As the elderly population grows in the United States, it will include higher percentages of elders from minority groups. This changing composition of the elderly population calls for increased attention to the needs, challenges, and experiences of these groups. Traditional interest in minority elders has been dominated by studies of black-white differences. There is growing recognition that the minority elderly are racially and ethnically diverse, and there are important intergroup and intragroup differences. This chapter seeks to enhance our understanding of the minority elderly by providing an overview of selected characteristics of this population. We will describe trends in the growth of the elderly, explore differences in their socioeconomic profiles, consider the patterns of and potential explanations for disparities in health status, and describe the social resources of minority and majority elders. Trends that are likely to face the minority elderly in the future will be identified and research needs discussed. Whenever possible, we will utilize data that go beyond black-white comparisons to highlight the heterogeneity that exists within the population of minority elderly. Members of racial groups do not agree on the preferred terminology for referring to themselves. In an effort to respect individual dignity, we will use the most preferred terms for each racial group (Hispanic or Latino, black or African-American, American Indian or Native American) interchangeably [Tucker et al., 1996].

I. Growth of the Minority Elderly

Demographic trends over the latter half of the 20th century clearly indicate that the United States has experienced dramatic growth in both the number and proportion of persons 65 years of age and older [Angel & Hogan, 1991]. For example, the number of persons aged 65 and over was 12.3 million in 1950, 20.0 million in 1970, and 31.1 million in 1990. Projections for the first half of the 21st century indicate that older adults will increase from being 12.5% of the total population in 1990 to 20% by the year 2030 and remain that high through 2050 [U.S. Bureau of the Census, 1996]. Similarly, the median age of the United States population rose from 29.4 years in 1960 to 32.8 in 1990, and it is projected to climb to 38.1
in 2020 and 38.8 in 2050 (U.S. Bureau of the Census, 2000a, 2000b). One interesting feature of the increase in the American elderly population is that ethnic minorities are increasing at a faster rate than their majority counterparts. Non-Hispanic whites declined from being 80% of the total elderly population in 1980 to 74% in 1995, and they are expected to be 67% by the year 2050 (U. S. Bureau of the Census, 1993). The black elderly population more than doubled from 1.2 million in 1960 to 2.6 million in 1995, and it is estimated to increase by almost 300% between 1995 and 2050.

Hispanics are expected to outnumber blacks as the largest ethnic minority group of older persons by the middle of the 21st century (Angel & Hogan, 1991). Due to high rates of fertility and immigration, the Hispanic elderly population will increase from 4.5% of the total U.S. elderly population in 1995 (1.5 million) to 17.5% (13.8 million) in 2050. Although the absolute number of older Asian/Pacific Islanders (API) is only larger among minority elders than that of the American Indians, their growth rate will be faster than any other ethnic elderly group in the United States (U.S. Bureau of the Census, 1996). In 1995 they numbered about 600,000 but by the mid-21st century they will increase eightfold to 5 million. There were 129,000 American Indian elders in 1995, but by 2050 this group is projected to more than triple its size to 473,000. However, they will continue to be the smallest ethnic elderly group in the United States, increasing from 0.4% of the total population of persons 65 and older in 1995 to 0.6% by 2050.

II. Heterogeneity of the Minority Elderly

There is considerable heterogeneity within all of the officially recognized racial and ethnic categories. Among Hispanics, Mexican Americans account for approximately 49% of the elderly, 15% are of Cuban nationality, 12% are Puerto Ricans, and the remainder are mainly from Central and South American countries (Markides & Miranda, 1997). The immigration history of the various Hispanic groups is one important reason for the heterogeneity that exists within this population (Cubillos & Prieto, 1987). For example, some Mexican Americans resided in the southwestern region of what is now called the United States as far back as colonial times, while others migrated to the United States between 1942 and 1963, when persons were recruited from Mexico and other countries to fill the need for agricultural workers. Mexican immigrants from these two periods have now reached old age and account for most of the elderly in this ethnic group. In recent times there has also been an influx of both documented and undocumented Mexican immigrants to the United States. This group of recent immigrants will significantly contribute to the rapid growth of the Hispanic elderly population over the next 50 years.

