

90+ in the United States: 2006–2008

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By
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and
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90+



Acknowledgments

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INTRODUCTION

An increasingly important feature of population aging in the United States is that the older population itself is getting older.¹ That is, the proportion of the population aged 90 and over among the older population has been increasing. Thanks to increases in life expectancy at older ages, the oldest segments of the older population are growing the fastest. A nation's oldest-old population consumes resources disproportionately to its overall population size, and its growth has a significant impact on societal and family resources, including pension and retirement income, health care costs, and intergenerational relationships (Kinsella and He, 2009; Zhou, Norton, and Stearns, 2003).

This report presents an overview of the population aged 90 and over in the United States and a comparative analysis of selected characteristics between the 90-and-older and other older age groups. Data for this report primarily come from the 2006–2008 and 2008 American Community Surveys (ACS). Because the 2006–2008 ACS 3-year estimates are based on a larger sample than 1-year estimates and therefore are more reliable, they are used for analysis of the 90-and-over population by age, sex, race, and Hispanic origin at the national level and by age and sex at the state level.²

The 2008 ACS 1-year estimates in this report supplement the 3-year data at the national level with information from the changed questions

¹ In this report, "older population" refers to people aged 65 and over.

² Multiyear estimates should, in general, be used when single-year estimates have large coefficients of variation or when the precision of the estimates is more important than the currency of the data. Multiyear estimates should also be used when analyzing data for smaller geographies and smaller populations in larger geographies. Multiyear estimates are also of value when examining change over nonoverlapping time periods and for smoothing data trends over time.

Why 90+?

"Oldest old" in the United States is often defined as people aged 85 and over (Suzman and Riley, 1985).³ However, the 90-and-older population has been growing more rapidly than those aged 85–89 and other younger age groups among the older population aged 65 and over. Furthermore, not only has the 90-and-older population grown in size, but its proportion within the older population has also expanded.

People aged 90 and over have become an increasingly larger and more important population group that merits a closer look. However, little is known about their characteristics. Where do they live, and which states have the highest concentration? What are their distributions by age, sex, race, and Hispanic origin? Are they different in socioeconomic and health characteristics from their younger counterparts (ages 65–89) in the older population, especially those just a 5-year age group younger (ages 85–89)? These questions have not been addressed before, primarily because the relatively small numbers of people aged 90 and over in survey data do not allow a statistically significant and meaningful analysis.

This report provides answers to these questions, using American Community Survey 3-year (2006–2008) and 1-year (2008) data. It aims at contributing to the research on those 90 and older in order to enhance our understanding of this fast-growing population and to serve as a starting point for future research and trend analyses.

³ Suzman and Riley (1985) defined "oldest old" as those aged 85 and over. Pointing to the fast growth of the 85-and-older population and their unique features that were in contrast to other segments of the older population, they called for more valid and reliable information on the oldest-old population. Now, more than 25 years later, the population aged 90 and over is the fastest growing segment among the older population.

on disability and the newly added question on health insurance coverage.³

The 90+ population will continue to grow both in size and proportion of the older population.

The gains in life expectancy at older ages over the past century are impressive. According to the National Center for Health

Statistics, life expectancy at age 65 in the United States increased from 12.2 years in 1929–1931 to 18.5 years in 2006 (Arias, 2010, Table 11). People at very old ages are also expected to live longer. Today a person 90 years of age is expected to live on average another 4.6 years (versus 3.2 years in 1929–1931), and those who pass the century mark are projected to live another 2.3 years.

The prolonged life expectancy at older ages has led to the growing size of the oldest segments of the population.⁴ Decennial census

³ The single-year and 3-year ACS estimates are period estimates that represent data collected over a period of time. The 2008 estimates used in this report were collected over a 12-month period in 2008 and the 2006–2008 estimates used in this report were collected over a 36-month period during 2006 to 2008. For more information on the methodology of the ACS, see text box "What Is the American Community Survey (ACS)?"

⁴ In this report, the terms "oldest" and "population aged 90 and over" are used interchangeably.

What Is the American Community Survey (ACS)?

The ACS, a nationwide survey sponsored and collected by the U.S. Census Bureau, is designed to provide communities with reliable and timely demographic, social, economic, and housing data every year. It has a total annual sample size of about 3 million addresses across the United States and Puerto Rico, and includes both housing units and group quarters.

The American Community Survey began in 1996 in a sample of counties across the country. Today the survey is conducted in every county throughout the nation and every municipio in Puerto Rico. Beginning in 2006, ACS 1-year estimates for 2005 were released for geographic areas with populations of 65,000 and greater. In 2008, the first set of multiyear estimates was released for data collected between January 2005 and December 2007. These 3-year estimates were published for geographic areas with populations of 20,000 and greater. Single-year and 3-year estimates from the ACS are all “period” estimates that represent data collected over a period of time (as opposed to “point-in-time” estimates, such as the decennial census, that approximate the characteristics of an area on a specific date). While a single-year estimate includes information collected over a 12-month period, a 3-year estimate represents data collected over a 36-month period. The Census Bureau released the first 5-year estimates (2005–2009) in late 2010 for the smallest geographic areas based on data collected during the 60 months between January 2005 and December 2009. These multiyear estimates are updated annually, with data published for the largest areas in 1-, 3-, and 5-year formats, and for those meeting the 3-year threshold in both 3- and 5-year formats.

The 2006–2008 3-year estimates contained in this report are based on the ACS sample interviewed in 2006, 2007, and 2008. The 2008 1-year data and the 2006–2008 3-year data used in this report were released in 2009. This report does not include Puerto Rico in its analysis. For information on the ACS sample design and other topics, visit www.census.gov/acs/www/.

data from 1980 to 2010 show that the 90-and-older population has steadily increased and this trend is expected to continue into the middle of the century. The 720,000 people aged 90 and over in 1980 almost tripled to 1.9 million in 2010. The total population aged 90 and over is projected to more than quadruple from 2010 to 2050 (Figure 1), compared to a doubling of the population aged 65 to 89.⁵

Not only has the 90-and-older population grown in size, it has also increased as a proportion of the older population (aged 65

and over). They accounted for 2.8 percent of the older population in 1980 and in 2010, they represented 4.7 percent. The increase in the proportion 90 and over of the older population is projected to slow down between 2020 and 2030 when the baby boomers join the ranks of the 65 and over population and swell the younger segments of the older population.⁶ However, the percentage of 90 and older is expected to rise again—reaching 7.1 percent in 2040 and 9.9 percent in 2050—when all of the baby boomers become 85 years of age and older. The U.S. population 40 years from now is projected to have 20 percent aged 65 and over, and one-tenth of them aged

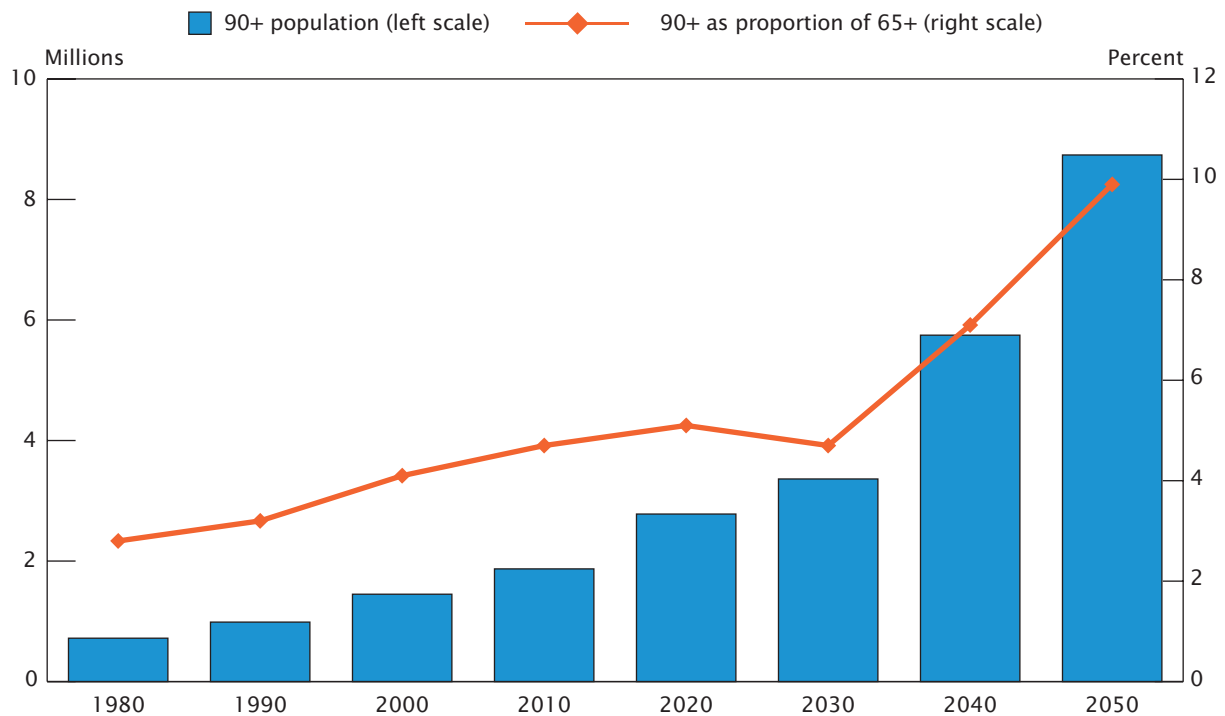
90 and over (that is, 2 percent of the total population).

The baby boomers' impact on the growth of the older and oldest populations is also apparent from the percent change over time for ages 65–89 and 90 and older (Figure 2). Between 2020 and 2030, growth of the population aged 65–89 is projected to outpace that of the population aged 90 and over when the 65–89 age group is projected to increase by 32 percent and the 90 and over by 21 percent. However, in the following decade (2030s) the 90-and-older population is projected to experience a 71 percent jump, as opposed to a 10 percent increase for those aged 65–89 years old. The momentum of aging within the older population propelled by the baby boomers will be significant.

⁵ The projections data came from Vincent and Velkoff, 2010, Table A-1. The projections originate with a base population from Census 2000 and are not based on data from the 2010 Census. For more information on projections methodology, see www.census.gov/population/www/projections/methodstatement.html. 2010 Census based projections are currently planned for release in 2012.

⁶ Baby boomers are those born between 1946 and 1964.

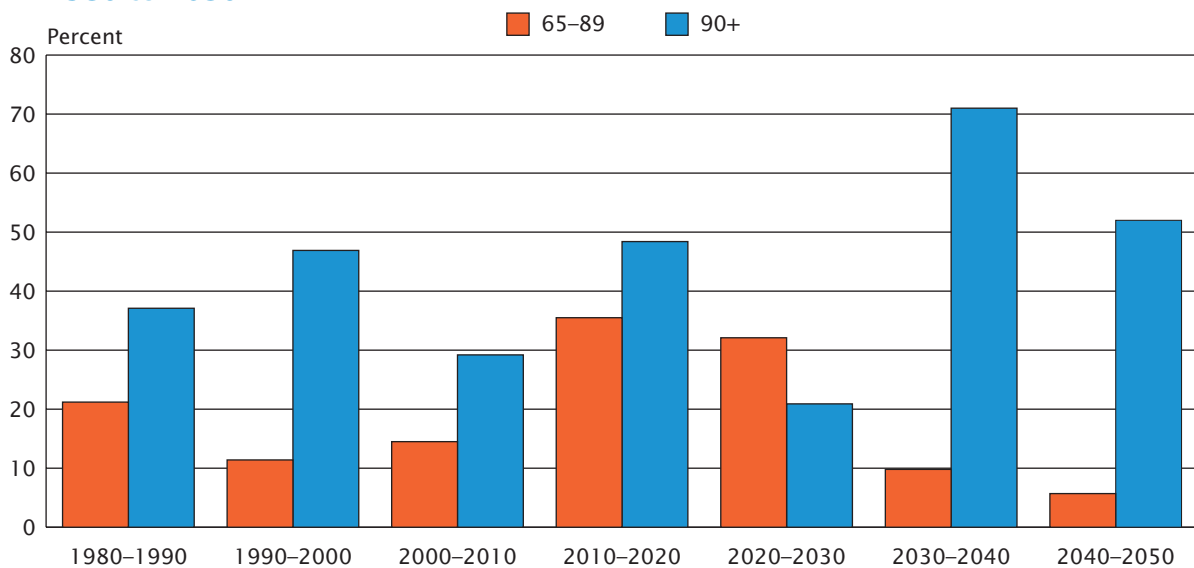
Figure 1.
Population Aged 90 and Over: 1980 to 2050



Note: The projections originate with a base population from Census 2000 and are not based on data from the 2010 Census.

