Acknowledgments

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Preface

In 2011, the Baby Boom generation, people born from 1946 to 1964, began to turn age 65. As the large Baby Boom cohort ages, the United States will experience rapid growth in both the number aged 65 and older and their share of the total population. The social and economic implications of the aging of the U.S. population will be of significant interest to policy makers, the private sector, and individuals.

This report examines a range of topics concerning the population aged 65 and older in five chapters. Chapter 1—Growth of the Older Population—discusses the age structure of the older population and its distribution by race and Hispanic origin. Chapter 2—Longevity and Health—addresses mortality, health behaviors and risks, chronic conditions and disability, long-term care, and health insurance. Chapter 3—Economic Characteristics—covers work and retirement, income and poverty, and the impact of the 2007–2009 recession on the older population. Chapter 4—Geographic Distribution—describes the geographic distribution of the older population across regions and states by race and Hispanic origin along with older people’s migration patterns. Chapter 5—Social and Other Characteristics—looks at a range of sociodemographic characteristics of the older population, including marital status, education, living arrangements, and veterans status.

The topics highlighted in the report update trends documented in previous versions of this report. The first edition was written by Cynthia M. Taeuber with Bonnie L. Damon and published in 1993. The second, titled 65+ in the United States, was prepared by Frank B. Hobbs with Bonnie L. Damon and published in 1996, and the third was 65+ in the United States: 2005, written by Wan He, Manisha Sengupta, Victoria A. Velkoff, and Kimberly A. DeBarros and published in 2005. All three earlier editions as well as the current one were commissioned by the National Institute on Aging, Division of Behavioral and Social Research, Richard M. Suzman, Director.

Compared to previous reports, this report expands on the discussion of long-term care and nursing homes and includes an assessment of the impact of the December 2007 to June 2009 recession on older Americans.

Data used in this report draw heavily from the 2010 Census; nationally representative surveys such as the Current Population Survey, the American Community Survey, and National Health Interview Survey; the national vital statistics system; and recent population projections for the United States and other countries. This report also incorporates survey data and analytical findings from numerous studies about the older population prepared by the Census Bureau, other federal agencies, and private researchers, including research funded by the National Institute on Aging, Division of Behavioral and Social Research. For a more detailed discussion of data sources, see Appendix A: Sources of Data.

Statistics from surveys are subject to sampling and nonsampling error. All comparisons of characteristics based on U.S. sample data have taken sampling error into account and are significant at the 90 percent confidence interval. For a more detailed discussion of data accuracy, see Appendix B: Accuracy of the Estimates.
Highlights

- In 2010, there were 40.3 million people aged 65 and older, 12 times the number in 1900.
- The percentage of the population aged 65 and over among the total population increased from 4.1 percent in 1900 to 13.0 percent in 2010 and is projected to reach 20.9 percent by 2050.
- From 2010 onwards, the older dependency ratio is expected to rise sharply as the Baby Boomers enter the older ages. In 2030, when all Baby Boomers will have already passed age 65, the older dependency ratio is expected to be 37, which translates into fewer than three people of working age (20 to 64) to support every older person.
- The older population has become more racially and ethnically diverse, with those identifying their race as White alone comprising 84.8 percent in 2010, down from 86.9 percent in 2000.
- The United States is not the only country experiencing population aging. In 2010, 50 countries had a higher proportion of people aged 65 and over than the United States, and by 2050, this number is projected to reach 98, almost half the countries in the world.
- In 2010, Alzheimer’s disease was the fifth leading cause of death among the older population, up from seventh position in 2000. In contrast to declining mortality from most other causes of death, the death rate for Alzheimer’s rose more than 50 percent from 1999 to 2007.
- Over 38 percent of those aged 65 and over had one or more disabilities in 2010, with the most common difficulties being walking, climbing stairs, and doing errands alone.
- The share of the older population residing in skilled nursing facilities declined from 4.5 percent in 2000 to 3.1 percent in 2010. The share in other long-term care facilities, such as assisted living, has been growing.
- Medicaid funds for long-term care have been shifting away from nursing homes with funding for home- and community-based services increasing from 13 percent of total funding in 1990 to 43 percent in 2007.
- Labor force participation rates rose for both older men and older women in the first decade of the twenty-first century, reaching 22.1 percent for older men and 13.8 percent for older women. In contrast, the labor force participation rates for the population aged 25 to 34 fell from 2000 to 2010 for both men and women.
- The older White alone population was less likely than the older Black alone and Asian alone populations to live in poverty. Older Hispanics were more likely to live in poverty than older non-Hispanic White alone residents.
- Following the housing price peak in 2006, homeowner-ship rates declined for the population under age 65 but remained flat for older householders.
- Housing costs were slightly less of a burden in 2009 compared with 2001 for older householders.
- While the 2010 unemployment rates for people aged 55 and over were lower than for their younger counterparts, the older group still experienced a doubling of unemployment rates compared to just prior to the 2007–2009 recession. For example, the unemployment rate for the age group 65 to 69 rose from 3.3 percent in 2007 to 7.6 percent in 2010. Also, once unemployed, it took workers aged 55 and older longer to find new employment.
- Many older workers managed to stay employed during the recession. In fact, the population aged 65 and over was the only age group not to see a decline in their employment share from 2005 to 2010.
- Eleven states had more than 1 million people aged 65 and older in 2010.
- States with the highest proportions of older people in their populations in 2010 included Florida, West Virginia, Maine, and Pennsylvania (all above 15 percent).
- The West and South regions experienced the fastest growth in their 65-plus and 85-plus populations between 2000 and 2010.
- In 2010, more than 7 out of 10 older Hispanics lived in four states: California (26.9 percent), Texas (19.2 percent), Florida (15.7 percent), and New York (9.0 percent).

- The vast majority of older people do not move, but their moving rates remained stable between 2000 and 2010 in contrast to the slowdown in migration among younger populations.

- Changing marital trends, such as the rise of divorces, as well as the increase in living alone among the 65-and-over population, will likely alter the social support needs of aging Baby Boomers.

- Between 2000 and 2010, the number and percentage of older minorities in nursing homes increased.

- The population aged 65 and over was the only age group to see an increase in voter participation in the 2012 presidential election compared with the 2008 presidential election.

- In 2010, Internet usage among the older population was up 31 percentage points from a decade prior.
Chapter 1. Growth of the Older Population

The population aged 65 and over continues to grow more rapidly than the population under age 65, and hence its proportion of the total population is also increasing. The oldest-old subgroup of the older population outpaced their younger counterparts in growth, resulting in the aging of the older population itself.¹ With the first Baby Boomers becoming age 65 in 2011, the U.S. population is poised to experience a population aging boom over the next 2 decades.² This chapter examines the numerical and proportionate growth of the older population, its age structure, and distribution by race and Hispanic origin. This chapter also discusses the U.S. population aging in the context of global aging trends.

Numerical and Proportionate Growth

The Older Population in the Twentieth and Twenty-First Centuries

The population aged 65 and older has grown faster than the population under age 65 over the period of 1900 to 2010. In 1900, people aged 65 and older numbered 3.1 million, and by 2010, their number had grown 12-fold to 40.3 million (Table 1-1 and Figure 1-1). During the same interval, the population under age 65 grew from 72.9 million to 268.5 million, or 3.7 times as large. The older population has grown relatively fast over the past century due to fertility declines in the first half of the twentieth century and to decreases in mortality, with medical advancements contributing to particularly large decreases in mortality among the oldest old, those aged 85 and older.

The disproportionate growth of older age groups, known as “population aging,” is expected to continue into the future. In absolute numbers, the older population is projected to more than double from 40.3 million in 2010 to 83.7 million in 2050. Between 1900 and 2010, the percentage of the population aged 65 and over among the total population increased from 4.1 percent to 13.0 percent. Their proportion is projected to rise further in the coming decades. By 2050, the percentage of the population aged 65 and over is projected to reach 20.9 percent, with the steepest increase occurring between 2010 and 2030.

Table 1-1.
Population Aged 65 and Over by Age: 1900 to 2050

(Numbers in thousands. For information on confidentiality protection, nonsampling error, and definitions, see www.census.gov/prod/cen2010/doc/sf1.pdf)

<table>
<thead>
<tr>
<th>Source, year, and reference date</th>
<th>Total population</th>
<th>65 and over</th>
<th>65 to 74</th>
<th>75 to 84</th>
<th>85 and over</th>
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<tbody>
<tr>
<td></td>
<td>Number</td>
<td>Percent</td>
<td>Number</td>
<td>Percent</td>
<td>Number</td>
</tr>
<tr>
<td>Census</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1900 (June 1)</td>
<td>75,995</td>
<td>4.1</td>
<td>2,187</td>
<td>2.9</td>
<td>771</td>
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<tr>
<td>1910 (April 15)</td>
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<td>2,793</td>
<td>3.0</td>
<td>989</td>
</tr>
<tr>
<td>1920 (January 1)</td>
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<td>4.7</td>
<td>3,464</td>
<td>3.3</td>
<td>1,259</td>
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<tr>
<td>1930 (April 1)</td>
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<td>5.4</td>
<td>4,721</td>
<td>3.8</td>
<td>1,641</td>
</tr>
<tr>
<td>1940 (April 1)</td>
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<td>6,376</td>
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<td>2,278</td>
</tr>
<tr>
<td>1950 (April 1)</td>
<td>150,687</td>
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<td>8,415</td>
<td>5.6</td>
<td>3,278</td>
</tr>
<tr>
<td>1960 (April 1)</td>
<td>179,323</td>
<td>9.2</td>
<td>10,997</td>
<td>6.1</td>
<td>4,633</td>
</tr>
<tr>
<td>1970 (April 1)</td>
<td>203,212</td>
<td>9.9</td>
<td>12,435</td>
<td>6.1</td>
<td>6,119</td>
</tr>
<tr>
<td>1980 (April 1)</td>
<td>226,546</td>
<td>11.3</td>
<td>15,581</td>
<td>6.9</td>
<td>7,279</td>
</tr>
<tr>
<td>1990 (April 1)</td>
<td>248,710</td>
<td>12.6</td>
<td>18,107</td>
<td>7.3</td>
<td>10,055</td>
</tr>
<tr>
<td>2000 (April 1)</td>
<td>281,422</td>
<td>12.4</td>
<td>18,391</td>
<td>6.5</td>
<td>12,361</td>
</tr>
<tr>
<td>2010 (April 1)</td>
<td>308,746</td>
<td>13.0</td>
<td>21,713</td>
<td>7.0</td>
<td>13,061</td>
</tr>
<tr>
<td>Projection</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2020 (July 1)</td>
<td>333,896</td>
<td>16.8</td>
<td>32,796</td>
<td>9.8</td>
<td>16,480</td>
</tr>
<tr>
<td>2030 (July 1)</td>
<td>358,471</td>
<td>20.3</td>
<td>38,593</td>
<td>10.8</td>
<td>25,236</td>
</tr>
<tr>
<td>2040 (July 1)</td>
<td>380,016</td>
<td>21.0</td>
<td>35,465</td>
<td>9.3</td>
<td>30,140</td>
</tr>
<tr>
<td>2050 (July 1)</td>
<td>399,803</td>
<td>20.9</td>
<td>37,554</td>
<td>9.4</td>
<td>28,206</td>
</tr>
</tbody>
</table>

Note: Data for 1900 to 1950 exclude Alaska and Hawaii.
Over the last century, however, the average annual growth rate of the older population has varied from decade to decade (Figure 1-2). The older population grew fastest from the 1920s to the 1950s, when the average annual growth rate was around 3 percent, more than double the overall population growth. After the 1960s, the growth of the older population slowed down, although it remained higher than the total population growth in all decades except 1990–2000, during which the proportion of older people actually fell (Table 1-1 and Figure 1-1). This anomaly was due partly to the decline in fertility during the Great Depression, which occurred in late 1929 through the early 1930s. The cohort born during this baby bust era reached age 65 in the 1990s.

The subsequent rise in fertility between 1946 and 1964 resulted in a large generation known as Baby Boomers. They started to reach age 65 in 2011, portending rapid population aging over the next 20 years. Between 2010 and 2020, the older population is projected to grow more rapidly than in any other decade since 1900 (3.2 percent average annual growth), while the total population will grow about as slowly as in any other past decade since 1900 (0.8 percent), a difference of 2.4 percentage points. This difference will be among the largest in the past century.

Aging of the Oldest Old

Population aging has been remarkable in the oldest-old population, those aged 85 and over. For example, the proportion of people aged 65 to 74 (the youngest 10-year age group of the older population) grew from 2.9 percent of the total population in 1900 to 7.0 percent in 2010, and the proportion aged 75 to 84 grew from 1.0 percent in 1900 to 4.2 percent in 2010 (Table 1-1). In contrast, the proportion of people aged 85 and above reached...
1.8 percent in 2010, 9 times their share in 1900. Additionally, those aged 85 and older as a proportion of the 65-and-over population increased from under 4 percent from 1900 to 1940 to 13.6 percent in 2010 (Figure 1-3). The older population itself has been aging since the 1940s. However, the proportion aged 85 and over of the older population is projected to decline between 2010 and 2020 and remain below the 2010 level in 2030 as Baby Boomers join the ranks of the 65 and older and swell the younger segments of the older population.

The population aged 90 and over has become an increasingly large population group. The 90-and-over population has grown more rapidly than those aged 85 to 89 as well as other younger age groups within the older population. Data from 1980 to 2010 show that the number of people aged 90 and older has steadily grown and is projected to more than quadruple from 2010 to 2050, compared with a doubling of the population aged 65 to 89, according to He and Muenchrath (2011).

People aged 90 and over are more likely to live in skilled-nursing facilities/nursing homes and to have a disability than those aged 85 to 89 or those of other, younger age groups within the 65-and-over population. While the likelihood of living in a nursing home is extremely low at ages 65 to 69 (1.0 percent) and ages 75 to 79 (3.0 percent), it dramatically rises to 11.2 percent at ages 85 to 89, 19.8 percent at ages 90 to 94, 31.0 percent at ages 95 to 99, and 38.2 percent at 100 years of age and over (He and Muenchrath, 2011). The prevalence of disabilities is about 13 percentage points higher in people aged 90 to 94 compared

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Figure 1-2.
Average Annual Growth Rate of the Total Population and Population Aged 65 and Over by Decade: 1900–1910 to 2040–2050
(For information on confidentiality protection, nonsampling error, and definitions, see www.census.gov/prod/cen2010/doc/sf1.pdf)

Note: Average annual growth rates for 1900–1910 through 2000–2010 are based on reported census populations. Average annual growth rate for 2010–2020 is based on 2010 census data and projections data; 2020–2030 through 2040–2050 are based on projected populations.

with those aged 85 to 89, and this difference is consistent for both men and women.

Improved health is a key reason for the rapid growth of the older population, particularly the oldest old. Reduced mortality has increased the number of centenarians, those living to age 100 or beyond. About 50,500 centenarians were counted in Census 2000. In 2010, that number was over 53,400, about 6 percent higher. The growth of centenarians between the two censuses was relatively modest compared with the other age groups among the older population. This may reflect historical factors (e.g., increased mortality during World War II). It could also reflect age misreporting, which is often observed at the very oldest ages, or other data quality issues arising from question and form design problems or misallocation of extreme ages during data processing (Gavrilov and Gavrilova, 2011; Meyer, 2012; Preston, Elo, and Stewart, 1999). All these issues may bias interpretations of actual trends for the centenarian population.

**Population Dynamics**

**Median Age**

As the number and proportion of people aged 65 and older increase, the U.S. population as a whole is getting older. One measure of the population age structure is the median age—the age that divides a population into two groups, half younger and half older.

In 1900, the median age in the United States was 22.9 years (Figure 1-4), reflecting a young population comparable to moderately high-fertility populations found in the less developed world today. Due primarily to a decline in fertility during the first half of the twentieth century, the U.S. population then became progressively older. By 1950, the median age was 30.2 years. The baby boom era was a high-fertility period with the largest number of births in the twentieth century. The baby boom created a brief respite from the aging trend, as the median age
of the population declined during the 1950s and 1960s and did not return to the 1950 level until 1980. However, as smaller birth cohorts followed the Baby Boomers, the median age has been rising since the 1970s, reaching 37.2 years in 2010, and it is projected to increase to 39.6 years in 2030 before leveling off.

**Age Structure**

Population aging can be illustrated graphically with a population pyramid that compares cohorts of males and females at successive age groups, beginning with the youngest cohorts at the bottom. Age structure is determined by three demographic factors—births, deaths, and migration—as well as changes in these factors over time. In the past, high levels of fertility and mortality resulted in an age structure that resembled a pyramid, due to large birth cohorts at the base and a rapid narrowing of the population as people aged. Historically, the medical field was not as advanced as today and, as a result, more people died from diseases at younger ages. More recently, declines in both fertility and mortality (see Chapter 2) have caused the shape of the population age structure to shift from pyramidal to rectangular. In general, fertility plays a more important role than mortality in determining population age structure, particularly in cases when fertility shifts rapidly over time.

The age structure of the U.S. population in 1900 had a classic pyramid shape; wider at the bottom and narrower at the top (Figure 1-5). This classic shape changed around the Great Depression, when a constriction in the age structure was introduced due to the decline of births around that time. As a result, the population born in the late 1920s and 1930s was relatively smaller than those born earlier or later. This can be seen in Figure 1-6 with the contraction of the 30 to 34 and 35 to 39 age groups (cohorts born during the 1930s).

The Baby Boom generation, born between the years of mid-1946 to 1964, is highlighted in red bars in Figures 1-6 through 1-9 to better track its aging through past and
future decades. In 1970, the Baby Boomers were aged 6 to 24 (Figure 1-6). By 2010, Baby Boomers were aged 46 through 64 (Figure 1-7).

The age-sex structure displayed on these figures sheds light on the trends in population aging. From now through 2030, when Baby Boomers will be between the ages of 66 and 84, that generation will continue to contribute to rapid population aging (Figure 1-8). Consequently, the country’s age structure is expected to resemble a rectangle for the most part and to be top-heavy. The sheer numbers of older people will be much larger than in prior years, and there will be a higher proportion of older people represented in the total population. In 2050, the Baby Boomers will be aged 86 and over, which will result in a larger population in the oldest-old age groups than in the age groups 70 to 74, 75 to 79, and 80 to 84 (Figure 1-9). This age structure will be unprecedented in U.S. history.

The aging of the Baby Boom cohort will have an enormous impact on our society, partially due to the medical, economic, and social needs of this population. The greater proportion of people at older ages will result in a greater portion of the population living on fixed incomes with higher medical expenditures.
per person and increased needs for long-term care, family caregiving, and support for caregivers (see Chapter 2). At the same time, the number of volunteers and caregivers may increase substantially. According to the 2002 Health and Retirement Study, among the population aged 65 to 74, 35.3 percent engaged in formal volunteering, 52.1 percent informally volunteered, and 37.8 percent provided caregiving (Zedlewski and Schaner, 2005). Among adults aged 75 and older, participation in these activities was 27.9 percent for formal volunteering, 34.5 percent for informal volunteering, and 19.2 percent for caregiving. An estimate of the value of these unpaid activities by the population aged 65 and over was $83.4 billion in 2002 (Johnson and Schaner, 2005).

**Sex Imbalances**

Older women outnumber older men, while younger men outnumber younger women (Figure 1-10). In 2010, for instance, the sex ratio for each 5-year age group from ages 0 to 4 to ages 30 to 34 showed a greater number of males than females.6 Above age 35, however, women outnumber men. There were 89 men per 100 women among those aged 65 to 69 and 38 men per 100 women among those aged 90 and over.

In numerical terms, women outnumbered men by 0.7 million among those aged 65 to 69, by 1.0 million among those aged 75 to 79, and by 1.9 million among those aged 85 and over (Figure 1-11). The reason for the increasing sex imbalance at older ages is higher male mortality in the older age groups, although the gap between male and female life expectancies is narrowing, as is the mortality gap at birth (see Chapter 2).

The disproportion of women among the older population has implications for social support mechanisms. Women are not only increasingly more numerous than men in older age groups, but they are also more likely to be widowed and to live alone (see Chapter 5). Their greater proportion among the oldest old indicates that they may be more likely to require long-term care (Martikainen et al., 2009).

**Dependency Ratios**

A key measure of the impact of population aging is the dependency ratio. It provides a broad view of the relative sizes of dependent-age groups to a working-age group. The younger (aged 0 to 19) and older (aged 65 and over) populations are less likely to work and are more often dependent on those in

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6 Sex ratio is the number of males per 100 females.
Figure 1-10.
**Sex Ratio by Age: 2010**
(Males per 100 females. For information on confidentiality protection, nonsampling error, and definitions, see [www.census.gov/prod/cen2010/doc/sf1.pdf](http://www.census.gov/prod/cen2010/doc/sf1.pdf))

Source: U.S. Census Bureau, 2011; 2010 Census.

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Figure 1-11.
**Difference Between Male and Female Populations by Age: 2010**
(For information on confidentiality protection, nonsampling error, and definitions, see [www.census.gov/prod/cen2010/doc/sf1.pdf](http://www.census.gov/prod/cen2010/doc/sf1.pdf))

Note: Calculation is female population minus male population for each age group.
Source: U.S. Census Bureau, 2011; 2010 Census.
their primary working ages (aged 20 to 64). An aging society may cause the older dependency ratio to increase, while lower infant and child mortality can impact both the number of surviving children as well as the number of pregnancies women have, which can shape the youth dependency ratio.

The dependency ratio provides a gross estimate of the pressure on the productive population in a society. Social programs in the United States, such as Social Security and Medicare, are largely used by the older population, and government expenditures on education primarily benefit children and youth. Working-age individuals usually finance these programs through taxes levied by various levels of government. The dependency ratio also offers an indication of a society’s caregiving burden by estimating the potential supply of caregivers and the potential demand for care (care recipients).

However, the dependency ratio does not account for older or younger people who work or have financial resources, nor does it capture those in their “working ages” who are not working. Also, while in the past people were able to receive full Social Security benefits at age 65, the eligibility age to receive full Social Security benefits has risen since the 1990s and a portion of the population aged 65 and older continues to work. Furthermore, many caregivers are found among the older population. Therefore, there may be many different dependency ratios based on alternative age groups.

Figure 1-12 shows trends in the older, youth, and total dependency ratios from 1980 to 2010 as well as projected trends through 2050. In 2010, the total dependency ratio was 67, composed of 45 people younger than age 20 and 22 people aged 65 or older for every 100 people aged 20 to 64. Therefore, from a societal perspective, there were four and a half working-age people in 2010 to support each older person; however, if

Figure 1-12.
Dependency Ratios: 1980 to 2050
(For information on confidentiality protection, nonsampling error, and definitions, see www.census.gov/prod/cen2010/doc/sf1.pdf)

<table>
<thead>
<tr>
<th>Year</th>
<th>Older dependency ratio</th>
<th>Youth dependency ratio</th>
<th>Total dependency ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>1980</td>
<td>20</td>
<td>56</td>
<td>76</td>
</tr>
<tr>
<td>1990</td>
<td>21</td>
<td>49</td>
<td>70</td>
</tr>
<tr>
<td>2000</td>
<td>21</td>
<td>48</td>
<td>70</td>
</tr>
<tr>
<td>2010</td>
<td>22</td>
<td>45</td>
<td>67</td>
</tr>
<tr>
<td>2020</td>
<td>29</td>
<td>44</td>
<td>73</td>
</tr>
<tr>
<td>2030</td>
<td>37</td>
<td>45</td>
<td>82</td>
</tr>
<tr>
<td>2040</td>
<td>38</td>
<td>44</td>
<td>82</td>
</tr>
<tr>
<td>2050</td>
<td>38</td>
<td>43</td>
<td>81</td>
</tr>
</tbody>
</table>

Note: The total dependency ratio is the number of people aged 0 to 19 and 65 and over per 100 people aged 20 to 64. The youth dependency ratio is the number of people aged 0 to 19 per 100 people aged 20 to 64. The older dependency ratio is the number of people aged 65 and over per 100 people aged 20 to 64.

support for youth is also included, then there were only one and a half working-age people to support each dependent.

From an individual perspective, the same working-age individual may be supporting both younger and older family members. This phenomenon is referred to as the “sandwich generation” and translates into greater responsibility for those who are currently working (Cravey and Mitra, 2011). As the older dependency ratio increases, people of “working age” will more likely provide financial, physical, and/or emotional support to both a child and a parent or grandparent.

Changes in dependency ratios provide an indirect indication of how societal needs have shifted in the past and what may be the future needs for housing, consumer products, and services. Youth dependency declined from 56 in 1980 to 45 in 2010, easing the burden on the population aged 20 to 64. Over the same period, older dependency increased from 20 to 22 (Figure 1-12). Because the increase of the older dependency ratio was not as large as the decrease of the youth dependency ratio during these 30 years, the total dependency ratio in 2010 (67) actually was lower than the 1980 ratio (76), reflecting a lighter societal support burden. From 2010 onwards, the older dependency ratio is expected to rise sharply as the Baby Boomers enter the older ages. In 2030, when all Baby Boomers will have passed age 65, the older dependency ratio is expected to be 37, which translates into fewer than three people of working age to support every older person. From 2030 to 2050, the total dependency ratios are projected to remain relatively stable at about 82, with the older dependency ratio around 38 and the youth dependency ratio around 44.

Dependency ratios vary across race and Hispanic-origin groups. Among the race groups, the White alone population had the highest older dependency ratio in 2010 (25; Figure 1-13), largely due to higher life expectancy at birth and at age 65 than other race and Hispanic-origin groups. It was followed by Black alone (15), Asian alone (14), American Indian and Alaska Native alone (12), Two or More Races.

Figure 1-13. Dependency Ratios by Race and Hispanic Origin: 2010
(For information on confidentiality protection, nonsampling error, and definitions, see www.census.gov/prod/cen2010/doc/sf1.pdf)

<table>
<thead>
<tr>
<th>Race and Hispanic Origin</th>
<th>Older dependency ratio</th>
<th>Youth dependency ratio</th>
<th>Total dependency ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>White alone</td>
<td>25</td>
<td>40</td>
<td>66</td>
</tr>
<tr>
<td>Black alone</td>
<td>15</td>
<td>53</td>
<td>68</td>
</tr>
<tr>
<td>American Indian and Alaska Native</td>
<td>12</td>
<td>58</td>
<td>70</td>
</tr>
<tr>
<td>Asian alone</td>
<td>14</td>
<td>38</td>
<td>52</td>
</tr>
<tr>
<td>Native Hawaiian and Other</td>
<td>9</td>
<td>54</td>
<td>63</td>
</tr>
<tr>
<td>Pacific Islander alone</td>
<td>6</td>
<td>64</td>
<td>70</td>
</tr>
<tr>
<td>Some Other Race alone</td>
<td>10</td>
<td>110</td>
<td>120</td>
</tr>
<tr>
<td>Two or More Races</td>
<td>10</td>
<td>66</td>
<td>76</td>
</tr>
<tr>
<td>Hispanic or Latino</td>
<td>10</td>
<td>41</td>
<td>65</td>
</tr>
<tr>
<td>Not Hispanic or Latino</td>
<td>24</td>
<td>41</td>
<td>65</td>
</tr>
</tbody>
</table>

Note: The total dependency ratio is the number of people aged 0 to 19 and 65 and over per 100 people aged 20 to 64. The youth dependency ratio is the number of people aged 0 to 19 per 100 people aged 20 to 64. The older dependency ratio is the number of people aged 65 and over per 100 people aged 20 to 64.

