What are the implications of an increase in the number of older persons in American society, particularly as it affects rehabilitation specialists such as physical therapists? Some have portrayed the “graying” of America during the past 60 years as a social problem of vast numbers of resource-guzzling older adults who threaten to strip the health care system of its scarce resources. Others have portrayed this same group as a rich resource to their families and their communities: a group still very much engaged in life as healthy, active older adults. Is it possible that these two contrasting representations of America’s older persons refer to the same set of individuals?

The purpose of this chapter is to review the sociodemographic characteristics of older adults in American society, then relate these factors to mortality and morbidity in this population. In doing so, we shall find that conflicting portrayals of older persons as active and healthy, or as sick and frail, are neither incorrect nor contradictory, but more appropriately applied to only some segments of a heterogeneous population.

Although physical therapists implement interventions in a plan of care designed for individual patients or clients, each of us has physical, psychological, and social characteristics by which we can be categorized into groups. Knowing that individuals with certain characteristics—for example, being a particular age or sex—are more likely to experience a particular health problem can assist physical therapists in anticipating some clinical presentations, placing an individual’s progress in perspective, and even sometimes altering outcomes through preventive measures. It is also useful to know the prevalence of a particular condition (i.e., the number of cases of that condition in a population) and its incidence (the number of new cases of a condition in a population within a specified time period). Taken beyond examination of a single person, physical therapists can use this information to plan and develop services that will meet the needs of an aging society whose members span a continuum across health, infirmity, and death.

There is one critical caveat to any of the inferences about aging or older persons that may be drawn from the data below. Much of what we in the United States know in gerontology and geriatrics has been derived from two specific cohorts. The first cohort was born near the end of the 19th century, many of them impoverished child immigrants or born into families recently arrived in America. Thus the initial emergence of gerontological research in the 1970s is based largely on these individuals whose early health and vitality into adulthood were determined long before the medical advances and economic prosperity that marked the “American Century.” Their children comprise the second cohort, whose experiences define our current-day understanding of aging. Geriatric and gerontological research in this group is also contextually situated in the defining events of the first half of the 20th century: two world wars and the Great Depression. Thus, whenever we choose to explicate aging and the status of older adults, be it their physical health or social well-being, we must also appreciate that what we understand is based on what either has been or is currently the case, not necessarily what will be the norm in the future. As the adults of the post–World War II “baby boom” begin to retire in 2011, we can expect that gerontological theories and geriatric practice—geriatric physical therapy included—will change markedly by mid–21st century to accommodate new findings that emerge from scientific study of this third and markedly distinct cohort.
SUCCESSFUL VS. OPTIMAL AGING

“Successful aging” was a multidimensional concept first articulated in the late 1980s and further elaborated in the 1990s to distinguish between individuals with the characteristics of usual aging and those adults who had managed successful aging. The concept of successful aging encompassed three elements: avoiding disease and disability, maintaining high physical and cognitive function, and sustaining engagement in social and productive activities.1,2 The research that supported the concept suggested that biological orientations to aging in gerontological research were biased toward “usual” or “average” aging but ignored the equally important long-term effects of diet, exercise, and lifestyle that characterized the successful aging of many who had escaped the usual decline and disability of average aging. Physical therapists can assist the promotion of successful aging by encouraging modification of some extrinsic factors, particularly in teenagers and young adults, which lead to less disease and disability in the later years. For those with disease and disability, the physical therapist should work within the concept of “optimal aging,” which allows an individual to achieve life satisfaction in multiple domains—physical, psychological, and social—despite the presence of disabling medical conditions. Physical therapists can promote optimal aging by reducing the disabling effects of disease and stopping a vicious cycle of “disease–disability–new incident disease” to maintain quality of life.

