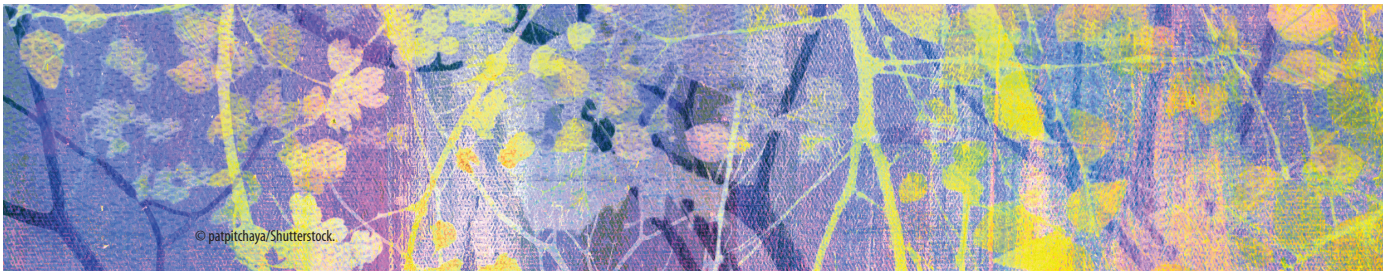

CHAPTER 1

Age Matters: Profiles of an Aging Society

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CHAPTER OUTLINE

BEHAVIORAL OBJECTIVES

Upon completion of this chapter, the reader will be able to:

1. Explain terms used to describe and classify age.
2. Describe how populations are aging around the world.
3. Explain the difference between the terms lifespan and longevity.
4. Describe three key factors that influence population aging.
5. Describe the general characteristics of the U.S. population of adults age 65 years and older.
6. Describe the most common chronic health conditions among older adults.
7. Explain the types of services provided by formal and informal caregivers.
8. Identify the most common causes of death among older adults.
9. Discuss the impacts the U.S. baby boom generation is having on U.S. society.
10. Explain how marital status, income level, sex, and race can affect quality of life.

KEY TERMS

Activities of daily living
Baby boom generation
Bio-psycho-social
Centenarian
Chronological age
Formal caregivers
Functional age
Gerontology
Incidence
Informal caregivers
Instrumental activities of daily living
Life expectancy
Lifespan
Longevity
Old
Old-old
Prevalence
Quality of life
Snowbirds
Successful aging
Super-centenarian
Total fertility rate
Young-old

Introduction

We all start to age from the moment we are born. Aging is a lifespan process that influences every aspect of our lives. Yet, many people do not think about growing older or the issues that accompany growing older until they see their parents' health decline or experience health challenges of their own. The field of **gerontology** is the study of aging and age-related issues and the biological, sociological, and psychological (**bio-psycho-social**) factors that influence aging and old age. As a heath care professional, you will need to have a basic grasp of aging and age-related issues, which this text attempts to provide.

The first step to learning about issues that influence and affect old age is to consider what the term "old age" implies. Old age is a subjective concept that can change over time and depends on cultural and social considerations. What we thought of as old in the 19th century is considered middle age now. What we considered old when we were 15, will vary greatly from when we are 40 or even 75!

Researchers define age in ways that help them study age in their fields of interest. Public health and health policy leaders rely on defining old age by **chronological age** (i.e., the length of time a person is alive) to inform policy and programs. Countries, including the United States use ages 60, 62, or 65 as benchmark ages or age eligibility thresholds for policies that affect older adults. Health scientists find **functional age** (i.e., the level at which a person can perform) is more useful than chronological age in determining an individual's health status. Social scientists often group

older adults into age groups (e.g., ages 50–64, 65–74, 75–84, and 85+) that reflect similar life experiences and obligations, historical memories, and health problems within each group. Similarly, some researchers may apply terms to age groupings such as **young-old** (i.e., 50–64), **old** (i.e., 65–84), and **old-old** or oldest of old (ages 85 and older) to describe the stage of members in very late life. Within the old-old age group are two well-studied sub-groups—**centenarians** (i.e., persons at least 100 years old) and **super-centenarians** (i.e., persons at least 110 years old). How and why centenarians have been able to reach old age continues to be of great interest to scientists.

Whatever classification for age you choose to use in your work is a matter of preference, as long as you realize the limitations and variations implied by the term. A salient point to note and what is stressed throughout this text, is that there is a great amount of variability among older adults. Older adults are a heterogeneous group. Some individuals retain a sound mind and body into late life, while other persons do not. Some people remain financially secure, while other individuals fall into poverty. While the aging process is not a one-size fits all experience, the fundamental processes are shared by all.

Global Aging

Age, Sex, and Distribution

The world population is growing larger and getting older every year. The United Nations Department of Economic and Social Affairs (2017) reported that by mid-2017, the world population exceeded 7.5 billion people, an increase of 1 billion people since 2002. There are slightly more males than females (i.e., 102 males per 100 females) worldwide and they are distributed relatively equally across age groups as illustrated in **FIGURE 1-1**. As a group,

FIGURE 1-1 Worldwide population by sex and age group.

Reproduced from *The World Factbook 2017*. Washington, DC: Central Intelligence Agency, 2017. www.cia.gov/library/publications/the-world-factbook/index.htm.

females tend to live longer than males, explaining less decline in group size later in life. The median age (i.e., the age in which half of the population is above and below) of the entire world population is 30 years, which is also illustrated by the width of the age group bars in Figure 1-1.

Worldwide population growth is expected to remain steady as the population increases by approximately 83 million people each year. **TABLE 1-1** includes estimates for total population growth in 2030, 2050, and 2100 as well as population data by world region.

Conversations about world population can be more effective if the world is discussed by geographic regions, such as Africa, Asia, Europe, Latin America and the Caribbean, Northern America, and Oceania. Even though the governments and policies of countries within a single region may differ, their geographic location unites them by shared and common resources, climate, lifestyles, and cultures.

As shown in **TABLE 1-2**, 60% of the world population lives in Asia (4.5 billion). China and India are the most populated countries in the entire world and account for 90% of Asia's population. Within Asia, adults age 25–59 represent nearly half (48%) of the region's population (see Table 1-2). The second largest populated world region is Africa and it contains 17% of the world population (1.25 billion). Africa's population is relatively young with 40% of the population age 0–14 years. Only 5% of Africa's population is age 60+ years. Conversely, Europe (the third largest populated region) is the "oldest" region with 25% of its population representing adults age 60+ years and 16% of its population age 0–14 years. The population in Latin America and the Caribbean (646 million) is slightly less than Europe (742 million people), but one quarter of its population (25%) are 0–14 years old and it is home to half as many older adults (12%). Northern America, which includes the United States, ranks 5th in population size among regions and includes 361 million people. Only 22% of the North America population is 60+ years old. The least populated

TABLE 1-1 Population of World and Population by Region, 2017

Region	Population (in millions)			
	2017	2030	2050	2100
World	*7,550*	*8,551*	*9,772*	*11,184*
Africa	1,256	1,704	2,528	4,468
Asia	4,504	4,947	5,257	4,780
Europe	742	739	716	653
Latin America & the Caribbean	646	718	780	712
Northern America	361	395	435	499
Oceania	41	48	57	72

Data from United Nations, Department of Economic and Social Affairs. (2017). *World Population Prospects: The 2017 Revision, Key Findings and Advance Tables.* Working Paper No. ESA/P/WP/248.

TABLE 1-2 World Population and Population by Age Groups and Region, 2017

Region	Total Population (in millions)	Population by Age Group (%)			
		0–14	15–24	25–59	60+
World	*7,550*	*26*	*16*	*46*	*13*
Africa	1,256	41	19	35	5
Asia	4,504	24	16	48	12
Europe	742	16	11	49	25
Latin America & the Caribbean	646	25	17	46	12
Northern America	361	19	13	46	22
Oceania	41	23	15	45	17

Data from United Nations, Department of Economic and Social Affairs. (2017). *World Population Prospects: The 2017 Revision, Key Findings and Advance Tables.* Working Paper No. ESA/P/WP/248.

region is Oceania, which is home to 41 million people; 17% of whom are age 60+ years.

The population differences by region illustrate the fact that population size alone does not predict the age composition of a population. Instead, demographers look to three key and interrelated factors: fertility rate, longevity, and migration.

