755                                             | 88,476                                                | 2,053,623                                              | 23.1                              |

See footnotes at end of table.

**Table 13. Life table for the non-Hispanic white population: United States, 2011—Con.**Spreadsheet version available from: [ftp://ftp.cdc.gov/pub/Health\\_Statistics/NCHS/Publications/NVSR/64\\_11/Table13.xlsx](ftp://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/64_11/Table13.xlsx).

| Age (years)  | Probability of<br>dying between<br>ages $x$ and $x + 1$ | Number<br>surviving to<br>age $x$ | Number dying<br>between<br>ages $x$ and $x + 1$ | Person-years lived<br>between<br>ages $x$ and $x + 1$ | Total number of<br>person-years lived<br>above age $x$ | Expectation of<br>life at age $x$ |
|--------------|---------------------------------------------------------|-----------------------------------|-------------------------------------------------|-------------------------------------------------------|--------------------------------------------------------|-----------------------------------|
|              | $q_x$                                                   | $l_x$                             | $d_x$                                           | $L_x$                                                 | $T_x$                                                  | $e_x$                             |
| 61–62        | 0.009084                                                | 88,099                            | 800                                             | 87,698                                                | 1,965,147                                              | 22.3                              |
| 62–63        | 0.009724                                                | 87,298                            | 849                                             | 86,874                                                | 1,877,448                                              | 21.5                              |
| 63–64        | 0.010466                                                | 86,449                            | 905                                             | 85,997                                                | 1,790,575                                              | 20.7                              |
| 64–65        | 0.011347                                                | 85,545                            | 971                                             | 85,059                                                | 1,704,578                                              | 19.9                              |
| 65–66        | 0.012407                                                | 84,574                            | 1,049                                           | 84,049                                                | 1,619,518                                              | 19.1                              |
| 66–67        | 0.013623                                                | 83,525                            | 1,138                                           | 82,956                                                | 1,535,469                                              | 18.4                              |
| 67–68        | 0.014946                                                | 82,387                            | 1,231                                           | 81,771                                                | 1,452,513                                              | 17.6                              |
| 68–69        | 0.016281                                                | 81,155                            | 1,321                                           | 80,495                                                | 1,370,742                                              | 16.9                              |
| 69–70        | 0.017658                                                | 79,834                            | 1,410                                           | 79,129                                                | 1,290,247                                              | 16.2                              |
| 70–71        | 0.019221                                                | 78,425                            | 1,507                                           | 77,671                                                | 1,211,118                                              | 15.4                              |
| 71–72        | 0.021009                                                | 76,917                            | 1,616                                           | 76,109                                                | 1,133,447                                              | 14.7                              |
| 72–73        | 0.023010                                                | 75,301                            | 1,733                                           | 74,435                                                | 1,057,338                                              | 14.0                              |
| 73–74        | 0.025233                                                | 73,569                            | 1,856                                           | 72,640                                                | 982,903                                                | 13.4                              |
| 74–75        | 0.027711                                                | 71,712                            | 1,987                                           | 70,719                                                | 910,263                                                | 12.7                              |
| 75–76        | 0.030400                                                | 69,725                            | 2,120                                           | 68,665                                                | 839,544                                                | 12.0                              |
| 76–77        | 0.033433                                                | 67,605                            | 2,260                                           | 66,475                                                | 770,879                                                | 11.4                              |
| 77–78        | 0.036935                                                | 65,345                            | 2,414                                           | 64,138                                                | 704,404                                                | 10.8                              |
| 78–79        | 0.040913                                                | 62,932                            | 2,575                                           | 61,644                                                | 640,266                                                | 10.2                              |
| 79–80        | 0.045423                                                | 60,357                            | 2,742                                           | 58,986                                                | 578,621                                                | 9.6                               |
| 80–81        | 0.050377                                                | 57,615                            | 2,902                                           | 56,164                                                | 519,635                                                | 9.0                               |
| 81–82        | 0.055641                                                | 54,713                            | 3,044                                           | 53,191                                                | 463,471                                                | 8.5                               |
| 82–83        | 0.061616                                                | 51,669                            | 3,184                                           | 50,077                                                | 410,281                                                | 7.9                               |
| 83–84        | 0.068404                                                | 48,485                            | 3,317                                           | 46,827                                                | 360,204                                                | 7.4                               |
| 84–85        | 0.076291                                                | 45,168                            | 3,446                                           | 43,445                                                | 313,377                                                | 6.9                               |
| 85–86        | 0.084996                                                | 41,722                            | 3,546                                           | 39,949                                                | 269,932                                                | 6.5                               |
| 86–87        | 0.095034                                                | 38,176                            | 3,628                                           | 36,362                                                | 229,983                                                | 6.0                               |
| 87–88        | 0.106042                                                | 34,548                            | 3,664                                           | 32,716                                                | 193,621                                                | 5.6                               |
| 88–89        | 0.118062                                                | 30,885                            | 3,646                                           | 29,061                                                | 160,904                                                | 5.2                               |
| 89–90        | 0.131126                                                | 27,238                            | 3,572                                           | 25,452                                                | 131,843                                                | 4.8                               |
| 90–91        | 0.145252                                                | 23,667                            | 3,438                                           | 21,948                                                | 106,390                                                | 4.5                               |
| 91–92        | 0.160444                                                | 20,229                            | 3,246                                           | 18,606                                                | 84,443                                                 | 4.2                               |
| 92–93        | 0.176687                                                | 16,983                            | 3,001                                           | 15,483                                                | 65,836                                                 | 3.9                               |
| 93–94        | 0.193944                                                | 13,983                            | 2,712                                           | 12,627                                                | 50,353                                                 | 3.6                               |
| 94–95        | 0.212157                                                | 11,271                            | 2,391                                           | 10,075                                                | 37,727                                                 | 3.3                               |
| 95–96        | 0.231244                                                | 8,880                             | 2,053                                           | 7,853                                                 | 27,651                                                 | 3.1                               |
| 96–97        | 0.251099                                                | 6,826                             | 1,714                                           | 5,969                                                 | 19,798                                                 | 2.9                               |
| 97–98        | 0.271595                                                | 5,112                             | 1,388                                           | 4,418                                                 | 13,829                                                 | 2.7                               |
| 98–99        | 0.292586                                                | 3,724                             | 1,090                                           | 3,179                                                 | 9,411                                                  | 2.5                               |
| 99–100       | 0.313911                                                | 2,634                             | 827                                             | 2,221                                                 | 6,232                                                  | 2.4                               |
| 100 and over | 1.000000                                                | 1,807                             | 1,807                                           | 4,012                                                 | 4,012                                                  | 2.2                               |

NOTE: This life table is based on death rates that have been adjusted for race and ethnicity misclassification on death certificates.

SOURCE: CDC/NCHS, National Vital Statistics System.



**Table 14. Life table for non-Hispanic white males: United States, 2011**Spreadsheet version available from: [http://ftp.cdc.gov/pub/Health\\_Statistics/NCHS/Publications/NVSR/64\\_11/Table14.xlsx](http://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/64_11/Table14.xlsx).

| Age (years) | Probability of<br>dying between<br>ages $x$ and $x + 1$ | Number<br>surviving to<br>age $x$ | Number dying<br>between<br>ages $x$ and $x + 1$ | Person-years lived<br>between<br>ages $x$ and $x + 1$ | Total number of<br>person-years lived<br>above age $x$ | Expectation of<br>life at age $x$ |
|-------------|---------------------------------------------------------|-----------------------------------|-------------------------------------------------|-------------------------------------------------------|--------------------------------------------------------|-----------------------------------|
|             | $q_x$                                                   | $l_x$                             | $d_x$                                           | $L_x$                                                 | $T_x$                                                  | $e_x$                             |
| 0-1         | 0.005524                                                | 100,000                           | 552                                             | 99,517                                                | 7,643,091                                              | 76.4                              |
| 1-2         | 0.000413                                                | 99,448                            | 41                                              | 99,427                                                | 7,543,575                                              | 75.9                              |
| 2-3         | 0.000273                                                | 99,407                            | 27                                              | 99,393                                                | 7,444,148                                              | 74.9                              |
| 3-4         | 0.000229                                                | 99,379                            | 23                                              | 99,368                                                | 7,344,755                                              | 73.9                              |
| 4-5         | 0.000156                                                | 99,357                            | 15                                              | 99,349                                                | 7,245,387                                              | 72.9                              |
| 5-6         | 0.000160                                                | 99,341                            | 16                                              | 99,333                                                | 7,146,038                                              | 71.9                              |
| 6-7         | 0.000146                                                | 99,325                            | 14                                              | 99,318                                                | 7,046,705                                              | 70.9                              |
| 7-8         | 0.000132                                                | 99,311                            | 13                                              | 99,304                                                | 6,947,387                                              | 70.0                              |
| 8-9         | 0.000114                                                | 99,298                            | 11                                              | 99,292                                                | 6,848,082                                              | 69.0                              |
| 9-10        | 0.000095                                                | 99,286                            | 9                                               | 99,282                                                | 6,748,790                                              | 68.0                              |
| 10-11       | 0.000082                                                | 99,277                            | 8                                               | 99,273                                                | 6,649,509                                              | 67.0                              |
| 11-12       | 0.000088                                                | 99,269                            | 9                                               | 99,264                                                | 6,550,236                                              | 66.0                              |
| 12-13       | 0.000125                                                | 99,260                            | 12                                              | 99,254                                                | 6,450,972                                              | 65.0                              |
| 13-14       | 0.000201                                                | 99,248                            | 20                                              | 99,238                                                | 6,351,718                                              | 64.0                              |
| 14-15       | 0.000305                                                | 99,228                            | 30                                              | 99,213                                                | 6,252,480                                              | 63.0                              |
| 15-16       | 0.000414                                                | 99,197                            | 41                                              | 99,177                                                | 6,153,268                                              | 62.0                              |
| 16-17       | 0.000522                                                | 99,156                            | 52                                              | 99,130                                                | 6,054,091                                              | 61.1                              |
| 17-18       | 0.000641                                                | 99,105                            | 64                                              | 99,073                                                | 5,954,960                                              | 60.1                              |
| 18-19       | 0.000773                                                | 99,041                            | 77                                              | 99,003                                                | 5,855,888                                              | 59.1                              |
| 19-20       | 0.000909                                                | 98,964                            | 90                                              | 98,920                                                | 5,756,885                                              | 58.2                              |
| 20-21       | 0.001053                                                | 98,875                            | 104                                             | 98,822                                                | 5,657,965                                              | 57.2                              |
| 21-22       | 0.001185                                                | 98,770                            | 117                                             | 98,712                                                | 5,559,143                                              | 56.3                              |
| 22-23       | 0.001283                                                | 98,653                            | 127                                             | 98,590                                                | 5,460,431                                              | 55.3                              |
| 23-24       | 0.001333                                                | 98,527                            | 131                                             | 98,461                                                | 5,361,841                                              | 54.4                              |
| 24-25       | 0.001349                                                | 98,395                            | 133                                             | 98,329                                                | 5,263,380                                              | 53.5                              |
| 25-26       | 0.001354                                                | 98,263                            | 133                                             | 98,196                                                | 5,165,051                                              | 52.6                              |
| 26-27       | 0.001365                                                | 98,130                            | 134                                             | 98,063                                                | 5,066,855                                              | 51.6                              |
| 27-28       | 0.001379                                                | 97,996                            | 135                                             | 97,928                                                | 4,968,792                                              | 50.7                              |
| 28-29       | 0.001401                                                | 97,860                            | 137                                             | 97,792                                                | 4,870,864                                              | 49.8                              |
| 29-30       | 0.001432                                                | 97,723                            | 140                                             | 97,653                                                | 4,773,072                                              | 48.8                              |
| 30-31       | 0.001467                                                | 97,583                            | 143                                             | 97,512                                                | 4,675,419                                              | 47.9                              |
| 31-32       | 0.001502                                                | 97,440                            | 146                                             | 97,367                                                | 4,577,907                                              | 47.0                              |
| 32-33       | 0.001536                                                | 97,294                            | 149                                             | 97,219                                                | 4,480,540                                              | 46.1                              |
| 33-34       | 0.001570                                                | 97,145                            | 153                                             | 97,068                                                | 4,383,321                                              | 45.1                              |
| 34-35       | 0.001609                                                | 96,992                            | 156                                             | 96,914                                                | 4,286,252                                              | 44.2                              |
| 35-36       | 0.001665                                                | 96,836                            | 161                                             | 96,755                                                | 4,189,338                                              | 43.3                              |
| 36-37       | 0.001742                                                | 96,675                            | 168                                             | 96,591                                                | 4,092,583                                              | 42.3                              |
| 37-38       | 0.001829                                                | 96,506                            | 177                                             | 96,418                                                | 3,995,992                                              | 41.4                              |
| 38-39       | 0.001921                                                | 96,330                            | 185                                             | 96,237                                                | 3,899,574                                              | 40.5                              |
| 39-40       | 0.002023                                                | 96,145                            | 195                                             | 96,047                                                | 3,803,337                                              | 39.6                              |
| 40-41       | 0.002135                                                | 95,950                            | 205                                             | 95,848                                                | 3,707,290                                              | 38.6                              |
| 41-42       | 0.002273                                                | 95,745                            | 218                                             | 95,637                                                | 3,611,442                                              | 37.7                              |
| 42-43       | 0.002459                                                | 95,528                            | 235                                             | 95,410                                                | 3,515,805                                              | 36.8                              |
| 43-44       | 0.002703                                                | 95,293                            | 258                                             | 95,164                                                | 3,420,395                                              | 35.9                              |
| 44-45       | 0.002997                                                | 95,035                            | 285                                             | 94,893                                                | 3,325,231                                              | 35.0                              |
| 45-46       | 0.003309                                                | 94,750                            | 313                                             | 94,594                                                | 3,230,338                                              | 34.1                              |
| 46-47       | 0.003631                                                | 94,437                            | 343                                             | 94,266                                                | 3,135,744                                              | 33.2                              |
| 47-48       | 0.003984                                                | 94,094                            | 375                                             | 93,907                                                | 3,041,479                                              | 32.3                              |
| 48-49       | 0.004366                                                | 93,719                            | 409                                             | 93,515                                                | 2,947,572                                              | 31.5                              |
| 49-50       | 0.004768                                                | 93,310                            | 445                                             | 93,088                                                | 2,854,058                                              | 30.6                              |
| 50-51       | 0.005179                                                | 92,865                            | 481                                             | 92,625                                                | 2,760,970                                              | 29.7                              |
| 51-52       | 0.005596                                                | 92,384                            | 517                                             | 92,126                                                | 2,668,345                                              | 28.9                              |
| 52-53       | 0.006034                                                | 91,867                            | 554                                             | 91,590                                                | 2,576,220                                              | 28.0                              |
| 53-54       | 0.006508                                                | 91,313                            | 594                                             | 91,016                                                | 2,484,630                                              | 27.2                              |
| 54-55       | 0.007026                                                | 90,719                            | 637                                             | 90,400                                                | 2,393,614                                              | 26.4                              |
| 55-56       | 0.007591                                                | 90,081                            | 684                                             | 89,739                                                | 2,303,214                                              | 25.6                              |
| 56-57       | 0.008191                                                | 89,397                            | 732                                             | 89,031                                                | 2,213,475                                              | 24.8                              |
| 57-58       | 0.008812                                                | 88,665                            | 781                                             | 88,274                                                | 2,124,444                                              | 24.0                              |
| 58-59       | 0.009425                                                | 87,884                            | 828                                             | 87,470                                                | 2,036,169                                              | 23.2                              |
| 59-60       | 0.010028                                                | 87,056                            | 873                                             | 86,619                                                | 1,948,700                                              | 22.4                              |
| 60-61       | 0.010645                                                | 86,183                            | 917                                             | 85,724                                                | 1,862,081                                              | 21.6                              |

See footnotes at end of table.

**Table 14. Life table for non-Hispanic white males: United States, 2011—Con.**Spreadsheet version available from: [ftp://ftp.cdc.gov/pub/Health\\_Statistics/NCHS/Publications/NVSR/64\\_11/Table14.xlsx](ftp://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/64_11/Table14.xlsx).

| Age (years)  | Probability of<br>dying between<br>ages $x$ and $x + 1$ | Number<br>surviving to<br>age $x$ | Number dying<br>between<br>ages $x$ and $x + 1$ | Person-years lived<br>between<br>ages $x$ and $x + 1$ | Total number of<br>person-years lived<br>above age $x$ | Expectation of<br>life at age $x$ |
|--------------|---------------------------------------------------------|-----------------------------------|-------------------------------------------------|-------------------------------------------------------|--------------------------------------------------------|-----------------------------------|
|              | $q_x$                                                   | $l_x$                             | $d_x$                                           | $L_x$                                                 | $T_x$                                                  | $e_x$                             |
| 61–62        | 0.011305                                                | 85,265                            | 964                                             | 84,783                                                | 1,776,357                                              | 20.8                              |
| 62–63        | 0.012031                                                | 84,301                            | 1,014                                           | 83,794                                                | 1,691,574                                              | 20.1                              |
| 63–64        | 0.012880                                                | 83,287                            | 1,073                                           | 82,751                                                | 1,607,780                                              | 19.3                              |
| 64–65        | 0.013896                                                | 82,214                            | 1,142                                           | 81,643                                                | 1,525,029                                              | 18.5                              |
| 65–66        | 0.015110                                                | 81,072                            | 1,225                                           | 80,459                                                | 1,443,386                                              | 17.8                              |
| 66–67        | 0.016503                                                | 79,847                            | 1,318                                           | 79,188                                                | 1,362,927                                              | 17.1                              |
| 67–68        | 0.018045                                                | 78,529                            | 1,417                                           | 77,821                                                | 1,283,739                                              | 16.3                              |
| 68–69        | 0.019623                                                | 77,112                            | 1,513                                           | 76,355                                                | 1,205,919                                              | 15.6                              |
| 69–70        | 0.021262                                                | 75,599                            | 1,607                                           | 74,795                                                | 1,129,563                                              | 14.9                              |
| 70–71        | 0.023146                                                | 73,991                            | 1,713                                           | 73,135                                                | 1,054,768                                              | 14.3                              |
| 71–72        | 0.025278                                                | 72,279                            | 1,827                                           | 71,365                                                | 981,633                                                | 13.6                              |
| 72–73        | 0.027630                                                | 70,452                            | 1,947                                           | 69,478                                                | 910,268                                                | 12.9                              |
| 73–74        | 0.030219                                                | 68,505                            | 2,070                                           | 67,470                                                | 840,789                                                | 12.3                              |
| 74–75        | 0.033126                                                | 66,435                            | 2,201                                           | 65,335                                                | 773,319                                                | 11.6                              |
| 75–76        | 0.036255                                                | 64,234                            | 2,329                                           | 63,070                                                | 707,985                                                | 11.0                              |
| 76–77        | 0.039716                                                | 61,905                            | 2,459                                           | 60,676                                                | 644,915                                                | 10.4                              |
| 77–78        | 0.043757                                                | 59,447                            | 2,601                                           | 58,146                                                | 584,239                                                | 9.8                               |
| 78–79        | 0.048405                                                | 56,845                            | 2,752                                           | 55,470                                                | 526,093                                                | 9.3                               |
| 79–80        | 0.053785                                                | 54,094                            | 2,909                                           | 52,639                                                | 470,623                                                | 8.7                               |
| 80–81        | 0.059839                                                | 51,184                            | 3,063                                           | 49,653                                                | 417,984                                                | 8.2                               |
| 81–82        | 0.066176                                                | 48,122                            | 3,184                                           | 46,529                                                | 368,331                                                | 7.7                               |
| 82–83        | 0.073348                                                | 44,937                            | 3,296                                           | 43,289                                                | 321,802                                                | 7.2                               |
| 83–84        | 0.081302                                                | 41,641                            | 3,385                                           | 39,948                                                | 278,513                                                | 6.7                               |
| 84–85        | 0.090236                                                | 38,256                            | 3,452                                           | 36,530                                                | 238,565                                                | 6.2                               |
| 85–86        | 0.100743                                                | 34,804                            | 3,506                                           | 33,050                                                | 202,035                                                | 5.8                               |
| 86–87        | 0.112235                                                | 31,297                            | 3,513                                           | 29,541                                                | 168,985                                                | 5.4                               |
| 87–88        | 0.124750                                                | 27,785                            | 3,466                                           | 26,052                                                | 139,444                                                | 5.0                               |
| 88–89        | 0.138311                                                | 24,319                            | 3,364                                           | 22,637                                                | 113,392                                                | 4.7                               |
| 89–90        | 0.152931                                                | 20,955                            | 3,205                                           | 19,353                                                | 90,755                                                 | 4.3                               |
| 90–91        | 0.168603                                                | 17,750                            | 2,993                                           | 16,254                                                | 71,402                                                 | 4.0                               |
| 91–92        | 0.185302                                                | 14,758                            | 2,735                                           | 13,390                                                | 55,149                                                 | 3.7                               |
| 92–93        | 0.202980                                                | 12,023                            | 2,440                                           | 10,803                                                | 41,758                                                 | 3.5                               |
| 93–94        | 0.221569                                                | 9,583                             | 2,123                                           | 8,521                                                 | 30,955                                                 | 3.2                               |
| 94–95        | 0.240976                                                | 7,459                             | 1,798                                           | 6,561                                                 | 22,435                                                 | 3.0                               |
| 95–96        | 0.261085                                                | 5,662                             | 1,478                                           | 4,923                                                 | 15,874                                                 | 2.8                               |
| 96–97        | 0.281762                                                | 4,184                             | 1,179                                           | 3,594                                                 | 10,951                                                 | 2.6                               |
| 97–98        | 0.302853                                                | 3,005                             | 910                                             | 2,550                                                 | 7,357                                                  | 2.4                               |
| 98–99        | 0.324194                                                | 2,095                             | 679                                             | 1,755                                                 | 4,807                                                  | 2.3                               |
| 99–100       | 0.345609                                                | 1,416                             | 489                                             | 1,171                                                 | 3,052                                                  | 2.2                               |
| 100 and over | 1.000000                                                | 926                               | 926                                             | 1,881                                                 | 1,881                                                  | 2.0                               |

NOTE: This life table is based on death rates that have been adjusted for race and ethnicity misclassification on death certificates.

SOURCE: CDC/NCHS, National Vital Statistics System.