DEMOGRAPHY

Defining “Older” Adult

The first gerontological question is how a particular segment of a population comes to be categorized as “older”? The chronological criterion that is presently used for identifying the older adult in America is strictly arbitrary and usually has been set at age 65 years. However, the onset of some of the “geriatric” health problems of older individuals may occur as soon as they enter their early 50s, and, as detailed elsewhere, “older” athletes may be only in their 40s. As the mean age of the population increases and more individuals live into their ninth and tenth decades, we can expect that our notion of who is “older” will change.

Population Estimates and Age Structure

The number of Americans age 65 years and older continues to grow at an unprecedented rate. In 2007 the best available estimate of persons age 65 years or older was 37.3 million,3 reflecting the major changes in the population structure of the United States in the past century. Individuals who had reached their 65th birthday accounted for only 4% of the total population in 1900. In 1940 they were 6.9% of the population, and by 1950, they were equal to 8.2%. Although they represented just fewer than 10% of the population in 1970, they currently account for almost 13% of the U.S. population.4 Individuals born between the years 1946 and 1964 are frequently referred to as the “Baby Boomers” and will be responsible for a sharp rise in the number of older people between 2010 and 2030, when the older population is predicted to account for nearly 20% of the total U.S. population.4 Individuals older than age 85 years currently represent just under 10% of people older than age 65 years (5.3 million people in 2006), but their representation within the general populace is likely to quadruple by 2050 (Figure 2-1).4 The number of individuals older than 100 also continues to increase, even though the actual proportion of the total population (1 of every 10,000) is relatively small.5

Two concurrent factors that have affected the increase in the proportion of aged in our society are a declining birthrate and a declining death rate. With fewer births overall and more survivors at older ages, the age structure of the population changes from a triangular shape, with a larger number of younger individuals at the base, to a more rectangular distribution of the population by age, with a trend over time for a larger proportion of older individuals at the top, especially among the oldest old.6 In 1990 and 2000, the shape of the age pyramid shows remnants of the traditional triangular structure as well as the beginning “rectangularization” (Figure 2-2).

CHAPTER 2 Implications of an Aging Population for Rehabilitation


By 2050, the age structure “pyramid” is relatively rectangular except among the older age groups.

Life Expectancy

In 2007, the median age of the total population of the United States was 36.4 years, whereas the median age of individuals 65 years and older was 74.8 years. In the first half of the 20th century, mortality declined primarily as a result of advances in health at birth and younger ages, especially infant mortality. However, by 2000 the changes in life expectancy were primarily the result of reduced mortality at older ages, not the least of which was the dramatic increase in the number of adults who lived to age 85 years. In 1900, a person who lived until age 65 years might expect another 12 years of life. Additional life expectancy for individuals age 65 years in 2000 had grown to 18 years. However, female life expectancy continues to outpace male life expectancy, despite gains made for both sexes, although the gap has begun to decrease. Racial differences in life expectancy have also been demonstrated, as white women generally live...
the longest, whereas black women and white men live about the same and black men have the lowest survivorship. There has been a long-standing controversy in the literature regarding whether there is a racial crossover at the oldest ages, where black survivorship may improve. Some have argued that the phenomenon is actually a statistical artifact of misreporting and data inconsistencies, or not accounting for confounding variables; other researchers have drawn conclusions about “survival of the fittest,” arguing that individuals who surmount racial, socioeconomic, and health disadvantages early in life represent the most “fit” to survive into old age.

**Race and Ethnicity**

Racial and nonwhite ethnic minorities are currently underrepresented among the nation’s older adults relative to the distribution of these subgroups in the general population. In 2006, approximately 81% of the population age 65 years and older was non-Hispanic white, whereas blacks accounted for 9%, Asians 3%, and Hispanics of any race 6%. Hispanic representation in the older population has the fastest overall growth rate of any subgroup, likely to surpass the black subpopulation of older adults by 2028, and anticipated to be 15 million in 2050, or nearly eight times as large as it was in 2005. More recent immigrations in the 1990s of peoples from Southeast Asia will likely add to the relatively small number (about 1 million) of older Asians in the United States to a projected 7 million by 2050. Clearly, the geriatric physical therapist must recognize that the older adult of the future, especially those who will be considered the “oldest old,” will be more racially and culturally diverse than those currently served, and culturally competent care will literally require a global appreciation of diversity.