Fertility Rates

The number of older adults in the world today is directly connected to the **total fertility rate** (TFR; i.e., the average number of live births a child-bearing women would have in her lifetime) at the time they were born. In the 1950s, the TFR in the regions of Africa, Asia, Latin American and the Caribbean was approximately five live births per woman, a veritable population explosion when compared to Europe's TFR, which was less than three lives births per woman during the same years. Consequently, countries that experienced a high TFR in the mid-20th century are now faced with a growing economically inactive (i.e., retired or not working) older population that needs to be supported. Countries that experienced a low TFR at the same time, now tout a smaller aging population and are likely to be in a better position to provide members with economic and physical support.

War can dramatically impact TFR. During wartime, live births decrease because men and women are sent away from home to fight. However, post-war economies often generate socioeconomic growth that supports marriages, births, and an increased TFR. After World War II, the TFR skyrocketed in the United States and the large number of babies born between 1946 and 1964 have been subsequently referred to as members of the **baby boom generation**. Like the United States, South Korea also had a baby boom that is now entering old age. However, the years of birth for Korea's baby boomers (1955–1963) began

with the end of the Korean War and not World War II (Howe, Jackson, & Nakashima, 2007).

By tracking fertility rates in a region, policy makers and service providers can better predict the needs of a population and prepare for change. When countries experience sudden changes in fertility rates, it dramatically affects the population balance. For example, South Korea is the fastest growing aging society. It doubled its aging population from 7% (1999) to 14% (2017) in just 18 years and it continues to rise at a rapid rate (Klassen, 2010). Perhaps more troublesome is that the TFR in South Korea is the lowest in the world at 1.25; meaning that the population is barely able to replace people who die (referred to as the fertility replacement rate). Declining birth rates are expected to dramatically impact the size and productivity of the South Korean labor force and the national economy. Simply put, when older adults stop working, there will be few workers to replace them. One fear is if South Korean industry leaders are faced with a decreasing labor pool, they may seek laborers and manufacturing deals in neighboring countries, further reducing the nation's productivity. Moreover, the South Korean government faces challenges in meeting increased healthcare costs and the need to develop a system of services and supports to address the needs of the growing older population.

In 2017, the country with the oldest population was Japan. One-third (33%) of its residents were age 60+. Japan was closely followed by Italy, (29%), Germany (28%), and Portugal (28%). Each of these countries also represents developed societies (i.e., high socioeconomic development) that boast high gross domestic products (GDP; i.e., the value of everything produced in a country) per capita (i.e., per person). By maintaining a high GDP, a country is better positioned to access, maintain, and provide resources, economic trade, and opportunities, which contribute to population health and **longevity** (i.e., the length of time lived).

Still, GDP ranking is not enough to predict if a county has a large aging population. In 2017, the top five developed countries with the highest GDP per capita included the small governments of Qatar, Luxembourg, Macao, Singapore, and Brunei. The total populations of these countries were significantly different: 2.2 million, 590 thousand, 650 thousand, 5.6 million, and 423 thousand residents, respectively. Moreover, the percentage of the population aged 60+ in each country also varied considerably, ranging from 3% to 20%. Thus, wealth is also not a predictor for identifying if a country has a large population of older adults, even if that wealth can help provide services and products that promote longevity.

Longevity

Maintaining a healthy population across the **lifespan** (i.e., the period from birth to death) is directly influenced by access to health care (including pre-natal care), public sanitation, a well-balanced diet, education, and safe and secure communities. **Life expectancy** (i.e., the length of time a person is expected to live) is further influenced by the historical time in which a person lives, environment factors such as air and water quality, and any social and behavioral factors that affects the population such as smoking, obesity, homicide, and war.

Worldwide, life expectancy at birth is currently 70.8 years, an increase from 67.2 years since 2000. The greatest increases across world regions have occurred in Africa, which showed an increase of 6.6 years in the same period, after increasing less than 2 years in the prior decade. Despite the rapid increase, life expectancy in Africa is now just 60.2 years. The highest life expectancy is in Northern America (79.2 years) followed by Oceania (77.9 years), Europe (77.2 years), Latin America and the Caribbean (74.6 years) and Asia (71.8 years). When comparing population size with life expectancy, it become clear that population size alone does not translate to higher life expectancy. Clearly, other factors are at play.

Population Health

Obesity is becoming an epidemic health concern throughout the world with proportional increases in weight across all age groups and educational levels (Samper-Ternent & Al Snih, 2012). According to the World Health Organization (2017), the prevalence of obesity has tripled worldwide from 1975 to 2016, and is responsible for the deaths of at least 2.8 million people annually. The U.S. population leads the world in obesity for both men and women (see **FIGURE 1-2**). By 2015, residents 50–74 years old had significantly poorer health with multiple health conditions compared to their British and European counterparts including hypertension, heart disease, diabetes, cancer, lung disease, and mobility impairments (National Institute on Aging, National Institutes of Health, & World Health Organization [2011]).

Since the 1980s, HIV/AIDS has been a worldwide health concern that is often overlooked in association with older adults. Human immunodeficiency virus (HIV) is a virus, which once acquired can be treated, but cannot be eradicated from the body. If left untreated, HIV can develop into acquired immunodeficiency syndrome (AIDS). Antiviral therapies (ART) have improved dramatically in effectiveness and can now control HIV so that it does not develop into AIDS. Persons affected can live long, relatively healthy lives with the virus largely under control (Centers for Disease Control and Prevention, 2017). About half of persons infected are already older than age 50 (Mills, Bärnighausen, & Negin, 2012). Undeveloped countries have not fared as well, especially sub-Sahara African countries where the prevalence of HIV among persons age 50+ is expected to exceed 10% by 2025. Moreover, persons over age 50 with HIV and receiving ART, still have a 30% higher risk of dying within 4 years compared to younger patients.

To combat population health problems, Mills et al. (2012) suggest that the world needs more geriatric clinicians. They are few in number in the United States and absent in many regions of the world. Training needs to include better geriatric training, improved rehabilitation services, and prevention outreach services to improve older peoples' ability to avoid disease and cope living with their health problems.

Migration

In addition to fertility rates and life expectancy, population size is influenced by migration patterns. In peaceful times, immigrants enter a country to gain education, engage in business, or to live with family members who have already relocated. Most countries have processes and procedures in place to regulate this form of immigration. Some immigrants stay for short periods of time, while others seek and obtain citizenship. A challenge for any society is when residents of a war-torn country or a country undergoing political unrest, want to leave and make their home in a neighboring country, as has been the case with Syrian refugees. As of 2015, an estimated 4.2 million people have fled the civil conflict in Syria and 2.2 million have settled in Turkey (Tumen, 2016). More often than not, immigrants are young adults with young families or with the intention of sending for them after getting settled. The persons left behind are people least able to support themselves and their communities such as women and children, older adults, poor people, and persons with disabilities.

The effect of mass migration on the departure and arrival countries can be staggering. Mass migration of a population places a strain on local and national economies, social services, housing, education, public health, and sanitation. In countries receiving large numbers of immigrants, the economy is unlikely to have job openings for all the new arrivals, resulting in increased enrollments in the public welfare system. In the country left behind, the future is also not bright for the persons who remained. The workers who used to support the economy and pay taxes to support community infrastructure (e.g., roads, hospitals, schools, and health care) are no