Large numbers of young and middle-aged Cuban professionals migrated to the United States during the 1960s as political refugees. Most of these Cuban immigrants have grown old, and they account for the fact that Cubans are a larger share of the Hispanic elderly than they are of the Hispanic population overall. Most elderly Puerto Ricans resident on the U.S. mainland were born in Puerto Rico. Puerto Ricans did not migrate to the mainland in large numbers until after World War II, and most of those immigrants were young. For example, 70% of most of those who left for the mainland in the 1950s were between the ages of 15 and 39 (Sanchez-Ayendez, 1988). Puerto Rican immigrants to the mainland are distinctive because their status as citizens and their geographical proximity have facilitated relatively frequent back and forth
movement between the island and the mainland.

There are 26 API elderly subgroups in the United States [U.S. Bureau of the Census, 1993]. The Chinese are the largest group, accounting for 30% of the Asian elderly. The other major groups are Japanese and Filipinos (24% each), Koreans (8%), Asian Indians (5%), and other API groups (5%). Like Hispanics, the immigration history differs for various subgroups of the API population and is one of the key determinants of diversity within this elderly group. Most elderly Chinese Americans are native-born children of young immigrants to the United States in the early 20th century. A higher proportion of Japanese Americans are elderly than any of the other API groups, though their absolute numbers are smaller than the Chinese. Compared to other API subgroups, Japanese Americans have a longer immigration history in the United States and lower rates of recent immigrants [Tanjasiri, Wallace, & Shibata, 1995]. In contrast, Vietnamese and Cambodian elderly are relatively recent immigrants who mostly migrated to the United States after the passage of the Hart-Cellar Immigration Reform Act in 1965. This act eliminated the quota system with its racial and geographical biases and thus made it possible for increasing numbers of immigrants from this and other regions to migrate to the United States.

The Native American elderly are a relatively small proportion of the total American Indian population and the U.S. population, more generally. In 1990, American Indian elders' aged 60 or over numbered 166,000, or 9% of the total American Indian population [John, 1996]. However, they are a highly diverse group. There are more than 500 federally recognized tribes and entities of American Indians, Eskimos, and Aleuts. Many of these subgroups have their own distinctive history, culture, and language and differ on a broad range of religious, economic, and social characteristics, as well as cultural norms. The Native American elderly are also geographically concentrated, with two thirds of this population residing in 10 states [John, 1996]. Oklahoma (18%), California (13%), Arizona (9%), and New Mexico (6%) have the largest numbers of American Indian elders. The American Indian elderly are also disproportionately concentrated in rural areas. In 1990, almost half (48%) of all American Indian elders aged 60 and older resided in rural areas [John, 1996]. Some urban Indian elders move to reservation environments in order to access care from the Indian Health Service [John, 1996].

III. The Socioeconomic Circumstances of Minority Elders

Table 9.1 indicates that there is considerable racial variation among older persons in years of formal education and poverty, two widely used measures of socioeconomic status (SES). A substantial proportion of the elderly of all racial groups have less than 12 years of formal education. This is true for 31% of whites and 37% of Asians. However, among persons aged 65 and older, almost 6 out of every 10 blacks and 7 out of every 10 Hispanics have not completed high school. Similarly, whites 65 years and older have rates of high school graduation that are more than twice that of Hispanic elders and 1.7 times that of blacks. Elderly whites are also twice as likely as blacks and 2.5 times as likely as Hispanic elders to have acquired a bachelor's degree or more. Interestingly, compared to whites, Asian American elders are overrepresented at both extremes of the educational distribution. The API elderly are both more likely than whites to not have completed 12 years of education and to have a baccalaureate degree or higher. Of all racial groups, the API elderly have the
Table 9.1
Selected Socioeconomic Characteristics by Race at Age 65 and Older

<table>
<thead>
<tr>
<th>Socioeconomic characteristics</th>
<th>Whites (%)</th>
<th>Blacks (%)</th>
<th>Hispanics (%)</th>
<th>Asian and Pacific Islanders (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Education&lt;sup&gt;a&lt;/sup&gt;</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Less than 12 years</td>
<td>31.0</td>
<td>58.6</td>
<td>69.6</td>
<td>37.2</td>
</tr>
<tr>
<td>12 years</td>
<td>36.1</td>
<td>23.5</td>
<td>16.2</td>
<td>27.7</td>
</tr>
<tr>
<td>13-15 years</td>
<td>18.1</td>
<td>10.5</td>
<td>8.2</td>
<td>15.3</td>
</tr>
<tr>
<td>16 years or more</td>
<td>14.8</td>
<td>7.4</td>
<td>6.0</td>
<td>19.8</td>
</tr>
<tr>
<td>2. Poverty&lt;sup&gt;b&lt;/sup&gt;</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Percent below poverty</td>
<td>9.0</td>
<td>26.0</td>
<td>23.8</td>
<td>12.3</td>
</tr>
</tbody>
</table>