**Table 15. Life table for non-Hispanic white females: United States, 2011**Spreadsheet version available from: [http://ftp.cdc.gov/pub/Health\\_Statistics/NCHS/Publications/NVSR/64\\_11/Table15.xlsx](http://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/64_11/Table15.xlsx).

| Age (years) | Probability of<br>dying between<br>ages $x$ and $x + 1$ | Number<br>surviving to<br>age $x$ | Number dying<br>between<br>ages $x$ and $x + 1$ | Person-years lived<br>between<br>ages $x$ and $x + 1$ | Total number of<br>person-years lived<br>above age $x$ | Expectation of<br>life at age $x$ |
|-------------|---------------------------------------------------------|-----------------------------------|-------------------------------------------------|-------------------------------------------------------|--------------------------------------------------------|-----------------------------------|
|             | $q_x$                                                   | $l_x$                             | $d_x$                                           | $L_x$                                                 | $T_x$                                                  | $e_x$                             |
| 0-1         | 0.004585                                                | 100,000                           | 458                                             | 99,596                                                | 8,107,151                                              | 81.1                              |
| 1-2         | 0.000338                                                | 99,542                            | 34                                              | 99,525                                                | 8,007,555                                              | 80.4                              |
| 2-3         | 0.000195                                                | 99,508                            | 19                                              | 99,498                                                | 7,908,030                                              | 79.5                              |
| 3-4         | 0.000168                                                | 99,489                            | 17                                              | 99,480                                                | 7,808,532                                              | 78.5                              |
| 4-5         | 0.000148                                                | 99,472                            | 15                                              | 99,464                                                | 7,709,052                                              | 77.5                              |
| 5-6         | 0.000124                                                | 99,457                            | 12                                              | 99,451                                                | 7,609,587                                              | 76.5                              |
| 6-7         | 0.000112                                                | 99,445                            | 11                                              | 99,439                                                | 7,510,136                                              | 75.5                              |
| 7-8         | 0.000102                                                | 99,434                            | 10                                              | 99,429                                                | 7,410,697                                              | 74.5                              |
| 8-9         | 0.000092                                                | 99,424                            | 9                                               | 99,419                                                | 7,311,269                                              | 73.5                              |
| 9-10        | 0.000083                                                | 99,414                            | 8                                               | 99,410                                                | 7,211,850                                              | 72.5                              |
| 10-11       | 0.000077                                                | 99,406                            | 8                                               | 99,402                                                | 7,112,439                                              | 71.5                              |
| 11-12       | 0.000080                                                | 99,398                            | 8                                               | 99,394                                                | 7,013,037                                              | 70.6                              |
| 12-13       | 0.000095                                                | 99,391                            | 9                                               | 99,386                                                | 6,913,643                                              | 69.6                              |
| 13-14       | 0.000127                                                | 99,381                            | 13                                              | 99,375                                                | 6,814,257                                              | 68.6                              |
| 14-15       | 0.000170                                                | 99,368                            | 17                                              | 99,360                                                | 6,714,882                                              | 67.6                              |
| 15-16       | 0.000218                                                | 99,352                            | 22                                              | 99,341                                                | 6,615,522                                              | 66.6                              |
| 16-17       | 0.000265                                                | 99,330                            | 26                                              | 99,317                                                | 6,516,181                                              | 65.6                              |
| 17-18       | 0.000307                                                | 99,304                            | 31                                              | 99,288                                                | 6,416,865                                              | 64.6                              |
| 18-19       | 0.000343                                                | 99,273                            | 34                                              | 99,256                                                | 6,317,576                                              | 63.6                              |
| 19-20       | 0.000373                                                | 99,239                            | 37                                              | 99,220                                                | 6,218,320                                              | 62.7                              |
| 20-21       | 0.000403                                                | 99,202                            | 40                                              | 99,182                                                | 6,119,100                                              | 61.7                              |
| 21-22       | 0.000435                                                | 99,162                            | 43                                              | 99,140                                                | 6,019,918                                              | 60.7                              |
| 22-23       | 0.000464                                                | 99,119                            | 46                                              | 99,096                                                | 5,920,777                                              | 59.7                              |
| 23-24       | 0.000490                                                | 99,073                            | 49                                              | 99,049                                                | 5,821,682                                              | 58.8                              |
| 24-25       | 0.000516                                                | 99,024                            | 51                                              | 98,999                                                | 5,722,633                                              | 57.8                              |
| 25-26       | 0.000542                                                | 98,973                            | 54                                              | 98,946                                                | 5,623,634                                              | 56.8                              |
| 26-27       | 0.000570                                                | 98,920                            | 56                                              | 98,891                                                | 5,524,688                                              | 55.9                              |
| 27-28       | 0.000602                                                | 98,863                            | 60                                              | 98,833                                                | 5,425,796                                              | 54.9                              |
| 28-29       | 0.000640                                                | 98,804                            | 63                                              | 98,772                                                | 5,326,963                                              | 53.9                              |
| 29-30       | 0.000681                                                | 98,740                            | 67                                              | 98,707                                                | 5,228,191                                              | 52.9                              |
| 30-31       | 0.000731                                                | 98,673                            | 72                                              | 98,637                                                | 5,129,484                                              | 52.0                              |
| 31-32       | 0.000783                                                | 98,601                            | 77                                              | 98,562                                                | 5,030,847                                              | 51.0                              |
| 32-33       | 0.000828                                                | 98,524                            | 82                                              | 98,483                                                | 4,932,284                                              | 50.1                              |
| 33-34       | 0.000864                                                | 98,442                            | 85                                              | 98,400                                                | 4,833,801                                              | 49.1                              |
| 34-35       | 0.000895                                                | 98,357                            | 88                                              | 98,313                                                | 4,735,402                                              | 48.1                              |
| 35-36       | 0.000935                                                | 98,269                            | 92                                              | 98,223                                                | 4,637,088                                              | 47.2                              |
| 36-37       | 0.000991                                                | 98,177                            | 97                                              | 98,129                                                | 4,538,865                                              | 46.2                              |
| 37-38       | 0.001060                                                | 98,080                            | 104                                             | 98,028                                                | 4,440,736                                              | 45.3                              |
| 38-39       | 0.001143                                                | 97,976                            | 112                                             | 97,920                                                | 4,342,708                                              | 44.3                              |
| 39-40       | 0.001237                                                | 97,864                            | 121                                             | 97,804                                                | 4,244,788                                              | 43.4                              |
| 40-41       | 0.001337                                                | 97,743                            | 131                                             | 97,678                                                | 4,146,985                                              | 42.4                              |
| 41-42       | 0.001446                                                | 97,612                            | 141                                             | 97,542                                                | 4,049,307                                              | 41.5                              |
| 42-43       | 0.001577                                                | 97,471                            | 154                                             | 97,394                                                | 3,951,765                                              | 40.5                              |
| 43-44       | 0.001733                                                | 97,317                            | 169                                             | 97,233                                                | 3,854,371                                              | 39.6                              |
| 44-45       | 0.001912                                                | 97,149                            | 186                                             | 97,056                                                | 3,757,138                                              | 38.7                              |
| 45-46       | 0.002095                                                | 96,963                            | 203                                             | 96,861                                                | 3,660,082                                              | 37.7                              |
| 46-47       | 0.002284                                                | 96,760                            | 221                                             | 96,649                                                | 3,563,221                                              | 36.8                              |
| 47-48       | 0.002495                                                | 96,539                            | 241                                             | 96,418                                                | 3,466,571                                              | 35.9                              |
| 48-49       | 0.002727                                                | 96,298                            | 263                                             | 96,167                                                | 3,370,153                                              | 35.0                              |
| 49-50       | 0.002974                                                | 96,035                            | 286                                             | 95,893                                                | 3,273,986                                              | 34.1                              |
| 50-51       | 0.003234                                                | 95,750                            | 310                                             | 95,595                                                | 3,178,094                                              | 33.2                              |
| 51-52       | 0.003494                                                | 95,440                            | 333                                             | 95,273                                                | 3,082,499                                              | 32.3                              |
| 52-53       | 0.003739                                                | 95,107                            | 356                                             | 94,929                                                | 2,987,226                                              | 31.4                              |
| 53-54       | 0.003971                                                | 94,751                            | 376                                             | 94,563                                                | 2,892,297                                              | 30.5                              |
| 54-55       | 0.004205                                                | 94,375                            | 397                                             | 94,176                                                | 2,797,734                                              | 29.6                              |
| 55-56       | 0.004455                                                | 93,978                            | 419                                             | 93,769                                                | 2,703,558                                              | 28.8                              |
| 56-57       | 0.004742                                                | 93,559                            | 444                                             | 93,337                                                | 2,609,789                                              | 27.9                              |
| 57-58       | 0.005088                                                | 93,116                            | 474                                             | 92,879                                                | 2,516,452                                              | 27.0                              |
| 58-59       | 0.005499                                                | 92,642                            | 509                                             | 92,387                                                | 2,423,573                                              | 26.2                              |
| 59-60       | 0.005960                                                | 92,132                            | 549                                             | 91,858                                                | 2,331,186                                              | 25.3                              |
| 60-61       | 0.006450                                                | 91,583                            | 591                                             | 91,288                                                | 2,239,328                                              | 24.5                              |

See footnotes at end of table.

**Table 15. Life table for non-Hispanic white females: United States, 2011—Con.**Spreadsheet version available from: [ftp://ftp.cdc.gov/pub/Health\\_Statistics/NCHS/Publications/NVSR/64\\_11/Table15.xlsx](ftp://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/64_11/Table15.xlsx).

| Age (years)  | Probability of<br>dying between<br>ages $x$ and $x + 1$ | Number<br>surviving to<br>age $x$ | Number dying<br>between<br>ages $x$ and $x + 1$ | Person-years lived<br>between<br>ages $x$ and $x + 1$ | Total number of<br>person-years lived<br>above age $x$ | Expectation of<br>life at age $x$ |
|--------------|---------------------------------------------------------|-----------------------------------|-------------------------------------------------|-------------------------------------------------------|--------------------------------------------------------|-----------------------------------|
|              | $q_x$                                                   | $l_x$                             | $d_x$                                           | $L_x$                                                 | $T_x$                                                  | $e_x$                             |
| 61–62        | 0.006967                                                | 90,993                            | 634                                             | 90,676                                                | 2,148,040                                              | 23.6                              |
| 62–63        | 0.007533                                                | 90,359                            | 681                                             | 90,018                                                | 2,057,365                                              | 22.8                              |
| 63–64        | 0.008183                                                | 89,678                            | 734                                             | 89,311                                                | 1,967,346                                              | 21.9                              |
| 64–65        | 0.008949                                                | 88,944                            | 796                                             | 88,546                                                | 1,878,036                                              | 21.1                              |
| 65–66        | 0.009881                                                | 88,148                            | 871                                             | 87,713                                                | 1,789,489                                              | 20.3                              |
| 66–67        | 0.010952                                                | 87,277                            | 956                                             | 86,799                                                | 1,701,777                                              | 19.5                              |
| 67–68        | 0.012094                                                | 86,321                            | 1,044                                           | 85,799                                                | 1,614,978                                              | 18.7                              |
| 68–69        | 0.013230                                                | 85,277                            | 1,128                                           | 84,713                                                | 1,529,178                                              | 17.9                              |
| 69–70        | 0.014396                                                | 84,149                            | 1,211                                           | 83,543                                                | 1,444,465                                              | 17.2                              |
| 70–71        | 0.015704                                                | 82,938                            | 1,302                                           | 82,286                                                | 1,360,922                                              | 16.4                              |
| 71–72        | 0.017228                                                | 81,635                            | 1,406                                           | 80,932                                                | 1,278,635                                              | 15.7                              |
| 72–73        | 0.018967                                                | 80,229                            | 1,522                                           | 79,468                                                | 1,197,703                                              | 14.9                              |
| 73–74        | 0.020926                                                | 78,707                            | 1,647                                           | 77,884                                                | 1,118,235                                              | 14.2                              |
| 74–75        | 0.023102                                                | 77,060                            | 1,780                                           | 76,170                                                | 1,040,352                                              | 13.5                              |
| 75–76        | 0.025499                                                | 75,280                            | 1,920                                           | 74,320                                                | 964,182                                                | 12.8                              |
| 76–77        | 0.028263                                                | 73,360                            | 2,073                                           | 72,324                                                | 889,862                                                | 12.1                              |
| 77–78        | 0.031432                                                | 71,287                            | 2,241                                           | 70,166                                                | 817,538                                                | 11.5                              |
| 78–79        | 0.035011                                                | 69,046                            | 2,417                                           | 67,837                                                | 747,372                                                | 10.8                              |
| 79–80        | 0.039005                                                | 66,629                            | 2,599                                           | 65,329                                                | 679,534                                                | 10.2                              |
| 80–81        | 0.043303                                                | 64,030                            | 2,773                                           | 62,644                                                | 614,205                                                | 9.6                               |
| 81–82        | 0.047997                                                | 61,257                            | 2,940                                           | 59,787                                                | 551,561                                                | 9.0                               |
| 82–83        | 0.053399                                                | 58,317                            | 3,114                                           | 56,760                                                | 491,774                                                | 8.4                               |
| 83–84        | 0.059703                                                | 55,203                            | 3,296                                           | 53,555                                                | 435,014                                                | 7.9                               |
| 84–85        | 0.067376                                                | 51,907                            | 3,497                                           | 50,159                                                | 381,459                                                | 7.3                               |
| 85–86        | 0.075630                                                | 48,410                            | 3,661                                           | 46,579                                                | 331,300                                                | 6.8                               |
| 86–87        | 0.085201                                                | 44,749                            | 3,813                                           | 42,842                                                | 284,721                                                | 6.4                               |
| 87–88        | 0.095787                                                | 40,936                            | 3,921                                           | 38,976                                                | 241,879                                                | 5.9                               |
| 88–89        | 0.107445                                                | 37,015                            | 3,977                                           | 35,026                                                | 202,903                                                | 5.5                               |
| 89–90        | 0.120224                                                | 33,038                            | 3,972                                           | 31,052                                                | 167,877                                                | 5.1                               |
| 90–91        | 0.134158                                                | 29,066                            | 3,899                                           | 27,116                                                | 136,825                                                | 4.7                               |
| 91–92        | 0.149265                                                | 25,166                            | 3,756                                           | 23,288                                                | 109,709                                                | 4.4                               |
| 92–93        | 0.165545                                                | 21,410                            | 3,544                                           | 19,638                                                | 86,421                                                 | 4.0                               |
| 93–94        | 0.182973                                                | 17,866                            | 3,269                                           | 16,231                                                | 66,783                                                 | 3.7                               |
| 94–95        | 0.201498                                                | 14,597                            | 2,941                                           | 13,126                                                | 50,552                                                 | 3.5                               |
| 95–96        | 0.221041                                                | 11,656                            | 2,576                                           | 10,367                                                | 37,425                                                 | 3.2                               |
| 96–97        | 0.241495                                                | 9,079                             | 2,193                                           | 7,983                                                 | 27,058                                                 | 3.0                               |
| 97–98        | 0.262727                                                | 6,887                             | 1,809                                           | 5,982                                                 | 19,075                                                 | 2.8                               |
| 98–99        | 0.284575                                                | 5,077                             | 1,445                                           | 4,355                                                 | 13,093                                                 | 2.6                               |
| 99–100       | 0.306860                                                | 3,632                             | 1,115                                           | 3,075                                                 | 8,738                                                  | 2.4                               |
| 100 and over | 1.000000                                                | 2,518                             | 2,518                                           | 5,663                                                 | 5,663                                                  | 2.2                               |

NOTE: This life table is based on death rates that have been adjusted for race and ethnicity misclassification on death certificates.

SOURCE: CDC/NCHS, National Vital Statistics System.

**Table 16. Life table for the non-Hispanic black population: United States, 2011**Spreadsheet version available from: [http://ftp.cdc.gov/pub/Health\\_Statistics/NCHS/Publications/NVSR/64\\_11/Table16.xlsx](http://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/64_11/Table16.xlsx).

| Age (years) | Probability of<br>dying between<br>ages $x$ and $x + 1$ | Number<br>surviving to<br>age $x$ | Number dying<br>between<br>ages $x$ and $x + 1$ | Person-years lived<br>between<br>ages $x$ and $x + 1$ | Total number of<br>person-years lived<br>above age $x$ | Expectation of<br>life at age $x$ |
|-------------|---------------------------------------------------------|-----------------------------------|-------------------------------------------------|-------------------------------------------------------|--------------------------------------------------------|-----------------------------------|
|             | $q_x$                                                   | $l_x$                             | $d_x$                                           | $L_x$                                                 | $T_x$                                                  | $e_x$                             |
| 0-1         | 0.011435                                                | 100,000                           | 1,143                                           | 99,007                                                | 7,494,065                                              | 74.9                              |
| 1-2         | 0.000659                                                | 98,857                            | 65                                              | 98,824                                                | 7,395,058                                              | 74.8                              |
| 2-3         | 0.000448                                                | 98,791                            | 44                                              | 98,769                                                | 7,296,234                                              | 73.9                              |
| 3-4         | 0.000308                                                | 98,747                            | 30                                              | 98,732                                                | 7,197,465                                              | 72.9                              |
| 4-5         | 0.000262                                                | 98,717                            | 26                                              | 98,704                                                | 7,098,733                                              | 71.9                              |
| 5-6         | 0.000233                                                | 98,691                            | 23                                              | 98,679                                                | 7,000,029                                              | 70.9                              |
| 6-7         | 0.000202                                                | 98,668                            | 20                                              | 98,658                                                | 6,901,349                                              | 69.9                              |
| 7-8         | 0.000176                                                | 98,648                            | 17                                              | 98,639                                                | 6,802,692                                              | 69.0                              |
| 8-9         | 0.000152                                                | 98,630                            | 15                                              | 98,623                                                | 6,704,052                                              | 68.0                              |
| 9-10        | 0.000131                                                | 98,615                            | 13                                              | 98,609                                                | 6,605,429                                              | 67.0                              |
| 10-11       | 0.000118                                                | 98,603                            | 12                                              | 98,597                                                | 6,506,820                                              | 66.0                              |
| 11-12       | 0.000126                                                | 98,591                            | 12                                              | 98,585                                                | 6,408,224                                              | 65.0                              |
| 12-13       | 0.000166                                                | 98,579                            | 16                                              | 98,570                                                | 6,309,639                                              | 64.0                              |
| 13-14       | 0.000243                                                | 98,562                            | 24                                              | 98,550                                                | 6,211,068                                              | 63.0                              |
| 14-15       | 0.000347                                                | 98,538                            | 34                                              | 98,521                                                | 6,112,518                                              | 62.0                              |
| 15-16       | 0.000453                                                | 98,504                            | 45                                              | 98,482                                                | 6,013,997                                              | 61.1                              |
| 16-17       | 0.000557                                                | 98,459                            | 55                                              | 98,432                                                | 5,915,515                                              | 60.1                              |
| 17-18       | 0.000672                                                | 98,405                            | 66                                              | 98,372                                                | 5,817,083                                              | 59.1                              |
| 18-19       | 0.000797                                                | 98,338                            | 78                                              | 98,299                                                | 5,718,712                                              | 58.2                              |
| 19-20       | 0.000930                                                | 98,260                            | 91                                              | 98,214                                                | 5,620,412                                              | 57.2                              |
| 20-21       | 0.001074                                                | 98,169                            | 105                                             | 98,116                                                | 5,522,198                                              | 56.3                              |
| 21-22       | 0.001210                                                | 98,063                            | 119                                             | 98,004                                                | 5,424,082                                              | 55.3                              |
| 22-23       | 0.001315                                                | 97,945                            | 129                                             | 97,880                                                | 5,326,078                                              | 54.4                              |
| 23-24       | 0.001378                                                | 97,816                            | 135                                             | 97,748                                                | 5,228,198                                              | 53.4                              |
| 24-25       | 0.001410                                                | 97,681                            | 138                                             | 97,612                                                | 5,130,450                                              | 52.5                              |
| 25-26       | 0.001433                                                | 97,543                            | 140                                             | 97,473                                                | 5,032,838                                              | 51.6                              |
| 26-27       | 0.001465                                                | 97,403                            | 143                                             | 97,332                                                | 4,935,364                                              | 50.7                              |
| 27-28       | 0.001500                                                | 97,261                            | 146                                             | 97,188                                                | 4,838,032                                              | 49.7                              |
| 28-29       | 0.001541                                                | 97,115                            | 150                                             | 97,040                                                | 4,740,845                                              | 48.8                              |
| 29-30       | 0.001587                                                | 96,965                            | 154                                             | 96,888                                                | 4,643,805                                              | 47.9                              |
| 30-31       | 0.001635                                                | 96,811                            | 158                                             | 96,732                                                | 4,546,917                                              | 47.0                              |
| 31-32       | 0.001684                                                | 96,653                            | 163                                             | 96,571                                                | 4,450,185                                              | 46.0                              |
| 32-33       | 0.001737                                                | 96,490                            | 168                                             | 96,406                                                | 4,353,613                                              | 45.1                              |
| 33-34       | 0.001799                                                | 96,322                            | 173                                             | 96,236                                                | 4,257,207                                              | 44.2                              |
| 34-35       | 0.001871                                                | 96,149                            | 180                                             | 96,059                                                | 4,160,971                                              | 43.3                              |
| 35-36       | 0.001962                                                | 95,969                            | 188                                             | 95,875                                                | 4,064,912                                              | 42.4                              |
| 36-37       | 0.002070                                                | 95,781                            | 198                                             | 95,682                                                | 3,969,036                                              | 41.4                              |
| 37-38       | 0.002189                                                | 95,583                            | 209                                             | 95,478                                                | 3,873,355                                              | 40.5                              |
| 38-39       | 0.002315                                                | 95,373                            | 221                                             | 95,263                                                | 3,777,877                                              | 39.6                              |
| 39-40       | 0.002450                                                | 95,153                            | 233                                             | 95,036                                                | 3,682,614                                              | 38.7                              |
| 40-41       | 0.002600                                                | 94,919                            | 247                                             | 94,796                                                | 3,587,578                                              | 37.8                              |
| 41-42       | 0.002776                                                | 94,673                            | 263                                             | 94,541                                                | 3,492,781                                              | 36.9                              |
| 42-43       | 0.002990                                                | 94,410                            | 282                                             | 94,269                                                | 3,398,240                                              | 36.0                              |
| 43-44       | 0.003250                                                | 94,128                            | 306                                             | 93,975                                                | 3,303,971                                              | 35.1                              |
| 44-45       | 0.003552                                                | 93,822                            | 333                                             | 93,655                                                | 3,209,997                                              | 34.2                              |
| 45-46       | 0.003867                                                | 93,488                            | 361                                             | 93,308                                                | 3,116,342                                              | 33.3                              |
| 46-47       | 0.004203                                                | 93,127                            | 391                                             | 92,931                                                | 3,023,034                                              | 32.5                              |
| 47-48       | 0.004601                                                | 92,735                            | 427                                             | 92,522                                                | 2,930,103                                              | 31.6                              |
| 48-49       | 0.005074                                                | 92,309                            | 468                                             | 92,075                                                | 2,837,581                                              | 30.7                              |
| 49-50       | 0.005604                                                | 91,840                            | 515                                             | 91,583                                                | 2,745,506                                              | 29.9                              |
| 50-51       | 0.006160                                                | 91,326                            | 563                                             | 91,044                                                | 2,653,923                                              | 29.1                              |
| 51-52       | 0.006724                                                | 90,763                            | 610                                             | 90,458                                                | 2,562,879                                              | 28.2                              |
| 52-53       | 0.007322                                                | 90,153                            | 660                                             | 89,823                                                | 2,472,421                                              | 27.4                              |
| 53-54       | 0.007969                                                | 89,493                            | 713                                             | 89,136                                                | 2,382,598                                              | 26.6                              |
| 54-55       | 0.008676                                                | 88,780                            | 770                                             | 88,394                                                | 2,293,462                                              | 25.8                              |
| 55-56       | 0.009449                                                | 88,009                            | 832                                             | 87,593                                                | 2,205,068                                              | 25.1                              |
| 56-57       | 0.010272                                                | 87,178                            | 895                                             | 86,730                                                | 2,117,474                                              | 24.3                              |
| 57-58       | 0.011125                                                | 86,282                            | 960                                             | 85,802                                                | 2,030,744                                              | 23.5                              |
| 58-59       | 0.011973                                                | 85,322                            | 1,022                                           | 84,812                                                | 1,944,942                                              | 22.8                              |
| 59-60       | 0.012811                                                | 84,301                            | 1,080                                           | 83,761                                                | 1,860,130                                              | 22.1                              |
| 60-61       | 0.013698                                                | 83,221                            | 1,140                                           | 82,651                                                | 1,776,369                                              | 21.3                              |

See footnotes at end of table.

**Table 16. Life table for the non-Hispanic black population: United States, 2011—Con.**Spreadsheet version available from: [ftp://ftp.cdc.gov/pub/Health\\_Statistics/NCHS/Publications/NVSR/64\\_11/Table16.xlsx](ftp://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/64_11/Table16.xlsx).

| Age (years)  | Probability of<br>dying between<br>ages $x$ and $x + 1$ | Number<br>surviving to<br>age $x$ | Number dying<br>between<br>ages $x$ and $x + 1$ | Person-years lived<br>between<br>ages $x$ and $x + 1$ | Total number of<br>person-years lived<br>above age $x$ | Expectation of<br>life at age $x$ |
|--------------|---------------------------------------------------------|-----------------------------------|-------------------------------------------------|-------------------------------------------------------|--------------------------------------------------------|-----------------------------------|
|              | $q_x$                                                   | $l_x$                             | $d_x$                                           | $L_x$                                                 | $T_x$                                                  | $e_x$                             |
| 61–62        | 0.014638                                                | 82,081                            | 1,202                                           | 81,480                                                | 1,693,719                                              | 20.6                              |
| 62–63        | 0.015572                                                | 80,879                            | 1,259                                           | 80,250                                                | 1,612,238                                              | 19.9                              |
| 63–64        | 0.016511                                                | 79,620                            | 1,315                                           | 78,963                                                | 1,531,989                                              | 19.2                              |
| 64–65        | 0.017512                                                | 78,305                            | 1,371                                           | 77,620                                                | 1,453,026                                              | 18.6                              |
| 65–66        | 0.018653                                                | 76,934                            | 1,435                                           | 76,216                                                | 1,375,407                                              | 17.9                              |
| 66–67        | 0.019990                                                | 75,499                            | 1,509                                           | 74,744                                                | 1,299,190                                              | 17.2                              |
| 67–68        | 0.021490                                                | 73,990                            | 1,590                                           | 73,195                                                | 1,224,446                                              | 16.5                              |
| 68–69        | 0.023075                                                | 72,400                            | 1,671                                           | 71,564                                                | 1,151,251                                              | 15.9                              |
| 69–70        | 0.024748                                                | 70,729                            | 1,750                                           | 69,854                                                | 1,079,687                                              | 15.3                              |
| 70–71        | 0.026481                                                | 68,979                            | 1,827                                           | 68,065                                                | 1,009,833                                              | 14.6                              |
| 71–72        | 0.028282                                                | 67,152                            | 1,899                                           | 66,203                                                | 941,767                                                | 14.0                              |
| 72–73        | 0.030320                                                | 65,253                            | 1,978                                           | 64,264                                                | 875,565                                                | 13.4                              |
| 73–74        | 0.032625                                                | 63,274                            | 2,064                                           | 62,242                                                | 811,301                                                | 12.8                              |
| 74–75        | 0.035255                                                | 61,210                            | 2,158                                           | 60,131                                                | 749,059                                                | 12.2                              |
| 75–76        | 0.038116                                                | 59,052                            | 2,251                                           | 57,927                                                | 688,928                                                | 11.7                              |
| 76–77        | 0.040885                                                | 56,801                            | 2,322                                           | 55,640                                                | 631,001                                                | 11.1                              |
| 77–78        | 0.044231                                                | 54,479                            | 2,410                                           | 53,274                                                | 575,361                                                | 10.6                              |
| 78–79        | 0.048353                                                | 52,069                            | 2,518                                           | 50,810                                                | 522,087                                                | 10.0                              |
| 79–80        | 0.052742                                                | 49,552                            | 2,613                                           | 48,245                                                | 471,276                                                | 9.5                               |
| 80–81        | 0.057523                                                | 46,938                            | 2,700                                           | 45,588                                                | 423,031                                                | 9.0                               |
| 81–82        | 0.062523                                                | 44,238                            | 2,766                                           | 42,855                                                | 377,443                                                | 8.5                               |
| 82–83        | 0.068590                                                | 41,472                            | 2,845                                           | 40,050                                                | 334,588                                                | 8.1                               |
| 83–84        | 0.075916                                                | 38,628                            | 2,932                                           | 37,161                                                | 294,538                                                | 7.6                               |
| 84–85        | 0.082576                                                | 35,695                            | 2,948                                           | 34,221                                                | 257,377                                                | 7.2                               |
| 85–86        | 0.089733                                                | 32,748                            | 2,939                                           | 31,278                                                | 223,155                                                | 6.8                               |
| 86–87        | 0.097406                                                | 29,809                            | 2,904                                           | 28,357                                                | 191,877                                                | 6.4                               |
| 87–88        | 0.105615                                                | 26,906                            | 2,842                                           | 25,485                                                | 163,520                                                | 6.1                               |
| 88–89        | 0.114377                                                | 24,064                            | 2,752                                           | 22,688                                                | 138,035                                                | 5.7                               |
| 89–90        | 0.123706                                                | 21,312                            | 2,636                                           | 19,993                                                | 115,347                                                | 5.4                               |
| 90–91        | 0.133611                                                | 18,675                            | 2,495                                           | 17,428                                                | 95,354                                                 | 5.1                               |
| 91–92        | 0.144099                                                | 16,180                            | 2,332                                           | 15,014                                                | 77,926                                                 | 4.8                               |
| 92–93        | 0.155171                                                | 13,848                            | 2,149                                           | 12,774                                                | 62,912                                                 | 4.5                               |
| 93–94        | 0.166822                                                | 11,700                            | 1,952                                           | 10,724                                                | 50,138                                                 | 4.3                               |
| 94–95        | 0.179041                                                | 9,748                             | 1,745                                           | 8,875                                                 | 39,414                                                 | 4.0                               |
| 95–96        | 0.191812                                                | 8,003                             | 1,535                                           | 7,235                                                 | 30,539                                                 | 3.8                               |
| 96–97        | 0.205111                                                | 6,468                             | 1,327                                           | 5,804                                                 | 23,304                                                 | 3.6                               |
| 97–98        | 0.218907                                                | 5,141                             | 1,125                                           | 4,578                                                 | 17,500                                                 | 3.4                               |
| 98–99        | 0.233162                                                | 4,016                             | 936                                             | 3,547                                                 | 12,921                                                 | 3.2                               |
| 99–100       | 0.247831                                                | 3,079                             | 763                                             | 2,698                                                 | 9,374                                                  | 3.0                               |
| 100 and over | 1.000000                                                | 2,316                             | 2,316                                           | 6,676                                                 | 6,676                                                  | 2.9                               |

NOTE: This life table is based on death rates that have been adjusted for race and ethnicity misclassification on death certificates.  
 SOURCE: CDC/NCHS, National Vital Statistics System.