Source: U.S. Census Bureau, 2011; 2010 Census.
(10), Native Hawaiian and Other Pacific Islander alone (9), and Some Other Race alone (6). For the non-Hispanic population, about four working-age individuals support each older person (older dependency ratio is 24; Figure 1-13). Conversely, for Hispanics, ten working-age individuals support each older person (older dependency ratio is 10).

Race and Hispanic Origin

The Distribution of the Older Population by Race and Hispanic Origin in 2010

Figure 1-14 shows the percentage distribution of the population aged 65 and over by race and Hispanic origin in the 2010 Census. Nearly 85 percent of the older population identified their race as White alone. They were followed by Black alone (8.5 percent), Asian alone (3.4 percent), Some Other Race alone (1.7 percent), Two or More Races (1.0 percent), American Indian and Alaska Native alone (0.5 percent), and Native Hawaiian and Other Pacific Islander alone (0.1 percent). While the White alone older population decreased from 86.9 percent to 84.8 percent between 2000 and 2010, all other race groups increased or maintained the same percentages over the intercensal period. The Black alone population increased from 8.1 percent to 8.5 percent between 2000 and 2010, and the Asian alone population increased from 2.3 percent to 3.4 percent. The percentage of Hispanics increased from 5.0 percent to 6.9 percent between 2000 and 2010.

Unlike the total population, in which the non-Hispanic White population will no longer be a majority by 2043, non-Hispanic Whites will remain a majority among the older population for longer (U.S. Census Bureau, 2012a). While the non-Hispanic White population is projected to continue to account for the majority of the older population at least through 2050, the population aged 65 and over is expected to become more racially and ethnically diverse over the next 40 years—18.4 percent of the population aged 65 and over is projected to be Hispanic by 2050, more than double the percentage in 2010, and 77.3 percent are projected to be members of the

Figure 1-14.

Percentage Distribution of the Population Aged 65 and Over by Race and Hispanic Origin: 2000 and 2010

(For information on confidentiality protection, nonsampling error, and definitions, see www.census.gov/prod/cen2010/doc/sf1.pdf)

White alone population, a 7 percentage-point decline from 2010 (U.S. Census Bureau, 2012a). While the 85 and over population is less racially diverse than the 65 to 84 population, it is projected to also increase in diversity between 2010 and 2050.

**Aging Trends by Race and Hispanic Origin**

In the 2010 Census, the proportion aged 65 and over of their respective total population varied across race and Hispanic-origin groups. Just over 15 percent of the White alone population was aged 65 and over (Figure 1-15). They were followed by the Asian alone (9.4 percent), Black alone (8.8 percent), American Indian and Alaska Native alone (7.1 percent), Native Hawaiian and Pacific Islander alone (5.8 percent), Two or More Races (4.4 percent), and Some Other Race alone (3.5 percent) populations. The proportion of the Hispanic population aged 65 and over was 5.5 percent, while the proportion of the non-Hispanic population aged 65 and over was 14.5 percent. Variation across race and Hispanic-origin groups reflects migration, fertility, and mortality differences.

All race and Hispanic-origin groups, except for Two or More Races, saw an increase in the proportion aged 65 and over from the 2000 Census to the 2010 Census. These changes were not uniform across race and ethnic groups. The White alone older population experienced a 6.2 percent growth over the decade (from 14.4 percent to 15.3 percent). The percentage change of the older population in all other race groups exceeded the growth of the White-alone population. The American Indian and Alaska Native-alone older population had the most growth (26.3 percent), and was followed by Asian alone (20.9 percent), Some Other Race alone (17.1 percent), Native Hawaiian and Other Pacific Islander alone (10.7 percent), and Black alone (8.4 percent). During the same 10 years, the older Hispanic population grew 12.2 percent and the non-Hispanic older population grew 7.4 percent. The differential growth of the older population in race and ethnic groups reflects, once again, historical demographic changes and more recent shifts in demographic behavior.

![Figure 1-15. Percentage Aged 65 and Over Among the Total Population for Each Race and Hispanic Origin Group: 2000 and 2010](https://www.census.gov/prod/cen2010/doc/sf1.pdf)

Box 1-1.

**Definition of Race and Hispanic Origin**

The U.S. Census Bureau collects information on race and Hispanic origin following the guidance of the U.S. Office of Management and Budget (OMB)’s *1997 Revisions to the Standards for the Classification of Federal Data on Race and Ethnicity.* These federal standards mandate that race and Hispanic origin (ethnicity) are separate and distinct concepts and that when collecting these data via self-identification, two different questions must be used. “Hispanic or Latino” refers to a person of Cuban, Mexican, Puerto Rican, South or Central American, or other Spanish culture or origin regardless of race. Hispanic origin can be viewed as the heritage, nationality group, lineage, or country of birth of the person or the person’s parents or ancestors before their arrival in the United States. People who identify their origin as Hispanic, Latino, or Spanish may be of any race.

The 2010 Census question on race included 15 separate response categories and three areas where respondents could write-in detailed information about their race. The response categories and write-in answers can be combined to create the five minimum OMB race categories (White, Black or African American, American Indian or Alaska Native, Asian, and Native Hawaiian or Other Pacific Islander), plus Some Other Race.

“White” refers to a person having origins in any of the original peoples of Europe, the Middle East, or North Africa. It includes people who indicated their race(s) as “White” or reported entries such as Irish, German, Italian, Lebanese, Arab, Moroccan, or Caucasian.

“Black or African American” refers to a person having origins in any of the Black racial groups of Africa. It includes people who indicated their race(s) as “Black, African Am., or Negro” or reported entries such as African American, Kenyan, Nigerian, or Haitian.

“American Indian or Alaska Native” refers to a person having origins in any of the original peoples of North and South America (including Central America) and who maintains tribal affiliation or community attachment. This category includes people who indicated their race(s) as “American Indian or Alaska Native” or reported their enrolled or principal tribe, such as Navajo, Blackfeet, Inupiat, Yup’ik, or Central American Indian groups or South American Indian groups.

“Asian” refers to a person having origins in any of the original peoples of the Far East, Southeast Asia, or the Indian subcontinent, including, for example, Cambodians, China, India, Japan, Korea, Malaysia, Pakistan, the Philippine Islands, Thailand, and Vietnam. It includes people who indicated their race(s) as “Asian” or reported entries such as “Asian Indian,” “Chinese,” “Filipino,” “Korean,” “Japanese,” “Vietnamese,” and “Other Asian” or provided other detailed Asian responses.

“Native Hawaiian or Other Pacific Islander” refers to a person having origins in any of the original peoples of Hawaii, Guam, Samoa, or other Pacific Islands. It includes people who indicated their race(s) as “Native Hawaiian,” “Guamanian or Chamorro,” “Samoan,” and “Other Pacific Islander” or provided other detailed Pacific Islander responses.

“Some Other Race” includes all other responses not included in the White, Black or African American, American Indian or Alaska Native, Asian, and Native Hawaiian or Other Pacific Islander race categories described above. Respondents reporting entries such as multiracial, mixed, interracial, or a Hispanic or Latino group (for example, Mexican, Puerto Rican, Cuban, or Spanish) in response to the race question are included in this category.

Individuals who responded to the question on race by indicating only one race are referred to as the race-alone population or the group that reported only one race category. Six categories make up this population: White alone, Black or African American alone, American Indian and Alaska Native alone, Asian alone, Native Hawaiian and Other Pacific Islander alone, and Some Other Race alone. Individuals who chose more than 1 of the 6 race categories are referred to as the Two or More Races population. All respondents who indicated more than one race can be collapsed into the Two or More Races category, which combined with the six race-alone categories, yields seven mutually exclusive and exhaustive categories. Thus, the six race-alone categories and the Two or More Races category sum to the total population.


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*The 1997 Revisions to the Standards for the Classification of Federal Data on Race and Ethnicity, issued by OMB, is available at <www.whitehouse.gov/omb/fedreg/1997standards.html>.*
Age composition within the 65-and-over population varied by race and Hispanic origin (Figure 1-16). Among the race groups, the White alone population had the “oldest” 65-and-over population, with the lowest shares in the age groups 65 to 69 (30.2 percent) and 70 to 74 (22.7 percent) and the highest shares in the age groups 75 to 79 (18.2 percent), 80 to 84 (14.7 percent), 85 to 89 (9.4 percent), and 90 and over (4.8 percent). The second-oldest 65-and-over population belonged to the Black alone population. The two race groups with the “youngest” 65-and-over population were Native Hawaiian and Other Pacific Islander alone and American Indian and Alaska Native alone. These two race groups had the largest shares in the age groups 65 to 69 (38.7 percent and 38.2 percent, respectively) and 70 to 74 (26.1 percent and 26.0 percent, respectively) and among the smallest shares in other older age groups.

A higher proportion of the 65-and-over Hispanic population was in the “younger” age ranges as compared with non-Hispanics (Figure 1-16). Hispanics aged 65 to 74 represented 59.3 percent of the total older population compared with 53.5 percent of non-Hispanics. Conversely, Hispanics aged 85 and over were 9.8 percent of all Hispanics aged 65 and over, while the same figure for non-Hispanics was 14.0 percent.

### Our Aging World

To provide context for aging in the United States, it is helpful to examine aging trends globally. Fertility and mortality rates have declined and populations are aging in most countries, although the levels and pace vary by geographic region—and usually within regions.10

In 2010, four countries out of the 228 in the Census Bureau’s International Data Base (IDB) had an older population that represented 20 percent or more of their total population—Germany, Italy, Japan, and Monaco (Figure 1-17).11 The United States, with an older population of 13.1 percent in 2010, was relatively young by more developed country standards.12

### Growth of the Older Population by Country

With the World War II Baby Boom cohorts in many countries beginning to reach the older ages

### Table: Percentage Distribution of Population Aged 65 and Over by Age for Each Race and Hispanic Origin Group: 2010

(For information on confidentiality protection, nonsampling error, and definitions, see www.census.gov/prod/cen2010/doc/sf1.pdf)

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Total</th>
<th>65 to 69</th>
<th>70 to 74</th>
<th>75 to 79</th>
<th>80 to 84</th>
<th>85 to 89</th>
<th>90 and over</th>
</tr>
</thead>
<tbody>
<tr>
<td>White alone</td>
<td>30.9</td>
<td>30.2</td>
<td>22.7</td>
<td>23.0</td>
<td>18.2</td>
<td>14.3</td>
<td>9.0</td>
</tr>
<tr>
<td>Black alone</td>
<td>33.8</td>
<td>24.8</td>
<td>17.9</td>
<td>17.0</td>
<td>12.3</td>
<td>12.3</td>
<td>9.4</td>
</tr>
<tr>
<td>American Indian and Alaska Native alone</td>
<td>38.2</td>
<td>26.0</td>
<td>18.1</td>
<td>17.2</td>
<td>10.6</td>
<td>5.5</td>
<td>5.5</td>
</tr>
<tr>
<td>Asian alone</td>
<td>34.2</td>
<td>25.5</td>
<td>18.1</td>
<td>17.1</td>
<td>11.1</td>
<td>5.8</td>
<td>5.8</td>
</tr>
<tr>
<td>Native Hawaiian and Other Pacific Islander alone</td>
<td>38.7</td>
<td>26.1</td>
<td>17.2</td>
<td>10.3</td>
<td>6.7</td>
<td>5.2</td>
<td>5.2</td>
</tr>
<tr>
<td>Some Other Race alone</td>
<td>37.9</td>
<td>25.5</td>
<td>17.1</td>
<td>11.1</td>
<td>5.8</td>
<td>5.8</td>
<td>5.8</td>
</tr>
<tr>
<td>Two or More Races</td>
<td>35.6</td>
<td>24.8</td>
<td>17.6</td>
<td>12.1</td>
<td>6.7</td>
<td>3.2</td>
<td>3.2</td>
</tr>
<tr>
<td>Hispanic or Latino</td>
<td>34.1</td>
<td>25.2</td>
<td>18.4</td>
<td>12.6</td>
<td>6.7</td>
<td>3.1</td>
<td>3.1</td>
</tr>
<tr>
<td>Not Hispanic or Latino</td>
<td>30.6</td>
<td>22.9</td>
<td>18.2</td>
<td>14.4</td>
<td>9.2</td>
<td>4.8</td>
<td>4.8</td>
</tr>
</tbody>
</table>

Source: U.S. Census Bureau, 2011; 2010 Census.

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9 For more detailed data on the older population by age, sex, race, and Hispanic origin, see Appendix C, Table C-1.

10 Mortality has decreased in most, but not all, countries of the world. Exceptions include some countries in sub-Saharan Africa that have been highly affected by the AIDS pandemic.

11 The IDB provides estimates and projections through 2050 of countries and areas recognized by the U.S. Department of State with a population of 5,000 or more.

12 Population estimates in the IDB are as of July 1.
around 2010 and with rapidly falling fertility and mortality levels in many less developed countries, the older population proportion throughout much of the world will jump. In 2050, it is projected that 100 countries will have an older population comprising at least a 20 percent share of the total population, including Canada (26.3 percent), China (26.8 percent), Russia (25.7 percent), and Thailand (26.0 percent) (U.S. Census Bureau, 2012b). The older population percentage in the United States is projected to rise markedly, likely reaching 20 percent by 2030.

Almost one-third of the IDB countries (75 countries) are projected to experience at least a tripling in the share of older people in the total population between 2010 and 2050, including Algeria (4.9 percent to 17.2 percent), Brazil (6.7 percent to 21.1 percent), Iran (5.0 percent to 19.7 percent), Mexico
(6.4 percent to 19.0 percent), Taiwan (10.9 percent to 34.9 percent), and Tunisia (7.4 percent to 24.3 percent) (U.S. Census Bureau, 2012b). In 2010, 50 countries had a higher proportion of people aged 65 and over than the United States, and by 2050 this number is projected to rise to 98, almost half of the world. For example, while South Korea’s older population made up 11.1 percent of their total population in 2010, slightly lower than the 13.1 percent for the United States, in 2050 this percentage in South Korea is projected to reach 35.9, much higher than the projection for the United States (20.9 percent). Another example is Chile, where the 8.9 percent of older people in 2010 is projected to rise to 23.2 percent in 2050, also higher than that projected for the United States.

“The Crossing”

An unprecedented shift will occur between 2015 and 2020, when the percentage of older people (aged 65 and over) in the global population will surpass the percentage of the very young (aged 0–4) for the first time (Figure 1-18). Historically, children under age 5 have outnumbered older people; however, since 1955, the proportion of children under age 5 has been declining, while the proportion aged 65 and older has been rising. These two trend lines are projected to cross before the year 2020. This “crossing” occurred in the United States in the second half of the 1960s. Projections show that in the coming decades, older people will continue to outnumber the very young. The proportion of the world population aged 65 and above is expected to double from about 8 percent in 2010 to about 16 percent in 2050, while the proportion under age 5 is projected to shrink from about 9 percent to 7 percent over the same time span.

Regional Differences

Currently, as in past decades, Europe and North America have the highest proportions of older people among major world regions, and this pattern will likely continue well into the twenty-first century. In 2010, 16.3 percent of Europe’s population was 65 and older, with the share expected to rise to almost 23 percent by 2030 and about 28 percent by 2050 (Figure 1-19). The proportion of people aged 65 and over was lower in less developed regions in 2010 due to historical conditions of high fertility and mortality. However,

13 The IDB follows the United Nations classifications for “less developed” and “more developed” countries. See <http://esa.un.org/wup2009/unup/index.asp?panel=5> for more information.
the percentage of older people is expected to more than double in Asia and in Latin America and the Caribbean between 2010 and 2050 as a result of rapid fertility and mortality declines in these regions. In 2010, Africa was the youngest of the world’s regions, with 3.4 percent of its population aged 65 and older. While the percentage aged 65 and over is projected to be less than 7 percent in Africa in 2050, there will be a substantial increase in the absolute number of older people, rising from 34 million in 2010 to 70 million in 2030 and to 150 million in 2050 (U.S. Census Bureau, 2012b).

In some less developed countries, the proportion of the total population that is aged 65 and over may be low, but the number is large because of their sizable total population. For example, in 2010 there were 115 million older people living in China, although they made up just 8.6 percent of the population, about 63 million living in India representing only 5.3 percent of the population, and 13 million in Brazil making up 6.7 percent of the population (U.S. Census Bureau, 2012b). In contrast, in more developed countries, where the percentage of older people was high, many had a small number of older people. For example, in 2010 there were only 1.9 million people aged 65 and over in Portugal, but they made up 17.8 percent of the total population. In Hungary, the older population represented 16.7 percent of the total population but numbered only 1.7 million.

More developed countries have relatively high proportions of people aged 65 and older, but the most rapid increases in older populations are in the less developed world. In 2010, the majority of the world’s older population lived in less developed countries (63 percent). The proportion is projected to rise to over 70 percent by 2030 and to 78 percent by 2050 (U.S. Census Bureau, 2012b). Numerical growth of the older population is also occurring faster in less developed countries than in more developed countries (Figure 1-20). In 2010, 336 million people in less developed countries were 65 and older, and their number is expected to grow nearly 3 times to 1.2 billion by 2050. In contrast, 199 million people were aged 65 and older in more developed countries in 2010, and their numbers are projected to less than double to 344 million by 2050. In both more developed and less developed countries, the population aged 80 and over is growing more rapidly than those aged 65 to 79 and is thus becoming a larger share of the older population.14

14 For worldwide aging, the focus is on the population aged 80 and over rather than aged 85 and over because many less developed countries have a lower life expectancy and, hence, a smaller proportion aged 85 and over.

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Figure 1-19.
Percentage Aged 65 and Over Among the Total Population for Each World Region: 2010, 2030, and 2050

<table>
<thead>
<tr>
<th>Region</th>
<th>2010</th>
<th>2030</th>
<th>2050</th>
</tr>
</thead>
<tbody>
<tr>
<td>Africa</td>
<td>3.4</td>
<td>6.7</td>
<td>12.1</td>
</tr>
<tr>
<td>Asia</td>
<td>4.4</td>
<td>7.0</td>
<td>18.8</td>
</tr>
<tr>
<td>Europe</td>
<td>7.0</td>
<td>12.1</td>
<td>16.3</td>
</tr>
<tr>
<td>Latin America and the Caribbean</td>
<td>6.8</td>
<td>12.0</td>
<td>18.8</td>
</tr>
<tr>
<td>Northern America</td>
<td>13.3</td>
<td>20.1</td>
<td>21.1</td>
</tr>
<tr>
<td>Oceania</td>
<td>11.1</td>
<td>16.2</td>
<td>19.5</td>
</tr>
</tbody>
</table>

Note: Based on the United Nations regional classification.
Source: U.S. Census Bureau, 2012b; International Data Base.
Most of today’s more developed nations have had decades to adjust to the changing age structures. For example, it took more than a century for France’s population aged 65 and over to increase from 7 percent to 14 percent of the total population (Kinsella and Gist, 1995). Other more developed nations took many decades to experience this same doubling in the share aged 65 and over, including Sweden (85 years), Hungary (53 years), and both Spain and the United Kingdom (45 years). The United States is expected to reach the 14 percent milestone in 2013, 69 years after it reached 7 percent (Kinsella and Gist, 1995; U.S. Census Bureau, 2012a). Japan was an exception among the more developed nations, taking only 26 years to double the share of their older population from 7 percent.

Many less developed nations are expected to follow the pace of Japan rather than that of European countries and the United States, as the doubling of their older populations from 7 percent to 14 percent is projected to take place often within a single generation. Notable swift increases are expected in eastern and southeastern Asia, impacted by dramatic drops in fertility levels during the last 3 decades. The same demographic aging process that occurred over a century in France will likely occur in China in 23 years, Thailand in 22 years, Brazil in 21 years, Colombia in 18 years, and South Korea in 18 years (U.S. Census Bureau, 2012b).

An often-heard maxim is that more developed countries grew rich before they grew old, while many less developed nations may grow old before they grow rich (OECD, 2013; The Economist, 2009). Many of the more developed countries experienced rapid economic growth during the second half of the twentieth century at the time of gradual population aging, while many less developed countries will experience rapid population aging when the level of economic development is still low (United Nations, 2009). In response to the rapid pace of aging, institutions in less developed countries will be called upon to adapt quickly to accommodate the new age structure and deal with the social support needs and the reallocation of resources across generations, without the accompanying wealth that characterized the experience of many aging societies in more developed regions.

While global aging represents a triumph of medical, social, and economic advances, it also presents tremendous challenges that affect economic growth, formal and informal social support systems, and the ability of states and communities to provide resources for older citizens (National Institute on Aging and U.S. Department of State, 2007). Both individuals and society need to prepare for population aging; the cost of waiting—financial and social—could be overwhelming.
Chapter 1 References


Chapter 2. Longevity and Health

Older people comprise a heterogeneous population with a wide range of health states. This chapter examines the health status of people aged 65 and over in the United States, using multiple sources of data. Among the issues addressed are life expectancy and mortality, health behaviors and risks, chronic conditions and disability, long-term care, and health insurance.

Life Expectancy

Basic Levels and Trends

As mortality declined in the United States during the twentieth century and early twenty-first century, life expectancy increased (Table 2-1). Between 1900 and 1950, life expectancy at birth improved by more than 20 years, from 47.3 years to 68.2 years. Then, between 1950 and 2000, life expectancy at birth improved by more than 8 years, to 76.8, with another 1.9 years added by 2010. People of all ages have shared in these health improvements for more than a century, although the pace of improvements has differed by age group and time. For instance, improvements in the first half of the twentieth century were due primarily to reductions in infectious and childhood diseases, while improvements since then were due primarily to advances in adult health (Centers for Disease Control and Prevention [CDC], 1999). The improvements in adult health translate to increases in life expectancy at older ages. In 1980, individuals who reached age 65 had a remaining life expectancy of 16.4 years under mortality conditions of that year. By 2010, the remaining life expectancy had improved to 19.2 years for 65-year-olds. Life expectancy at age 75 also increased, rising from 10.4 years in 1980 to 12.2 years in 2010.

Table 2-1. Life Expectancy at Birth, Age 65, Age 75, and Age 85 by Race and Sex: 1900 to 2010

<table>
<thead>
<tr>
<th>Age and year</th>
<th>All races</th>
<th>White</th>
<th>Black</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Both sexes</td>
<td>Male</td>
<td>Female</td>
</tr>
<tr>
<td>At Birth</td>
<td>1900-02</td>
<td>47.3</td>
<td>46.3</td>
</tr>
<tr>
<td></td>
<td>1900</td>
<td>68.2</td>
<td>65.6</td>
</tr>
<tr>
<td></td>
<td>1901</td>
<td>69.7</td>
<td>66.6</td>
</tr>
<tr>
<td></td>
<td>1902</td>
<td>70.8</td>
<td>67.1</td>
</tr>
<tr>
<td></td>
<td>1970</td>
<td>71.1</td>
<td>70.0</td>
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<tr>
<td></td>
<td>1980</td>
<td>75.4</td>
<td>71.8</td>
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<td></td>
<td>1990</td>
<td>76.8</td>
<td>74.1</td>
</tr>
<tr>
<td></td>
<td>2000</td>
<td>78.7</td>
<td>76.2</td>
</tr>
<tr>
<td></td>
<td>2010</td>
<td>78.7</td>
<td>76.2</td>
</tr>
<tr>
<td>At Age 65</td>
<td>1900-02</td>
<td>11.9</td>
<td>11.5</td>
</tr>
<tr>
<td></td>
<td>1900</td>
<td>13.9</td>
<td>12.8</td>
</tr>
<tr>
<td></td>
<td>1901</td>
<td>14.3</td>
<td>12.8</td>
</tr>
<tr>
<td></td>
<td>1902</td>
<td>15.2</td>
<td>13.1</td>
</tr>
<tr>
<td></td>
<td>1970</td>
<td>16.4</td>
<td>14.1</td>
</tr>
<tr>
<td></td>
<td>1980</td>
<td>17.2</td>
<td>15.1</td>
</tr>
<tr>
<td></td>
<td>1990</td>
<td>17.6</td>
<td>16.0</td>
</tr>
<tr>
<td></td>
<td>2000</td>
<td>19.2</td>
<td>17.7</td>
</tr>
<tr>
<td></td>
<td>2010</td>
<td>19.6</td>
<td>17.7</td>
</tr>
<tr>
<td>At Age 75</td>
<td>1900</td>
<td>10.4</td>
<td>8.8</td>
</tr>
<tr>
<td></td>
<td>1901</td>
<td>10.9</td>
<td>9.4</td>
</tr>
<tr>
<td></td>
<td>1902</td>
<td>11.0</td>
<td>9.8</td>
</tr>
<tr>
<td></td>
<td>1970</td>
<td>12.2</td>
<td>11.0</td>
</tr>
<tr>
<td></td>
<td>1980</td>
<td>6.6</td>
<td>5.9</td>
</tr>
</tbody>
</table>

1 Includes deaths of persons who were not residents of the United States. For Blacks in these years, data refer to the non-White population.
2 Includes death registration only in 10 states and the District of Columbia.
Notes: Data are not comparable across all years. Data for 2010 are preliminary.
Differences by Sex and Race Group

Life expectancy differences by sex are distinct. As is typical throughout the world, females in the United States live longer than males, although the difference by sex has often changed over time. In 1970, female life expectancy at birth was 74.7 years compared with 67.1 years for males, an advantage of 7.6 years (Table 2-1). Since then, that advantage has consistently declined. In 2010, the female advantage at birth was 4.9 years. This narrowing of the female advantage was due in large measure to changing life expectancy patterns of older Americans. In 2010, males at age 65 were expected to live another 17.7 years, compared with 14.1 years in 1980, an improvement of 3.6 years. In contrast, the female improvement in life expectancy at age 65 over the same period was only 2.0 years (from 18.3 years to 20.3 years).