<sup>a</sup>U.S. Bureau of the Census, 1996.
<sup>b</sup>U.S. Bureau of the Census, 1997.

The highest percentage of individuals (20%) who have attained at least 16 years of formal education.

The pattern for Hispanics reflects the impact of immigration with large numbers of Latinos being raised outside of the United States in the context of lower educational opportunities compared to their U.S.-born counterparts. The black-white differentials reflect the historical legacy of racism and the unequal educational opportunities and lack of investment in education for blacks that characterized U.S. society when black seniors were growing up. Fischer and colleagues [1996] show that the initial efforts to educate blacks after the Civil War were replaced by Jim Crow laws in the late 19th century that led to a decline in spending on education for blacks, such that one-third of the counties in the South had no high schools for blacks in the 1930s. In 1911, Atlanta had no high school that would accept African Americans. The schools that did exist for blacks were inferior in quality. This lack of educational training and opportunity, combined with discrimination in employment, is reflected in the current economic circumstances of the black elderly.

The lower panel of the table shows poverty status differences by race. Poverty thresholds are established by the federal government every year (adjusted for inflation) and take into account the size, composition, and structure of the household. During the latter half of the 20th century there has been a steady decline in the poverty rates among the aged of all races. At the same time, the data in the lower panel of Table 9.1 show that rates of poverty are still relatively high among the elderly. Roughly one-fourth of black elders and Latino elders, nearly one-tenth of white elders, and about one-eighth of API elders reside in households that fall below the federal poverty line. Other data reveal that the level of poverty for American Indian elders resembles that of blacks (John, 1996). In 1989, 29% of American Indians aged 60 and over lived in poverty, and 39% had incomes that were less than 125% of the poverty line. However, data on poverty tell only a part of the story of economic vulnerability. In addition to persons who actually fall below the poverty line, a large number of persons are only slightly above this level and are at an elevated risk of becoming poor. Data from the 1990 census on older Americans who are economically vulnerable—the poor and near poor (those with annual income above the poverty threshold but less than twice the poverty level)—reveal that 16% of whites, 45% of blacks, 34% of Hispanics, and 19% of...
Asian Americans were in this economically marginal category in 1990 (U. S. Bureau of the Census, 1990). These data also highlight that race and SES are related but nonequivalent concepts. For example, although the rate of poverty is three times higher for the black compared to the white elderly, two-thirds of the black elderly are not poor and two-thirds of all poor elderly are white. Recall that there are important variations within these categories. For example, although the overall rate of poverty among Hispanic elders was 22.5% in 1990, the rate for Puerto Ricans was 31.7% (Chen, 1995). Similarly, 1990 census data reveal dramatic variations in poverty among subgroups of the Asian category. For all age groups of the Asian population, the Cambodian (42.6%), Hmong (63.6%), and Laotians (34.7%) had rates of poverty that were considerably higher than those of African Americans, whereas some other Asian groups, such as the Japanese (7%), Filipino (6.4%), and Asian Indians (9.7%), had levels of poverty that were lower than that of the white population (Waters & Eschbach, 1995). Presumably, similar patterns exist among elderly subgroups of the API population.

