

12 MORTALITY AND LIFE EXPECTANCY

U.S. mortality rates and life expectancies have improved dramatically over the long term. The aggregate, age-adjusted death rate (per 1,000 population) has fallen from 17.9 in 1940 to 7.3 in 2015 (Table 12.1). The death rate among males dropped from 19.8 to 8.6 over this period, and among females, from 16 to 6.2.

Life expectancy at age 25 is currently 52.7 years for males and 57.0 years for females (Table 12.2). A man who retired in 2014 at age 65 could expect to live 18 years more on average, while a 65-year-old woman could expect to live another 20.6 years.

Examining trend data for life expectancy over the past century yields startling contrasts. A 25-year-old during 1900–02 could expect to live 39.1 years more vs. 54.9 additional years for a 25-year-old in 2014.

Because of increased longevity, the last seventeen years shown in Table 12.2 have been extended to include life expectancy for men and women at age 100. This is consistent with the 2001 Commissioners Standard Ordinary (CSO) Mortality Table. The 2001 CSO mortality table was introduced by the Society of Actuaries and adopted by the National Association of Insurance Commissioners for life insurers to use in underwriting insurance (Table 12.3). It is the prevailing mortality table and has been adopted by most states.

Table 12.1

Death Rates in the United States

| Year | Age-adjusted rate per 1,000 population ¹ | | |
|------|---|--------|-------|
| | Male | Female | Total |
| 1940 | 19.8 | 16.0 | 17.9 |
| 1950 | 16.7 | 12.4 | 14.5 |
| 1960 | 16.1 | 11.1 | 13.4 |
| 1970 | 15.4 | 9.7 | 12.2 |
| 1975 | 14.2 | 8.6 | 10.9 |
| 1980 | 13.5 | 8.2 | 10.4 |
| 1985 | 12.8 | 7.8 | 9.9 |
| 1986 | 12.6 | 7.8 | 9.8 |
| 1987 | 12.5 | 7.7 | 9.7 |
| 1988 | 12.5 | 7.8 | 9.8 |
| 1989 | 12.2 | 7.6 | 9.5 |
| 1990 | 12.0 | 7.5 | 9.4 |
| 1991 | 11.8 | 7.4 | 9.2 |
| 1992 | 11.6 | 7.3 | 9.1 |
| 1993 | 11.8 | 7.5 | 9.3 |
| 1994 | 11.6 | 7.4 | 9.1 |
| 1995 | 11.4 | 7.4 | 9.1 |
| 1996 | 11.2 | 7.3 | 8.9 |
| 1997 | 10.9 | 7.3 | 8.8 |
| 1998 | 10.7 | 7.2 | 8.7 |
| 1999 | 10.7 | 7.3 | 8.8 |
| 2000 | 10.5 | 7.3 | 8.7 |
| 2001 | 10.4 | 7.3 | 8.6 |
| 2002 | 10.3 | 7.2 | 8.6 |
| 2003 | 10.1 | 7.2 | 8.4 |
| 2004 | 9.7 | 6.9 | 8.1 |
| 2005 | 9.7 | 6.9 | 8.2 |
| 2006 | 9.4 | 6.7 | 7.9 |
| 2007 | 9.2 | 6.6 | 7.8 |
| 2008 | 9.2 | 6.6 | 7.7 |
| 2009 | 8.9 | 6.4 | 7.5 |
| 2010 | 8.9 | 6.3 | 7.5 |
| 2011 | 8.8 | 6.3 | 7.4 |
| 2012 | 8.7 | 6.2 | 7.3 |
| 2013 | 8.6 | 6.2 | 7.3 |
| 2014 | 8.6 | 6.2 | 7.2 |
| 2015 | 8.6 | 6.2 | 7.3 |

Source: U.S. Department of Health and Human Services' National Center for Health Statistics, *National Vital Statistics Reports*.

¹Based on population estimates from the 2000 census, which were modified for consistency with Office of Management and Budget racial categories as of 1977. All death rates have been revised, and may differ from previously published rates that were based on 1990 population estimates.