The ratio of female to male life expectancy at age 65 has also declined between 1980 and 2010 from 1.30 to 1.15. Studies on life expectancy in the United States point to the slowing in gains of life expectancy for women and a narrowing in the mortality gap at birth as well as at older ages between men and women since the 1980s (Glei, Mesle, and Vallin, 2010; Preston and Wang, 2006). Despite this narrowing in female advantage, older females can still expect to live longer than older males (Figure 2-1). For instance, in 2010 the female advantage in life expectancy at age 65 was 2.6 years (20.3 years for women versus 17.7 years for men), at age 75 was 1.9 years (12.9 years for women versus 11.0 years for men), and at age 85 was 1.1 years (7.0 years for women versus 5.9 years for men). The ratio of female to male life expectancy, however, continues to rise with advancing age up to age 90.

Among race groups, Whites tend to live longer than Blacks (Table 2-1). In 2010, life expectancy at birth among White females was 81.3 years, compared with 78.0 years for Black females. In that same year, life expectancy at birth for White males was 76.5 years, compared with 71.8 years for Black males.

As was the case for differences in life expectancy by sex, differences by race group have also shifted over the years. The 1980s, for example, saw only marginal improvements in life expectancy at birth and at age 65 for Blacks compared with Whites. However, between 1990 and 2010, life expectancy at birth for Black males improved from 64.5 years to 71.8 years, an advance of 7.3 years, compared with an advance of 3.8 years for White males (Table 2-1 and Figure 2-2). Similarly, over the

---

Figure 2-1.
Life Expectancy at Older Ages by Age and Sex: 2010
(In years)

<table>
<thead>
<tr>
<th>Age</th>
<th>65</th>
<th>70</th>
<th>75</th>
<th>80</th>
<th>85</th>
<th>90</th>
<th>95</th>
<th>100</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>17.7</td>
<td>16.5</td>
<td>12.9</td>
<td>9.7</td>
<td>5.9</td>
<td>4.9</td>
<td>2.9</td>
<td>2.1</td>
</tr>
<tr>
<td>Female</td>
<td>20.3</td>
<td>14.2</td>
<td>11.0</td>
<td>8.2</td>
<td>7.0</td>
<td>4.1</td>
<td>3.4</td>
<td>2.4</td>
</tr>
</tbody>
</table>

Note: Data for 2010 are preliminary.

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2 For more information on the definition of race and Hispanic origin, see Chapter 1, Box 1-1.
same interval, life expectancy at birth for Black females improved from 73.6 years to 78.0 years, an advance of 4.4 years, compared with an advance of 1.9 years for White females. Harper et al. (2007) examined the change in the Black-White life expectancy gap from 1993 to 2003. They conclude that the decline in the female gap was due primarily to mortality improvements among Black women aged 20 to 49, followed by Black women aged 65 to 84. Among males, the narrowing of the life expectancy gap was overwhelmingly due to decreases in mortality among Black males aged 15 to 49.

According to the National Center for Health Statistics, in 2010 life expectancy was 83.8 years among Hispanic females, which was higher than non-Hispanic White females (81.1 years), Hispanic males (78.8 years), non-Hispanic Black females (77.7 years), non-Hispanic White males (76.4 years), and non-Hispanic Black males (71.4 years) (Minino and Murphy, 2012). In 2010, the difference in life expectancy between the Hispanic population and the non-Hispanic White population was 2.5 years, and between the Hispanic population and the non-Hispanic Black population was 6.6 years.

In addition to race and sex, life expectancy also varies by educational attainment. In 2008, the gap in life expectancy at birth between males with fewer than 12 years of education and males with a bachelor’s degree or above was 14.2 years, and for their female counterparts the disparity was 10.3 years (Olshansky et al., 2012). The disparities by educational attainment in 2008 had increased over the levels in 1990.

Comparison of United States With Selected Countries

In 2010, Singapore and Japan shared the highest life expectancies at birth in the world (81.1 years for males in Singapore and 86.9 years for females in Japan). Compared with these and other countries with populations of one million or more, the life expectancy at birth of males in the United States ranked 26th, while that of females ranked 31st (Table 2-2). Over the past 25 years, life expectancy has risen at a slower pace in the United States than in many other high-income countries. As a result, the United States has been falling in the rankings of countries with high life expectancies since 1980, even though expenditures on health care exceed those of any other nation (National Research Council, 2011).

A panel of leading experts examined the reasons for this decline in the ranking of U.S. life expectancy and concluded that a history of heavy smoking played a large role, especially for female life expectancy (National Research Council, 2011). The current cohort of older Americans was alive 50 years ago, when Americans smoked more frequently than people living in Japan or Europe. Smoking habits in the United States were likely reinforced by social and economic factors, such as a driving culture, where Americans drove...
more and sometimes as a result
smoked in their vehicle, local soil
conditions well suited for grow-
ing tobacco, and the relatively
low price of tobacco (National
Research Council, 2011). In 2003,
smoking accounted for a loss of
life expectancy at age 50 of 2.3
years for U.S. males (Preston, Glei,
and Wilmoth, 2010). Smoking was
estimated to explain 78 percent
of the life expectancy gap for
men between the United States
and other high-income countries.

Among 21 countries considered
in the Preston, Glei, and Wilmoth
study, once deaths associated
with smoking were removed,
the ranking of United States life
expectancy improved from 15th
place to 12th place for males and
from 17th place to 9th place for
females. Other factors identified
as contributors to the gap between
the United States and other high-
income countries include the rising
level of obesity in the United States
and economic inequality (National
Research Council, 2011). The
expert panel concluded that the
options to address these problems
pose a challenge to the nation.

Death and Death Rates

Trends in Death Rates by Age

Death rates have declined dra-
matically over the past century,
as well as the past decade. Table
2-3 shows the decline in death
rates from 2000 to 2010. Death
rates declined for both males
and females at all ages, although the
percentage decline was greatest
for the age group 5 to 14 (32 per-
cent) followed by the age group 65
to 74 (23 percent).

The pattern of death rates by age
is distinctive. Death rates tend
to be relatively high in infancy,
decline through childhood and
young adulthood, increase gradu-
ally from mid-adulthood, and
then rise sharply among the older
population. The death rate in 2010
among those aged 55 to 64, the
cohort poised to enter the older
population, was 851 per 100,000
people (Figure 2-3). The death rate
then more than doubled at each
successive 10-year age group of
older persons — 1,873 per 100,000
people at ages 65 to 74; 4,786 per
100,000 people at ages 75 to 84;
and 13,918 per 100,000 people at
ages 85 and over.
Since death rates are higher at progressively older ages (Figure 2-3), deaths tend to be concentrated among the older population. In 2010, 1.8 million or 72.8 percent of the total 2.5 million deaths in the United States occurred to people aged 65 and over (Murphy, Xu, and Kochanek, 2012). Of the total deaths, 16 percent occurred to people aged 65 to 74, 25 percent to people aged 75 to 84, and 31 percent to people 85 years and older. The number of deaths in a particular age group depends not only on death rates in that age group but also the number of people in that age group. Changes over time in the distribution of deaths reflect these two factors. The size of cohorts entering the older ages can fluctuate substantially due to factors affecting them in the historical past, such as fertility swings, epidemics, and social upheaval. For this reason, health aspects of mortality are more reliably inferred from changes in death rates (or life expectancy) rather than death numbers.

### Table 2-3.
**Percentage Decline in Death Rates by Age and Sex: 2000–2010**

<table>
<thead>
<tr>
<th>Age</th>
<th>Both sexes</th>
<th>Male</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>. . . . . . . . . .</td>
<td>15</td>
<td>15</td>
</tr>
<tr>
<td>1 to 4</td>
<td>. . . . . . . . . .</td>
<td>19</td>
<td>19</td>
</tr>
<tr>
<td>5 to 14</td>
<td>. . . . . . . . . .</td>
<td>32</td>
<td>33</td>
</tr>
<tr>
<td>15 to 24</td>
<td>. . . . . . . . . .</td>
<td>17</td>
<td>17</td>
</tr>
<tr>
<td>25 to 34</td>
<td>. . . . . . . . . .</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>35 to 44</td>
<td>. . . . . . . . . .</td>
<td>15</td>
<td>17</td>
</tr>
<tr>
<td>45 to 54</td>
<td>. . . . . . . . . .</td>
<td>6</td>
<td>9</td>
</tr>
<tr>
<td>55 to 64</td>
<td>. . . . . . . . . .</td>
<td>15</td>
<td>14</td>
</tr>
<tr>
<td>65 to 74</td>
<td>. . . . . . . . . .</td>
<td>23</td>
<td>25</td>
</tr>
<tr>
<td>75 to 84</td>
<td>. . . . . . . . . .</td>
<td>16</td>
<td>17</td>
</tr>
<tr>
<td>85 and over</td>
<td>. . . . . . . . . .</td>
<td>9</td>
<td>7</td>
</tr>
</tbody>
</table>

Note: Data for 2010 are preliminary.

### Age Structure of Deaths

Since death rates are higher at progressively older ages (Figure 2-3), deaths tend to be concentrated among the older population. In 2010, 1.8 million or 72.8 percent of the total 2.5 million deaths in the United States occurred to people aged 65 and over (Murphy, Xu, and Kochanek, 2012). Of the total deaths, 16 percent occurred to people aged 65 to 74, 25 percent to people aged 75 to 84, and 31 percent to people 85 years and older.
Death Rates by Age, Sex, Race, and Hispanic Origin

Worldwide, death rates usually are higher for men than women at every age group. Table 2-4 shows death rates by sex and age for the older non-Hispanic White, non-Hispanic Black, American Indian and Alaska Native, Asian and Pacific Islander, and Hispanic populations. In all cases, death rates were higher for men than women in 2010. Higher death rates among men lead to increasing proportions of women at older age groups.

Death rates for the older population also differ by race. Figure 2-4 suggests that death rates in 2010 were lower among Whites than Blacks at ages 55 to 84, yet lower among Blacks at ages 85 and over. Researchers have been aware of this “crossover” for many years. Some have attributed it to age misreporting among Blacks at the oldest ages (Elo and Preston).

### Table 2-4.

#### Death Rates for the Population Aged 65 and Over by Age, Sex, Race, and Hispanic Origin: 2010

(Per 100,000)

<table>
<thead>
<tr>
<th>Race, Hispanic origin, and age</th>
<th>Both sexes</th>
<th>Male</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-Hispanic White</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>65 to 74</td>
<td>1,874.2</td>
<td>2,254.3</td>
<td>1,534.3</td>
</tr>
<tr>
<td>75 to 84</td>
<td>4,881.6</td>
<td>5,763.8</td>
<td>4,228.4</td>
</tr>
<tr>
<td>85 and over</td>
<td>14,267.4</td>
<td>15,796.1</td>
<td>13,525.7</td>
</tr>
<tr>
<td>Non-Hispanic Black</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>65 to 74</td>
<td>2,575.5</td>
<td>3,266.0</td>
<td>2,062.9</td>
</tr>
<tr>
<td>75 to 84</td>
<td>5,464.4</td>
<td>6,832.1</td>
<td>4,663.9</td>
</tr>
<tr>
<td>85 and over</td>
<td>13,355.9</td>
<td>14,947.1</td>
<td>12,737.3</td>
</tr>
<tr>
<td>American Indian and Alaska Native</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>65 to 74</td>
<td>1,707.5</td>
<td>1,969.7</td>
<td>1,478.2</td>
</tr>
<tr>
<td>75 to 84</td>
<td>3,811.6</td>
<td>4,441.5</td>
<td>3,362.5</td>
</tr>
<tr>
<td>85 and over</td>
<td>9,587.0</td>
<td>10,240.5</td>
<td>9,249.3</td>
</tr>
<tr>
<td>Asian and Pacific Islander</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>65 to 74</td>
<td>986.8</td>
<td>1,225.0</td>
<td>788.5</td>
</tr>
<tr>
<td>75 to 84</td>
<td>2,852.0</td>
<td>3,436.6</td>
<td>2,445.2</td>
</tr>
<tr>
<td>85 and over</td>
<td>9,415.4</td>
<td>10,822.7</td>
<td>8,586.9</td>
</tr>
<tr>
<td>Hispanic (of any race)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>65 to 74</td>
<td>1,391.7</td>
<td>1,773.7</td>
<td>1,084.6</td>
</tr>
<tr>
<td>75 to 84</td>
<td>3,636.5</td>
<td>4,461.3</td>
<td>3,066.4</td>
</tr>
<tr>
<td>85 and over</td>
<td>10,775.3</td>
<td>11,775.6</td>
<td>10,235.6</td>
</tr>
</tbody>
</table>

Notes: Mortality data by race are based on death certificates from 50 states and the District of Columbia. Death certificates in most states follow the 1997 Office of Management and Budget (OMB) standards for collecting data by race (permit the reporting of more than one race) while some states follow the 1977 OMB standards (allow only a single race to be reported). This table reports race according to the 1977 OMB standards. Data for 2010 are preliminary.


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Notes: Mortality data by race are based on death certificates from 50 states and the District of Columbia. Death certificates in most states follow the 1997 Office of Management and Budget (OMB) standards for collecting data by race (permit the reporting of more than one race) while some states follow the 1977 OMB standards (allow only a single race to be reported). This table reports race according to the 1977 OMB standards. Data for 2010 are preliminary.

1997), although other recent studies revive an earlier theory that higher Black death rates below age 85 might select the most unhealthy people and leave behind a healthier cohort of oldest old (Yao and Robert, 2011).

Figure 2-4 also suggests that among those aged 55 and over, Whites and Blacks had higher death rates than the race groups American Indian and Alaska Native, and Asian and Pacific Islander. Non-Hispanic Whites and non-Hispanic Blacks also had higher death rates than Hispanics (Table 2-4). Although such differentials could indicate better health among the latter population, they may also reflect other factors, such as differential completeness in death reporting. The dynamics of migration may also be relevant. For instance, international migrants may be particularly healthy (Page et al., 2007). Similarly, researchers have found evidence for the “salmon hypothesis”—if immigrants live their healthiest years in the United States and then return abroad to their country of origin when they become less healthy, their deaths will not be recorded in the United States (Palloni and Arias, 2004).

Leading Causes of Death

The patterns and differentials in mortality by age, sex, and race may be related in part to specific causes of death. Over the past several hundred years, the United States, along with other parts of the world, has experienced an “epidemiological transition” during which the main causes of death have shifted from infectious diseases (e.g., smallpox, pneumonia, and tuberculosis) to chronic diseases of the older population, such as heart disease and cancer.

Figure 2-5 shows the leading causes of death in the United States in 2010 among those aged 65 and over. Heart disease and malignant neoplasms (cancer) were the first and second leading causes of death, respectively. In 2010, among those aged 65 and over, nearly 477,000 deaths were due to heart disease, while just over 396,000 deaths were due to cancer.
Figure 2-6 shows the top seven causes of death in the population aged 65 and over in 2000 and 2010. The share of deaths due to malignant neoplasms (cancer) has remained relatively stable at about 22 percent. In contrast, the share of deaths due to heart disease declined from 33.0 percent in 2000 to 26.5 percent in 2010. That decline of about 7 percentage points was offset by an almost equal increase in the percentage share of deaths due to causes other than the top seven, which rose from 22.2 percent in 2000 to 29.1 percent in 2010.

In 2009, heart disease was the leading cause of death among those aged 85 and above, while cancer was the leading cause of death for those aged 65 to 74 (Table 2-5). Among the population aged 65 to 74, cancer accounted for 34.8 percent of all male deaths and 36.6 percent of all female deaths in 2007 (Figure 2-7). Among those aged 85 and over, cancer was responsible for only 16.1 percent of male deaths and 10.3 percent of female deaths. Since the 1970s, there has been a major reduction in the incidence and death rates from cancer (Edwards et al., 2010), especially the three most common cancers among men (lung, prostate, and colorectal) and two of the three most common cancers among women (breast and colorectal). The continued decline in death rates among women and men from all cancers may be due to increased screening, reduced risk factors, and improved treatment.

Table 2-5.
Death Rates for the Population Aged 65 and Over by Age and Cause of Death: 2009
(Per 100,000)

<table>
<thead>
<tr>
<th>Cause of death</th>
<th>65 to 74</th>
<th>75 to 84</th>
<th>85 and over</th>
</tr>
</thead>
<tbody>
<tr>
<td>All causes</td>
<td>1,929</td>
<td>4,774</td>
<td>13,021</td>
</tr>
<tr>
<td>Heart disease</td>
<td>432</td>
<td>1,199</td>
<td>4,115</td>
</tr>
<tr>
<td>Cancer</td>
<td>682</td>
<td>1,201</td>
<td>1,620</td>
</tr>
<tr>
<td>Chronic lower respiratory diseases</td>
<td>151</td>
<td>373</td>
<td>653</td>
</tr>
<tr>
<td>Cerebrovascular disease</td>
<td>85</td>
<td>292</td>
<td>946</td>
</tr>
<tr>
<td>Accidents</td>
<td>43</td>
<td>103</td>
<td>296</td>
</tr>
<tr>
<td>Alzheimer’s</td>
<td>20</td>
<td>177</td>
<td>901</td>
</tr>
<tr>
<td>Diabetes</td>
<td>71</td>
<td>144</td>
<td>269</td>
</tr>
<tr>
<td>Influenza and pneumonia</td>
<td>30</td>
<td>106</td>
<td>414</td>
</tr>
<tr>
<td>Nephritis</td>
<td>40</td>
<td>114</td>
<td>306</td>
</tr>
<tr>
<td>Suicide</td>
<td>14</td>
<td>16</td>
<td>16</td>
</tr>
<tr>
<td>Other</td>
<td>362</td>
<td>1,049</td>
<td>3,486</td>
</tr>
</tbody>
</table>

Source: Kochanek et al., 2011.
Despite variations in the leading cause of death by age, death rates rise progressively at older ages for nearly all causes of death (Table 2-5).

After heart disease and cancer, the third and fourth most common causes of death for older Americans were chronic lower respiratory diseases and cerebrovascular diseases (e.g., stroke), accounting for nearly 118,000 and 110,000 deaths, respectively, in 2010 (Figure 2-5). Such deaths, in comparison with those for the two leading causes, were more concentrated among older Americans. Stroke death rates are higher for Blacks than for Whites, even at younger ages (American Heart Association, 2010). Between 1997 and 2006, researchers found that in-hospital mortality rates decreased among those diagnosed with a stroke, except for men aged 85 and over (Ovbiagele, Markovic, and Towfighi, 2011).

Between 1999 and 2007, in contrast with declining mortality from most other causes, the death rate for Alzheimer’s disease rose more than 50 percent, from 127 to 195 per 100,000 people (National Center for Health Statistics [NCHS], 2011). In contrast to other leading causes of death, Alzheimer’s disease is overwhelmingly concentrated among the older population (99 percent) (Murphy, Xu, and Kochanek, 2012). In 2009, death rates due to Alzheimer’s among those aged 85 and over were 901 per 100,000 people, 45 times the death rate due to Alzheimer’s among those aged 65 to 74—no other leading cause of death exhibits such a steep increase in death rates among the older population (Table 2-5).

Since 2000, when Alzheimer’s disease was the seventh leading cause of death, it has surpassed influenza/pneumonia and diabetes to become the fifth leading cause of death among the older population in 2010 (Figure 2-6). Above age 85, Alzheimer’s is now the fourth leading cause of death (Table 2-5). The increase in the number of Alzheimer’s deaths is due in part to the aging of the older population but perhaps more importantly may be due to improved diagnosis of Alzheimer’s and increased coding of Alzheimer’s as a cause of death.

Health Risks Among Older People

Health-risk factors can negatively impact health. Some of these risk factors include smoking, alcohol

---

**Figure 2-7.**

**Share of Deaths Due to Cancer and Heart Disease by Age and Sex: 2007**

(In percent)

<table>
<thead>
<tr>
<th></th>
<th>Male</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td>65 and over</td>
<td>28.6</td>
<td>36.6</td>
</tr>
<tr>
<td>65 to 74</td>
<td>45.8</td>
<td>52.6</td>
</tr>
<tr>
<td>75 to 84</td>
<td>39.8</td>
<td>43.5</td>
</tr>
<tr>
<td>85 and over</td>
<td>16.1</td>
<td>19.9</td>
</tr>
<tr>
<td>65 and over</td>
<td>28.0</td>
<td>25.1</td>
</tr>
<tr>
<td>65 to 74</td>
<td>39.8</td>
<td>23.4</td>
</tr>
<tr>
<td>75 to 84</td>
<td>26.8</td>
<td>32.9</td>
</tr>
<tr>
<td>85 and over</td>
<td>19.4</td>
<td>10.3</td>
</tr>
</tbody>
</table>

1The base of the percentage is the total number of deaths for each age group.

Source: Heron, 2011.
abuse, being overweight or underweight, lack of physical activity, and inadequate consumption of fruits and vegetables. Table 2-6 shows the prevalence of several health risks among the older population.

**Smoking**

Older people are less likely to smoke than younger people. In 2010, less than 10 percent of older people currently smoked, which was under half the currently smoking rate for people aged 18 to 64 (Federal Interagency Forum on Aging-Related Statistics, 2012). Nevertheless, older people who smoke (or used to smoke) face an elevated risk of health problems compared with those who do not smoke and to younger persons who do smoke. This is because older people have a longer history of tobacco use, are heavier smokers, are already suffering from smoking-related health conditions upon entering older ages, and have other health conditions (Burns, 2000; Drum et al., 2009).

Adverse health outcomes faced by smokers include a higher risk of cardiovascular and respiratory diseases (Nicita-Mauro et al., 2010), stroke, and cancer (American Heart Association, 2010)—in particular lung and breast cancer (Cornfield et al., 2009; Xue et al., 2011). Additionally, smoking increases the risk of dementia, osteoporosis, diabetes, erectile dysfunction, senile macular degeneration, nuclear cataracts, and skin alterations in older age groups (Nicita-Mauro et al., 2010). These enhanced risk factors contribute to shorter life expectancy (Bernhard et al., 2007; Strandberg et al., 2008; Weuve et al., 2012). No other single risk factor reduces life expectancy more than smoking (Preston, Glei, and Wilmeth, 2010). Yet those who quit smoking can prolong their lives, even those who quit at older ages (Nicita-Mauro et al., 2010).

The share of current smokers in 2008 was slightly higher for older men than older women (9.8 percent and 8.5 percent, respectively), and women were more likely to have never smoked than men (62.6 percent versus 36.0 percent; Table 2-6). Although men at present are more likely to suffer the consequences of smoking, that may change in the future since the sex gap in smoking has narrowed for the population aged 65 and over (Figure 2-8).

**Alcohol Consumption**

A wide body of research underscores the health benefits of moderate drinking for adults, including older men and women. These benefits include a greater sense of well-being and lower likelihood of depression (Lang et al., 2007), as well as protection against coronary heart disease (Hvidtfeldt et al., 2010). Research suggests that benefits among older women also include less weight gain, lower risk of becoming overweight or obese (Wang et al., 2010), and improved survival overall (Sun et al., 2010). Fortunately, moderate drinking among the older population became more common in recent decades while excessive drinking declined (Moos et al., 2009). Although fewer older people drink excessively, excessive alcohol consumption is more prevalent in men (Table 2-6; Platt, Sloan, and Costanzo, 2010; Molander, Yonker, and Krahn, 2010; Moos et al., 2009; Kirchner et al., 2007). Health and Retirement Study (HRS) data reveal that excessive alcohol consumption increased among affluent and better-educated males between 1992 and 2006 (Platt, Sloan, and Costanzo, 2010). Excessive alcohol consumption among the 65 and over population is also more prevalent among Whites as opposed to African Americans or Hispanic/Latino Americans (Kirchner et al., 2007). Drinking excessively among older drinkers is associated with negative health outcomes such as depression, anxiety, and less social support.

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### Table 2-6.
**Percentage of the Population Aged 65 and Over With Risk Factors by Sex: Various Years, 2003–2008**

<table>
<thead>
<tr>
<th>Risk factor</th>
<th>Male</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Smoking (2008)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Current smoker</td>
<td>9.8</td>
<td>8.5</td>
</tr>
<tr>
<td>Former smoker</td>
<td>54.3</td>
<td>28.9</td>
</tr>
<tr>
<td>Never a smoker</td>
<td>36.0</td>
<td>62.6</td>
</tr>
<tr>
<td><strong>Weight (2003–2006)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Overweight or obese (BMI of 25.0 or above)</td>
<td>72.2</td>
<td>66.7</td>
</tr>
<tr>
<td>Overweight (BMI of 25.0 to under 30.0)</td>
<td>43.5</td>
<td>36.1</td>
</tr>
<tr>
<td>Obese (BMI of 30.0 or above)</td>
<td>28.7</td>
<td>30.6</td>
</tr>
<tr>
<td>Underweight (BMI of 18.5 or below)</td>
<td>0.9</td>
<td>1.5</td>
</tr>
<tr>
<td>Healthy weight (BMI between 18.5 and 25.0)</td>
<td>26.9</td>
<td>31.8</td>
</tr>
<tr>
<td><strong>Alcohol consumption (2008)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Five or more drinks in a day at least one day past year</td>
<td>9.7</td>
<td>2.2</td>
</tr>
</tbody>
</table>

Notes: BMI is body mass index. Data on weight are age adjusted and are based on the combined 2003–2006 National Health and Nutrition Examination Surveys. Smoking and alcohol consumption data are from the 2008 National Health Interview Survey. Both surveys cover the civilian noninstitutionalized population.

Source: Crescioni et al., 2010.
During the period 2003–2006, 28.7 percent of older men and 30.6 percent of older women were obese, with a body mass index (BMI) greater than or equal to 30, while another 43.5 percent of older men and 36.1 percent of older women were overweight but not obese (BMI greater than or equal to 25 but less than 30; Table 2-6). Although these rates were marginally lower than for those aged 45 to 64 (Crescioni et al., 2010), only 26.9 percent of older men and 31.8 percent of older women were considered to have a healthy weight.

Moreover, the number of obese older adults has been increasing due to both an increase in the total number of older people and a higher percentage of obese older adults (Villareal et al., 2005). The older population who are overweight have an increased risk of mortality (Yan et al., 2006). Obesity-related traits, such as a high BMI, are correlated with the risk of type-2 diabetes (Li et al., 2011; Vazquez et al., 2007). Obese people are also more likely to have impaired mobility or limitations in their daily activities (Kramarow et al., 2007) and to be admitted into a nursing home (Valiyeva et al., 2006). Being underweight is also associated with poor health (Diehr et al., 2008) and a higher risk of mortality among the older population (Lee et al., 2011). The benefits of intentional weight loss and exercise in the older population are well documented. Weight loss and exercise help obese older people improve their physical functioning (Villareal et al., 2005), including improved mobility for those with knee osteoarthritis (Messier et al., 2004). Exercise reduces the risk factors commonly associated with cardiovascular
disease among overweight older adults, even without weight loss (Shaw, 2006). However, rapid unintentional weight loss can indicate an underlying disease (Miller and Wolfe, 2008).