Relatedly, there are large racial differences in income across elderly groups. The 1998 median income for elderly whites ($22,442) was 1.6 times that of elderly blacks ($13,936) (U.S. Bureau of the Census, 1999). Given that blacks on average have larger households than whites, the income gap between these two racial groups increases when household size is taken into consideration. For example, the 1992 per capita household income for older blacks was $7,810, just about half that of their white counterparts. There are also large disparities in the sources of income. In 1998, income from Social Security provided at least 50% of the total income for 63% of the beneficiaries (Social Security Administration, 2000). For 18% of all beneficiaries, the Social Security check was the only source of income, for 12%, it provided 90–99% of income, and for 33% it provided 50–89% of total income. There is a greater reliance on Social Security among minority elders than majority elders. For example, 33% of black and Hispanic and 30% of American Indian elders, compared to 16% of whites, depend on Social Security for all of their income. Similarly, 45% of blacks and 44% of Hispanics, compared to 29% of whites, relied on this source for 90% of their total income (Hendley & Bilimoria, 1999). There are also racial differences in the receipt of private pensions. One in every three whites was a beneficiary of income from this source compared to less than one in five blacks and about one in four Hispanics. In contrast, 1 in 20 white elderly receive income from public assistance, compared to one in every four black and Hispanic elderly (Grad, 1990; see also chapter 19 by Crown, this volume).

Income as a measure of financial status provides only a partial picture of the economic resources of the elderly and understates the magnitude of racial differences in SES. Income provides information on the flow of economic resources into the household, but it does not address the wealth or economic resources that households have to cushion a shortfall in income. Most of the elderly are retirees, and income decreases during the postretirement period. Wealth captures an important dimension of the economic standing of individuals age 65 and older, and racial differences in wealth are much larger than those for income. In the Asset and Health Dynamics Among the Oldest Old [AHEAD] study, Smith (1997) documented that the racial and ethnic differences in mean net worth are large, with black elderly households having 26 cents of wealth for every dollar in total net worth of white households. Similarly, Hispanic households over age 70 had 33 cents in wealth to every dollar owned by
whites. Racial disparities in net worth were even larger for some subtypes of wealth. Financial assets of white households were eleven times that of blacks and eight times that of Hispanics. The smallest disparity among the racial groups was found in home equity, with whites aged 70 and over having about four times as much equity as their African American and Latino peers. Assets are important as economic reserves, but they are also a key source of supplemental income for the elderly. Seventy two percent of white elders received income from assets as compared to 27% of blacks and 37% of Hispanics (Grad, 1990).

Gender is another predictor of variations in economic circumstances among the elderly. Across all racial groups, women are more likely than men to be poor (U.S. Bureau of the Census, 1996). Older men are more likely to have pensions and less likely to live alone than older women. Thus, although women constitute 58% of the total elderly population, they are 74% of the elderly poor.

IV. Health and Well-Being of the Minority Elderly

A. Racial Differences in Health

Race differences in SES among the elderly are important because of the profound effect of SES on health. A substantial body of research indicates that SES is one of the most important determinants of health status (Adler et al., 1994; Williams & Collins, 1995). The finding of an inverse relationship between SES and ill health across most indicators of health status has persisted over time in both developed and developing countries. However, the role of SES in health appears to be weaker among the elderly than among younger persons. In a careful analysis of this issue using U.S. national data, House and his colleagues (1992) found that the effect of SES on health is small in early adulthood, increases markedly in middle and early old age, and decreases in late old age. They suggest that the increase in the association between SES and health in middle and early old age is due to differential exposure to major risk factors for poor health. This effect is not evident in early adulthood because it takes time for those risk factors to significantly impact health outcomes. These differences are diminished in late old age because social policies and programs such as Social Security and Medicare have improved the circumstances of the elderly, reduced SES differentials in exposure to important psychosocial risk factors, and thus provided some protection from adverse health outcomes.

Given the strong relationship between race or ethnicity and SES, and the role of SES in health, it would be expected that the minority elderly have elevated rates of disease and death. Before we review health data on the minority elderly and explanations for the observed patterns, it is worth considering the magnitude of racial differences in survival to older ages. Table 9.2 presents racial differences in survival to age 65 and 85. Data were available only for blacks and whites. For both males and females, the data show that there are large racial differences in survival to age 65 and 85. For example, of every 100,000 black and white men born alive, 17,000 more white males survive to age 65 than do black males, and 10,400 more white males than black males survive to age 85. Similar patterns are evident among women, although the racial differences, while substantial, are smaller than those for men. From an initial 100,000 of each race, 10,100 fewer black females make it to age 65, and 11,600 fewer black females reach their 85th birthday, compared to white females. These are striking differences, and they reveal that the early onset of chronic disease and premature death substantially reduces the
number of black elderly who make it to age 65 and beyond. Similar patterns are likely to exist for American Indians given their higher age-specific death rates under age 65 [John, 1996]. Thus, among whites, there is a larger representation of birth cohorts at older ages than for blacks and American Indians. Accordingly, any assessment of racial differences in health among the elderly must take into account this large effect due to differential survival.