Table 12.2

Life Expectancy, by Age and Gender, 1900–2015

| | Age | Male | Female | Total |
|----------------|------------|-------------|---------------|--------------|
| 1900–02 | Newborn | 47.9 | 50.7 | 49.2 |
| | 1 | 54.4 | 56.1 | 55.2 |
| | 5 | 54.2 | 55.8 | 55.0 |
| | 15 | 46.1 | 47.6 | 46.8 |
| | 25 | 38.4 | 39.9 | 39.1 |
| | 35 | 31.2 | 32.7 | 31.9 |
| | 45 | 24.1 | 25.4 | 24.8 |
| | 55 | 17.4 | 18.4 | 17.9 |
| | 65 | 11.5 | 12.2 | 11.9 |
| | 75 | 6.8 | 7.3 | 7.1 |
| | 85 | 3.8 | 4.1 | 4.0 |
| | Age | Male | Female | Total |
| 1909–11 | Newborn | 49.9 | 53.2 | 51.5 |
| | 1 | 56.0 | 58.4 | 57.1 |
| | 5 | 55.1 | 57.4 | 56.2 |
| | 15 | 46.7 | 48.9 | 47.7 |
| | 25 | 38.6 | 40.7 | 39.6 |
| | 35 | 30.9 | 33.0 | 31.9 |
| | 45 | 23.8 | 25.4 | 24.5 |
| | 55 | 17.0 | 18.1 | 17.6 |
| | 65 | 11.2 | 12.0 | 11.6 |
| | 75 | 6.8 | 7.2 | 7.0 |
| | 85 | 3.9 | 4.1 | 4.0 |
| | Age | Male | Female | Total |
| 1919–21 | Newborn | 55.5 | 57.4 | 56.4 |
| | 1 | 59.5 | 60.5 | 59.9 |
| | 5 | 57.6 | 58.4 | 58.0 |
| | 15 | 49.1 | 49.7 | 49.4 |
| | 25 | 41.1 | 41.9 | 41.5 |
| | 35 | 33.4 | 34.4 | 33.9 |
| | 45 | 25.8 | 26.7 | 26.3 |
| | 55 | 18.5 | 19.3 | 18.9 |
| | 65 | 12.2 | 12.7 | 12.5 |
| | 75 | 7.3 | 7.7 | 7.5 |
| | 85 | 4.1 | 4.3 | 4.2 |
| | Age | Male | Female | Total |
| 1929–31 | Newborn | 57.7 | 60.9 | 59.2 |
| | 1 | 60.8 | 65.4 | 61.9 |
| | 5 | 58.1 | 60.7 | 59.3 |
| | 15 | 49.2 | 51.5 | 50.3 |
| | 25 | 40.8 | 43.1 | 41.9 |
| | 35 | 32.7 | 34.9 | 33.7 |
| | 45 | 24.9 | 26.9 | 25.8 |
| | 55 | 17.8 | 19.4 | 18.5 |
| | 65 | 11.7 | 12.8 | 12.2 |
| | 75 | 7.0 | 7.6 | 7.3 |
| | 85 | 4.0 | 4.3 | 4.2 |

Continued

Table 12.2

Life Expectancy, by Age and Gender, 1900–2015—Continued

| | Age | Male | Female | Total |
|----------------|------------|-------------|---------------|--------------|
| 1939–41 | Newborn | 61.6 | 65.9 | 63.6 |
| | 1 | 64.0 | 67.7 | 65.8 |
| | 5 | 60.8 | 64.4 | 62.5 |
| | 15 | 51.4 | 55.0 | 53.1 |
| | 25 | 42.5 | 45.9 | 44.1 |
| | 35 | 33.8 | 37.0 | 35.3 |
| | 45 | 25.5 | 28.5 | 26.9 |
| | 55 | 18.2 | 20.5 | 19.3 |
| | 65 | 12.1 | 13.6 | 12.8 |
| | 75 | 7.2 | 8.0 | 7.6 |
| | 85 | 4.1 | 4.5 | 4.3 |
| | Age | Male | Female | Total |
| 1949–51 | Newborn | 65.5 | 71.0 | 68.1 |
| | 1 | 66.7 | 71.8 | 69.2 |
| | 5 | 63.1 | 68.2 | 65.5 |
| | 15 | 53.6 | 58.5 | 55.9 |
| | 25 | 44.4 | 49.0 | 46.6 |
| | 35 | 35.2 | 39.6 | 37.3 |
| | 45 | 26.6 | 30.6 | 28.5 |
| | 55 | 19.0 | 22.3 | 20.6 |
| | 65 | 12.7 | 15.0 | 13.8 |
| | 75 | 7.8 | 8.9 | 8.4 |
| | 85 | 4.4 | 4.9 | 4.7 |
| | Age | Male | Female | Total |
| 1959–61 | Newborn | 66.8 | 73.2 | 69.9 |
| | 1 | 67.8 | 73.9 | 70.8 |
| | 5 | 64.1 | 70.2 | 67.0 |
| | 15 | 54.4 | 60.5 | 57.3 |
| | 25 | 45.2 | 50.8 | 47.9 |
| | 35 | 35.9 | 41.3 | 38.5 |
| | 45 | 27.1 | 32.1 | 29.5 |
| | 55 | 19.3 | 23.5 | 21.4 |
| | 65 | 13.0 | 15.8 | 14.4 |
| | 75 | 8.0 | 9.3 | 8.7 |
| | 85 | 4.4 | 4.7 | 4.6 |
| | Age | Male | Female | Total |
| 1969–71 | Newborn | 67.0 | 74.6 | 70.8 |
| | 1 | 67.6 | 75.0 | 71.2 |
| | 5 | 63.8 | 71.2 | 67.4 |
| | 15 | 54.1 | 61.4 | 57.7 |
| | 25 | 45.1 | 51.8 | 48.4 |
| | 35 | 36.0 | 42.3 | 39.1 |
| | 45 | 27.2 | 33.1 | 30.1 |
| | 55 | 19.4 | 24.6 | 22.0 |
| | 65 | 13.0 | 16.8 | 15.0 |
| | 75 | 8.1 | 10.3 | 9.3 |
| | 85 | 4.7 | 5.6 | 5.3 |