**Chronic Illnesses and Impairments**

Chronic illnesses and impairments, such as arthritis, heart disease, stroke, diabetes, cancer, and osteoporosis, are diseases that have a long duration and generally progress slowly. These conditions need to be managed on a continual basis. Some chronic conditions can limit people’s independence and lower their quality of life (Bentler et al., 2009; McKean-Cowdin et al., 2010).

Research based on successive rounds of the HRS conducted in 1998, 2004, and 2008 suggests that the prevalence of chronic diseases increased over time among the older population (Hung et al., 2011). For example, the prevalence of arthritis, hypertension, and diabetes all rose from 1998 to 2008 (59.1 percent to 68.8 percent, 52.5 percent to 65.0 percent, and 15.2 percent to 22.7 percent, respectively). Among the older population in 2008, only 8 percent had no chronic conditions, compared with 51 percent who had one or two, and 41 percent who had three or more chronic conditions.

**Arthritis**

Arthritis is one of the most common health problems limiting activity among the older population (Figure 2-9), encompassing over 100 diseases and conditions that affect the joints and surrounding tissues. This progressive disorder, if left untreated, can lead to joint damage, disability, and early mortality (O’Dell et al., 2010). Centers for Disease Control and Prevention analysis of 2007–2009 National Health Interview Survey data found the prevalence of doctor-diagnosed arthritis to be 50 percent among the population aged 65 and over (Cheng et al., 2010). Arthritis and other musculoskeletal disorders are a leading cause of physical limitations. For every 1,000 people aged 65 to 74, 122 reported activity limitations caused by arthritis or other musculoskeletal disorder (Figure 2-9). The rate rose to 167 per 1,000 people aged 75 to 84 and to 281 per 1,000 people aged 85 and over. Researchers have found that women have a higher prevalence of arthritis than men (O’Dell et al., 2010).

![Figure 2-9. Limitation of Activity Caused by Chronic Health Condition by Age: 2006–2007 (Per 1,000)](image)

Note: Data are combined from the 2006–2007 National Health Interview Surveys, which cover the civilian noninstitutionalized population. Source: National Center for Health Statistics, 2010.
Heart Disease and Stroke

Heart disease is one of the most common chronic health conditions that result in activity limitations in the older population (Figure 2-9). For every 1,000 people aged 65 to 74, 96 report activity limitations caused by heart or other circulatory conditions. This rate rose to 138 per 1,000 people aged 75 to 84, and 204 per 1,000 people aged 85 and over (Figure 2-9). Among all circulatory conditions, cardiovascular disease was the most common among older adults, although there were some differences by sex and age (Figure 2-10). For instance, among adults aged 80 and over, more women than men had cardiovascular disease (85.9 percent versus 79.3 percent). In contrast, the second most common circulatory condition, coronary heart disease (insufficient flow of blood to the heart), was more common in older men than older women; among adults aged 80 and over, 36.1 percent of men had coronary heart disease compared with 23.9 percent of women. The prevalence of heart disease and stroke also varies by race and Hispanic origin (NCHS, 2010; Schoenborn and Heyman, 2009). For example, a higher proportion of older non-Hispanic Whites had heart disease than did Hispanics (32.9 percent versus 24.5 percent; Table 2-7).

Stroke occurs when the flow of blood to the brain is impeded. Strokes are more common in older adults and are the leading cause of serious, long-term disability (American Heart Association, 2010). The population aged 65 and older were more than ten times more likely to have reported a stroke than those aged 18 to 44 (8.1 percent versus 0.8 percent; Neyer et al., 2007). Nearly three quarters of all strokes occur in people over age 65, with the risk more than doubling every 10 years after age 55 (American Heart Association, 2010). Researchers found that women were older when they had their first stroke than were men (Appelros, Stegmayr, and Terent, 2009; Petrea et al., 2009). However, women had a higher number of strokes than men due to a longer lifespan and a higher incidence of stroke at ages 85 and over (Reeves et al., 2008; Petrea et al., 2009). Some of the risk factors for stroke include smoking—current smokers are twice as likely to suffer a stroke as nonsmokers—and high blood pressure (American Heart Association,

Figure 2-10.
Population Aged 60 and Over With Heart Disease or Stroke by Age and Sex: 2005–2006
(In percent)

Note: Data are combined from the 2005–2006 National Health and Nutrition Examination Surveys, which cover the noninstitutionalized population.
Additionally, depression and memory impairment are associated with increased incidence of stroke (Glymour et al., 2010).

**Hypertension**

Hypertension, or high blood pressure, is a chronic illness (Lewanczuk, 2008; World Health Organization, 2012) that can lead to cardiovascular disease (including stroke and coronary heart disease) and heart failure, as well as kidney failure (Lewanczuk, 2008; American Heart Association, 2009; NCHS, 2008; World Health Organization, 2010; Whitworth, 2003). This illness can be reduced when high blood pressure is controlled (Ong et al., 2007), but because hypertension does not produce obvious symptoms, over one-fifth of people who have hypertension are unaware of it and thus may not seek treatment (NCHS, 2008). Hypertension affects about half of those aged 65 and over and tends to be more common in women than men (Table 2-7). Blacks tend to have higher rates of hypertension than other races (Oliva and Bakris, 2012). A higher proportion of older Hispanics than non-Hispanic Whites (53.5 percent versus 51.2 percent) have hypertension, but a higher proportion of non-Hispanic Blacks than Hispanics (68.5 percent versus 53.5 percent; Table 2-7) have hypertension.

**Diabetes**

Diabetes is a disease characterized by a blood sugar (glucose) level that is too high. Type 2 diabetes accounts for 90 to 95 percent of all diagnosed cases of adult diabetes and is more prevalent in the older population (CDC, 2011). However, in contrast to other ailments, among men and women aged 65 and over, diabetes becomes less common at successive age groups. For instance, the share of diabetes among women was 18.1 percent among those aged 65 to 74 compared with 11.7 percent among those aged 85 and over (Table 2-7). Among men in these same age groups, the comparable shares of those with diabetes were 20.5 percent and 15.6 percent, respectively. A higher proportion of older Hispanics was diagnosed with diabetes (27.8 percent) than the proportion of older non-Hispanic Whites (16.0 percent) or older non-Hispanic Asians (19.8 percent). The lower incidence of diabetes at relatively older ages may be due to the higher mortality associated with diabetes in the older population, where mortality may be up to four times as high for those with diabetes than for those without (Barnett et al., 2006). Therefore, many people with diabetes may not survive to age 85.

In recent years, the prevalence of diabetes has increased at every age, including older ages (CDC, 2012a). In addition to being the sixth leading cause of death in the older population (Figure 2-6), diabetes brings on other serious health problems, including heart disease and stroke (National Diabetes Statistics, 2011).

---

Table 2-7.

**Percentage of the Population Aged 65 and Over With Health Conditions by Age, Sex, Race, and Hispanic Origin: 2004–2007**

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Serious psychological distress</th>
<th>Hypertension</th>
<th>Heart disease</th>
<th>Diabetes</th>
<th>Hearing impairment</th>
<th>Vision impairment</th>
<th>Lost all natural teeth</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Aged 65 to 74</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>1.8</td>
<td>48.9</td>
<td>32.7</td>
<td>20.5</td>
<td>40.1</td>
<td>11.7</td>
<td>21.7</td>
</tr>
<tr>
<td>Female</td>
<td>2.4</td>
<td>52.5</td>
<td>21.9</td>
<td>18.1</td>
<td>23.2</td>
<td>15.0</td>
<td>22.2</td>
</tr>
<tr>
<td><strong>Aged 75 to 84</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>1.8</td>
<td>51.7</td>
<td>42.7</td>
<td>19.4</td>
<td>53.5</td>
<td>16.9</td>
<td>29.9</td>
</tr>
<tr>
<td>Female</td>
<td>2.8</td>
<td>58.4</td>
<td>30.3</td>
<td>17.4</td>
<td>37.0</td>
<td>19.3</td>
<td>28.6</td>
</tr>
<tr>
<td><strong>Aged 85 and over</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>1.8</td>
<td>49.6</td>
<td>47.3</td>
<td>15.6</td>
<td>69.0</td>
<td>28.0</td>
<td>34.2</td>
</tr>
<tr>
<td>Female</td>
<td>2.7</td>
<td>56.7</td>
<td>37.2</td>
<td>11.7</td>
<td>58.5</td>
<td>26.3</td>
<td>36.3</td>
</tr>
<tr>
<td><strong>Race and Hispanic origin (aged 65 and over)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Non-Hispanic White</td>
<td>2.0</td>
<td>51.2</td>
<td>32.9</td>
<td>16.0</td>
<td>41.6</td>
<td>16.2</td>
<td>25.3</td>
</tr>
<tr>
<td>Non-Hispanic Black</td>
<td>2.4</td>
<td>68.5</td>
<td>25.6</td>
<td>29.6</td>
<td>23.6</td>
<td>20.4</td>
<td>34.4</td>
</tr>
<tr>
<td>Non-Hispanic Asian</td>
<td>1.5</td>
<td>52.8</td>
<td>20.6</td>
<td>19.8</td>
<td>30.1</td>
<td>12.7</td>
<td>20.7</td>
</tr>
<tr>
<td>Hispanic (of any race)</td>
<td>4.9</td>
<td>53.5</td>
<td>24.5</td>
<td>27.8</td>
<td>28.2</td>
<td>18.9</td>
<td>26.0</td>
</tr>
</tbody>
</table>

Notes: Data are combined from the 2004–2007 National Health Interview Surveys, which cover the civilian noninstitutionalized population.

Source: Schoenborn and Heyman, 2009.
Additionally, diabetes is the leading cause of new cases of blindness, kidney failure, and nontraumatic lower-limb amputations, and raises the risk of hearing impairment in adults (Bainbridge, Hoffman, and Cowie, 2008). Among people aged 65 and over, diabetes increases the risk of dementia and mild cognitive impairment as well as the risk of progression from those impairments to dementia (Velayudhan et al., 2010). Diabetes was a cause of activity limitations for 41 per 1,000 people aged 65 to 74 and 50 per 1,000 people aged 85 and over (Figure 2-9).

**Cancer**

The most common cancers during 2003–2007 are shown in Table 2-8. Among the entire population, the most common cancers are cancers of the digestive system, the male genital system, and female breast cancer. People aged 65 and over account for over 50 percent of the population diagnosed with cancer, although the incidence varies by type of cancer (National Cancer Institute, 2009).

The proportion of those who survive cancer has been increasing in recent years. Those surviving at least 5 years from their initial cancer diagnosis increased from 50 percent in the late 1970s to 68 percent in the period 1999 to 2005 (American Cancer Society, 2010). Prostate and breast cancer, despite being among the most common cancers in the older population, also have the highest survival rates, with 90 percent or more expected to live at least 5 years from initial diagnosis. Among the cancers with the lowest survival rates is lung cancer, with only 16 percent expected to live 5 years or more.

**Osteoporosis**

Osteoporosis is a disease that causes decreased bone mass, the most common bone disease in humans. Osteoporosis is more common in Caucasians, women, and the older population (National Osteoporosis Foundation, 2010). Osteoporosis often results in bone fractures and causes pain, disability, and increased mortality (Davis et al., 2010). The parts of the body most prone to fractures due to osteoporosis include the spine, hip, and wrist (National Osteoporosis Foundation, 2010).

<table>
<thead>
<tr>
<th>Cancer type</th>
<th>Population with cancer</th>
<th>Of population diagnosed with cancer, percentage who are aged:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>65 and over</td>
</tr>
<tr>
<td>All cancers</td>
<td>1,717,500</td>
<td>54.2</td>
</tr>
<tr>
<td>Digestive systems</td>
<td>322,348</td>
<td>62.1</td>
</tr>
<tr>
<td>Male genital system</td>
<td>270,179</td>
<td>58.2</td>
</tr>
<tr>
<td>Breast (female)</td>
<td>249,658</td>
<td>40.9</td>
</tr>
<tr>
<td>Respiratory system</td>
<td>243,951</td>
<td>67.1</td>
</tr>
<tr>
<td>Colon and rectum</td>
<td>177,307</td>
<td>63.4</td>
</tr>
<tr>
<td>Urinary system</td>
<td>132,680</td>
<td>63.5</td>
</tr>
<tr>
<td>Female genital system</td>
<td>97,835</td>
<td>40.2</td>
</tr>
<tr>
<td>Lymphoma</td>
<td>83,668</td>
<td>49.8</td>
</tr>
<tr>
<td>Skin</td>
<td>82,475</td>
<td>42.3</td>
</tr>
<tr>
<td>Leukemia</td>
<td>45,780</td>
<td>53.3</td>
</tr>
</tbody>
</table>

Note: Cancer cases reported in 5-year period from 2003 to 2007 through the Surveillance, Epidemiology, and End Results (SEER) Program of the National Cancer Institute. Data in this table are based on the SEER 17 areas.

Source: National Cancer Institute, 2009.
Cognitive Impairments

Dementia is a condition that affects one’s ability to process information. No matter how one measures dementia (Launer, 2011), the condition becomes more prevalent with advancing age, contributes to a loss of independence, and often results in institutional care. According to the National Health Interview Survey, for every 1,000 people aged 65 to 74, 9 reported activity limitations caused by senility or dementia (Figure 2-9). The rate was 34 per 1,000 people aged 75 to 84 and rose to 83 per 1,000 people aged 85 and over (Figure 2-9). Some older adults have mild cognitive impairment (MCI), which is a milder impairment compared with dementia and puts people at greater risk of progressing to dementia (Plassman et al., 2011).

Alzheimer’s disease is a specific form of dementia, a degenerative disease that causes people to lose brain cells gradually, yet permanently. Alzheimer’s disease is most common among those aged 85 and over (He et al., 2005). In fact, advancing age is the single largest risk factor for dementia and Alzheimer’s disease (Plassman et al., 2007). Because those aged 85 and over constitute the fastest growing segment of the population, the prevalence of Alzheimer’s will likely grow (Brookmeyer, et al., 2011). Among a group of people aged 72 and over who participated in the Aging, Demographic, and Memory Study, researchers found that the incidence of dementia was 33.3 per 1,000 people, the incidence of Alzheimer’s was 22.9 per 1,000 people, and the incidence of MCI was 60.4 per 1,000 people (Plassman et al., 2011).

The incidence of Alzheimer’s is similar for older men and women of the same age. However, women are more likely than men to have dementia or Alzheimer’s disease due to the age distribution of each sex. Since women live longer than men, their age distribution is more skewed towards the older ages, where Alzheimer’s is increasingly prevalent (Plassman et al., 2007). Some age-stratified studies have even suggested that MCI is higher among men (Peterson et al., 2010).

All race and ethnic groups show increasing risk of dementia with advancing age, with large differences in overall levels by age (Figure 2-11). In the population aged 65 to 74, 2.9 percent of Whites were cognitively impaired, compared with 12.4 percent of Blacks. Among Hispanics aged 65 to 74, 9.3 percent had cognitive impairments. In the population aged 85 and over, 26.9 percent of Whites, 54.6 percent of Blacks, and 44.8 percent of Hispanics were cognitively impaired.

Some studies have not found significant differences in dementia between Blacks and Whites once other factors, such as education and genetic predisposition, are considered (Plassman et al., 2007). However, even after considering these factors and other ambiguities involved in racial and ethnic categorization, most studies suggest that Blacks and Hispanics have higher rates of dementia than Whites, although actual differences in brain degeneration by race or ethnicity have yet to be confirmed through medical imaging or autopsies (Manly and Mayeux, 2004).

Sensory Impairments

Sensory impairments, including visual and hearing impairments, are common in older men and women and place them at greater risk of falls and vehicular accidents (Rubenstein, 2006; Stevens et al., 2006). These impairments, in turn, can lead to isolation and depression.

Visual impairments increase with advancing age and are more common in women than men aged 65 to 84 (Table 2-7). A higher proportion of the older Hispanic population (18.9 percent) had vision...
impairments than non-Hispanic Whites (16.2 percent) and non-Hispanic Asians (12.7 percent), although the non-Hispanic Black population had the highest percent with vision impairments (20.4 percent). Those with severe visual impairment were three times more likely to face limitations in mobility and activities of daily living than those with visual acuity of 20/40 or better (Salive et al., 1994). Limitations of activity due to vision conditions or problems seeing were relatively rare among those aged 65 to 74, at 17 per 100,000, but the rate rose to 89 per 100,000 at ages 85 and over (Figure 2-9). People with visual impairments or lower visual acuity have a lower quality of life (McKean-Cowdin et al., 2010). Persons in poverty have higher rates of visual impairments and balance problems (Dillon et al., 2010).

Hearing impairment is more prevalent in older men than older women and becomes more prevalent with advanced age (Table 2-7). Men aged 75 to 84 were about 45 percent more likely than women to have difficulty hearing (53.5 percent as opposed to 37.0 percent), according to 2004–2007 data. The sex gap in hearing impairment narrowed for those aged 85 and over (69.0 percent for men as opposed to 58.5 percent for women). Additionally, the percentage of the older population with hearing impairments was lower for Hispanics than it was for non-Hispanic Whites (28.2 percent versus 41.6 percent), while non-Hispanic Blacks had the lowest proportion with hearing impairments (23.6 percent). Limitations of activity due to hearing problems were relatively rare among the population aged 65 to 74, at 9 per 100,000, but the rate rose to 72 per 100,000 among those aged 85 and over (Figure 2-9).

The vast majority of hearing-impaired adults do not use hearing aids, based on data collected between 1997 and 2004 (Gopinath et al., 2011). Hearing impairment brings about cognitive decline (Lin et al., 2011) and limitations in daily activities (Crews and Campbell, 2004).

Suicide and Depression

From 1991–2003, suicide rates for the population aged 65 and older exceeded those for the age groups 10 to 24 and 25 to 64 (Figure 2-12). However, in 2004 and 2006–2010, the suicide rate for those aged 25 to 64 surpassed the rate among the population aged 65 and older.
The age 65-and-over suicide rate declined from 19.7 suicides per 100,000 in 1991 to 14.9 suicides per 100,000 in 2010. In 2010, the rate for those aged 25 to 64 reached 16.8 suicides per 100,000. During 2005–2010, among the population aged 65 and over, non-Hispanic White males had the highest suicide rate, at 32.4 suicides per 100,000, and non-Hispanic Black females had the lowest rate, with 1.0 suicides per 100,000 (Figure 2-13). Risk factors for suicide among the older population include major psychiatric illness, particular personality traits and disorders, physical illness, life event stressors, and functional status (Conwell and Thompson, 2008).

While the literature documents a strong association between depression and suicide (Blazer, 2003), depression also is a risk factor for nonsuicide mortality in the older population (Schulz, Drayer, and Rollman, 2002; Nabi et al., 2011). Among the population aged 65 and over, depression tends to be more common in women than men and to rise with age. In 2008, 15.7 percent of women and 10.7 percent of men aged 65 and over had clinically relevant depressive symptoms (Table 2-9). The highest share with depressive symptoms was found among men aged 85 and over (18.9 percent).

Depression is associated with not only increased mortality but also increased functional limitations.

### Table 2-9.
#### Percentage of Population Aged 65 and Over With Clinically Relevant Depressive Symptoms by Age and Sex: 2008

<table>
<thead>
<tr>
<th>Age group</th>
<th>Both sexes</th>
<th>Men</th>
<th>Women</th>
</tr>
</thead>
<tbody>
<tr>
<td>65 and over</td>
<td>13.6</td>
<td>10.7</td>
<td>15.7</td>
</tr>
<tr>
<td>65 to 69</td>
<td>12.3</td>
<td>9.7</td>
<td>14.5</td>
</tr>
<tr>
<td>70 to 74</td>
<td>11.9</td>
<td>9.6</td>
<td>13.7</td>
</tr>
<tr>
<td>75 to 79</td>
<td>13.8</td>
<td>10.1</td>
<td>16.5</td>
</tr>
<tr>
<td>80 to 84</td>
<td>14.6</td>
<td>9.9</td>
<td>17.6</td>
</tr>
<tr>
<td>85 and over</td>
<td>18.3</td>
<td>18.9</td>
<td>17.9</td>
</tr>
</tbody>
</table>

#### Notes:
The definition of “clinically relevant depressive symptoms” is four or more symptoms out of a list of eight depressive symptoms from an abbreviated version of the Center of Epidemiological Studies Depression Scale (CES-D) adapted by the Health and Retirement Study (HRS). The CES-D scale is a measure of depressive symptoms and is not to be used as a diagnosis of clinical depression. A detailed explanation concerning the “four or more symptoms” cut-off can be found in the following documentation, <http://hrsonline.isr.umich.edu/docs/userg/dr-005.pdf>. Proportions are based on weighted data using the preliminary respondent weight from HRS 2008. The reference population for these data is the civilian noninstitutionalized population.


### Figure 2-13.
#### Suicide Rates for the Population Aged 65 and Over by Sex, Race, and Hispanic Origin: 2005–2010

(Per 100,000)

<table>
<thead>
<tr>
<th></th>
<th>Male</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-Hispanic White</td>
<td>32.4</td>
<td>4.5</td>
</tr>
<tr>
<td>Non-Hispanic Black</td>
<td>9.7</td>
<td>1.0</td>
</tr>
<tr>
<td>American Indian and Alaska Native</td>
<td>10.2</td>
<td>13.5</td>
</tr>
<tr>
<td>Asian and Pacific Islander</td>
<td>5.6</td>
<td></td>
</tr>
<tr>
<td>Hispanic (of any race)</td>
<td>15.4</td>
<td>1.9</td>
</tr>
</tbody>
</table>

#### Notes:
Data are not displayed for American Indian and Alaska Native females because the rate is based on less than 20 deaths and therefore considered statistically unreliable.
Source: Centers for Disease Control and Prevention, 2013a.
The Institute of Medicine of the National Academy of Sciences defines disability as an umbrella term for impairments, which are a problem in body function or structure; activity limitations, which are difficulties people face executing activities; and participation restrictions, which are problems that an individual may experience in involvement in life situations (Institute of Medicine, 2007). Research shows that age is positively associated with the presence of physical difficulty, and the oldest old have the highest levels of physical and cognitive problems (Pleis, Lucas, and Ward, 2009; Wolf, Mendes de Leon, and Glass, 2007). Some people with disabilities have difficulties performing the most basic tasks of everyday life, such as dressing, bathing, and eating, a set of tasks referred to as activities of daily living (ADLs). They may also have difficulties with their instrumental activities of daily living (IADLs), such as using the telephone, shopping, and preparing food.\(^9\)

**Major Disabilities**

The 2010 American Community Survey (ACS) asked several questions about disabilities, such as difficulties in hearing, seeing, concentrating/remembering or making decisions, dressing/bathing (ADL), walking/climbing, and doing errands alone (IADL).\(^{10}\) According to the 2010 ACS, 38.6 percent of those aged 65 and over had one or more disabilities (Figure 2-14).\(^{11}\)

The most common disabilities were difficulty in walking or climbing stairs (25.8 percent) and difficulty doing errands alone (IADL) (18.5 percent).

The next most common problem was difficulty hearing, which affected 15.6 percent of the older population. This was followed in prevalence by difficulty remembering, concentrating, and making decisions and difficulty dressing (a key ADL)—impairments that affected 11.2 and 11.0 percent of the older population, respectively.\(^{12}\)

Difficulty seeing was the sixth most

---

**Figure 2-14.**

**Functional Limitations in the Population Aged 65 and Over by Age: 2010**

(In percent. For information on confidentiality protection, sampling error, nonsampling error, and definitions, see www.census.gov/acs/www)

<table>
<thead>
<tr>
<th></th>
<th>65 and over</th>
<th>65 to 74</th>
<th>75 to 84</th>
<th>85 and over</th>
</tr>
</thead>
<tbody>
<tr>
<td>With any disability</td>
<td>38.6</td>
<td>26.2</td>
<td>44.9</td>
<td>72.6</td>
</tr>
<tr>
<td>Difficulty hearing</td>
<td>15.6</td>
<td>18.3</td>
<td>9.0</td>
<td>26.2</td>
</tr>
<tr>
<td>Difficulty seeing</td>
<td>7.4</td>
<td>4.3</td>
<td>8.0</td>
<td>18.1</td>
</tr>
<tr>
<td>Difficulty remembering/concentrating/making decisions</td>
<td>11.2</td>
<td>18.1</td>
<td>6.0</td>
<td>28.5</td>
</tr>
<tr>
<td>Difficulty dressing/bathing</td>
<td>11.0</td>
<td>12.6</td>
<td>11.0</td>
<td>5.2</td>
</tr>
<tr>
<td>Difficulty doing errands alone</td>
<td>18.5</td>
<td>12.1</td>
<td>8.9</td>
<td>21.2</td>
</tr>
<tr>
<td>Difficulty walking/climbing stairs</td>
<td>49.9</td>
<td>25.8</td>
<td>29.3</td>
<td>53.1</td>
</tr>
</tbody>
</table>


---

\(^9\) Instrumental Activities of Daily Living (IADL) limitations refer to difficulty performing (or inability to perform, for a health reason) one or more of the following tasks: using the telephone, light housework, heavy housework, meal preparation, shopping, and managing money. Only the questions on telephone use, shopping, and managing money are asked of long-term care facility residents. Activities of Daily Living (ADL) limitations refer to difficulty performing (or inability to perform, for a health reason) the following tasks: bathing, dressing, eating, getting in/out of chairs, and toileting. Long-term care facility residents with no limitations may include individuals with limitations in certain IADLs such as doing light or heavy housework or meal preparation (Federal Aging Forum, 2012).

\(^{10}\) See Brault (2009).

\(^{11}\) Throughout this report, 2010 ACS refers to the 2010, 1-year estimates from the American Community Survey.

\(^{12}\) The prevalence rate for difficulty remembering, concentrating, and making decisions is not statistically different from the prevalence rate for difficulty dressing.
prevalent disability, affecting 7.4 percent of the older population.

**Prevalence of Disability by Various Characteristics**

The proportion of older people with disabilities rises sharply with age (Figure 2-14). For instance, 26.2 percent of those aged 65 to 74 had at least one disability, compared with 44.9 percent among those aged 75 to 84 and 72.6 percent for those aged 85 and over. Older men and women both exhibited increases in disabilities by age (U.S. Census Bureau, 2011a).

