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## United States Life Tables, 2008

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### Abstract

**Objectives**—This report presents complete period life tables for the United States by race, Hispanic origin, and sex, based on age-specific death rates in 2008.

**Methods**—Data used to prepare the 2008 life tables are 2008 final mortality statistics; July 1, 2008, population estimates based on the 2000 decennial census; and 2008 Medicare data for persons aged 66–99. The methodology used to estimate the 2008 life tables has been revised from that used for data years 2000–2007. The methodology was refined in two important ways. First, a logistic model rather than a nonlinear least squares model was used to smooth and extrapolate the vital statistics and Medicare blended death rates at the oldest ages. Second, the age at which smoothing is begun was raised from 66 to 85 or so, depending on the population. This modification applies to the life tables for the total population and for the white, black, non-Hispanic white, and non-Hispanic black populations. 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 2008, the overall expectation of life at birth was 78.1 years. Between 2007 and 2008, life expectancy at birth increased for all groups considered, although approximately 0.1 years of the increase is due to the change in methodology. Life expectancy increased for both males (from 75.4 to 75.6) and females (80.4 to 80.6) and for the white population (78.4 to 78.5), the black population (73.6 to 74.0), the Hispanic population (80.9 to 81.0), the non-Hispanic white population (78.2 to 78.4), and the non-Hispanic black population (73.2 to 73.7).

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

### Introduction

There are two types of U.S. life tables: the cohort (or generation) life table and the period (or current) life table. The cohort life table presents the mortality experience of a particular birth cohort—all persons born in the year 1900, for example—from the moment of birth through consecutive ages in successive calendar years. Based

The **Technical Notes** section of this report has been updated (see page 60, left column, last paragraph) to facilitate replication of this work.

on age-specific death rates observed through consecutive calendar years, the cohort life table reflects the mortality experience of an actual cohort from birth until no lives remain in the group. To prepare just a single complete cohort life table requires data over many years. It is usually not feasible to construct cohort life tables entirely on the basis of observed data for real cohorts due to data unavailability or incompleteness (1). For example, a life table representation of the mortality experience of a cohort of persons born in 1970 would require the use of data projection techniques to estimate deaths into the future (2,3).

Unlike the cohort life table, the period life table does not represent the mortality experience of an actual birth cohort. Rather, the period life table presents what would happen to a hypothetical cohort if it experienced throughout its entire life the mortality conditions of a particular period in time. For example, a period life table for 2008 assumes a hypothetical cohort that is subject throughout its lifetime to the age-specific death rates prevailing for the actual population in 2008. The period life table may thus be characterized as rendering a “snapshot” of current mortality experience and shows the long-range implications of a set of age-specific death rates that prevailed in a given year. In this report the term “life table” refers only to the period life table and not to the cohort life table.

Life tables can be classified in two ways according to the length of the age interval in which data are presented. A *complete* life table contains data for every single year of age. An *abridged* life table typically contains data by 5- or 10-year age intervals. A complete life table, of course, can easily be aggregated into 5- or 10-year age groups (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.

### Data and Methods

The data used to prepare the U.S. life tables for 2008 are final numbers of deaths for the year 2008, postcensal population estimates for the year 2008, and age-specific death and population



**Table 13. Life table for the non-Hispanic white population: United States, 2008**Spreadsheet version available from: [ftp://ftp.cdc.gov/pub/Health\\_Statistics/NCHS/Publications/NVS/61\\_03/Table13.xls](ftp://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVS/61_03/Table13.xls).