**Table 17. Life table for non-Hispanic black males: United States, 2011**Spreadsheet version available from: [http://ftp.cdc.gov/pub/Health\\_Statistics/NCHS/Publications/NVSR/64\\_11/Table17.xlsx](http://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/64_11/Table17.xlsx).

| Age (years) | Probability of<br>dying between<br>ages $x$ and $x + 1$ | Number<br>surviving to<br>age $x$ | Number dying<br>between<br>ages $x$ and $x + 1$ | Person-years lived<br>between<br>ages $x$ and $x + 1$ | Total number of<br>person-years lived<br>above age $x$ | Expectation of<br>life at age $x$ |
|-------------|---------------------------------------------------------|-----------------------------------|-------------------------------------------------|-------------------------------------------------------|--------------------------------------------------------|-----------------------------------|
|             | $q_x$                                                   | $l_x$                             | $d_x$                                           | $L_x$                                                 | $T_x$                                                  | $e_x$                             |
| 0-1         | 0.012502                                                | 100,000                           | 1,250                                           | 98,927                                                | 7,173,820                                              | 71.7                              |
| 1-2         | 0.000674                                                | 98,750                            | 67                                              | 98,716                                                | 7,074,893                                              | 71.6                              |
| 2-3         | 0.000494                                                | 98,683                            | 49                                              | 98,659                                                | 6,976,177                                              | 70.7                              |
| 3-4         | 0.000356                                                | 98,634                            | 35                                              | 98,617                                                | 6,877,518                                              | 69.7                              |
| 4-5         | 0.000316                                                | 98,599                            | 31                                              | 98,584                                                | 6,778,901                                              | 68.8                              |
| 5-6         | 0.000258                                                | 98,568                            | 25                                              | 98,555                                                | 6,680,317                                              | 67.8                              |
| 6-7         | 0.000224                                                | 98,543                            | 22                                              | 98,532                                                | 6,581,762                                              | 66.8                              |
| 7-8         | 0.000193                                                | 98,521                            | 19                                              | 98,511                                                | 6,483,230                                              | 65.8                              |
| 8-9         | 0.000161                                                | 98,502                            | 16                                              | 98,494                                                | 6,384,719                                              | 64.8                              |
| 9-10        | 0.000128                                                | 98,486                            | 13                                              | 98,480                                                | 6,286,225                                              | 63.8                              |
| 10-11       | 0.000107                                                | 98,473                            | 11                                              | 98,468                                                | 6,187,746                                              | 62.8                              |
| 11-12       | 0.000118                                                | 98,463                            | 12                                              | 98,457                                                | 6,089,278                                              | 61.8                              |
| 12-13       | 0.000183                                                | 98,451                            | 18                                              | 98,442                                                | 5,990,821                                              | 60.9                              |
| 13-14       | 0.000310                                                | 98,433                            | 31                                              | 98,418                                                | 5,892,379                                              | 59.9                              |
| 14-15       | 0.000481                                                | 98,402                            | 47                                              | 98,379                                                | 5,793,961                                              | 58.9                              |
| 15-16       | 0.000655                                                | 98,355                            | 64                                              | 98,323                                                | 5,695,583                                              | 57.9                              |
| 16-17       | 0.000822                                                | 98,291                            | 81                                              | 98,250                                                | 5,597,260                                              | 56.9                              |
| 17-18       | 0.001004                                                | 98,210                            | 99                                              | 98,160                                                | 5,499,010                                              | 56.0                              |
| 18-19       | 0.001206                                                | 98,111                            | 118                                             | 98,052                                                | 5,400,849                                              | 55.0                              |
| 19-20       | 0.001421                                                | 97,993                            | 139                                             | 97,923                                                | 5,302,797                                              | 54.1                              |
| 20-21       | 0.001654                                                | 97,854                            | 162                                             | 97,773                                                | 5,204,874                                              | 53.2                              |
| 21-22       | 0.001874                                                | 97,692                            | 183                                             | 97,600                                                | 5,107,101                                              | 52.3                              |
| 22-23       | 0.002041                                                | 97,509                            | 199                                             | 97,409                                                | 5,009,501                                              | 51.4                              |
| 23-24       | 0.002134                                                | 97,310                            | 208                                             | 97,206                                                | 4,912,092                                              | 50.5                              |
| 24-25       | 0.002168                                                | 97,102                            | 211                                             | 96,997                                                | 4,814,886                                              | 49.6                              |
| 25-26       | 0.002186                                                | 96,891                            | 212                                             | 96,786                                                | 4,717,890                                              | 48.7                              |
| 26-27       | 0.002212                                                | 96,680                            | 214                                             | 96,573                                                | 4,621,104                                              | 47.8                              |
| 27-28       | 0.002230                                                | 96,466                            | 215                                             | 96,358                                                | 4,524,531                                              | 46.9                              |
| 28-29       | 0.002245                                                | 96,251                            | 216                                             | 96,143                                                | 4,428,173                                              | 46.0                              |
| 29-30       | 0.002259                                                | 96,035                            | 217                                             | 95,926                                                | 4,332,030                                              | 45.1                              |
| 30-31       | 0.002267                                                | 95,818                            | 217                                             | 95,709                                                | 4,236,104                                              | 44.2                              |
| 31-32       | 0.002276                                                | 95,600                            | 218                                             | 95,492                                                | 4,140,395                                              | 43.3                              |
| 32-33       | 0.002300                                                | 95,383                            | 219                                             | 95,273                                                | 4,044,904                                              | 42.4                              |
| 33-34       | 0.002350                                                | 95,163                            | 224                                             | 95,052                                                | 3,949,631                                              | 41.5                              |
| 34-35       | 0.002426                                                | 94,940                            | 230                                             | 94,825                                                | 3,854,579                                              | 40.6                              |
| 35-36       | 0.002527                                                | 94,709                            | 239                                             | 94,590                                                | 3,759,755                                              | 39.7                              |
| 36-37       | 0.002646                                                | 94,470                            | 250                                             | 94,345                                                | 3,665,165                                              | 38.8                              |
| 37-38       | 0.002772                                                | 94,220                            | 261                                             | 94,089                                                | 3,570,820                                              | 37.9                              |
| 38-39       | 0.002896                                                | 93,959                            | 272                                             | 93,823                                                | 3,476,730                                              | 37.0                              |
| 39-40       | 0.003027                                                | 93,687                            | 284                                             | 93,545                                                | 3,382,908                                              | 36.1                              |
| 40-41       | 0.003179                                                | 93,403                            | 297                                             | 93,255                                                | 3,289,363                                              | 35.2                              |
| 41-42       | 0.003369                                                | 93,106                            | 314                                             | 92,949                                                | 3,196,108                                              | 34.3                              |
| 42-43       | 0.003607                                                | 92,793                            | 335                                             | 92,625                                                | 3,103,159                                              | 33.4                              |
| 43-44       | 0.003902                                                | 92,458                            | 361                                             | 92,277                                                | 3,010,533                                              | 32.6                              |
| 44-45       | 0.004251                                                | 92,097                            | 392                                             | 91,901                                                | 2,918,256                                              | 31.7                              |
| 45-46       | 0.004616                                                | 91,706                            | 423                                             | 91,494                                                | 2,826,355                                              | 30.8                              |
| 46-47       | 0.005016                                                | 91,282                            | 458                                             | 91,053                                                | 2,734,861                                              | 30.0                              |
| 47-48       | 0.005513                                                | 90,824                            | 501                                             | 90,574                                                | 2,643,807                                              | 29.1                              |
| 48-49       | 0.006129                                                | 90,324                            | 554                                             | 90,047                                                | 2,553,233                                              | 28.3                              |
| 49-50       | 0.006838                                                | 89,770                            | 614                                             | 89,463                                                | 2,463,186                                              | 27.4                              |
| 50-51       | 0.007586                                                | 89,156                            | 676                                             | 88,818                                                | 2,373,723                                              | 26.6                              |
| 51-52       | 0.008344                                                | 88,480                            | 738                                             | 88,111                                                | 2,284,905                                              | 25.8                              |
| 52-53       | 0.009145                                                | 87,742                            | 802                                             | 87,340                                                | 2,196,794                                              | 25.0                              |
| 53-54       | 0.010011                                                | 86,939                            | 870                                             | 86,504                                                | 2,109,454                                              | 24.3                              |
| 54-55       | 0.010959                                                | 86,069                            | 943                                             | 85,597                                                | 2,022,950                                              | 23.5                              |
| 55-56       | 0.011995                                                | 85,126                            | 1,021                                           | 84,615                                                | 1,937,352                                              | 22.8                              |
| 56-57       | 0.013107                                                | 84,105                            | 1,102                                           | 83,553                                                | 1,852,737                                              | 22.0                              |
| 57-58       | 0.014274                                                | 83,002                            | 1,185                                           | 82,410                                                | 1,769,184                                              | 21.3                              |
| 58-59       | 0.015455                                                | 81,817                            | 1,264                                           | 81,185                                                | 1,686,774                                              | 20.6                              |
| 59-60       | 0.016630                                                | 80,553                            | 1,340                                           | 79,883                                                | 1,605,589                                              | 19.9                              |
| 60-61       | 0.017888                                                | 79,213                            | 1,417                                           | 78,505                                                | 1,525,705                                              | 19.3                              |

See footnotes at end of table.



**Table 17. Life table for non-Hispanic black males: United States, 2011—Con.**Spreadsheet version available from: [ftp://ftp.cdc.gov/pub/Health\\_Statistics/NCHS/Publications/NVSR/64\\_11/Table17.xlsx](ftp://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/64_11/Table17.xlsx).

| Age (years)  | Probability of<br>dying between<br>ages $x$ and $x + 1$ | Number<br>surviving to<br>age $x$ | Number dying<br>between<br>ages $x$ and $x + 1$ | Person-years lived<br>between<br>ages $x$ and $x + 1$ | Total number of<br>person-years lived<br>above age $x$ | Expectation of<br>life at age $x$ |
|--------------|---------------------------------------------------------|-----------------------------------|-------------------------------------------------|-------------------------------------------------------|--------------------------------------------------------|-----------------------------------|
|              | $q_x$                                                   | $l_x$                             | $d_x$                                           | $L_x$                                                 | $T_x$                                                  | $e_x$                             |
| 61–62        | 0.019207                                                | 77,796                            | 1,494                                           | 77,049                                                | 1,447,201                                              | 18.6                              |
| 62–63        | 0.020451                                                | 76,302                            | 1,560                                           | 75,522                                                | 1,370,151                                              | 18.0                              |
| 63–64        | 0.021595                                                | 74,742                            | 1,614                                           | 73,935                                                | 1,294,629                                              | 17.3                              |
| 64–65        | 0.022717                                                | 73,128                            | 1,661                                           | 72,297                                                | 1,220,695                                              | 16.7                              |
| 65–66        | 0.023933                                                | 71,466                            | 1,710                                           | 70,611                                                | 1,148,398                                              | 16.1                              |
| 66–67        | 0.025369                                                | 69,756                            | 1,770                                           | 68,871                                                | 1,077,787                                              | 15.5                              |
| 67–68        | 0.027104                                                | 67,986                            | 1,843                                           | 67,065                                                | 1,008,915                                              | 14.8                              |
| 68–69        | 0.029089                                                | 66,144                            | 1,924                                           | 65,182                                                | 941,851                                                | 14.2                              |
| 69–70        | 0.031191                                                | 64,220                            | 2,003                                           | 63,218                                                | 876,669                                                | 13.7                              |
| 70–71        | 0.033429                                                | 62,216                            | 2,080                                           | 61,177                                                | 813,451                                                | 13.1                              |
| 71–72        | 0.035780                                                | 60,137                            | 2,152                                           | 59,061                                                | 752,274                                                | 12.5                              |
| 72–73        | 0.038397                                                | 57,985                            | 2,226                                           | 56,872                                                | 693,214                                                | 12.0                              |
| 73–74        | 0.041254                                                | 55,759                            | 2,300                                           | 54,608                                                | 636,342                                                | 11.4                              |
| 74–75        | 0.044174                                                | 53,458                            | 2,361                                           | 52,278                                                | 581,733                                                | 10.9                              |
| 75–76        | 0.047704                                                | 51,097                            | 2,438                                           | 49,878                                                | 529,456                                                | 10.4                              |
| 76–77        | 0.051047                                                | 48,659                            | 2,484                                           | 47,417                                                | 479,578                                                | 9.9                               |
| 77–78        | 0.054624                                                | 46,175                            | 2,522                                           | 44,914                                                | 432,161                                                | 9.4                               |
| 78–79        | 0.059628                                                | 43,653                            | 2,603                                           | 42,352                                                | 387,246                                                | 8.9                               |
| 79–80        | 0.064976                                                | 41,050                            | 2,667                                           | 39,716                                                | 344,895                                                | 8.4                               |
| 80–81        | 0.070676                                                | 38,383                            | 2,713                                           | 37,026                                                | 305,178                                                | 8.0                               |
| 81–82        | 0.076651                                                | 35,670                            | 2,734                                           | 34,303                                                | 268,152                                                | 7.5                               |
| 82–83        | 0.085516                                                | 32,936                            | 2,817                                           | 31,528                                                | 233,849                                                | 7.1                               |
| 83–84        | 0.092664                                                | 30,119                            | 2,791                                           | 28,724                                                | 202,321                                                | 6.7                               |
| 84–85        | 0.100307                                                | 27,328                            | 2,741                                           | 25,958                                                | 173,597                                                | 6.4                               |
| 85–86        | 0.108460                                                | 24,587                            | 2,667                                           | 23,254                                                | 147,639                                                | 6.0                               |
| 86–87        | 0.117140                                                | 21,920                            | 2,568                                           | 20,637                                                | 124,386                                                | 5.7                               |
| 87–88        | 0.126357                                                | 19,353                            | 2,445                                           | 18,130                                                | 103,749                                                | 5.4                               |
| 88–89        | 0.136120                                                | 16,907                            | 2,301                                           | 15,757                                                | 85,619                                                 | 5.1                               |
| 89–90        | 0.146432                                                | 14,606                            | 2,139                                           | 13,537                                                | 69,862                                                 | 4.8                               |
| 90–91        | 0.157294                                                | 12,467                            | 1,961                                           | 11,487                                                | 56,326                                                 | 4.5                               |
| 91–92        | 0.168701                                                | 10,506                            | 1,772                                           | 9,620                                                 | 44,839                                                 | 4.3                               |
| 92–93        | 0.180641                                                | 8,734                             | 1,578                                           | 7,945                                                 | 35,219                                                 | 4.0                               |
| 93–94        | 0.193099                                                | 7,156                             | 1,382                                           | 6,465                                                 | 27,274                                                 | 3.8                               |
| 94–95        | 0.206052                                                | 5,774                             | 1,190                                           | 5,179                                                 | 20,809                                                 | 3.6                               |
| 95–96        | 0.219470                                                | 4,584                             | 1,006                                           | 4,081                                                 | 15,630                                                 | 3.4                               |
| 96–97        | 0.233321                                                | 3,578                             | 835                                             | 3,161                                                 | 11,548                                                 | 3.2                               |
| 97–98        | 0.247561                                                | 2,743                             | 679                                             | 2,404                                                 | 8,388                                                  | 3.1                               |
| 98–99        | 0.262144                                                | 2,064                             | 541                                             | 1,794                                                 | 5,984                                                  | 2.9                               |
| 99–100       | 0.277019                                                | 1,523                             | 422                                             | 1,312                                                 | 4,190                                                  | 2.8                               |
| 100 and over | 1.000000                                                | 1,101                             | 1,101                                           | 2,878                                                 | 2,878                                                  | 2.6                               |

NOTE: This life table is based on death rates that have been adjusted for race and ethnicity misclassification on death certificates.

SOURCE: CDC/NCHS, National Vital Statistics System.

**Table 18. Life table for non-Hispanic black females: United States, 2011**Spreadsheet version available from: [ftp://ftp.cdc.gov/pub/Health\\_Statistics/NCHS/Publications/NVSR/64\\_11/Table18.xlsx](ftp://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/64_11/Table18.xlsx).

| Age (years) | Probability of<br>dying between<br>ages $x$ and $x + 1$ | Number<br>surviving to<br>age $x$ | Number dying<br>between<br>ages $x$ and $x + 1$ | Person-years lived<br>between<br>ages $x$ and $x + 1$ | Total number of<br>person-years lived<br>above age $x$ | Expectation of<br>life at age $x$ |
|-------------|---------------------------------------------------------|-----------------------------------|-------------------------------------------------|-------------------------------------------------------|--------------------------------------------------------|-----------------------------------|
|             | $q_x$                                                   | $l_x$                             | $d_x$                                           | $L_x$                                                 | $T_x$                                                  | $e_x$                             |
| 0-1         | 0.010333                                                | 100,000                           | 1,033                                           | 99,090                                                | 7,785,713                                              | 77.9                              |
| 1-2         | 0.000616                                                | 98,967                            | 61                                              | 98,936                                                | 7,686,623                                              | 77.7                              |
| 2-3         | 0.000382                                                | 98,906                            | 38                                              | 98,887                                                | 7,587,687                                              | 76.7                              |
| 3-4         | 0.000246                                                | 98,868                            | 24                                              | 98,856                                                | 7,488,800                                              | 75.7                              |
| 4-5         | 0.000197                                                | 98,844                            | 19                                              | 98,834                                                | 7,389,944                                              | 74.8                              |
| 5-6         | 0.000199                                                | 98,824                            | 20                                              | 98,814                                                | 7,291,110                                              | 73.8                              |
| 6-7         | 0.000173                                                | 98,804                            | 17                                              | 98,796                                                | 7,192,296                                              | 72.8                              |
| 7-8         | 0.000153                                                | 98,787                            | 15                                              | 98,780                                                | 7,093,500                                              | 71.8                              |
| 8-9         | 0.000137                                                | 98,772                            | 14                                              | 98,766                                                | 6,994,720                                              | 70.8                              |
| 9-10        | 0.000126                                                | 98,759                            | 12                                              | 98,753                                                | 6,895,955                                              | 69.8                              |
| 10-11       | 0.000121                                                | 98,746                            | 12                                              | 98,740                                                | 6,797,202                                              | 68.8                              |
| 11-12       | 0.000124                                                | 98,734                            | 12                                              | 98,728                                                | 6,698,462                                              | 67.8                              |
| 12-13       | 0.000139                                                | 98,722                            | 14                                              | 98,715                                                | 6,599,734                                              | 66.9                              |
| 13-14       | 0.000165                                                | 98,708                            | 16                                              | 98,700                                                | 6,501,018                                              | 65.9                              |
| 14-15       | 0.000201                                                | 98,692                            | 20                                              | 98,682                                                | 6,402,318                                              | 64.9                              |
| 15-16       | 0.000240                                                | 98,672                            | 24                                              | 98,660                                                | 6,303,636                                              | 63.9                              |
| 16-17       | 0.000280                                                | 98,649                            | 28                                              | 98,635                                                | 6,204,976                                              | 62.9                              |
| 17-18       | 0.000325                                                | 98,621                            | 32                                              | 98,605                                                | 6,106,341                                              | 61.9                              |
| 18-19       | 0.000375                                                | 98,589                            | 37                                              | 98,570                                                | 6,007,736                                              | 60.9                              |
| 19-20       | 0.000428                                                | 98,552                            | 42                                              | 98,531                                                | 5,909,166                                              | 60.0                              |
| 20-21       | 0.000487                                                | 98,510                            | 48                                              | 98,486                                                | 5,810,635                                              | 59.0                              |
| 21-22       | 0.000546                                                | 98,462                            | 54                                              | 98,435                                                | 5,712,149                                              | 58.0                              |
| 22-23       | 0.000597                                                | 98,408                            | 59                                              | 98,379                                                | 5,613,714                                              | 57.0                              |
| 23-24       | 0.000639                                                | 98,349                            | 63                                              | 98,318                                                | 5,515,336                                              | 56.1                              |
| 24-25       | 0.000676                                                | 98,286                            | 66                                              | 98,253                                                | 5,417,018                                              | 55.1                              |
| 25-26       | 0.000714                                                | 98,220                            | 70                                              | 98,185                                                | 5,318,765                                              | 54.2                              |
| 26-27       | 0.000761                                                | 98,150                            | 75                                              | 98,112                                                | 5,220,580                                              | 53.2                              |
| 27-28       | 0.000819                                                | 98,075                            | 80                                              | 98,035                                                | 5,122,468                                              | 52.2                              |
| 28-29       | 0.000891                                                | 97,995                            | 87                                              | 97,951                                                | 5,024,433                                              | 51.3                              |
| 29-30       | 0.000971                                                | 97,908                            | 95                                              | 97,860                                                | 4,926,481                                              | 50.3                              |
| 30-31       | 0.001059                                                | 97,812                            | 104                                             | 97,761                                                | 4,828,622                                              | 49.4                              |
| 31-32       | 0.001147                                                | 97,709                            | 112                                             | 97,653                                                | 4,730,861                                              | 48.4                              |
| 32-33       | 0.001229                                                | 97,597                            | 120                                             | 97,537                                                | 4,633,208                                              | 47.5                              |
| 33-34       | 0.001303                                                | 97,477                            | 127                                             | 97,413                                                | 4,535,671                                              | 46.5                              |
| 34-35       | 0.001376                                                | 97,350                            | 134                                             | 97,283                                                | 4,438,258                                              | 45.6                              |
| 35-36       | 0.001459                                                | 97,216                            | 142                                             | 97,145                                                | 4,340,975                                              | 44.7                              |
| 36-37       | 0.001559                                                | 97,074                            | 151                                             | 96,998                                                | 4,243,830                                              | 43.7                              |
| 37-38       | 0.001673                                                | 96,923                            | 162                                             | 96,842                                                | 4,146,832                                              | 42.8                              |
| 38-39       | 0.001800                                                | 96,760                            | 174                                             | 96,673                                                | 4,049,990                                              | 41.9                              |
| 39-40       | 0.001938                                                | 96,586                            | 187                                             | 96,493                                                | 3,953,317                                              | 40.9                              |
| 40-41       | 0.002084                                                | 96,399                            | 201                                             | 96,299                                                | 3,856,824                                              | 40.0                              |
| 41-42       | 0.002247                                                | 96,198                            | 216                                             | 96,090                                                | 3,760,526                                              | 39.1                              |
| 42-43       | 0.002440                                                | 95,982                            | 234                                             | 95,865                                                | 3,664,435                                              | 38.2                              |
| 43-44       | 0.002669                                                | 95,748                            | 256                                             | 95,620                                                | 3,568,570                                              | 37.3                              |
| 44-45       | 0.002929                                                | 95,492                            | 280                                             | 95,353                                                | 3,472,950                                              | 36.4                              |
| 45-46       | 0.003199                                                | 95,213                            | 305                                             | 95,060                                                | 3,377,598                                              | 35.5                              |
| 46-47       | 0.003480                                                | 94,908                            | 330                                             | 94,743                                                | 3,282,537                                              | 34.6                              |
| 47-48       | 0.003792                                                | 94,578                            | 359                                             | 94,399                                                | 3,187,794                                              | 33.7                              |
| 48-49       | 0.004139                                                | 94,219                            | 390                                             | 94,024                                                | 3,093,396                                              | 32.8                              |
| 49-50       | 0.004515                                                | 93,829                            | 424                                             | 93,617                                                | 2,999,371                                              | 32.0                              |
| 50-51       | 0.004905                                                | 93,406                            | 458                                             | 93,176                                                | 2,905,754                                              | 31.1                              |
| 51-52       | 0.005303                                                | 92,947                            | 493                                             | 92,701                                                | 2,812,578                                              | 30.3                              |
| 52-53       | 0.005726                                                | 92,455                            | 529                                             | 92,190                                                | 2,719,877                                              | 29.4                              |
| 53-54       | 0.006189                                                | 91,925                            | 569                                             | 91,641                                                | 2,627,687                                              | 28.6                              |
| 54-55       | 0.006697                                                | 91,356                            | 612                                             | 91,050                                                | 2,536,046                                              | 27.8                              |
| 55-56       | 0.007255                                                | 90,744                            | 658                                             | 90,415                                                | 2,444,996                                              | 26.9                              |
| 56-57       | 0.007847                                                | 90,086                            | 707                                             | 89,733                                                | 2,354,581                                              | 26.1                              |
| 57-58       | 0.008451                                                | 89,379                            | 755                                             | 89,001                                                | 2,264,848                                              | 25.3                              |
| 58-59       | 0.009041                                                | 88,624                            | 801                                             | 88,223                                                | 2,175,847                                              | 24.6                              |
| 59-60       | 0.009619                                                | 87,823                            | 845                                             | 87,400                                                | 2,087,623                                              | 23.8                              |
| 60-61       | 0.010223                                                | 86,978                            | 889                                             | 86,533                                                | 2,000,223                                              | 23.0                              |

See footnotes at end of table.