Disability patterns by race and socioeconomic status sometimes differ, although the direction of such differences is not always clear. Thorpe et al. (2008) found lower rates of physical functioning among women of lower socioeconomic status, yet rates of decline over time did not differ substantially by either poverty status or race. In another study, a group of older Americans with arthritis, who initially reported no ADL disability, was followed over a 6-year period (Song et al., 2007). At the end of 6 years, 17.7 percent had developed an ADL disability. The incidence rates among Blacks (28.0 percent) and Spanish-speaking Hispanics (28.5 percent) were significantly higher than for Whites (16.2 percent). Finally, Cutler and Lleras-Muney (2010), using the 2002 HRS, identified a link between disability and education among the population aged 65 and over. Among older people without a high school degree, the disability rate was 47 percent and declined to 31 percent for those with a high school degree and to 27 percent for those with some college or a college degree.

**Disability Trends**

Trends in disability have been changing. Research indicates old-age disability declined in the 1980s and 1990s and then remained stable during the first decade of the twenty-first century (Spillman, 2003; Freedman et al., 2008; Manton, 2008; Seeman et al., 2010; Hung et al., 2011; Freedman et al., 2013). Using five waves of the HRS, Friedman and colleagues (2008) found that the prevalence of reporting an ADL limitation declined among the population aged 75 and over between 1995 and 2004 from 30.2 percent to 26.0 percent, while the prevalence of those reporting at least one IADL, but no ADLs, did not change significantly. Hung et al. (2011) detected no change in the prevalence of ADL and IADL disabilities for the population aged 65 and over from 1998 to 2008 in the HRS. Using the National Health and Nutrition Examination Surveys for the years 1988 through 2004, Seeman et al. (2010) found that ADL, IADL, and mobility disability across two periods (1988–1994 and 1999–2004) increased among people reaching their 60s, while disability remained steady among those in their 70s, and the prevalence of functional limitations decreased among the population aged 80 and over. The study also showed that mobility impairments among those aged 60 to 69 increased significantly over time, with non-Hispanic Blacks and Mexican Americans having greater increases in disability than non-Hispanic Whites. Additionally, there were greater increases in disability for obese and overweight people than for people with a normal weight. Freedman et al. (2013) examined data from five surveys that cover the older population and found no evidence of an increase in disability during the 2000 to 2008 period for those aged 65 to 74 and those aged 75 to 84. However, for the population aged 85 and over, an ongoing decline in IADL and ADL limitations was found, and for the population aged 55 to 64, an increase in IADL and ADL limitations was reported.

**Impact of Falls on Disability**

Falls are common health events that result in disability for older adults (Tinetti and Kumar, 2010). One-third of older people fall annually, with the odds of a resulting injury increasing with age, and 5 percent of falls resulting in a fracture or requiring hospitalization (Schiller, Kramarow and Dey, 2007; Katz and Shah, 2010). About 60 percent of older adults who were injured due to a fall visited an emergency room for advice or treatment. In 2009, 2.2 million fall-related injuries among older adults were treated in emergency departments, with over a quarter requiring hospitalization (CDC, 2012b). People aged 75 and over who had fallen multiple times were four and a half times more likely to be admitted into a long-term care facility within a year than...
those who did not fall (Donald and Bulpitt, 1999). Fall-related injuries are also a leading cause of death among older adults (Stevens and Olson, 2000).

Hip fractures are the most serious injury associated with falls. Half of older adults hospitalized for a hip fracture will never regain their former level of function (Stevens and Rudd, 2010). As a result of falls, nearly one-third of older adults needed help with ADLs, and for the majority help with ADLs were needed for at least 6 months (Schiller, Kramarow, and Dey, 2007). A similar percentage experienced IADL limitations. Researchers have identified many of the risk factors associated with falls for older adults. These include walking posture, balance impairment, and previous falls (Tinetti and Kumar, 2010; Rubenstein, 2006). Susceptibility to injuries from a fall increases three-fold in elderly individuals with Alzheimer’s disease or other dementia (Schiller, Kramarow, and Dey, 2007; Filkenstein, Prabhu, and Chen, 2007). Additionally, people with a visual acuity of 20/40 or worse have an increased risk of falls with injury. Fall rates tend to be higher among women than men and higher among non-Hispanic White older adults than non-Hispanic Black older adults (Schiller, Kramarow, and Dey, 2007). When falls are disaggregated by location—either indoors or outdoors—distinct differences in risk factors emerge. In a study of men and women around 70 years and older, Kelsey et al. (2010) found that risk factors for indoor falls included being older, female, and having substantial difficulty performing ADLs. On the other hand, risk factors for outdoor falls included being younger, male, and relatively physically active and healthy.

**Health Insurance and Expenditures**

Those aged 65 and over are far less likely to be without health insurance than those at younger ages (Figure 2-15). In 2010, only 2.0 percent of the older population had no health insurance. In contrast, in the age groups between ages 18 and 54, the proportion without health insurance ranged from 18.0 percent to 28.4 percent. Those under age 18 were the best covered group next to those aged 65 and over. Nevertheless, the share without health insurance among those aged 18 and under was 9.8 percent, almost five times the share among older adults.

![Figure 2-15. Percentage Without Any Health Insurance by Age: 2010](image)
Text Box 2-1.

**Medicare and Its Parts**

Medicare, the program that provides health insurance to the vast majority of older people, has four parts. Medicare Part A is hospital insurance that covers inpatient care in hospitals, skilled nursing facilities, hospice, and home health care. Medicare Part B is medical insurance that covers services by doctors and other health care specialists, outpatient care, home health care, and preventative services. Older people who have worked at least 10 years and their spouses are eligible to enroll in these two programs. Medicare Part D provides prescription drug coverage. A Medicare Advantage Plan (Part C) is another Medicare health plan choice offered by private companies approved by Medicare. These plans provide Medicare Parts A and B coverage, usually along with Part D, and in some cases additional coverage for services such as vision, hearing, and dental. Medicare Advantage Plans can function like a Health Maintenance Organization (HMO) or Preferred Provider Organization (PPO).* These plans tend to be more expensive. However, given their convenience, they are increasingly popular. Enrollments in Medicare Advantage Plans grew from 2.3 million in 1994 to 11.7 million in 2011 (Medicare Payment Advisory Commission, 2011).

Because Medicare Parts A and B do not cover the full range of services typically needed by older people, Medigap (Medicare Supplement Health Insurance) is sold by private insurance companies to fill the coverage gaps. Medigap policies are standardized and must follow federal and state laws.

Options to obtain insurance for prescription drugs include an individual buying into Medicare Part D or obtaining employer-provided coverage. Almost 90 percent of Medicare beneficiaries had some type of prescription drug benefit in 2007 (Cubanski et al., 2009). Fifty-seven percent of beneficiaries had plans purchased through Medicare Part D, with another 30 percent provided by employers. As health costs rise, many employers are eliminating drug benefits or tightening the requirements to qualify for them.

In 2007, all but 11 percent of Medicare beneficiaries had supplemental coverage in addition to the basic Medicare Parts A and B, although this share varied among socioeconomic groups. Groups with the highest shares lacking supplemental coverage included African Americans (16 percent), rural residents (15 percent), and those with incomes between $10,000 and $20,000 (16 percent; Cubanski et al., 2009).

In the spring of 2010, Congress passed the Affordable Health Care for America Act, which mandated many changes to the U.S. health system over the next decade. Key goals include improved access to health care (Collins, Doty, and Garber, 2010), better quality of care (Kocher, Emanuel, and DeParle, 2010), and an emphasis on preventative care, such as cancer screenings, at no cost to the beneficiary (Koh and Sebelius, 2010).

The Act contains provisions specifically targeting the older population. First and foremost, it reduces the gap of Medicare prescription drug coverage, a so-called “donut hole” in funding (Centers for Medicare and Medicaid Services, 2012a). Discounts on brand-name drugs and extra coverage for generic drugs are expected to gradually close the gap by 2020, when recipients in the “hole” may expect to save $1,540 per year (Shatto, 2010). In addition, changes to the funding structure are projected to reduce Medicare Part B premiums as well as coinsurance under Parts A and B.

* An HMO is group insurance that entitles members to services within a specific network of hospitals, clinics, and physicians. The initial point of contact is a primary care physician, a referral from whom is required for more specialized services. A PPO is group insurance that contracts with different providers, allowing participants to choose providers and services without referral.
Providers of Health Insurance

Table 2-10 indicates the percentages of those aged 65 and over who had health insurance from various public and private sources in 2000 and 2010. Many older men and women have more than one health insurance provider.

Medicare, the program sponsored by the federal government to provide health care to older people, covered over 93 percent of the older population in 2010. Almost everyone who worked long enough to be eligible for Social Security or whose spouse qualified for Social Security may enroll in Medicare at age 65. Other government programs include Medicaid, which is funded by federal and state governments to provide health care to poor people, and TRICARE, a military health care program.

These two programs each covered less than 10 percent of older people in 2010. Almost 58 percent of older people had private sector health insurance in 2010. The share of older people receiving health insurance from their former and/or current employers (32.5 percent) exceeded slightly the share purchasing health insurance directly (28.8 percent). Although the share of older people without health coverage was very small, that proportion increased from 1.0 to 2.0 percent between 2000 and 2010.

Health Care Utilization

According to the Medical Expenditure Panel Survey (MEPS), average health care expenses for people aged 65 and older with any health expenses in 2009 were $10,082, while average expenses for the population under age 65 were $3,931 (Kashihara and Carper, 2012). Health care expenses are distributed among various service categories, including hospital inpatient and outpatient care, emergency room services, office-based medical provider services, dental services, home health care, prescription medicines, and other medical services and equipment. Figure 2-16 shows that among those aged 65 and over, the largest share of expenditures was for hospital inpatient service (34.9 percent), with office-based and hospital outpatient services accounting

<table>
<thead>
<tr>
<th>Coverage type</th>
<th>2000</th>
<th>2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>Any private provider</td>
<td>62.8</td>
<td>57.9</td>
</tr>
<tr>
<td>Employment based</td>
<td>34.9</td>
<td>32.5</td>
</tr>
<tr>
<td>Direct purchase</td>
<td>31.7</td>
<td>28.8</td>
</tr>
<tr>
<td>Any public provider</td>
<td>96.4</td>
<td>93.5</td>
</tr>
<tr>
<td>Medicaid</td>
<td>9.0</td>
<td>9.2</td>
</tr>
<tr>
<td>Medicare</td>
<td>96.1</td>
<td>93.1</td>
</tr>
<tr>
<td>Military health care</td>
<td>4.3</td>
<td>8.1</td>
</tr>
<tr>
<td>Uninsured</td>
<td>1.0</td>
<td>2.0</td>
</tr>
</tbody>
</table>

Note: Individuals may have multiple sources of health insurance.

Figure 2-16.
Percentage Distribution of Health Care Spending by Type of Service and Age Group: 2009

<table>
<thead>
<tr>
<th>Type of service</th>
<th>65 and over</th>
<th>18 to 64</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hospital inpatient</td>
<td>34.9</td>
<td>25.8</td>
</tr>
<tr>
<td>Office-based/outpatient</td>
<td>28.5</td>
<td>36.7</td>
</tr>
<tr>
<td>Use of pharmacy</td>
<td>22.2</td>
<td>21.1</td>
</tr>
<tr>
<td>Home health/other medical</td>
<td>9.0</td>
<td>4.6</td>
</tr>
<tr>
<td>Dental</td>
<td>3.421</td>
<td>6.9</td>
</tr>
<tr>
<td>Emergency room</td>
<td>1.0</td>
<td>4.9</td>
</tr>
</tbody>
</table>

for the next largest share (28.5 percent). In contrast, among those aged 18 to 64, the expenditure shares were reversed, with office-based and hospital outpatient services representing 36.7 percent and hospital inpatient services 25.8 percent.

Those without health insurance or independent means are less likely to obtain medical care and more likely to suffer complications later in life. According to a Commonwealth Fund Survey, three-fourths of adults aged 50 to 64 who were uninsured experienced some cost-related problem in accessing healthcare (Collins, Doty and Garber, 2010). Among adults diagnosed with hypertension, diabetes, heart disease, or stroke before reaching age 65, those who were previously uninsured reported significantly greater increases in hospitalizations, number of doctors visits, and total medical costs than those who were previously insured (McWilliams et al., 2007). The near universal enrollment in Medicare at age 65 leads to increased utilization of health care. Between ages 64 and 65, hospitalization rates were found to increase by 10 percent and health care disparities based on socioeconomic status were diminished (Card, Dobkin, and Maestas, 2008).

For the civilian noninstitutionalized population, only 5.7 percent of the population aged 1 to 64 years had one or more hospital stays in 2010. The share with one or more hospital stays increased at older ages, reaching 13.6 percent for those aged 65 to 74, 18.3 percent for those aged 75 to 84, and 20.8 percent for those aged 85 and over (NCHS, 2012).

**Health Care Expenditures**

Health spending in the United States as a share of the gross domestic product (GDP) has more than tripled from 5.1 percent in 1960 to 17.4 percent in 2009 (NCHS, 2012). Medicare pays for over 60 percent of all health expenditures among those aged 65 and over, with Medicaid covering an additional 4.2 percent (Figure 2-17). Most other expenditures are covered through private insurance or out of pocket (14.8 percent and 12.5 percent, respectively). In contrast, given the typical minimum age requirement to qualify for Medicare, most health expenditures among those aged 18 to 64 are covered by private insurance (54.8 percent).

As the Baby Boom generation reaches older ages and longevity increases, the health care system is expected to come under increasing financial strain (Spillman, 2005). Median annual out-of-pocket expenses for health care for adults aged 65 and over are projected to more than double in constant 2008 dollars from about $2,600 in 2010 to $6,200 in 2040 (Johnson and Mommaerts, 2010). Out-of-pocket health care costs are likely to be higher for older women than older men due to their longer lifespan and because they are less likely to have retiree health benefits from former employers. Webb and Zhivan (2010) use data from the HRS to simulate remaining lifetime health care costs (premiums, co-payments, and noncovered services) at age 65. A married couple free of chronic disease at age 65 faces estimated costs of $197,000, excluding nursing home care, and $260,000, including nursing home care.

Per capita Medicare expenditure varies across U.S. regions, reflecting differences in local prices, rates of illness, poverty, population

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**Figure 2-17.**

**Percentage Distribution of Health Care Spending by Source of Payment and Age Group: 2009**

<table>
<thead>
<tr>
<th>Source of payment</th>
<th>65 and over</th>
<th>18 to 64</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medicare</td>
<td>60.6</td>
<td>8.3</td>
</tr>
<tr>
<td>Private insurance</td>
<td>14.8</td>
<td>54.8</td>
</tr>
<tr>
<td>Medicaid/CHIP</td>
<td>12.5</td>
<td>10.4</td>
</tr>
<tr>
<td>Out of pocket</td>
<td>14.8</td>
<td>16.0</td>
</tr>
<tr>
<td>Other</td>
<td>7.8</td>
<td>10.5</td>
</tr>
</tbody>
</table>

1Children’s Health Insurance Program.
composition, and patient service use. After adjusting for the age, race, and sex composition of the population aged 65 and older in each of 306 Hospital Referral Regions (HRR), Gottlieb et al. (2010) found that price differences explained very little of the total variation. In 2006, the HRR with the highest price-adjusted expenditure per capita was 2.87 times the level of the HRR with the lowest price-adjusted expenditure per capita ($15,909 in Miami, Florida versus $5,212 in Honolulu, Hawaii), only slightly lower than the 3.01:1 ratio for unadjusted expenditures. Another study adjusted 2004–2006 Medicare spending data for differences in Medicare payment rates and in beneficiaries’ health status to derive an index of Medicare service use (Medicare Payment Advisory Commission, 2009). A Medicare service use index was calculated for each state’s metropolitan statistical areas and an aggregated rest-of-state nonmetropolitan area. The study found that beneficiaries residing in the 90th percentile areas had 30 percent higher service use than beneficiaries residing in the 10th percentile areas. The area with the least service use was nonmetropolitan Hawaii and the area with the greatest service use was Miami-Dade County, with a 1.99:1 ratio between them.

Long-Term Care

Type of Long-Term Care

Long-term care services provide assistance to people who have a prolonged physical illness, disability, or severe cognitive impairment that hinders daily functioning. In contrast to medical care, which focuses on preventing, diagnosing, and treating disease, long-term care provides assistance with essential and routine aspects of life. Those who are unable to take care of basic daily tasks (i.e., ADLs) or need help with more complex tasks (i.e., IADLs) often need ongoing assistance. A large portion of the population over age 65 will need long-term care at some point, and that need is likely to increase dramatically for people aged 85 and over (Ng, Harrington, and Kitchener, 2010).

Nursing homes and other health-related institutional facilities serve people who cannot fully take care of their own needs due to their health (Brault, 2008). Thus, as one might expect, older people residing in long-term care institutions are more likely to have disabilities than those who do not (Figure 2-18). According to the 2010 ACS, 96.1 percent of those residing in institutional group quarters (e.g., nursing homes) had some type of disability, compared with 36.7 percent of the population in noninstitutionalized group quarters and households (e.g., those living in households, group homes intended for adults, and residential treatment facilities for adults). This

Figure 2-18.
Functional Limitations for the Population Aged 65 and Over by Institutional Status: 2010
(In percent. For information on confidentiality protection, sampling error, nonsampling error, and definitions, see www.census.gov/acs/www)

<table>
<thead>
<tr>
<th>With any disability</th>
<th>Difficulty dressing/bathing</th>
<th>Difficulty hearing</th>
<th>Difficulty seeing</th>
<th>Difficulty doing errands alone</th>
<th>Difficulty walking/climbing stairs</th>
<th>Difficulty remembering/concentrating/making decisions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Institutionalized</td>
<td>96.1</td>
<td>36.7</td>
<td>8.8</td>
<td>30.9</td>
<td>23.7</td>
<td>23.8</td>
</tr>
<tr>
<td>Noninstitutionalized</td>
<td>77.3</td>
<td>15.1</td>
<td>6.9</td>
<td>23.7</td>
<td>16.2</td>
<td>9.5</td>
</tr>
</tbody>
</table>

excess in disabilities among the institutionalized population tends to be largest for ADLs, IADLs, and mobility as opposed to vision and hearing impairments.

Alternatives to nursing home care are also available in other institutions, such as assisted living facilities, and in one's own home by receiving care from a paid provider or informal care provider, such as an adult family member. Furthermore, with the help of assistive devices (such as walkers), some older people may continue to live at home for longer periods either with or without the aid of a caregiver.

Providers of Long-Term Care

Most of the care provided to older people comes from family members, friends, and others who are unpaid, and most of the care is provided in the recipient’s home (Kaye, Harrington, and LaPlante, 2010). For example, in 2007 the older population receiving long-term help with one or more ADLs or IADLs within the community was estimated to be between 3.8 million (according to the 2007 ACS) and 4.9 million (according to the 2007 National Health Interview Survey), while the older population receiving long-term care in nursing homes was estimated to be 1.5 million (2007 ACS).

Based on a survey of caregivers, the vast majority were caring for someone over the age of 50, with 28 percent of care recipients aged 50 to 74 and 44 percent aged 75 and over (National Alliance for Caregiving, 2009). The majority of caregivers were women (66 percent), who were on average 48 years old, with 7 out of 10 caring for someone aged 50 and over. Compared with caregivers aged 18 to 64, caregivers aged 65 or over were more likely to care for their spouse (19 percent versus 3 percent), a sibling (12 percent versus 4 percent), or a nonrelative (19 percent versus 13 percent), and were less likely to provide care for a parent or parent-in-law (23 percent versus 48 percent). Asian Americans took care of the oldest care recipients (on average 68.0 years old), while Whites cared for people who were on average 63.8 years old and Blacks cared for people who were on average 53.1 years old. Hispanic caregivers took care of people who were an average of 49.3 years old.

Informal and formal caregiving trends may change in the future. The vacancy rate went up for assisted living facilities after the first quarter of 2007 and remained above the 2007 first quarter level through early 2011 (Valley, 2011). With the decline in housing prices and rise in unemployment, some members of the older population may have decided to rely on informal family care and not move into a long-term care facility or at least postpone such a move. Researchers also point to other factors that may lead to an increase in the demand for formal care, including decreasing family size, fewer older people with stable marriages, and increasing education levels among older people (Uhlenberg and Cheuk, 2008).

Paid care in long-term care facilities, such as nursing homes and assisted living facilities, is less common. Nursing homes offer care for older adults who do not need to be in a hospital but can no longer be cared for in their home, usually because they need help with more than one basic daily task (Metlife Mature Market Institute, 2010). In nursing homes, residents have access to aides and skilled nurses 24 hours a day. Assisted living facilities offer a more limited range of services to those needing less comprehensive care.

According to the 2010 Census, 3.1 percent of the older population resided in skilled nursing facilities, down from 4.5 percent in 2000 (U.S. Census Bureau, 2011b). The share of the older population residing in nursing facilities rises progressively at older age groups, from 0.9 percent for the population aged 65 to 74, to 3.2 percent for those aged 75 to 84, and to 11.2 percent for those aged 85 and over. In addition to those residing in skilled nursing facilities, another 2.4 percent of older people resided in senior housing facilities that offered one or more special support services (Administration on Aging, 2009).

While the share living in nursing homes is down, the share in other care settings, such as assisted living facilities, has been growing. Among Medicare enrollees residing in a long-term care facility, the proportion living in an assisted living facility increased from 15 percent in 1992 to nearly a quarter in 1998, as based on the Medicare Current Beneficiary Survey (Spillman, Liu, and McGilliard, 2002). Data from the 2010 National Survey of Residential Care Facilities estimated that there were 31,100 residential care facilities such as assisted living facilities and personal care homes, with 971,900 beds nationwide (Park-Lee et al., 2011). The vast majority of residents in these residential care facilities were non-Hispanic White (91 percent) and 70 percent were female (Caffrey et al., 2012). Over half of the residents

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15 The 2010 Census does not classify assisted living facilities as skilled nursing facilities. Group quarters includes skilled nursing/nursing facilities only and those residing in assisted living facilities are classified as individual households.

16 Data on residential care facilities, such as assisted living facilities and personal care homes, are limited, in part, because these facilities are not federally regulated (Park-Lee et al., 2011).
were aged 85 and over (54 percent), more than a quarter were 75 to 84 years old (27 percent), while 9 percent were aged 65 to 74, and 11 percent were under age 65.

Aside from nursing homes, assisted living facilities, and senior housing facilities, there are services available to allow older people to live at home. For those who prefer to remain at home but cannot care for themselves, the home care industry provides many options, typically nonmedical or supportive care provided by paraprofessionals such as home health aids, homemakers, and companions (Metlife Mature Market Institute, 2010). In addition, adult day care centers offer services in a community facility for adults who need assistance or supervision but do not need 24-hour care. Such centers reduce the reliance on regular informal caregivers (Genworth, 2011).

The Cost and Funding of Long-Term Care

The cost of long-term care varies by care setting. The average cost of a private room in a nursing home was $229 per day or $83,585 annually in 2010 (Table 2-11). Average assisted living rates were $3,293 per month or $39,516 annually. For in-home care, rates averaged $21 per hour for home health aides and $19 per hour for homemakers. Adult day care centers cost on average $67 a day. However, as Table 2-11 shows, the average cost varies widely across states. Increases in the costs of these options have also varied. For instance, from 2005 to 2011, the cost of nursing home care and assisted living facilities rose by 4.4 percent annually, compared with just 1.4 percent annually for home health aides (Genworth, 2011).

Less than one-fifth of older people have enough personal resources to live in a nursing home for more than 3 years, and almost two-thirds cannot afford even 1 year (Engquist, Johnson, and Johnson, 2010). Out-of-pocket expenses accounted for only 28 percent of total long-term care spending in 2006 (Figure 2-19). The largest share of long-term care expenditures was covered by Medicaid (43 percent). This is more than Medicare (18 percent) and private long-term care insurance and Medigap combined (7 percent). Medicare provides skilled nursing home coverage to aged and disabled patients for only short time periods after hospitalization (Centers for Medicare and Medicaid Services, 2012b).

Evidence indicates that residential care facilities, in general, provide care to a more affluent population. Assisted living facilities largely have residents who self-pay (Hawes et al., 2003). In 2010, Medicaid, which is available to low-income individuals, paid for at least some

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Table 2-11.  
Average Cost of Long-Term Care by Care Setting: 2010  
(In dollars)

<table>
<thead>
<tr>
<th>Care setting and type of rate</th>
<th>National average rate</th>
<th>Range of average rate across states</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nursing home (daily):</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Semi-private room</td>
<td>205</td>
<td>123–610</td>
</tr>
<tr>
<td>Private room</td>
<td>229</td>
<td>138–687</td>
</tr>
<tr>
<td>Assisted living communities (monthly)</td>
<td>3,293</td>
<td>2,073–5,231</td>
</tr>
<tr>
<td>Home care (hourly):</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Home health aide</td>
<td>21</td>
<td>14–30</td>
</tr>
<tr>
<td>Homemaker</td>
<td>19</td>
<td>13–25</td>
</tr>
<tr>
<td>Adult day service (daily)</td>
<td>67</td>
<td>31–140</td>
</tr>
</tbody>
</table>


---

17 Data cited here are from a Metlife survey conducted via telephone between May and August 2010 by LifePlans for the Metlife Mature Market Institute. The survey covered nursing homes, assisted living communities, and home care agencies in all 50 states and the District of Columbia.
services for 19 percent of residents in residential care facilities, with Medicaid services more common for younger residents than for older residents (Caffrey et al., 2012). Other researchers found that assisted living facilities are more often located in areas where there is higher educational attainment, higher income, and greater housing wealth (Stevenson and Grabowski, 2010).

A small portion of Americans purchase long-term care insurance to pay for potential long-term care needs if they develop health problems, such as ADL or IADL limitations, which would require long-term care. According to the 2000 HRS, only 10.5 percent of individuals aged 60 and over owned a private long-term care insurance policy (Brown and Finkelstein, 2009). Ownership rates rose with household wealth and were higher for married than single individuals. Private long-term care insurance covers varied expenses depending on the terms of each policy (Genworth, 2011). Many plans pay for costs related to care in non-nursing home settings as well as nursing home care. A survey of purchasers of long-term care insurance who had recently filed a claim or planned to file a claim in the next 60 days revealed that 37 percent were receiving paid care at home, 26 percent were receiving unpaid care at home, 23 percent were in an assisted living facility, and 14 percent were in a nursing home (Doty et al., 2010). Long-term care insurance (including Medigap) is typically purchased by people with lower risk tolerance, who tend to use more preventative care services and do not often end up in a nursing home (Cutler, Finkelstein, and McGarry, 2008).