Sources: U.S. Census Bureau. 1980: 1980 Census of Population, PC80-1-B1, Table 41; 1990: 1990 Census of Population, CP-1-1, Table 13; 2000: Census 2000, Summary File 2, PCT3; 2010: 2010 Census, Summary File 1, PCT12; 2020–2050: 2008 National Population Projections, Table 12.

Figure 2.
Percentage Change of Populations Aged 65 to 89 and Aged 90 and Over: 1980 to 2050



Note: The projections originate with a base population from Census 2000 and are not based on data from the 2010 Census.

Sources: U.S. Census Bureau. 1980: 1980 Census of Population, PC80-1-B1, Table 41; 1990: 1990 Census of Population, CP-1-1, Table 13; 2000: Census 2000, Summary File 2, PCT3; 2010: 2010 Census, Summary File 1, PCT12; 2020–2050: 2008 National Population Projections, Table 12.

FINDINGS

Some states with the highest share of 90+ are not among the most populous states in size of the older population.

In 2006–2008, there were an estimated 1.8 million people aged 90 and over in the United States (Appendix Table 1-A).^{7, 8} Ten states

⁷ Although the ACS produces population, demographic, and housing unit estimates, it is the Census Bureau's Population Estimates Program that produces and disseminates the official estimates of the population for the nation by age, sex, race, and Hispanic origin.

⁸ See Appendix Table 1-B for the margin of error for variables included in Appendix Table 1-A.

had 50,000 or more people aged 90 and older—California, Florida, Illinois, Massachusetts, Michigan, New Jersey, New York, Ohio, Pennsylvania, and Texas (Table 1).⁹ However, when using the percentage of the 65-and-older population aged 90 and older as an indicator of being oldest (Figure 3), most of the states, with the exception of Massachusetts, with the largest number of 90 and older were not ranked in the top 10 (Table 1). In contrast, some of the smallest states in terms of population size of 90 and older (North Dakota,

⁹ States in this report include the 50 states and the District of Columbia.

Rhode Island, and South Dakota) were among those which had the highest shares of 90 and older among the older population. This finding is consistent with these states being among the top older states measured by the share of population aged 65 and over of the total state population (Figure 4).

Table 1.

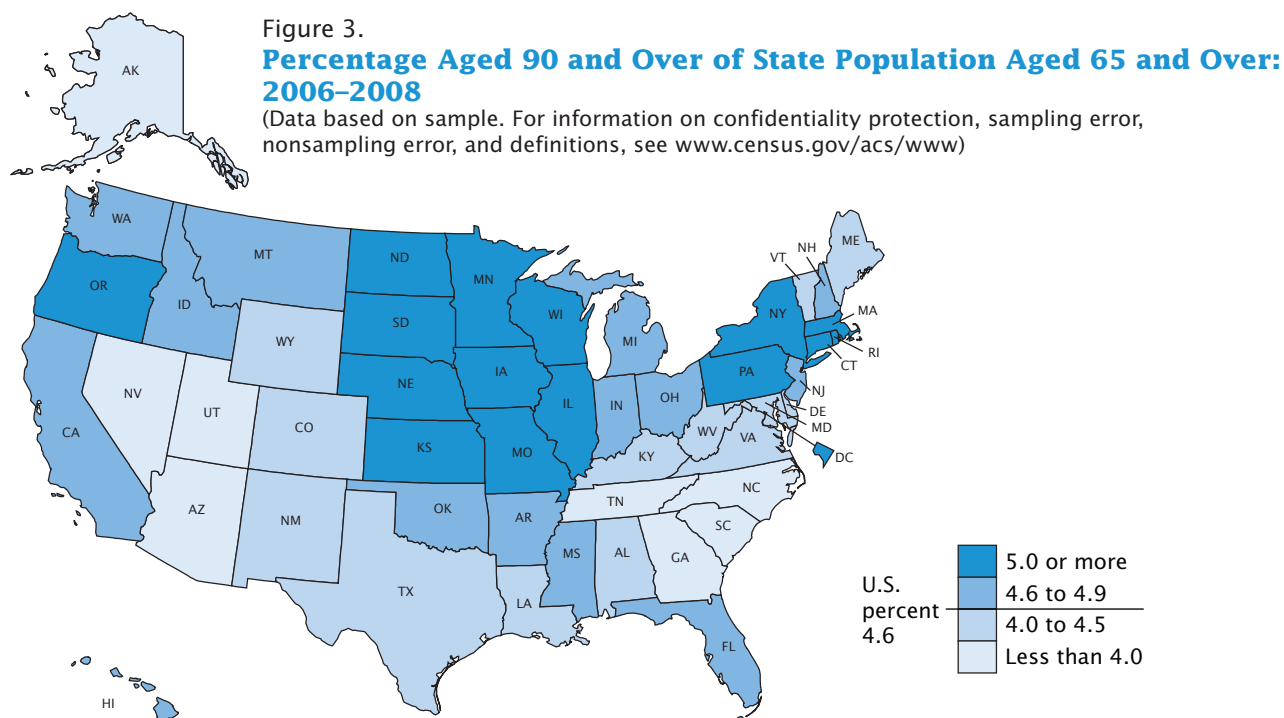
Ten States With Highest Population Aged 90 and Over, and Percentage Aged 90 and Over of Aged 65 and Over: 2006–2008

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

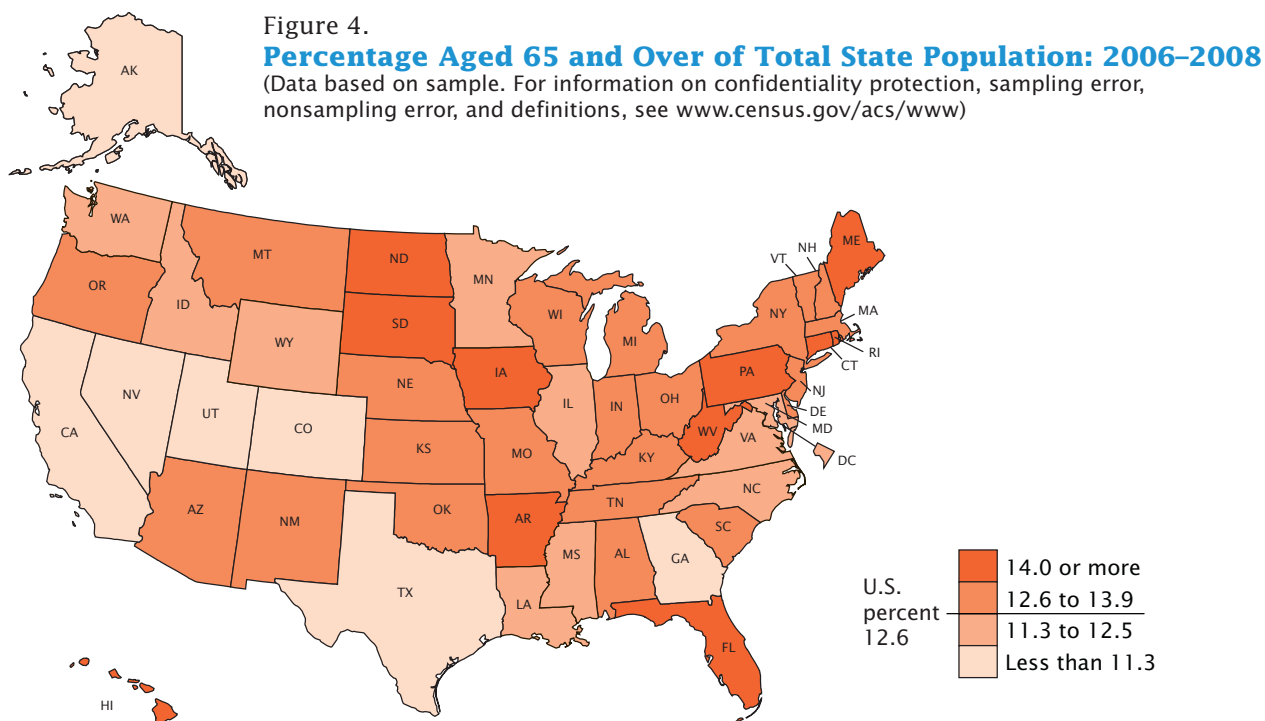
Rank	Population aged 90 and over		Percentage aged 90 and over of aged 65 and over	
	State	Number	State	Percent
1	California	186,448	North Dakota	6.9
2	Florida	141,922	Connecticut	6.2
3	New York	130,549	Iowa	6.1
4	Texas	96,693	South Dakota	6.0
5	Pennsylvania	94,444	District of Columbia . . .	6.0
6	Illinois	78,800	Minnesota	5.9
7	Ohio	72,077	Nebraska	5.8
8	Michigan	58,387	Massachusetts	5.8
9	New Jersey	54,130	Kansas	5.5
10	Massachusetts	50,214	Rhode Island	5.4

Note: Although the American Community Survey (ACS) produces population, demographic, and housing unit estimates, it is the Census Bureau's Population Estimates Program that produces and disseminates the official estimates of the population for the nation, states, counties, cities, and towns.

Source: U.S. Census Bureau, American Community Survey, 2006–2008.



Source: U.S. Census Bureau, American Community Survey, 2006–2008.



Source: U.S. Census Bureau, American Community Survey, 2006–2008.

Figure 5 plots the percentage of the older population aged 90 and over, and the percentage of the total population aged 65 and older for each state. The horizontal blue line represents the share aged 90 and older of population aged 65 and over at the national level (4.6 percent), and the vertical orange line represents the national level of the percentage aged 65 and older of total population (12.6 percent). Often, the top older states are also the oldest. Among states with the

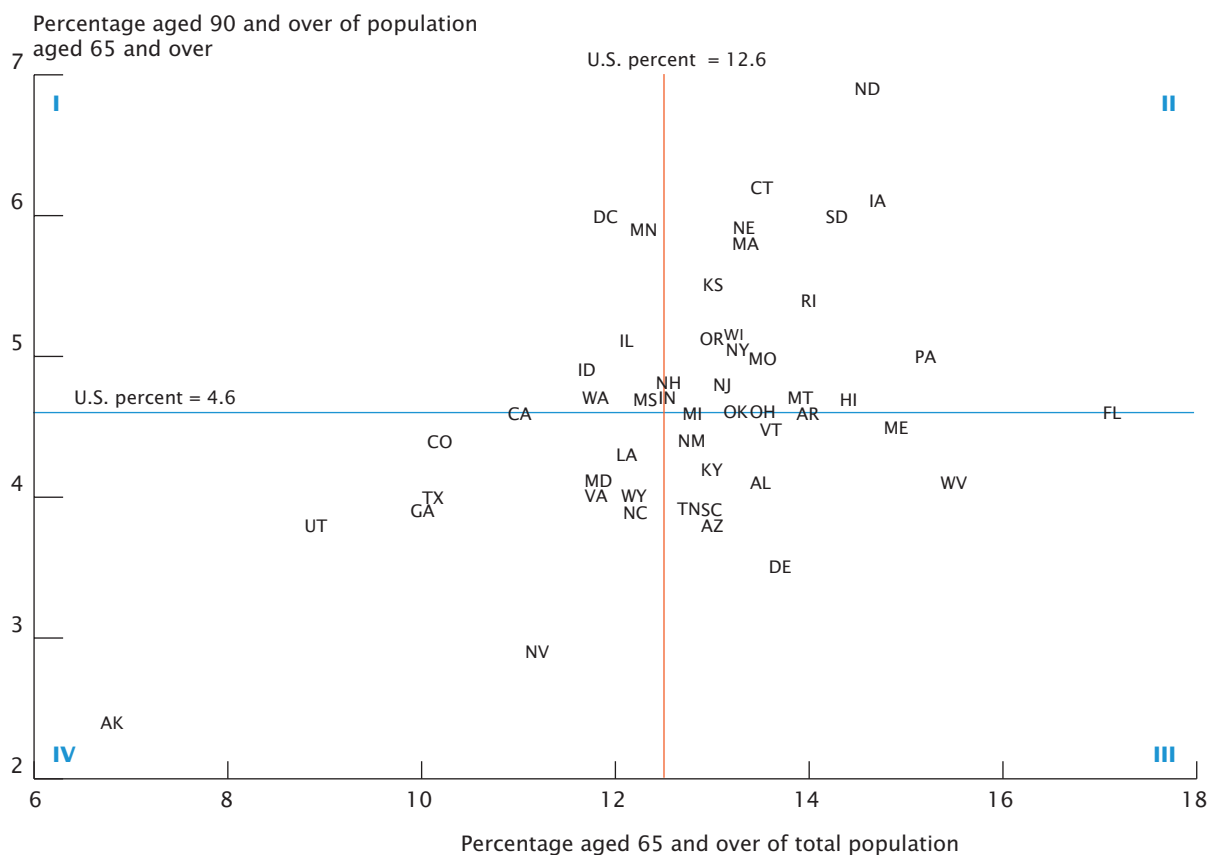
largest share of population aged 65 and older of the total population as well as the largest share of 90 and older among the older population, sitting in the upper right quadrant (II), are Connecticut, Iowa, Nebraska, North Dakota, and South

largest share of population aged 65 and older of the total population as well as the largest share of 90 and older among the older population, sitting in the upper right quadrant (II), are Connecticut, Iowa, Nebraska, North Dakota, and South

Figure 5.