**Sex Distribution and Marital Status**

Simply put, there is a marked sex differential in mortality, and a number of social and life factors beyond biologic predisposition may lead to shorter lives for men overall. Married people have a lower mortality at all ages than their unmarried peers, and married men appear to derive a greater survival advantage than married women. However, because women typically live longer than men, the problems of America’s older adults are largely the problems of women, of whom fewer will have a living spouse at the age of 65 years and older in contrast to their male counterparts (Figure 2-3). Older men are more likely to be married than older women and married men are generally older than their wives, who have a greater life expectancy by virtue of their sex across all racial and ethnic groups. Women age 65 years and older are three times more likely to be widowed as comparably aged men, with the proportion growing with each decade of aging. There have been many theories proposed to explain the salutary effects of marriage on longevity, generally focusing on social support and shared resources. However, like most social institutions, marriage or partnered relationships defy easy characterizations, suggesting that one must look at the specific attributes of a particular relationship before drawing conclusions.

In addition to the caregiving burdens and socioeconomic implications of being partnered, loss of a significant other brings its own set of psychosocial challenges to the individual in contemporary society. Any individual whose identity is linked to being a couple or part of a long-term relationship may experience a severe disruption of social roles when left alone. This disruption complicates the search for self-validation through the recognition, esteem, and affection of another that may have been present in a marital or partnered relationship.

**Living Arrangements**

In 2000, 28% of the population age 65 years and older lived alone, noting that older non-Hispanic white women and black women were more likely to live alone than other racial or ethnic groups. Older black, Asian, and Hispanic women are more likely than non-Hispanic white women to live with nonspousal relatives. When older adults need assistance in basic and instrumental activities of daily living (ADLs), spouses and children often provide the majority of help. Decline in functional abilities strongly predicts the likelihood that an older adult living alone will seek other arrangements.

Nursing home utilization has changed since the mid-1980s, especially with respect to racial and ethnic diversity. Many more of these individuals now have short-term admissions and return to their premorbid living arrangements compared with 20 years ago. In 2004, older adults in nursing homes were predominately female; age 75 years and older (82%); white, non-Hispanic, and not married. Family Roles and Relationships. Despite many social advances for younger generations of women, the degree to which female older adults are still bound by society to traditional roles such as homemaking and caretaking should not be underestimated. Furthermore, an older woman is more likely to live alone when compared to a male counterpart and must continue to function independently, whatever her level of physical function. Women are therefore more likely than men to report disability with respect to social roles. The relative unavailability of assistance with home chores in comparison with other social support services may be a subtle discrimination against older women, although the level of unmet need in this area is not well documented. These home services can often be the essential element in allowing an older adult to remain living independently at home when functional abilities are compromised. Physical therapists will need to continue working with other health professionals to advocate for access to a wide
Marital status of the population age 65 and older, by age group and sex, 2007

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Men</th>
<th>Women</th>
</tr>
</thead>
<tbody>
<tr>
<td>65-74</td>
<td></td>
<td></td>
</tr>
<tr>
<td>75-84</td>
<td></td>
<td></td>
</tr>
<tr>
<td>85 and older</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: Married includes married, spouse present; married, spouse absent; and separated.
Reference population: These data refer to the civilian noninstitutionalized population.


range of services that support the highest level of independent living for the aged.