Table 9.3 presents death rates for all causes for whites and minority–white ratios for three age groups for persons aged 65 and older. Mortality is often used as a general indicator of health status, but this measure is limited because it is a summary indicator of health and does not provide the same information as data on the incidence (or new cases) of disease and the prevalence of disease. For example, in 1996, the number of persons aged 65 years and older hospitalized for cancer was almost twice the number of persons who died from this disease; for diabetes, stroke, and heart disease the number of elderly hospitalized was at least four times the number of those who died [National Center for Health Statistics, 1998, 1999a]. Death rates in a given year are a function not only of the number of persons with a specific illness but also of the severity and progression of that disease. Higher death rates for blacks than whites tend to reflect both higher levels of ill health and greater severity of disease. They can also reflect differences in access to medical care and racial disparities in the quality of medical treatment.

Table 9.3 reveals that, for the three age groups considered (65–74, 75–84, and 85 and older), APIs and Hispanics have markedly lower death rates than the

<table>
<thead>
<tr>
<th>Age</th>
<th>W&lt;sup&gt;b&lt;/sup&gt;</th>
<th>Black/W ratio</th>
<th>API/W&lt;sup&gt;b&lt;/sup&gt; ratio</th>
<th>Al/W&lt;sup&gt;c&lt;/sup&gt; ratio</th>
<th>Hispanic/W ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Males</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>65–74</td>
<td>3,122.7</td>
<td>1.38</td>
<td>0.61</td>
<td>0.91</td>
<td>0.72</td>
</tr>
<tr>
<td>75–84</td>
<td>7,086.0</td>
<td>1.17</td>
<td>0.67</td>
<td>0.68</td>
<td>0.67</td>
</tr>
<tr>
<td>85 and older</td>
<td>17,767.1</td>
<td>0.91</td>
<td>0.66</td>
<td>0.44</td>
<td>0.59</td>
</tr>
<tr>
<td>Females</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>65–74</td>
<td>1,900.5</td>
<td>1.44</td>
<td>0.59</td>
<td>1.01</td>
<td>0.73</td>
</tr>
<tr>
<td>75–84</td>
<td>4,786.3</td>
<td>1.18</td>
<td>0.64</td>
<td>0.74</td>
<td>0.67</td>
</tr>
<tr>
<td>85 and older</td>
<td>14,681.4</td>
<td>0.93</td>
<td>0.57</td>
<td>0.39</td>
<td>0.59</td>
</tr>
</tbody>
</table>

<sup>a</sup>From National Center for Health Statistics, 1999b.
<sup>b</sup>W, White, API, Asian and Pacific Islander; Al, American Indian.
<sup>c</sup>Al = American Indian.
white population, and blacks have a much higher death rate in the youngest age category, and a somewhat higher rate in the age 75–84 category. This is true for both males and females. For American Indians, the death rates for females in the 65–74 age group is virtually identical to those of whites and, for males in that age group, it is slightly lower than those of whites. At the older ages, American Indians also have markedly lower death rates than those of whites. Data quality problems affect the accuracy of mortality rates for American Indian, Hispanic, and API populations (Hahn, 1992; Williams, 1996). Data for the calculation of death rates come from death certificates. As race is reported on death certificates by funeral home directors and other officials, a relatively high proportion of American Indians and Asian Americans are misclassified as white. This undercount in the numerator suppresses the death rates for these groups and leads to officially reported mortality rates that are lower than they actually are. One study, for example, matched the race obtained during an interview in the Current Population Survey with the race for that individual recorded on the death certificate (Sorlie, Rogot, & Johnson, 1992). It found that the degree of agreement was very high for blacks and whites. However, 26% of persons who had self-identified in the survey as American Indian, 18% of APIs, and 10% of Hispanics were classified into a different racial category (mainly white) on the death certificate. It is also worth noting that the death rates reported by the Indian Health Service (IHS) for American Indians are higher than the nationally reported rates. The IHS is a federal program that provides health care to about 60% of the American Indian population that live on or near reservations. IHS data reveal that American Indians have higher death rates than whites up through age 65. Between ages 65 and 74, the rates between the two groups are comparable, and there is evidence of mortality crossover beyond age 75, where the rates for American Indians are lower than those of whites (Indian Health Service, 1995).