| Age (years) | Probability<br>of dying<br>between<br>ages $x$ and $x + 1$ | Number<br>surviving to<br>age $x$ | Number<br>dying<br>between<br>ages $x$ and $x + 1$ | Person-years<br>lived<br>between<br>ages $x$ and $x + 1$ | Total<br>number of<br>person-years<br>lived above<br>age $x$ | Expectation<br>of life<br>at age $x$ |
|-------------|--|-----------------------------------|--|--|--|--------------------------------------|
|             | $q_x$  | $l_x$                             | $d_x$  | $L_x$  | $T_x$  | $e_x$                                |
| 0–1         | 0.005503   | 100,000                           | 550  | 99,520   | 7,837,249  | 78.4                                 |
| 1–2         | 0.000425   | 99,450                            | 42   | 99,429   | 7,737,729  | 77.8                                 |
| 2–3         | 0.000259   | 99,407                            | 26   | 99,395   | 7,638,300  | 76.8                                 |
| 3–4         | 0.000201   | 99,382                            | 20   | 99,372   | 7,538,906  | 75.9                                 |
| 4–5         | 0.000153   | 99,362                            | 15   | 99,354   | 7,439,534  | 74.9                                 |
| 5–6         | 0.000141   | 99,347                            | 14   | 99,340   | 7,340,180  | 73.9                                 |
| 6–7         | 0.000128   | 99,333                            | 13   | 99,326   | 7,240,840  | 72.9                                 |
| 7–8         | 0.000116   | 99,320                            | 12   | 99,314   | 7,141,514  | 71.9                                 |
| 8–9         | 0.000102   | 99,308                            | 10   | 99,303   | 7,042,200  | 70.9                                 |
| 9–10        | 0.000085   | 99,298                            | 8  | 99,294   | 6,942,897  | 69.9                                 |
| 10–11       | 0.000073   | 99,290                            | 7  | 99,286   | 6,843,603  | 68.9                                 |
| 11–12       | 0.000078   | 99,282                            | 8  | 99,279   | 6,744,317  | 67.9                                 |
| 12–13       | 0.000112   | 99,275                            | 11   | 99,269   | 6,645,038  | 66.9                                 |
| 13–14       | 0.000182   | 99,264                            | 18   | 99,255   | 6,545,769  | 65.9                                 |
| 14–15       | 0.000274   | 99,245                            | 27   | 99,232   | 6,446,515  | 65.0                                 |
| 15–16       | 0.000369   | 99,218                            | 37   | 99,200   | 6,347,283  | 64.0                                 |
| 16–17       | 0.000457   | 99,182                            | 45   | 99,159   | 6,248,083  | 63.0                                 |
| 17–18       | 0.000542   | 99,136                            | 54   | 99,110   | 6,148,924  | 62.0                                 |
| 18–19       | 0.000621   | 99,083                            | 62   | 99,052   | 6,049,814  | 61.1                                 |
| 19–20       | 0.000696   | 99,021                            | 69   | 98,987   | 5,950,762  | 60.1                                 |
| 20–21       | 0.000776   | 98,952                            | 77   | 98,914   | 5,851,776  | 59.1                                 |
| 21–22       | 0.000852   | 98,875                            | 84   | 98,833   | 5,752,862  | 58.2                                 |
| 22–23       | 0.000907   | 98,791                            | 90   | 98,746   | 5,654,029  | 57.2                                 |
| 23–24       | 0.000930   | 98,702                            | 92   | 98,656   | 5,555,282  | 56.3                                 |
| 24–25       | 0.000931   | 98,610                            | 92   | 98,564   | 5,456,627  | 55.3                                 |
| 25–26       | 0.000926   | 98,518                            | 91   | 98,472   | 5,358,063  | 54.4                                 |
| 26–27       | 0.000926   | 98,427                            | 91   | 98,381   | 5,259,590  | 53.4                                 |
| 27–28       | 0.000931   | 98,336                            | 92   | 98,290   | 5,161,209  | 52.5                                 |
| 28–29       | 0.000946   | 98,244                            | 93   | 98,198   | 5,062,920  | 51.5                                 |
| 29–30       | 0.000972   | 98,151                            | 95   | 98,103   | 4,964,722  | 50.6                                 |
| 30–31       | 0.001007   | 98,056                            | 99   | 98,006   | 4,866,619  | 49.6                                 |
| 31–32       | 0.001047   | 97,957                            | 103  | 97,906   | 4,768,612  | 48.7                                 |
| 32–33       | 0.001096   | 97,854                            | 107  | 97,801   | 4,670,706  | 47.7                                 |
| 33–34       | 0.001138   | 97,747                            | 111  | 97,692   | 4,572,906  | 46.8                                 |
| 34–35       | 0.001184   | 97,636                            | 116  | 97,578   | 4,475,214  | 45.8                                 |
| 35–36       | 0.001240   | 97,520                            | 121  | 97,460   | 4,377,636  | 44.9                                 |
| 36–37       | 0.001310   | 97,399                            | 128  | 97,336   | 4,280,176  | 43.9                                 |
| 37–38       | 0.001392   | 97,272                            | 135  | 97,204   | 4,182,840  | 43.0                                 |
| 38–39       | 0.001492   | 97,136                            | 145  | 97,064   | 4,085,636  | 42.1                                 |
| 39–40       | 0.001612   | 96,991                            | 156  | 96,913   | 3,988,572  | 41.1                                 |
| 40–41       | 0.001743   | 96,835                            | 169  | 96,751   | 3,891,659  | 40.2                                 |
| 41–42       | 0.001892   | 96,666                            | 183  | 96,575   | 3,794,908  | 39.3                                 |
| 42–43       | 0.002077   | 96,483                            | 200  | 96,383   | 3,698,333  | 38.3                                 |
| 43–44       | 0.002297   | 96,283                            | 221  | 96,172   | 3,601,950  | 37.4                                 |
| 44–45       | 0.002538   | 96,062                            | 244  | 95,940   | 3,505,778  | 36.5                                 |
| 45–46       | 0.002779   | 95,818                            | 266  | 95,685   | 3,409,838  | 35.6                                 |
| 46–47       | 0.003019   | 95,552                            | 289  | 95,407   | 3,314,153  | 34.7                                 |
| 47–48       | 0.003273   | 95,263                            | 312  | 95,107   | 3,218,746  | 33.8                                 |
| 48–49       | 0.003549   | 94,951                            | 337  | 94,783   | 3,123,638  | 32.9                                 |
| 49–50       | 0.003850   | 94,614                            | 364  | 94,432   | 3,028,855  | 32.0                                 |
| 50–51       | 0.004180   | 94,250                            | 394  | 94,053   | 2,934,423  | 31.1                                 |
| 51–52       | 0.004523   | 93,856                            | 425  | 93,644   | 2,840,370  | 30.3                                 |
| 52–53       | 0.004868   | 93,432                            | 455  | 93,204   | 2,746,726  | 29.4                                 |
| 53–54       | 0.005207   | 92,977                            | 484  | 92,735   | 2,653,522  | 28.5                                 |
| 54–55       | 0.005552   | 92,493                            | 514  | 92,236   | 2,560,787  | 27.7                                 |
| 55–56       | 0.005919   | 91,979                            | 544  | 91,707   | 2,468,551  | 26.8                                 |
| 56–57       | 0.006333   | 91,435                            | 579  | 91,145   | 2,376,844  | 26.0                                 |
| 57–58       | 0.006818   | 90,856                            | 619  | 90,546   | 2,285,699  | 25.2                                 |
| 58–59       | 0.007391   | 90,236                            | 667  | 89,903   | 2,195,153  | 24.3                                 |
| 59–60       | 0.008043   | 89,569                            | 720  | 89,209   | 2,105,250  | 23.5                                 |
| 60–61       | 0.008767   | 88,849                            | 779  | 88,459   | 2,016,041  | 22.7                                 |
| 61–62       | 0.009542   | 88,070                            | 840  | 87,650   | 1,927,581  | 21.9                                 |
| 62–63       | 0.010360   | 87,230                            | 904  | 86,778   | 1,839,932  | 21.1                                 |

See footnote at end of table.