**Table 18. Life table for non-Hispanic black females: United States, 2011—Con.**Spreadsheet version available from: [ftp://ftp.cdc.gov/pub/Health\\_Statistics/NCHS/Publications/NVSR/64\\_11/Table18.xlsx](ftp://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/64_11/Table18.xlsx).

| Age (years)  | Probability of<br>dying between<br>ages $x$ and $x + 1$ | Number<br>surviving to<br>age $x$ | Number dying<br>between<br>ages $x$ and $x + 1$ | Person-years lived<br>between<br>ages $x$ and $x + 1$ | Total number of<br>person-years lived<br>above age $x$ | Expectation of<br>life at age $x$ |
|--------------|---------------------------------------------------------|-----------------------------------|-------------------------------------------------|-------------------------------------------------------|--------------------------------------------------------|-----------------------------------|
|              | $q_x$                                                   | $l_x$                             | $d_x$                                           | $L_x$                                                 | $T_x$                                                  | $e_x$                             |
| 61–62        | 0.010881                                                | 86,089                            | 937                                             | 85,620                                                | 1,913,690                                              | 22.2                              |
| 62–63        | 0.011592                                                | 85,152                            | 987                                             | 84,658                                                | 1,828,070                                              | 21.5                              |
| 63–64        | 0.012396                                                | 84,165                            | 1,043                                           | 83,643                                                | 1,743,411                                              | 20.7                              |
| 64–65        | 0.013333                                                | 83,122                            | 1,108                                           | 82,567                                                | 1,659,768                                              | 20.0                              |
| 65–66        | 0.014454                                                | 82,013                            | 1,185                                           | 81,421                                                | 1,577,201                                              | 19.2                              |
| 66–67        | 0.015755                                                | 80,828                            | 1,273                                           | 80,191                                                | 1,495,780                                              | 18.5                              |
| 67–68        | 0.017120                                                | 79,554                            | 1,362                                           | 78,873                                                | 1,415,589                                              | 17.8                              |
| 68–69        | 0.018445                                                | 78,192                            | 1,442                                           | 77,471                                                | 1,336,716                                              | 17.1                              |
| 69–70        | 0.019852                                                | 76,750                            | 1,524                                           | 75,988                                                | 1,259,245                                              | 16.4                              |
| 70–71        | 0.021273                                                | 75,226                            | 1,600                                           | 74,426                                                | 1,183,257                                              | 15.7                              |
| 71–72        | 0.022737                                                | 73,626                            | 1,674                                           | 72,789                                                | 1,108,830                                              | 15.1                              |
| 72–73        | 0.024430                                                | 71,952                            | 1,758                                           | 71,073                                                | 1,036,041                                              | 14.4                              |
| 73–74        | 0.026433                                                | 70,194                            | 1,855                                           | 69,267                                                | 964,968                                                | 13.7                              |
| 74–75        | 0.028992                                                | 68,339                            | 1,981                                           | 67,348                                                | 895,701                                                | 13.1                              |
| 75–76        | 0.031542                                                | 66,358                            | 2,093                                           | 65,311                                                | 828,353                                                | 12.5                              |
| 76–77        | 0.034066                                                | 64,264                            | 2,189                                           | 63,170                                                | 763,042                                                | 11.9                              |
| 77–78        | 0.037452                                                | 62,075                            | 2,325                                           | 60,913                                                | 699,872                                                | 11.3                              |
| 78–79        | 0.041213                                                | 59,750                            | 2,462                                           | 58,519                                                | 638,960                                                | 10.7                              |
| 79–80        | 0.045256                                                | 57,288                            | 2,593                                           | 55,992                                                | 580,440                                                | 10.1                              |
| 80–81        | 0.049784                                                | 54,695                            | 2,723                                           | 53,334                                                | 524,449                                                | 9.6                               |
| 81–82        | 0.054510                                                | 51,972                            | 2,833                                           | 50,556                                                | 471,115                                                | 9.1                               |
| 82–83        | 0.060046                                                | 49,139                            | 2,951                                           | 47,664                                                | 420,559                                                | 8.6                               |
| 83–84        | 0.066566                                                | 46,189                            | 3,075                                           | 44,651                                                | 372,895                                                | 8.1                               |
| 84–85        | 0.073065                                                | 43,114                            | 3,150                                           | 41,539                                                | 328,244                                                | 7.6                               |
| 85–86        | 0.080114                                                | 39,964                            | 3,202                                           | 38,363                                                | 286,705                                                | 7.2                               |
| 86–87        | 0.087742                                                | 36,762                            | 3,226                                           | 35,149                                                | 248,342                                                | 6.8                               |
| 87–88        | 0.095977                                                | 33,537                            | 3,219                                           | 31,927                                                | 213,192                                                | 6.4                               |
| 88–89        | 0.104846                                                | 30,318                            | 3,179                                           | 28,729                                                | 181,265                                                | 6.0                               |
| 89–90        | 0.114369                                                | 27,139                            | 3,104                                           | 25,587                                                | 152,537                                                | 5.6                               |
| 90–91        | 0.124566                                                | 24,035                            | 2,994                                           | 22,538                                                | 126,949                                                | 5.3                               |
| 91–92        | 0.135450                                                | 21,041                            | 2,850                                           | 19,616                                                | 104,411                                                | 5.0                               |
| 92–93        | 0.147026                                                | 18,191                            | 2,675                                           | 16,854                                                | 84,795                                                 | 4.7                               |
| 93–94        | 0.159295                                                | 15,517                            | 2,472                                           | 14,281                                                | 67,941                                                 | 4.4                               |
| 94–95        | 0.172248                                                | 13,045                            | 2,247                                           | 11,921                                                | 53,660                                                 | 4.1                               |
| 95–96        | 0.185869                                                | 10,798                            | 2,007                                           | 9,794                                                 | 41,738                                                 | 3.9                               |
| 96–97        | 0.200131                                                | 8,791                             | 1,759                                           | 7,911                                                 | 31,944                                                 | 3.6                               |
| 97–98        | 0.214998                                                | 7,032                             | 1,512                                           | 6,276                                                 | 24,032                                                 | 3.4                               |
| 98–99        | 0.230423                                                | 5,520                             | 1,272                                           | 4,884                                                 | 17,757                                                 | 3.2                               |
| 99–100       | 0.246352                                                | 4,248                             | 1,046                                           | 3,725                                                 | 12,873                                                 | 3.0                               |
| 100 and over | 1.000000                                                | 3,201                             | 3,201                                           | 9,148                                                 | 9,148                                                  | 2.9                               |

NOTE: This life table is based on death rates that have been adjusted for race and ethnicity misclassification on death certificates.

SOURCE: CDC/NCHS, National Vital Statistics System.

**Table 19. Estimated life expectancy at birth, in years, by race, Hispanic origin, and sex: Death-registration states, 1900–1928, and United States, 1929–2011***[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 <sup>1</sup> |      |        | Hispanic <sup>2</sup> |      |        | Non-Hispanic white <sup>2</sup> |      |        | Non-Hispanic black <sup>2</sup> |      |        |
|----------------------------|-----------------------|------|--------|------------|------|--------|--------------------|------|--------|-----------------------|------|--------|---------------------------------|------|--------|---------------------------------|------|--------|
|                            | 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 <sup>3</sup> |                       |      |        |            |      |        |                    |      |        |                       |      |        |                                 |      |        |                                 |      |        |
| 2011 <sup>4</sup> .....    | 78.7                  | 76.3 | 81.1   | 79.0       | 76.6 | 81.3   | 75.3               | 72.2 | 78.2   | 81.6                  | 79.0 | 83.8   | 78.8                            | 76.4 | 81.1   | 74.9                            | 71.7 | 77.9   |
| 2010 <sup>4</sup> .....    | 78.7                  | 76.2 | 81.0   | 78.9       | 76.5 | 81.3   | 75.1               | 71.8 | 78.0   | 81.4                  | 78.7 | 83.8   | 78.8                            | 76.4 | 81.1   | 74.7                            | 71.4 | 77.7   |
| 2009 <sup>4,5</sup> .....  | 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 <sup>4,5</sup> .....  | 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 <sup>4,5</sup> .....  | 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 <sup>4,5</sup> .....  | 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 <sup>4,5</sup> .....  | 77.6                  | 75.0 | 80.1   | 78.0       | 75.5 | 80.5   | 73.0               | 69.5 | 76.2   | ---                   | ---  | ---    | ---                             | ---  | ---    | ---                             | ---  | ---    |
| 2004 <sup>4,5</sup> .....  | 77.6                  | 75.0 | 80.1   | 78.1       | 75.5 | 80.5   | 72.9               | 69.4 | 76.1   | ---                   | ---  | ---    | ---                             | ---  | ---    | ---                             | ---  | ---    |
| 2003 <sup>4,5</sup> .....  | 77.2                  | 74.5 | 79.7   | 77.7       | 75.1 | 80.2   | 72.4               | 68.9 | 75.7   | ---                   | ---  | ---    | ---                             | ---  | ---    | ---                             | ---  | ---    |
| 2002 <sup>4,5</sup> .....  | 77.0                  | 74.4 | 79.6   | 77.5       | 74.9 | 80.1   | 72.2               | 68.7 | 75.4   | ---                   | ---  | ---    | ---                             | ---  | ---    | ---                             | ---  | ---    |
| 2001 <sup>4,5</sup> .....  | 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 <sup>6</sup> .....    | 71.2                  | 67.4 | 75.1   | 72.0       | 68.3 | 75.9   | 64.7               | 60.4 | 69.1   | ---                   | ---  | ---    | ---                             | ---  | ---    | ---                             | ---  | ---    |
| 1971.....                  | 71.1                  | 67.4 | 75.0   | 72.0       | 68.3 | 75.8   | 64.6               | 60.5 | 68.9   | ---                   | ---  | ---    | ---                             | ---  | ---    | ---                             | ---  | ---    |
| 1970.....                  | 70.8                  | 67.1 | 74.7   | 71.7       | 68.0 | 75.6   | 64.1               | 60.0 | 68.3   | ---                   | ---  | ---    | ---                             | ---  | ---    | ---                             | ---  | ---    |
| 1969.....                  | 70.5                  | 66.8 | 74.4   | 71.4       | 67.7 | 75.3   | 64.5               | 60.6 | 68.6   | ---                   | ---  | ---    | ---                             | ---  | ---    | ---                             | ---  | ---    |
| 1968.....                  | 70.2                  | 66.6 | 74.1   | 71.1       | 67.5 | 75.0   | 64.1               | 60.4 | 67.9   | ---                   | ---  | ---    | ---                             | ---  | ---    | ---                             | ---  | ---    |
| 1967.....                  | 70.5                  | 67.0 | 74.3   | 71.4       | 67.8 | 75.2   | 64.9               | 61.4 | 68.5   | ---                   | ---  | ---    | ---                             | ---  | ---    | ---                             | ---  | ---    |
| 1966.....                  | 70.2                  | 66.7 | 73.9   | 71.1       | 67.5 | 74.8   | 64.2               | 60.9 | 67.6   | ---                   | ---  | ---    | ---                             | ---  | ---    | ---                             | ---  | ---    |
| 1965.....                  | 70.2                  | 66.8 | 73.8   | 71.1       | 67.6 | 74.8   | 64.3               | 61.2 | 67.6   | ---                   | ---  | ---    | ---                             | ---  | ---    | ---                             | ---  | ---    |
| 1964.....                  | 70.2                  | 66.8 | 73.7   | 71.0       | 67.7 | 74.7   | 64.2               | 61.3 | 67.3   | ---                   | ---  | ---    | ---                             | ---  | ---    | ---                             | ---  | ---    |
| 1963 <sup>7</sup> .....    | 69.9                  | 66.6 | 73.4   | 70.8       | 67.4 | 74.4   | 63.7               | 61.0 | 66.6   | ---                   | ---  | ---    | ---                             | ---  | ---    | ---                             | ---  | ---    |
| 1962 <sup>7</sup> .....    | 70.1                  | 66.9 | 73.5   | 70.9       | 67.7 | 74.5   | 64.2               | 61.6 | 66.9   | ---                   | ---  | ---    | ---                             | ---  | ---    | ---                             | ---  | ---    |
| 1961.....                  | 70.2                  | 67.1 | 73.6   | 71.0       | 67.8 | 74.6   | 64.5               | 62.0 | 67.1   | ---                   | ---  | ---    | ---                             | ---  | ---    | ---                             | ---  | ---    |
| 1960.....                  | 69.7                  | 66.6 | 73.1   | 70.6       | 67.4 | 74.1   | 63.6               | 61.1 | 66.3   | ---                   | ---  | ---    | ---                             | ---  | ---    | ---                             | ---  | ---    |
| 1959.....                  | 69.9                  | 66.8 | 73.2   | 70.7       | 67.5 | 74.2   | 63.9               | 61.3 | 66.5   | ---                   | ---  | ---    | ---                             | ---  | ---    | ---                             | ---  | ---    |
| 1958.....                  | 69.6                  | 66.6 | 72.9   | 70.5       | 67.4 | 73.9   | 63.4               | 61.0 | 65.8   | ---                   | ---  | ---    | ---                             | ---  | ---    | ---                             | ---  | ---    |
| 1957.....                  | 69.5                  | 66.4 | 72.7   | 70.3       | 67.2 | 73.7   | 63.0               | 60.7 | 65.5   | ---                   | ---  | ---    | ---                             | ---  | ---    | ---                             | ---  | ---    |
| 1956.....                  | 69.7                  | 66.7 | 72.9   | 70.5       | 67.5 | 73.9   | 63.6               | 61.3 | 66.1   | ---                   | ---  | ---    | ---                             | ---  | ---    | ---                             | ---  | ---    |
| 1955.....                  | 69.6                  | 66.7 | 72.8   | 70.5       | 67.4 | 73.7   | 63.7               | 61.4 | 66.1   | ---                   | ---  | ---    | ---                             | ---  | ---    | ---                             | ---  | ---    |
| 1954.....                  | 69.6                  | 66.7 | 72.8   | 70.5       | 67.5 | 73.7   | 63.4               | 61.1 | 65.9   | ---                   | ---  | ---    | ---                             | ---  | ---    | ---                             | ---  | ---    |
| 1953.....                  | 68.8                  | 66.0 | 72.0   | 69.7       | 66.8 | 73.0   | 62.0               | 59.7 | 64.5   | ---                   | ---  | ---    | ---                             | ---  | ---    | ---                             | ---  | ---    |
| 1952.....                  | 68.6                  | 65.8 | 71.6   | 69.5       | 66.6 | 72.6   | 61.4               | 59.1 | 63.8   | ---                   | ---  | ---    | ---                             | ---  | ---    | ---                             | ---  | ---    |

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, 1929–2011—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 <sup>1</sup> |      |        | Hispanic <sup>2</sup> |      |        | Non-Hispanic white <sup>2</sup> |      |        | Non-Hispanic black <sup>2</sup> |      |        |
|----------------------------------|-----------------------|------|--------|------------|------|--------|--------------------|------|--------|-----------------------|------|--------|---------------------------------|------|--------|---------------------------------|------|--------|
|                                  | 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 <sup>3</sup> —Con. |                       |      |        |            |      |        |                    |      |        |                       |      |        |                                 |      |        |                                 |      |        |
| 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   | ---                   | ---  | ---    | ---                             | ---  | ---    | ---                             | ---  | ---    |
| 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.

<sup>1</sup>Prior to 1970, data for the black population are not available. Data shown for 1900–1969 are for the nonwhite population. See Technical Notes.<sup>2</sup>Life tables by Hispanic origin are based on death rates that have been adjusted for race and ethnicity misclassification on death certificates.<sup>3</sup>Alaska included in 1959 and Hawaii included in 1960.<sup>4</sup>Life expectancies for 2001–2011 were calculated using a revised methodology described in the Technical Notes.<sup>5</sup>Life expectancies for 2001–2009 have been re-estimated using new intercensal population estimates and may differ from data previously published; see Technical Notes.<sup>6</sup>Deaths based on a 50% sample.<sup>7</sup>Figures by race exclude data for residents of New Jersey; see Technical Notes.

SOURCE: CDC/NCHS, National Vital Statistics System.

**Table 20. Survivorship, by age, race, and sex: Death registration states, 1900–1902 to 1919–1921, and United States, 1929–1931 to 2011**

[Alaska and Hawaii included beginning in 1959. For decennial periods prior to 1929–1931, data are for groups of registration states as follows: 1900–1902 and 1909–1911, 10 states and the District of Columbia; 1919–1921, 34 states and the District of Columbia. Beginning 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, $l_x$ |           |           |           |           |           |           |           |           |           |           |           |
|--------------------|------------------------------------------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
|                    | 2011                                                 | 1999–2001 | 1989–1991 | 1979–1981 | 1969–1971 | 1959–1961 | 1949–1951 | 1939–1941 | 1929–1931 | 1919–1921 | 1909–1911 | 1900–1902 |
| <b>All races</b>   |                                                      |           |           |           |           |           |           |           |           |           |           |           |
| 0.....             | 100,000                                              | 100,000   | 100,000   | 100,000   | 100,000   | 100,000   | 100,000   | 100,000   | 100,000   | 100,000   | 100,000   | 100,000   |
| 1.....             | 99,394                                               | 99,305    | 99,064    | 98,740    | 97,998    | 97,407    | 97,024    | 95,290    | 94,028    | 92,515    | 88,538    | 87,552    |
| 5.....             | 99,289                                               | 99,176    | 98,877    | 98,495    | 97,668    | 96,998    | 96,482    | 94,220    | 91,978    | 83,389    | 83,887    | 81,804    |
| 10.....            | 99,230                                               | 99,097    | 98,766    | 98,347    | 97,460    | 96,765    | 96,177    | 93,710    | 91,106    | 88,129    | 82,458    | 80,052    |
| 15.....            | 99,159                                               | 98,998    | 98,635    | 98,196    | 97,261    | 96,551    | 95,885    | 93,235    | 90,385    | 87,144    | 81,506    | 78,963    |
| 20.....            | 98,917                                               | 98,664    | 98,215    | 97,741    | 96,716    | 96,111    | 95,366    | 92,435    | 89,089    | 85,441    | 80,074    | 77,239    |
| 25.....            | 98,493                                               | 98,203    | 97,671    | 97,110    | 96,000    | 95,517    | 94,676    | 91,335    | 87,269    | 83,146    | 78,046    | 74,768    |
| 30.....            | 98,017                                               | 97,751    | 97,070    | 96,477    | 95,307    | 94,905    | 93,919    | 90,078    | 85,302    | 80,642    | 75,779    | 72,043    |
| 35.....            | 97,465                                               | 97,201    | 96,322    | 95,808    | 94,482    | 94,144    | 92,976    | 88,573    | 83,118    | 77,961    | 73,127    | 69,078    |
| 40.....            | 96,784                                               | 96,422    | 95,373    | 94,926    | 93,322    | 93,064    | 91,648    | 86,650    | 80,557    | 75,114    | 70,042    | 65,890    |
| 45.....            | 95,816                                               | 95,274    | 94,154    | 93,599    | 91,587    | 91,378    | 89,634    | 84,069    | 77,343    | 72,036    | 66,561    | 62,436    |
| 50.....            | 94,281                                               | 93,601    | 92,370    | 91,526    | 88,972    | 88,756    | 86,591    | 80,487    | 73,321    | 68,429    | 62,460    | 58,514    |
| 55.....            | 91,975                                               | 91,232    | 89,658    | 88,348    | 85,110    | 84,711    | 82,176    | 75,557    | 68,182    | 63,947    | 57,555    | 53,852    |
| 60.....            | 88,746                                               | 87,642    | 85,537    | 83,726    | 79,529    | 79,067    | 75,921    | 68,924    | 61,563    | 58,079    | 51,138    | 47,946    |
| 65.....            | 84,368                                               | 82,330    | 79,519    | 77,107    | 71,933    | 71,147    | 67,555    | 60,366    | 53,195    | 50,560    | 43,194    | 40,911    |
| 70.....            | 78,184                                               | 74,891    | 71,357    | 68,248    | 61,984    | 60,857    | 56,987    | 49,655    | 42,768    | 41,090    | 33,816    | 32,390    |
| 75.....            | 69,513                                               | 64,644    | 60,449    | 56,799    | 49,705    | 48,170    | 43,903    | 36,735    | 30,789    | 29,729    | 23,552    | 22,960    |
| 80.....            | 57,493                                               | 50,885    | 47,084    | 43,180    | 35,285    | 33,576    | 29,313    | 22,883    | 18,580    | 18,298    | 13,712    | 13,529    |
| 85.....            | 41,733                                               | 34,515    | 31,770    | 27,960    | 20,908    | 18,542    | 15,785    | 11,073    | 8,542     | 8,683     | 6,001     | 6,053     |
| 90.....            | 23,798                                               | 18,496    | 17,046    | 14,154    | 9,297     | 7,080     | 6,144     | 3,796     | 2,998     | 2,941     | 1,868     | 1,867     |
| 95.....            | 9,097                                                | 6,879     | 6,282     | 5,043     | 2,786     | 1,524     | 1,511     | 857       | 636       | 646       | 361       | 344       |
| 100.....           | 1,928                                                | 1,479     | 1,424     | 1,150     | 542       | 183       | 199       | 123       | 62        | 67        | 40        | 31        |
| <b>Male</b>        |                                                      |           |           |           |           |           |           |           |           |           |           |           |
| 0.....             | 100,000                                              | 100,000   | 100,000   | 100,000   | 100,000   | 100,000   | 100,000   | 100,000   | 100,000   | 100,000   | 100,000   | 100,000   |
| 1.....             | 99,342                                               | 99,239    | 98,961    | 98,607    | 97,755    | 97,087    | 96,661    | 94,762    | 93,440    | 91,745    | 87,505    | 86,426    |
| 5.....             | 99,226                                               | 99,095    | 98,754    | 98,333    | 97,395    | 96,643    | 96,077    | 93,624    | 91,294    | 88,505    | 82,718    | 80,548    |
| 10.....            | 99,160                                               | 99,008    | 98,627    | 98,160    | 97,151    | 96,375    | 95,726    | 93,054    | 90,346    | 87,184    | 81,249    | 78,775    |
| 15.....            | 99,077                                               | 98,890    | 98,464    | 97,972    | 96,904    | 96,107    | 95,366    | 92,508    | 89,561    | 86,156    | 80,261    | 77,681    |
| 20.....            | 98,739                                               | 98,426    | 97,854    | 97,316    | 96,126    | 95,491    | 94,695    | 91,617    | 88,220    | 84,440    | 78,792    | 75,984    |
| 25.....            | 98,116                                               | 97,747    | 97,049    | 96,361    | 95,040    | 94,631    | 93,791    | 90,385    | 86,359    | 82,252    | 76,675    | 73,472    |
| 30.....            | 97,449                                               | 97,114    | 96,166    | 95,430    | 94,072    | 93,826    | 92,861    | 89,009    | 84,346    | 79,890    | 74,378    | 70,747    |
| 35.....            | 96,722                                               | 96,385    | 95,091    | 94,501    | 92,997    | 92,889    | 91,760    | 87,371    | 82,075    | 77,514    | 71,614    | 67,752    |
| 40.....            | 95,866                                               | 95,389    | 93,761    | 93,345    | 91,541    | 91,572    | 90,207    | 85,246    | 79,357    | 74,432    | 68,297    | 64,447    |
| 45.....            | 94,691                                               | 93,940    | 92,139    | 91,649    | 89,369    | 89,492    | 87,819    | 82,336    | 75,882    | 71,244    | 64,518    | 60,849    |
| 50.....            | 92,831                                               | 91,818    | 89,865    | 89,007    | 86,070    | 86,199    | 84,158    | 78,254    | 71,518    | 67,553    | 60,118    | 56,736    |
| 55.....            | 90,009                                               | 88,897    | 86,492    | 84,936    | 81,139    | 81,039    | 78,781    | 72,627    | 65,981    | 62,965    | 54,970    | 51,939    |
| 60.....            | 85,999                                               | 84,551    | 81,378    | 79,012    | 73,958    | 73,887    | 71,246    | 65,142    | 58,909    | 56,917    | 48,343    | 45,895    |
| 65.....            | 80,723                                               | 78,241    | 73,971    | 70,646    | 64,318    | 64,177    | 61,566    | 55,776    | 50,154    | 49,218    | 40,264    | 38,736    |
| 70.....            | 73,558                                               | 69,491    | 64,107    | 59,681    | 52,296    | 52,244    | 49,950    | 44,588    | 39,516    | 39,668    | 31,023    | 30,217    |
| 75.....            | 63,804                                               | 57,688    | 51,385    | 46,272    | 38,797    | 38,950    | 36,756    | 31,864    | 27,718    | 28,316    | 21,213    | 21,076    |
| 80.....            | 50,846                                               | 42,769    | 36,749    | 31,810    | 24,921    | 25,300    | 25,237    | 18,995    | 16,172    | 17,128    | 11,942    | 12,084    |
| 85.....            | 34,665                                               | 26,527    | 21,815    | 18,020    | 13,168    | 12,845    | 11,750    | 8,693     | 7,107     | 7,920     | 5,059     | 5,179     |
| 90.....            | 17,846                                               | 12,473    | 9,878     | 7,732     | 5,107     | 4,609     | 4,197     | 2,787     | 2,283     | 2,527     | 1,502     | 1,508     |
| 95.....            | 5,812                                                | 3,855     | 2,927     | 2,279     | 1,326     | 970       | 955       | 586       | 451       | 556       | 289       | 262       |
| 100.....           | 987                                                  | 645       | 529       | 423       | 222       | 117       | 121       | 78        | 40        | 62        | 33        | 22        |
| <b>Female</b>      |                                                      |           |           |           |           |           |           |           |           |           |           |           |
| 0.....             | 100,000                                              | 100,000   | 100,000   | 100,000   | 100,000   | 100,000   | 100,000   | 100,000   | 100,000   | 100,000   | 100,000   | 100,000   |
| 1.....             | 99,448                                               | 99,375    | 99,172    | 98,880    | 98,254    | 97,744    | 97,406    | 95,848    | 94,728    | 93,383    | 89,623    | 88,733    |
| 5.....             | 99,356                                               | 99,261    | 99,006    | 98,666    | 97,955    | 97,371    | 96,908    | 94,848    | 92,789    | 90,380    | 85,117    | 83,119    |
| 10.....            | 99,302                                               | 99,190    | 98,911    | 98,544    | 97,784    | 97,173    | 96,652    | 94,402    | 92,008    | 89,186    | 83,728    | 81,390    |
| 15.....            | 99,246                                               | 99,111    | 98,814    | 98,432    | 97,636    | 97,016    | 96,431    | 94,000    | 91,364    | 88,247    | 82,813    | 80,307    |
| 20.....            | 99,106                                               | 98,915    | 98,597    | 98,184    | 97,331    | 96,756    | 96,066    | 93,293    | 90,116    | 86,556    | 81,418    | 78,555    |
| 25.....            | 98,888                                               | 98,682    | 98,325    | 97,883    | 96,966    | 96,418    | 95,583    | 92,322    | 88,328    | 84,135    | 79,481    | 76,119    |
| 30.....            | 98,612                                               | 98,418    | 98,013    | 97,551    | 96,544    | 95,996    | 94,933    | 91,182    | 86,398    | 81,463    | 77,247    | 73,394    |
| 35.....            | 98,237                                               | 98,052    | 97,596    | 97,140    | 95,966    | 95,409    | 94,206    | 89,810    | 84,304    | 78,713    | 74,719    | 70,463    |
| 40.....            | 97,733                                               | 97,493    | 97,033    | 96,531    | 95,097    | 94,560    | 93,101    | 88,092    | 81,927    | 75,907    | 71,894    | 67,407    |
| 45.....            | 96,973                                               | 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 2011—Con.**