Continued

Table 12.2

Life Expectancy, by Age and Gender, 1900–2015—Continued

| | Age | Male | Female | Total |
|----------------|------------|-------------|---------------|--------------|
| 1979–81 | Newborn | 70.1 | 77.6 | 73.9 |
| | 1 | 70.1 | 77.5 | 73.8 |
| | 5 | 66.3 | 73.7 | 70.0 |
| | 15 | 56.5 | 63.8 | 60.2 |
| | 25 | 47.4 | 54.2 | 50.8 |
| | 35 | 38.2 | 44.5 | 41.4 |
| | 45 | 29.2 | 35.2 | 32.3 |
| | 55 | 21.1 | 26.4 | 23.9 |
| | 65 | 14.2 | 18.4 | 16.5 |
| | 75 | 8.9 | 11.6 | 10.5 |
| | 85 | 5.1 | 6.4 | 6.0 |
| | Age | Male | Female | Total |
| 1989–91 | Newborn | 71.8 | 78.8 | 75.4 |
| | 1 | 71.6 | 78.5 | 75.1 |
| | 5 | 67.7 | 74.6 | 71.2 |
| | 15 | 57.9 | 64.7 | 61.4 |
| | 25 | 48.7 | 55.0 | 51.9 |
| | 35 | 39.6 | 45.4 | 42.6 |
| | 45 | 30.7 | 36.0 | 33.4 |
| | 55 | 22.3 | 27.1 | 24.8 |
| | 65 | 15.1 | 19.0 | 17.3 |
| | 75 | 9.4 | 12.1 | 11.0 |
| | 85 | 5.3 | 6.7 | 6.2 |
| | Age | Male | Female | Total |
| 1998 | Newborn | 73.8 | 79.5 | 76.7 |
| | 1 | 73.4 | 79.0 | 76.3 |
| | 5 | 69.5 | 75.1 | 72.4 |
| | 15 | 59.7 | 65.2 | 62.5 |
| | 25 | 50.3 | 55.5 | 53.0 |
| | 35 | 41.0 | 45.8 | 43.5 |
| | 45 | 31.9 | 36.4 | 34.3 |
| | 55 | 23.5 | 27.4 | 25.5 |
| | 65 | 16.0 | 19.2 | 17.8 |
| | 75 | 10.0 | 12.2 | 11.3 |
| | 85 | 5.5 | 6.7 | 6.3 |
| | 100 | 2.3 | 2.7 | 2.6 |
| | Age | Male | Female | Total |
| 1999 | Newborn | 73.9 | 79.4 | 76.7 |
| | 1 | 73.5 | 78.9 | 76.3 |
| | 5 | 69.6 | 75.0 | 72.4 |
| | 15 | 59.8 | 65.1 | 62.5 |
| | 25 | 50.4 | 55.4 | 53.0 |
| | 35 | 41.1 | 45.7 | 43.5 |
| | 45 | 32.0 | 36.3 | 34.3 |
| | 55 | 23.5 | 27.3 | 25.5 |
| | 65 | 16.1 | 19.1 | 17.7 |
| | 75 | 10.0 | 12.1 | 11.2 |
| | 85 | 5.5 | 6.6 | 6.3 |
| | 100 | 2.4 | 2.7 | 2.6 |

Continued

Table 12.2

Life Expectancy, by Age and Gender, 1900–2015—Continued

| | Age | Male | Female | Total |
|-------------|------------|-------------|---------------|--------------|
| 2000 | Newborn | 74.1 | 79.5 | 76.9 |
| | 1 | 73.7 | 79.0 | 76.4 |
| | 5 | 69.8 | 75.1 | 72.5 |
| | 15 | 59.9 | 65.2 | 62.6 |
| | 25 | 50.6 | 55.4 | 53.1 |
| | 35 | 41.3 | 45.8 | 43.6 |
| | 45 | 32.2 | 36.3 | 34.4 |
| | 55 | 23.8 | 27.4 | 25.7 |
| | 65 | 16.3 | 19.2 | 17.9 |
| | 75 | 10.1 | 12.1 | 11.3 |
| | 85 | 5.6 | 6.7 | 6.3 |
| 100 | 2.4 | 2.7 | 2.6 | |
| | Age | Male | Female | Total |
| 2001 | Newborn | 74.4 | 79.8 | 77.2 |
| | 1 | 74.0 | 79.3 | 76.7 |
| | 5 | 70.1 | 75.4 | 72.8 |
| | 15 | 60.2 | 65.5 | 62.9 |
| | 25 | 50.9 | 55.7 | 53.4 |
| | 35 | 41.5 | 46.0 | 43.9 |
| | 45 | 32.5 | 36.6 | 34.7 |
| | 55 | 24.0 | 27.7 | 26.0 |
| | 65 | 16.4 | 19.4 | 18.1 |
| | 75 | 10.2 | 12.4 | 11.5 |
| | 85 | 5.7 | 6.9 | 6.5 |
| 100 | 2.5 | 2.8 | 2.7 | |
| | Age | Male | Female | Total |
| 2002 | Newborn | 74.5 | 79.9 | 77.3 |
| | 1 | 74.1 | 79.4 | 76.8 |
| | 5 | 70.2 | 75.4 | 72.9 |
| | 15 | 60.3 | 65.5 | 63.0 |
| | 25 | 51.0 | 55.8 | 53.5 |
| | 35 | 41.6 | 46.1 | 44.0 |
| | 45 | 32.6 | 36.7 | 34.8 |
| | 55 | 24.1 | 27.7 | 26.1 |
| | 65 | 16.6 | 19.5 | 18.2 |
| | 75 | 10.3 | 12.4 | 11.5 |
| | 85 | 5.7 | 6.9 | 6.5 |
| 100 | 2.5 | 2.8 | 2.7 | |