**Table 13. Life table for the non-Hispanic white population: United States, 2008—Con.**Spreadsheet version available from: [ftp://ftp.cdc.gov/pub/Health\\_Statistics/NCHS/Publications/NVS/61\\_03/Table13.xls](ftp://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVS/61_03/Table13.xls).

| Age (years)            | Probability<br>of dying<br>between<br>ages $x$ and $x + 1$ | Number<br>surviving to<br>age $x$ | Number<br>dying<br>between<br>ages $x$ and $x + 1$ | Person-years<br>lived<br>between<br>ages $x$ and $x + 1$ | Total<br>number of<br>person-years<br>lived above<br>age $x$ | Expectation<br>of life<br>at age $x$ |
|------------------------|--|-----------------------------------|--|--|--|--------------------------------------|
|                        | $q_x$  | $l_x$                             | $d_x$  | $L_x$  | $T_x$  | $e_x$                                |
| 63–64 . . . . .        | 0.011225   | 86,326                            | 969  | 85,841   | 1,753,154  | 20.3                                 |
| 64–65 . . . . .        | 0.012167   | 85,357                            | 1,039  | 84,838   | 1,667,313  | 19.5                                 |
| 65–66 . . . . .        | 0.013260   | 84,318                            | 1,118  | 83,759   | 1,582,475  | 18.8                                 |
| 66–67 . . . . .        | 0.014507   | 83,200                            | 1,207  | 82,597   | 1,498,716  | 18.0                                 |
| 67–68 . . . . .        | 0.015859   | 81,993                            | 1,300  | 81,343   | 1,416,119  | 17.3                                 |
| 68–69 . . . . .        | 0.017274   | 80,693                            | 1,394  | 79,996   | 1,334,776  | 16.5                                 |
| 69–70 . . . . .        | 0.018782   | 79,299                            | 1,489  | 78,554   | 1,254,780  | 15.8                                 |
| 70–71 . . . . .        | 0.020413   | 77,810                            | 1,588  | 77,015   | 1,176,226  | 15.1                                 |
| 71–72 . . . . .        | 0.022336   | 76,221                            | 1,702  | 75,370   | 1,099,211  | 14.4                                 |
| 72–73 . . . . .        | 0.024591   | 74,519                            | 1,832  | 73,602   | 1,023,841  | 13.7                                 |
| 73–74 . . . . .        | 0.027088   | 72,686                            | 1,969  | 71,702   | 950,238  | 13.1                                 |
| 74–75 . . . . .        | 0.029748   | 70,717                            | 2,104  | 69,665   | 878,537  | 12.4                                 |
| 75–76 . . . . .        | 0.032556   | 68,614                            | 2,234  | 67,497   | 808,871  | 11.8                                 |
| 76–77 . . . . .        | 0.035632   | 66,380                            | 2,365  | 65,197   | 741,374  | 11.2                                 |
| 77–78 . . . . .        | 0.039142   | 64,015                            | 2,506  | 62,762   | 676,177  | 10.6                                 |
| 78–79 . . . . .        | 0.043216   | 61,509                            | 2,658  | 60,180   | 613,415  | 10.0                                 |
| 79–80 . . . . .        | 0.047881   | 58,851                            | 2,818  | 57,442   | 553,235  | 9.4                                  |
| 80–81 . . . . .        | 0.052838   | 56,033                            | 2,961  | 54,553   | 495,794  | 8.8                                  |
| 81–82 . . . . .        | 0.058081   | 53,072                            | 3,082  | 51,531   | 441,241  | 8.3                                  |
| 82–83 . . . . .        | 0.064023   | 49,990                            | 3,200  | 48,390   | 389,710  | 7.8                                  |
| 83–84 . . . . .        | 0.071073   | 46,789                            | 3,325  | 45,127   | 341,320  | 7.3                                  |
| 84–85 . . . . .        | 0.078919   | 43,464                            | 3,430  | 41,749   | 296,194  | 6.8                                  |
| 85–86 . . . . .        | 0.087693   | 40,034                            | 3,511  | 38,278   | 254,445  | 6.4                                  |
| 86–87 . . . . .        | 0.097330   | 36,523                            | 3,555  | 34,746   | 216,167  | 5.9                                  |
| 87–88 . . . . .        | 0.108641   | 32,968                            | 3,582  | 31,177   | 181,421  | 5.5                                  |
| 88–89 . . . . .        | 0.120988   | 29,387                            | 3,555  | 27,609   | 150,244  | 5.1                                  |
| 89–90 . . . . .        | 0.134399   | 25,831                            | 3,472  | 24,095   | 122,635  | 4.7                                  |
| 90–91 . . . . .        | 0.148891   | 22,359                            | 3,329  | 20,695   | 98,539   | 4.4                                  |
| 91–92 . . . . .        | 0.164464   | 19,030                            | 3,130  | 17,465   | 77,845   | 4.1                                  |
| 92–93 . . . . .        | 0.181095   | 15,901                            | 2,880  | 14,461   | 60,379   | 3.8                                  |
| 93–94 . . . . .        | 0.198742   | 13,021                            | 2,588  | 11,727   | 45,918   | 3.5                                  |
| 94–95 . . . . .        | 0.217340   | 10,433                            | 2,268  | 9,299  | 34,191   | 3.3                                  |
| 95–96 . . . . .        | 0.236797   | 8,166                             | 1,934  | 7,199  | 24,892   | 3.0                                  |
| 96–97 . . . . .        | 0.257000   | 6,232                             | 1,602  | 5,431  | 17,693   | 2.8                                  |
| 97–98 . . . . .        | 0.277812   | 4,630                             | 1,286  | 3,987  | 12,262   | 2.6                                  |
| 98–99 . . . . .        | 0.299080   | 3,344                             | 1,000  | 2,844  | 8,275  | 2.5                                  |
| 99–100 . . . . .       | 0.320633   | 2,344                             | 752  | 1,968  | 5,431  | 2.3                                  |
| 100 and over . . . . . | 1.000000   | 1,592                             | 1,592  | 3,462  | 3,462  | 2.2                                  |

SOURCE: CDC/NCHS, National Vital Statistics System.