Although findings from a number of studies during the past 20 years have been treated as “common wisdom” about families and aging, the simple fact is that the magnitude of variation in “family” as a social construct is very great and cannot easily be generalized into evidence-based statements about the nature of families, the influence of ethnicity, or gender-specific roles in caring for older family members. Fertility rates and immigration patterns also influence the proportion of family members able to support aging parents. Older adults who do live with family can often find themselves in multigenerational families, growing old with their children. Spouses are the most likely individuals to care for their partners in old age and sickness. When a spouse is unable or unavailable to provide assistance, it is not easily determined who will do what for an aging parent in need. The actual provision of direct care to older parents has traditionally been described as “women’s work,” which is as much a function of traditional social mores as a lack of evidence to the contrary. Research has not elucidated the role of men in caring for older parents as investigators have often assumed that the responsibility of caregiving falls to daughters and daughters-in-law, often to the exclusion of men as subjects in many studies. Recommendations that increase the tasks of caregiving among selected family members (e.g., assisting with a home exercise program) may be perceived as either a burden or as an opportunity; thus evaluation of caregiving impact of rehabilitation interventions may be required. Many stereotypes exist about different racial and ethnic groups, but the data do not support a facile conclusion that one group is more “predisposed” to offer assistance. Physical therapists must evaluate each family situation for its unique characteristics.

The societal roles of grandparenting also continue to evolve. Increased longevity increases the amount of one’s life that might be spent being a grandparent. It is not unusual for an aging individual to witness a grandchild’s movement through the life course from birth up to the grandchild’s adulthood. Healthy older adults still provide substantial financial and emotional support to their children. Many grandparents find themselves taking on additional babysitting and child-rearing responsibilities. Therefore, an examination and evaluation of an older person’s functional abilities in this social context might need to consider whether a grandparent has the dexterity to change a diaper, the strength to lift a toddler, and the stamina to walk young children home from the school bus.
Economic Status

The tendency to regard older adults as a homogeneous group biases any understanding of their economic status. The heterogeneity of this population group is perhaps best illustrated by considering who is financially well-off and who is economically disadvantaged among older adults. Overall, the entrance of the youngest stratum of older adults, who benefit from private and workers’ pension programs, has improved the economic well-being of older adults as a whole, as the proportion of older adults living in poverty has shrunk from 35% in 1959 to 9% in 2006 (Figure 2-4). In comparison with poverty among children younger than age 18 years, people age 65 years and older have experienced a relatively steady decline in poverty. These group figures, however, do obscure the realities of poverty among older people; poverty increases with age; women are more often in poverty than men; and older Hispanics and older blacks experience greater economic deprivation than non-Hispanic whites. Furthermore, although older adults may be less likely to enter into poverty than individuals younger than age 18 years, people age 65 years and older who do enter poverty are less likely to transition out than their younger counterparts. Housing expenditures account for about 33% of expenses, whereas health care and food each account for about 13%. Although expenditures for housing, food, and transportation remain relatively constant for noninstitutionalized older adults, health care expenses continue to rise after age 65 years (Figure 2-5).

MORTALITY

Causes of Death

The five most common causes of death for all individuals age 65 years or older are heart diseases, malignant neoplasms, cerebrovascular disease, chronic lower respiratory diseases, and pneumonia and influenza. Despite its position as the leading cause of death, age-adjusted death rates in the United States from heart disease and stroke mortality have declined remarkably in the past 30 years, most likely because of improvements in the detection and treatment of hypertension as well as improvements in emergency and critical care. However, age-adjusted death rates for both diabetes and respiratory diseases increased markedly in the same period. Given the role of exercise in the primary and secondary prevention as well as rehabilitation of all of these conditions, physical therapists are able to make a major contribution to the well-being of the geriatric population.

Active Life Expectancy

Adults who survive to age 65 years can expect to live almost 19 years longer, which is about 7 years longer than what would have been expected in 1900. Although
gains in overall life expectancy are important indicators of a nation’s well-being, active life expectancy, that is, the years spent without a major infirmity or disabling condition, may provide more meaningful information for health professionals. More accessible health care, improved understanding of genetic predisposition, and preventive behaviors such as increased physical activity and balanced nutrition have all contributed to more years spent in better health. Although medical advances have improved the survivorship of individuals with multiple impairments in old age, the data support the notion that each successive generation of older adults enjoys a slightly greater active life expectancy prior to entering permanent functional decline.4,6