Researchers often view nursing homes as falling into one of two tiers based on the key sources of funding (Mor et al., 2004). Medicaid payment rates are typically lower than private payers and Medicare (BDO Seidman, 2002). Although Medicaid provides the most funds for long-term care, institutions with the greatest reliance on Medicaid funding have fewer opportunities to cross-subsidize care for residents. Mor et al. (2004) classified over 14,000 nonhospital-based nursing facilities, which were Medicaid and Medicare certified, into two tiers based on their funding sources. Nursing facilities with 85 percent or more of the residents supported by Medicaid, fewer than 10 percent supported by private payers, and fewer than 8 percent supported by Medicare were classified as lower tier. As of 2000, 13 percent of nursing facilities met the lower-tier criteria. The study found that lower-tier facilities, often located in poor areas, tended to have a lower nurse-to-patient ratio and more health-related deficiencies.

**Growth of Home and Community-Based Care Living**

The distribution of Medicaid funds has been shifting towards home- and community-based services (Grabowski et al., 2010). Such options for long-term care are increasingly popular, in part because of the desire to remain in one’s own home. Almost 90 percent of adults aged 50 and over want to stay in their own home as long as possible (AARP Public Policy Institute, 2009). In addition, health insurance providers have increasingly funded non-institutional care options, which are cheaper than institutional care. Medicaid can provide home- and community-based services to three people for the same cost as one patient in a nursing home. Figure 2-20 shows the change in distribution of Medicaid funds for

![Figure 2-20. Percentage Distribution of Medicaid Funding for Long-Term Care by Type of Care: 1990 to 2007](source: Engquist et al., 2010.)
long-term care from 1990 to 2007. Funding for home- and community-based services increased from 13 percent of total funding in 1990 to 43 percent in 2007. The growth of such options may help to explain the decline in the proportion of older people who reside in nursing homes (NCHS, 2011a).

Assistive devices can help older adults with chronic conditions live in their homes longer, delaying the need for institutional care. Assistive devices are tools that are designed, made, or adapted to make it easier for a person to perform a particular task independently. Examples of common assistive devices include canes and wheelchairs to help with mobility, a shower bench and pull bar to permit independent bathing, and modified cutlery, such as a plastic knife that allows food preparation with a tool that cannot cut skin. Use of assistive devices significantly diminishes the adverse effects of chronic illness and physical impairment and improves the quality of life of the elderly (Kahana et al., 2003; Agree and Freedman, 2011). In the 1990s, the proportion of the chronically disabled older population with ADL and/or IADL problems who were able to manage their disabilities with only assistive devices rose while use of personal care assistants declined (Spillman, 2005; Freedman et al., 2006). Use of assistive devices may result in an older person being more independent and no longer needing as much assistance from family members or public programs, although the ability of equipment to successfully substitute or supplement personal care depends on the tasks that people struggle with, which devices they use, as well as what assistance they receive from their care providers (Agree and Freedman, 2000).

Commonly used technologies can benefit older adults with special needs. For instance, computer programs and electronic devices can help older adults with visual problems read by enlarging text or providing enhanced contrast. Some devices may even read the book to them. Additionally, older adults with cognitive impairment or arthritis can benefit from modifications of phones and appliances so that they have fewer and larger buttons and simpler instructions (Sterns, 2007). Finally, the field of telemedicine, an active area of research for 30 years, can help patients receive health monitoring in their own homes (Lesnoff-Caravaglia, 2007; Mishra et al., 2011). As Baby Boomers age, there will likely be an increased demand for technology that can improve both health and independence (Horgas and Abowd, 2003).
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Among the older population, labor force participation and retirement patterns have shifted since the start of the twenty-first century. The work trends of the older population also varied by age, sex, race, and Hispanic origin.\(^1\) This chapter discusses the economic characteristics of the older population in three sections: “Work and Retirement,” “Income and Poverty,” and the “Impact of the 2007–2009 Recession on Older Americans.”

### Work and Retirement

#### Labor Force Participation

Between 1950 and the early 1990s, the labor force participation rate gap between older men and women declined, due primarily to the downward trend in the participation rate for men (Figure 3-1).\(^2\) Labor force participation for men aged 65 and older decreased from 45.8 percent in 1950 to 15.6 percent in 1993 (Figure 3-1). In contrast, older women’s participation rates experienced relatively little change from 1950 until the early 2000s. There was no statistical difference between the 1950 rate of 9.7 percent and the 2003 rate of 10.6 percent for women aged 65 and over. However, in the first decade of the twenty-first century, trends show an increase in labor force participation for both older men and women (Figure 3-1). By 2010, the labor force participation rate reached 22.1 percent for older men and 13.8 percent for older women, a significant rise from their levels of 17.7 percent and 9.4 percent, respectively, in 2000. In contrast, the labor force participation rates for the younger population aged 25 to 34 fell from 2000 to 2010 for both men (93.4 to 89.7 percent) and women (76.1 to 74.7 percent) (Bureau of Labor Statistics, 2011).

The trend toward earlier retirement in the 1960s, 1970s, and 1980s—made possible in part by the Social Security system and the provision of health insurance through Medicare—began to change in the 1990s for men and in the 2000s for women (Shattuck, 2010; Leonesio et al., 2012). For the past decade or longer, the proportion of older adults in the labor force has been increasing. Heiland and Li (2012) argue that the shift from defined benefit to defined contribution retirement plans is a key factor behind the rise in labor force participation.

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\(^1\) For more information on the definition of race and Hispanic origin, see Chapter 1, Box 1-1.

\(^2\) The Bureau of Labor Statistics defines the civilian labor force participation rate as the percentage of the civilian noninstitutionalized population aged 16 and over that is either employed or unemployed. For more information on how the labor force components are defined, see Bureau of Labor Statistics, <www.bls.gov/gps/gpsfaqs.htm#Ques2>.
force participation rates among the population aged 65 and over. Among older men and women, those with higher educational attainment tended to remain in the labor force longer than those with lower education levels (Shattuck, 2010; Munnell, 2011; Johnson and Mommaerts, 2010b). In addition, older women who were divorced or separated had higher labor force participation rates than older women who were married, widowed, or never married (Shattuck, 2010).

Table 3-1 shows the labor force participation rates for 2010 by age, sex, race, and Hispanic origin for the population aged 50 and over. For the age group 60 to 64 in 2010, labor force participation rates for men who identified as White or as Asian were higher than for men identifying as Black. For women aged 60 to 64, the only significant difference in 2010 participation rates across races was a higher rate for White (51.7 percent) than Black (44.2 percent). The labor force participation rates dropped for those aged 65 to 69 compared with those aged 60 to 64 for both men and women and across all races in 2010. Labor force participation rates for women aged 65 and over across race and Hispanic-origin groups did not differ statistically in 2010. This was also true for older men. Older men had higher participation rates than older women for each race group and for Hispanics of any race in 2010. Appendix Table C-2 provides labor force participation rates for the population aged 50 and over for earlier years.

Table 3-1.
Labor Force Participation Rates for the Population Aged 50 and Over by Sex, Age, Race, and Hispanic Origin: 2010
(In percent. For information on confidentiality protection, sampling error, nonsampling error, and definitions, see www.census.gov/cps/methodology/)

<table>
<thead>
<tr>
<th>Sex and age</th>
<th>Total</th>
<th>White</th>
<th>Black or African American</th>
<th>Asian</th>
<th>Hispanic (of any race)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>50 to 54</td>
<td>85.1</td>
<td>86.5</td>
<td>75.1</td>
<td>88.7</td>
<td>86.7</td>
</tr>
<tr>
<td>55 to 59</td>
<td>78.5</td>
<td>79.7</td>
<td>65.2</td>
<td>87.4</td>
<td>77.1</td>
</tr>
<tr>
<td>60 to 64</td>
<td>60.0</td>
<td>61.3</td>
<td>46.7</td>
<td>66.8</td>
<td>57.8</td>
</tr>
<tr>
<td>65 and over</td>
<td>22.1</td>
<td>22.3</td>
<td>18.1</td>
<td>24.2</td>
<td>24.5</td>
</tr>
<tr>
<td>Female</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>50 to 54</td>
<td>74.8</td>
<td>75.3</td>
<td>70.6</td>
<td>75.9</td>
<td>67.7</td>
</tr>
<tr>
<td>55 to 59</td>
<td>68.4</td>
<td>69.4</td>
<td>63.6</td>
<td>65.0</td>
<td>60.5</td>
</tr>
<tr>
<td>60 to 64</td>
<td>50.7</td>
<td>51.7</td>
<td>44.2</td>
<td>49.3</td>
<td>44.5</td>
</tr>
<tr>
<td>65 and over</td>
<td>13.8</td>
<td>13.9</td>
<td>13.3</td>
<td>11.7</td>
<td>13.0</td>
</tr>
<tr>
<td>65 to 69</td>
<td>27.0</td>
<td>27.6</td>
<td>24.2</td>
<td>21.4</td>
<td>24.3</td>
</tr>
<tr>
<td>70 to 74</td>
<td>14.7</td>
<td>15.0</td>
<td>13.0</td>
<td>13.8</td>
<td>10.4</td>
</tr>
<tr>
<td>75 and over</td>
<td>5.3</td>
<td>5.3</td>
<td>5.6</td>
<td>4.4</td>
<td>5.5</td>
</tr>
</tbody>
</table>

Note: The reference population of the survey is the civilian noninstitutionalized population.


Figure 3-2 shows labor force participation rates for the population aged 65 and over by state from the 2009–2011, 3-year American Community Survey (ACS). Participation rates among those aged 65 and older ranged from 11.5 percent in West Virginia to 23.6 percent in Alaska. Major retirement destinations, such as Florida and Arizona, had lower labor force participation rates than a number of Midwest states, such as North Dakota, South Dakota, and Nebraska, where a higher share of the older population was still economically active.

Age Structure of the Labor Force

The age structure of the labor force changes over time due to shifts in the age structure of the population and in the labor force participation rates at various ages. Figure 3-3 shows the distribution of the labor force by age in 1950, 1980, 2000, and 2010. In 1950, people aged 55 to 64 represented 12.3 percent of the labor force, and people 65 years and older accounted for 4.9 percent. In 2000, shares of the labor force in the age groups 55 to 64 and 65 and over were lower than their shares in 1950. In 2010, the labor force shares again rose, with the proportion at ages 55 to 64 and 65 and over reaching 15.1 percent and 4.4 percent, respectively.

1 There is no statistical difference in the labor force participation rate between men aged 60 to 64 in the White population and the Asian population.

4 The 3-year American Community Survey (ACS) data set is used to obtain statistically robust estimates for the population aged 65 and over. For more information on how to use 1-year, 3-year, or 5-year ACS estimates, please see <www.census.gov/acs/www/guidance_for_data_users/estimates/>.

5 States in this report include the 50 states and the District of Columbia (treated as a state equivalent).

6 The share in the labor force in 1950 and 1980 were not significantly different from each other for the age category 65 and over. For the age category 55 to 64, the share in the labor force in 1980 was lower than the share in 1950.
How old or young the workforce is can also be reflected by the median age of the labor force. According to Toossi (2012), the entry of the Baby Boomers (those born in mid-1946 to 1964) to the workforce helped drive the median age to a low of 34.6 years in 1980, when Baby Boomers were 16 to 34 years old. Since 1980, the median age has been rising, reaching 36.4 years in 1990, 39.3 years in 2000, and 41.7 years in 2010. The Bureau of Labor Statistics projects the median age of the labor force to reach 42.8 years in 2020, when the Baby Boomers will be 56 to 74 years old (Toossi, 2012).

Notes: Data for 2000 and 2010 are not strictly comparable with data for earlier years. Totals may not sum to 100.0 due to rounding. The reference population of the survey is the civilian noninstitutionalized population.
Work Status and Type of Employment

Figure 3-4 shows the work status of employed workers aged 55 and over by age and sex in 2009. Among workers aged 55 to 61 (just prior to first becoming eligible to receive Social Security benefits), only 10.0 percent of men and 21.8 percent of women were on part-time schedules. As the age of workers rises, the share working part time increases. For workers aged 70 and older, nearly half of all employed men and the majority of employed women were working part time as opposed to full time. For each age group, a higher share of women work part time compared with men.

Many older workers choose to transition from full-time employment to part-time employment before full retirement for a variety of reasons. Rather than leave a career job and immediately retire, a large portion of men in their 50s and 60s transition into part-time and/or part-year “bridge jobs,” often in a different industry or occupation, before they officially retire (Macunovich, 2009). Some older employees switch to a new career due to poor health, a desire to try something new, or the inability to find a job in their prior line of work (Johnson, Kawachi, and Lewis, 2009). Jobs that older adults take after retirement tend to be in less demanding occupations with less pay than their former jobs, to be part time, and to involve more flexible schedules. Some older workers prefer to gradually transition into retirement with their current employer rather than change employers or switch from-full time work to full-time retirement (Eyster, Johnson, and Toder, 2008). An increasingly common transition is to stay within the same occupation but to switch to self-employment (Giandrea, Cahill, and Quinn, 2008). There has also been a rise in full-time, full-year employment among older workers since the mid-1990s (Shattuck, 2010). Occupations and type of employment vary among the older population, with self-employment more common for older employees than for younger employees. Among

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Figure 3-4.

Employment Status of the Employed Population Aged 55 and Over by Sex and Age: March 2009
(In percent. For information on confidentiality protection, sampling error, nonsampling error, and definitions, see www.census.gov/cps/methodology/)

<table>
<thead>
<tr>
<th></th>
<th>Part time</th>
<th>Full time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td></td>
<td></td>
</tr>
<tr>
<td>55–61</td>
<td>10.0</td>
<td>90.0</td>
</tr>
<tr>
<td>Female</td>
<td>21.8</td>
<td>78.2</td>
</tr>
<tr>
<td>Male</td>
<td>20.2</td>
<td>79.8</td>
</tr>
<tr>
<td>62–64</td>
<td>33.3</td>
<td>66.7</td>
</tr>
<tr>
<td>Female</td>
<td>31.4</td>
<td>68.6</td>
</tr>
<tr>
<td>Male</td>
<td>46.4</td>
<td>53.6</td>
</tr>
<tr>
<td>65–69</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>54.4</td>
<td>45.6</td>
</tr>
<tr>
<td>Male</td>
<td>61.4</td>
<td>38.6</td>
</tr>
<tr>
<td>70 and over</td>
<td>61.4</td>
<td>38.6</td>
</tr>
</tbody>
</table>

Note: The reference population of the survey is the civilian noninstitutionalized population. Source: Purcell, 2009; Current Population Survey, 2009.
the employed population aged 16 and over in 2010, 0.6 percent were self-employed in agriculture and related industries, and 6.4 percent were self-employed in non-agricultural industries (Table 3-2). For employed workers aged 65 and over, the self-employed shares rise to 3.9 percent and 13.5 percent in agriculture and non-agricultural industries, respectively. Men had higher self-employment rates than women regardless of age.

Retirement Planning

The Retirement Confidence Survey (RCS) found that the percentage of workers aged 25 and older planning to retire when they reached age 66 or higher rose from 19 percent in 2000 to 24 percent in 2005 and to 33 percent in 2010 (Figure 3-5). The Health and Retirement Study (HRS) also found a rising expected retirement age over the 2006 to 2010 period (Banerjee, 2011). The median expected retirement age, though, has remained at age 65 since 1995 due to the continued large share of workers planning to retire at age 65 (Helman, Copeland, and VanDerhei, 2010). In contrast, the median age of actual retirement has been at or very near age 62 since 1991 according to the RCS.

While workers say they plan to retire later, many current retirees left the labor force at younger ages (Figure 3-6). In 2010, one-third of retirees had retired before reaching age 60, and only 22 percent had retired at age 66 or older.

Many possible factors can contribute to people working for a different length of time than planned. The 2010 RCS found that people who retired earlier than planned tended to cite negative reasons for leaving their job, with the number of these retirees does not necessarily foreshadow the future for current workers.

Table 3-2.

Employed Population Aged 16 and Over By Employment Type, Age, and Sex: 2010
(Numbers in thousands. For information on confidentiality protection, sampling error, nonsampling error, and definitions, see www.census.gov/cps/methodology/)

<table>
<thead>
<tr>
<th>Employment</th>
<th>Total</th>
<th>Men</th>
<th>Women</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>16 and over</td>
<td>55 to 64</td>
<td>65 and over</td>
</tr>
<tr>
<td>Number</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>138,947</td>
<td>21,620</td>
<td>6,258</td>
</tr>
<tr>
<td>Agriculture and related industries</td>
<td>2,173</td>
<td>395</td>
<td>329</td>
</tr>
<tr>
<td>Wage and salary</td>
<td>1,353</td>
<td>171</td>
<td>88</td>
</tr>
<tr>
<td>Self-employed</td>
<td>821</td>
<td>224</td>
<td>241</td>
</tr>
<tr>
<td>Nonagricultural industries</td>
<td>136,774</td>
<td>21,225</td>
<td>5,929</td>
</tr>
<tr>
<td>Private wage and salary</td>
<td>106,911</td>
<td>15,048</td>
<td>4,179</td>
</tr>
<tr>
<td>Government wage and salary</td>
<td>2,103</td>
<td>4,235</td>
<td>903</td>
</tr>
<tr>
<td>Self-employed</td>
<td>8,860</td>
<td>1,943</td>
<td>847</td>
</tr>
</tbody>
</table>

Percent

<table>
<thead>
<tr>
<th>Employment</th>
<th>Total</th>
<th>Men</th>
<th>Women</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>100.0</td>
<td>100.0</td>
<td>100.0</td>
</tr>
<tr>
<td>Agriculture and related industries</td>
<td>1.6</td>
<td>1.8</td>
<td>5.3</td>
</tr>
<tr>
<td>Wage and salary</td>
<td>1.0</td>
<td>0.8</td>
<td>1.4</td>
</tr>
<tr>
<td>Self-employed</td>
<td>0.6</td>
<td>1.0</td>
<td>3.9</td>
</tr>
<tr>
<td>Nonagricultural industries</td>
<td>98.4</td>
<td>98.2</td>
<td>94.7</td>
</tr>
<tr>
<td>Private wage and salary</td>
<td>76.9</td>
<td>69.6</td>
<td>66.8</td>
</tr>
<tr>
<td>Government wage and salary</td>
<td>15.1</td>
<td>19.6</td>
<td>14.4</td>
</tr>
<tr>
<td>Self-employed</td>
<td>6.4</td>
<td>9.0</td>
<td>13.5</td>
</tr>
</tbody>
</table>

1 Unpaid family members are not included in this table.
Note: The reference population of the survey is the civilian noninstitutionalized population.
Figure 3-5.  
Workers' Planned Retirement Age: 2000, 2005, and 2010  
(In percent)

![Bar chart showing planned retirement ages for 2000, 2005, and 2010.]

Note: The reference population of the survey is workers aged 25 and older.  
Source: Helman, Copeland, and VanDerhei, 2010.

Figure 3-6.  
Retirees' Actual Retirement Age: 2000, 2005, and 2010  
(In percent)

![Bar chart showing actual retirement ages for 2000, 2005, and 2010.]

Note: The reference population of the survey is retirees aged 25 and older.  
Source: Helman, Copeland, and VanDerhei, 2010.
retirement because of the 2007–2009 recession. Another study found that 89 percent of those whose retirement expectations changed between 2008 and 2009 postponed retirement in order to increase their financial security (Helman, Copeland, and VanDerhei, 2009). A longer discussion of the impact of the 2007–2009 recession is included later in this chapter.

Workers who did not expect to receive employer-provided health insurance in retirement planned to retire later than those who expected this benefit (Mosisa and Hipple, 2006; Helman, Copeland, and VanDerhei, 2010; French and Jones, 2011). Strumpf (2010), using HRS data from 1992 to 2006, estimated that the offer of employer-provided health insurance increased the probability of early retirement by 37 percent. Concerns about health care costs may be warranted, as 40 percent of retirees in the 2009 RCS indicated that health care spending had been higher than expected (Helman, Copeland, and VanDerhei, 2011).

Studies of the effect of retiree health insurance on retirement rates generally have found a positive effect for workers under age 65 (Nyce et al., 2011; Blau and Gilleskie, 2008). That is, workers under age 65 with the option of retiree health insurance generally retire earlier than workers without this option. Blau and Gilleskie (2008) concluded that the availability of subsidized employer-provided health insurance after retirement had a noticeable effect on workers in poor health and a smaller effect on workers in good health. However, even when retiree health insurance is not available and workers need to work to maintain health benefits, some older workers retire before age 65 as a result of poor health (Bound et al., 1998). Nyce et al. (2011) anticipate a rise in early retirement following the new opportunities for access to group health insurance starting in 2014 under the Patient Protection and Affordable Care Act, assuming the cost is comparable to employer-provided and subsidized retiree coverage.

There are a number of possible factors behind the rise in labor force participation rates among the older population and delayed retirement. First, the population is living longer and, compared with previous generations, the health of the older population is improved, and many jobs are less physically demanding (Mermin, Johnson, and Toder, 2008). Another factor is the rise in the Social Security full retirement age, which reaches age 67 for those born in 1960 and later.

In 2000, the federal government eliminated the earnings test that limited how much workers could earn from paid work and still collect their full monthly Social Security benefit for workers who had reached full retirement age. Research is mixed, however, on whether removing the earnings test affected the labor supply. Friedberg and Webb (2009) found that eliminating the earnings test in 2000 resulted in about a 3.5 percentage-point increase in employment at age 65 and a 2 percentage-point rise among those aged 66 to 69. Song and Manchester (2007) found a small rise in work force participation among individuals aged 65 to 69 but attributed the rise to trends already underway and to employers retaining older workers as opposed to older workers reentering the work force. In a study focused on men only, Haider and Loughran (2008) did not find clear evidence that removing the earnings test in 2000 significantly changed the overall rate of labor force participation. Workers who delay collecting Social Security (up to age 70) receive “delayed retirement credits” which increase their benefit when they do retire (Shattuck 2010).

Another factor underlying the increase in labor force participation among the population aged 55 and over is the shift in responsibility for retirement income from employers to employees (Bureau of Labor Statistics, 2010). The majority of pension plans were defined benefit in 1983 and by 2004 the majority were defined contribution (Munnell and Sunden, 2006). Researchers found that people who did not expect a defined-benefit plan and who did not save money for retirement planned to retire later (Helman, Copeland, and VanDerhei, 2009).

Current retirees are more likely to have a defined-benefit plan than current employees, and many approaching retirement more often have defined-contribution plans. The percentage of retirees receiving defined-benefit pensions has decreased from 62 percent in 2005 to 52 percent in 2010 (Helman, Copeland, and VanDerhei, 2010). Furthermore, only around one-third of current employees in 2011 reported that they or their spouse currently had a defined-benefit plan from a current or previous employer, while about one-fifth of workers expected a defined-benefit plan from a future employer (Helman, Copeland, and VanDerhei, 2011). Private sector employers, in particular, have cut back on defined-benefit plans for their employees.

10 Based on the Surveys of Consumer Finances, 61.6 percent of workers with pension coverage were offered only a defined-benefit plan in 1983 while 62.7 percent were offered only a defined-contribution plan in 2004 (Munnell and Sunden, 2006). See Box 3-2 for a discussion of defined-benefit and defined-contribution pensions.
Financial literacy is increasingly important for retirement planning and managing defined-contribution pension plans and personal savings for retirement (van Rooij, Lusardi, and Alessie, 2007). A lack of financial knowledge may impair the ability of workers to save and invest for their retirement (Lusardi and Mitchell, 2007). The MetLife Mature Market Institute has conducted three waves of the Retirement IQ Survey (in 2003, 2008, and 2011) that targets workers within 5 years of retirement. Results across the three waves demonstrate “increases in some areas of knowledge, yet persistent areas of misperception and misunderstanding” (MetLife Mature Market Institute, 2011, p. 2). Results from the 2004 HRS point to low levels of financial literacy and the potential benefit of financial education, such as retirement seminars and financial counseling. Using data from the 2008 HRS, Lusardi, Mitchell, and Curto (2012) found that women, people over age 75, and those with low levels of education were less sophisticated regarding financial matters. According to studies by Bernheim and Garrett (2003), when employers offer financial education, employees have significantly higher retirement accumulation. Martin (2007) finds evidence across a number of studies that financial education has a positive effect on individual financial behavior and outcome. Nevertheless, most individuals rely on informal sources for financial advice, including family and friends, rather than financial experts and professionals and few report using tools, such as retirement calculators (Lusardi and Mitchell, 2008).

Among the population approaching retirement, people have both economic and noneconomic concerns. In 2010, 32 percent of workers aged 55 and over were very confident that they could pay for basic expenses during retirement, down from 41 percent in 2000 (Figure 3-7). Only 11 percent of workers aged 55 and over were very confident that they had enough money for medical expenses in retirement in 2010, down from 25 percent in 2000. The top two retirement concerns among people aged 51 to 57 in 2009 were being able to afford health care (25 percent) and staying productive and useful (18 percent; Metlife Mature Market Institute, 2010). Noneconomic reasons for working, such as remaining productive and useful, were also found in a study by Taylor et al. (2009b, p. 1), where participants expressed social reasons for working: “to feel useful;” “to give myself something to do;” and “to be with other people.” In that same study, researchers found that 27 percent of older workers were motivated by both the desire to work and the need for money.

**Income and Poverty**

**Sources of Income**

The median income for married couples and individuals aged 65 or older was $25,757 in 2010 (Social Security Administration, 2012b, p. 3) and varied by marital status, race, Hispanic origin, and age (Figure 3-8). Married couples had a median income of nearly $45,000, compared with just over $17,000 for nonmarried persons. Married couples and individuals aged 65 or over who identified their race as White alone had a median income of $27,214. Married couples were followed by the Asian alone

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11 The unit of analysis is defined as a married couple with husband or wife aged 65 or over, or a person aged 65 or older who does not live with a spouse.

12 The race and Hispanic origin of a married couple are determined by the husband.
($17,977) and Black alone ($16,463) populations. The median income for Hispanics was lower than for non-Hispanics. Median income decreased with age, declining from $37,200 for the population aged 65 to 69 to $19,457 for those aged 80 and over.\footnote{The unit of analysis for median income by age is all individuals (single or married) aged 65 and over.}

Figure 3-9 shows that total money income for the population 65 and older comes primarily from four sources. In 2010, Social Security payments accounted for the largest share at 36.7 percent, earnings contributed 30.2 percent, pensions provided 18.6 percent, and asset income generated 11.4 percent. A variety of other sources, including public assistance, comprised the remaining 3.1 percent.

\footnote{The unit of analysis for median income by age is all individuals (single or married) aged 65 and over.}

Notes: The reference population of the survey is the civilian noninstitutionalized population. The unit of analysis is the aged unit defined as a married couple with husband or wife aged 65 or over, or a person 65 or older who does not live with a spouse. The race and Hispanic origin of a married couple are determined by the husband. The unit of analysis for median income by age group is all individuals (single or married) aged 65 and over.