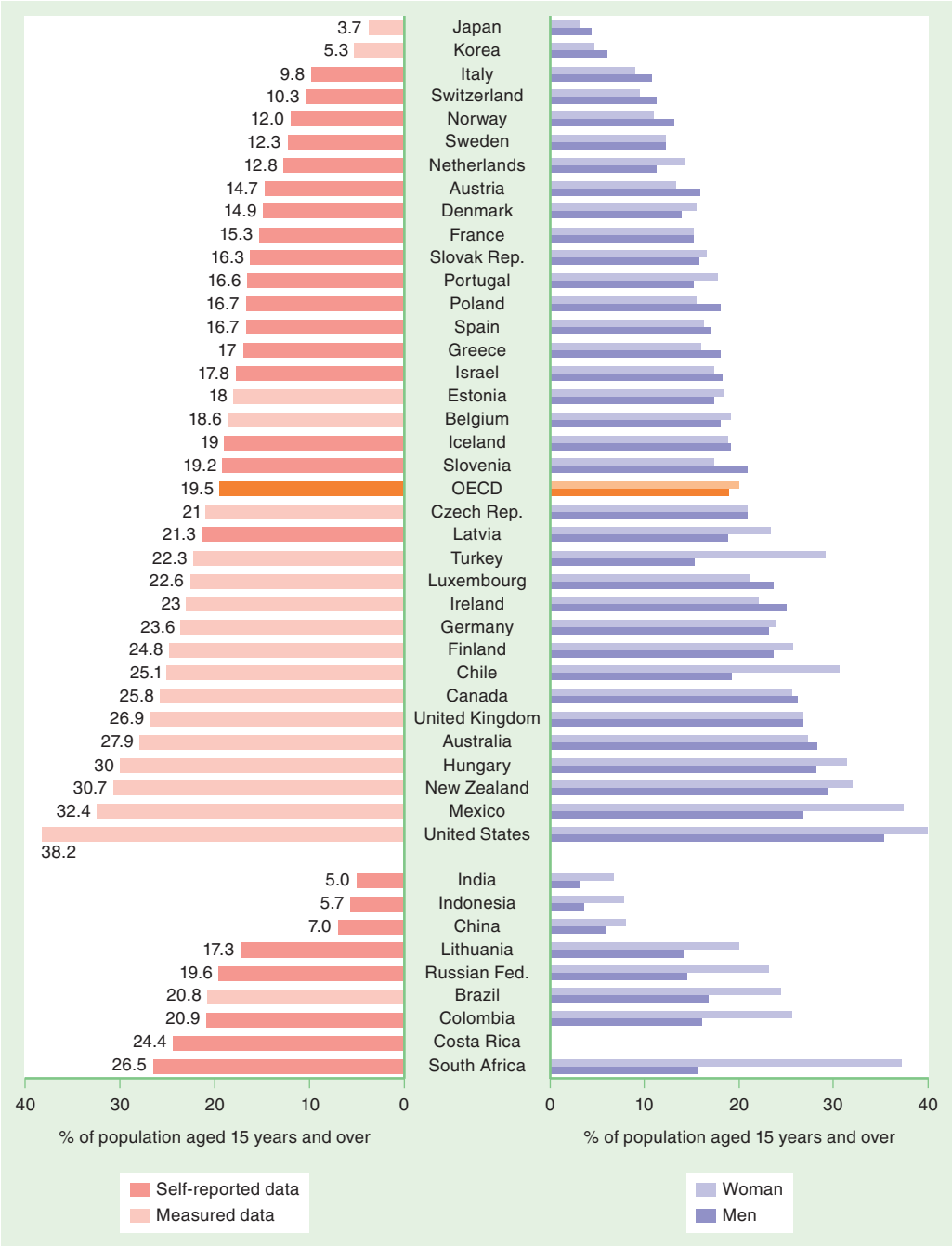

FIGURE 1-2 Obesity rates by country, 2015 or nearest year.

Data from OECD. (2017). Obesity update 2017. OECD Health Statistics. Retrieved from www.oecd.org/els/health-systems/Obesity-Update-2017.pdf.

longer contributing. The transactions of goods and services may stop. Older adults, who once depended on a state pension, may suddenly have no income. Without a large infusion of capital and manpower, many communities left behind after war and conflict simply fall apart and the population becomes impoverished and left with little hope for a better future.

Recognizing the influences on population size and health is needed to understand what it takes for people to age successfully. Gerontologists use population information as a guide to explore what it takes to provide a quality of life at the individual, societal, national, and global levels. A brief discussion about successful aging and quality of life is at the end of this chapter.

Aging in the United States

Age and Age Groups

The U.S. Census Bureau estimated that the national population in 2016 was slightly more than 323 million people (Federal Interagency Forum on Aging-Related Statistics, 2016). The median age in the United States was 37.9 years, seven years higher than the world population median age. Among the 50 states, Maine had the oldest population with a median age of 44.5 years, while Utah had the youngest populations with a median age of 30.7 years (Statista, 2017). The average life expectancy in the United States for both sexes in 2016 was 78.8 years.

In 2016, adults age 65 and older made up 15.2% of the population, an increase of 0.3% from the previous year. As aforementioned, members of the baby boom generation were born from 1946 to 1964 and include approximately 76 million people. The individuals born in 1946 started turning age 65 in 2011. Since then, approximately 10,000 adults turn age 65 each day until 2029. Therefore, it is important to any analysis of the older population to include members born in all years of the baby boom generation, even if they have yet to reach age 65, as the sheer number of adults reaching old age will impact social policy and services.

In 2016, the percentage of adults by age breakdown was as follows:

- Age 45–54 (13.3%)
- Age 55–64 (12.8%)
- Age 65–74 (8.9%)
- Age 75–84 (4.4%)
- Age 85+ (1.9%)

Geographic Distribution

Older adults live in communities all across the United States. Some individuals live in the same towns where they were born and raised, and other individuals relocate several times during their lives, even in late life. Not surprisingly, where the older population resides in the United States is heavily influenced by the economy, health, and weather.

The outmigration of young adults due to poor job and economic prospects has left some regions with increased numbers of older adults. When industries fold and are not replaced with new industries drawing on the same labor force, individuals tend to seek work in other regions thus, leaving the non-active workforce behind. The density of older populations in post-industrial areas, such as Appalachia and the Midwest shown in **FIGURE 1-3**, help emphasize the effect of outmigration.

Older adults who migrate to new regions in the country, generally do so after retiring from the workforce. The pull of a new community is generally tied to several factors: a lower cost of living than the pre-retirement community, warmer and drier climate, and proximity to friends and family. As can be seen in Figure 1-3, the warmer climes of Florida, Arizona, and southern Utah draw older persons and thus, have dense older populations. Florida has long been known for its older demographic. Eighty percent of Florida counties (i.e., 53 of 67) have an above average proportion of older adults. In Sumter County more than half of its residents are reportedly age 65+. In 2010, the southern

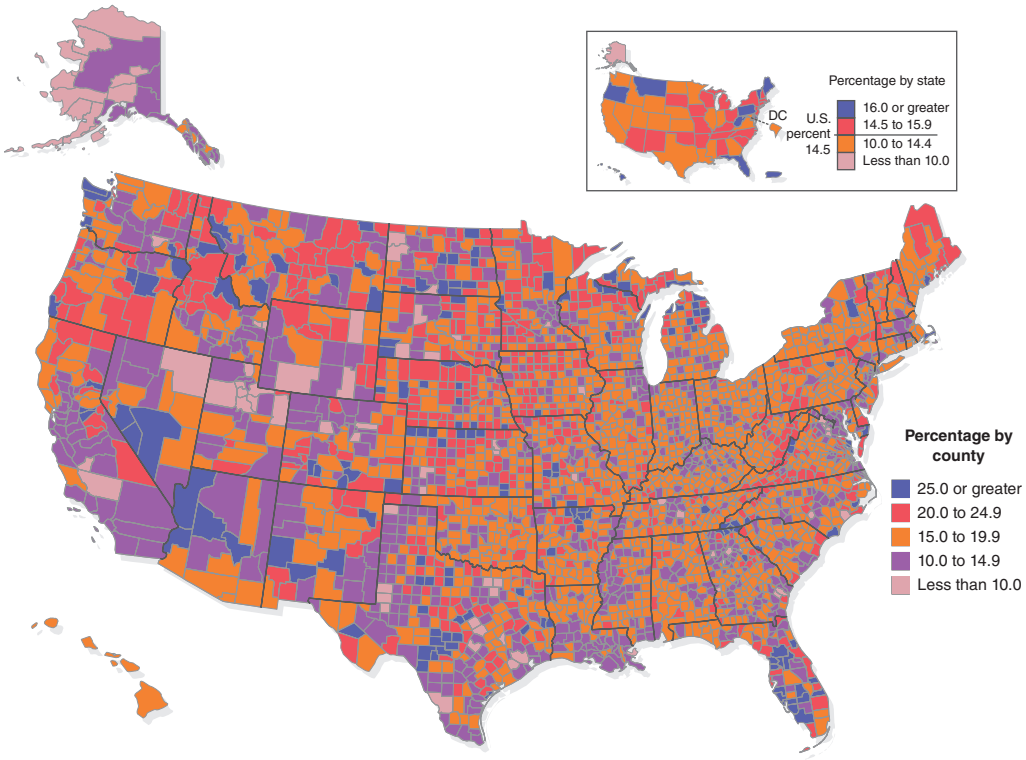

FIGURE 1-3 Percentage of population age 65+ by county and state in the United States in 2014.

Data from U.S. Census Bureau, Annual Estimates of the Resident Population for Selected Age Groups by Sex for the United States, States, Counties, and Puerto Rico Commonwealth and Municipios: April 1, 2010, to July 1, 2014 (PEPAGESEX).

regions of the U.S., had the largest number of individuals over age 65 whereas the northeast had the largest proportion of persons over age 65 (Statista, 2017).