MORBIDITY

Prevalent Chronic Conditions

The proportion of older adults at any age without any chronic conditions is small. About 80% have at least one chronic condition and 50% have two or more.6 Among these, arthritis is the most prevalent self-reported condition causing an activity limitation. Hypertension, heart disease, stroke, diabetes, hearing and vision impairments, and fractures also take their toll on activity.4,6 Chronic conditions are not randomly dispersed throughout the population (Figure 2-6). Arthritis is more common among women. Hypertension is more prevalent among women and blacks than men and whites. Heart disease is more prevalent among men than women, whereas non-Hispanic blacks tend to experience stroke more often than other subgroups. Diabetes affects men and women about equally, but prevalence among older Hispanics and non-Hispanic blacks is greater than older non-Hispanic whites. Osteoporosis is four times more likely among women and substantially increases the risk of fracture.4,6

Prevalent Activity Limitations

Estimates from a number of national surveys indicate that a substantial proportion of older adults are hampered in their ability to perform a major life activity or are limited in their mobility, and despite some studies that suggested this trend was improving, it may actually be worsening.14 Furthermore, these surveys indicate that these limitations in function increase with age, and they are generally worse for women (who may contract more disabling conditions such as arthritis), nonwhites, and obese individuals.6,14 As has been noted in the overall health status of the general population, it is commonly agreed that the risks of physical disability are higher for nonwhites and individuals with lower socioeconomic status.6

As we shift from exploring population characteristics associated with biological phenomena such as mortality to consider the functional status of various groups, which is a biopsychosocial phenomenon, a word of caution is always in order when interpreting subgroup statistics. First, the definitions for complex concepts such as race/ethnicity or socioeconomic status may shift over time from survey to survey, or have been imperfectly applied during data collection so that some subgroups are over- or underrepresented in statistical analyses. The concepts themselves may be proxy measures of other factors that affect health status and function, such as educational advantage, lifetime employment opportunity, or living environment, but are very difficult to measure directly and rarely studied.15 Statistically, these findings may be highly correlated, which, for example, leaves demographers uncertain as to whether race/ethnicity or poverty or educational attainment better explains poor health status from a statistical point of view (i.e., greater explanatory power of a particular variable in a more robust statistical model). Furthermore, even highly correlated relationships among variables may not be linear or parallel and may disproportionately affect individuals at different points on the intersecting continua of education, income, or health status. Alternatively, the models that are used to explain functional deficits or activity limitations may not be
robust and multidimensional so that the statistical analyses incorporate data gathered from multiple domains such as socioeconomic status and physiological impairment. Therefore, at the level of the individual person, which is the level at which we measure activity limitation, functional deficit, or disability, inferences from these models about the interplay between broad sociodemographic factors and health status or quality of life are more tentative and, more than occasionally, not particularly useful to clinical decision making as they represent factors outside the clinician’s control.

**Disease and Disability**

The six most common chronic health conditions that result in activity limitations are arthritis and other musculoskeletal conditions, heart and other circulatory problems, vision or hearing impairments, fractures and joint injuries, diabetes, and mental illness (Figure 2-7). Increasing age is associated with increasing prevalence of activity limitations, with the exception of mental illness. Importantly for physical therapists, exercise and physical activity are not only critical interventions once health conditions develop but they provide broad health promotion opportunities. Physical therapists can assume a key role in public health by instruction in exercise and physical activity to achieve primary prevention and risk reduction for development of several health conditions (heart and circulatory disorders, fractures associated with falls, and diabetes).

**Comorbidity and Disability**

It is not unusual for physical therapists to find that the patients with the most disability are also likely to have a number of medical or health conditions that complicate not only understanding of the genesis of functional deficit but treatment as well. For example, the individual

---

with a stroke, who also has degenerative changes in the foot and low tolerance for stressful activity secondary to angina with exertion, can present a particular challenge to the geriatric physical therapist's knowledge and skill.