**Table 14. Life table for non-Hispanic white males: United States, 2008**Spreadsheet version available from: [ftp://ftp.cdc.gov/pub/Health\\_Statistics/NCHS/Publications/NVSR/61\\_03/Table14.xls](ftp://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/61_03/Table14.xls).

| Age (years) | Probability<br>of dying<br>between<br>ages $x$ and $x + 1$ | Number<br>surviving to<br>age $x$ | Number<br>dying<br>between<br>ages $x$ and $x + 1$ | Person-years<br>lived<br>between<br>ages $x$ and $x + 1$ | Total<br>number of<br>person-years<br>lived above<br>age $x$ | Expectation<br>of life<br>at age $x$ |
|-------------|--|-----------------------------------|--|--|--|--------------------------------------|
|             | $q_x$  | $l_x$                             | $d_x$  | $L_x$  | $T_x$  | $e_x$                                |
| 0–1         | 0.006000   | 100,000                           | 600  | 99,479   | 7,593,024  | 75.9                                 |
| 1–2         | 0.000455   | 99,400                            | 45   | 99,377   | 7,493,545  | 75.4                                 |
| 2–3         | 0.000296   | 99,355                            | 29   | 99,340   | 7,394,168  | 74.4                                 |
| 3–4         | 0.000243   | 99,325                            | 24   | 99,313   | 7,294,828  | 73.4                                 |
| 4–5         | 0.000164   | 99,301                            | 16   | 99,293   | 7,195,515  | 72.5                                 |
| 5–6         | 0.000157   | 99,285                            | 16   | 99,277   | 7,096,222  | 71.5                                 |
| 6–7         | 0.000141   | 99,269                            | 14   | 99,262   | 6,996,945  | 70.5                                 |
| 7–8         | 0.000126   | 99,255                            | 13   | 99,249   | 6,897,682  | 69.5                                 |
| 8–9         | 0.000107   | 99,243                            | 11   | 99,238   | 6,798,433  | 68.5                                 |
| 9–10        | 0.000086   | 99,232                            | 8  | 99,228   | 6,699,196  | 67.5                                 |
| 10–11       | 0.000070   | 99,224                            | 7  | 99,220   | 6,599,968  | 66.5                                 |
| 11–12       | 0.000078   | 99,217                            | 8  | 99,213   | 6,500,748  | 65.5                                 |
| 12–13       | 0.000127   | 99,209                            | 13   | 99,203   | 6,401,535  | 64.5                                 |
| 13–14       | 0.000224   | 99,196                            | 22   | 99,185   | 6,302,332  | 63.5                                 |
| 14–15       | 0.000352   | 99,174                            | 35   | 99,157   | 6,203,147  | 62.5                                 |
| 15–16       | 0.000484   | 99,139                            | 48   | 99,115   | 6,103,990  | 61.6                                 |
| 16–17       | 0.000607   | 99,091                            | 60   | 99,061   | 6,004,875  | 60.6                                 |
| 17–18       | 0.000732   | 99,031                            | 72   | 98,995   | 5,905,814  | 59.6                                 |
| 18–19       | 0.000859   | 98,959                            | 85   | 98,916   | 5,806,819  | 58.7                                 |
| 19–20       | 0.000986   | 98,874                            | 98   | 98,825   | 5,707,903  | 57.7                                 |
| 20–21       | 0.001123   | 98,776                            | 111  | 98,721   | 5,609,078  | 56.8                                 |
| 21–22       | 0.001250   | 98,665                            | 123  | 98,604   | 5,510,357  | 55.8                                 |
| 22–23       | 0.001337   | 98,542                            | 132  | 98,476   | 5,411,753  | 54.9                                 |
| 23–24       | 0.001367   | 98,410                            | 134  | 98,343   | 5,313,277  | 54.0                                 |
| 24–25       | 0.001355   | 98,276                            | 133  | 98,209   | 5,214,934  | 53.1                                 |
| 25–26       | 0.001329   | 98,143                            | 130  | 98,077   | 5,116,725  | 52.1                                 |
| 26–27       | 0.001313   | 98,012                            | 129  | 97,948   | 5,018,648  | 51.2                                 |
| 27–28       | 0.001304   | 97,883                            | 128  | 97,820   | 4,920,700  | 50.3                                 |