However, not all persons relocate permanently to warmer states. The term **snowbirds** refers to older adults who move south for the winter to avoid the cold weather at home and all the heating bills and snow removal that accompany living in the cold. Many snowbirds make the trek south for a few years before settling down permanently in the south, while other snowbirds only want it to be an annual winter trip.

Sex

In contrast to the world population composition, in 2016, there were more females than males in the total U.S. population (i.e., 100 females per 96.9 males, or 50.8% females to 49.2% males). The gap widened between the sexes by age 65 with even fewer males (44.1%) than females (55.9%). Historically, this difference has been attributed to better health and health care among females, although with the rise in obesity, heart disease, and tobacco use in females, the gap has narrowed.

Race

The racial diversity of the older population in the United States is less diverse than that of the entire population and the younger population. Older adults are predominately White (78%) and non-Hispanic (92%). Only 9% of older adults are Black and 4% are Asian. This can be explained in part by the fact that the immigration rates of non-White and Hispanic populations into the

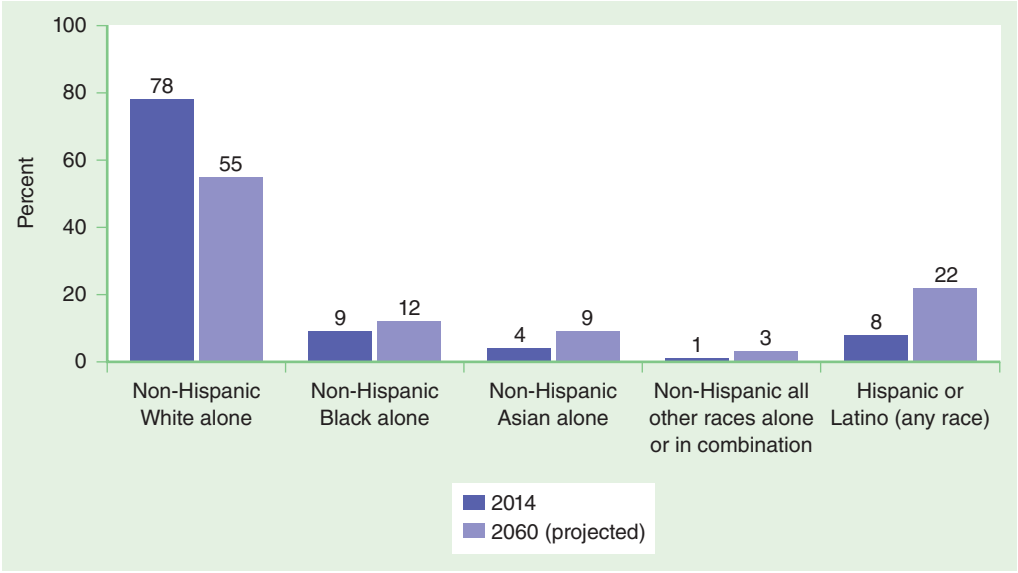

FIGURE 1-4 Older U.S. population by race and Hispanic origin.

Federal Interagency Forum on Aging-Related Statistics. (2016). *Older Americans 2016: Key Indicators of Well-Being*. Federal Interagency Forum on Aging-Related Statistics. Washington, DC: U.S. Government Printing Office.

United States were much lower when today's older adults were young, and today's older immigrants of color are not numerous enough to influence the national data. It is also important to remember that interracial marriages were illegal at the time many of today's older adults were getting married, so they were unlikely to marry outside of their race. The racial profile of older adults in 2014 is illustrated in **FIGURE 1-4**.

Marital Status

An important influence on quality of life and well-being are social relationships, including marriage. Because there are more women than men and women tend to live longer than men, it stands to reason that a higher percentage of older men are married than older women. In 2015, among adults age 65–74 years, about 74% of men were married although only 58% of women of the same age were married. The increased rate of married men continues across age groups (see **FIGURE 1-5**). Not surprisingly, more women than men were widowed. Seventy-three percent of women age 85+ years were widowed compared to 34% of men of the same age. What remains relatively consistent across age groups and sex are the rates of never married adults (3–6%) and divorced adults (6–17%). At the time of this writing, there is no reliable national relationship data on same sex marriages or partnerships among older adults.

Living Arrangements

One's living arrangement can also have a significant impact on health, quality of life and well-being. In 2015, 70% of men lived with a spouse yet, only 45% of women lived with a spouse. Expectedly, women were more apt to live alone (36%) than were men (20%). However, the trend for living alone has begun to decline after a fivefold increase (6–29%) from 1900 to 1990 (Stepler, 2016). Older persons of color are more apt to live alone than older White adults. Specifically, 46% of older Black women lived alone, and older Black men live alone three times more often than older Asian men. However, older men of color were more apt to live with relatives than their White

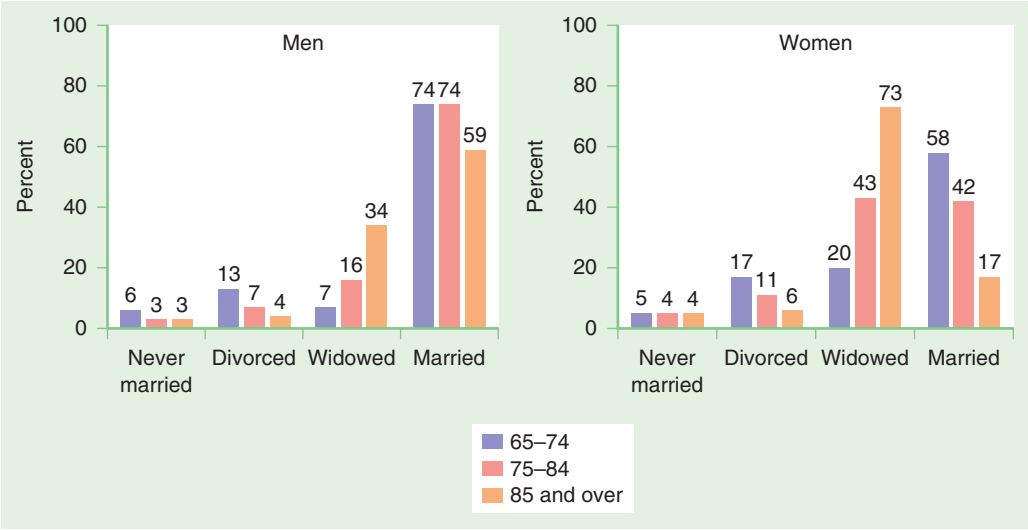

FIGURE 1-5 Marital status of older adults in the United States by sex and age group, 2015.

Federal Interagency Forum on Aging-Related Statistics. (2016). *Older Americans 2016: Key Indicators of Well-Being.* Federal Interagency Forum on Aging-Related Statistics. Washington, DC: U.S. Government Printing Office.

counterparts. Approximately 14% of Black and Hispanic men of color lived with a relative other than a spouse compared to only 4% of While men doing the same. Older people living alone are three times as likely to live in poverty and less likely to view their economic status as "living comfortably" (Stepler, 2016).

Economic Status

Poverty

The economic status of older Americans is more varied than any other age group. Poverty among older adults was such a serious problem by the mid-20th century that in 1964 it was integrated into President Lyndon B. Johnson's War on Poverty legislation. This led to federal implementation of the Older Americans Act in 1965 in an effort to lift older citizens out of poverty. In 1966, 29% of people age 65+ years lived below the federal poverty threshold and 18% of children were deemed impoverished. By 2014, the rate for older adults in poverty dropped to 10–12% (depending on the measure used), although the rate for children has hovered around 20% (see **FIGURE 1-6**).

Poverty in late life is experienced differently by gender, age, and race. Not only are older women likely to live alone, they are more apt to live alone in poverty (12%). Moreover, as time passes, the chances of an older adult becoming impoverished increases. In 2014, the overall poverty rate for adults age 65+ years was 9%, compared to 12% of adults ages 75 and older experiencing poverty.