Although there is an emerging body of knowledge on the effects of disease on function, less is known about the effects of coexistent disease on function. Older adults vary a great deal in the degree to which their chronic comorbidity affects their functional capacities. However, one comorbidity that has a documented negative effect on function is obesity. Physical therapists working with other health professionals can have a major impact on functional decline by applying their evidence base in exercise and physical activity to this threat to public health.

FUNCTION

Physical Function and Disability

Physical, psychological, and social function are all dimensions of function that are included in the measurement of a person's overall health status. Physical therapists address issues of physical function. In general, independent physical function declines with age, and this decline is influenced by a host of biological, psychological, and social factors. Function is not a static phenomenon and individual transitions in functional status are more the norm than the exception. Function is also a sociological phenomenon. Functional assessment does not only measure the individual's ability to perform tasks that are personally meaningful to the individual, but it also measures performance essential to meeting social expectations of what is "normal" functioning for an adult. It is therefore necessary that the overall approach to functional assessment of an older adult include items that take into account what is "normal" in that person's social and cultural sphere. Physical functional activities can be subdivided into five areas: mobility, which includes transfers and ambulation; basic self-care and personal hygiene (ADLs); more complex activities essential to an adult's living in the community, known as instrumental ADLs (IADLs); work; and recreation.

Mobility. A primary concern of physical therapists in performing a physical functional assessment of any adult individual is to identify any functional limitations in mobility that can range from the ability to move independently in bed, transfer from bed to chair, ambulation on level surfaces within the home, stair climbing, negotiating uneven terrain, and walking for longer distances in the community. Mobility is a component of ADLs, work, and recreational activities.

Activities of Daily Living

Basic Activities of Daily Living. Basic ADLs include all of the fundamental tasks and activities necessary for survival, hygiene, and self-care within the home. A typical ADL battery, which may be administered by a physical therapist alone or cooperatively with other health professionals, covers eating, bathing, grooming, dressing, bed mobility, and transfers. Incontinence and the ability to use a bathroom are especially important elements in the assessment of physical function in some older individuals. The ability of an adult in three aspects of independent toileting function may require exploration of specific task accomplishment: to get to the bathroom in an appropriate time period, to move safely on and off the receptacle, and to perform self-hygiene tasks.

Instrumental Activities of Daily Living. An examination and evaluation of IADLs addresses multiple areas that are essential to living independently as an adult: cooking, shopping, washing, housekeeping, and ability to use public transportation or drive a car. For some individuals, it may also be appropriate to investigate the ability to perform home chores such as shoveling snow or yardwork.

Relationship between ADLs and IADLs. Most older adults living in the community are generally independent in both ADLs and IADLs (Figure 2-8). The relationship between ADL and IADL is generally hierarchical; that is, limitations in ADL usually predict limitations in IADL. Thus, a home-care physical therapist working with a patient recently returning home from an acute care hospital after a hip fracture would first explore the individual's ability to do the tasks and activities encompassed by basic ADL, such as transfers, ambulation, and toileting. If deficits were found, independence in these activities would serve as the first goals of intervention. If the patient was independent in basic ADL upon initial examination, or became independent through the physical therapist's intervention, the therapist would then examine the older person's limitations in performing IADL, which supports a person's ability to live independently in the community. As part of the plan of care, as the patient progresses to greater levels of independence, the physical therapist will play an important role in identifying the patient's needs for formal caregivers, such as homemakers and home health aides, and in teaching families how to manage a person's limitations well enough so that the individual may continue to reside in the community.