Continued

Table 12.2

Life Expectancy, by Age and Gender, 1900–2015—Continued

| | Age | Male | Female | Total |
|-------------|------------|-------------|---------------|--------------|
| 2003 | Newborn | 74.8 | 80.1 | 77.5 |
| | 1 | 74.3 | 79.6 | 77.0 |
| | 5 | 70.4 | 75.7 | 73.1 |
| | 15 | 60.6 | 65.8 | 63.2 |
| | 25 | 51.2 | 56.0 | 53.7 |
| | 35 | 41.9 | 46.4 | 44.2 |
| | 45 | 32.8 | 37.0 | 35.0 |
| | 55 | 24.4 | 28.0 | 26.3 |
| | 65 | 16.8 | 19.8 | 18.4 |
| | 75 | 10.5 | 12.6 | 11.8 |
| | 85 | 6.0 | 7.2 | 6.8 |
| 100 | 2.3 | 2.6 | 2.6 | |
| | Age | Male | Female | Total |
| 2004 | Newborn | 75.2 | 80.4 | 77.8 |
| | 1 | 74.7 | 79.9 | 77.4 |
| | 5 | 70.8 | 76.0 | 73.5 |
| | 15 | 61.0 | 66.1 | 63.6 |
| | 25 | 51.6 | 56.3 | 54.0 |
| | 35 | 42.2 | 46.6 | 44.5 |
| | 45 | 33.1 | 37.2 | 35.3 |
| | 55 | 24.7 | 28.3 | 26.6 |
| | 65 | 17.1 | 20.0 | 18.7 |
| | 75 | 10.7 | 12.8 | 11.9 |
| | 85 | 6.1 | 7.2 | 6.8 |
| 100 | 2.3 | 2.6 | 2.6 | |
| | Age | Male | Female | Total |
| 2005 | Newborn | 75.2 | 80.4 | 77.8 |
| | 1 | 74.7 | 79.9 | 77.4 |
| | 5 | 70.8 | 76.0 | 73.5 |
| | 15 | 61.0 | 66.1 | 63.6 |
| | 25 | 51.6 | 56.4 | 54.1 |
| | 35 | 42.3 | 46.7 | 44.6 |
| | 45 | 33.2 | 37.3 | 35.3 |
| | 55 | 24.8 | 28.3 | 26.7 |
| | 65 | 17.2 | 20.0 | 18.7 |
| | 75 | 10.8 | 12.8 | 12.0 |
| | 85 | 6.1 | 7.2 | 6.8 |
| 100 | 2.3 | 2.6 | 2.6 | |

Continued

Table 12.2

Life Expectancy, by Age and Gender, 1900–2015—Continued

| | Age | Male | Female | Total |
|-------------|------------|-------------|---------------|--------------|
| 2006 | Newborn | 75.1 | 80.2 | 77.7 |
| | 1 | 74.7 | 79.7 | 77.2 |
| | 5 | 70.8 | 75.8 | 73.3 |
| | 15 | 60.9 | 65.9 | 63.4 |
| | 25 | 51.5 | 56.1 | 53.9 |
| | 35 | 42.2 | 46.4 | 44.4 |
| | 45 | 33.1 | 37.0 | 35.2 |
| | 55 | 24.7 | 28.0 | 26.5 |
| | 65 | 17.0 | 19.7 | 18.5 |
| | 75 | 10.5 | 12.3 | 11.6 |
| | 85 | 5.7 | 6.8 | 6.4 |
| 100 | 2.0 | 2.3 | 2.3 | |
| | Age | Male | Female | Total |
| 2007 | Newborn | 75.4 | 80.4 | 77.9 |
| | 1 | 74.9 | 79.9 | 77.5 |
| | 5 | 71.0 | 76.0 | 73.6 |
| | 15 | 61.1 | 66.1 | 63.7 |
| | 25 | 51.8 | 56.3 | 54.1 |
| | 35 | 42.5 | 46.7 | 44.6 |
| | 45 | 33.3 | 37.2 | 35.4 |
| | 55 | 24.9 | 28.2 | 26.7 |
| | 65 | 17.2 | 19.9 | 18.6 |
| | 75 | 10.6 | 12.5 | 11.7 |
| | 85 | 5.8 | 6.8 | 6.5 |
| 100 | 2.1 | 2.3 | 2.3 | |
| | Age | Male | Female | Total |
| 2008 | Newborn | 75.5 | 80.5 | 78.0 |
| | 1 | 75.1 | 80.0 | 77.6 |
| | 5 | 71.2 | 76.1 | 73.7 |
| | 15 | 61.3 | 66.1 | 63.8 |
| | 25 | 51.9 | 56.4 | 54.2 |
| | 35 | 42.6 | 46.7 | 44.7 |
| | 45 | 33.4 | 37.2 | 35.4 |
| | 55 | 24.9 | 28.3 | 26.7 |
| | 65 | 17.2 | 19.9 | 18.7 |
| | 75 | 10.6 | 12.5 | 11.7 |
| | 85 | 5.8 | 6.8 | 6.5 |
| 100 | 2.1 | 2.3 | 2.3 | |