Persons of color experience greater rates of poverty than White men (5%) and women (10%). In 2014, older Black men, Hispanic men, and Asian men experienced poverty rates of 17%, 16%, and 13%, respectively. Yet, older women of color still experience the highest rates of poverty in late life. Older Black women (21%) and Hispanic women (20%) are four times as likely to be in poverty as older White men and twice as likely as older White women. Older Asian women (16%) experience poverty at nearly the same rate as Asian men yet, their rate is still triple the rate of older White men. Lifting older adults out of poverty is connected to the provision

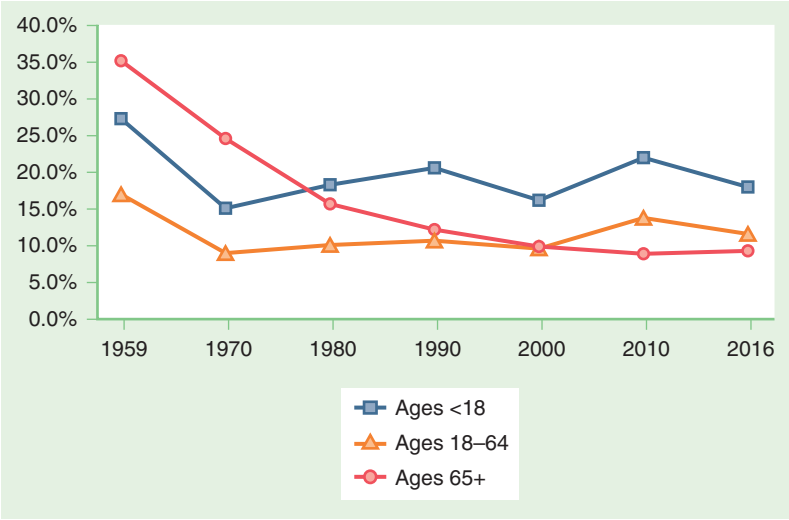

FIGURE 1-6 Poverty rates in United States over time.

Semega, J. L., Fontenot, K. R., & Kollar, M. A. (2017). *Income and poverty in the United States: 2016*. Report Number: P60-259. Washington, DC: U.S. Government Printing Office.

of need-based supplementary programs and services, discussed further in Chapter 6.

Income

Personal and household incomes of older adults are as diverse as they are among younger people. Due to many economic factors, the median income of older adults has risen in the past 40 years. In 1974 median income was reportedly $22,921 (in 2014 dollars) and by 2014, it reached $36,895. As **FIGURE 1-7** illustrates, the distribution of wealth among older adults is diverse. Using the federal poverty level as an income baseline, low income adults are identified as receiving income 100–199% above the poverty level, middle income adults receive 200–399% above the poverty level, and high income older adults receive income at least 400% above the poverty level.

Sources of Income

Variation in income size is reflective of the sources of income (e.g., personal savings, investments, retirement pensions, and Social Security). In 2014, nearly half (49%) of all households (including 86% of all older adults) received Social Security (i.e., an entitlement program that workers pay into and draw from upon leaving the workforce; see Chapter 6). By age 80, 90% of older adults receive Social Security. Less than half (41%) of older adults received income from a private retirement pension or annuity, and only 18% received income from a public pension fund. Selling or cashing in personal assets also provides a source of income and more than two thirds (67%) of older adults receive income from their assets. Conversely, 13% of older adults had little to no assets to draw upon and received public assistance (i.e., cash and non-cash) to supplement their income.

FIGURE 1-8 displays a chart comparing the sources of income by dividing the older population into quintiles (i.e., five graduated income categories with equal numbers of adults in each). The visual helps demystify the sources older adults rely upon for their incomes. Clearly, individuals with lower incomes rely more on Social Security than persons in the higher income groups.

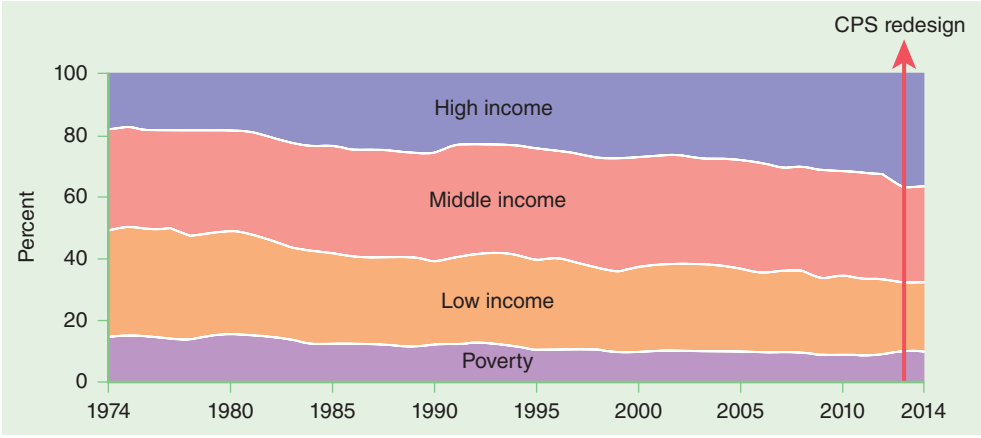

FIGURE 1-7 Income distribution in the United States among older adults, 1974–2014.

Federal Interagency Forum on Aging-Related Statistics. (2016). *Older Americans 2016: Key Indicators of Well-Being.* Federal Interagency Forum on Aging-Related Statistics. Washington, DC: U.S. Government Printing Office.

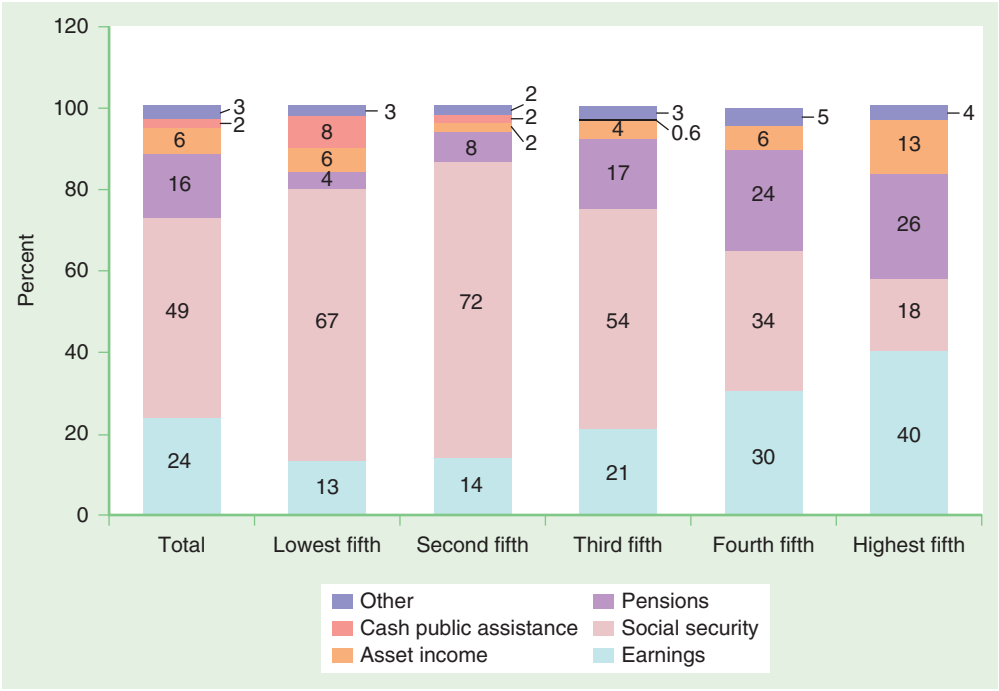

FIGURE 1-8 Percentile distribution of per capita family income for persons age 65+, by income quintile and source of income, 2014.

Federal Interagency Forum on Aging-Related Statistics. (2016). *Older Americans 2016: Key Indicators of Well-Being.* Federal Interagency Forum on Aging-Related Statistics. Washington, DC: U.S. Government Printing Office.

Work and Retirement Status

Not all older adults leave the labor force once they reach age 65 or retire. Continued employment in some form can provide additional income, opportunities for socialization, and feelings of self-worth and contribution, which all contribute to improving quality of life and well-being. Approximately 29% of older adults have no retirement savings or pension plan (United States Government Accountability Office, 2015), which forces many people to continue to be active in the workforce. As illustrated in **FIGURE 1-9**, rate of participation of older adults in the workforce is expected to rise, whatever the reason .

Although finances are a leading factor for returning to or remaining in the labor force, other reasons cited for continuing to work included: boredom or extra time to engage, sought out by employer to train or mentor younger workers, and personal enjoyment and fulfillment (Tamburo, 2017). Additional information on work and retirement is presented in Chapter 2.

Health Status

The health of older Americans is frequently discussed in terms of the **incidence** (i.e., the number of new cases reported) and **prevalence** (i.e., the total number of cases reported) of chronic health conditions and communicable diseases, functional limitations, vaccination rates, and self-reported health status.