Percentage Aged 90 and Over of 65 and Over, and Percentage Aged 65 and Over of Total Population by State: 2006–2008

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



Notes:

Percentage 90+ = 90+ of percentage 65+ population, percentage 65+ = percentage 65+ of total population.

I = percentage 90+: above U.S. level, percentage 65+: below U.S. level.

II = percentage 90+: above U.S. level, percentage 65+: above U.S. level.

III = percentage 90+: below U.S. level, percentage 65+: above U.S. level.

IV = percentage 90+: below U.S. level, percentage 65+: below U.S. level.

Source: U.S. Census Bureau, American Community Survey, 2006–2008.

Dakota. In the opposite corner, the lower left quadrant (IV), are states that are below the national level on both measures. Alaska is in this category and had among the lowest values for both measures. The other two quadrants include states that are above the national level in one measure but below it in the other measure. Minnesota in the upper left quadrant (I), for example, had a 5.9 percent share aged 90 and older of the older population (higher than the national level) but a percentage aged 65 and older of 12.3 (lower than the national level). West Virginia in the lower right quadrant (III) is an opposite example. Its share aged 65 and older was among the highest in the nation, 15.5 percent, but its percentage aged 90 and older of the older population was among the lowest, 4.1. The top older state, Florida (17.1 percent 65 and older), had a share of the older population aged 90 and older right at the national level, 4.6 percent.

Whether a state with a high percentage of 65 and older of total population is also among the top oldest based on the percentage aged 90 and over of the older population depends on various factors. The age distribution of a state is shaped by decades of fertility and mortality changes.¹⁰ In addition, net interstate migration of the young, older, as well as the oldest populations also plays a role. Even though most older people do not move, past research has shown retirement migration for

¹⁰ For an example of studies on mortality rate differentials at the state level, see Wilmoth, Boe, and Barbieri, 2010.

Race and Hispanic Origin

The U.S. Census Bureau collects race and ethnicity data in accordance with guidelines provided by the U.S. Office of Management and Budget (OMB). Starting in 1997, OMB required federal agencies to use a minimum of five race categories: White, Black or African American, American Indian or Alaska Native, Asian, and Native Hawaiian or Other Pacific Islander. For respondents unable to identify with any of these five race categories, OMB approved the Census Bureau's inclusion of a sixth category—Some Other Race—on the Census 2000, 2010 Census, and ACS questionnaires.

Race data are based on self-identification. The question on Hispanic origin asks respondents if they are of Hispanic, Latino, or Spanish origin. The question on race asks respondents to report the race or races they consider themselves to be. People who identify their origin as Hispanic, Latino, or Spanish may be of any race.

older people for climate or amenities (such as favorable property tax rates or specialized health care access), and return migration of some of the oldest people to their state of origin to be closer to other family members. He and Schachter (2003) documented that people aged 85 and over were more mobile than the near old (aged 55–64) and the younger old (aged 65–74 and 75–84), and that there were variations in net migration of older people among states. Further analysis and trend data are needed to assess the effects of domestic migration of the older and oldest on the composition of a state's older population.

The 90+ population is overwhelmingly White.

In 2006–2008, Whites represented 88.1 percent of the total 90-and-over population (see Appendix

Table 1-A).¹¹ This proportion was higher than their share of the 65-and-older population (85.2 percent) and the total population (74.3 percent).¹² Blacks represented 7.6 percent of the 90-and-over population and Asians represented 2.2 percent. About 4 percent of the

¹¹ In this report, the terms "White" and "White alone," "Black" and "Black alone," and "Asian" and "Asian alone" are used interchangeably to refer to people who reported one race only.

The terms 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 refer to people who reported one race only. The term Two or More Races is used to refer to people who reported more than one race. The use of six single-race populations and one multiple-race population in this report does not imply that this is the preferred method of presenting or analyzing data. The Census Bureau uses a variety of approaches to report race.

In this report, due to the small sample size of the 90-and-over population of some race groups, a group "Other races" is used for analysis which combines all race groups other than White alone, Black alone, or Asian alone, and includes Two or More Races.

¹² The percentages were derived from special tabulations from ACS 2006–2008.

90-and-older population reported themselves to be of Hispanic origin (can be of any race).

The age distribution of the older population also varies by race and Hispanic origin. At 4.8 percent, Whites had the highest percent-age aged 90 years and older of the older population (Figure 6). Blacks had the next highest share, with 4.2 percent aged 90 and over. Asians, Other races, and Hispanics were similar at 3 percent. Whites also had the lowest proportion of the youngest-older ages (65–69).

Most 90+ are high school graduates or beyond.

Given that people aged 90 and over included in this report (as of 2008) were born in 1918 or earlier,

a considerable proportion (61.3 percent) of them had completed high school or above (Table 2).¹³ Among the 90-and-older population, about one-third (33.7 percent) stopped after high school graduation. Nearly 28 percent continued their education beyond high school, about half of whom completed a bachelor's degree or higher.

Education is linked to many aspects of a person's well-being, and people with higher education tend

to have lower mortality rates and better overall health than their less-educated counterparts as they are more likely to have better jobs and living conditions and more likely to have healthy behavior and utilize health care (Kinsella and He, 2009).¹⁴ The educational attainment of those aged 65 to 79 in 2006–2008 provides a glimpse of what educational attainment might look like for those aged 90 and older in 10–25 years time.¹⁵ About 77 percent of those aged 65–79 years old in 2006–2008 had com-

¹³ According to the 1940 Census, 39 percent of people aged 20 to 30 had completed high school or above (U.S. Census Bureau, 1943. 1940 Census of Population and Housing, Vol. 4, "Characteristics by age: Marital Status, Relationship, Education, and Citizenship." <www2.census.gov/prod2/decennial/documents/33973538v4p1ch1.pdf>).

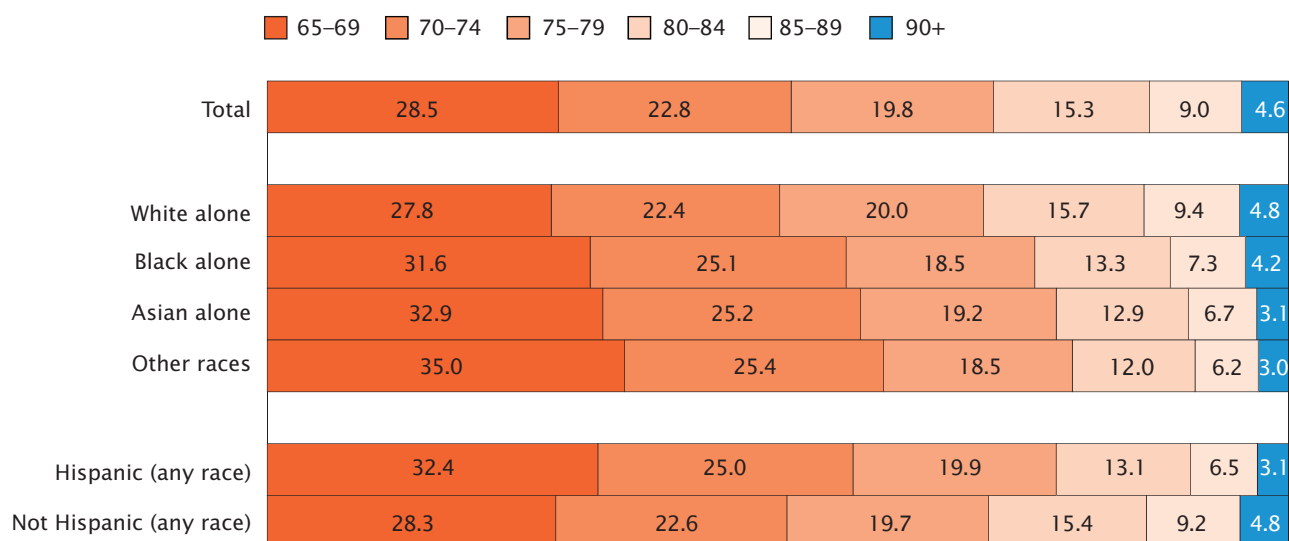
¹⁴ For additional research on how education affects health, see Dupre, 2007; Lynch, 2006.

¹⁵ The current cohort's educational attainment is only an indication, not a projection, of the educational attainment of the same cohort in the future, as mortality plays an important role in the cohort's survival rate.

Figure 6.

Age Distribution of Population Aged 65 and Over by Race and Hispanic Origin: 2006–2008

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



Notes:

"Other races" combines all race groups other than White alone, Black alone, or Asian alone, and includes Two or More Races.

Percents shown may not sum to 100.0 due to rounding.

Source: U.S. Census Bureau, American Community Survey, 2006–2008.

pleted high school, and about 43 percent of them had at least some college education.¹⁶

Educational attainment varies among the 90-and-older population by race and Hispanic origin. In 2006–2008, Whites had a higher proportion (14.9 percent) of having obtained some college education than all other race groups as well as Hispanics (Blacks, Asians, Other races, and Hispanics had similar percentages at around 7 percent). In addition, 14.3 percent of 90-and-older Whites had a bachelor's degree, higher than other race groups and Hispanics except for Asians (17.0 percent).

While a slightly higher proportion of 90-and-older men had at least graduated from high school compared with women (62.9 percent vs. 60.8 percent), a further breakdown of the educational attainment by high school graduate, some college, and bachelor's degree or higher, reveals that the gender difference in educational level is more salient after high school completion. About one in five 90-and-older men had a bachelor's degree or higher, almost twice that of the 90-and-older women, even though the proportions that pursued some college education differed slightly. A possible contributor to this noteworthy difference may be the Servicemen's Readjustment Act of 1944 (the GI Bill of Rights).¹⁷ According to the 2006–2008 ACS, among men aged 90 and over, 42 percent served in the military during World War II (about 1 percent of 90-and-older women did), and another 6 percent were in active duty prior to November 1941. The

¹⁶ The percentages were calculated from special tabulations from ACS 2006–2008.

¹⁷ For information on the Servicemen's Readjustment Act of 1944, visit <www.archives.gov/historical-docs/todays-doc/?dod-date=633>.

Table 2.