Continued

Table 12.2

Life Expectancy, by Age and Gender, 1900–2015—Continued

| | Age | Male | Female | Total |
|-------------|------------|-------------|---------------|--------------|
| 2009 | Newborn | 76.0 | 80.9 | 78.6 |
| | 1 | 75.6 | 80.4 | 78.1 |
| | 5 | 71.6 | 76.5 | 74.2 |
| | 15 | 61.7 | 66.6 | 64.3 |
| | 25 | 52.3 | 56.8 | 54.7 |
| | 35 | 43.0 | 47.1 | 45.2 |
| | 45 | 33.8 | 37.7 | 35.9 |
| | 55 | 25.4 | 28.7 | 27.2 |
| | 65 | 17.7 | 20.3 | 19.2 |
| | 75 | 11.0 | 12.9 | 12.2 |
| | 85 | 5.9 | 7.0 | 6.6 |
| 100 | 2.1 | 2.4 | 2.4 | |
| | Age | Male | Female | Total |
| 2010 | Newborn | 76.2 | 81.0 | 78.7 |
| | 1 | 75.7 | 80.5 | 78.1 |
| | 5 | 71.8 | 76.6 | 74.2 |
| | 15 | 61.9 | 66.6 | 64.3 |
| | 25 | 52.4 | 56.9 | 54.7 |
| | 35 | 43.1 | 47.2 | 45.2 |
| | 45 | 33.9 | 37.7 | 35.9 |
| | 55 | 25.4 | 28.8 | 27.2 |
| | 65 | 17.7 | 20.3 | 19.1 |
| | 75 | 11.0 | 12.9 | 12.1 |
| | 85 | 5.8 | 6.9 | 6.5 |
| 100 | 2.1 | 2.3 | 2.3 | |
| | Age | Male | Female | Total |
| 2011 | Newborn | 76.3 | 81.1 | 78.7 |
| | 1 | 75.8 | 80.5 | 78.2 |
| | 5 | 71.9 | 76.6 | 74.3 |
| | 15 | 62.0 | 66.7 | 64.4 |
| | 25 | 52.5 | 56.9 | 54.8 |
| | 35 | 43.2 | 47.2 | 45.3 |
| | 45 | 34.0 | 37.8 | 36.0 |
| | 55 | 25.5 | 28.8 | 27.2 |
| | 65 | 17.8 | 20.3 | 19.2 |
| | 75 | 11.1 | 12.9 | 12.1 |
| | 85 | 5.9 | 6.9 | 6.5 |
| 100 | 2.1 | 2.3 | 2.3 | |

Continued

Table 12.2

Life Expectancy, by Age and Gender, 1900–2015—Continued

| | Age | Male | Female | Total |
|-------------|-------------|---------------|---------------|--------------|
| 2012 | Newborn | 76.4 | 81.2 | 78.8 |
| | 1 | 75.9 | 80.6 | 78.3 |
| | 5 | 72.0 | 76.7 | 74.4 |
| | 15 | 62.1 | 66.8 | 64.5 |
| | 25 | 52.6 | 57.0 | 54.9 |
| | 35 | 43.3 | 47.3 | 45.4 |
| | 45 | 34.1 | 37.9 | 36.1 |
| | 55 | 25.6 | 28.9 | 27.3 |
| | 65 | 17.9 | 20.5 | 19.3 |
| | 75 | 11.2 | 12.9 | 12.2 |
| | 85 | 5.9 | 7.0 | 6.6 |
| 100 | 2.0 | 2.3 | 2.3 | |
| | Age | Male | Female | Total |
| 2013 | Newborn | 76.4 | 81.2 | 78.8 |
| | 1 | 75.9 | 80.6 | 78.3 |
| | 5 | 72.0 | 76.7 | 74.4 |
| | 15 | 62.1 | 66.8 | 64.5 |
| | 25 | 52.6 | 57.0 | 54.8 |
| | 35 | 43.3 | 47.3 | 45.4 |
| | 45 | 34.1 | 37.9 | 36.1 |
| | 55 | 25.6 | 28.9 | 27.3 |
| | 65 | 17.9 | 20.5 | 19.3 |
| | 75 | 11.2 | 12.9 | 12.2 |
| | 85 | 5.9 | 7.0 | 6.6 |
| 100 | 2.0 | 2.3 | 2.3 | |
| | Age | Male | Female | Total |
| 2014 | Newborn | 76.5 | 81.3 | 78.9 |
| | 1 | 76.0 | 80.7 | 78.4 |
| | 5 | 72.0 | 76.8 | 74.4 |
| | 15 | 62.1 | 66.8 | 64.5 |
| | 25 | 52.7 | 57.0 | 54.9 |
| | 35 | 43.4 | 47.4 | 45.4 |
| | 45 | 34.2 | 38.0 | 36.1 |
| | 55 | 25.6 | 29.0 | 27.4 |
| | 65 | 18.0 | 20.6 | 19.4 |
| | 75 | 11.3 | 13.1 | 12.3 |
| | 85 | 6.0 | 7.1 | 6.7 |
| 100 | 2.1 | 2.4 | 2.3 | |
| Age | Male | Female | Total | |
| 2015 | Newborn | 76.3 | 81.2 | 78.8 |
| | 65 | 18.0 | 20.6 | 19.4 |
| | 75 | 11.2 | 13.0 | 12.3 |

Source: U.S. Department of Health and Human Services' National Center for Health Statistics, *National Vital Statistics Reports*.

Notes: Alaska and Hawaii are included as of 1959. For decennial periods prior to 1929-31, data represent death registration states only: 1900-02 and 1909-11, 10 states and the District of Columbia; 1919-21, 34 states and the District of Columbia. Beginning with 1970, data exclude deaths of nonresidents of the United States.