In spite of these data quality problems, the evidence nonetheless suggests that both Hispanics and APIs have lower mortality rates than that of the white population (Markides, Rudkin, Angel, & Espino, 1997; Vega & Amaro, 1994). How do we make sense of these data? First, the earlier noted ethnic diversity within each of these large racial and ethnic categories captures important differences in socioeconomic circumstances and in health. For example, for the Hispanic population, Cuban Americans are higher in SES, on average, than Mexicans and Puerto Ricans. Sorlie, Backlund, Johnson, and Rogot (1993) report that elderly Cubans of both sexes have higher life expectancy than their Mexican and Puerto Rican counterparts. Second, the relatively good health profile of the Hispanic and Asian American populations importantly reflects the impact of immigration. On the surface, it is surprising that the health profile of Hispanics would be as good as or better than the white population given the high levels of exposure to adverse socioeconomic circumstances within this population. However, a large proportion of both the Hispanic and API population is foreign born. Research reveals that, across all racial and ethnic groups in the United States, immigrants tend to enjoy better health than the native born, even when those immigrants are lower in SES (Hummer, Rogers, Nam, & LeClerc, 1999). Studies of Mexican Americans (Vega & Amaro, 1994) and the Japanese (Marmot & Syme, 1976) reveal that disease rates increase progressively with degree of acculturation to the United States. As length of stay in the United States increases, fiber consumption and breastfeeding decline, but the use of cigarettes, alcohol, and illicit drugs increases (Vega & Amaro, 1994). Thus, it is likely that
increasing length of stay and greater acculturation of the Hispanic and Asian population will lead to trends of worsening health for the elderly in future years.

In contrast to the patterns for the non-black minorities, Table 9.3 shows that black males and females between the ages of 65 and 74 have a mortality rate that is 1.4 times higher than that of whites. In the 75 to 84 age group, the death rate across both genders is 1.2 times higher than that of their white peers. In contrast, black men and women aged 85 and above have lower rates of mortality than similarly aged whites. The pattern of black-white differences in mortality has generated considerable speculation and controversy.

B. Explanations of Racial Differences in Health

Competing hypotheses have been proposed to explain the differences in health between majority and minority elders (Dowd & Bengtson, 1978; Ferraro & Farmer, 1996). One such hypothesis is the double jeopardy perspective, which was originally intended to draw attention to the disadvantages of elderly blacks in areas of income, health, life satisfaction, and housing. It suggested that minority elders would experience greater negative consequences than their majority counterparts because they bear both the burdens of being minority and elderly, resulting in a double disadvantage to their health status (Wykle & Kaskel, 1995).

An alternative viewpoint is the age-as-leveler hypothesis, which posits that the differences between minorities and majorities may in fact decline over time (Dowd & Bengtson, 1978). Proponents of this hypothesis argue that minorities seem to do better in the later years of their lives because aging challenges health and functional abilities in unique ways that cut across racial categories. Additionally, minorities are confronted with prejudice and discrimination over the life span for which they develop coping skills that may be transferred to their struggles with age discrimination. Empirical research has found little support for either perspective and uncovered instead, evidence of the persistence of inequalities between blacks and whites throughout the life span (Ferraro & Farmer, 1996).

The observation that black mortality rates exceed those of whites until, at some age later in life, deaths among blacks "crossover" and thereafter decline relative to whites has stirred considerable debate. This crossover in black mortality occurs between the ages of 85–89 for males and 90–94 for females (Elo & Preston, 1997). However, the age at which the white mortality rates exceed that of blacks has not been constant over time, although the general pattern of crossover at later years has been consistent (Jackson, 1988). The selective survival hypothesis has been proposed to explain this pattern. It argues that this phenomenon is a function of the "survival of the fittest" in which the higher mortality of blacks at younger ages reflects the deaths of persons who are subject to adverse conditions and leads to the survival of the most biologically robust individuals (Elo & Preston, 1997; Markides & Black, 1996). Others have suggested that the Vital Statistics and Census data, which are most often used in the computation of this crossover effect, are inadequate for testing this observed pattern (Zelnik, 1969). Specifically, they contend that the misreporting of age and other computational errors account for the lowering of black mortality rates in later years. It is known that older blacks, many of whom were born in the South where many states were excluded from the birth registration process before 1920, were not likely to be registered at birth (Shapiro, 1950). Accordingly, some have examined the error in date of birth as a means of shedding
light on the mortality crossover between blacks and whites.