| 28–29       | 0.001314   | 97,756                            | 128  | 97,692   | 4,822,881  | 49.3                                 |
| 29–30       | 0.001339   | 97,627                            | 131  | 97,562   | 4,725,189  | 48.4                                 |
| 30–31       | 0.001374   | 97,497                            | 134  | 97,430   | 4,627,627  | 47.5                                 |
| 31–32       | 0.001413   | 97,363                            | 138  | 97,294   | 4,530,198  | 46.5                                 |
| 32–33       | 0.001465   | 97,225                            | 142  | 97,154   | 4,432,904  | 45.6                                 |
| 33–34       | 0.001501   | 97,083                            | 146  | 97,010   | 4,335,750  | 44.7                                 |
| 34–35       | 0.001548   | 96,937                            | 150  | 96,862   | 4,238,740  | 43.7                                 |
| 35–36       | 0.001608   | 96,787                            | 156  | 96,709   | 4,141,878  | 42.8                                 |
| 36–37       | 0.001685   | 96,631                            | 163  | 96,550   | 4,045,169  | 41.9                                 |
| 37–38       | 0.001776   | 96,468                            | 171  | 96,383   | 3,948,620  | 40.9                                 |
| 38–39       | 0.001884   | 96,297                            | 181  | 96,206   | 3,852,237  | 40.0                                 |
| 39–40       | 0.002016   | 96,116                            | 194  | 96,019   | 3,756,031  | 39.1                                 |
| 40–41       | 0.002162   | 95,922                            | 207  | 95,818   | 3,660,012  | 38.2                                 |
| 41–42       | 0.002334   | 95,715                            | 223  | 95,603   | 3,564,194  | 37.2                                 |
| 42–43       | 0.002555   | 95,491                            | 244  | 95,369   | 3,468,591  | 36.3                                 |
| 43–44       | 0.002826   | 95,247                            | 269  | 95,113   | 3,373,222  | 35.4                                 |
| 44–45       | 0.003127   | 94,978                            | 297  | 94,830   | 3,278,109  | 34.5                                 |
| 45–46       | 0.003429   | 94,681                            | 325  | 94,519   | 3,183,280  | 33.6                                 |
| 46–47       | 0.003733   | 94,356                            | 352  | 94,180   | 3,088,761  | 32.7                                 |
| 47–48       | 0.004061   | 94,004                            | 382  | 93,813   | 2,994,581  | 31.9                                 |
| 48–49       | 0.004426   | 93,622                            | 414  | 93,415   | 2,900,768  | 31.0                                 |
| 49–50       | 0.004829   | 93,208                            | 450  | 92,983   | 2,807,352  | 30.1                                 |
| 50–51       | 0.005268   | 92,758                            | 489  | 92,514   | 2,714,370  | 29.3                                 |
| 51–52       | 0.005721   | 92,269                            | 528  | 92,005   | 2,621,856  | 28.4                                 |
| 52–53       | 0.006174   | 91,741                            | 566  | 91,458   | 2,529,851  | 27.6                                 |
| 53–54       | 0.006618   | 91,175                            | 603  | 90,873   | 2,438,392  | 26.7                                 |
| 54–55       | 0.007066   | 90,572                            | 640  | 90,252   | 2,347,519  | 25.9                                 |
| 55–56       | 0.007541   | 89,932                            | 678  | 89,593   | 2,257,268  | 25.1                                 |
| 56–57       | 0.008070   | 89,254                            | 720  | 88,893   | 2,167,675  | 24.3                                 |
| 57–58       | 0.008665   | 88,533                            | 767  | 88,150   | 2,078,782  | 23.5                                 |
| 58–59       | 0.009339   | 87,766                            | 820  | 87,356   | 1,990,632  | 22.7                                 |
| 59–60       | 0.010087   | 86,946                            | 877  | 86,508   | 1,903,276  | 21.9                                 |
| 60–61       | 0.010906   | 86,069                            | 939  | 85,600   | 1,816,768  | 21.1                                 |
| 61–62       | 0.011788   | 85,131                            | 1,004  | 84,629   | 1,731,168  | 20.3                                 |
| 62–63       | 0.012732   | 84,127                            | 1,071  | 83,592   | 1,646,539  | 19.6                                 |