Table 12.3

Mortality Tables

| Age | 2001 CSO Table | | | | 2012 Individual Annuity Reserving Table ^{1,2} | | | |
|---------|------------------|-------------------------|------------------|-------------------------|--|-------------------------|------------------|-------------------------|
| | Male | | Female | | Male | | Female | |
| | Deaths per 1,000 | Life expectancy (years) | Deaths per 1,000 | Life expectancy (years) | Deaths per 1,000 | Life expectancy (years) | Deaths per 1,000 | Life expectancy (years) |
| Newborn | 1.0 | 76.6 | 0.5 | 80.8 | 1.6 | 91.2 | 1.6 | 92.8 |
| 1 | 0.6 | 75.7 | 0.4 | 79.9 | 0.4 | 90.3 | 0.4 | 91.9 |
| 2 | 0.4 | 74.7 | 0.3 | 78.9 | 0.3 | 89.2 | 0.3 | 90.9 |
| 3 | 0.3 | 73.8 | 0.2 | 77.9 | 0.2 | 88.1 | 0.2 | 89.9 |
| 4 | 0.2 | 72.8 | 0.2 | 76.9 | 0.2 | 87.1 | 0.1 | 88.8 |
| 5 | 0.2 | 71.8 | 0.2 | 76.0 | 0.2 | 86.0 | 0.1 | 87.8 |
| 6 | 0.2 | 70.8 | 0.2 | 75.0 | 0.2 | 85.0 | 0.1 | 86.7 |
| 7 | 0.2 | 69.8 | 0.2 | 74.0 | 0.2 | 83.9 | 0.1 | 85.6 |
| 8 | 0.2 | 68.8 | 0.2 | 73.0 | 0.1 | 82.8 | 0.1 | 84.6 |
| 9 | 0.2 | 67.9 | 0.2 | 72.0 | 0.1 | 81.7 | 0.1 | 83.5 |
| 10 | 0.2 | 66.9 | 0.2 | 71.0 | 0.1 | 80.7 | 0.1 | 82.5 |
| 11 | 0.3 | 65.9 | 0.2 | 70.0 | 0.1 | 79.6 | 0.1 | 81.4 |
| 12 | 0.3 | 64.9 | 0.3 | 69.1 | 0.1 | 78.5 | 0.1 | 80.4 |
| 13 | 0.4 | 63.9 | 0.3 | 68.1 | 0.2 | 77.4 | 0.1 | 79.3 |
| 14 | 0.5 | 63.0 | 0.3 | 67.1 | 0.2 | 76.4 | 0.1 | 78.2 |
| 15 | 0.6 | 62.0 | 0.4 | 66.1 | 0.2 | 75.3 | 0.2 | 77.2 |
| 16 | 0.7 | 61.0 | 0.4 | 65.1 | 0.3 | 74.2 | 0.2 | 76.1 |
| 17 | 0.9 | 60.1 | 0.4 | 64.2 | 0.3 | 73.2 | 0.2 | 75.1 |
| 18 | 0.9 | 59.1 | 0.4 | 63.2 | 0.3 | 72.1 | 0.2 | 74.0 |
| 19 | 1.0 | 58.2 | 0.5 | 62.2 | 0.4 | 71.0 | 0.2 | 73.0 |
| 20 | 1.0 | 57.2 | 0.5 | 61.3 | 0.4 | 70.0 | 0.2 | 71.9 |
| 21 | 1.0 | 56.3 | 0.5 | 60.3 | 0.4 | 68.9 | 0.2 | 70.8 |
| 22 | 1.0 | 55.3 | 0.5 | 59.3 | 0.5 | 67.8 | 0.2 | 69.8 |
| 23 | 1.0 | 54.4 | 0.5 | 58.3 | 0.5 | 66.8 | 0.2 | 68.7 |
| 24 | 1.1 | 53.5 | 0.5 | 57.4 | 0.5 | 65.7 | 0.2 | 67.7 |
| 25 | 1.1 | 52.5 | 0.5 | 56.4 | 0.6 | 64.7 | 0.2 | 66.6 |
| 26 | 1.1 | 51.6 | 0.6 | 55.4 | 0.6 | 63.6 | 0.2 | 65.6 |
| 27 | 1.2 | 50.6 | 0.6 | 54.5 | 0.7 | 62.6 | 0.3 | 64.5 |
| 28 | 1.2 | 49.7 | 0.6 | 53.5 | 0.7 | 61.5 | 0.3 | 63.5 |
| 29 | 1.2 | 48.7 | 0.7 | 52.5 | 0.7 | 60.5 | 0.3 | 62.4 |
| 30 | 1.1 | 47.8 | 0.7 | 51.6 | 0.7 | 59.4 | 0.3 | 61.3 |
| 31 | 1.1 | 46.8 | 0.7 | 50.6 | 0.7 | 58.4 | 0.3 | 60.3 |
| 32 | 1.1 | 45.9 | 0.8 | 49.6 | 0.7 | 57.3 | 0.3 | 59.2 |
| 33 | 1.2 | 45.0 | 0.8 | 48.7 | 0.7 | 56.3 | 0.3 | 58.2 |
| 34 | 1.2 | 44.0 | 0.9 | 47.7 | 0.7 | 55.2 | 0.4 | 57.1 |
| 35 | 1.2 | 43.1 | 1.0 | 46.8 | 0.7 | 54.2 | 0.4 | 56.1 |
| 36 | 1.3 | 42.1 | 1.0 | 45.8 | 0.7 | 53.1 | 0.4 | 55.0 |
| 37 | 1.3 | 41.2 | 1.1 | 44.8 | 0.7 | 52.0 | 0.4 | 54.0 |
| 38 | 1.4 | 40.2 | 1.2 | 43.9 | 0.7 | 51.0 | 0.4 | 52.9 |
| 39 | 1.5 | 39.3 | 1.2 | 42.9 | 0.8 | 49.9 | 0.5 | 51.9 |
| 40 | 1.7 | 38.3 | 1.3 | 42.0 | 0.8 | 48.9 | 0.5 | 50.8 |
| 41 | 1.8 | 37.4 | 1.4 | 41.1 | 0.9 | 47.8 | 0.6 | 49.8 |
| 42 | 2.0 | 36.5 | 1.5 | 40.1 | 1.0 | 46.8 | 0.6 | 48.7 |
| 43 | 2.2 | 35.5 | 1.6 | 39.2 | 1.0 | 45.7 | 0.7 | 47.7 |
| 44 | 2.4 | 34.6 | 1.7 | 38.2 | 1.1 | 44.7 | 0.7 | 46.6 |
| 45 | 2.7 | 33.7 | 1.9 | 37.3 | 1.2 | 43.6 | 0.8 | 45.6 |
| 46 | 2.9 | 32.8 | 2.1 | 36.4 | 1.3 | 42.6 | 0.8 | 44.5 |
| 47 | 3.2 | 31.9 | 2.3 | 35.4 | 1.4 | 41.5 | 0.9 | 43.5 |