An early study comparing age in the 1960 Census to age reported on the death certificate [Kitagawa & Hauser, 1973] found that among non-whites (92% were black), ages from both sources matched for only 44.7% of males and 36.9% of females. Ages in the census data were consistently higher than those reported on the death certificates, a discrepancy that increased with age. For whites, ages from both sources matched for 74.5% of males and 67.9% of females. Other studies have found similar discrepancies [Elo & Preston, 1994; Rosenwaike & Logue, 1983].

A recent study analyzed a national probability sample of 4,216 death certificates for native-born African Americans aged 60 and older and found higher match rates than previously reported [Rosenwaike, Hill, Preston, & Elo, 1998]. These results highlight the need to reassess conclusions about the extent of age misreporting among blacks. Some have argued that there is no evidence that unequivocally demonstrates such inconsistencies in age reporting or that other computational errors account for the black–white mortality crossover in older adults; in fact, they insist that findings from many different sources of data consistently support the black–white mortality crossover hypothesis [Manton & Stallard, 1997].

Thus, the evidence about age misreporting is not conclusive, and it remains plausible that the adaptation or selection process may predispose sturdy blacks to live longer lives [Wykle & Kaskel, 1991].

C. Race, Socioeconomic Status, and Health

Racial differences in SES play a large role in accounting for variations in health in general and black–white differences in health in particular. Table 9.4 illustrates the contribution of SES to racial differences in health by presenting variations in life expectancy at age 65 by race and income together. These data reveal that SES is a strong predictor of variations in life expectancy for both blacks and whites. High-income white males live three years longer than their low-income counterparts. Similarly, high-income blacks have a life expectancy that is 2.5 years longer than that of their low-income peers. These differences are larger than the overall racial difference in life expectancy at age 65. A similar pattern is evident for females, although the SES differences are somewhat smaller. Low-income white women have a life expectancy at age 65 that is one year shorter than their high-income counterparts. Similarly, low-income African American females have a life expectancy that is 1.3 years shorter than those in the highest

<table>
<thead>
<tr>
<th>Family income</th>
<th>Male</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1980 dollars)</td>
<td>White Black</td>
<td>White Black</td>
</tr>
<tr>
<td>1. Less than $10,000</td>
<td>14.0 14.3</td>
<td>19.7 18.6</td>
</tr>
<tr>
<td>2. $10,000–$14,999</td>
<td>15.5 14.4</td>
<td>20.4 18.0</td>
</tr>
<tr>
<td>3. $15,000–$24,999</td>
<td>16.3 16.3</td>
<td>20.5 19.4</td>
</tr>
<tr>
<td>4. $25,000 or more</td>
<td>17.1 16.8</td>
<td>20.7 19.9</td>
</tr>
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income group. The power of SES to shape differences in health is readily evident if we compare low-income whites with high-income blacks. High-income black males have a life expectancy at age 65 that is almost 3 years longer than that of white men in the lowest income group. The differences are smaller for women.

For all of the comparisons for women in Table 9.4 and for two of the comparisons for males, whites have higher levels of life expectancy than blacks, even at comparable levels of income. This pattern exists for multiple indicators of health and is even larger at younger ages (Williams, 1999). The difference is larger for females than for males and is consistent with the role of selective survival, given that Table 9.2 shows that its impact is much larger among males than females. That is, differential mortality among African-American males before age 65 is most likely to occur among those who are most vulnerable (those who are sick and those who are lower in income). These data emphasize the importance of adjusting for SES in efforts to understand racial differences in health. They also highlight the nonequivalence of SES indicators across race. Compared to whites, blacks have lower earnings at equivalent levels of education, less wealth at the same levels of income, and less purchasing power due to racial differences in residential environments (Williams & Collins 1995). Moreover, some evidence suggests that exposure to noneconomic forms of discrimination may also adversely affect the health of the African American elderly.