See footnote at end of table.

**Table 14. Life table for non-Hispanic white males: United States, 2008—Con.**Spreadsheet version available from: [ftp://ftp.cdc.gov/pub/Health\\_Statistics/NCHS/Publications/NVSR/61\\_03/Table14.xls](ftp://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/61_03/Table14.xls).

| Age (years)            | Probability<br>of dying<br>between<br>ages $x$ and $x + 1$ | Number<br>surviving to<br>age $x$ | Number<br>dying<br>between<br>ages $x$ and $x + 1$ | Person-years<br>lived<br>between<br>ages $x$ and $x + 1$ | Total<br>number of<br>person-years<br>lived above<br>age $x$ | Expectation<br>of life<br>at age $x$ |
|------------------------|--|-----------------------------------|--|--|--|--------------------------------------|
|                        | $q_x$  | $l_x$                             | $d_x$  | $L_x$  | $T_x$  | $e_x$                                |
| 63–64 . . . . .        | 0.013751   | 83,056                            | 1,142  | 82,485   | 1,562,947  | 18.8                                 |
| 64–65 . . . . .        | 0.014881   | 81,914                            | 1,219  | 81,304   | 1,480,462  | 18.1                                 |
| 65–66 . . . . .        | 0.016192   | 80,695                            | 1,307  | 80,042   | 1,399,158  | 17.3                                 |
| 66–67 . . . . .        | 0.017680   | 79,388                            | 1,404  | 78,687   | 1,319,116  | 16.6                                 |
| 67–68 . . . . .        | 0.019303   | 77,985                            | 1,505  | 77,232   | 1,240,429  | 15.9                                 |
| 68–69 . . . . .        | 0.021008   | 76,479                            | 1,607  | 75,676   | 1,163,197  | 15.2                                 |
| 69–70 . . . . .        | 0.022817   | 74,873                            | 1,708  | 74,019   | 1,087,521  | 14.5                                 |
| 70–71 . . . . .        | 0.024760   | 73,164                            | 1,812  | 72,259   | 1,013,503  | 13.9                                 |
| 71–72 . . . . .        | 0.027017   | 71,353                            | 1,928  | 70,389   | 941,244  | 13.2                                 |
| 72–73 . . . . .        | 0.029726   | 69,425                            | 2,064  | 68,393   | 870,855  | 12.5                                 |
| 73–74 . . . . .        | 0.032751   | 67,361                            | 2,206  | 66,258   | 802,462  | 11.9                                 |
| 74–75 . . . . .        | 0.035986   | 65,155                            | 2,345  | 63,983   | 736,203  | 11.3                                 |
| 75–76 . . . . .        | 0.039392   | 62,811                            | 2,474  | 61,573   | 672,221  | 10.7                                 |
| 76–77 . . . . .        | 0.043042   | 60,336                            | 2,597  | 59,038   | 610,647  | 10.1                                 |
| 77–78 . . . . .        | 0.047250   | 57,739                            | 2,728  | 56,375   | 551,609  | 9.6                                  |
| 78–79 . . . . .        | 0.052133   | 55,011                            | 2,868  | 53,577   | 495,234  | 9.0                                  |
| 79–80 . . . . .        | 0.057772   | 52,143                            | 3,012  | 50,637   | 441,657  | 8.5                                  |
| 80–81 . . . . .        | 0.063732   | 49,131                            | 3,131  | 47,565   | 391,020  | 8.0                                  |
| 81–82 . . . . .        | 0.069993   | 46,000                            | 3,220  | 44,390   | 343,455  | 7.5                                  |
| 82–83 . . . . .        | 0.076960   | 42,780                            | 3,292  | 41,134   | 299,065  | 7.0                                  |
| 83–84 . . . . .        | 0.085164   | 39,488                            | 3,363  | 37,806   | 257,931  | 6.5                                  |
| 84–85 . . . . .        | 0.094254   | 36,125                            | 3,405  | 34,422   | 220,125  | 6.1                                  |
| 85–86 . . . . .        | 0.104721   | 32,720                            | 3,426  | 31,007   | 185,703  | 5.7                                  |
| 86–87 . . . . .        | 0.116432   | 29,293                            | 3,411  | 27,588   | 154,696  | 5.3                                  |
| 87–88 . . . . .        | 0.129152   | 25,883                            | 3,343  | 24,211   | 127,108  | 4.9                                  |
| 88–89 . . . . .        | 0.142900   | 22,540                            | 3,221  | 20,929   | 102,897  | 4.6                                  |
| 89–90 . . . . .        | 0.157682   | 19,319                            | 3,046  | 17,796   | 81,968   | 4.2                                  |
| 90–91 . . . . .        | 0.173488   | 16,273                            | 2,823  | 14,861   | 64,172   | 3.9                                  |
| 91–92 . . . . .        | 0.190285   | 13,450                            | 2,559  | 12,170   | 49,311   | 3.7                                  |
| 92–93 . . . . .        | 0.208022   | 10,890                            | 2,265  | 9,758  | 37,141   | 3.4                                  |
| 93–94 . . . . .        | 0.226627   | 8,625                             | 1,955  | 7,648  | 27,383   | 3.2                                  |
| 94–95 . . . . .        | 0.246002   | 6,670                             | 1,641  | 5,850  | 19,736   | 3.0                                  |
| 95–96 . . . . .        | 0.266033   | 5,029                             | 1,338  | 4,360  | 13,886   | 2.8                                  |
| 96–97 . . . . .        | 0.286584   | 3,691                             | 1,058  | 3,162  | 9,526  | 2.6                                  |
| 97–98 . . . . .        | 0.307504   | 2,633                             | 810  | 2,229  | 6,363  | 2.4                                  |
| 98–99 . . . . .        | 0.328630   | 1,824                             | 599  | 1,524  | 4,135  | 2.3                                  |
| 99–100 . . . . .       | 0.349794   | 1,224                             | 428  | 1,010  | 2,610  | 2.1                                  |
| 100 and over . . . . . | 1.000000   | 796                               | 796  | 1,600  | 1,600  | 2.0                                  |

SOURCE: CDC/NCHS, National Vital Statistics System.

**Table 15. Life table for non-Hispanic white females: United States, 2008**Spreadsheet version available from: [ftp://ftp.cdc.gov/pub/Health\\_Statistics/NCHS/Publications/NVS/61\\_03/Table15.xls](ftp://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVS/61_03/Table15.xls).