Work. One measure of adult competence is employment. Previously, it has been assumed that older adults did not need to or want to work, based on data trends that appear to have ended in the 1980s. Changes in federal regulations have raised the minimum age at which individuals may receive full Social Security benefits and mandatory retirement at a specific age for most occupations is not typically permitted. Therefore, older adults who want to, or need to, remain in the workforce may do so if they are physically able to perform the tasks of their employment. A substantial proportion of civilian noninstitutionalized individuals older than age 65 years are still counted in the workforce. Specifically, 34.4% of the men and 24.2% of the women age 65 to 69 years
were labor force participants in 2006. There is a striking reduction among women age 70 years or older (7.1%) in comparison to their male peers (24.2%). Overall, the rates of labor force participation for older Americans have grown for both men and women, with a much steeper increase for women most likely due to generational changes in roles and societal expectations for women working outside the home, particularly during the past four decades.4

Physical limitations impacting one’s ability to work can be examined by comparing an individual’s work participation against the general conditions of work itself: Is the individual working the anticipated number of hours per week? Have the requirements of the job been modified in any respect to allow the individual to work? Does the quantity or quality of work completed meet the anticipated standard of performance? Another approach to assessing work performance, first described by Nagi,27 is to examine an individual’s ability to perform 10 particular physical tasks associated with work disability: (1) walking up 10 steps without resting; (2) walking a quarter of a mile; (3) sitting for 2 hours; (4) standing for 2 hours; (5) stooping, crouching, or kneeling; (6) reaching up overhead; (7) reaching out to shake hands; (8) grasping with fingers; (9) lifting or carrying 10 pounds; and (10) lifting or carrying 25 pounds. Using these data on “advanced” mobility, one can infer what an individual’s capacity to work would be. Interestingly, recent studies of the ability to perform these kinds of physical functional tasks indicated increasing disability with every decade and a significant difference between men and women that persisted in every age group (Figure 2-9).4

### Recreation

Recreational activities are no less important than work to maintain a sense of well-being. Clearly, more older men and women today are maintaining interests in recreational sports that they developed earlier in life. Others are discovering the pleasures of recreational sports as older adults. Functional assessment of recreational activities, however, is not limited to sports. Many adults enjoy dancing and gardening, which require a relatively high degree of balance, flexibility, and strength. Even sedentary activities, such as stamp collecting or playing chess, require a certain degree of physical ability in the hand and upper extremity and therefore may be functional measures of the outcomes of intervention for some patients.

### Health and Health Care

#### Utilization of Services

Functional deficits are important markers for increased utilization of services, especially with the use of formal services such as home health care. Older patients in home health care tend to be women, white, widowed, between the ages of 75 and 84 years, and living in a private residence. Almost half of these receive care from family members.4

In contrast, nursing home residents are likely to be women, especially those older than age 85 years.6 Nursing home utilization is generally on the decline, probably attributable to emerging alternative care options such as assisted living. Currently, it appears that any racial disparities in nursing home usage that may have previously existed are disappearing especially among nursing home residents aged 85 years and older.6 The vast majority of nursing home residents need assistance with three or more basic ADLs, particularly bathing and dressing.6 A distinct racial disparity in functional status has been documented among black nursing home residents, who are more likely to be functionally limited in basic ADLs than their nonblack peers.28

The majority portion of health care expenditures is paid by public programs such as Medicare or Medicaid.6 Yet nearly 20% is paid out of pocket and a smaller proportion out of private insurance. Older adults in poverty or near poverty have the worst health status (Figure 2-10) and also incur the greatest health care costs.6,29

#### Current Trends and Future Possibilities

Changes in the demographic characteristics of the U.S. population represent a critical challenge to geriatric physical therapists. Older adults are expected to live longer than ever before, but the quality of their lives in these added years...
is still a matter of conjecture. Aging with multiple diseases further aggravates a propensity toward physical decline with advanced age. Function deficits are the expected outcomes of disease; in turn, functional limitations predict increased utilization of services, further morbidity, and death. Future research must establish the ability of physical therapy to delay the onset of disease and disability and to prolong optimal function well into old age.

REFERENCES

To enhance this text and add value for the reader, all references are included on the companion Evolve site that accompanies this textbook. The reader can view the reference source and access it online whenever possible. There are a total of 29 cited references and other general references for this chapter.
REFERENCES