[Alaska and Hawaii included beginning in 1959. For decennial periods prior to 1929–1931, data are for groups of registration states as follows: 1900–1902 and 1909–1911, 10 states and the District of Columbia; 1919–1921, 34 states and the 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, $l_x$ |           |           |           |           |           |           |           |           |           |           |           |
|--------------------|------------------------------------------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
|                    | 2011                                                 | 1999–2001 | 1989–1991 | 1979–1981 | 1969–1971 | 1959–1961 | 1949–1951 | 1939–1941 | 1929–1931 | 1919–1921 | 1909–1911 | 1900–1902 |
| <b>Female—Con.</b> |                                                      |           |           |           |           |           |           |           |           |           |           |           |
| 50. ....           | 95,764                                               | 95,425    | 94,932    | 94,060    | 91,852    | 91,327    | 89,075    | 82,828    | 75,456    | 69,452    | 65,001    | 60,415    |
| 55. ....           | 93,972                                               | 93,609    | 92,881    | 91,760    | 89,066    | 88,451    | 85,694    | 78,708    | 70,832    | 65,099    | 60,392    | 55,908    |
| 60. ....           | 91,515                                               | 90,767    | 89,742    | 88,414    | 85,139    | 84,430    | 80,890    | 73,093    | 64,795    | 59,438    | 54,226    | 50,155    |
| 65. ....           | 88,027                                               | 86,433    | 85,075    | 83,520    | 79,698    | 78,462    | 74,119    | 65,523    | 56,924    | 52,126    | 46,438    | 43,246    |
| 70. ....           | 82,807                                               | 80,219    | 78,522    | 76,720    | 71,955    | 70,100    | 64,873    | 55,449    | 46,774    | 42,741    | 36,916    | 34,721    |
| 75. ....           | 75,184                                               | 71,311    | 69,287    | 67,186    | 61,107    | 58,394    | 52,111    | 42,425    | 34,600    | 31,344    | 26,155    | 24,994    |
| 80. ....           | 64,010                                               | 58,455    | 56,986    | 54,372    | 46,445    | 43,063    | 36,486    | 27,524    | 21,578    | 19,613    | 15,682    | 15,129    |
| 85. ....           | 48,470                                               | 41,830    | 41,115    | 37,772    | 29,538    | 25,269    | 20,668    | 13,972    | 10,322    | 9,515     | 7,051     | 7,063     |
| 90. ....           | 29,226                                               | 23,936    | 23,666    | 20,578    | 14,160    | 10,056    | 8,548     | 5,044     | 3,656     | 3,314     | 2,269     | 2,306     |
| 95. ....           | 11,914                                               | 9,560     | 9,346     | 7,862     | 4,565     | 2,193     | 2,207     | 1,195     | 807       | 728       | 441       | 452       |
| 100. ....          | 2,672                                                | 2,183     | 2,251     | 1,927     | 954       | 264       | 298       | 179       | 82        | 72        | 49        | 43        |
| <b>White</b>       |                                                      |           |           |           |           |           |           |           |           |           |           |           |
| 0. ....            | 100,000                                              | 100,000   | 100,000   | 100,000   | 100,000   | 100,000   | 100,000   | 100,000   | 100,000   | 100,000   | 100,000   | 100,000   |
| 1. ....            | 99,489                                               | 99,429    | 99,233    | 98,898    | 98,224    | 97,714    | 97,278    | 95,685    | 94,392    | 92,780    | 88,709    | 87,762    |
| 5. ....            | 99,391                                               | 99,313    | 99,068    | 98,675    | 97,930    | 97,353    | 96,790    | 94,713    | 92,466    | 89,771    | 84,147    | 82,071    |
| 10. ....           | 99,334                                               | 99,239    | 98,966    | 98,536    | 97,733    | 97,131    | 96,502    | 94,228    | 91,627    | 88,536    | 82,734    | 80,371    |
| 15. ....           | 99,267                                               | 99,146    | 98,843    | 98,391    | 97,546    | 96,928    | 96,228    | 93,792    | 90,982    | 87,633    | 81,816    | 79,344    |
| 20. ....           | 99,034                                               | 98,826    | 98,455    | 97,939    | 97,036    | 96,508    | 95,763    | 93,117    | 89,933    | 86,159    | 80,407    | 77,998    |
| 25. ....           | 98,626                                               | 98,406    | 97,972    | 97,340    | 96,406    | 95,965    | 95,169    | 92,213    | 88,454    | 84,106    | 78,392    | 75,202    |
| 30. ....           | 98,165                                               | 98,000    | 97,451    | 96,774    | 95,824    | 95,440    | 94,536    | 91,185    | 86,836    | 81,787    | 76,167    | 72,317    |
| 35. ....           | 97,627                                               | 97,506    | 96,810    | 96,192    | 95,152    | 94,798    | 93,750    | 89,941    | 85,004    | 79,277    | 73,568    | 69,522    |
| 40. ....           | 96,967                                               | 96,799    | 96,000    | 95,427    | 94,190    | 93,870    | 92,616    | 88,318    | 82,803    | 76,642    | 70,525    | 66,082    |
| 45. ....           | 96,024                                               | 95,759    | 94,932    | 94,257    | 92,681    | 92,374    | 90,847    | 86,069    | 79,989    | 73,705    | 67,090    | 62,920    |
| 50. ....           | 94,528                                               | 94,242    | 93,326    | 92,384    | 90,306    | 89,958    | 88,110    | 82,833    | 76,340    | 70,250    | 62,994    | 58,647    |
| 55. ....           | 92,292                                               | 92,050    | 90,833    | 89,427    | 86,688    | 86,173    | 84,027    | 78,218    | 71,551    | 65,875    | 58,163    | 54,450    |
| 60. ....           | 89,174                                               | 88,655    | 86,943    | 85,031    | 81,323    | 80,811    | 78,066    | 71,785    | 65,100    | 60,013    | 51,822    | 48,288    |
| 65. ....           | 84,915                                               | 83,518    | 81,123    | 78,585    | 73,889    | 73,102    | 69,850    | 63,201    | 56,655    | 52,411    | 43,904    | 41,505    |
| 70. ....           | 78,803                                               | 76,219    | 73,106    | 69,801    | 63,991    | 62,834    | 59,189    | 52,165    | 45,841    | 42,736    | 34,484    | 32,902    |
| 75. ....           | 70,134                                               | 66,022    | 62,175    | 58,299    | 51,586    | 49,895    | 45,688    | 38,610    | 33,406    | 31,086    | 24,151    | 23,356    |
| 80. ....           | 58,030                                               | 52,160    | 48,583    | 44,409    | 36,659    | 34,697    | 30,438    | 23,976    | 20,260    | 19,149    | 14,100    | 13,794    |
| 85. ....           | 42,075                                               | 35,461    | 32,850    | 28,768    | 21,578    | 19,017    | 16,239    | 11,483    | 9,325     | 9,078     | 6,178     | 6,192     |
| 90. ....           | 23,895                                               | 18,964    | 17,571    | 14,471    | 9,433     | 7,149     | 6,201     | 3,819     | 3,066     | 2,991     | 1,918     | 1,919     |
| 95. ....           | 8,973                                                | 6,971     | 6,416     | 5,067     | 2,743     | 1,521     | 1,500     | 801       | 636       | 643       | 364       | 355       |
| 100. ....          | 1,826                                                | 1,454     | 1,423     | 1,105     | 487       | 183       | 196       | 98        | 58        | 62        | 38        | 31        |
| <b>White male</b>  |                                                      |           |           |           |           |           |           |           |           |           |           |           |
| 0. ....            | 100,000                                              | 100,000   | 100,000   | 100,000   | 100,000   | 100,000   | 100,000   | 100,000   | 100,000   | 100,000   | 100,000   | 100,000   |
| 1. ....            | 99,447                                               | 99,373    | 99,138    | 98,769    | 97,994    | 97,408    | 96,931    | 95,188    | 93,768    | 91,975    | 87,674    | 86,655    |
| 5. ....            | 99,338                                               | 99,243    | 98,956    | 98,519    | 97,671    | 97,015    | 96,403    | 94,150    | 91,738    | 88,842    | 82,972    | 80,864    |
| 10. ....           | 99,275                                               | 99,163    | 98,839    | 98,357    | 97,441    | 96,758    | 96,069    | 93,601    | 90,810    | 87,530    | 81,519    | 79,109    |
| 15. ....           | 99,195                                               | 99,052    | 98,686    | 98,176    | 97,208    | 96,503    | 95,728    | 93,089    | 90,074    | 86,546    | 80,549    | 78,037    |
| 20. ....           | 98,875                                               | 98,616    | 98,134    | 97,525    | 96,480    | 95,908    | 95,104    | 92,293    | 88,904    | 84,997    | 79,116    | 76,376    |
| 25. ....           | 98,285                                               | 98,003    | 97,430    | 96,616    | 95,524    | 95,106    | 94,294    | 91,241    | 87,371    | 83,061    | 77,047    | 73,907    |
| 30. ....           | 97,644                                               | 97,436    | 96,662    | 95,783    | 94,716    | 94,401    | 93,489    | 90,092    | 85,707    | 80,888    | 74,810    | 71,219    |
| 35. ....           | 96,936                                               | 96,774    | 95,731    | 94,980    | 93,843    | 93,589    | 92,543    | 88,713    | 83,812    | 78,441    | 72,108    | 68,245    |
| 40. ....           | 96,100                                               | 95,859    | 94,588    | 93,984    | 92,631    | 92,427    | 91,173    | 86,880    | 81,457    | 75,733    | 68,848    | 64,954    |
| 45. ....           | 94,950                                               | 94,530    | 93,167    | 92,494    | 90,725    | 90,533    | 89,002    | 84,285    | 78,345    | 72,696    | 65,115    | 61,369    |
| 50. ....           | 93,120                                               | 92,588    | 91,124    | 90,105    | 87,690    | 87,424    | 85,601    | 80,521    | 74,288    | 69,107    | 60,741    | 57,274    |
| 55. ....           | 90,375                                               | 89,883    | 88,022    | 86,303    | 83,001    | 82,463    | 80,496    | 75,156    | 68,981    | 64,574    | 55,622    | 52,491    |
| 60. ....           | 86,495                                               | 85,773    | 83,182    | 80,625    | 75,969    | 75,485    | 73,172    | 67,787    | 61,933    | 58,498    | 48,987    | 46,452    |
| 65. ....           | 81,380                                               | 79,657    | 75,962    | 72,393    | 66,343    | 65,834    | 63,541    | 58,305    | 52,964    | 50,663    | 40,862    | 39,245    |
| 70. ....           | 74,318                                               | 71,039    | 66,181    | 61,384    | 54,138    | 53,825    | 51,735    | 46,739    | 41,880    | 40,873    | 31,527    | 30,640    |
| 75. ....           | 64,578                                               | 59,245    | 53,308    | 47,712    | 40,324    | 40,207    | 38,104    | 33,404    | 29,471    | 29,205    | 21,585    | 21,387    |
| 80. ....           | 51,513                                               | 44,121    | 38,245    | 32,788    | 25,885    | 25,993    | 24,005    | 19,860    | 17,221    | 17,655    | 12,160    | 12,266    |
| 85. ....           | 35,102                                               | 27,425    | 22,720    | 18,538    | 13,527    | 13,065    | 12,015    | 9,013     | 7,572     | 8,154     | 5,145     | 5,252     |
| 90. ....           | 17,970                                               | 12,840    | 10,214    | 7,891     | 5,125     | 4,600     | 4,209     | 2,812     | 2,356     | 2,568     | 1,523     | 1,523     |
| 95. ....           | 5,723                                                | 3,899     | 2,988     | 2,279     | 1,274     | 956       | 942       | 552       | 461       | 556       | 289       | 263       |
| 100. ....          | 925                                                  | 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 2011—Con.**

[Alaska and Hawaii included beginning in 1959. For decennial periods prior to 1929–1931, data are for groups of registration states as follows: 1900–1902 and 1909–1911, 10 states and the District of Columbia; 1919–1921, 34 states and the 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, $l_x$ |           |           |           |           |           |           |           |           |           |           |           |
|-------------------------------|------------------------------------------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
|                               | 2011                                                 | 1999–2001 | 1989–1991 | 1979–1981 | 1969–1971 | 1959–1961 | 1949–1951 | 1939–1941 | 1929–1931 | 1919–1921 | 1909–1911 | 1900–1902 |
| <b>White female</b>           |                                                      |           |           |           |           |           |           |           |           |           |           |           |
| 0. ....                       | 100,000                                              | 100,000   | 100,000   | 100,000   | 100,000   | 100,000   | 100,000   | 100,000   | 100,000   | 100,000   | 100,000   | 100,000   |
| 1. ....                       | 99,534                                               | 99,488    | 99,333    | 99,035    | 98,468    | 98,036    | 97,645    | 96,211    | 95,037    | 93,608    | 89,774    | 88,939    |
| 5. ....                       | 99,447                                               | 99,385    | 99,187    | 98,841    | 98,203    | 97,709    | 97,199    | 95,309    | 93,216    | 90,721    | 85,349    | 83,426    |
| 10. ....                      | 99,397                                               | 99,319    | 99,099    | 98,725    | 98,042    | 97,525    | 96,960    | 94,890    | 92,466    | 89,564    | 83,979    | 81,723    |
| 15. ....                      | 99,343                                               | 99,245    | 99,007    | 98,618    | 97,902    | 97,375    | 96,756    | 94,534    | 91,894    | 88,712    | 83,093    | 80,680    |
| 20. ....                      | 99,203                                               | 99,049    | 98,795    | 98,374    | 97,618    | 97,135    | 96,454    | 93,984    | 90,939    | 87,281    | 81,750    | 78,978    |
| 25. ....                      | 98,987                                               | 98,835    | 98,547    | 98,093    | 97,299    | 96,844    | 96,072    | 93,228    | 89,524    | 85,163    | 79,865    | 76,588    |
| 30. ....                      | 98,717                                               | 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. ....                      | 97,152                                               | 97,049    | 96,768    | 96,065    | 94,649    | 94,228    | 92,725    | 87,920    | 81,780    | 74,871    | 69,341    | 64,677    |
| 50. ....                      | 95,996                                               | 95,962    | 95,608    | 94,710    | 92,924    | 92,522    | 90,685    | 85,267    | 78,572    | 71,547    | 65,629    | 61,005    |
| 55. ....                      | 94,278                                               | 94,293    | 93,730    | 92,594    | 90,383    | 89,967    | 87,699    | 81,520    | 74,321    | 67,323    | 61,053    | 56,509    |
| 60. ....                      | 91,929                                               | 91,615    | 90,789    | 89,451    | 86,726    | 86,339    | 83,279    | 76,200    | 68,462    | 61,704    | 54,900    | 50,752    |
| 65. ....                      | 88,535                                               | 87,449    | 86,339    | 84,764    | 81,579    | 80,739    | 76,773    | 68,701    | 60,499    | 54,299    | 47,086    | 43,806    |
| 70. ....                      | 83,371                                               | 81,400    | 79,984    | 78,139    | 74,101    | 72,507    | 67,545    | 58,363    | 49,932    | 44,638    | 37,482    | 35,206    |
| 75. ....                      | 75,747                                               | 72,595    | 70,834    | 68,712    | 63,290    | 60,461    | 54,397    | 44,685    | 37,024    | 32,777    | 26,569    | 25,362    |
| 80. ....                      | 64,517                                               | 59,721    | 58,454    | 55,770    | 48,182    | 44,676    | 38,026    | 28,882    | 23,053    | 20,492    | 15,929    | 15,349    |
| 85. ....                      | 48,829                                               | 42,848    | 42,274    | 38,774    | 30,490    | 26,046    | 21,348    | 14,487    | 10,937    | 9,909     | 7,152     | 7,149     |
| 90. ....                      | 29,346                                               | 24,491    | 24,270    | 20,996    | 14,406    | 10,219    | 8,662     | 5,061     | 3,719     | 3,372     | 2,291     | 2,322     |
| 95. ....                      | 11,777                                               | 9,680     | 9,495     | 7,900     | 4,526     | 2,203     | 2,200     | 1,109     | 797       | 721       | 434       | 448       |
| 100. ....                     | 2,544                                                | 2,147     | 2,239     | 1,858     | 872       | 265       | 294       | 139       | 74        | 63        | 44        | 41        |
| <b>Black<sup>1</sup></b>      |                                                      |           |           |           |           |           |           |           |           |           |           |           |
| 0. ....                       | 100,000                                              | 100,000   | 100,000   | 100,000   | 100,000   | 100,000   | 100,000   | 100,000   | 100,000   | 100,000   | 100,000   | 100,000   |
| 1. ....                       | 98,850                                               | 98,578    | 98,187    | 97,885    | 96,731    | 95,732    | 95,407    | 92,584    | 92,035    | 90,379    | 79,784    | 76,609    |
| 5. ....                       | 98,698                                               | 98,382    | 97,884    | 97,522    | 96,207    | 95,051    | 94,482    | 90,983    | 89,303    | 86,174    | 70,691    | 66,222    |
| 10. ....                      | 98,616                                               | 98,271    | 97,720    | 97,322    | 95,928    | 94,745    | 94,060    | 90,339    | 88,258    | 84,690    | 68,437    | 63,410    |
| 15. ....                      | 98,525                                               | 98,139    | 97,539    | 97,134    | 95,661    | 94,460    | 93,646    | 89,591    | 87,156    | 83,180    | 66,410    | 61,060    |
| 20. ....                      | 98,206                                               | 97,701    | 96,925    | 96,652    | 94,887    | 93,880    | 92,738    | 87,839    | 84,386    | 79,641    | 63,165    | 57,931    |
| 25. ....                      | 97,616                                               | 96,946    | 95,972    | 95,804    | 93,513    | 92,925    | 91,321    | 85,210    | 80,320    | 74,973    | 59,608    | 54,512    |
| 30. ....                      | 96,934                                               | 96,143    | 94,809    | 94,680    | 91,934    | 91,699    | 89,584    | 82,194    | 75,962    | 70,492    | 56,112    | 51,287    |
| 35. ....                      | 96,148                                               | 95,164    | 93,260    | 93,288    | 89,977    | 90,046    | 87,402    | 78,683    | 71,141    | 65,865    | 52,125    | 48,007    |
| 40. ....                      | 95,159                                               | 93,809    | 91,239    | 91,439    | 87,304    | 87,766    | 84,478    | 74,466    | 65,974    | 61,244    | 47,866    | 44,518    |
| 45. ....                      | 93,796                                               | 91,770    | 88,689    | 88,834    | 83,700    | 84,501    | 80,507    | 69,284    | 59,827    | 56,442    | 43,054    | 40,628    |
| 50. ....                      | 91,712                                               | 88,761    | 85,285    | 85,044    | 78,938    | 80,172    | 74,976    | 62,702    | 53,141    | 51,422    | 37,800    | 36,103    |
| 55. ....                      | 88,487                                               | 84,657    | 80,635    | 79,816    | 72,826    | 73,893    | 67,660    | 54,846    | 45,558    | 45,803    | 32,233    | 31,404    |
| 60. ....                      | 83,864                                               | 79,007    | 74,335    | 72,913    | 65,250    | 65,795    | 58,593    | 46,318    | 37,654    | 39,418    | 26,046    | 25,698    |
| 65. ....                      | 77,760                                               | 71,704    | 66,154    | 64,391    | 56,102    | 56,038    | 48,649    | 37,838    | 30,015    | 32,738    | 19,806    | 20,474    |
| 70. ....                      | 69,915                                               | 62,349    | 56,192    | 54,617    | 45,785    | 45,434    | 38,616    | 29,654    | 22,505    | 25,585    | 14,021    | 14,960    |
| 75. ....                      | 60,041                                               | 50,987    | 44,872    | 43,274    | 34,262    | 34,531    | 28,968    | 21,798    | 15,546    | 18,011    | 9,139     | 9,956     |
| 80. ....                      | 47,885                                               | 37,964    | 33,149    | 31,711    | 23,710    | 24,815    | 20,003    | 14,408    | 9,589     | 11,376    | 5,158     | 5,750     |
| 85. ....                      | 33,579                                               | 24,677    | 21,352    | 19,939    | 15,044    | 15,337    | 12,433    | 8,326     | 4,900     | 5,794     | 2,414     | 2,782     |
| 90. ....                      | 19,251                                               | 13,204    | 11,646    | 10,713    | 8,087     | 7,195     | 6,394     | 4,077     | 2,044     | 2,317     | 913       | 1,054     |
| 95. ....                      | 8,241                                                | 5,368     | 4,729     | 4,463     | 3,252     | 1,777     | 2,010     | 1,557     | 638       | 689       | 324       | 296       |
| 100. ....                     | 2,355                                                | 1,491     | 1,376     | 1,360     | 1,036     | 214       | 301       | 399       | 120       | 129       | 77        | 57        |
| <b>Black male<sup>1</sup></b> |                                                      |           |           |           |           |           |           |           |           |           |           |           |
| 0. ....                       | 100,000                                              | 100,000   | 100,000   | 100,000   | 100,000   | 100,000   | 100,000   | 100,000   | 100,000   | 100,000   | 100,000   | 100,000   |
| 1. ....                       | 98,740                                               | 98,437    | 98,023    | 97,703    | 96,394    | 95,301    | 94,911    | 91,772    | 91,268    | 89,499    | 78,065    | 74,674    |
| 5. ....                       | 98,570                                               | 98,219    | 97,688    | 97,300    | 95,826    | 94,570    | 93,921    | 90,082    | 88,412    | 85,195    | 68,589    | 64,385    |
| 10. ....                      | 98,481                                               | 98,093    | 97,501    | 97,061    | 95,497    | 94,234    | 93,453    | 89,393    | 87,311    | 83,768    | 66,377    | 61,730    |
| 15. ....                      | 98,370                                               | 97,930    | 97,268    | 96,826    | 95,161    | 93,874    | 92,965    | 88,610    | 86,152    | 82,332    | 64,478    | 59,667    |
| 20. ....                      | 97,894                                               | 97,275    | 96,301    | 96,132    | 94,053    | 93,108    | 91,941    | 86,968    | 83,621    | 79,057    | 61,426    | 56,733    |
| 25. ....                      | 96,987                                               | 96,103    | 94,809    | 94,827    | 91,904    | 91,825    | 90,285    | 84,227    | 79,516    | 74,540    | 57,736    | 53,285    |
| 30. ....                      | 95,986                                               | 94,940    | 93,070    | 93,125    | 89,584    | 90,270    | 88,327    | 80,979    | 75,083    | 70,344    | 54,073    | 49,867    |
| 35. ....                      | 94,948                                               | 93,641    | 90,827    | 91,080    | 86,885    | 88,331    | 85,940    | 77,221    | 70,049    | 65,873    | 49,865    | 46,541    |
| 40. ....                      | 93,723                                               | 91,945    | 87,948    | 88,490    | 83,441    | 85,744    | 82,832    | 72,780    | 64,710    | 61,353    | 45,414    | 42,989    |
| 45. ....                      | 92,108                                               | 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 2011—Con.**