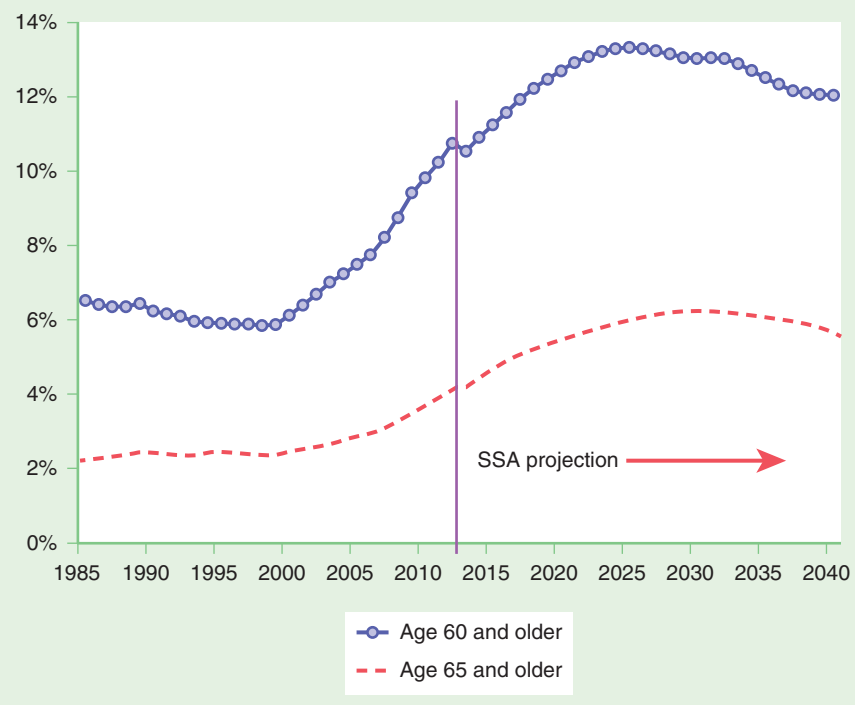

FIGURE 1-9 Percentage of older employed population age 60+.

Data from Burtless, G. (2013). *The impact of population aging and delayed retirement on workforce productivity.* (CRR WP 2-13-11). Chestnut Hill, MA: Center for Retirement Research.

Chronic Health Conditions

Chronic health conditions, such as heart disease, stroke, cancer, diabetes, and arthritis, are among the most costly health conditions to treat. Moreover, they are preventable if an individual commits to change the behaviors that lead to the condition. Multiple chronic health conditions are experienced by the majority of older adults; co-morbid conditions (i.e., multiple conditions at the same time) directly contribute to frailty and disability (see **FIGURE 1-10**).

In 2014, the most frequently occurring health conditions for non-institutionalized older adults were uncontrolled hypertension (55.9%), diagnosed arthritis (49%), heart disease (29.4%), cancer of any type (23.4%), diabetes (20.8%), asthma (10.6%), and stroke (7.9%). Differences in prevalence rates between men and women were small. However, prevalence rates by race and ethnicity varied greatly for some conditions. White men and women led other races and ethnicities in the prevalence for heart disease (30.7%) and cancers (26%). However, Black men and women experienced hypertension (70.6%), stroke (10.6%), and diabetes (31.1%) more than other groups. Older adults of Hispanic origin (regardless of race) also had diabetes (32.3%) more often than other non-Hispanic racial and ethnic groups.

Functional Limitations

Functional limitations can be debilitating and thus, impact quality of life and well-being. In 2014, 22.6% of older adults reported a functional limitation that disabled them even if they used corrective devices (e.g., hearing aids, eyeglasses). More precisely, prevalence rates in functional limitations that created a disability (for both sexes and all races) included mobility (17.1%), hearing (4.2 %), vision (3.3%), self-care (3.0%), cognition (2.7%), and communication (1.2%).

Racial and ethnic differences emerged across some types of functional limitations. Specifically, non-Hispanic Black men and women were more likely to experience a disability in mobility (20.6%) compared to Hispanic older adults (16.9%) and non-Hispanic White older adults (13.3%). Additionally, Hispanic (4.6%) and non-Hispanic Black (4.0%) older adults were more than twice as likely

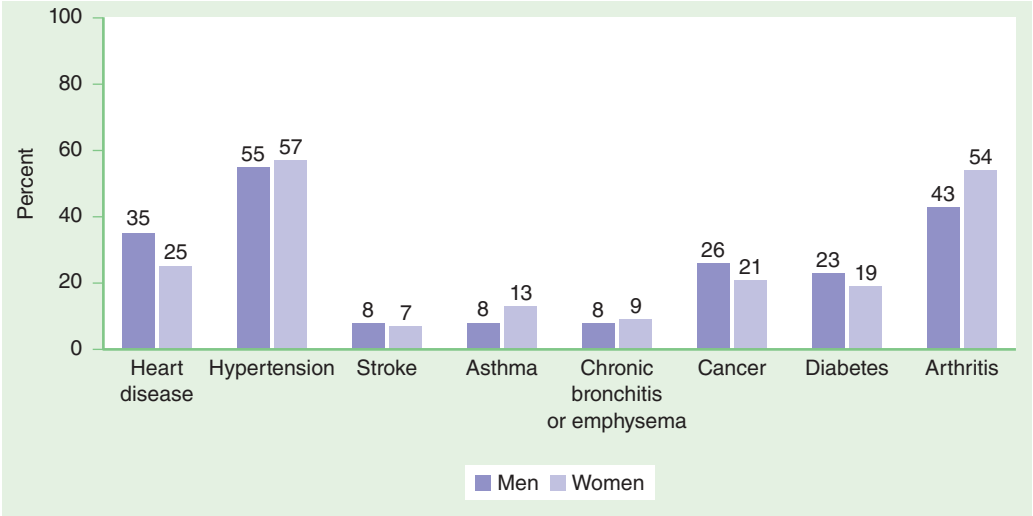

FIGURE 1-10 Percentage of people age 65+ who reported selected chronic conditions, by sex, 2013–2014.

Federal Interagency Forum on Aging-Related Statistics. (2016). *Older Americans 2016: Key Indicators of Well-Being*. Federal Interagency Forum on Aging-Related Statistics. Washington, DC: U.S. Government Printing Office.

as non-Hispanic White (1.7%) older adults to have a disability with cognition. An overview of the functional limitations older adults can face at the individual level is presented in Chapter 9.

Vaccinations

Vaccinations against influenza and pneumococcal disease are critical to maintaining health in late life. A compromised or weakened immune system has trouble combating disease and if infected, can lead to death. One preventive measure undertaken frequently by local healthcare systems, public health departments, and pharmacies is to offer free vaccination clinics each autumn as a strategy to get older adults inoculated. In 2014, 70.1% of older adults reported being vaccinated against influenza and 61.3% were vaccinated against pneumococcal disease. Historically, Black men and women have been far less likely to receive an influenza inoculation than White men and women. In 2014, only 57.4% of Blacks and 60.5% of Hispanics (of any race) received an influenza shot compared to 72% of non-Hispanic White older adults. The disparity suggests continued and alternative education and outreach efforts need to target persons of color.

Self-Rated Health

Despite the high prevalence of chronic health conditions and diseases in the second half of life, many older adults do not perceive that their health is bad or problematic. In 2014, 77.5% of older adults rated their health status as either good or excellent. Even 68.1% of persons age 85+ rated their health status as good or excellent. The reason older adults frequently rate their health higher than the people around them might rate it is because they tend to compare their ability to function against the functional abilities they see in other people of their own age. As a result, everyone knows someone who is worse off, so they themselves must be doing well!

Caregivers

For many older adults, there comes a time when they need help with their **activities of daily living** (ADL; i.e., bathing, dressing, eating, toileting, and mobility) and **instrumental activities of daily living** (IADLS; housework, preparing meals, using a telephone, managing money, or shopping). Family caregivers frequently fulfill that role as an act of filial responsibility (or family obligation). Family caregivers are referred to as **informal caregivers** because they provide services without compensation.

Both care recipients and caregivers tend to be female (65% and 75%, respectively). Daughters (including biological daughters, step-daughters, and daughters by marriage) account for 19% of informal caregivers, followed by other relatives (22.3%), and spouses (21.2%). While the average age of the caregiver is 49.2 years, 35% of caregivers are age 65 or older. The average caregiver provides over 24 hours of care per week, and nearly one-fourth (24%) of caregivers provide care for more than 5 years. Fifteen percent of all caregivers provide care for at least 10 years.