Educational Attainment of Population Aged 90 and Over by Sex, Race, and Hispanic Origin: 2006–2008

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

Sex, race, and Hispanic origin	Not a high school graduate	High school	Some college	Bachelor's degree or higher
Total	38.7	33.7	14.0	13.6
Male	37.1	29.1	14.6	19.1
Female	39.2	35.3	13.7	11.7
White alone	35.4	35.5	14.9	14.3
Black alone	64.8	20.3	7.3	7.6
Asian alone	52.8	22.3	7.9	17.0
Other races	67.1	20.3	7.0	5.6
Hispanic (any race)	69.4	16.6	6.1	7.8
Not Hispanic (any race)	37.3	34.5	14.3	13.9

Notes:

"Other races" combines all race groups other than White alone, Black alone, or Asian alone, and includes Two or More Races.

Percents shown may not sum to 100.0 due to rounding.

Source: U.S. Census Bureau, American Community Survey, 2006–2008.

GI Bill, designed to help veterans when they returned to civilian life after World War II, provided educational benefits including some tuition waivers and living allowance for the veterans pursuing or continuing their education. "In the peak year of 1947, veterans accounted for 49 percent of college admissions. By the time the original GI Bill ended on July 25, 1956, 7.8 million of 16 million World War II veterans had participated in an education or training program" (Department of Veterans Affairs, 2010).¹⁸

¹⁸ Research has documented the major changes in the scope of American higher education institutions, including the emergence of the research universities and great expansion of enrollments in public schools between 1890 and 1940. This expansion facilitated the large influx of WWII veterans into higher education institutions. For an example, see Goldin and Katz, 1999.

Social Security represents almost half of total personal income for the 90+.

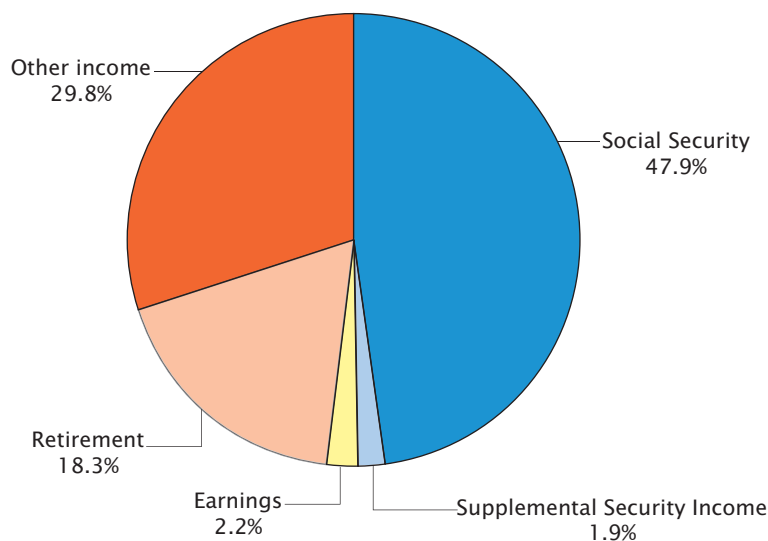
The annual median personal income for people aged 90 and over during 2006–2008 was \$14,760 (in 2008 inflation-adjusted dollars). Men had significantly higher income than women, \$20,133 versus \$13,580.

According to the Social Security Administration (SSA), receipt of Social Security has become nearly universal for people aged 65 and over, and Social Security provides the largest share of their aggregate income (Social Security Administration, 2010). In 2006–2008, 92.3 percent of the 90-and-older population received income from the SSA—86.2 percent received Social Security income only, 3.0 percent collected Supplemental Security Income (SSI) only, and a similar 3.1 percent

Figure 7.

Income Source of Population Aged 90 and Over: 2006–2008

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



Notes:

Income is annual personal income in 2008 inflation-adjusted dollars.

“Other income” includes interest, dividends, or net rental or royalty income or income from estates and trusts; public assistance or welfare payments; and all other income.

Percents shown do not sum to 100.0 due to rounding.

Source: U.S. Census Bureau, American Community Survey, 2006–2008.

How Poverty Is Measured

The Office of Management and Budget (OMB) determined the official definition of poverty in Statistical Policy Directive 14. Poverty status is determined by comparing annual income to a set of dollar values called thresholds that vary by family size, number of children, and age of householder. If a family’s before-tax money income is less than the dollar value of their threshold, then that family and every individual in it are considered to be in poverty. For people not living in families, poverty status is determined by comparing the individual’s income to his or her threshold. The poverty thresholds are updated annually to allow for changes in the cost of living using the Consumer Price Index (CPI-U). They do not vary geographically.

For more information on how poverty is measured, visit www.census.gov/hhes/www/poverty/about/overviewmeasure.html.

received both Social Security and SSI.^{19, 20}

Social Security income represented almost half (47.9 percent) of personal income for people aged 90 years and over (Figure 7). Retirement pension income was the second largest single source at 18.3 percent. A combined category “Other income” accounted for about 30 percent of income for the 90-and-older population.²¹ Earnings (2.2 percent) and SSI (1.9 percent) comprised the remaining portions of the personal income sources.

The poverty rate for the 90+ is higher than that for those aged 65–89.

In 2006–2008, 14.5 percent of the people aged 90 and over lived in poverty. Among those in poverty, 81.2 percent were women, disproportionately higher than their share of the 90-and-older population (74.1 percent).²² This translates to 16.5 percent of women and 9.6 percent of men aged 90 and older in poverty (Figure 8).

Poverty rates for the 90-and-older population also vary by race and Hispanic origin. Whites had the lowest poverty rate (13.3 percent), followed by Asians (16.0 percent). Blacks had the highest poverty rate, with about a quarter of them

¹⁹ Social Security income includes Social Security pensions and survivor benefits, permanent disability insurance payments made by the SSA prior to deductions for medical insurance, and railroad retirement insurance checks from the U.S. government. Medicare reimbursements are not included.

SSI is a nationwide assistance program administered by the SSA that guarantees a minimum level of income for needy aged, blind, or disabled individuals.

For more information about Social Security income and SSI, visit www.ssa.gov.

²⁰ The percentages receiving income from the SSA were derived from special tabulations from ACS 2006–2008.

²¹ “Other income” includes interest, dividends, or net rental or royalty income, or income from estates and trusts; public assistance or welfare payments; and all other income.

²² The percentages were derived from special tabulations from ACS 2006–2008.

falling below the poverty line during 2006–2008. About 21 percent of Hispanics aged 90 and older were poor.

The 90-and-older population had a higher poverty rate than their younger counterparts within the older population. In 2006–2008, people aged 65 to 89 had a poverty rate of 9.6 percent, 5 percentage points lower than the poverty rate of 14.5 percent for people aged 90 and over (12.4 percent for those aged 85–89).²³ The ACS data also showed that in 2006–2008, the poverty rate for children (under 18) was 18.2 percent and for those aged 18 to 64, 11.8 percent. Compared with these younger age groups, the older population (aged 65 and over) had a lower poverty rate (9.8 percent). However, those aged 90 and older are poorer than the rest of the older population.

Women aged 90+ outnumber 90+ men nearly 3 to 1.

Older women not only can expect to live longer than men, but they have experienced more rapid improvements in life expectancy than males during the period from 1929–1931 to 2006. Life expectancy at age 65 in 2006 was 19.7 years for women and 17.0 years for men. In the past 8 decades older women have added almost 7 years to their life expectancy or a 54 percent extension, compared to 5.3 years or 45 percent for men (Table 3).²⁴ This female advantage in life expectancy has resulted in fewer men at older ages relative to the number of women, most prominent in the oldest age groups. As shown

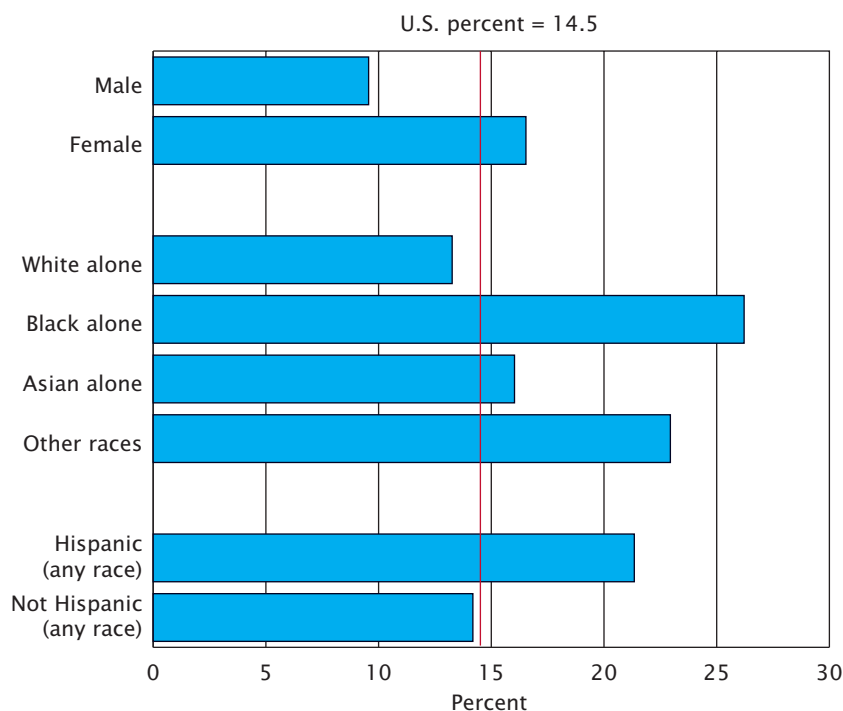
²³ The poverty rates were derived from special tabulations from ACS 2006–2008.

²⁴ 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. For examples of the research, see Gleit, Mesle, and Vallin, 2010; Preston and Wang, 2006.

Figure 8.

Percentage in Poverty of Population Aged 90 and Over by Sex, Race, and Hispanic Origin: 2006–2008

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



Note: "Other races" combines all race groups other than White alone, Black alone, or Asian alone, and includes Two or More Races.

Source: U.S. Census Bureau, American Community Survey, 2006–2008.

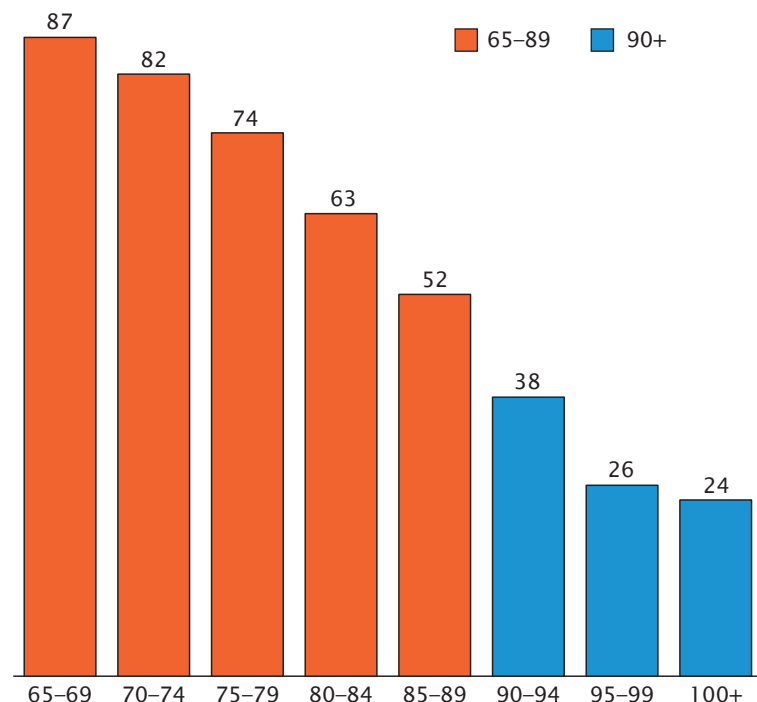
Table 3.

Life Expectancy by Age and Sex: 1929–31 and 2006

Sex and age	Average number of years of life remaining	
	1929–1931	2006
BOTH SEXES		
0 years.....	59.2	77.7
65 years.....	12.2	18.5
75 years.....	7.3	11.6
85 years.....	4.2	6.4
90 years.....	3.2	4.6
100 years.....	1.5	2.3
MALE		
0 years.....	57.7	75.1
65 years.....	11.7	17.0
75 years.....	7.0	10.4
85 years.....	4.0	5.7
90 years.....	3.1	4.1
100 years.....	1.5	2.0
FEMALE		
0 years.....	60.9	80.2
65 years.....	12.8	19.7
75 years.....	7.6	12.3
85 years.....	4.3	6.8
90 years.....	3.2	4.8
100 years.....	1.5	2.3

Source: Arias, 2010, Table 11.