[Alaska and Hawaii included beginning in 1959. For decennial periods prior to 1929–1931, data are for groups of registration states as follows: 1900–1902 and 1909–1911, 10 states and the District of Columbia; 1919–1921, 34 states and the 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, $l_x$ |           |           |           |           |           |           |           |           |           |           |           |
|------------------------------------|------------------------------------------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
|                                    | 2011                                                 | 1999–2001 | 1989–1991 | 1979–1981 | 1969–1971 | 1959–1961 | 1949–1951 | 1939–1941 | 1929–1931 | 1919–1921 | 1909–1911 | 1900–1902 |
| <b>Black male<sup>1</sup>—Con.</b> |                                                      |           |           |           |           |           |           |           |           |           |           |           |
| 50. ....                           | 89,673                                               | 85,653    | 79,984    | 80,065    | 73,282    | 77,239    | 72,891    | 60,495    | 51,748    | 51,880    | 35,427    | 34,766    |
| 55. ....                           | 85,786                                               | 80,529    | 74,095    | 73,413    | 66,101    | 70,351    | 65,122    | 52,426    | 44,436    | 46,581    | 29,754    | 29,987    |
| 60. ....                           | 80,083                                               | 73,588    | 66,334    | 64,980    | 57,457    | 61,669    | 55,535    | 43,833    | 36,790    | 40,506    | 23,750    | 24,194    |
| 65. ....                           | 72,557                                               | 64,980    | 56,795    | 55,061    | 47,485    | 51,392    | 45,198    | 35,371    | 29,314    | 34,042    | 17,806    | 19,015    |
| 70. ....                           | 63,341                                               | 54,253    | 45,690    | 44,213    | 36,925    | 39,914    | 35,018    | 27,236    | 21,741    | 26,923    | 12,295    | 13,829    |
| 75. ....                           | 52,185                                               | 41,693    | 33,755    | 32,717    | 25,921    | 29,064    | 25,472    | 19,456    | 14,419    | 18,854    | 7,494     | 8,892     |
| 80. ....                           | 39,372                                               | 28,497    | 22,549    | 22,017    | 16,560    | 19,994    | 16,904    | 12,186    | 8,239     | 11,615    | 3,894     | 4,831     |
| 85. ....                           | 25,356                                               | 16,532    | 12,709    | 12,383    | 9,648     | 11,620    | 9,898     | 6,444     | 3,660     | 5,605     | 1,747     | 2,030     |
| 90. ....                           | 12,924                                               | 7,625     | 5,972     | 5,708     | 4,696     | 5,174     | 4,642     | 2,836     | 1,246     | 2,040     | 595       | 634       |
| 95. ....                           | 4,767                                                | 2,565     | 1,971     | 2,009     | 1,721     | 1,240     | 1,342     | 961       | 307       | 552       | 189       | 137       |
| 100. ....                          | 1,144                                                | 563       | 466       | 513       | 489       | 149       | 192       | 209       | 41        | 77        | 40        | 18        |
| <b>Black female<sup>1</sup></b>    |                                                      |           |           |           |           |           |           |           |           |           |           |           |
| 0. ....                            | 100,000                                              | 100,000   | 100,000   | 100,000   | 100,000   | 100,000   | 100,000   | 100,000   | 100,000   | 100,000   | 100,000   | 100,000   |
| 1. ....                            | 98,964                                               | 98,723    | 98,356    | 98,073    | 97,076    | 96,172    | 95,913    | 93,416    | 92,796    | 91,251    | 81,493    | 78,525    |
| 5. ....                            | 98,829                                               | 98,550    | 98,087    | 97,751    | 96,598    | 95,543    | 95,055    | 91,906    | 90,185    | 87,149    | 72,768    | 68,056    |
| 10. ....                           | 98,756                                               | 98,456    | 97,946    | 97,590    | 96,369    | 95,265    | 94,679    | 91,308    | 89,201    | 85,607    | 70,508    | 65,111    |
| 15. ....                           | 98,686                                               | 98,354    | 97,818    | 97,450    | 96,172    | 95,057    | 94,343    | 90,594    | 88,088    | 83,954    | 68,218    | 62,384    |
| 20. ....                           | 98,531                                               | 98,141    | 97,566    | 97,180    | 95,729    | 94,660    | 93,544    | 88,736    | 85,078    | 80,154    | 64,764    | 59,053    |
| 25. ....                           | 98,257                                               | 97,785    | 97,140    | 96,754    | 95,035    | 94,005    | 92,336    | 86,198    | 81,067    | 75,359    | 61,430    | 55,795    |
| 30. ....                           | 97,878                                               | 97,314    | 96,514    | 96,150    | 94,114    | 93,070    | 90,799    | 83,384    | 76,816    | 70,633    | 58,281    | 52,773    |
| 35. ....                           | 97,324                                               | 96,632    | 95,599    | 95,338    | 92,807    | 91,670    | 88,805    | 80,092    | 72,192    | 65,857    | 54,595    | 49,567    |
| 40. ....                           | 96,552                                               | 95,588    | 94,364    | 94,137    | 90,817    | 89,676    | 86,052    | 76,084    | 67,271    | 61,130    | 50,568    | 46,146    |
| 45. ....                           | 95,419                                               | 93,979    | 92,676    | 92,322    | 88,001    | 86,793    | 82,257    | 71,157    | 61,365    | 56,230    | 45,947    | 42,279    |
| 50. ....                           | 93,658                                               | 91,680    | 90,277    | 89,563    | 84,168    | 82,979    | 77,007    | 64,885    | 54,920    | 50,780    | 40,886    | 37,681    |
| 55. ....                           | 91,045                                               | 88,517    | 86,793    | 85,653    | 79,177    | 77,362    | 70,196    | 57,314    | 47,074    | 44,742    | 35,415    | 33,124    |
| 60. ....                           | 87,402                                               | 84,044    | 81,886    | 80,293    | 72,820    | 69,941    | 61,758    | 48,928    | 38,761    | 37,954    | 28,908    | 27,524    |
| 65. ....                           | 82,581                                               | 77,941    | 75,031    | 73,266    | 64,716    | 60,825    | 52,358    | 40,504    | 30,852    | 31,044    | 22,302    | 21,995    |
| 70. ....                           | 75,956                                               | 69,778    | 66,278    | 64,729    | 54,873    | 51,274    | 42,612    | 32,354    | 23,341    | 24,107    | 15,871    | 16,140    |
| 75. ....                           | 67,206                                               | 59,361    | 55,684    | 53,831    | 43,193    | 40,540    | 32,981    | 24,502    | 16,576    | 17,216    | 10,657    | 11,066    |
| 80. ....                           | 55,549                                               | 46,453    | 43,622    | 41,686    | 31,756    | 30,315    | 23,712    | 17,039    | 10,822    | 11,151    | 6,324     | 6,708     |
| 85. ....                           | 40,709                                               | 32,053    | 30,089    | 28,004    | 21,358    | 19,744    | 15,550    | 10,622    | 6,033     | 5,972     | 3,029     | 3,567     |
| 90. ....                           | 24,558                                               | 18,347    | 17,536    | 16,260    | 12,210    | 9,675     | 8,590     | 5,652     | 2,774     | 2,579     | 1,206     | 1,492     |
| 95. ....                           | 11,057                                               | 7,989     | 7,687     | 7,312     | 5,217     | 2,438     | 2,875     | 2,345     | 941       | 818       | 448       | 462       |
| 100. ....                          | 3,278                                                | 2,351     | 2,364     | 2,398     | 1,803     | 293       | 445       | 659       | 193       | 179       | 112       | 97        |

<sup>1</sup>For 1939–1941 and 1949–1951, data shown are for the entire nonwhite population. During these periods, life tables were not constructed separately for the black population. See Technical Notes.  
SOURCE: CDC/NCHS, National Vital Statistics System.

**Table 21. Life expectancy, by age, race, and sex: Death-registration states, 1900–1902 to 1919–1921, and United States, 1929–1931 to 2011**

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

| Age, race, and sex | Average number of years of life remaining, $e_x$ |           |           |           |           |           |           |           |           |           |           |           |
|--------------------|--------------------------------------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
|                    | 2011                                             | 1999–2001 | 1989–1991 | 1979–1981 | 1969–1971 | 1959–1961 | 1949–1951 | 1939–1941 | 1929–1931 | 1919–1921 | 1909–1911 | 1900–1902 |
| <b>All races</b>   |                                                  |           |           |           |           |           |           |           |           |           |           |           |
| 0.....             | 78.71                                            | 76.86     | 75.37     | 73.88     | 70.75     | 69.89     | 68.07     | 63.62     | 59.20     | 56.40     | 51.49     | 49.24     |
| 1.....             | 78.19                                            | 76.40     | 75.08     | 73.82     | 71.19     | 70.75     | 69.16     | 65.76     | 61.94     | 59.94     | 57.11     | 55.20     |
| 5.....             | 74.27                                            | 72.49     | 71.22     | 70.00     | 67.43     | 67.04     | 65.54     | 62.49     | 59.29     | 57.99     | 56.21     | 54.98     |
| 10.....            | 69.31                                            | 67.55     | 66.29     | 65.10     | 62.57     | 62.19     | 60.74     | 57.82     | 54.84     | 53.79     | 52.15     | 51.14     |
| 15.....            | 64.36                                            | 62.61     | 61.38     | 60.19     | 57.69     | 57.33     | 55.91     | 53.10     | 50.25     | 49.37     | 47.73     | 46.81     |
| 20.....            | 59.51                                            | 57.82     | 56.63     | 55.46     | 53.00     | 52.58     | 51.20     | 48.54     | 45.94     | 45.30     | 43.53     | 42.79     |
| 25.....            | 54.76                                            | 53.08     | 51.93     | 50.81     | 48.37     | 47.89     | 46.56     | 44.09     | 41.85     | 41.47     | 39.60     | 39.12     |
| 30.....            | 50.01                                            | 48.31     | 47.23     | 46.12     | 43.71     | 43.18     | 41.91     | 39.67     | 37.75     | 37.68     | 35.70     | 35.51     |
| 35.....            | 45.28                                            | 43.57     | 42.58     | 41.43     | 39.07     | 38.51     | 37.31     | 35.30     | 33.68     | 33.89     | 31.90     | 31.92     |
| 40.....            | 40.58                                            | 38.90     | 37.98     | 36.79     | 34.52     | 33.92     | 32.81     | 31.03     | 29.67     | 30.08     | 28.20     | 28.34     |
| 45.....            | 35.96                                            | 34.34     | 33.44     | 32.27     | 30.12     | 29.50     | 28.49     | 26.90     | 25.79     | 26.25     | 24.54     | 24.77     |
| 50.....            | 31.50                                            | 29.90     | 29.03     | 27.94     | 25.93     | 25.29     | 24.40     | 22.98     | 22.06     | 22.50     | 20.98     | 21.26     |
| 55.....            | 27.23                                            | 25.61     | 24.83     | 23.85     | 21.99     | 21.37     | 20.57     | 19.31     | 18.53     | 18.90     | 17.55     | 17.88     |
| 60.....            | 23.12                                            | 21.55     | 20.90     | 20.02     | 18.34     | 17.71     | 17.04     | 15.91     | 15.24     | 15.54     | 14.42     | 14.76     |
| 65.....            | 19.18                                            | 17.77     | 17.28     | 16.51     | 15.00     | 14.39     | 13.83     | 12.80     | 12.23     | 12.47     | 11.60     | 11.86     |
| 70.....            | 15.49                                            | 14.27     | 13.96     | 13.32     | 12.00     | 11.38     | 10.92     | 10.00     | 9.58      | 9.74      | 9.11      | 9.30      |
| 75.....            | 12.10                                            | 11.12     | 11.00     | 10.48     | 9.32      | 8.71      | 8.40      | 7.62      | 7.32      | 7.49      | 6.99      | 7.08      |
| 80.....            | 9.08                                             | 8.42      | 8.40      | 7.98      | 7.10      | 6.39      | 6.34      | 5.73      | 5.50      | 5.63      | 5.25      | 5.30      |
| 85.....            | 6.53                                             | 6.22      | 6.23      | 5.96      | 5.28      | 4.58      | 4.69      | 4.31      | 4.19      | 4.21      | 4.00      | 3.96      |
| 90.....            | 4.56                                             | 4.49      | 4.50      | 4.43      | 3.94      | 3.22      | 3.44      | 3.30      | 3.15      | 3.22      | 3.03      | 2.95      |
| 95.....            | 3.18                                             | 3.19      | 3.29      | 3.34      | 3.06      | 2.43      | 2.54      | 2.61      | 2.26      | 2.32      | 2.35      | 2.18      |
| 100.....           | 2.27                                             | 2.27      | 2.46      | 2.73      | 2.62      | 1.91      | 1.92      | 2.13      | 1.51      | 1.53      | 1.85      | 1.58      |
| <b>Male</b>        |                                                  |           |           |           |           |           |           |           |           |           |           |           |
| 0.....             | 76.29                                            | 74.13     | 71.83     | 70.11     | 67.04     | 66.80     | 65.47     | 61.60     | 57.71     | 55.50     | 49.86     | 47.88     |
| 1.....             | 75.80                                            | 73.70     | 71.58     | 70.10     | 67.58     | 67.80     | 66.73     | 64.00     | 60.75     | 59.47     | 55.95     | 54.35     |
| 5.....             | 71.88                                            | 69.80     | 67.73     | 66.29     | 63.82     | 64.10     | 63.12     | 60.76     | 58.14     | 57.60     | 55.11     | 54.22     |
| 10.....            | 66.93                                            | 64.86     | 62.81     | 61.41     | 58.98     | 59.27     | 58.35     | 56.12     | 53.75     | 53.44     | 51.07     | 50.39     |
| 15.....            | 61.98                                            | 59.94     | 57.91     | 56.52     | 54.12     | 54.43     | 53.56     | 51.43     | 49.18     | 49.05     | 46.66     | 46.06     |
| 20.....            | 57.19                                            | 55.21     | 53.25     | 51.88     | 49.54     | 49.77     | 48.92     | 46.91     | 44.88     | 44.99     | 42.48     | 42.03     |
| 25.....            | 52.53                                            | 50.57     | 48.67     | 47.37     | 45.07     | 45.19     | 44.36     | 42.51     | 40.79     | 41.11     | 38.59     | 38.38     |
| 30.....            | 47.88                                            | 45.89     | 44.10     | 42.81     | 40.51     | 40.56     | 39.78     | 38.13     | 36.71     | 37.26     | 34.70     | 34.76     |
| 35.....            | 43.22                                            | 41.21     | 39.57     | 38.20     | 35.95     | 35.94     | 35.23     | 33.79     | 32.65     | 33.43     | 30.94     | 31.19     |
| 40.....            | 38.58                                            | 36.62     | 35.09     | 33.64     | 31.48     | 31.42     | 30.79     | 29.57     | 28.68     | 29.63     | 27.32     | 27.65     |
| 45.....            | 34.03                                            | 32.14     | 30.66     | 29.22     | 27.18     | 27.09     | 26.55     | 25.52     | 24.87     | 25.84     | 23.77     | 24.14     |
| 50.....            | 29.65                                            | 27.82     | 26.37     | 25.00     | 23.12     | 23.02     | 22.59     | 21.72     | 21.25     | 22.11     | 20.32     | 20.70     |
| 55.....            | 25.50                                            | 23.65     | 22.30     | 21.08     | 19.36     | 19.32     | 18.96     | 18.20     | 17.79     | 18.53     | 16.98     | 17.38     |
| 60.....            | 21.57                                            | 19.73     | 18.53     | 17.46     | 15.99     | 15.94     | 15.68     | 14.99     | 14.62     | 15.22     | 13.95     | 14.33     |
| 65.....            | 17.81                                            | 16.11     | 15.12     | 14.21     | 12.99     | 12.95     | 12.74     | 12.07     | 11.72     | 12.20     | 11.24     | 11.50     |
| 70.....            | 14.28                                            | 12.80     | 12.05     | 11.35     | 10.39     | 10.33     | 10.11     | 9.46      | 9.18      | 9.52      | 8.83      | 9.02      |
| 75.....            | 11.07                                            | 9.89      | 9.39      | 8.90      | 8.13      | 7.99      | 7.83      | 7.22      | 7.02      | 7.31      | 6.75      | 6.84      |
| 80.....            | 8.22                                             | 7.44      | 7.12      | 6.80      | 6.27      | 5.95      | 5.94      | 5.44      | 5.27      | 5.49      | 5.10      | 5.11      |
| 85.....            | 5.87                                             | 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.....            | 2.85                                             | 2.82      | 2.92      | 2.98      | 2.82      | 2.43      | 2.49      | 2.52      | 2.21      | 2.38      | 2.36      | 2.13      |
| 100.....           | 2.07                                             | 2.03      | 2.25      | 2.49      | 2.43      | 1.91      | 1.92      | 2.05      | 1.50      | 1.58      | 1.81      | 1.55      |
| <b>Female</b>      |                                                  |           |           |           |           |           |           |           |           |           |           |           |
| 0.....             | 81.05                                            | 79.47     | 78.81     | 77.62     | 74.64     | 73.24     | 70.96     | 65.89     | 60.90     | 57.40     | 53.24     | 50.70     |
| 1.....             | 80.50                                            | 78.97     | 78.47     | 77.50     | 74.97     | 73.93     | 71.84     | 67.73     | 65.37     | 60.45     | 58.37     | 56.10     |
| 5.....             | 76.57                                            | 75.06     | 74.60     | 73.67     | 71.19     | 70.21     | 68.21     | 64.43     | 60.66     | 58.41     | 57.39     | 55.80     |
| 10.....            | 71.61                                            | 70.11     | 69.67     | 68.75     | 66.31     | 65.35     | 63.38     | 59.73     | 56.16     | 54.16     | 53.31     | 51.94     |
| 15.....            | 66.65                                            | 65.16     | 64.73     | 63.83     | 61.41     | 60.45     | 58.52     | 54.97     | 51.54     | 49.71     | 48.87     | 47.60     |
| 20.....            | 61.74                                            | 60.29     | 59.87     | 58.98     | 56.59     | 55.60     | 53.73     | 50.37     | 47.21     | 45.63     | 44.66     | 43.60     |
| 25.....            | 56.87                                            | 55.42     | 55.03     | 54.16     | 51.80     | 50.79     | 48.99     | 45.87     | 43.11     | 41.86     | 40.69     | 39.92     |
| 30.....            | 52.03                                            | 50.57     | 50.19     | 49.33     | 47.01     | 46.00     | 44.28     | 41.41     | 39.02     | 38.15     | 36.79     | 36.30     |
| 35.....            | 47.21                                            | 45.75     | 45.40     | 44.53     | 42.28     | 41.27     | 39.63     | 37.01     | 34.92     | 34.40     | 32.95     | 32.71     |
| 40.....            | 42.44                                            | 40.99     | 40.65     | 39.80     | 37.64     | 36.61     | 35.06     | 32.68     | 30.86     | 30.58     | 29.15     | 29.08     |
| 45.....            | 37.76                                            | 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 2011—Con.**