| Age (years) | Probability<br>of dying<br>between<br>ages $x$ and $x + 1$ | Number<br>surviving to<br>age $x$ | Number<br>dying<br>between<br>ages $x$ and $x + 1$ | Person-years<br>lived<br>between<br>ages $x$ and $x + 1$ | Total<br>number of<br>person-years<br>lived above<br>age $x$ | Expectation<br>of life<br>at age $x$ |
|-------------|--|-----------------------------------|--|--|--|--------------------------------------|
|             | $q_x$  | $l_x$                             | $d_x$  | $L_x$  | $T_x$  | $e_x$                                |
| 0–1         | 0.004980   | 100,000                           | 498  | 99,563   | 8,074,913  | 80.7                                 |
| 1–2         | 0.000392   | 99,502                            | 39   | 99,483   | 7,975,350  | 80.2                                 |
| 2–3         | 0.000220   | 99,463                            | 22   | 99,452   | 7,875,867  | 79.2                                 |
| 3–4         | 0.000158   | 99,441                            | 16   | 99,433   | 7,776,415  | 78.2                                 |
| 4–5         | 0.000142   | 99,425                            | 14   | 99,418   | 7,676,982  | 77.2                                 |
| 5–6         | 0.000125   | 99,411                            | 12   | 99,405   | 7,577,563  | 76.2                                 |
| 6–7         | 0.000114   | 99,399                            | 11   | 99,393   | 7,478,158  | 75.2                                 |
| 7–8         | 0.000106   | 99,388                            | 10   | 99,382   | 7,378,765  | 74.2                                 |
| 8–9         | 0.000096   | 99,377                            | 9  | 99,372   | 7,279,383  | 73.3                                 |
| 9–10        | 0.000085   | 99,368                            | 8  | 99,363   | 7,180,010  | 72.3                                 |
| 10–11       | 0.000077   | 99,359                            | 8  | 99,355   | 7,080,647  | 71.3                                 |
| 11–12       | 0.000078   | 99,352                            | 8  | 99,348   | 6,981,291  | 70.3                                 |
| 12–13       | 0.000097   | 99,344                            | 10   | 99,339   | 6,881,944  | 69.3                                 |
| 13–14       | 0.000137   | 99,334                            | 14   | 99,327   | 6,782,605  | 68.3                                 |
| 14–15       | 0.000190   | 99,321                            | 19   | 99,311   | 6,683,277  | 67.3                                 |
| 15–16       | 0.000247   | 99,302                            | 25   | 99,289   | 6,583,966  | 66.3                                 |
| 16–17       | 0.000299   | 99,277                            | 30   | 99,262   | 6,484,677  | 65.3                                 |
| 17–18       | 0.000341   | 99,247                            | 34   | 99,231   | 6,385,415  | 64.3                                 |
| 18–19       | 0.000370   | 99,214                            | 37   | 99,195   | 6,286,184  | 63.4                                 |
| 19–20       | 0.000390   | 99,177                            | 39   | 99,158   | 6,186,989  | 62.4                                 |
| 20–21       | 0.000409   | 99,138                            | 41   | 99,118   | 6,087,831  | 61.4                                 |
| 21–22       | 0.000432   | 99,098                            | 43   | 99,076   | 5,988,713  | 60.4                                 |
| 22–23       | 0.000452   | 99,055                            | 45   | 99,032   | 5,889,637  | 59.5                                 |
| 23–24       | 0.000471   | 99,010                            | 47   | 98,987   | 5,790,605  | 58.5                                 |
| 24–25       | 0.000489   | 98,963                            | 48   | 98,939   | 5,691,618  | 57.5                                 |
| 25–26       | 0.000507   | 98,915                            | 50   | 98,890   | 5,592,679  | 56.5                                 |
| 26–27       | 0.000527   | 98,865                            | 52   | 98,839   | 5,493,789  | 55.6                                 |
| 27–28       | 0.000548   | 98,813                            | 54   | 98,786   | 5,394,950  | 54.6                                 |
| 28–29       | 0.000571   | 98,759                            | 56   | 98,730   | 5,296,164  | 53.6                                 |
| 29–30       | 0.000598   | 98,702                            | 59   | 98,673   | 5,197,434  | 52.7                                 |
| 30–31       | 0.000634   | 98,643                            | 63   | 98,612   | 5,098,761  | 51.7                                 |
| 31–32       | 0.000678   | 98,581                            | 67   | 98,547   | 5,000,149  | 50.7                                 |
| 32–33       | 0.000726   | 98,514                            | 71   | 98,478   | 4,901,602  | 49.8                                 |
| 33–34       | 0.000772   | 98,442                            | 76   | 98,404   | 4,803,124  | 48.8                                 |
| 34–35       | 0.000818   | 98,366                            | 80   | 98,326   | 4,704,720  | 47.8                                 |
| 35–36       | 0.000869   | 98,286                            | 85   | 98,243   | 4,606,394  | 46.9                                 |
| 36–37       | 0.000931   | 98,200                            | 91   | 98,155   | 4,508,151  | 45.9                                 |
| 37–38       | 0.001005   | 98,109                            | 99   | 98,060   | 4,409,996  | 44.9                                 |
| 38–39       | 0.001096   | 98,010                            | 107  | 97,957   | 4,311,936  | 44.0                                 |
| 39–40       | 0.001206   | 97,903                            | 118  | 97,844   | 4,213,979  | 43.0                                 |
| 40–41       | 0.001323   | 97,785                            | 129  | 97,720   | 4,116,135  | 42.1                                 |
| 41–42       | 0.001450   | 97,656                            | 142  | 97,585   | 4,018,415  | 41.1                                 |
| 42–43       | 0.001600   | 97,514                            | 156  | 97,436   | 3,920,830  | 40.2                                 |
| 43–44       | 0.001771   | 97,358                            | 172  | 97,272   | 3,823,394  | 39.3                                 |
| 44–45       | 0.001951   | 97,186                            | 190  | 97,091   | 3,726,122  | 38.3                                 |
| 45–46       | 0.002133   | 96,996                            | 207  | 96,892   | 3,629,032  | 37.4                                 |
| 46–47       | 0.002312   | 96,789                            | 224  | 96,677   | 3,532,139  | 36.5                                 |
| 47–48       | 0.002493   | 96,565                            | 241  | 96,445   | 3,435,462  | 35.6                                 |
| 48–49       | 0.002683   | 96,324                            | 258  | 96,195   | 3,339,017  | 34.7                                 |
| 49–50       | 0.002885   | 96,066                            | 277  | 95,928   | 3,242,822  | 33.8                                 |
| 50–51       | 0.003108   | 95,789                            | 298  | 95,640   | 3,146,895  | 32.9                                 |
| 51–52       | 0.003346   | 95,491                            | 320  | 95,331   | 3,051,254  | 32.0                                 |
| 52–53       | 0.003587   | 95,172                            | 341  | 95,001   | 2,955,923  | 31.1                                 |
| 53–54       | 0.003825   | 94,830                            | 363  | 94,649   | 2,860,922  | 30.2                                 |
| 54–55       | 0.004074   | 94,468                            | 385  | 94,275   | 2,766,273  | 29.3                                 |
| 55–56       | 0.004339   | 94,083                            | 408  | 93,879   | 2,671,998  | 28.4                                 |
| 56–57       | 0.004647   | 93,674                            | 435  | 93,457   | 2,578,119  | 27.5                                 |
| 57–58       | 0.005031   | 93,239                            | 469  | 93,005   | 2,484,662  | 26.6                                 |
| 58–59       | 0.005514   | 92,770                            | 511  | 92,514   | 2,391,658  | 25.8                                 |
| 59–60       | 0.006082   | 92,259                            | 561  | 91,978   | 2,299,143  | 24.9                                 |
| 60–61       | 0.006723   | 91,697                            | 616  | 91,389   | 2,207,165  | 24.1                                 |
| 61–62       | 0.007407   | 91,081                            | 675  | 90,744   | 2,115,776  | 23.2                                 |
| 62–63       | 0.008119   | 90,406                            | 734  | 90,039   | 2,025,032  | 22.4                                 |

See footnote at end of table.