Figure 9.

Sex Ratio of Population Aged 65 and Over by Age: 2006–2008(Data based on sample. For information on confidentiality protection, sampling error, nonsampling error, and definitions, see www.census.gov/acs/www)

Note: Sex ratio is the number of men per 100 women.

Source: U.S. Census Bureau, American Community Survey, 2006–2008.

in Appendix Table 1-A, about three-fourths (74.1 percent) of the total population aged 90 and older in 2006–2008 were women.

For the population aged 90 and over, the sex ratio, that is the number of men per 100 women was stunningly low at 35. The sex ratio decreased steadily with age among the older population (Figure 9). The youngest cohort (aged 65 to 69) had a ratio of 87. Even at ages 85 to 89, men were about half the number of women. By the extreme oldest ages of 95–99 and 100 and older, there was about one man for every four women.

Sex ratios of the 90-and-older population varied greatly across states (Table 4). Among the lowest was the District of Columbia (19) and among the highest was Hawaii (51).²⁵ Despite being a relatively “young” state with among the lowest percentage of the older population aged 90 and older as well as the lowest percentage of state total population aged 65 and older, Alaska has one of the lowest sex ratios at 90 and older (less than 30). Other states that ranked lowest in sex ratio included Alabama, the District of Columbia, Georgia, Louisiana, Massachusetts, Mississippi, North Carolina, Tennessee, and Wyoming. At the other end of the spectrum, there were relatively high numbers of 90-and-older men per 100 women (40 or above) in Arizona, California, Florida, Hawaii, Idaho, Montana, Nevada, New Mexico, Oregon, and Utah.

²⁵ For data presentation purposes, the District of Columbia is considered a state equivalent.

Table 4.

Ten States With Highest and Lowest Sex Ratios for Population Aged 90 and Over: 2006–2008(Data based on sample. For information on confidentiality protection, sampling error, nonsampling error, and definitions, see www.census.gov/acs/www/)

Rank	Highest		Lowest	
	State	Sex ratio	State	Sex ratio
1	Hawaii	51	District of Columbia . . .	19
2	Florida	47	Alaska	23
3	Arizona	46	Tennessee	26
4	Utah	46	Georgia	27
5	Montana	43	North Carolina	27
6	Idaho	43	Louisiana	29
7	Oregon	41	Mississippi	29
8	New Mexico	41	Alabama	29
9	California	40	Wyoming	30
10	Nevada	40	Massachusetts	30

Notes:

Sex ratio is the number of men per 100 women.

For statistical purposes, the District of Columbia is treated as a state equivalent.

Although the American Community Survey (ACS) produces population, demographic, and housing unit estimates, it is the Census Bureau's Population Estimates Program that produces and disseminates the official estimates of the population for the nation, states, counties, cities, and towns.

Source: U.S. Census Bureau, American Community Survey, 2006–2008.

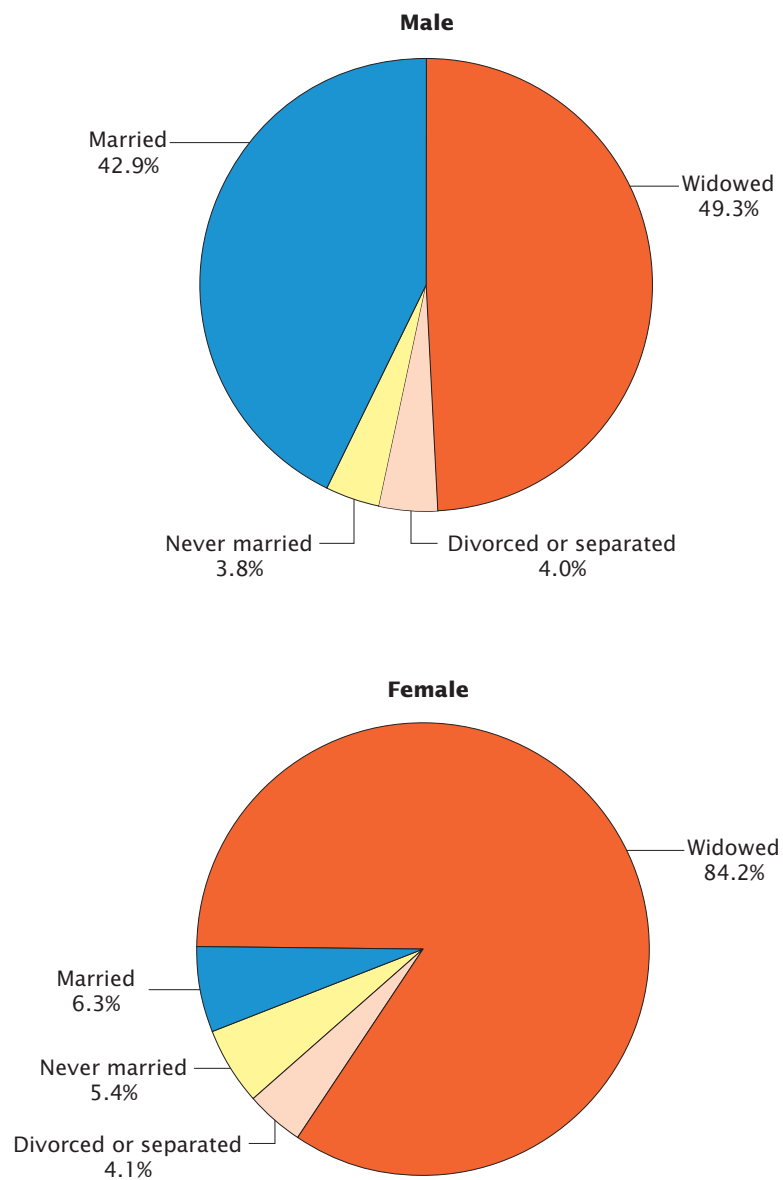
Over 80 percent of the 90+ women are widowed, while more than 40 percent of the 90+ men are married.

The impact of the higher male mortality is seen in the considerable differences in marital status between men and women. As illustrated in Figure 10, 90-and-older men differed significantly from their female counterparts in the likelihood of being widowed and of being married. About half of the men aged 90 and over were widowers, while 42.9 percent of them were married. In stark contrast, more than eight in ten (84.2 percent) of women aged 90 and over were widows, and a very low percentage (6.3 percent) were married.

Table 5 shows the marital status by age groups starting with age 15. The likelihood of being married reached over 60 percent by ages 35–44, peaked at ages 55–64, and declined rapidly at the oldest ages, down to 9 percent for people aged 95–99 and 7 percent for those aged 100 and over. On the other hand, the likelihood of widowhood stayed extremely low until ages 65–74, and then rose sharply when people reached the oldest ages. While those aged 85–89 were about twice more likely to be widowed than married, by ages 90–94 they were four times as likely. Note also the significant difference in widowhood by sex between ages 85–89 and ages 90–94, only a 5-year age group gap (Appendix Table 2-A). These findings indicate that people aged 90 and over have different marital characteristics than those aged 85–89.

Figure 10.
Marital Status of Population Aged 90 and Over by Sex: 2006–2008

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



Source: U.S. Census Bureau, American Community Survey, 2006–2008.

Table 5.
Marital Status for Population Aged 15 and Over by Age Group: 2006–2008

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

Age	Total	Married	Widowed	Divorced	Separated	Never married
15–24.	100.0	7.6	0.1	0.6	0.5	91.2
25–34.	100.0	48.0	0.3	6.4	2.7	42.7
35–44.	100.0	63.6	0.7	13.0	3.4	19.3
45–54.	100.0	65.1	2.1	17.2	3.1	12.5
55–64.	100.0	66.8	6.0	17.4	2.2	7.5
65–74.	100.0	63.5	17.3	12.9	1.5	4.8
75–84.	100.0	49.2	38.1	7.5	0.8	4.3
85–89.	100.0	30.7	59.7	4.8	0.5	4.3
90–94.	100.0	17.9	73.1	3.8	0.4	4.8
95–99.	100.0	9.0	82.0	3.3	0.4	5.3
100 years and over . . .	100.0	6.9	80.5	4.0	0.5	8.1

Note: Percentages may not sum to the row totals due to rounding.

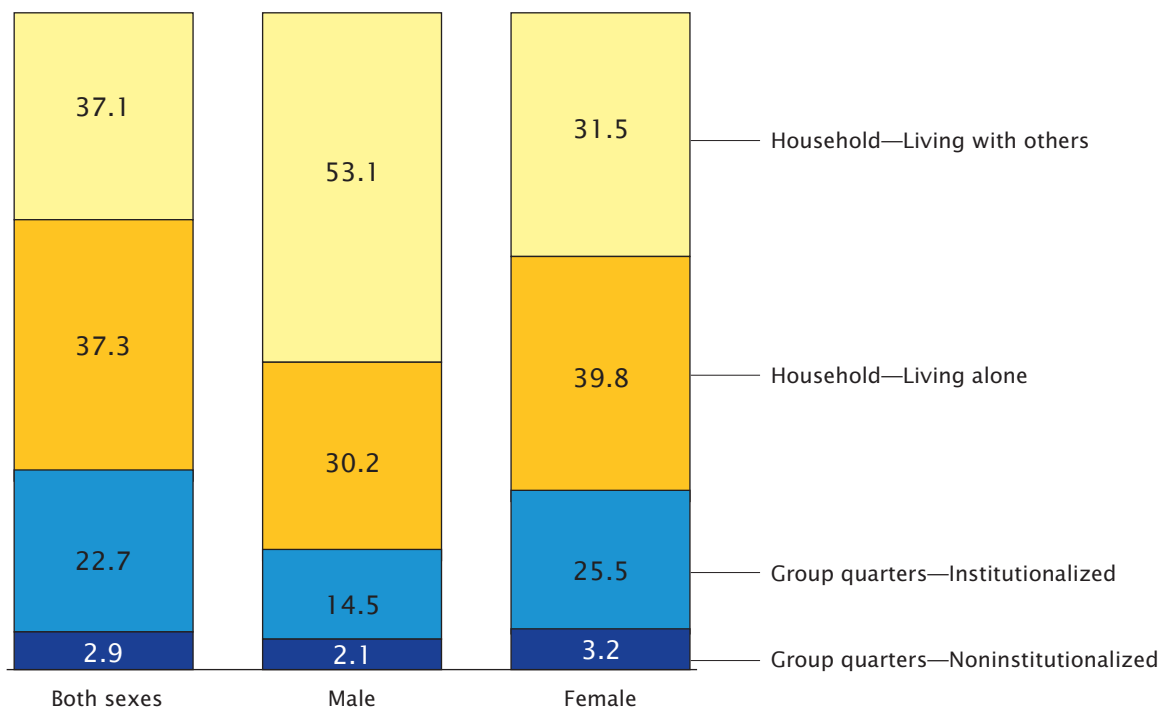
Source: U.S. Census Bureau, American Community Survey, 2006–2008.

Asian and Hispanic 90+ are least likely to live alone.

ACS data encompass group quarters, which include institutionalized as well as noninstitutionalized populations. In 2006–2008, half of the men aged 90 and over lived in a household with family members and/or unrelated individuals, less than one-third lived alone, and about 15 percent were institutionalized in facilities such as nursing facilities/skilled-nursing facilities (Figure 11). In contrast, 40 percent of the women aged 90 and over lived alone, and another quarter of them lived in institutional group quarters. Given the large number of women at these ages, this translates into about 520,000

Figure 11.
Living Arrangements of Population Aged 90 and Over by Sex: 2006–2008

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



Note: Percents shown may not sum to 100.0 due to rounding.

Source: U.S. Census Bureau, American Community Survey, 2006–2008.