Social Security

While Social Security provides the largest share of total income for the older population, its relative importance varies by income level. Social Security represented 84.3 percent of total income for those aged 65 and older in the lowest income quintile and only 17.3 percent for those in the highest income quintile (Figure 3-10). For those in the highest income quintile, earnings accounted for the largest share of income at 44.9 percent.

The overwhelming majority of the older population receives Social Security. In 2010, Social Security paid benefits to 86.3 percent of the population aged 65 and over (Figure 3-11). Asset income was the second most common source of income, received by 51.9 percent of the older population. Four out of 10 received retirement benefits other than Social Security and about 1 in 4 had earnings.

Most people begin receiving Social Security before they reach their full retirement age. In 2010, 1.3 million men claimed their Social Security entitlement at an average age of 63.8 years (Social Security Administration, 2012a). Among men claiming entitlement, 43.6 percent were aged 62 and 26.1 percent were above age 62 but still below their full retirement age. A total of 1.2 million women claimed Social Security entitlement

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14 Married couples and individuals aged 65 or older are ranked by total money income and divided into five groups of equal size called quintiles.
in 2010 at an average age of 63.7 years. Among women claimants, 49.0 percent were aged 62 and 25.2 percent were above age 62 but below full retirement age. The shares claiming Social Security retirement benefits at age 62 in 2010 were lower than in 2005, when 49.6 percent of men and 54.1 percent of women claimed at age 62. The age distribution of all Old-Age, Survivors, and Disability Insurance (OASDI) beneficiaries as of December 2010 is shown in Figure 3-12. Nearly 80 percent were aged 62 and over with 10 percent aged 85 and over.

Notes: The reference population of the survey is the civilian noninstitutionalized population. The unit of analysis is the aged unit defined as a married couple with husband or wife aged 65 or over, or a person 65 or older who does not live with a spouse. Source: Social Security Administration, 2012b; Current Population Survey, Annual Social and Economic Supplement (ASEC), 2011.
Private Pensions

Another source of income for retirees is employer-provided pension plans. As of March 2010, 65 percent of private sector workers had access to a retirement benefits plan through their employer, while 90 percent of state and local government employees had access (Table 3-3).

Employers may offer retirement benefits that consist exclusively of a defined-benefit plan or a defined-contribution plan, or they may offer a combination of these plan types. According to the National Compensation Survey, 69 percent of civilian workers had access to a retirement plan through their employer as of 2010, with 31 percent having access to a defined-benefit plan and 54 percent having access to a defined-contribution plan (Table 3-3). However, not all employees with access actually participate in the retirement plans offered by their employer. Among all civilian workers, only 55 percent were participating in a retirement plan in 2010, producing a take-up rate, defined as the percentage

\[ \frac{\text{Participation rate}}{\text{Access rate}} \times 100 \]

Box 3-1.

Social Security

The official name of Social Security is the Old-Age, Survivors, and Disability Insurance (OASDI) program. It is intended to provide monthly benefits to replace the loss of earnings due to retirement, death (with benefits going to a spouse), or disability. Social Security retirement benefits are based on a variety of factors, including a person’s earnings history and the age at which the initial benefit is claimed. The earliest age for workers to receive Social Security retirement benefits is 62; however, benefits are about 25 percent lower than they would be at the full retirement age. To receive full benefits, the retirement age traditionally was 65 but has been gradually increasing for those born after 1937, reaching age 67 for those born in 1960 and later. For people who delay receiving Social Security benefits beyond the full retirement age, the benefit continues to increase up to age 70 (Social Security Administration, 2012d).

Box 3-2.

Pension Plan Types

Pension plans generally are one of two main types: defined benefit and defined contribution. Under a defined-benefit plan, the retiree commonly receives a set amount of money yearly, with payments based on salary and years of service (Purcell, 2009). From a defined-contribution plan, retirees receive benefits based on the amount of money that they and their employer contributed along with the rate of return on the investment of the funds (Purcell, 2009). Defined-contribution plans tend to be portable and offer employees a greater amount of control over their investments. However, these plans also involve greater employee risk, with payments based on the success of each employee’s investment strategy (Poterba et al., 2007).

Table 3-3.

Workers With Retirement Benefits by Type of Worker: March 2010

(In percent. For information on confidentiality protection, sampling error, nonsampling error, and definitions, see www.bls.gov/opub/hom/homch8.htm)

<table>
<thead>
<tr>
<th>Type of worker</th>
<th>All retirement benefits</th>
<th>Defined benefit</th>
<th>Defined contribution</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Access</td>
<td>Participation</td>
<td>Take-up rate</td>
</tr>
<tr>
<td>Civilian workers</td>
<td>69.0</td>
<td>55.0</td>
<td>80.0</td>
</tr>
<tr>
<td>Private industry</td>
<td>65.0</td>
<td>50.0</td>
<td>76.0</td>
</tr>
<tr>
<td>State and local government workers</td>
<td>90.0</td>
<td>85.0</td>
<td>95.0</td>
</tr>
</tbody>
</table>

1 The take-up rate is an estimate of the percentage of workers with access to a retirement plan who participate in the plan.

Note: Civilian workers include workers in the private nonfarm economy, except those in private households, and workers in the public sector, except the federal government. Retirement plans include defined-benefit pension plans and defined-contribution plans. Employers may offer none, one, or both of these plans, and employees may participate in none, one, or both of these plans.

of workers with access to a plan who participate in the plan, of 80. Access and participation vary across defined-benefit and defined-contribution plans with access being higher for defined-benefit plans but take-up rates being higher for defined-benefit plans.

There also is a difference between state and local government workers and private industry workers in access to retirement plans (Table 3-3). For state and local government workers, 90 percent had access to a retirement plan (84 percent had access to a defined-benefit plan and 29 percent had access to a defined-contribution plan) and 85 percent were participating in 2010. The take-up rate for state and local government workers was 94 percent for defined-benefit plans and 57 percent for defined-contribution plans. In contrast, only 65 percent of private industry workers had access to a retirement plan in 2010, with more having access to a defined-contribution plan (59 percent) than to a defined-benefit plan (20 percent). The take-up rate on defined-contribution plans for private industry workers (70 percent) was higher than for state and local government workers (57 percent), possibly due to the absence of a defined-benefit plan for many private industry workers.

The earnings replacement rate for Social Security benefits depends on the average earnings of retirees. Those retiring at age 65 in 2007 with annual earnings equal to the maximum contribution ($109,000 in 2007), would receive benefits to replace 28 percent of their earnings; average earners would receive benefits that replaced about 40 percent of prior earnings; and lower earners would receive benefits replacing about 54 percent of prior earnings (Reno and Lavery, 2007). While Social Security benefits constitute 84.3 percent of total income for people in the lowest income quintile (see Figure 3-10), income may be insufficient to maintain the same standard of living and low income earners may not be able to meet basic needs (Reno and Lavery, 2007).

Estimated replacement rates for defined-benefit plans. The replacement rate is total annual household income reported when the respondent was classified as retired divided by the average of annual household income reported in the years prior to retirement (a minimum of three waves of the HRS). Income may be insufficient to maintain the same standard of living in retirement and low income earners may not be able to meet basic needs (Reno and Lavery, 2007).

The longitudinal nature of the HRS allowed Purcell (2012) to calculate both preretirement income and postretirement income and to use these measures to construct income replacement rates (see Table 3-4) over the course of retirement for the original HRS sample cohort born between 1931 and 1941 and 1941:

Table 3-4. Replacement Rates by Birth Cohort, Age at Retirement, and Year in Retirement: 1931–41 Birth Cohort

<table>
<thead>
<tr>
<th>Cohort, age at retirement, and percentile</th>
<th>Year in retirement</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>First or second year</td>
</tr>
<tr>
<td>Born 1931 to 1936:</td>
<td></td>
</tr>
<tr>
<td>75th percentile</td>
<td>106.2</td>
</tr>
<tr>
<td>Median (50th percentile)</td>
<td>75.5</td>
</tr>
<tr>
<td>25th percentile</td>
<td>50.8</td>
</tr>
<tr>
<td>Born 1937 to 1941:</td>
<td></td>
</tr>
<tr>
<td>75th percentile</td>
<td>101.9</td>
</tr>
<tr>
<td>Median (50th percentile)</td>
<td>71.6</td>
</tr>
<tr>
<td>25th percentile</td>
<td>47.7</td>
</tr>
<tr>
<td>Age at Retirement</td>
<td></td>
</tr>
<tr>
<td>Younger than 62:</td>
<td></td>
</tr>
<tr>
<td>75th percentile</td>
<td>100.6</td>
</tr>
<tr>
<td>Median (50th percentile)</td>
<td>71.3</td>
</tr>
<tr>
<td>25th percentile</td>
<td>44.9</td>
</tr>
<tr>
<td>62 to 64:</td>
<td></td>
</tr>
<tr>
<td>75th percentile</td>
<td>99.9</td>
</tr>
<tr>
<td>Median (50th percentile)</td>
<td>73.6</td>
</tr>
<tr>
<td>25th percentile</td>
<td>48.8</td>
</tr>
<tr>
<td>65 or older:</td>
<td></td>
</tr>
<tr>
<td>75th percentile</td>
<td>107.2</td>
</tr>
<tr>
<td>Median (50th percentile)</td>
<td>73.8</td>
</tr>
<tr>
<td>25th percentile</td>
<td>49.3</td>
</tr>
</tbody>
</table>

1 Members of the original Health and Retirement Study (HRS) sample cohort were born in 1931–1941. Replacement rates were calculated for members of the original sample cohort who were observed to be working and not retired for at least three consecutive waves in the HRS before they were classified as retired. The replacement rate is total annual household income reported when the respondent was classified as retired divided by the average of annual household income reported in the years prior to retirement (a minimum of three waves of the HRS). All income values are indexed to 2007 dollars based on the annual percentage change in the Consumer Price Index for all Urban Consumers.

Note: The reference population of the survey is the civilian noninstitutionalized population.

1941. Purcell divided these respondents into two groups—those born from 1931 through 1936 and those born from 1937 through 1941—to examine the potential impact of the varying economic conditions prevailing when each group reached retirement age. The older cohort (born 1931 to 1936) reached retirement age during the mid and late 1990s, which were boom years for the economy and stock market. The younger cohort (born 1937 to 1941) reached retirement age in the early 2000s, when the stock market declined. The median replacement rate for the first or second year in retirement was 75.5 percent for retirees born between 1931 and 1936 and 71.6 percent for retirees born between 1937 and 1941 (Table 3-4). By the ninth or tenth year of retirement, the replacement rate for both groups was lower than in the first or second year of retirement. For example, at the 75th percentile, the replacement rate for those born between 1931 and 1936 declined from 105.2 percent in the first or second year of retirement to 83.0 percent in the ninth or tenth year of retirement.

Because age at retirement affects benefits for Social Security and other pensions, Purcell (2012) also examined replacement rates by age at retirement. The median replacement rate for respondents retiring before age 62 was lower than the rate for respondents retiring at ages 62 to 64 and 65 or older. Each of the retirement age groups experienced a drop in the replacement rate from the first or second year of retirement to the third or fourth year of retirement, with the median replacement rate falling from 71.3 percent to 55.4 percent, 73.6 percent to 68.2 percent, and 73.8 percent to 64.5 percent for the groups retiring before age 62, at ages 62 to 64, and at age 65 and older, respectively.

Poverty by Age, Sex, Race, and Hispanic Origin

Half a century earlier, the poverty rate of the population aged 65 and over was relatively high. In 1959, 35.2 percent of older people lived in poverty. However, by 1975 the poverty rate of the older population had declined to 15.3 percent. The proportion of the older population living in poverty generally declined during the 1960s and early 1970s due to the expansion of Social Security and the introduction of Medicare. Since 1975, the older population’s poverty rate has continued a slower downward trend, with fluctuations (Figure 3-13). Prior to the mid-1970s, the poverty rate of the older population exceeded the rates for the population under age 18 and for people aged 18 to 64.

According to data from the 2011 Current Population Survey (CPS) Annual Social and Economic Supplement (ASEC), 9.0 percent of the population aged 65 and over lived in poverty in 2010 (Table 3-5). This proportion was lower than the poverty rate for people under 18 years of age (22.0 percent) and age groups 18 to 24 through 60 to 64.

While 9.0 percent of the population aged 65 and older lived in poverty, an additional 5.7 percent lived “near poverty” (people with incomes at or above their poverty threshold but below 125 percent of their threshold; Table 3-5). Poverty and near-poverty rates differ by age group among the older population. People aged 65 to 74 had a poverty rate of 8.1 percent in 2010, compared with 10.1 percent for those aged 60 to 64 and 10.0 percent for those aged 75 and older. Those “near poverty” in 2010 also followed this pattern.
Table 3-5.

Population in Poverty and Near Poverty by Age and Sex: 2010
(In percent. For information on confidentiality protection, sampling error, nonsampling error, and definitions, see www.census.gov/cps/methodology/)

<table>
<thead>
<tr>
<th>Age</th>
<th>Both sexes</th>
<th>Male</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Below 100 percent of poverty threshold</td>
<td>Below 125 percent of poverty threshold</td>
<td>Below 100 percent of poverty threshold</td>
</tr>
<tr>
<td>Total</td>
<td>15.1</td>
<td>19.8</td>
<td>14.0</td>
</tr>
<tr>
<td>Under 18</td>
<td>22.0</td>
<td>27.8</td>
<td>22.2</td>
</tr>
<tr>
<td>18 to 24</td>
<td>21.9</td>
<td>27.3</td>
<td>18.8</td>
</tr>
<tr>
<td>25 to 34</td>
<td>15.2</td>
<td>19.7</td>
<td>12.5</td>
</tr>
<tr>
<td>35 to 44</td>
<td>12.6</td>
<td>16.4</td>
<td>11.1</td>
</tr>
<tr>
<td>45 to 54</td>
<td>10.6</td>
<td>14.0</td>
<td>9.6</td>
</tr>
<tr>
<td>55 to 59</td>
<td>10.1</td>
<td>12.9</td>
<td>9.5</td>
</tr>
<tr>
<td>60 to 64</td>
<td>10.1</td>
<td>13.9</td>
<td>9.3</td>
</tr>
<tr>
<td>65 and over</td>
<td>9.0</td>
<td>14.7</td>
<td>6.7</td>
</tr>
<tr>
<td>65 to 74</td>
<td>8.1</td>
<td>12.8</td>
<td>6.5</td>
</tr>
<tr>
<td>75 and over</td>
<td>10.0</td>
<td>17.0</td>
<td>7.0</td>
</tr>
</tbody>
</table>

Note: The reference population of the survey is the civilian noninstitutionalized population.
Poverty rates differ between men and women. Higher percentages of older women lived in or near poverty in 2010 than men. As Table 3-5 shows, 10.7 percent of older women were living below the poverty line, compared with 6.7 percent of older men. Additionally, older women were more often living near the poverty threshold than were men (6.5 percent and 4.9 percent, respectively; Table 3-5).

Poverty rates for the older population also varied by race and Hispanic origin. In 2010, the older White alone population—with 7.7 percent living in poverty—were less likely than the older Black alone and Asian alone populations to be in poverty (18.0 percent and 14.6 percent, respectively; Table 3-6). Older Hispanics were more likely to live in poverty (18.0 percent) than older non-Hispanic White alone residents (6.8 percent) in 2010. Appendix Table C-3 provides poverty rates by age, race, and Hispanic origin for earlier years.

A difference in poverty rates by sex existed for the older White alone and Black alone populations and for Hispanics (Figure 3-14). In 2010, women aged 65 and over who identified their race as White alone were more likely to be in poverty than their male counterparts: 9.3 percent and 5.7 percent, respectively. Among the Black alone population, women aged 65 and over had a poverty rate of 20.5 percent in 2010, while older men faced a poverty rate of 14.2 percent. Also,

Table 3-6.

<table>
<thead>
<tr>
<th>Age</th>
<th>All races</th>
<th>White alone</th>
<th>Black alone</th>
<th>Asian alone</th>
<th>White alone, not Hispanic</th>
<th>Hispanic (of any race)</th>
</tr>
</thead>
<tbody>
<tr>
<td>All Ages</td>
<td>305,688</td>
<td>243,013</td>
<td>38,965</td>
<td>14,324</td>
<td>197,203</td>
<td>49,869</td>
</tr>
<tr>
<td></td>
<td></td>
<td>46,180</td>
<td>31,650</td>
<td>10,675</td>
<td>1,729</td>
<td>19,599</td>
</tr>
<tr>
<td></td>
<td></td>
<td>15.1</td>
<td>13.0</td>
<td>27.4</td>
<td>12.1</td>
<td>9.9</td>
</tr>
<tr>
<td>Under 18</td>
<td>74,494</td>
<td>56,215</td>
<td>11,145</td>
<td>3,297</td>
<td>40,494</td>
<td>17,435</td>
</tr>
<tr>
<td></td>
<td></td>
<td>16,401</td>
<td>10,492</td>
<td>4,362</td>
<td>474</td>
<td>5,002</td>
</tr>
<tr>
<td></td>
<td></td>
<td>22.0</td>
<td>18.7</td>
<td>39.1</td>
<td>14.4</td>
<td>12.4</td>
</tr>
<tr>
<td>18 to 64</td>
<td>192,015</td>
<td>153,029</td>
<td>24,425</td>
<td>9,573</td>
<td>125,657</td>
<td>29,576</td>
</tr>
<tr>
<td></td>
<td></td>
<td>26,258</td>
<td>18,549</td>
<td>5,702</td>
<td>1,043</td>
<td>12,481</td>
</tr>
<tr>
<td></td>
<td></td>
<td>13.7</td>
<td>12.1</td>
<td>23.3</td>
<td>10.9</td>
<td>9.9</td>
</tr>
<tr>
<td>65 and Over</td>
<td>39,179</td>
<td>33,768</td>
<td>3,394</td>
<td>1,454</td>
<td>31,052</td>
<td>2,857</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3,520</td>
<td>2,608</td>
<td>612</td>
<td>213</td>
<td>2,116</td>
</tr>
<tr>
<td></td>
<td></td>
<td>9.0</td>
<td>7.7</td>
<td>18.0</td>
<td>14.6</td>
<td>6.8</td>
</tr>
</tbody>
</table>

Note: The reference population of the survey is the civilian noninstitutionalized population.

older Hispanic women had higher poverty rates than older Hispanic men. Women’s longer life expectancy and higher chance of widowhood increases their risk of poverty (Gillen and Kim, 2009; Lee and Shaw, 2008).

Poverty rates rose with age for the older White alone female and Black alone female populations. For example, among the Black alone population, older women had about a 1 in 5 chance of living in poverty in 2010 (Figure 3-14), while 1 in 4 women aged 75 and over fell below the poverty threshold (Figure 3-15).

There are significant differences in poverty rates based on whether older people lived as a married couple or lived alone (see Figure 3-16). For the civilian noninstitutionalized population aged 65 and

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20 There is no statistical difference in the poverty rate between the population aged 65 and older and the population aged 75 and older for Asian women, Hispanic women, White men, Black men, Asian men, and Hispanic men.

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over, 13.6 percent of women living alone lived in poverty, compared with 6.7 percent of men living alone and 4.1 percent of married couples. Among the older White alone population, a higher percentage of female householders living alone were in poverty (11.7 percent), followed by male householders living alone (5.4 percent), with the lowest poverty among married-couple families (3.6 percent). For the older Black alone population, females living alone were more likely to be in poverty (18.7 percent) than males living alone (11.9 percent) or married-couple families (6.3 percent). Among the older Asian alone population, differences in living arrangements were not significant but differences by sex existed: females living alone had a higher poverty rate (16.8 percent) than males living alone (7.4 percent). Older Hispanic females living alone had higher poverty rates (20.3 percent) compared with older Hispanic males living alone (10.6 percent) and with older Hispanic married-couple families (10.2 percent).

When comparing across races for the older population living alone, more female householders identifying as Black alone than those identifying as White alone lived in poverty (18.7 percent and 11.7 percent, respectively). This pattern also holds for male householders living alone, with 11.9 percent of the Black alone population in poverty compared with 5.4 percent of the White alone population. Across married-couple families, the Asian alone population had the highest poverty rate (10.9 percent), followed by the Black alone (6.3 percent) and White alone (3.6 percent) populations.

There is no statistical difference in the poverty rate between a Black alone female household living alone and an Asian alone female household living alone and between a Black alone female household living alone and an Asian alone female household living alone. There is no statistical difference in the poverty rate between a White alone male household living alone and an Asian alone male household living alone and between a Black alone male household living alone and an Asian alone male household living alone.

Box 3-3.
Supplemental Poverty Measure

In 2010, an interagency technical working group (which included representatives from the Bureau of Labor Statistics [BLS], the Census Bureau, the Economics and Statistics Administration, the Council of Economic Advisers, the U.S. Department of Health and Human Services, and the Office of Management and Budget) issued a series of suggestions to the Census Bureau and BLS on how to develop the Supplemental Poverty Measure (SPM). Their suggestions drew on the recommendations of a 1995 National Academy of Sciences report and the extensive research on poverty measurement conducted over the past 15 years.

The new measure based on these suggestions serves as an additional indicator of economic well-being and provides a deeper understanding of economic conditions and policy effects. The new measure creates a more complex statistical picture incorporating additional items such as tax payments and work expenses in its family resource estimates. Income thresholds used in the new measure are derived from Consumer Expenditure Survey expenditure data on basic necessities (food, shelter, clothing, and utilities) and are adjusted for geographic differences in the cost of living. The new thresholds are not intended to assess eligibility for government programs.

The Census Bureau’s statistical experts, with assistance from the BLS and in consultation with other appropriate agencies and outside experts, are responsible for the measure’s technical design. Both the Census Bureau and the interagency technical working group consider the SPM a work in progress and expect that there will be improvements to the statistic over time. Additional details can be found at www.census.gov/hhes/povmeas/methodology/supplemental/overview.html.

Estimates for 2010 showed that 16.0 percent of all people were in poverty using the SPM compared to 15.1 percent for the official poverty measure (Short, 2012). SPM rates compared to official poverty rates were lower for children (18.0 percent versus 22.0 percent) and higher for those aged 18 to 64 (15.2 percent versus 13.7 percent) and over 65 years of age (15.8 percent versus 9.0 percent).
Poverty by State

According to the 2010 ACS, 15.3 percent of the U.S. population had income below the poverty threshold, and among the older population, the poverty rate was 9.0 percent (the same as the poverty rate measured by the CPS). Figure 3-17 shows the 2010 poverty rates for the older population by state (including the District of Columbia). Poverty rates for the older population ranged from 5.7 percent in Alaska to 13.1 percent in the District of Columbia.

Impact of the 2007–2009 Recession on Older Americans

The United States entered a recession in December 2007 and emerged from the recession in June 2009. This recession, which affected not only the

25 The start and end of the recession is as defined by the National Bureau of Economic Research (NBER). According to NBER, “A recession is a significant decline in economic activity spread across the economy, lasting more than a few months, normally visible in production, employment, real income, and other indicators. A recession begins when the economy reaches a peak of activity and ends when the economy reaches its trough. Between trough and peak, the economy is in an expansion.” See <www.nber.org/cycles/dec2008.html>.

Figure 3-17.
Percentage of Population Aged 65 and Over in Poverty: 2010
(For information on confidentiality protection, sampling error, nonsampling error, and definitions, see www.census.gov/acs/www)

United States, is referred to as the Great Recession (Executive Office of the President, 2010) and the Global Financial Crisis (Reavis, 2012) because of the severity and nature of the recession (Hurd and Rohwedder, 2010a; Reavis, 2012). The bursting of a housing bubble and the collapse of the secondary market for sub-prime mortgages, which triggered a financial crisis, in part, precipitated the recession (Bosworth and Smart, 2009; Baker, 2008). The recession had three major dimensions: falling housing prices, declining stock market prices, and rising unemployment. As a result of these components and other factors, the recession had a negative impact on consumer spending and the consumer confidence index fell to a then record low of 38.6 in December 2008, less than half the January 2008 level of 87.9 (Gould, 2012). Gross Domestic Product contracted by 6.2 percent in the last quarter of 2008, the worst contraction since 1946 (Ho, Kehoe, and Whitten, 2010). This section examines the effects on the older population of the Great Recession during the period of economic contraction and the subsequent slow recovery.

**Housing Impact**

The population aged 65 and over in the United States has a high homeownership rate. According to the American Housing Survey (AHS), there were 23.1 million older households in 2009 (i.e., the householder was aged 65 or older); approximately 18.5 million owned their housing and 4.6 million rented (U.S. Census Bureau, 2011b). The roughly

**Box 3-4.**

**Major Dimensions of the Great Recession**

**Housing Prices**

According to the Standard and Poor’s Case-Shiller U.S. National Home Price Index, housing prices peaked in June 2006, double the level of June 1999 (S&P Dow Jones, 2012). Prices fell steeply in 2007 and 2008 and then continued a slower decline (Baker, 2008). Areas of the country with the most over-valued housing markets faced the sharpest declines in home prices, resulting in many homeowners going into foreclosure both involuntarily, if they could not afford to make payments, and voluntarily, with people walking away from homes when the market value was lower than the outstanding mortgage balance. Home foreclosures were up 81 percent in 2008 over 2007 levels (Christie, 2009). By the end of 2011, the Standard and Poor’s Case-Shiller U.S. National Home Price index had fallen back to 2002 levels and housing prices started to flatten.

**Stock Prices**

The Dow Jones Industrial Average (DJIA) reached a peak in October 2007 of over 14,000 (Federal Reserve Bank of St. Louis, 2012). A year later it was below 9,000. For investors, October 2008 was especially volatile when the DJIA dropped 3,000 points in a matter of weeks (Ho, Kehoe, and Whitten, 2010; Hudomiet, Kezdi, and Willis, 2011). In March 2009, the DJIA fell below 7,000, half the level of 18 months earlier (Federal Reserve Bank of St. Louis, 2012). By the end of 2009, the DJIA was back over 10,000 and in December 2010 reached 12,000. In 2011, the DJIA continued to fluctuate and reached 13,000 in the first quarter of 2012.

**Unemployment**

Unemployment stood at 4.4 percent in May 2007 and then generally began to climb, reaching a peak of 10.0 percent in October 2009 (Bureau of Labor Statistics, 2012). The unemployment rate then declined very slowly, reaching 8.3 percent in January 2012. During the Great Recession, job losses were highest in construction, manufacturing, and natural resources and mining (Engemann and Wall, 2010).  

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26 The Consumer Confidence Index reached an all-time low of 25.3 in February 2009 (Gould, 2012).