[Alaska and Hawaii included beginning in 1959. For decennial periods prior to 1929–1931, data are for groups of registration states as follows: 1900–1902 and 1909–1911, 10 states and the District of Columbia; 1919–1921, 34 states and the 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, $e_x$ |           |           |           |           |           |           |           |           |           |           |           |
|--------------------|--------------------------------------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
|                    | 2011                                             | 1999–2001 | 1989–1991 | 1979–1981 | 1969–1971 | 1959–1961 | 1949–1951 | 1939–1941 | 1929–1931 | 1919–1921 | 1909–1911 | 1900–1902 |
| <b>Female—Con.</b> |                                                  |           |           |           |           |           |           |           |           |           |           |           |
| 50. ....           | 33.20                                            | 31.76     | 31.42     | 30.69     | 28.77     | 27.71     | 26.40     | 24.40     | 23.05     | 22.92     | 21.67     | 21.84     |
| 55. ....           | 28.78                                            | 27.32     | 27.05     | 26.39     | 24.59     | 23.53     | 22.33     | 20.54     | 19.38     | 19.28     | 18.13     | 18.39     |
| 60. ....           | 24.48                                            | 23.10     | 22.90     | 22.29     | 20.60     | 19.52     | 18.50     | 16.92     | 15.94     | 15.87     | 14.90     | 15.21     |
| 65. ....           | 20.35                                            | 19.12     | 19.02     | 18.44     | 16.83     | 15.80     | 14.95     | 13.57     | 12.78     | 12.73     | 11.96     | 12.22     |
| 70. ....           | 16.46                                            | 15.40     | 15.38     | 14.84     | 13.35     | 12.37     | 11.71     | 10.56     | 9.99      | 9.96      | 9.38      | 9.59      |
| 75. ....           | 12.86                                            | 11.99     | 12.08     | 11.58     | 10.26     | 9.33      | 8.94      | 8.01      | 7.61      | 7.65      | 7.20      | 7.34      |
| 80. ....           | 9.65                                             | 9.05      | 9.13      | 8.69      | 7.68      | 6.72      | 6.67      | 5.99      | 5.70      | 5.75      | 5.37      | 5.51      |
| 85. ....           | 6.90                                             | 6.62      | 6.66      | 6.38      | 5.63      | 4.71      | 4.90      | 4.47      | 4.32      | 4.30      | 4.08      | 4.12      |
| 90. ....           | 4.77                                             | 4.71      | 4.73      | 4.66      | 4.14      | 3.25      | 3.54      | 3.39      | 3.24      | 3.23      | 3.05      | 3.04      |
| 95. ....           | 3.27                                             | 3.29      | 3.40      | 3.48      | 3.18      | 2.43      | 2.57      | 2.67      | 2.30      | 2.27      | 2.34      | 2.24      |
| 100. ....          | 2.30                                             | 2.29      | 2.52      | 2.81      | 2.69      | 1.91      | 1.93      | 2.17      | 1.52      | 1.48      | 1.91      | 1.61      |
| <b>White</b>       |                                                  |           |           |           |           |           |           |           |           |           |           |           |
| 0. ....            | 78.95                                            | 77.43     | 76.13     | 74.53     | 71.62     | 70.73     | 69.02     | 64.92     | 60.86     | 57.42     | 51.90     | 49.64     |
| 1. ....            | 78.36                                            | 76.87     | 75.72     | 74.35     | 71.91     | 71.38     | 69.95     | 66.84     | 63.46     | 60.87     | 57.46     | 55.47     |
| 5. ....            | 74.43                                            | 72.96     | 71.84     | 70.52     | 68.12     | 67.64     | 66.29     | 63.52     | 60.75     | 58.86     | 56.51     | 55.18     |
| 10. ....           | 69.47                                            | 68.01     | 66.92     | 65.62     | 63.26     | 62.79     | 61.48     | 58.83     | 56.29     | 54.65     | 52.43     | 51.34     |
| 15. ....           | 64.52                                            | 63.07     | 61.99     | 60.71     | 58.37     | 57.92     | 56.65     | 54.09     | 51.69     | 50.21     | 48.01     | 47.01     |
| 20. ....           | 59.66                                            | 58.27     | 57.23     | 55.98     | 53.66     | 53.16     | 51.91     | 49.47     | 47.28     | 46.04     | 43.77     | 43.17     |
| 25. ....           | 54.90                                            | 53.51     | 52.50     | 51.30     | 49.00     | 48.44     | 47.22     | 44.92     | 43.02     | 42.07     | 39.79     | 39.26     |
| 30. ....           | 50.14                                            | 48.72     | 47.76     | 46.59     | 44.28     | 43.69     | 42.52     | 40.40     | 38.76     | 38.17     | 35.86     | 35.51     |
| 35. ....           | 45.41                                            | 43.95     | 43.06     | 41.86     | 39.58     | 38.97     | 37.86     | 35.93     | 34.50     | 34.27     | 32.03     | 32.01     |
| 40. ....           | 40.70                                            | 39.25     | 38.41     | 37.17     | 34.95     | 34.33     | 33.29     | 31.54     | 30.33     | 30.38     | 28.29     | 28.28     |
| 45. ....           | 36.07                                            | 34.65     | 33.81     | 32.60     | 30.48     | 29.84     | 28.88     | 27.29     | 26.29     | 26.45     | 24.60     | 24.82     |
| 50. ....           | 31.60                                            | 30.17     | 29.34     | 28.21     | 26.21     | 25.57     | 24.70     | 23.26     | 22.42     | 22.64     | 21.01     | 21.18     |
| 55. ....           | 27.30                                            | 25.82     | 25.08     | 24.05     | 22.19     | 21.58     | 20.77     | 19.47     | 18.75     | 18.97     | 17.57     | 17.91     |
| 60. ....           | 23.16                                            | 21.71     | 21.08     | 20.16     | 18.48     | 17.84     | 17.15     | 15.98     | 15.37     | 15.57     | 14.43     | 14.73     |
| 65. ....           | 19.19                                            | 17.88     | 17.40     | 16.59     | 15.08     | 14.44     | 13.86     | 12.80     | 12.28     | 12.47     | 11.60     | 11.87     |
| 70. ....           | 15.48                                            | 14.34     | 14.02     | 13.35     | 12.01     | 11.37     | 10.89     | 9.96      | 9.58      | 9.72      | 9.10      | 9.31      |
| 75. ....           | 12.06                                            | 11.15     | 11.03     | 10.47     | 9.27      | 8.65      | 8.34      | 7.55      | 7.30      | 7.47      | 6.98      | 7.08      |
| 80. ....           | 9.03                                             | 8.42      | 8.39      | 7.95      | 7.01      | 6.33      | 6.27      | 5.64      | 5.45      | 5.59      | 5.22      | 5.30      |
| 85. ....           | 6.48                                             | 6.19      | 6.20      | 5.90      | 5.19      | 4.53      | 4.62      | 4.20      | 4.12      | 4.15      | 3.97      | 3.95      |
| 90. ....           | 4.50                                             | 4.44      | 4.46      | 4.36      | 3.84      | 3.20      | 3.41      | 3.16      | 3.10      | 3.17      | 3.00      | 2.93      |
| 95. ....           | 3.11                                             | 3.14      | 3.25      | 3.25      | 2.92      | 2.43      | 2.53      | 2.45      | 2.22      | 2.28      | 2.29      | 2.16      |
| 100. ....          | 2.22                                             | 2.22      | 2.43      | 2.62      | 2.41      | 1.91      | 1.92      | 1.95      | 1.48      | 1.50      | 1.71      | 1.56      |
| <b>White male</b>  |                                                  |           |           |           |           |           |           |           |           |           |           |           |
| 0. ....            | 76.59                                            | 74.78     | 72.72     | 70.82     | 67.94     | 67.55     | 66.31     | 62.81     | 59.12     | 56.34     | 50.23     | 48.23     |
| 1. ....            | 76.02                                            | 74.25     | 72.35     | 70.70     | 68.33     | 68.34     | 67.41     | 64.98     | 62.04     | 60.24     | 56.26     | 54.61     |
| 5. ....            | 72.10                                            | 70.34     | 68.48     | 66.87     | 64.55     | 64.61     | 63.77     | 61.68     | 59.38     | 58.31     | 55.37     | 54.43     |
| 10. ....           | 67.15                                            | 65.40     | 63.55     | 61.98     | 59.69     | 59.78     | 58.98     | 57.03     | 54.96     | 54.15     | 51.32     | 50.59     |
| 15. ....           | 62.20                                            | 60.47     | 58.65     | 57.09     | 54.83     | 54.93     | 54.18     | 52.33     | 50.39     | 49.74     | 46.91     | 46.25     |
| 20. ....           | 57.39                                            | 55.72     | 53.96     | 52.45     | 50.22     | 50.25     | 49.52     | 47.76     | 46.02     | 45.60     | 42.71     | 42.19     |
| 25. ....           | 52.72                                            | 51.05     | 49.33     | 47.92     | 45.70     | 45.65     | 44.93     | 43.28     | 41.78     | 41.60     | 38.79     | 38.52     |
| 30. ....           | 48.05                                            | 46.34     | 44.71     | 43.31     | 41.07     | 40.97     | 40.29     | 38.80     | 37.54     | 37.65     | 34.87     | 34.88     |
| 35. ....           | 43.38                                            | 41.64     | 40.12     | 38.66     | 36.43     | 36.31     | 35.68     | 34.36     | 33.33     | 33.74     | 31.08     | 31.29     |
| 40. ....           | 38.73                                            | 37.01     | 35.57     | 34.04     | 31.87     | 31.73     | 31.17     | 30.03     | 29.22     | 29.86     | 27.43     | 27.74     |
| 45. ....           | 34.17                                            | 32.49     | 31.07     | 29.55     | 27.48     | 27.34     | 26.87     | 25.87     | 25.28     | 26.00     | 23.86     | 24.21     |
| 50. ....           | 29.79                                            | 28.12     | 26.71     | 25.26     | 23.34     | 23.22     | 22.83     | 21.96     | 21.51     | 22.22     | 20.39     | 20.76     |
| 55. ....           | 25.61                                            | 23.88     | 22.56     | 21.25     | 19.51     | 19.45     | 19.11     | 18.34     | 17.97     | 18.59     | 17.03     | 17.42     |
| 60. ....           | 21.65                                            | 19.90     | 18.71     | 17.56     | 16.07     | 16.01     | 15.76     | 15.05     | 14.72     | 15.25     | 13.98     | 14.35     |
| 65. ....           | 17.84                                            | 16.22     | 15.24     | 14.26     | 13.02     | 12.97     | 12.75     | 12.07     | 11.77     | 12.21     | 11.25     | 11.51     |
| 70. ....           | 14.29                                            | 12.87     | 12.11     | 11.35     | 10.38     | 10.29     | 10.07     | 9.42      | 9.20      | 9.51      | 8.83      | 9.03      |
| 75. ....           | 11.05                                            | 9.92      | 9.40      | 8.87      | 8.06      | 7.92      | 7.77      | 7.17      | 7.02      | 7.30      | 6.75      | 6.84      |
| 80. ....           | 8.19                                             | 7.43      | 7.11      | 6.76      | 6.18      | 5.89      | 5.88      | 5.38      | 5.26      | 5.47      | 5.09      | 5.10      |
| 85. ....           | 5.82                                             | 5.43      | 5.28      | 5.09      | 4.63      | 4.34      | 4.35      | 4.02      | 3.99      | 4.06      | 3.88      | 3.81      |
| 90. ....           | 4.02                                             | 3.90      | 3.85      | 3.83      | 3.49      | 3.16      | 3.27      | 3.06      | 3.03      | 3.18      | 2.99      | 2.85      |
| 95. ....           | 2.79                                             | 2.77      | 2.88      | 2.91      | 2.67      | 2.43      | 2.48      | 2.40      | 2.19      | 2.36      | 2.31      | 2.12      |
| 100. ....          | 2.01                                             | 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 2011—Con.**

[Alaska and Hawaii included beginning in 1959. For decennial periods prior to 1929–1931, data are for groups of registration states as follows: 1900–1902 and 1909–1911, 10 states and the District of Columbia; 1919–1921, 34 states and the 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, $e_x$ |           |           |           |           |           |           |           |           |           |           |           |
|-------------------------------|--------------------------------------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
|                               | 2011                                             | 1999–2001 | 1989–1991 | 1979–1981 | 1969–1971 | 1959–1961 | 1949–1951 | 1939–1941 | 1929–1931 | 1919–1921 | 1909–1911 | 1900–1902 |
| <b>White female</b>           |                                                  |           |           |           |           |           |           |           |           |           |           |           |
| 0.....                        | 81.27                                            | 79.99     | 79.45     | 78.22     | 75.49     | 74.19     | 72.03     | 67.29     | 62.67     | 58.53     | 53.62     | 51.08     |
| 1.....                        | 80.65                                            | 79.40     | 78.99     | 77.98     | 75.66     | 74.68     | 72.77     | 68.93     | 64.93     | 61.51     | 58.69     | 56.39     |
| 5.....                        | 76.72                                            | 75.48     | 75.10     | 74.13     | 71.86     | 70.92     | 69.09     | 65.57     | 62.17     | 59.43     | 57.67     | 56.03     |
| 10.....                       | 71.76                                            | 70.53     | 70.16     | 69.21     | 66.97     | 66.05     | 64.26     | 60.85     | 57.65     | 55.17     | 53.57     | 52.15     |
| 15.....                       | 66.79                                            | 65.58     | 65.23     | 64.29     | 62.07     | 61.15     | 59.39     | 56.07     | 53.00     | 50.67     | 49.12     | 47.79     |
| 20.....                       | 61.88                                            | 60.70     | 60.36     | 59.44     | 57.24     | 56.29     | 54.56     | 51.38     | 48.52     | 46.46     | 44.88     | 43.77     |
| 25.....                       | 57.01                                            | 55.83     | 55.51     | 54.60     | 52.42     | 51.45     | 49.77     | 46.78     | 44.25     | 42.55     | 40.88     | 40.05     |
| 30.....                       | 52.16                                            | 50.95     | 50.65     | 49.76     | 47.60     | 46.63     | 45.00     | 42.21     | 39.99     | 38.72     | 36.96     | 36.42     |
| 35.....                       | 47.34                                            | 46.11     | 45.82     | 44.93     | 42.82     | 41.84     | 40.28     | 37.70     | 35.73     | 34.86     | 33.09     | 32.82     |
| 40.....                       | 42.56                                            | 41.33     | 41.03     | 40.16     | 38.12     | 37.13     | 35.64     | 33.25     | 31.52     | 30.94     | 29.26     | 29.17     |
| 45.....                       | 37.86                                            | 36.62     | 36.30     | 35.49     | 33.54     | 32.53     | 31.12     | 28.90     | 27.39     | 26.98     | 25.45     | 25.51     |
| 50.....                       | 33.28                                            | 32.01     | 31.71     | 30.96     | 29.11     | 28.08     | 26.76     | 24.72     | 23.41     | 23.12     | 21.74     | 21.89     |
| 55.....                       | 28.84                                            | 27.53     | 27.29     | 26.61     | 24.85     | 23.81     | 22.58     | 20.73     | 19.60     | 19.40     | 18.18     | 18.43     |
| 60.....                       | 24.51                                            | 23.25     | 23.09     | 22.45     | 20.79     | 19.69     | 18.64     | 17.00     | 16.05     | 15.93     | 14.92     | 15.23     |
| 65.....                       | 20.35                                            | 19.23     | 19.14     | 18.55     | 16.93     | 15.88     | 15.00     | 13.56     | 12.81     | 12.75     | 11.97     | 12.23     |
| 70.....                       | 16.44                                            | 15.47     | 15.46     | 14.89     | 13.37     | 12.38     | 11.68     | 10.50     | 9.98      | 9.94      | 9.38      | 9.59      |
| 75.....                       | 12.83                                            | 12.02     | 12.11     | 11.58     | 10.21     | 9.28      | 8.87      | 7.92      | 7.56      | 7.62      | 7.20      | 7.33      |
| 80.....                       | 9.60                                             | 9.04      | 9.12      | 8.65      | 7.59      | 6.67      | 6.59      | 5.88      | 5.63      | 5.70      | 5.35      | 5.50      |
| 85.....                       | 6.85                                             | 6.59      | 6.62      | 6.32      | 5.54      | 4.66      | 4.83      | 4.34      | 4.24      | 4.24      | 4.06      | 4.10      |
| 90.....                       | 4.71                                             | 4.67      | 4.69      | 4.59      | 4.05      | 3.23      | 3.51      | 3.24      | 3.17      | 3.16      | 3.00      | 3.02      |
| 95.....                       | 3.21                                             | 3.24      | 3.36      | 3.39      | 3.04      | 2.43      | 2.56      | 2.47      | 2.24      | 2.20      | 2.27      | 2.21      |
| 100.....                      | 2.25                                             | 2.24      | 2.49      | 2.70      | 2.49      | 1.91      | 1.92      | 1.95      | 1.48      | 1.42      | 1.74      | 1.58      |
| <b>Black<sup>1</sup></b>      |                                                  |           |           |           |           |           |           |           |           |           |           |           |
| 0.....                        | 75.33                                            | 71.81     | 69.16     | 68.52     | 64.11     | 63.91     | 60.73     | 53.85     | 48.53     | 47.03     | 35.87     | 33.80     |
| 1.....                        | 75.21                                            | 71.84     | 69.43     | 68.99     | 65.27     | 65.75     | 62.65     | 57.15     | 51.71     | 51.01     | 43.84     | 43.00     |
| 5.....                        | 71.32                                            | 67.98     | 65.64     | 65.25     | 61.62     | 62.21     | 59.25     | 54.13     | 49.25     | 49.44     | 45.34     | 45.55     |
| 10.....                       | 66.38                                            | 63.05     | 60.75     | 60.38     | 56.79     | 57.41     | 54.50     | 49.50     | 44.80     | 45.26     | 41.74     | 42.46     |
| 15.....                       | 61.44                                            | 58.13     | 55.86     | 55.49     | 51.94     | 52.57     | 49.73     | 44.89     | 40.37     | 41.02     | 38.02     | 39.04     |
| 20.....                       | 56.63                                            | 53.38     | 51.19     | 50.75     | 47.34     | 47.88     | 45.19     | 40.73     | 36.62     | 37.72     | 34.86     | 36.03     |
| 25.....                       | 51.96                                            | 48.78     | 46.67     | 46.18     | 43.00     | 43.35     | 40.85     | 36.91     | 33.32     | 34.91     | 31.72     | 33.04     |
| 30.....                       | 47.30                                            | 44.16     | 42.22     | 41.69     | 38.70     | 38.89     | 36.59     | 33.17     | 30.07     | 31.98     | 28.43     | 29.96     |
| 35.....                       | 42.67                                            | 39.59     | 37.87     | 37.28     | 34.48     | 34.56     | 32.44     | 29.53     | 26.94     | 29.07     | 25.39     | 26.82     |
| 40.....                       | 38.08                                            | 35.12     | 33.65     | 32.98     | 30.46     | 30.39     | 28.48     | 26.06     | 23.82     | 26.07     | 22.41     | 23.73     |
| 45.....                       | 33.60                                            | 30.84     | 29.55     | 28.87     | 26.65     | 26.46     | 24.75     | 22.82     | 20.97     | 23.17     | 19.58     | 20.67     |
| 50.....                       | 29.30                                            | 26.80     | 25.62     | 25.03     | 23.11     | 22.74     | 21.38     | 19.94     | 18.22     | 20.17     | 16.84     | 17.95     |
| 55.....                       | 25.27                                            | 22.97     | 21.95     | 21.50     | 19.83     | 19.45     | 18.41     | 17.43     | 15.80     | 17.33     | 14.33     | 15.23     |
| 60.....                       | 21.52                                            | 19.43     | 18.59     | 18.29     | 16.83     | 16.53     | 15.87     | 15.18     | 13.62     | 14.72     | 12.16     | 13.06     |
| 65.....                       | 18.01                                            | 16.14     | 15.56     | 15.37     | 14.16     | 13.96     | 13.59     | 13.02     | 11.49     | 12.22     | 10.22     | 10.87     |
| 70.....                       | 14.74                                            | 13.18     | 12.87     | 12.67     | 11.77     | 11.63     | 11.48     | 10.93     | 9.54      | 9.90      | 8.59      | 8.96      |
| 75.....                       | 11.73                                            | 10.54     | 10.48     | 10.32     | 9.89      | 9.52      | 9.48      | 8.97      | 7.84      | 8.00      | 7.08      | 7.24      |
| 80.....                       | 9.06                                             | 8.29      | 8.30      | 8.17      | 8.20      | 7.28      | 7.62      | 7.31      | 6.19      | 6.22      | 5.80      | 5.79      |
| 85.....                       | 6.83                                             | 6.41      | 6.51      | 6.54      | 6.54      | 5.27      | 5.79      | 5.91      | 4.92      | 4.88      | 4.80      | 4.56      |
| 90.....                       | 5.09                                             | 4.90      | 4.94      | 5.13      | 5.09      | 3.48      | 3.97      | 4.64      | 3.83      | 3.84      | 4.26      | 3.60      |
| 95.....                       | 3.78                                             | 3.71      | 3.82      | 4.08      | 4.28      | 2.43      | 2.70      | 3.51      | 2.83      | 2.90      | 3.31      | 2.82      |
| 100.....                      | 2.84                                             | 2.81      | 2.91      | 3.58      | 3.93      | 1.91      | 1.94      | 2.57      | 1.87      | 1.94      | 2.27      | 2.18      |
| <b>Black male<sup>1</sup></b> |                                                  |           |           |           |           |           |           |           |           |           |           |           |
| 0.....                        | 72.19                                            | 68.17     | 64.47     | 64.10     | 60.00     | 61.48     | 58.91     | 52.26     | 47.55     | 47.14     | 34.05     | 32.54     |
| 1.....                        | 72.11                                            | 68.25     | 64.76     | 64.60     | 61.24     | 63.50     | 61.06     | 55.93     | 51.08     | 51.63     | 42.53     | 42.46     |
| 5.....                        | 68.23                                            | 64.40     | 60.98     | 60.86     | 57.60     | 59.98     | 57.69     | 52.95     | 48.69     | 50.18     | 44.25     | 45.06     |
| 10.....                       | 63.29                                            | 59.48     | 56.09     | 56.01     | 52.79     | 55.19     | 52.96     | 48.34     | 44.27     | 45.99     | 40.65     | 41.90     |
| 15.....                       | 58.36                                            | 54.57     | 51.22     | 51.14     | 47.96     | 50.39     | 48.23     | 43.74     | 39.83     | 41.75     | 36.77     | 38.26     |
| 20.....                       | 53.63                                            | 49.92     | 46.71     | 46.48     | 43.49     | 45.78     | 43.73     | 39.52     | 35.95     | 38.36     | 33.46     | 35.11     |
| 25.....                       | 49.11                                            | 45.50     | 42.40     | 42.09     | 39.45     | 41.38     | 39.49     | 35.72     | 32.67     | 35.54     | 30.44     | 32.21     |
| 30.....                       | 44.59                                            | 41.02     | 38.14     | 37.81     | 35.40     | 37.05     | 35.31     | 32.05     | 29.45     | 32.51     | 27.33     | 29.25     |
| 35.....                       | 40.05                                            | 36.56     | 34.02     | 33.60     | 31.42     | 32.81     | 31.21     | 28.48     | 26.39     | 29.54     | 24.42     | 26.16     |
| 40.....                       | 35.54                                            | 32.18     | 30.05     | 29.51     | 27.61     | 28.72     | 27.29     | 25.06     | 23.36     | 26.53     | 21.57     | 23.12     |
| 45.....                       | 31.12                                            | 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 2011—Con.**

[Alaska and Hawaii included beginning in 1959. For decennial periods prior to 1929–1931, data are for groups of registration states as follows: 1900–1902 and 1909–1911, 10 states and the District of Columbia; 1919–1921, 34 states and the 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, $e_x$ |           |           |           |           |           |           |           |           |           |           |           |
|------------------------------------|--------------------------------------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
|                                    | 2011                                             | 1999–2001 | 1989–1991 | 1979–1981 | 1969–1971 | 1959–1961 | 1949–1951 | 1939–1941 | 1929–1931 | 1919–1921 | 1909–1911 | 1900–1902 |
| <b>Black male<sup>1</sup>—Con.</b> |                                                  |           |           |           |           |           |           |           |           |           |           |           |
| 50. ....                           | 26.89                                            | 24.13     | 22.50     | 22.03     | 20.69     | 21.28     | 20.25     | 19.06     | 17.92     | 20.47     | 16.21     | 17.34     |
| 55. ....                           | 22.99                                            | 20.50     | 19.08     | 18.79     | 17.66     | 18.11     | 17.36     | 16.60     | 15.46     | 17.50     | 13.82     | 14.69     |
| 60. ....                           | 19.44                                            | 17.19     | 16.01     | 15.89     | 14.93     | 15.29     | 14.91     | 14.37     | 13.15     | 14.74     | 11.67     | 12.62     |
| 65. ....                           | 16.19                                            | 14.12     | 13.27     | 13.29     | 12.53     | 12.84     | 12.75     | 12.21     | 10.87     | 12.07     | 9.74      | 10.38     |
| 70. ....                           | 13.17                                            | 11.40     | 10.88     | 10.94     | 10.40     | 10.81     | 10.74     | 10.11     | 8.78      | 9.58      | 8.00      | 8.33      |
| 75. ....                           | 10.43                                            | 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. ....                           | 4.53                                             | 4.23      | 4.24      | 4.47      | 4.68      | 3.42      | 3.78      | 4.23      | 3.42      | 3.60      | 4.01      | 3.21      |
| 95. ....                           | 3.41                                             | 3.24      | 3.37      | 3.62      | 3.92      | 2.43      | 2.64      | 3.20      | 2.54      | 2.61      | 3.15      | 2.50      |
| 100. ....                          | 2.61                                             | 2.48      | 2.63      | 3.24      | 3.61      | 1.91      | 1.93      | 2.29      | 1.68      | 1.64      | 2.14      | 1.89      |
| <b>Black female<sup>1</sup></b>    |                                                  |           |           |           |           |           |           |           |           |           |           |           |
| 0. ....                            | 78.17                                            | 75.16     | 73.73     | 72.88     | 68.32     | 66.47     | 62.70     | 55.56     | 49.51     | 46.92     | 37.67     | 35.04     |
| 1. ....                            | 77.99                                            | 75.13     | 73.96     | 73.31     | 69.37     | 68.10     | 64.37     | 58.46     | 52.33     | 50.39     | 45.15     | 43.54     |
| 5. ....                            | 74.09                                            | 71.26     | 70.16     | 69.54     | 65.70     | 64.54     | 60.93     | 55.40     | 49.81     | 48.70     | 46.42     | 46.04     |
| 10. ....                           | 69.14                                            | 66.32     | 65.26     | 64.65     | 60.85     | 59.72     | 56.17     | 50.75     | 45.33     | 44.54     | 42.84     | 43.02     |
| 15. ....                           | 64.19                                            | 61.39     | 60.34     | 59.74     | 55.97     | 54.85     | 51.36     | 46.13     | 40.87     | 40.36     | 39.18     | 39.79     |
| 20. ....                           | 59.29                                            | 56.52     | 55.49     | 54.90     | 51.22     | 50.07     | 46.77     | 42.04     | 37.22     | 37.15     | 36.14     | 36.89     |
| 25. ....                           | 54.44                                            | 51.71     | 50.72     | 50.13     | 46.57     | 45.40     | 42.35     | 38.20     | 33.93     | 34.35     | 32.97     | 33.90     |
| 30. ....                           | 49.64                                            | 46.95     | 46.03     | 45.43     | 42.00     | 40.83     | 38.02     | 34.40     | 30.67     | 31.48     | 29.61     | 30.70     |
| 35. ....                           | 44.91                                            | 42.26     | 41.45     | 40.79     | 37.56     | 36.41     | 33.82     | 30.83     | 27.47     | 28.58     | 26.44     | 27.52     |
| 40. ....                           | 40.25                                            | 37.69     | 36.96     | 36.28     | 33.32     | 32.16     | 29.82     | 27.19     | 24.30     | 25.60     | 23.34     | 24.37     |
| 45. ....                           | 35.70                                            | 33.29     | 32.58     | 31.94     | 29.31     | 28.14     | 26.07     | 23.89     | 21.39     | 22.61     | 20.43     | 21.36     |
| 50. ....                           | 31.32                                            | 29.06     | 28.38     | 27.84     | 25.52     | 24.31     | 22.67     | 20.95     | 18.60     | 19.76     | 17.65     | 18.67     |
| 55. ....                           | 27.14                                            | 25.01     | 24.41     | 24.00     | 21.97     | 20.89     | 19.62     | 18.38     | 16.27     | 17.09     | 14.98     | 15.88     |
| 60. ....                           | 23.16                                            | 21.20     | 20.71     | 20.42     | 18.66     | 17.83     | 16.95     | 16.10     | 14.22     | 14.69     | 12.78     | 13.60     |
| 65. ....                           | 19.36                                            | 17.65     | 17.37     | 17.13     | 15.67     | 15.12     | 14.54     | 13.95     | 12.24     | 12.41     | 10.82     | 11.38     |
| 70. ....                           | 15.82                                            | 14.41     | 14.32     | 14.05     | 13.02     | 12.46     | 12.29     | 11.82     | 10.38     | 10.25     | 9.22      | 9.62      |
| 75. ....                           | 12.54                                            | 11.49     | 11.56     | 11.37     | 10.85     | 10.10     | 10.15     | 9.81      | 8.62      | 8.37      | 7.55      | 7.90      |
| 80. ....                           | 9.62                                             | 8.96      | 9.05      | 8.95      | 8.87      | 7.66      | 8.15      | 8.02      | 6.90      | 6.58      | 6.05      | 6.48      |
| 85. ....                           | 7.19                                             | 6.86      | 6.99      | 7.09      | 7.00      | 5.44      | 6.15      | 6.41      | 5.48      | 5.22      | 5.09      | 5.10      |
| 90. ....                           | 5.29                                             | 5.16      | 5.24      | 5.47      | 5.41      | 3.52      | 4.13      | 4.96      | 4.20      | 4.07      | 4.50      | 4.01      |
| 95. ....                           | 3.86                                             | 3.84      | 3.97      | 4.30      | 4.58      | 2.43      | 2.74      | 3.71      | 3.09      | 3.18      | 3.45      | 3.15      |
| 100. ....                          | 2.85                                             | 2.84      | 2.97      | 3.69      | 4.20      | 1.91      | 1.94      | 2.70      | 2.04      | 2.23      | 2.39      | 2.49      |

<sup>1</sup>For 1939–1941 and 1949–1951, data shown are for the entire nonwhite population. During these periods, life tables were not constructed separately for the black population. See Technical Notes.  
SOURCE: CDC/NCHS, National Vital Statistics System.