Group Quarters

A group quarters is a place where people live or stay in a group living arrangement, which is owned or managed by an entity or organization providing housing and/or services for the residents. These services may include custodial or medical care as well as other types of assistance, and residency is commonly restricted to those receiving these services. This is not a typical household-type living arrangement. People living in group quarters usually are not related to each other. Group quarters include places such as college residence halls, residential treatment centers, skilled-nursing facilities, group homes, military barracks, correctional facilities, and workers' dormitories.

Institutional Group Quarters—Includes facilities for people under formally authorized, supervised care or custody at the time of interview, such as correctional facilities, nursing/skilled-nursing facilities, in-patient hospice facilities, mental (psychiatric) hospitals, group homes for juveniles, and residential treatment centers for juveniles.

Noninstitutional Group Quarters—Includes facilities that are not classified as institutional group quarters, such as college/university housing, group homes intended for adults, residential treatment facilities for adults, workers' group living quarters and Job Corps centers, and religious group quarters.

A complete description of the types of group quarters included in the 2008 ACS is located on the U.S. Census Bureau's Internet site at www.census.gov/acs/www/UseData/GQ/def.htm.

women aged 90 and over living alone and 330,000 living in institutions. Contrasting the number of 90-and-older women with their male counterparts reveals great sex imbalances for living alone, a sex ratio of only 27, and for living in institutions, an even lower sex ratio of 20.

Special attention is needed when comparing the proportion living alone from this report to results reported in past studies. In this report, percent living alone was calculated as a proportion of the entire population aged 90 and older, including those living in group quarters (e.g., nursing facilities). On the other hand, almost all past studies focused on older people's living arrangements used only the noninstitutionalized population as the base to estimate the proportion living alone. The much larger, but all inclusive, denominator used in this report yields a smaller percentage living alone but provides a more accurate depiction of the living arrangements of the oldest age groups of the population.

For example, in 2006–2008, 39.8 percent of all women aged 90 and older lived alone (Figure 11), compared to 53.4 percent of noninstitutionalized 90-and-older women.

An older person's likelihood of living in a nursing home increases sharply with age. The share institutionalized remained extremely low from ages 65–69 (1.0 percent) and ages 75–79 (3.0 percent), then began to rise markedly, reaching 11.2 percent at ages 85–89, 19.8 percent at ages 90–94, 31.0 percent at ages 95–99, and 38.2 percent at 100 years of age and older (Appendix Table 3-A). Living arrangements vary greatly across race groups and Hispanic origin. Three-quarters of Whites and Blacks aged 90 and older lived in households, while over 85 percent of Asians and Hispanics did. Most notably, almost 40 percent of Whites lived alone, compared with half of that proportion (about 20 percent) for Asians and Hispanics (Figure 12).

Difficulty doing errands alone and mobility-related limitations are the two most common types of disability for the 90+.

Disability is one of the most commonly used indicators for health of the older population. According to the 1990 Americans With Disabilities Act, disability is defined as a substantial limitation in a major life activity. Research shows that age is positively associated with the presence of physical difficulty, and the oldest have the highest levels of physical and cognitive disability (Administration on Aging, 2010; Pleis, Lucas, and Ward, 2009; Wolf, Mendes de Leon, and Glass, 2007).²⁶

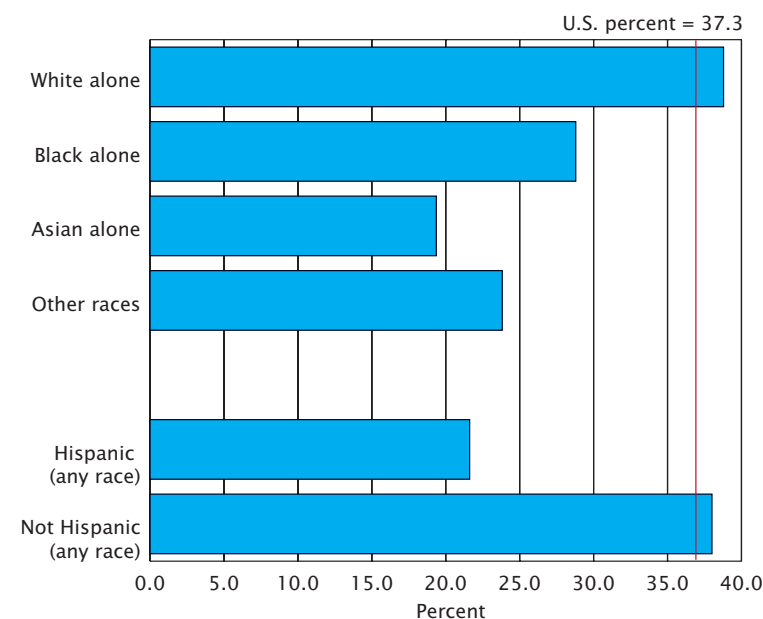
The 2008 ACS asked several questions about disabilities, including difficulties in hearing; seeing; concentrating or remembering, or making decisions; walking or climbing stairs; dressing or bathing; and doing errands alone.

²⁶ Research has documented declines in old-age disability in recent decades in the United States. For examples, see Schoeni, Freedman, and Martin, 2008; Spillman, 2003.

Figure 12.

Percentage Living Alone of Population Aged 90 and Over by Race and Hispanic Origin: 2006–2008

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



Note: "Other races" combines all race groups other than White alone, Black alone, or Asian alone, and includes Two or More Races.

Source: U.S. Census Bureau, American Community Survey, 2006–2008.

According to the ACS, the vast majority (84.7 percent) of those aged 90 and older reported having one or more types of limitations.²⁷ Difficulty doing errands alone, which represents an instrumental activity of daily living (IADL) such as visiting a doctor's office or shopping, was the most common

²⁷ The disability rates for the total 90-and-older population were derived from special tabulations from the ACS 2006–2008.

type of limitation (67.7 percent). Difficulty in performing the general mobility-related activities of walking or climbing stairs (66.3 percent) was a close second. Difficulty dressing or bathing (45.8 percent) reflects a limitation in activities of daily living (ADL), and about 40 percent had cognitive difficulties. For communication limitations, there were far more aged 90 and older who had difficulty hearing

(43.3 percent) than difficulty seeing (25.5 percent).

Nursing facilities and other health-related institutional facilities serve people who cannot fully take care of their own needs because of health and aging (Brault, 2008). People with higher disabilities tend to live in a nursing home. Figure 13 illustrates the differentials in disability rate between the institutionalized population and noninstitutionalized population (including those living in households and noninstitutional group quarters). Almost everyone (98.2 percent) residing in institutional group quarters (e.g., nursing homes) had some type of disability, compared with 80.8 percent of those who lived in households or noninstitutional group quarters. For most measures of disability, rates for those institutionalized were drastically higher than for those not institutionalized.²⁸ The largest differences were in cognitive ability (concentrating, remembering, or making decisions) and limitations in dressing or bathing (indicator for ADL), with the institutionalized population aged 90 and older more than twice as likely to have those limitations than their noninstitutionalized counterparts.

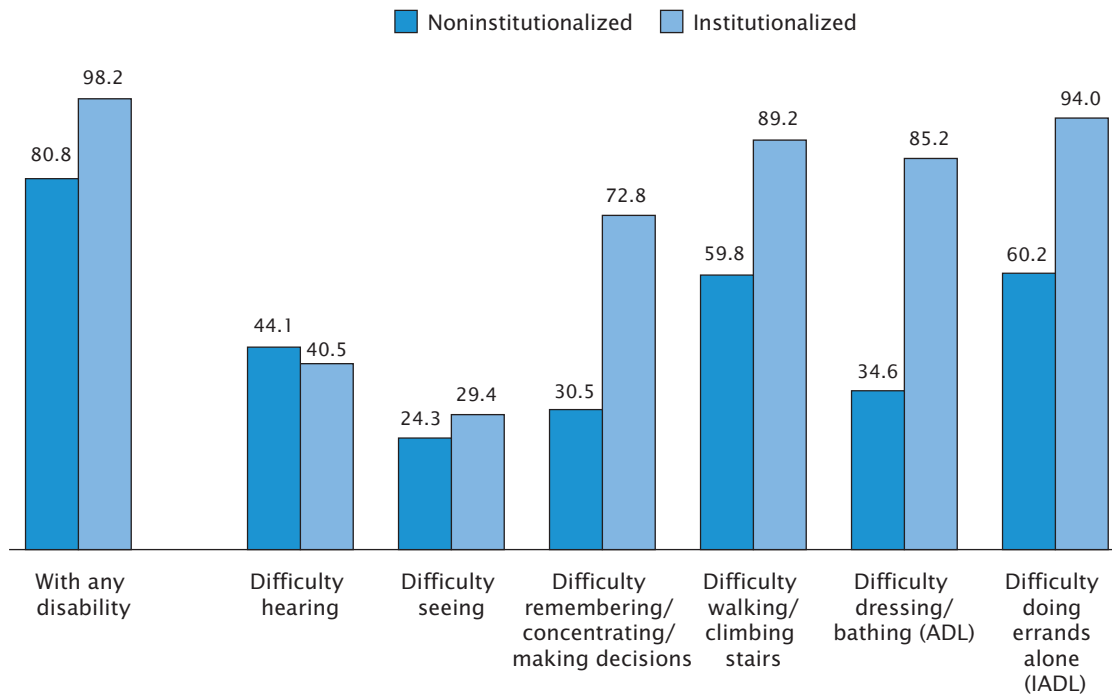
The older a person, the more likely he or she is to have disabilities. When comparing people aged 90–94 with those aged 85–89,

²⁸ The percentage of institutionalized aged 90 and older having difficulty hearing is lower than those noninstitutionalized.

Figure 13.

Percentage With Disability for Population Aged 90 and Over by Living Arrangement and Type of Disability: 2008

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



Note: "Institutionalized" includes population aged 90 and over living in institutional group quarters such as nursing facilities/skilled-nursing facilities.

Source: U.S. Census Bureau, American Community Survey, 2008.

the 5-year age group gap again resulted in significant differences (Table 6). The proportion of people aged 90–94 having disabilities is about 13 percentage points higher than that of those aged 85–89 years old, and this difference is seen in both men and women.

Table 6.

Percentage With Disability of Population Aged 85 and Over by Age and Sex: 2008

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

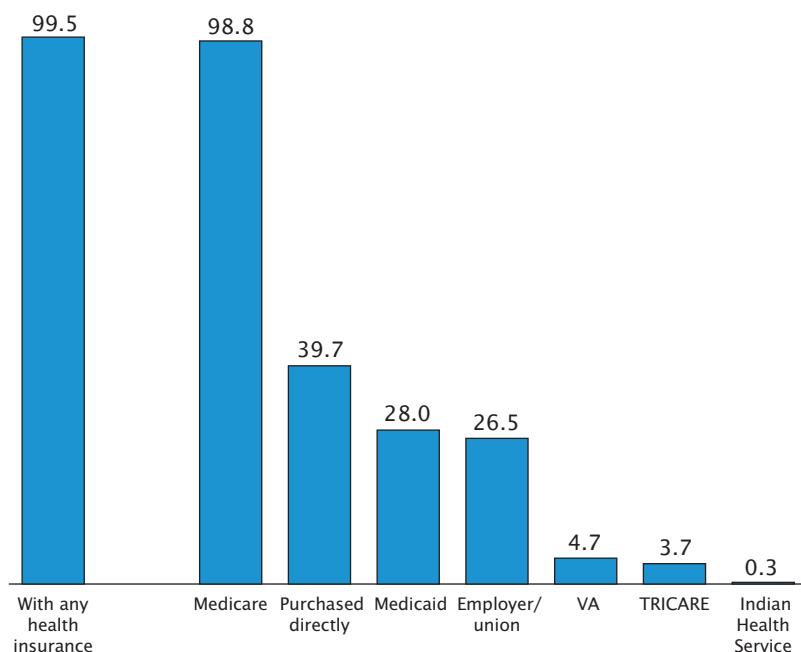
Age	Both sexes	Male	Female
85–89.	69.4	65.4	71.5
90–94.	82.7	77.8	84.6
95 years and over	91.2	85.5	92.7

Source: U.S. Census Bureau, American Community Survey, 2006–2008.

Figure 14.

Percentage With Health Insurance Coverage of Population Aged 90 and Over by Type of Insurance: 2008

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



Source: U.S. Census Bureau, American Community Survey, 2008.