27 For more information on the American Housing Survey, see <www.census.gov/housing/ahs/>. 
80 percent homeownership rate for older householders was higher than the 65 percent for householders under age 65 (U.S. Census Bureau, 2011b). Older householders tend to own older housing stock. According to the 2009 AHS, the median year of construction for owner-occupied housing for the older population was 1968, compared with 1975 for all owner-occupied housing.

For the total population, homeownership rates rose from the mid-1990s, reaching a peak of about 69 percent in 2004 to 2006 according to the CPS/Housing Vacancy Survey (Figure 3-18). Following 2006 and the peak in housing prices, homeownership rates began to decline, reaching 66.1 percent in 2011, about the level of 1998.

Homeownership rates for householders aged 65 and over did not fluctuate significantly from the early 1990s to 2006, except for a rise from 76.3 percent in 1990 to 78.9 percent in 1996 (Figure 3-18). After 2006, homeownership rates did not decline for older householders. Householders aged 65 and over had a homeownership rate of 80.9 percent in 2011, also seen in 2006.

Figure 3-18. **Homeownership Rates of All Householders and Householders Aged 65 and Over: 1990 to 2011**
(For information on confidentiality protection, sampling error, nonsampling error, and definitions, see www.census.gov/housing/hvs/files/qtr412/q412src.htm)

Note: The reference population of the survey is the civilian noninstitutionalized population.
Source: U.S. Census Bureau, 2012b; Current Population Survey/Housing Vacancy Survey, various years.
For the second quarter of 2012, the homeownership rates were highest for householders aged 65 and older at 81.6 percent and lowest for householders under age 35 at 36.5 percent (Table 3-7). The rates for householders aged under 35, 35 to 44, 45 to 54, and 55 to 64 years old were lower than their respective rates 6 years earlier (second quarter 2006), while rates for householders 65 years and over did not change from their second-quarter 2006 rate.

Figure 3-19 shows homeownership rates for householders aged 65 and over by race and Hispanic origin using 2009 AHS data. Homeownership rates did not vary significantly across many of these groups. Householders aged 65 and over who identified their race as White alone had a homeownership rate of 82.2 percent, and American Indian and Alaska Native alone householders had a homeownership rate of 82.7 percent. Older Hispanic householders had a 67.1 percent homeownership rate in 2009, lower than the 83.3 percent rate for older non-Hispanic White householders. Older householders tended to be less vulnerable to home foreclosures during and after the Great Recession. According to an October

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Table 3-7.

<table>
<thead>
<tr>
<th>Year/quarter</th>
<th>Total</th>
<th>Under 35</th>
<th>35 to 44</th>
<th>45 to 54</th>
<th>55 to 64</th>
<th>65 and over</th>
</tr>
</thead>
<tbody>
<tr>
<td>2012</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Second quarter</td>
<td>65.5</td>
<td>36.5</td>
<td>62.2</td>
<td>71.4</td>
<td>77.1</td>
<td>81.6</td>
</tr>
<tr>
<td>First quarter</td>
<td>65.4</td>
<td>36.8</td>
<td>61.4</td>
<td>71.3</td>
<td>77.8</td>
<td>80.9</td>
</tr>
<tr>
<td>2011</td>
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<td>62.3</td>
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<td>80.9</td>
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<td>38.0</td>
<td>63.4</td>
<td>72.7</td>
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<td>81.1</td>
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<tr>
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<td>37.5</td>
<td>63.8</td>
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<td>80.4</td>
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<tr>
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<td>74.6</td>
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<tr>
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<td>67.2</td>
<td>75.1</td>
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<td>80.3</td>
</tr>
<tr>
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<td>68.1</td>
<td>75.2</td>
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<tr>
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<td>80.5</td>
</tr>
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</tr>
<tr>
<td>Fourth quarter</td>
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<td>42.8</td>
<td>68.9</td>
<td>76.4</td>
<td>80.7</td>
<td>81.2</td>
</tr>
<tr>
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<td>43.0</td>
<td>68.8</td>
<td>76.4</td>
<td>80.7</td>
<td>81.5</td>
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<tr>
<td>Second quarter</td>
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<td>68.9</td>
<td>76.3</td>
<td>81.0</td>
<td>80.6</td>
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<tr>
<td>First quarter</td>
<td>68.5</td>
<td>42.3</td>
<td>68.9</td>
<td>75.8</td>
<td>81.2</td>
<td>80.3</td>
</tr>
</tbody>
</table>

Note: The reference population of the survey is the civilian noninstitutionalized population.
2010 AARP (American Association of Retired Persons) online survey, during the prior 3 years, nearly one-third of people aged 50 and over had their home value decline substantially (Rix, 2011). However, the HRS showed that those approaching retirement were not likely to be immediately or greatly affected by the decline in housing prices (Gustman, Steinmeier, and Tabatabai, 2010). One reason is that the older population generally owned their homes for a longer period and had built up greater equity. Furthermore, older homeowners were less likely to withdraw their home equity than younger homeowners using a myriad of options (Bosworth and Smart, 2009).²⁹

Table 3-8 shows mortgage-related activities over time by homeowners under age 50 and those aged 50 and over based on the 2001, 2004, and 2007 Survey of Consumer Finances (Bosworth and Smart, 2009). A smaller share of homeowners aged 50 and older had mortgages compared with younger homeowners for all three periods analyzed. In 1998–2001, for example, 87 percent of homeowners under age 50 had a mortgage, compared with 47 percent of homeowners aged 50 and older. For both age groups, mortgage-related activities were higher in the 2001–2004 period than in the preceding period (1998–2001) and subsequent period (2004–2007), except for the extraction of money from home equity, which continued at these levels in the latter period as well. In the early 2000s, home prices were rising and interest rates remained low, leading to a peak in refinancing and rising equity withdrawal (Bosworth and Smart, 2009). However, for all

²⁹Homeowners can refinance their home and change the terms of their mortgage, such as lowering the interest rate and changing the term of the loan. They may also take out cash when refinancing, secure a second mortgage, or opt to take out a home equity loan or line of credit. Finally, reverse mortgages are available for households with an owner aged 62 or older, in which one borrows against equity, with debt repaid after the owner moves out of the home (Nakajima and Telyukova, 2011).
three periods, homeowners under age 50 were more likely to refinance their home and withdraw equity than were homeowners aged 50 and over. Specifically, 37 percent of homeowners under age 50 refinanced a first mortgage, compared with 20 percent of homeowners aged 50 or over, during the 3-year period prior to the 2004 Survey of Consumer Finances. During the same period, 27 percent of homeowners under age 50 withdrew money from their home equity, compared with 22 percent of homeowners aged 50 and over (Table 3-8).

Some households, including those maintained by people aged 65 and over, extracted equity from their home as housing prices rose prior to the recession (Hurd and Rohwedder, 2010b). Homeowners aged 50 and over were more likely to withdraw equity if they had debt than if they did not have debt, with two popular methods being an equity line of credit and a reverse mortgage, although the number of reverse mortgages remains small (Bosworth and Smart, 2009; Nakajima and Telyukova, 2011). As a result of extracting equity from their home, the mean housing debt increased and continued to rise between 2008 and 2009 (Hurd and Rohwedder, 2010b).

If homeowners are unable to pay the additional costs associated with a home equity line of credit or second mortgage, they can lose their homes, which occurred for some older adults during the recession (Baker, 2008; Young, 2009). Older homeowners, even if they were not at risk of losing their home, may have experienced a negative impact from others who defaulted on their mortgage loans as a result of rising unemployment and rising interest rates on adjustable rate loans (Mayer, Pence, and Sherlund, 2009). These home foreclosures depressed the value of nearby homes and resulted in a reduced tax base for communities (Center for Responsible Lending, 2009).

Households taking out additional loans on their homes saw housing costs rise. However, housing costs were not a large burden for the majority of households with a householder aged 65 or over, according to the 2009 AHS. Nearly two-thirds of older householders spent less than 30 percent of their income on housing costs in 2009, up slightly from 63.6 percent in 2001 (Figure 3-20). The share of older householders spending 50 percent or more of their income on housing costs was 18.3 percent in 2009, down slightly from 19.6 percent in 2001.

Another observed impact of the Great Recession, at least in the short run, was a delay in the transition to senior housing, such as assisted living facilities and independent living facilities, because of the decline in housing prices (Valley, 2011). The occupancy rate at independent living facilities fell

Table 3-8.
(In percent)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Under 50</td>
<td>50 and over</td>
<td>Under 50</td>
</tr>
<tr>
<td>Homeowners (thousands)</td>
<td>34,928</td>
<td>37,126</td>
<td>35,049</td>
</tr>
<tr>
<td>Homeowners with mortgages</td>
<td>87</td>
<td>47</td>
<td>91</td>
</tr>
<tr>
<td>Homeowners with recent refinancing of first mortgage</td>
<td>17</td>
<td>9</td>
<td>37</td>
</tr>
<tr>
<td>Homeowners with recent refinancing or borrowing</td>
<td>32</td>
<td>19</td>
<td>47</td>
</tr>
<tr>
<td>Homeowners who extracted money from their home equity</td>
<td>15</td>
<td>11</td>
<td>27</td>
</tr>
<tr>
<td>Homeowners who financed consumption with their home equity</td>
<td>6</td>
<td>5</td>
<td>13</td>
</tr>
</tbody>
</table>

Notes: Data based on 2001, 2004, and 2007 Survey of Consumer Finances. Homeowners with recent refinancing or borrowing either refinanced or rolled over a first, second, or third mortgage since the prior wave of the Survey of Consumer Finances. Homeowners who extracted money from their home equity either borrowed additional money on their mortgages or secured a line of credit based on home equity. Homeowners who financed consumption used the money for purposes other than home improvements or repairs, home purchases, or business/asset/real estate investment.

Source: Bosworth and Smart, 2009, Table 1.

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30 Bosworth and Smart (2009) also examined data from the Panel Study of Income Dynamics and concluded that, conditional on having a mortgage, homeowners aged 50 and over and younger homeowners were equally likely to withdraw equity.
from a peak of 92.7 percent in the first quarter of 2007 to 87.1 percent in the third quarter of 2010 (National Investment Center, 2010).

While the occupancy rate for assisted living facilities also fell from a peak in the first quarter of 2007 (90.7 percent), the rate began to rise after reaching a trough of 87.6 percent in the first quarter of 2010.

Financial Market Impact

Those with financial investments were the most likely to be directly affected by the stock market decline. Gustman, Steinmeir, and Tabatabai (2010) point out that because wealthier people owned the majority of stocks and other financial instruments, the wealthiest were hurt the most by the market decline. The poor, who generally could not afford to invest, were less directly impacted. The older affluent population was potentially more vulnerable than the younger population because of greater savings and investment accumulation over their lifetime and greater reliance on these assets to fund current consumption.

A 2009 Pew Research Center survey, focused on the impact of the recession, found that those aged 50 to 64 reported the biggest investment losses (Taylor et al., 2009b). Nearly two-thirds of adults aged 50 to 64 reported losses in mutual funds, individual stocks, or 401(k)-type retirement accounts, compared with 28 percent of those aged 18 to 29, 53 percent of those aged 30 to 49, and 39 percent of those aged 65 and over (Figure 3-21). Among those aged 65 and over, 5 percent lost more than 40 percent of their investments, compared with 15 percent of the population aged 50 to 64.

Korniotis and Kumar (2011) found that older and more experienced investors made more conservative investment choices than their younger counterparts. Investors aged 65 and over were more likely to follow the “rules of thumb” of investment advisors than were younger investors, including having more diversified portfolios, holding mutual funds with lower expense ratios, and were less likely to hold onto investments that were not doing well. While accumulated investment knowledge may benefit older investors, Korniotis and Kumar (2011) also found evidence of adverse effects of cognitive aging on the implementation of investment choices for investors above age 70.

Figure 3-20. Housing-Cost Burden of Households With a Householder Aged 65 and Over: 2001 and 2009

(For information on confidentiality protection, sampling error, nonsampling error, and definitions, see www.census.gov/housing/ahs/methodology/)

<table>
<thead>
<tr>
<th>Year</th>
<th>Low (less than 30%)</th>
<th>Moderate (30 to 49%)</th>
<th>Severe (50% or more)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2001</td>
<td>19.6%</td>
<td>63.6%</td>
<td>16.8%</td>
</tr>
<tr>
<td>2009</td>
<td>18.3%</td>
<td>65.6%</td>
<td>16.1%</td>
</tr>
</tbody>
</table>

Notes: The reference population of the survey is the civilian noninstitutionalized population. Excludes households with zero or negative income or no cash rent.

The 2009 Pew Research Center survey also asked about the affordability of retirement (Taylor et al., 2009b). Three-quarters of people aged 50 to 64 reported that the recession will make it more difficult to meet their financial needs in retirement. In comparison, about half (56 percent) of adults aged 65 and over and two-thirds of adults aged 18 to 49 had the same concerns.

The older population was also less likely to report experiencing financial distress. The January 2010 American Life Panel Survey asked households if they had experienced any of the following since November 2008: more than 2 months behind with mortgage payments, negative home equity, home foreclosure, or respondent or spouse being unemployed (Hurd and Rohwedder, 2010a). The percentage of households in immediate financial distress ranged from 19 percent of households with householders aged 40 to 49, 16 percent for householders aged 50 to 59, 8 percent for those aged 60 to 69, and 3 percent for householders aged 70 and over (Figure 3-22).
Workers were heavily impacted by the Great Recession with sharply reduced employment levels and higher unemployment, although the effect varied by age and sex. In particular, older workers and women experienced a “milder” recession (Sum and McLaughlin, 2010). Figure 3-23 reports the percent unemployed by age and sex in 2010. The unemployment rate averaged 9.6 percent in 2010 with rates highest for the younger age groups—25.9 percent for the labor force aged 16 to 19 and 15.5 percent for those aged 20 to 24. In general, unemployment rates declined with age, reaching a plateau among workers aged 45 and older.33

The 2010 unemployment rate for men was 10.5 percent, compared with 8.6 percent for women (Figure 3-23). A higher percentage of men than women were unemployed at each age group, except for the labor force aged 65 to 69, 70 to 74, and 75 and over. Among these older age groups, there was no significant difference between the unemployment rate for men and women.

33 The labor force aged 45 to 54 averaged a 7.7 percent unemployment rate in 2010, not significantly different from the unemployment rates for those aged 55 to 64 (7.1 percent), 65 to 69 (7.6 percent), 70 to 74 (5.6 percent), and 75 and over (5.6 percent). The 2010 unemployment rates for both sexes in age groups 45 to 54, 55 to 64, 65 to 69, 70 to 74, and 75 and over are not statistically different.

While the unemployment rate for people aged 55 and over was lower than that of their younger counterparts, they still experienced a doubling of unemployment rates compared with just prior to the recession, and unemployment rates reached record-high levels in 2009 (Sok, 2010). In 2010 the unemployment rate for the population aged 55 to 64 averaged 7.1 percent, more than double the 2007 average rate of 3.1 percent (Table 3-9). The unemployment rate for the age group 65 to 69 also rose from 3.3 percent in 2007 to 7.6 percent in 2010. The 2010 unemployment rate for the two oldest age groups (70 to 74 and 75 and over) was only 5.6 percent but still higher than their 2007 rates.

Figure 3-23.
Unemployed Population by Age and Sex: 2010
(In percent. For information on confidentiality protection, sampling error, nonsampling error, and definitions, see www.census.gov/cps/methodology/)

<table>
<thead>
<tr>
<th>Age</th>
<th>Both sexes</th>
<th>Male</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td>16 and over</td>
<td>9.6</td>
<td>8.6</td>
<td>10.5</td>
</tr>
<tr>
<td>16 to 19</td>
<td>15.5</td>
<td>15.5</td>
<td>17.8</td>
</tr>
<tr>
<td>20 to 24</td>
<td>25.9</td>
<td>22.8</td>
<td>28.8</td>
</tr>
<tr>
<td>25 to 34</td>
<td>22.8</td>
<td>22.8</td>
<td>25.9</td>
</tr>
<tr>
<td>35 to 44</td>
<td>17.8</td>
<td>17.8</td>
<td>20.7</td>
</tr>
<tr>
<td>45 to 54</td>
<td>10.9</td>
<td>10.9</td>
<td>13.0</td>
</tr>
<tr>
<td>55 to 64</td>
<td>10.1</td>
<td>10.1</td>
<td>13.0</td>
</tr>
<tr>
<td>65 to 69</td>
<td>5.6</td>
<td>5.6</td>
<td>8.1</td>
</tr>
<tr>
<td>70 to 74</td>
<td>5.6</td>
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<td>8.5</td>
</tr>
<tr>
<td>75 and over</td>
<td>5.6</td>
<td>5.6</td>
<td>8.5</td>
</tr>
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</table>

Unemployment rates rose for men aged 65 and over from 3.4 percent in 2007 to 7.1 percent in 2010 (Table 3-9). Women aged 65 and over also saw their unemployment rates rise from 2007 (3.1 percent) to 2010 (6.2 percent). The older population who identified their race as White, Black, or Asian all saw unemployment rates rise from 2007 to 2010.34 In 2010, the unemployment rate for the older White population was lower than the rates for older Blacks and Asians.35

Research shows that once older workers become unemployed, they face greater difficulty than younger people in getting reemployed (Mulvey, 2011). In February 2010, among the unemployed in the age group 16 to 24 years, 28.5 percent had experienced 27 weeks or longer of unemployment (Figure 3-24). The share with long-term unemployment (27 weeks or longer) rose to 41.3 percent for those aged 25 to 54 and 49.1 percent for those aged 55 and over. The average duration of unemployment rose from 23.3 weeks for those aged 16 to 24, to 30.3 weeks for those aged 25 to 54, and 35.5 weeks for those aged 55 and over.

Due to the recession, not all older workers were able to remain employed and many retired and claimed Social Security benefits early. Based on an AARP survey,

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Table 3-9.

**Unemployment by Age, Sex, Race, and Hispanic Origin: 2007 and 2010**

(Numbers in thousands. For information on confidentiality protection, sampling error, non-sampling error, and definitions, see www.census.gov/cps/methodology/)

<table>
<thead>
<tr>
<th>Age, sex, race, and Hispanic origin</th>
<th>2007</th>
<th>2010</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number</td>
<td>Percent of labor force</td>
</tr>
<tr>
<td><strong>AGE</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>55 to 64</td>
<td>642</td>
<td>3.1</td>
</tr>
<tr>
<td>65 and over</td>
<td>190</td>
<td>3.3</td>
</tr>
<tr>
<td>65 to 69</td>
<td>105</td>
<td>3.3</td>
</tr>
<tr>
<td>70 to 74</td>
<td>50</td>
<td>3.4</td>
</tr>
<tr>
<td>75 and over</td>
<td>35</td>
<td>3.0</td>
</tr>
<tr>
<td><strong>SEX</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Men</td>
<td></td>
<td></td>
</tr>
<tr>
<td>55 to 64</td>
<td>349</td>
<td>3.2</td>
</tr>
<tr>
<td>65 and over</td>
<td>108</td>
<td>3.4</td>
</tr>
<tr>
<td>Women</td>
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<td></td>
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<tr>
<td>55 to 64</td>
<td>293</td>
<td>3.0</td>
</tr>
<tr>
<td>65 and over</td>
<td>81</td>
<td>3.1</td>
</tr>
<tr>
<td><strong>RACE</strong></td>
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<tr>
<td>White alone</td>
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<td></td>
</tr>
<tr>
<td>55 to 64</td>
<td>520</td>
<td>2.9</td>
</tr>
<tr>
<td>65 and over</td>
<td>164</td>
<td>3.2</td>
</tr>
<tr>
<td>Black or African American alone</td>
<td></td>
<td></td>
</tr>
<tr>
<td>55 to 64</td>
<td>79</td>
<td>4.3</td>
</tr>
<tr>
<td>65 and over</td>
<td>19</td>
<td>4.5</td>
</tr>
<tr>
<td>Asian alone</td>
<td></td>
<td></td>
</tr>
<tr>
<td>55 to 64</td>
<td>31</td>
<td>3.6</td>
</tr>
<tr>
<td>65 and over</td>
<td>3</td>
<td>1.5</td>
</tr>
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<td><strong>HISPANIC OR LATINO ORIGIN</strong></td>
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<tr>
<td>Hispanic or Latino</td>
<td></td>
<td></td>
</tr>
<tr>
<td>55 to 64</td>
<td>70</td>
<td>4.5</td>
</tr>
<tr>
<td>65 and over</td>
<td>19</td>
<td>4.9</td>
</tr>
</tbody>
</table>

Note: The reference population of the survey is the civilian noninstitutionalized population.

34 There is no statistical difference in unemployment for older Hispanics between 2007 and 2010.
35 There is no statistical difference in unemployment rates between older Blacks and older Asians in 2010.
two-thirds (67 percent) of retirees who were out of the labor force and filed to begin receiving Social Security benefits claimed these benefits earlier than planned (Rix, 2011). Johnson and Mommaerts (2010a) also found, based on their estimates of Social Security data, that, in 2009, people more often claimed Social Security benefits at age 62 than in previous years, possibly due to unemployment and the inability to find new work. In 2009, 1.3 million men aged 62 and over began claiming Social Security retirement benefits, 20 percent more than in 2008. The 9 percent increase in the number of men turning age 62 accounts for less than half of this large increase. The retirement benefit take-up rate for men was 25.8 percent in 2009, compared with 22.7 percent in 2008 and 21.2 percent in 2007 (Johnson and Mommaerts, 2010a). The take-up rate for women reached 36.6 percent in 2009, compared with 34.8 percent in 2008 and 32.9 percent in 2007 (Johnson and Mommaerts, 2010a).

On the one hand, the recession forced some workers to retire sooner than planned. On the other hand, the declines in housing and financial asset prices pushed many workers to delay retirement. The decision of when to retire was being influenced by opposing factors: (1) the decline in stock market prices and lowered housing values supported retirement delays, and (2) the rise in unemployment and greater difficulty among older adults in finding another job supported earlier retirement (Hurd and Rohwedder, 2010b). Among those nearing retirement age (age 50 to 61), 63 percent reported pushing back their expected retirement date as a result of economic conditions (Taylor et al., 2009a).

Many older workers managed to stay employed during the recession; in fact, the population in age groups 65 and over were the only ones not to see a decline in the employment share from 2005 to 2010 (Figure 3-25). In 2010, 16.2 percent of the population aged 65 and over were employed, up from 14.5 percent in 2005. In contrast, 60.3 percent of the 20 to 24 age group were employed in 2010, down from 68.0 percent in 2005. Employment shares declined from 2005 to 2010 for all age groups younger than age 55. There was no statistical change in the employment share for workers aged 55 to 64 nor those aged 70 to 74.

Engemann and Wall (2010) found that more people aged 55 and over were employed during the recession than would have been if there was no recession. Using the Bureau of Labor Statistics employment data, Engemann and Wall...
found that during the 2007–2009 period, employment grew by 7.4 percent for the population aged 55 and over. Based on trends prior to the recession, employment for this age group was expected to grow by only 6.1 percent. All younger age groups experienced a decline in employment during the same 2007 to 2009 period. Remaining employed and delaying retirement was one way of lessening the impact of the stock market decline and subsequent loss in retirement savings.

**Household Wealth Impact**

The decline in the housing and financial markets and the rise in unemployment negatively impacted the assets and wealth of many households (Levine, 2012; Ratcliffe and Zhang, 2012). According to the Survey of Income and Program Participation (SIPP), median household net worth decreased by 35.1 percent from 2005 ($102,844) to 2010 ($66,740; all dollar figures are in 2010 constant dollars). Excluding home equity, median household net

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**Figure 3-25.**

**Employed Among Population Aged 16 and Over by Age: 2005 and 2010**

(In percent. For information on confidentiality protection, sampling error, nonsampling error, and definitions, see www.census.gov/cps/methodology/)


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<table>
<thead>
<tr>
<th>Age</th>
<th>2005</th>
<th>2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>65 and over</td>
<td>14.5</td>
<td>16.2</td>
</tr>
<tr>
<td>16 to 19</td>
<td>36.5</td>
<td>34.5</td>
</tr>
<tr>
<td>20 to 24</td>
<td>68.0</td>
<td>60.3</td>
</tr>
<tr>
<td>25 to 34</td>
<td>78.5</td>
<td>73.9</td>
</tr>
<tr>
<td>35 to 44</td>
<td>83.0</td>
<td>76.5</td>
</tr>
<tr>
<td>45 to 54</td>
<td>78.9</td>
<td>74.9</td>
</tr>
<tr>
<td>55 to 64</td>
<td>60.8</td>
<td>60.3</td>
</tr>
<tr>
<td>65 to 69</td>
<td>27.3</td>
<td>29.1</td>
</tr>
<tr>
<td>70 to 74</td>
<td>15.7</td>
<td>17.0</td>
</tr>
<tr>
<td>75 and over</td>
<td>6.2</td>
<td>6.9</td>
</tr>
</tbody>
</table>
worth decreased by 25.1 percent from 2005 ($20,028) to 2010 ($15,000).

Median household net worth fell from 2005 to 2010 for householders in all age groups, except for householders aged 65 to 69, who experienced no significant change in net worth (Figure 3-26). Householders under age 35 saw a drop in net worth of around $3,000.\(^{38}\) For householders aged 65 and older, median net worth declined from $195,890 in 2005 to $170,128 in 2010, a drop of $25,762.

\(^{38}\) The change in net worth for householders under age 35 is not significantly different from the change for householders aged 65 to 69.
In percentage terms, younger householders had the largest decreases in net worth (Figure 3-27). Median net worth decreased by 13.2 percent for householders aged 65 and older, compared with a 36.7 percent decline for householders under age 35 and a 58.8 percent decline for householders aged 35 to 44.

For younger households (householders under age 35), the percent decline in home equity from 2005 to 2010 exceeded the drop in net worth of assets other than their home over the same period (Figure 3-27). In fact, householders under age 35 were the only group to see an increase from 2005 to 2010 in median net worth excluding home equity. In contrast, householders aged 65 and over experienced a smaller decline in home equity (3.6 percent) from 2005 to 2010 than in median net worth excluding home equity (18.2 percent). Wealth is an important source of postretirement income. Therefore, for the population aged 65 and over, even small decreases in net worth can have adverse implications for their economic security because their primary earning years are behind them.

Drawing on data from a range of surveys, this chapter documented the economic status of the older population before and immediately after the Great Recession. The long run impact of the recession, if any, on underlying economic trends for the older population can be assessed with future survey data.
Chapter 3 References


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Munnell, Alicia H. 2011. What is the Average Retirement Age? Center for Retirement Research at Boston College-Issue in Brief, August, Number 11-11.