## Technical Notes

### The life table program

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

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

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 (10). The methodology used to estimate the 2008–2011 life tables is different from that used to produce the 2000–2007 life tables with respect to the technique used to estimate the probabilities of death for ages over 65. The methodology used for 2008–2011 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 (10).

A full description of the methodology used to estimate the 2011 life tables is provided below. See "United States Life Tables, 2005" (9) for a detailed description of the methodology used for data years 2000–2007.

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

### Geographic coverage

The geographic areas covered in life tables before 1929–1931 were limited to death-registration areas. Life tables for 1900–1902 and 1909–1911 were constructed using mortality data from the 1900 death-registration states (10 states and the District of Columbia), 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 included 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 values for those years published in Vital Statistics of the United States for 1989 and earlier (<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 2008–2011 life tables. As a result, the values may differ from those previously published in annual final mortality and life table reports (14).

### New Jersey data, 1962–1964

The life tables for 1962 and 1963 for the six population groups involving race do not include data from New Jersey, which omitted the item on race from its certificates of live birth, death, and fetal death in use at the beginning of 1962. The item was restored during the latter part of 1962. However, the certificate revision without this item was used for most of 1962, as well as for 1963. For computing vital rates, populations by age, race, and sex (excluding New Jersey) were estimated in order to obtain comparable denominators. Approximately 7% of the New Jersey death records for 1964 did not contain the race designation. When the records were being electronically processed for this state, the "race not stated" deaths were allocated proportionally to white or to black.

### Nonresidents

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

### Estimation of life table functions

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

population during the periods 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:

| <i>Years</i>        | <i>Race and sex</i>                           |
|---------------------|-----------------------------------------------|
| 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 (15):

| <i>Years</i>        | <i>Race and sex</i> |
|---------------------|---------------------|
| 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 2011 collected from death certificates filed in state vital statistics offices and reported to NCHS as part of NVSS. Race and Hispanic origin are reported separately on the death certificate.

The U.S. Standard Certificate of Death was revised in 2003, and its race and Hispanic origin items reflect the mandate of the 1997 Office of Management and Budget (OMB) standards (16). This revision allowed individuals to report more than one race and increased the race choices from four to five by separating the Asian and Pacific Islander groups. In 2011, 38 states and the District of Columbia had

adopted the 1997 OMB standards, while 12 others continued to collect race and ethnicity data according to the 1977 OMB standards (17). To attain uniformity and comparability during the transition period until all states implement the 1997 standards, multiple-race responses are “bridged” back to the 1977 single-race standard, and Asian and Pacific Islander groups are combined according to the 1977 standards. The bridging procedure is the same as that used to bridge multiple-race population estimates, as discussed below (18).

**Census population data**

The population data used to estimate the life tables shown in this report were produced under a collaborative agreement with the U.S. Census Bureau and are consistent with the postcensal estimates of the 2010 census. Reflecting the 1997 OMB guidelines on race and ethnicity reporting (16), 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 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 2011, it was necessary to bridge the reported population data for multiple-race persons back 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 Native Hawaiian or other Pacific Islander persons as a combined category (Asian or Pacific Islander) and to reflect age as of the census reference date (19). The procedures used to produce the bridged populations are described elsewhere (18).

**Medicare data**

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

To estimate death rates for the Medicare white, black, non-Hispanic white, and non-Hispanic black populations in 2011, age-specific numbers of deaths and population counts by sex and race for the population aged 66–99 from the 2013 and 2014 Medicare files were used. The data files are created by CMS for the Social Security Administration, which under a special agreement shares the files



with NCHS. The 2013 file contains final Medicare population counts as of January 1, 2011, and the 2014 file contains final Medicare population counts as of January 1, 2012, and final Medicare death counts as of January 1, 2011. Medicare death data are reported on a calendar year age basis, by subtracting the year of birth from the year of death. As a result, for a given reporting year, deaths reported as age  $x$  are on average exact age  $x - 1/2$  as of January 1 of the reporting year. Medicare enrollment (population) data are reported on an age-at-last-birthday basis. As a result, persons with reported age  $x$  as of January 1 of the reporting year are on average exact age  $x + 1/2$ .

## Preliminary adjustment of the data

### Adjustments for unknown age

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

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

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 by the number of deaths in each age group. Table I shows values for  $F$ , by sex, used to adjust mortality data for the total, white, black, Hispanic, non-Hispanic white, and non-Hispanic black populations in 2011.

### Adjustment for misclassification of race and Hispanic origin on death certificates

The latest research to evaluate race and Hispanic origin reporting on U.S. death certificates found that the misclassification of race and Hispanic origin on death certificates in the United States accounts for a net underestimate of 5% for total Hispanic deaths, a net underestimate of 1% for total non-Hispanic black deaths, and a net overestimate of less than one-half percent for non-Hispanic white deaths, but no underestimate for the population racially classified as white or black, irrespective of Hispanic origin (12,13). These results are based on a comparison of self-reported race and Hispanic origin from the U.S. Census Bureau's Current Population Surveys (CPS) with race and Hispanic origin reported on the death certificates of a sample of decedents in the National Longitudinal Mortality Study (NLMS) who died during the period 1990–1998 (12,13).

NLMS-linked records are used to estimate sex- and age-specific ratios of CPS race and Hispanic origin counts to death certificate counts (12,13). The CPS/death certificate ratio, or “classification ratio,” is specifically the ratio of the weighted count of self-reported race and ethnicity on the CPS to the weighted count of the same racial or ethnic category on the death certificates of the sample of NLMS decedents described above. It can be interpreted as the net difference in assignment of a specific race and Hispanic origin category between the two classification systems and can be used

**Table I. Values for  $F$  used to adjust for not-stated age based on 2011 mortality data**

| Race, Hispanic origin, and sex | Total deaths | Total deaths for which age was not stated | $F$        |
|--------------------------------|--------------|-------------------------------------------|------------|
| Total .....                    | 2,515,458    | 134                                       | 1.00005327 |
| Male .....                     | 1,254,978    | 99                                        | 1.00007889 |
| Female .....                   | 1,260,480    | 35                                        | 1.00002777 |
| White .....                    | 2,156,077    | 99                                        | 1.00004592 |
| Male .....                     | 1,071,966    | 75                                        | 1.00006997 |
| Female .....                   | 1,084,111    | 24                                        | 1.00002214 |
| Black .....                    | 290,100      | 27                                        | 1.00009308 |
| Male .....                     | 146,884      | 20                                        | 1.00013618 |
| Female .....                   | 143,216      | 7                                         | 1.00004888 |
| Hispanic .....                 | 149,635      | 9                                         | 1.00006015 |
| Male .....                     | 81,887       | 8                                         | 1.00009771 |
| Female .....                   | 67,748       | 1                                         | 1.00001476 |
| Non-Hispanic white .....       | 2,006,319    | 58                                        | 1.00002891 |
| Male .....                     | 989,835      | 44                                        | 1.00004445 |
| Female .....                   | 1,016,484    | 14                                        | 1.00001377 |
| Non-Hispanic black .....       | 286,797      | 22                                        | 1.00007672 |
| Male .....                     | 145,052      | 16                                        | 1.00011032 |
| Female .....                   | 141,745      | 6                                         | 1.00004233 |

SOURCE: CDC/NCHS, National Vital Statistics System.

as a correction factor for race and Hispanic origin misclassification (12,13). The assumption is made that the race and ethnicity reported by a CPS respondent is more reliable than proxy reporting of race and ethnicity by a funeral director who has little personal knowledge of the decedent. Further, public policy embodied in the 1997 OMB standards mandate that self-identification should be the standard used for the collection and recording of race and ethnicity information (16).

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

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

where  ${}_nD_x^F$  is the age-specific number of deaths adjusted for unknown age as described above,  ${}_nCR_x$  are the sex-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-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 2010 and 2011 linked birth/infant death data files rather than the traditional birth and death data files (22,23). In the linked file, each infant death record is linked to its corresponding birth record so that the race and ethnicity reported on the birth record can be ascribed to the infant death record. As a result, race- and ethnicity-specific infant mortality rates estimated

**Table II. Classification ratios, by Hispanic origin, race, age, and sex**

| Age (years)    | Hispanic |         |         | Non-Hispanic white |        |        | Non-Hispanic black |        |         |
|----------------|----------|---------|---------|--------------------|--------|--------|--------------------|--------|---------|
|                | Total    | Male    | Female  | Total              | Male   | Female | Total              | Male   | Female  |
| All ages       | 1.0501   | 1.0415  | 1.0614  | 0.9960             | 0.9954 | 0.9966 | 1.0055             | 1.0066 | 1.0043  |
| 0 <sup>1</sup> | 1.0200   | 1.0149  | 1.0561  | 0.9962             | 0.9979 | 0.9929 | 1.0467             | 1.0477 | 1.0438  |
| 1–14           | *0.9198  | *1.0000 | *0.7994 | 0.9930             | 0.9869 | 1.0011 | 1.0200             | 1.0000 | *1.0689 |
| 15–24          | 0.9650   | 0.9770  | 0.9290  | 1.0032             | 1.0040 | 1.0010 | 0.9997             | 0.9996 | 1.0000  |
| 25–34          | 1.0189   | 1.0542  | 0.9288  | 0.9975             | 0.9872 | 1.0212 | 1.0043             | 1.0034 | 1.0060  |
| 35–44          | 1.0803   | 1.0863  | 1.0657  | 0.9902             | 0.9864 | 0.9971 | 1.0066             | 1.0081 | 1.0045  |
| 45–54          | 1.0501   | 1.0152  | 1.1208  | 0.9938             | 0.9943 | 0.9930 | 1.0023             | 1.0144 | 0.9880  |
| 55–64          | 1.0260   | 1.0291  | 1.0216  | 0.9932             | 0.9915 | 0.9958 | 1.0135             | 1.0174 | 1.0087  |
| 65–74          | 1.0700   | 1.0640  | 1.0779  | 0.9950             | 0.9961 | 0.9935 | 1.0036             | 0.9979 | 1.0095  |
| 75–84          | 1.0473   | 1.0316  | 1.0651  | 0.9967             | 0.9964 | 0.9971 | 1.0040             | 1.0058 | 1.0023  |
| 85–94          | 1.0468   | 1.0261  | 1.0614  | 0.9978             | 0.9975 | 0.9979 | 1.0083             | 1.0101 | 1.0072  |
| 95 and over    | 1.1277   | 1.1700  | 1.1000  | 0.9981             | 0.9927 | 0.9998 | 0.9979             | 1.0300 | 0.9881  |

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

<sup>1</sup>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 2011 linked birth/infant death data file. Ratios are shown for illustration purposes only; see text for details.

SOURCE: CDC/NCHS, National Vital Statistics System.

with the linked file do not suffer from the problem of racial and ethnic discrepancies between the numerator and denominator of the rate. A ratio of infant mortality rates based on the traditional birth and death data files to infant mortality rates based on the linked birth/infant death data file shows that using the traditional files overestimates the infant mortality rate by 2% for Hispanic infants and by 5% for non-Hispanic black infants. There is no significant difference in the rates for non-Hispanic white infants (see ratios for age 0 in Table II). Because the probability of death at age 0 used to calculate the life table uses live births in the denominator (procedure described below), it is preferable to use the linked birth/infant death data file.

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

### Interpolation of $P_x$ and $D_x$

Anomalies—both random and those associated with reporting age at death—can be problematic when using vital statistics and census data by single years of age to estimate the probability of death (1,8). Graduation techniques are often used to eliminate these anomalies and to derive a smooth curve by age. 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 8 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,  $m_x$  (3,25). In the life table cohort,

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

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

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

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,

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

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,

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

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

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

where  $D_0$  is the number of infant deaths adjusted for not-stated age in 2011,  $B^t$  is the number of live births in 2011, and  $B^{t-1}$  is the number of live births in 2010. Table III shows separation factors and numbers of births for 2010–2011.

## 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:

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

when  $x = 66, \dots, 94$

and  $M_x = M_x^M$

when  $x = 95, \dots, 99$ .

[7]

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

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

where

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

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

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 to predict  $M_x$  in the age range 100–120 (26). The start of the modeled age range varies by race- and ethnicity-specific population because it is a function of the age at which the rate of change in the age-specific death rates peaks. In current times, the rate of change in the age-specific death rate rises steadily up to approximately ages 80–85 or so and then begins to decline. As a result, it is difficult to model a large age span, such as 65–100, with one simple model without oversmoothing and thus altering the underlying mortality pattern observed in the population of interest (27). Further, because 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—it is unnecessary to model (smooth) the entire age span (65–100 years).

The Kannisto model (26) 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,  $x$ . It is expressed as:

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

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  $m_x = M_x$ , 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:

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

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

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

where  $a$  and  $b$  are the predicted values of parameters  $\ln(\alpha)$  and  $\beta$ , respectively, given by fitting model [9]. Estimated parameters, and the starting age for the modeled age span, by population in 2011, are presented in Table IV.

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

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

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 2010 and 2011, deaths in 2011 of infants born in 2010 and 2011, and separation factors, by race, Hispanic origin, and sex: United States**

| Births                             | 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  |
| 2010.....                          | 3,999,386  | 2,046,935 | 1,952,451 | 3,069,315  | 1,571,470 | 1,497,845 | 636,425    | 323,956 | 312,469 | 945,180    | 481,328 | 463,852 | 2,162,406          | 1,109,384 | 1,053,022 | 589,808            | 300,487 | 289,321 |
| 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 |
| Deaths in 2011 of infants born in: |            |           |           |            |           |           |            |         |         |            |         |         |                    |           |           |                    |         |         |
| 2010.....                          | 2,987      | 1,724     | 1,263     | 1,870      | 1,055     | 815       | 954        | 575     | 379     | 568        | 312     | 258     | 1,328              | 762       | 566       | 880                | 527     | 353     |
| 2011.....                          | 20,998     | 11,603    | 9,395     | 13,590     | 7,528     | 6,062     | 6,330      | 3,482   | 2,848   | 4,164      | 2,266   | 1,896   | 9,558              | 5,331     | 4,227     | 5,790              | 3,181   | 2,610   |
| Separation factor, <i>f</i>        | 0.125      | 0.129     | 0.119     | 0.121      | 0.123     | 0.119     | 0.131      | 0.142   | 0.117   | 0.120      | 0.121   | 0.120   | 0.122              | 0.125     | 0.118     | 0.132              | 0.142   | 0.119   |

SOURCE: CDC/NCHS, National Vital Statistics System.

**Table IV. Estimated parameters  $\alpha$  and  $\beta$  used for predicting  $m_x$  and starting age of modeled age span: U.S. Life Tables, 2011**

| 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         | 84        | 85        | 85         | 84        | 85        | 83         | 82        | 83        | 85                 | 84        | 85        | 83                 | 82        | 83        |
| $\ln(\alpha)$ ..... | -13.07565  | -12.94048 | -13.76136 | -13.32123  | -13.20902 | -13.99938 | -10.60132  | -10.01453 | -11.30589 | -13.29764          | -13.05735 | -13.97814 | -10.37878          | -9.919592 | -11.23979 |
| (SE)                | (0.098)    | (0.192)   | (0.083)   | (0.075)    | (0.149)   | (0.066)   | (0.092)    | (0.107)   | (0.098)   | (0.074)            | (0.132)   | (0.064)   | (0.129)            | (0.108)   | (0.093)   |
| $\beta$ .....       | 0.1263788  | 0.1270152 | 0.1328977 | 0.129289   | 0.1302069 | 0.1357093 | 0.0978717  | 0.0936442 | 0.1047234 | 0.1290456          | 0.1285412 | 0.1354899 | 0.0954403          | 0.0926563 | 0.1040413 |
| (SE)                | (0.001)    | (0.002)   | (0.001)   | (0.008)    | (0.002)   | (0.001)   | (0.001)    | (0.001)   | (0.001)   | (0.001)            | (0.001)   | (0.001)   | (0.001)            | (0.001)   | (0.001)   |

NOTE: SE is standard error.

SOURCE: CDC/NCHS, National Vital Statistics System.

## Probabilities of dying at the oldest ages for the Hispanic population

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

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

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

$$\bar{Y}_x = \alpha + \beta Y_x^s \quad [12]$$

where  $\bar{Y}_x$  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,

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

$\alpha$  is the predicted parameter that measures the level of mortality of the population of interest relative to the standard population, and  $\beta$  is the predicted parameter that measures the slope of the mortality function of the population of interest relative to the standard population (3,29–31). Table V shows values of predicted  $\alpha$  and  $\beta$  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  $\alpha$  and  $\beta$  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

**Table V. Estimated Brass relational logit model parameters  $\alpha$  and  $\beta$  for the Hispanic origin population, 2011**

| Parameter          | Total (SE)         | Male (SE)         | Female (SE)        |
|--------------------|--------------------|-------------------|--------------------|
| $\alpha$ . . . . . | -0.1856232 (0.019) | -0.201624 (0.033) | -0.0953808 (0.019) |
| $\beta$ . . . . .  | 1.018098 (0.005)   | 1.005779 (0.009)  | 1.045456 (0.004)   |

NOTE: SE is standard error.

SOURCE: CDC/NCHS, National Vital Statistics System.

the age category 100 and over, combined (discussed below).

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

$$\bar{q}_x = \frac{\exp[\bar{Y}_x]}{1 + \exp[\bar{Y}_x]} = \frac{\exp[\alpha + \beta Y_x^s]}{1 + \exp[\alpha + \beta Y_x^s]} \quad [13]$$

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

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

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

Finally, to close the table at age 100 and over (combined),  ${}_0q_{100}$  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

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

### Decrement function ( $d_x$ )

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

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

Note that  ${}_0d_{100} = {}_0l_{100}$  because  ${}_0q_{100} = 1.0$ .

### 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

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

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

$$L_0 = fl_0 + (1 - f)l_1 \tag{18}$$

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  $x$ :

$$T_x = \sum_{x=0}^{\infty} L_x \tag{19}$$

Life expectancy at age  $x$  ( $e_x$ )

Life expectancy at exact age  $x$  is calculated as

$$e_x = \frac{T_x}{l_x} \tag{20}$$

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 easily be 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 2011 U.S. total population abridged from Table 1.

Table VI. Life table for the total population: United States, 2011

| Age (years)  | Probability of dying<br>between ages $x$ and<br>$x + n$ | Number surviving to<br>age $x$ | Number dying<br>between ages $x$ and<br>$x + n$ | Person-years lived<br>between ages $x$ and<br>$x + n$ | Total number of<br>person-years lived<br>above age $x$ | Expectation of life at<br>age $x$ |
|--------------|---------------------------------------------------------|--------------------------------|-------------------------------------------------|-------------------------------------------------------|--------------------------------------------------------|-----------------------------------|
|              | ${}_nq_x$                                               |                                | ${}_nd_x$                                       | ${}_nL_x$                                             | $T_x$                                                  | $e_x$                             |
| 0–1          | 0.006058                                                | 100,000                        | 606                                             | 99,470                                                | 7,870,915                                              | 78.7                              |
| 1–5          | 0.001054                                                | 99,394                         | 105                                             | 397,328                                               | 7,771,445                                              | 78.2                              |
| 5–10         | 0.000603                                                | 99,289                         | 60                                              | 496,283                                               | 7,374,117                                              | 74.3                              |
| 10–15        | 0.000709                                                | 99,230                         | 70                                              | 496,013                                               | 6,877,834                                              | 69.3                              |
| 15–20        | 0.002438                                                | 99,159                         | 242                                             | 495,273                                               | 6,381,822                                              | 64.4                              |
| 20–25        | 0.004296                                                | 98,917                         | 425                                             | 493,571                                               | 5,886,549                                              | 59.5                              |
| 25–30        | 0.004824                                                | 98,493                         | 475                                             | 491,294                                               | 5,392,978                                              | 54.8                              |
| 30–35        | 0.005638                                                | 98,017                         | 553                                             | 488,740                                               | 4,901,685                                              | 50.0                              |
| 35–40        | 0.006985                                                | 97,465                         | 681                                             | 485,700                                               | 4,412,945                                              | 45.3                              |
| 40–45        | 0.010006                                                | 96,784                         | 968                                             | 481,668                                               | 3,927,245                                              | 40.6                              |
| 45–50        | 0.016018                                                | 95,816                         | 1,535                                           | 475,517                                               | 3,445,577                                              | 36.0                              |
| 50–55        | 0.024459                                                | 94,281                         | 2,306                                           | 465,966                                               | 2,970,060                                              | 31.5                              |
| 55–60        | 0.035105                                                | 91,975                         | 3,229                                           | 452,219                                               | 2,504,094                                              | 27.2                              |
| 60–65        | 0.049332                                                | 88,746                         | 4,378                                           | 433,313                                               | 2,051,875                                              | 23.1                              |
| 65–70        | 0.073302                                                | 84,368                         | 6,184                                           | 407,261                                               | 1,618,562                                              | 19.2                              |
| 70–75        | 0.110899                                                | 78,184                         | 8,670                                           | 370,409                                               | 1,211,301                                              | 15.5                              |
| 75–80        | 0.172927                                                | 69,513                         | 12,021                                          | 319,047                                               | 840,892                                                | 12.1                              |
| 80–85        | 0.274121                                                | 57,493                         | 15,760                                          | 249,399                                               | 521,844                                                | 9.1                               |
| 85–90        | 0.429759                                                | 41,733                         | 17,935                                          | 163,851                                               | 272,446                                                | 6.5                               |
| 90–95        | 0.617742                                                | 23,798                         | 14,701                                          | 79,680                                                | 108,595                                                | 4.6                               |
| 95–100       | 0.788076                                                | 9,097                          | 7,169                                           | 24,533                                                | 28,915                                                 | 3.2                               |
| 100 and over | 1.000000                                                | 1,928                          | 1,928                                           | 4,382                                                 | 4,382                                                  | 2.3                               |

SOURCE: CDC/NCHS, National Vital Statistics System.



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

FIRST CLASS MAIL  
POSTAGE & FEES PAID  
CDC/NCHS  
PERMIT NO. G-284

OFFICIAL BUSINESS  
PENALTY FOR PRIVATE USE, \$300

For more NCHS NVSRs, visit:  
<http://www.cdc.gov/nchs/products/nvsr.htm>.



National Vital Statistics Reports, Vol. 64, No. 11, September 22, 2015

Contents

Abstract .....1  
Introduction .....1  
Data and Methods .....1  
    Expectation of life .....2  
    Survivors to specified ages .....2  
    Explanation of the columns of the life table .....2  
Results .....2  
    Life expectancy in the United States .....2  
    Survivorship in the United States .....6  
References .....7  
List of Detailed Tables .....8  
Technical Notes .....55

Acknowledgments

The author is grateful for the helpful comments provided by Robert N. Anderson, Mortality Statistics Branch (MSB), Division of Vital Statistics (DVS); Hanyu Ni, DVS; and Jennifer Madans, Office of the Director. This report was prepared under the general direction of Delton Atkinson, Director, DVS; and Robert N. Anderson, Chief, MSB. Content review was provided by Melonie Heron, MSB.

This document is hereby certified as an official federal document and is fully admissible as evidence in federal court. Under Federal Rule of Evidence 902: “Self-authentication” (FED.R.EVID.902), no extrinsic evidence of authenticity, that is, seal or stamp, is required as a condition for admissibility of this document as evidence in court.

Suggested citation

Arias E. United States life tables, 2011.  
National vital statistics reports; vol 64 no 11.  
Hyattsville, MD: National Center for Health  
Statistics. 2015.

Copyright information

All material appearing in this report is in the  
public domain and may be reproduced or  
copied without permission; citation as to  
source, however, is appreciated.

National Center for Health Statistics

Charles J. Rothwell, M.S., M.B.A., *Director*  
Nathaniel Schenker, Ph.D., *Deputy Director*  
Jennifer H. Madans, Ph.D., *Associate Director*  
*for Science*

Division of Vital Statistics

Delton Atkinson, M.P.H., M.P.H., P.M.P.,  
*Director*