Informal caregivers for persons with dementia (including Alzheimer's disease) provide on average, nine hours of service per day of care. Caregiving tasks include assistance with ADLs, IADLs, advocating for services and supports, and decision making on behalf of the care recipient (Family Caregiving Alliance, 2016). The challenges and stresses related to taking the responsibility for caring for a person with dementia are well documented as highly stressful and can negatively impact the health and well-being of the caregiver. In response, caregiver support groups and workshops are available to help caregivers cope successfully and maintain their own health.

If caregivers simply stopped performing caregiving tasks, the resultant demand for services and supports would overload the healthcare system in the United States. In 2013, the value of unpaid caregiving services was estimated to be 470 billion dollars! That estimate is

more than was reimbursed in the same year for Medicaid and home and community-based services combined (Family Caregiving Alliance, 2016). More information about the types of home and community-based services available in the United States is provided in Chapter 5.

Long-Term Care Services

In 2014, approximately 9 million people (including older adults and young persons with extensive physical impairments and disabilities) were provided long-term care services through multiple service venues that included adult day service centers, home health agencies, hospice centers, nursing homes, assisted living facilities, and residential care communities that offered services and supports needed to function in daily life. Since 1966, when federal service programs (e.g., Medicare and Medicaid) were introduced, the number of older adults accessing services and supports has more than tripled from 2.5 million to 9 million. The workers employed by organizations offering such services are referred to as **formal caregivers** because unlike family caregivers, they are paid to deliver care.

Among the 9 million care recipients, approximately 1.2 million adults age 65 and older lived in nursing homes (Administration on Aging, 2015). Although this number includes only 1% of persons ages 65–74 years, it increases to 10% of persons age 85+. Overall annual resident rates usually include 5% or less of the general older population. Eligibility for nursing home admission is determined by an assessment of personal health needs, functional limitations, limitations with ADLs and IADLs, and available resources and supports in the community. Adults age 85 and older represent the fastest-growing segment of the population needing nursing home care and 25% are eligible for placement. Understandably, adults of that age are typically in declining health, have growing unmet needs, and dwindling resources. However, the number of nursing home beds is increasing at half the rate needed to meet the demands of this expanding age group and the need is expected to increase as baby boomers reach late life.

Older adults who become long-term residents of nursing homes will, on average, spend all their savings and assets within one year (Tamburo, 2017). In 2017, the average estimated costs for nursing home care was $235 per day ($85,775 per year) for a shared room, with the lowest costs for care in the south and mid-west ($165 per day; $60,225 per year) and the highest costs in the northeast ($350 per day; $127,750 per year; American Elder Care Research Organization, 2017). Once personal funds are depleted, a resident may become eligible for public assistance such as Medicaid, which helps pay for some care. In 2013, 62.9% of all nursing home residents were paying for their care using Medicaid.

Considering the sharp increased demand ahead for home and community-based care and institutionalized care, the question on the minds of all policymakers and service leaders is, "Where will the funds come from to continue funding long-term care services and supports?"

Death

Older adults generally experience health co-morbidities as they age and each health challenge affects another in some way. However, discussions about national mortality statistics necessitate that deaths are attributed to the primary cause of death listed on the death certificate and not to multiple health diagnoses. This can pose challenges in analyzing causes of death when an individual has been diagnosed with a primary health problem (e.g., Alzheimer's disease or cancer) but dies from another (e.g., heart failure). In response, international rules of reporting deaths have been implemented to provide a system that will provide the most accurate profile of mortality as possible, while recognizing caveats in reporting.

Causes

The negative health impacts of chronic health conditions include death. In 2014, the six leading causes of death for persons age 65 and older included conditions and diseases that can be controlled to some extent through healthy behaviors. As shown in **TABLE 1-3**, heart disease was the leading cause of death in 2014, followed by cancer, chronic lower respiratory disease, stroke, Alzheimer's disease, diabetes, unintentional injuries, and influenza and pneumonia.

When compared to rates in 2000, death rates in 2014 declined by about 20% for all causes except Alzheimer's disease and unintentional injury, which both rose. Rates for Alzheimer's disease increased in part due to improved diagnosis and reporting. Historically, a diagnosis of Alzheimer's disease was confirmed only upon autopsy of the brain after death. Therefore, the inclusion of Alzheimer's disease on death certificates, from which this data was collected, was likely more limited in 2000 than today.

Mortality from heart disease and cancer does not differ a great deal by sex, race, and ethnicity, although, differences do exist for some other causes of death. Specifically, diabetes is the fourth highest cause of death for non-Hispanic Black older adults (212 per 100,000) and Hispanic (all races) older adults (155 per 100,000) yet, is the seventh highest cause of death for non-Hispanic White older adults (106 per 100,000).Women had higher rates of death from Alzheimer's disease (222 per 100,000) than men (161,000 per 100,000), although, men experienced higher rates of death from unintentional injuries (131 per 100,000) than women (36 per 100,000).

Knowledge about causes of death helps us better understand life. Information about mortality can be used to develop interventions to delay or prevent health challenges, especially if we can connect them to client behaviors and habits. Our ability to "connect the dots"

TABLE 1-3 Leading Causes of Death Among U.S. Adults Aged 65 or Older in 2000, 2014

Cause of Death	2000 Rates of Deaths (per 100,000)	2014 Rates of Deaths (per 100,000)
Heart disease	1,707	1,062
Cancer	1,124	915
Chronic lower respiratory diseases	305	277
Stroke	426	247
Alzheimer's disease	141	200
Diabetes	150	119
Unintentional injury	89	105
Influenza and pneumonia	169	97

between the bio-psycho-social influences in our clients' lives, will help us support them to age successfully and enjoy a quality of life.

Aging Successfully

Successful Aging

The concept of **successful aging** was first introduced over 50 years ago in response to negative social beliefs about age and growing older. In 1987, Rowe and Kahn took a bio-psycho-social approach to develop their model for successful aging (Rowe & Kahn, 1997). The model included three key factors representing each domain. Rowe and Kahn proposed that individuals aged successfully if they:

- Lived free of disease and disability
- Retained high cognitive and physical abilities
- Maintained meaningful interactional social relationships

Each of the three domains interfaced with the other two. At first blush, the model seems ideal as it represents the best of a bio-psycho-social approach. However, critics argue that the model dismisses and diminishes people who do not live free of disease and disability, have low cognitive and physical abilities, or cannot maintain social relationships. Are we to conclude that they cannot and will not age successfully? Moreover, by what standards should society judge a person's ability to age successfully? Researchers continue to modify the model to address the criticisms and adapt the model to include other factors including spirituality. The overall concept is valid, yet for many researchers the focus of successful aging should focus more on quality of life.

Quality of Life in Old Age

Quality of life (QOL) is another subjective construct that is difficult to measure. Yet, researchers are in general agreement that it is influenced by the topics presented in this text, including but not limited to personal characteristics, living arrangement, physical and mental health status and health issues, social relationships, sexuality, and outlook on life. Because there is a lot of variance in rating quality of life, it is easy to understand how everyone can have a different sense of what it means.

The idea of living a quality life in old age is often dismissed by people who view it as a time of decline and suffering. Advertising campaigns, television, and social media tend to focus on "suffering" in old age (e.g., dementia, depression, cancer, arthritis, stroke), while ignoring evidence that people can live well and happily even with health problems. A recent study of centenarians found that a significant proportion of the oldest-old (over age 80) have lived with chronic health conditions (associated with the condition of "suffering") for decades. However, the majority of older adults do not "suffer" through life but rather learn to live well in spite of pain or bodily restrictions (Terry, Sebastiani, Andersen, & Perls, 2008). The word "suffer" should be used less frequently and only in regards to individuals who truly cannot enjoy life due to irascible pain or anguish. The vast majority of older adults do not fit into this mold.

Quality of life and what it means to individuals has been studied in different cultures around the world (Molzahn, Kalfoss, Makaroff, & Skevington, 2010). Findings indicated that older adults in developed countries often citied general health and attributes of physical health such as sleep quality, energy, and being free of pain as essential to having a good QOL. In contrast, older adults in less developed countries cited energy, happiness, and home environment as positive contributors to their QOL. Results from a study in the United States on QOL (Pew Research Center, 2013) showed that QOL cannot be tidily defined by older adults. **FIGURE 1-11** includes some of the indicators found to be important to U.S. older adults in achieving a good QOL.