The 90+ are almost universally covered by health insurance.

In 2008, ACS began to collect details on health insurance coverage. Almost everyone (99.5 percent) in the population aged 90 and over was covered by health insurance—98.8 percent had Medicare coverage and 28.0 percent also received Medicaid benefits in 2008 (Figure 14). There was no gender difference in this universality of health insurance coverage (data not shown in figure or table).

Medicare and Medicaid are the two major publicly-funded health insurance programs that assist older, disabled, and poor populations—Medicare provides health care for older people and Medicaid for poor people.²⁹ These public insurance programs' benefits have

²⁹ Medicare is the nation's health insurance program for people aged 65 or older, and certain people younger than age 65 with disabilities or specified health conditions. For more information on Medicare, go to www.medicare.gov. Medicaid is the health insurance available only to people with limited income, or other groups of people who meet certain requirements. For more information on Medicaid, go to www.cms.gov.

enabled people aged 90 and over to be universally covered by health insurance.

In addition to Medicare and/or Medicaid coverage, about 40 percent of the 90-and-older population also purchased private health insurance coverage from an insurance company. Another one-quarter of them were covered by a previous employer- or union-sponsored health insurance benefit. The 2008 ACS also asked whether the respondent was covered by TRICARE or other military health care, the Department of Veterans Affairs (VA), or Indian Health Service.³⁰

SUMMARY

Little research has been done on one of the fastest growing population segments, those aged 90 and over, due to data limitations.³¹ The ACS, which contains information similar to the long-form (sample) data previously collected in the decennial censuses, allows a general overview of this population. With the known age reporting difficulty among the oldest population, caution is needed when interpreting the findings in this report. For more information, see "Source of the Data and Accuracy of the Estimates."

³⁰ TRICARE, the triple option benefit plan available for military families, is the health care program serving active duty service members, National Guard and Reserve members, retirees, their families, survivors, and certain former spouses worldwide. The VA provides a medical benefits package to all enrolled Veterans.

³¹ Interest in the characteristics of the population aged 100 and over also exists; however, because of the small size of this group, data quality thus far limits in-depth analysis of this population.

Measurement of Disability in the 2008 American Community Survey (ACS)

In 2008, the ACS changed the way it asks about disability. There are critical distinctions between the conceptual frameworks encompassing the 2008 questions and prior ACS or Census 2000 questions. The changes were made in an attempt to capture more reliably the population who would be likely to experience restrictions in participation due to physical, social, and other environmental barriers. After versions of proposed initial questions were cognitively tested, the new disability questions were included in the 2006 ACS Content Test. Results showed that the test questions had equal or lower nonresponse rates and performed better than control questions (disability questions in the 2003–2007 ACS).

The 2008 ACS disability questions include the following categories:

Communication domain: *hearing difficulty and vision difficulty.*

Mental domain: *cognitive difficulty* (difficulty concentrating, remembering, or making decisions).

Physical domain: *ambulatory difficulties* (difficulty walking or climbing stairs); *self-care difficulty* (difficulty dressing or bathing, or ADL/Activities of Daily Living); and *independent living difficulty* (difficulty doing errands alone such as visiting a doctor's office or shopping, or IADL/Instrumental Activities of Daily Living).

Because of the difference in measurement, the Census Bureau does not encourage data users to make comparisons between the 2008 disability estimates and prior ACS disability estimates. For the definition of disability in the ACS, visit <www.census.gov/acs/www/Downloads/data_documentation/documentation_main/>. For more information on changes to the 2008 ACS disability questions, see Brault, Matthew W., 2009, "Review of Changes to the Measurement of Disability in the 2008 American Community Survey," at <www.census.gov/hhes/www/disability/disability.html>.

A complete description of the types of group quarters included in the 2008 ACS is located on the U.S. Census Bureau's Internet site at <www.census.gov/acs/www/UseData/GQ/def.htm>.

Results from the 2006–2008 ACS 3-year estimates and the 2008 ACS 1-year estimates show that a majority of the 90-and-older population are White, and women who are much more likely than men to be widowed, living alone, or living in institutions. The majority of the 90-and-older population are high-school graduates, a relatively high proportion given that they were born in the early twentieth century. Almost half of their personal income comes from Social Security. The vast majority reported having one or more types of disability, while almost all of them have health insurance coverage thanks to Medicare and Medicaid.

The socioeconomic, demographic, and health characteristics of the population aged 90 and over vary by race and Hispanic origin. Asians and Hispanics are less likely than Whites and Blacks to live alone. However, Hispanics have a much higher poverty rate than Whites and Asians.

The findings in this report also point to important differences in various characteristics between the 90-and-older and the younger-older people, even between those aged 90–94 and 85–89. The 90-and-older population has a much lower sex ratio and much higher widowhood, poverty, and disability rates than those aged 85–89 years old.

This report provides a general cross-sectional examination of the population aged 90 and over. The information may be useful for future discussions among researchers and policy makers on whether the traditional cutoff age of 85 for "oldest old" should be reconsidered, given the rapid growth of the 90-and-over population and their distinct characteristics. Future trend data are needed to assess the changes in their status and needs for their care. Domestic migration data will help decipher the variation among older and oldest states.

SOURCE OF THE DATA AND ACCURACY OF THE ESTIMATES

The findings in this report are primarily based on the American Community Survey (ACS) data collected in 2006, 2007, and 2008. The population universe covered in this report includes the population living in either households or group quarters. The U.S. Census Bureau is both the sponsor and the collector of the ACS. The 2006–2008 3-year ACS is based on a sample of approximately 8.7 million housing unit addresses and a separate sample of just under approximately 560 thousand people living in group quarters. ACS figures are estimates based on this sample and approximate the actual figures that would have been obtained by interviewing the entire household and group quarters populations using the same methodology. The estimates from the 2006–2008 ACS sample may also differ from estimates based on other survey samples of housing units and group quarters, and the people living within those housing units and group quarters. Numbers in Appendix Table 1-A of this

report are rounded and totals may not sum to the column total due to rounding.

The decennial census data from 1980, 1990, 2000, and 2010, and population projections data (vintage 2008) were also used in this report for trend analysis of population growth.

Sampling and Nonsampling Error

Sampling error occurs when the characteristics of a sample are measured instead of those of the entire population (as from a census). Note that sample-based estimates will vary depending on the particular sample selected from the population, but all attempt to approximate the actual figures. Measures of the magnitude of sampling error reflect the variation in the estimates over all possible samples that could have been selected from the population using the same sampling, data collection, and processing methods. Estimates of the magnitude of sampling errors are provided in the form of margins of error for all key ACS estimates included in this report. The Census Bureau recommends

that data users incorporate this information into their analyses, as sampling error in survey estimates could impact the conclusions drawn from the results. All comparative statements in this report have undergone statistical testing, and comparisons are significant at the 90 percent confidence level unless noted otherwise. This means the 90 percent confidence interval for the difference between the estimates being compared does not include zero.

In addition to sampling error, nonsampling errors may be introduced during any phase of data collection or processing. For example, operations such as editing, reviewing, or keying data from questionnaires may introduce error into the estimates. The primary source of nonsampling error and the processes instituted to control error in the 2006–2008 3-year ACS are described in further detail in the 2006–2008 ACS 3-year Accuracy of the Data document (see Web link on the following page).

Nonsampling error also includes bias introduced by undercoverage of the population in the ACS. To minimize this bias, the ACS

population estimates are controlled to the population estimates produced independently by the Census Bureau's population estimates program (PEP). The adjustment is done for broad age groups, with a top-end age category of 75 and over. So the population estimates in column 1 of Appendix Table 1-A in this report (ages 90–94, 95–99, and 100+) are not directly controlled to the PEP estimates. Any differential undercoverage (or other types of survey nonsampling error) for specific age groups within the broad 75+ category—including the 90+ group of this report—is not accounted for.

While the PEP population controls are intended to reduce bias in the ACS estimates, the PEP estimates themselves are subject to error. The Census Bureau is currently engaged in an evaluation of the accuracy of the PEP population estimates as compared to the 2010 Census results. The 2010 Census population aged 90 and over (and 100 and over) is lower than implied by the PEP estimates used as controls for the 2008 ACS and 2006–2008 ACS estimates, and we investigate possible reasons for this discrepancy.

Furthermore, nonsampling error specific to the oldest-old populations also stems from age misreporting. This is due to a variety of factors, including a gross ignorance of the true age, lack of birth records which makes it difficult to confirm or disconfirm a reported age, reliance by some oldest people on the knowledge of others for their own age, digital preference (such as those ending in “0” or “5”), and deliberate misreporting out of the desire to share in the esteem generally accorded extreme old age (Hobbs, 2004; Howden and Meyer, 2011; Krach and Velkoff, 1999). Studies on mortality of the “oldest old” in the United States have found overestimation of oldest ages, especially over the age of 100, and particularly in some population subgroups, which biased the mortality rates at oldest ages (Coale and Kisker, 1986; Kestenbaum and Ferguson, 2002, 2005; Preston, et al., 1996; Preston, Elo, and Stewart, 1999). However, age heaping did not appear to be a concern at the national level in Census 2000 or the 2010 Census (Howden and Meyer, 2011).

This report does not focus on population levels but rather provides analysis of the characteristics of the 90-and-older population on the national level. However, because of potential sampling and nonsampling errors discussed above, caution is needed when interpreting the results.

Title 13, U.S. Code, Section 9, prohibits the Census Bureau from publishing results from which the identity of an individual survey respondent could be determined. For more information on how the Census Bureau protects the confidentiality of data, see the 2006–2008 ACS 3-year Accuracy of the Data document, available at <www.census.gov/acs/www/Downloads/data_documentation/Accuracy/accuracy2006-2008ACS3-Year.pdf>.

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Appendix Table 1-A.

Selected Characteristics of Population Aged 90 and Over by Sex: 2006–2008

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

Characteristic	Both sexes		Male		Female	
	Number	Percent	Number	Percent	Number	Percent
Total, 90 years and over¹	1,761,770	100.0	457,155	100.0	1,304,615	100.0
AGE¹						
90–94	1,355,390	76.9	374,360	81.9	981,030	75.2
95–99	348,055	19.8	71,625	15.7	276,430	21.2
100 years and over	58,325	3.3	11,170	2.4	47,160	3.6
RACE AND HISPANIC ORIGIN¹						
Race						
White alone	1,552,725	88.1	404,830	88.6	1,147,895	88.0
Black or African American alone	134,485	7.6	29,515	6.5	104,970	8.0
American Indian and Alaska Native alone	5,420	0.3	1,265	0.3	4,155	0.3
Asian alone	38,350	2.2	12,980	2.8	25,375	1.9
Native Hawaiian and Other Pacific Islander alone	420	—	35	—	385	—
Some Other Race alone	19,925	1.1	5,875	1.3	14,050	1.1
Two or More Races	10,445	0.6	2,655	0.6	7,790	0.6
Hispanic Origin						
Hispanic	76,370	4.3	22,015	4.8	54,355	4.2
Not Hispanic	1,685,405	95.7	435,140	95.2	1,250,265	95.8
White alone	1,499,100	85.1	389,620	85.2	1,109,480	85.0
MARITAL STATUS						
Married	278,365	15.8	196,285	42.9	82,080	6.3
Widowed	1,323,345	75.1	225,365	49.3	1,097,985	84.2
Divorced	65,095	3.7	15,575	3.4	49,520	3.8
Separated	7,135	0.4	2,740	0.6	4,400	0.3
Never married	87,830	5.0	17,195	3.8	70,635	5.4
EDUCATIONAL ATTAINMENT						
Not high school graduate	681,100	38.7	169,705	37.1	511,395	39.2
High school graduate	593,930	33.7	133,215	29.1	460,715	35.3
Some college	246,155	14.0	66,820	14.6	179,340	13.7
Bachelor's degree or higher	240,585	13.7	87,415	19.1	153,170	11.7
PERSONAL INCOME						
Median annual income ²	\$14,760	(X)	\$20,133	(X)	\$13,580	(X)
POVERTY STATUS						
Below poverty	198,090	14.5	37,335	9.6	160,750	16.5

— Represents or rounds to 0.0.