**Table 15. Life table for non-Hispanic white females: United States, 2008—Con.**Spreadsheet version available from: [ftp://ftp.cdc.gov/pub/Health\\_Statistics/NCHS/Publications/NVS/61\\_03/Table15.xls](ftp://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVS/61_03/Table15.xls).

| Age (years)            | Probability<br>of dying<br>between<br>ages $x$ and $x + 1$ | Number<br>surviving to<br>age $x$ | Number<br>dying<br>between<br>ages $x$ and $x + 1$ | Person-years<br>lived<br>between<br>ages $x$ and $x + 1$ | Total<br>number of<br>person-years<br>lived above<br>age $x$ | Expectation<br>of life<br>at age $x$ |
|------------------------|--|-----------------------------------|--|--|--|--------------------------------------|
|                        | $q_x$  | $l_x$                             | $d_x$  | $L_x$  | $T_x$  | $e_x$                                |
| 63–64 . . . . .        | 0.008854   | 89,672                            | 794  | 89,275   | 1,934,993  | 21.6                                 |
| 64–65 . . . . .        | 0.009641   | 88,878                            | 857  | 88,450   | 1,845,718  | 20.8                                 |
| 65–66 . . . . .        | 0.010558   | 88,021                            | 929  | 87,557   | 1,757,268  | 20.0                                 |
| 66–67 . . . . .        | 0.011613   | 87,092                            | 1,011  | 86,586   | 1,669,711  | 19.2                                 |
| 67–68 . . . . .        | 0.012751   | 86,081                            | 1,098  | 85,532   | 1,583,124  | 18.4                                 |
| 68–69 . . . . .        | 0.013939   | 84,983                            | 1,185  | 84,391   | 1,497,593  | 17.6                                 |
| 69–70 . . . . .        | 0.015214   | 83,799                            | 1,275  | 83,161   | 1,413,202  | 16.9                                 |
| 70–71 . . . . .        | 0.016610   | 82,524                            | 1,371  | 81,838   | 1,330,041  | 16.1                                 |
| 71–72 . . . . .        | 0.018292   | 81,153                            | 1,484  | 80,411   | 1,248,202  | 15.4                                 |
| 72–73 . . . . .        | 0.020221   | 79,668                            | 1,611  | 78,863   | 1,167,792  | 14.7                                 |
| 73–74 . . . . .        | 0.022351   | 78,057                            | 1,745  | 77,185   | 1,088,929  | 14.0                                 |
| 74–75 . . . . .        | 0.024624   | 76,313                            | 1,879  | 75,373   | 1,011,744  | 13.3                                 |
| 75–76 . . . . .        | 0.027048   | 74,434                            | 2,013  | 73,427   | 936,371  | 12.6                                 |
| 76–77 . . . . .        | 0.029777   | 72,420                            | 2,156  | 71,342   | 862,944  | 11.9                                 |
| 77–78 . . . . .        | 0.032873   | 70,264                            | 2,310  | 69,109   | 791,602  | 11.3                                 |
| 78–79 . . . . .        | 0.036506   | 67,954                            | 2,481  | 66,714   | 722,493  | 10.6                                 |
| 79–80 . . . . .        | 0.040671   | 65,473                            | 2,663  | 64,142   | 655,779  | 10.0                                 |
| 80–81 . . . . .        | 0.045155   | 62,810                            | 2,836  | 61,392   | 591,638  | 9.4                                  |
| 81–82 . . . . .        | 0.049963   | 59,974                            | 2,996  | 58,476   | 530,245  | 8.8                                  |
| 82–83 . . . . .        | 0.055543   | 56,978                            | 3,165  | 55,395   | 471,770  | 8.3                                  |
| 83–84 . . . . .        | 0.062198   | 53,813                            | 3,347  | 52,139   | 416,374  | 7.7                                  |
| 84–85 . . . . .        | 0.069603   | 50,466                            | 3,513  | 48,710   | 364,235  | 7.2                                  |
| 85–86 . . . . .        | 0.077965   | 46,953                            | 3,661  | 45,123   | 315,525  | 6.7                                  |
| 86–87 . . . . .        | 0.087203   | 43,293                            | 3,775  | 41,405   | 270,402  | 6.2                                  |
| 87–88 . . . . .        | 0.098144   | 39,517                            | 3,878  | 37,578   | 228,997  | 5.8                                  |
| 88–89 . . . . .        | 0.110197   | 35,639                            | 3,927  | 33,675   | 191,419  | 5.4                                  |
| 89–90 . . . . .        | 0.123409   | 31,712                            | 3,913  | 29,755   | 157,744  | 5.0                                  |
| 90–91 . . . . .        | 0.137812   | 27,798                            | 3,831  | 25,883   | 127,989  | 4.6                                  |
| 91–92 . . . . .        | 0.153422   | 23,967                            | 3,677  | 22,129   | 102,106  | 4.3                                  |
| 92–93 . . . . .        | 0.170231   | 20,290                            | 3,454  | 18,563   | 79,978   | 3.9                                  |
| 93–94 . . . . .        | 0.188205   | 16,836                            | 3,169  | 15,252   | 61,415   | 3.6                                  |
| 94–95 . . . . .        | 0.207286   | 13,667                            | 2,833  | 12,251   | 46,163   | 3.4                                  |
| 95–96 . . . . .        | 0.227381   | 10,834                            | 2,464  | 9,603  | 33,912   | 3.1                                  |
| 96–97 . . . . .        | 0.248371   | 8,371                             | 2,079  | 7,331  | 24,309   | 2.9                                  |
| 97–98 . . . . .        | 0.270108   | 6,292                             | 1,699  | 5,442  | 16,978   | 2.7                                  |
| 98–99 . . . . .        | 0.292417   | 4,592                             | 1,343  | 3,921  | 11,536   | 2.5                                  |
| 99–100 . . . . .       | 0.315104   | 3,249                             | 1,024  | 2,737  | 7,615  | 2.3                                  |
| 100 and over . . . . . | 1.000000   | 2,226                             | 2,226  | 4,877  | 4,877  | 2.2                                  |

SOURCE: CDC/NCHS, National Vital Statistics System.