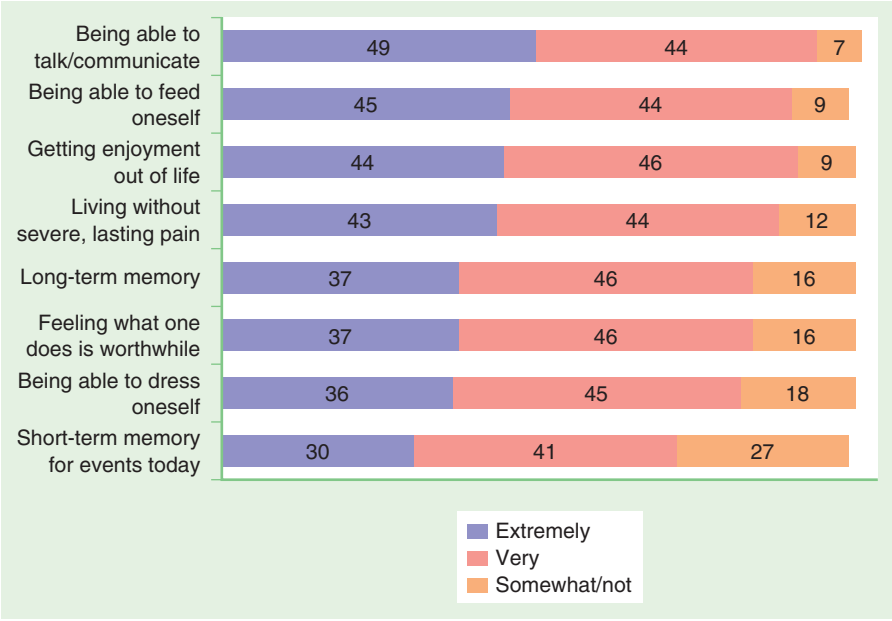

FIGURE 1-11 Quality of life indicators in old age. Percent of U.S. adults who say each of these is important for a good life in old age.

Data from Pew Research Center. (2013). *Views on end-of-life medical treatments*. Retrieved from: http://www.pewforum.org/2013/11/21/chapter-6-aging-and-quality-of-life/.

Specifically, being able to communicate with others, living without severe pain, and getting enjoyment out of life was identified more important; but, higher in importance to older women than older men.

Life Satisfaction

Life experiences and hardships can challenge an individual yet, offer opportunities to strengthen insight, wisdom, and faith, which can actually promote satisfaction with life. When conceptualized in that way, it is easy to understand why people who experience difficulties, continue to find their lives satisfying and fulfilling. This contrast—a high level of satisfaction with life despite ongoing experiences with loss—is aptly referred to as "the paradox of aging" (Carstensen, Mikels, & Mather, 2006, p. 346).

Being satisfied with one's life also contributes to QOL. Ardelt (1997) explored life satisfaction in old age in terms of wisdom (i.e., an integration of cognitive, reflective and affective elements including an awareness and acceptance of human limitations), which allows an individual to view life with humor, compassion, and detachment. The approach addressed some of the same issues brought forth by critics of Rowe and Kahn's model of successful aging (1997). That is, persons experiencing poor life conditions can still have high levels of life satisfaction. Ardalt's findings ultimately confirmed that participants' level of wisdom explained much of the variability in life satisfaction among older adults.

Well-being

Well-being is another subjective indicator often associated with quality of life. Steptoe, Deaton, and Stone (2015) theorized that well-being included three domains: evaluative well-being (i.e., life satisfaction), hedonic well-being (i.e., happiness, sadness, stress level, pain, anger),

and eudemonic well-being (i.e., sense of purpose and life meaning). In examining how these influence QOL in older adults, they found that in English-speaking countries, life satisfaction levels tended to follow a U-shaped curve, with persons age 45–54 years having the lowest level and younger and older adults enjoying higher levels. Researchers generally agree that low levels of perceived well-being correlate with increased numbers of life stressors (e.g., child-rearing, work, family caregiving), which generally occur during mid-life. Older adults who transition into late life with few life stressors generally report positive levels of well-being.

Summary

The world population is growing and aging, creating new opportunities for healthcare professionals to support people in the second half of life. The large and growing proportion of older adults, offers many opportunities for older individuals and the communities in which they live. Population data confirms that age is only a number and does not directly translate to declining health, poor quality of life, and dissatisfaction with life. Rather, older adults are a heterogeneous group with many members experiencing good health, engaging in productive activities, and maintaining their social connections. Not only do older adults have more time to pursue leisure and enjoyable productive activities, they have the time and inclination to help others as caregivers. Many older adults are also remaining in the workforce, some because they feel financially unable to retire, and others because they genuinely enjoy or appreciate the work. A key factor in allowing older adults to remain vibrant and active is good health, which can be promoted through physical, social, and cognitive engagement. The more healthcare professionals can support positive health gains and supportive environments, the greater the potential is for older adults to live happier, more fulfilling lives.

CASE STUDIES

Case 1: Joram is a 67-year-old man living in a nation torn apart by civil war. Initially, his community wasn't directly affected, and although many people were on edge, their lives remained relatively normal. He worked as a cook in a small local restaurant during the week, and on the weekends he spent time with his 32-year-old daughter, Aya, her husband, and their young children. Before long, war spread to their part of the country and life became more dangerous. Concerned for the well-being of their children, Aya and her husband decided to flee the country. They wanted Joram to join them, but he felt that he would only slow them down, and didn't want to leave the village he had called home all his life. Aya's family managed to escape to a neighboring nation, along with thousands of other refugees fleeing the war. Within months, the population of Joram's village went from several thousand people to just a few hundred, as the war continued to rage on.

1. **How will the loss of so many residents likely impact Joram's village?**
2. **What challenges will the neighboring nation to which Aya and her family fled likely experience as migrants continue to flow in?**

Case 2: Sharon and Karen are twin 65-year-old sisters who were born and raised in Connecticut. Sharon has chronic obstructive pulmonary disease (COPD) as a result of a decades-long smoking habit, and she is married to Paul. Together, Sharon and Paul have a 35-year-old unmarried son who lives in California. Karen and her husband, Joe, work full-time and have three children with whom they are close—a 36-year-old married daughter with 8-year-old twin girls, a 32-year-old divorced son with a 2-year-old daughter, and a single 28-year-old daughter who has gone back to college

and lives with them, along with her 4-year-old son. A few months ago, Sharon and Paul retired and moved to Florida. They talked to Karen and Joe about moving south with them, but they decided not to. Today, Sharon and Paul are enjoying their new life in Florida, and are making the most of the warm weather and new friendships they have developed. The move has been beneficial for Sharon's health, even though she is still limited in what she can physically do. Karen and Joe are happy that they decided not to retire yet, and enjoy filling their days with productive activity alongside coworkers who are also friends. Although they miss one another, Karen and Sharon are both happy with the decisions they made.

1. **Explain why you think Sharon decided to move south to Florida.**
2. **What are some reasons Karen decided to stay in Connecticut?**
3. **Do you think Karen and Sharon are aging successfully? Why or why not?**

TEST YOUR KNOWLEDGE

Review Questions

1. The term _____refers to the length of time a person is alive whereas _____ refers to the level at which a person can perform.
   a. Life expectancy, life span
   b. Chronological age, functional age
   c. Functional age, life expectancy
   d. Life span, chronological age
2. By tracking fertility rates in a region, policy makers and service providers can better predict the needs of a population and prepare for change.
   a. True
   b. False
3. In 2016, adults age 65 and older made up approximately _____ of the U.S. population.
   a. 5%
   b. 15%
   c. 30%
   d. 52%
4. Implementation of the Older Americans Act in 1965 was part of an effort to provide older citizens with free health care and incomes for the remainder of their lives.
   a. True
   b. False
5. The term _____ caregivers applies to workers who are paid to provide care and _____ caregivers refers to people who provide care without compensation.
   a. Informal, formal
   b. Volunteer, respite
   c. Formal, informal
   d. Respite, informal

Learning Activities

1. How is the world population and the population of older adults expected to change in the coming years, and what three factors do demographers look to when predicting the age composition of a population?

2. How does a country's total fertility rate (TFR) change during wartime, and why? How does it change again when wartime ends, and why?
3. Obesity is becoming an epidemic health concern. Why is this particularly important when considering the population of older adults?
4. Imagine that you are the caregiver for an older person with dementia. What types of tasks would you be responsible for in this role?
5. Think about what aging successfully means to you, and what you will need to do in order to become an older adult that has aged successfully. Develop a list of five personal goals or indicators that you can revisit as an older adult to determine if you have aged successfully.

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