(X) Not applicable.

¹ Although the American Community Survey (ACS) produces population, demographic, and housing unit estimates, it is the Census Bureau's Population Estimates Program that produces and disseminates the official estimates of the population for the nation by age, sex, race, and Hispanic origin.

² In 2008 inflation-adjusted dollars.

Note: Numbers and percentages may not sum to the column or row totals due to rounding.

Source: U.S. Census Bureau, American Community Survey, 2006–2008.

Appendix Table 1-B.

Margin of Error for Selected Characteristics of Population Aged 90 and Over by Sex: 2006–2008

(Data based on sample and are subject to sampling variability. A margin of error is a measure of an estimate's variability. The larger the margin of error in relation to the size of the estimate, the less reliable the estimate. When added to and subtracted from the estimate, the margin of error forms the 90 percent confidence interval. For information on confidentiality protection, sampling error, nonsampling error, and definitions, see www.census.gov/acs/www/)

Characteristic	Both sexes		Male		Female	
	Number	Percent	Number	Percent	Number	Percent
Total, 90 years and over	12,874	(X)	6,118	(X)	10,944	(X)
AGE						
90–94	11,895	0.3	5,308	0.5	9,993	0.3
95–99	4,221	0.2	2,228	0.4	4,026	0.3
100 years and over	1,915	0.1	868	0.2	1,742	0.1
RACE AND HISPANIC ORIGIN						
Race						
White alone	12,272	0.2	6,261	0.5	9,808	0.2
Black or African American alone	3,090	0.2	1,472	0.3	2,858	0.2
American Indian and Alaska Native alone	697	—	271	0.1	616	—
Asian alone	1,850	0.1	973	0.2	1,390	0.1
Native Hawaiian and Other Pacific Islander alone	182	—	40	—	174	—
Some Other Race alone	1,369	0.1	709	0.2	1,178	0.1
Two or More Races	797	—	454	0.1	742	0.1
Hispanic Origin						
Hispanic	2,721	0.2	1,425	0.3	2,310	0.2
Not Hispanic	12,624	0.2	5,838	0.3	10,824	0.2
White alone	11,892	0.2	5,979	0.5	9,767	0.3
MARITAL STATUS						
Married	5,420	0.3	3,929	0.7	2,453	0.2
Widowed	10,657	0.3	4,591	0.7	9,871	0.3
Divorced	2,215	0.1	1,074	0.2	1,857	0.1
Separated	684	—	446	0.1	584	—
Never married	3,037	0.2	1,218	0.3	2,924	0.2
EDUCATIONAL ATTAINMENT						
Not high school graduate	7,913	0.4	3,571	0.6	6,887	0.4
High school graduate	6,477	0.3	3,233	0.6	6,201	0.4
Some college	4,734	0.2	2,295	0.5	3,715	0.3
Bachelor's degree or higher	3,901	0.2	2,715	0.5	3,069	0.2
PERSONAL INCOME						
Median annual income ¹	\$76	(X)	\$236	(X)	\$76	(X)
POVERTY STATUS						
Below poverty	4,202	0.3	1,695	0.4	3,639	0.3

— Represents or Rounds to 0.0.

(X) Not applicable.

¹ In 2008 inflation-adjusted dollars.

Source: U.S. Census Bureau, American Community Survey, 2006–2008.

Appendix Table 2-A.

Marital Status for Population Aged 15 and Over by Age, Sex, and Status: 2006–2008(In percent. Data based on sample. For information on confidentiality protection, sampling error, nonsampling error, and definitions, see www.census.gov/acs/www/)

Sex and age	Total	Married	Widowed	Divorced	Separated	Never married
BOTH SEXES						
15–24.....	100.0	7.6	0.1	0.6	0.5	91.2
25–34.....	100.0	48.0	0.3	6.4	2.7	42.7
35–44.....	100.0	63.6	0.7	13.0	3.4	19.3
45–54.....	100.0	65.1	2.1	17.2	3.1	12.5
55–64.....	100.0	66.8	6.0	17.4	2.2	7.5
65–74.....	100.0	63.5	17.3	12.9	1.5	4.8
75–84.....	100.0	49.2	38.1	7.5	0.8	4.3
85–89.....	100.0	30.7	59.7	4.8	0.5	4.3
90–94.....	100.0	17.9	73.1	3.8	0.4	4.8
95–99.....	100.0	9.0	82.0	3.3	0.4	5.3
100 years and over.....	100.0	6.9	80.5	4.0	0.5	8.1
MALE						
15–24.....	100.0	5.7	0.1	0.4	0.3	93.5
25–34.....	100.0	44.7	0.2	5.4	2.0	47.8
35–44.....	100.0	63.4	0.4	11.6	2.7	21.9
45–54.....	100.0	66.6	1.0	15.7	2.6	14.1
55–64.....	100.0	72.2	2.5	15.3	2.0	8.0
65–74.....	100.0	75.2	7.2	11.1	1.6	4.9
75–84.....	100.0	70.2	17.9	6.6	1.0	4.2
85–89.....	100.0	58.5	32.9	4.1	0.7	3.8
90–94.....	100.0	45.6	46.8	3.4	0.6	3.5
95–99.....	100.0	31.7	60.9	3.0	0.5	4.0
100 years and over.....	100.0	24.7	57.3	6.3	1.3	10.4
FEMALE						
15–24.....	100.0	9.5	0.1	0.8	0.7	88.8
25–34.....	100.0	51.5	0.4	7.4	3.4	37.3
35–44.....	100.0	63.8	1.1	14.3	4.1	16.7
45–54.....	100.0	63.7	3.2	18.6	3.6	11.0
55–64.....	100.0	61.9	9.2	19.4	2.4	7.1
65–74.....	100.0	53.5	25.9	14.4	1.5	4.7
75–84.....	100.0	34.8	52.0	8.2	0.7	4.4
85–89.....	100.0	16.3	73.6	5.1	0.4	4.6
90–94.....	100.0	7.4	83.1	3.9	0.3	5.3
95–99.....	100.0	3.1	87.5	3.4	0.3	5.6
100 years and over.....	100.0	2.7	86.1	3.4	0.2	7.5

Note: Percentages may not sum to the row totals due to rounding.

Source: U.S. Census Bureau, American Community Survey, 2006–2008.

Appendix Table 2-B.

Marital Status for Population Aged 65 and Over by Age and Sex: 2006–2008(In percent. Data based on sample. For information on confidentiality protection, sampling error, nonsampling error, and definitions, see www.census.gov/acs/www/)

Sex and age	Married	Widowed	Divorced	Separated	Never married
BOTH SEXES					
Total	100.0	100.0	100.0	100.0	100.0
65–74.....	61.1	28.5	67.1	69.1	53.7
75–84.....	32.4	43.0	26.8	25.3	32.9
85–89.....	5.2	17.3	4.4	3.9	8.4
90–94.....	1.2	8.4	1.4	1.3	3.7
95–99.....	0.2	2.4	0.3	0.3	1.1
100 years and over.....	—	0.4	0.1	0.1	0.3
MALE					
Total	100.0	100.0	100.0	100.0	100.0
65–74.....	58.9	29.0	70.1	67.7	60.4
75–84.....	33.4	43.6	25.4	26.9	31.2
85–89.....	6.0	17.3	3.4	4.1	6.0
90–94.....	1.5	7.9	0.9	1.1	1.8
95–99.....	0.2	2.0	0.2	0.2	0.4
100 years and over.....	—	0.3	—	0.1	0.2
FEMALE					
Total	100.0	100.0	100.0	100.0	100.0
65–74.....	63.9	28.4	65.3	70.5	49.0
75–84.....	31.0	42.8	27.7	23.8	33.9
85–89.....	4.2	17.3	4.9	3.8	10.3
90–94.....	0.8	8.5	1.7	1.5	5.0
95–99.....	0.1	2.5	0.4	0.4	1.5
100 years and over.....	—	0.4	0.1	0.1	0.4

— Represents or rounds to 0.0.

Note: Percentages may not sum to the column totals due to rounding.

Source: U.S. Census Bureau, American Community Survey, 2006–2008.

Appendix Table 3-A.

Living Arrangements for Population Aged 65 and Over by Age, Sex, and Type: 2006–2008(In percent. Data based on sample. For information on confidentiality protection, sampling error, nonsampling error, and definitions, see www.census.gov/acs/www/)

Sex and age	Total	Household		Group quarters	
		Living with others	Living alone	Institutionalized	Noninstitutionalized
BOTH SEXES					
65–69.	100.0	78.2	20.3	1.0	0.4
70–74.	100.0	74.4	23.6	1.6	0.4
75–79.	100.0	67.7	28.7	3.0	0.6
80–84.	100.0	58.4	35.1	5.6	0.9
85–89.	100.0	47.9	39.3	11.2	1.6
90–94.	100.0	38.6	38.9	19.8	2.7
95–99.	100.0	32.3	33.2	31.0	3.5
100 years and over	100.0	32.6	25.2	38.2	4.0
MALE					
65–69.	100.0	83.4	14.9	1.2	0.5
70–74.	100.0	82.5	15.6	1.5	0.4
75–79.	100.0	79.6	17.3	2.5	0.5
80–84.	100.0	73.9	21.2	4.2	0.7
85–89.	100.0	65.7	25.2	7.9	1.2
90–94.	100.0	54.8	30.1	13.0	2.1
95–99.	100.0	44.5	31.1	22.2	2.2
100 years and over	100.0	52.7	25.6	18.7	2.9
FEMALE					
65–69.	100.0	73.6	25.1	0.9	0.4
70–74.	100.0	67.7	30.2	1.7	0.4
75–79.	100.0	58.9	37.2	3.3	0.6
80–84.	100.0	48.7	43.8	6.4	1.1
85–89.	100.0	38.6	46.6	12.9	1.9
90–94.	100.0	32.3	42.2	22.4	3.0
95–99.	100.0	29.1	33.7	33.3	3.8
100 years and over	100.0	27.8	25.1	42.8	4.3

Note: Percentages may not sum to the row totals due to rounding.

Source: U.S. Census Bureau, American Community Survey, 2006–2008.

Appendix Table 3-B.

Living Arrangements for Population Aged 65 and Over by Age and Sex: 2006–2008(In percent. Data based on sample. For information on confidentiality protection, sampling error, nonsampling error, and definitions, see www.census.gov/acs/www/)

Sex and age	Household		Group quarters	
	Living with others	Living alone	Institutionalized	Noninstitutionalized
BOTH SEXES				
Total	100.0	100.0	100.0	100.0
65–69.....	33.0	21.1	7.1	16.4
70–74.....	25.1	19.6	8.9	12.5
75–79.....	19.8	20.7	14.2	15.1
80–84.....	13.2	19.5	20.5	18.5
85–89.....	6.4	12.9	24.2	19.4
90–94.....	2.0	5.1	17.0	12.9
95–99.....	0.4	1.1	6.8	4.2
100 years and over.....	0.1	0.1	1.4	0.8
MALE				
Total	100.0	100.0	100.0	100.0
65–69.....	33.3	26.6	13.3	26.8
70–74.....	25.5	21.6	13.2	15.8
75–79.....	20.1	19.6	17.7	17.2
80–84.....	13.1	16.8	20.9	16.0
85–89.....	6.1	10.5	20.3	14.1
90–94.....	1.6	4.0	10.7	8.1
95–99.....	0.3	0.8	3.5	1.6
100 years and over.....	–	0.1	0.5	0.3
FEMALE				
Total	100.0	100.0	100.0	100.0
65–69.....	32.7	19.1	4.6	11.2
70–74.....	24.7	18.8	7.1	10.8
75–79.....	19.5	21.1	12.8	14.1
80–84.....	13.3	20.5	20.3	19.7
85–89.....	6.7	13.8	25.7	22.1
90–94.....	2.4	5.4	19.5	15.4
95–99.....	0.6	1.2	8.2	5.6
100 years and over.....	0.1	0.2	1.8	1.1

– Represents or rounds to 0.0.

Note: Percentages may not sum to the column totals due to rounding.

Source: U.S. Census Bureau, American Community Survey, 2006–2008.