Continued

Table 12.3

Mortality Tables—Continued

| Age | 2001 CSO Table | | | | 2012 Individual Annuity Reserving Table ^{1,2} | | | |
|-----|---------------------|-------------------------------|---------------------|-------------------------------|--|-------------------------------|---------------------|-------------------------------|
| | Male | | Female | | Male | | Female | |
| | Deaths per 1,000 | Life expectancy (years) | Deaths per 1,000 | Life expectancy (years) | Deaths per 1,000 | Life expectancy (years) | Deaths per 1,000 | Life expectancy (years) |
| 48 | 3.3 | 31.0 | 2.5 | 34.5 | 1.6 | 40.5 | 0.9 | 42.5 |
| 49 | 3.5 | 30.1 | 2.8 | 33.6 | 1.8 | 39.5 | 1.0 | 41.4 |
| 50 | 3.8 | 29.2 | 3.1 | 32.7 | 2.0 | 38.4 | 1.1 | 40.4 |
| 51 | 4.1 | 28.3 | 3.4 | 31.8 | 2.2 | 37.4 | 1.3 | 39.3 |
| 52 | 4.5 | 27.4 | 3.8 | 30.9 | 2.5 | 36.4 | 1.4 | 38.3 |
| 53 | 4.9 | 26.5 | 4.2 | 30.0 | 2.7 | 35.4 | 1.6 | 37.3 |
| 54 | 5.5 | 25.6 | 4.6 | 29.1 | 2.9 | 34.4 | 1.7 | 36.3 |
| 55 | 6.2 | 24.8 | 5.1 | 28.3 | 3.1 | 33.4 | 1.9 | 35.3 |
| 56 | 6.9 | 23.9 | 5.6 | 27.4 | 3.4 | 32.4 | 2.1 | 34.2 |
| 57 | 7.6 | 23.1 | 6.2 | 26.6 | 3.7 | 31.4 | 2.3 | 33.2 |
| 58 | 8.3 | 22.3 | 6.8 | 25.7 | 4.0 | 30.4 | 2.6 | 32.2 |
| 59 | 9.0 | 21.5 | 7.4 | 24.9 | 4.4 | 29.4 | 2.9 | 31.2 |
| 60 | 9.9 | 20.6 | 8.0 | 24.1 | 4.9 | 28.5 | 3.3 | 30.3 |
| 61 | 10.9 | 19.8 | 8.7 | 23.3 | 5.4 | 27.5 | 3.8 | 29.3 |
| 62 | 12.3 | 19.1 | 9.4 | 22.5 | 5.9 | 26.6 | 4.2 | 28.3 |
| 63 | 13.7 | 18.3 | 10.1 | 21.7 | 6.5 | 25.6 | 4.7 | 27.4 |
| 64 | 15.2 | 17.5 | 11.0 | 20.9 | 7.1 | 24.7 | 5.3 | 26.4 |
| 65 | 16.9 | 16.8 | 11.9 | 20.1 | 7.7 | 23.8 | 5.9 | 25.5 |
| 66 | 18.5 | 16.1 | 12.8 | 19.4 | 8.2 | 22.9 | 6.3 | 24.6 |
| 67 | 20.1 | 15.4 | 13.9 | 18.6 | 8.7 | 22.0 | 6.8 | 23.7 |
| 68 | 21.9 | 14.7 | 15.1 | 17.9 | 9.3 | 21.1 | 7.3 | 22.7 |
| 69 | 23.6 | 14.0 | 16.4 | 17.1 | 10.0 | 20.2 | 8.0 | 21.8 |
| 70 | 25.8 | 13.3 | 17.8 | 16.4 | 10.9 | 19.3 | 8.7 | 20.9 |
| 71 | 28.2 | 12.7 | 19.5 | 15.7 | 11.9 | 18.5 | 9.5 | 20.1 |
| 72 | 31.3 | 12.0 | 21.3 | 15.0 | 13.1 | 17.6 | 10.4 | 19.2 |
| 73 | 34.6 | 11.4 | 23.3 | 14.3 | 14.5 | 16.8 | 11.4 | 18.3 |
| 74 | 38.1 | 10.8 | 25.5 | 13.6 | 16.1 | 15.9 | 12.5 | 17.5 |
| 75 | 41.9 | 10.2 | 27.9 | 13.0 | 18.0 | 15.1 | 13.7 | 16.6 |
| 76 | 46.1 | 9.6 | 30.5 | 12.3 | 20.1 | 14.3 | 15.2 | 15.8 |
| 77 | 50.9 | 9.0 | 33.4 | 11.7 | 22.5 | 13.5 | 16.9 | 15.0 |
| 78 | 56.6 | 8.5 | 36.6 | 11.1 | 25.2 | 12.8 | 18.8 | 14.2 |
| 79 | 63.1 | 8.0 | 40.1 | 10.5 | 28.3 | 12.0 | 21.1 | 13.4 |
| 80 | 70.1 | 7.5 | 43.9 | 9.9 | 31.8 | 11.3 | 23.9 | 12.6 |
| 81 | 78.2 | 7.0 | 49.1 | 9.3 | 36.0 | 10.6 | 27.3 | 11.9 |
| 82 | 86.5 | 6.6 | 55.0 | 8.8 | 40.6 | 10.0 | 31.4 | 11.2 |
| 83 | 95.5 | 6.1 | 60.8 | 8.3 | 45.6 | 9.3 | 36.1 | 10.5 |
| 84 | 105.4 | 5.7 | 67.3 | 7.8 | 51.3 | 8.7 | 41.6 | 9.8 |
| 85 | 116.6 | 5.4 | 74.5 | 7.3 | 57.9 | 8.1 | 47.5 | 9.2 |
| 86 | 128.9 | 5.0 | 81.0 | 6.9 | 65.5 | 7.5 | 54.3 | 8.6 |
| 87 | 142.4 | 4.7 | 90.8 | 6.4 | 74.3 | 7.0 | 61.6 | 8.0 |
| 88 | 156.7 | 4.4 | 101.1 | 6.0 | 84.1 | 6.5 | 69.6 | 7.5 |
| 89 | 171.9 | 4.1 | 112.0 | 5.6 | 95.3 | 6.0 | 77.8 | 7.0 |
| 90 | 187.7 | 3.8 | 121.9 | 5.3 | 107.7 | 5.6 | 86.8 | 6.5 |
| 91 | 202.4 | 3.6 | 126.9 | 5.0 | 120.6 | 5.2 | 95.7 | 6.1 |
| 92 | 217.8 | 3.4 | 136.9 | 4.6 | 134.7 | 4.8 | 105.7 | 5.7 |
| 93 | 234.0 | 3.1 | 151.6 | 4.3 | 149.9 | 4.5 | 116.4 | 5.3 |
| 94 | 251.1 | 3.0 | 170.3 | 3.9 | 165.7 | 4.2 | 129.4 | 4.9 |

Continued

Table 12.3

Mortality Tables—Continued

| Age | 2001 CSO Table | | | | 2012 Individual Annuity Reserving Table ^{1,2} | | | |
|-----|---------------------|-------------------------------|---------------------|-------------------------------|--|-------------------------------|---------------------|-------------------------------|
| | Male | | Female | | Male | | Female | |
| | Deaths per 1,000 | Life expectancy (years) | Deaths per 1,000 | Life expectancy (years) | Deaths per 1,000 | Life expectancy (years) | Deaths per 1,000 | Life expectancy (years) |
| 95 | 269.2 | 2.8 | 193.7 | 3.6 | 183.0 | 3.9 | 144.7 | 4.5 |
| 96 | 285.6 | 2.6 | 215.7 | 3.4 | 195.0 | 3.6 | 161.9 | 4.2 |
| 97 | 303.2 | 2.5 | 238.5 | 3.2 | 212.8 | 3.4 | 178.1 | 3.9 |
| 98 | 321.9 | 2.3 | 242.2 | 3.0 | 230.4 | 3.2 | 194.4 | 3.6 |
| 99 | 341.9 | 2.2 | 255.2 | 2.8 | 248.9 | 2.9 | 211.9 | 3.4 |
| 100 | 363.2 | 2.1 | 275.7 | 2.6 | 267.0 | 2.8 | 229.3 | 3.1 |
| 101 | 380.1 | 2.0 | 297.8 | 2.4 | - | - | - | - |
| 102 | 398.1 | 1.9 | 322.2 | 2.2 | - | - | - | - |
| 103 | 417.2 | 1.8 | 349.1 | 2.1 | - | - | - | - |
| 104 | 437.6 | 1.7 | 378.6 | 1.9 | - | - | - | - |
| 105 | 459.2 | 1.6 | 410.6 | 1.7 | - | - | - | - |
| 106 | 482.2 | 1.5 | 443.3 | 1.6 | - | - | - | - |
| 107 | 506.7 | 1.4 | 476.9 | 1.5 | - | - | - | - |
| 108 | 532.7 | 1.3 | 510.7 | 1.4 | - | - | - | - |
| 109 | 560.3 | 1.2 | 545.8 | 1.3 | - | - | - | - |
| 110 | 589.6 | 1.1 | 581.8 | 1.2 | - | - | - | - |
| 111 | 620.8 | 1.1 | 616.3 | 1.1 | - | - | - | - |
| 112 | 653.8 | 1.0 | 649.9 | 1.0 | - | - | - | - |
| 113 | 688.9 | 0.9 | 680.4 | 0.9 | - | - | - | - |
| 114 | 726.2 | 0.9 | 723.4 | 0.9 | - | - | - | - |
| 115 | 765.7 | 0.8 | 763.4 | 0.8 | - | - | - | - |
| 116 | 807.6 | 0.7 | 804.9 | 0.7 | - | - | - | - |
| 117 | 852.1 | 0.7 | 850.4 | 0.7 | - | - | - | - |
| 118 | 899.2 | 0.6 | 892.4 | 0.6 | - | - | - | - |
| 119 | 949.2 | 0.6 | 935.1 | 0.6 | - | - | - | - |
| 120 | 1000.0 | 0.5 | 1000.0 | 0.5 | - | - | - | - |

Source: National Association of Insurance Commissioners.

¹Projected to 2015.²Mortality rates are conservative in relation to the actual and projected experience on which they are based.

- For Life Insurance, conservative means higher rates of death and lower life expectancy.
- For annuities, conservative means lower rates of death and higher life expectancy.