Research suggests that acute and chronic experiences of unfair treatment or discrimination are a source of stress that is adversely related to physical and mental health. National data reveal that one-third of the population reports exposure to major acute experiences of bias, and 60% report that they have experienced chronic, everyday experiences of discrimination (Kessler, Mickelson, & Williams, 1999). Everyday discrimination includes perceptions of being treated with less courtesy than others and receiving poorer service than others in restaurants and stores. Unfair treatment experiences based on race is the most common type of bias in society (Kessler et al., 1999), and African Americans and other minorities report much higher levels of racial and ethnic bias than whites (Williams, 2000). Such experiences have been linked to poorer physical and mental health for African Americans, Asians, and Hispanics (Noh et al., 1999; Williams, 2000; Krieger, 1990). Moreover, some research indicates that perceptions of discrimination make an incremental contribution to racial disparities in health over that of SES (Williams, Yu, Jackson, & Anderson, 1997).

D. Racial Differences in Access and Quality of Medical Care

Data on racial differences in access to and especially the quality of medical care illustrate another way in which racial bias can affect health. In 1965, the Medicare program was established to reduce financial barriers to access to hospital and physician services for persons aged 65 and older (see the chapter 21 by Feder, Komissar, & Niefeld, this volume). In fact, as a prerequisite for participation in this program, hospitals were mandated to be in compliance with the title VI of the Civil Rights Act of 1964, which requires that no one can be excluded from federal benefits based on race, color, or national origin. This requirement played a large role in desegregating hospitals in the United States (Quadagno, 2000). However, although there is no doubt that access has improved overall, there is evidence that racial differences have not disappeared (McBean & Gornick, 1994).

Medicare does not cover some medical needs such as prescription drugs, dental care and long-term care, and out-of-
pocket medical expenses can be substantial. In addition, Medicare requires a copayment of 20% of physician charges, a yearly deductible of $100 for Part A, and the cost of one day of inpatient care (calculated as $764 in 1998). These medical expenses may present additional burdens to the elderly and especially the minority elderly who are more likely to live in poverty. Many older adults minimize their out-of-pocket expenses by purchasing supplemental private insurance. However, black and Hispanic elders are a little more than twice as likely than whites to have no supplemental insurance [Wallace, Enriquez-Haass, & Markides, 1998].

Research reveals that there are systematic racial differences in the kind and quality of medical care received even among Medicare beneficiaries [Escarce, Epstein, Colby, & Schwartz, 1993; McBean & Gornick, 1994]. In an analysis of racial differences and the rates of procedures performed by hospitals for Medicare beneficiaries in 1992, McBean and Gornick (1994) found that black Medicare beneficiaries were less likely than their white counterparts to receive all of the 16 most commonly performed procedures. The differences appeared to be largest for referral-sensitive procedures. These researchers further examined the Medicare files to ascertain if there were any procedures that black beneficiaries of Medicare received more frequently than their white counterparts. They found that this was true of four nonelective procedures. All of these procedures reflected delayed diagnosis for initial treatment or failure in the management of chronic disease. For example, African-American Medicare beneficiaries were 3.6 times more likely to have the amputation of a lower limb (usually as a consequence of diabetes) and 2.2 times more likely to have the removal of both testes (generally performed because of cancer in males) than their white counterparts.

These racial differences in the quality of medical care among Medicare beneficiaries are consistent with a much larger literature that finds consistent and systematic racial differences in the receipt of a broad range of medical procedures. Multiple explanations have been offered for these racial disparities in medical care. It has been argued that they could reflect the geographic mal-distribution of health resources, racial differences in patient preferences, physiology, economic status, insurance coverage, place of treatment, and trust, knowledge, and prior experience with medical procedures. However, all of the available evidence suggests that systematic discrimination, some of which may be unconscious, remains the central, plausible explanation of this striking pattern of racial disparities [Williams & Rucker, 2000].

V. Social Resources of the Minority Elderly: Family, Religious, and Informal Support

Loneliness and isolation are potential threats to the physical and emotional well-being of the elderly. However, the elderly are not isolated from kinship networks, and family members often serve as the primary source of both instrumental and affective support [Taylor, 1988]. Both black and white elderly have been found to interact with their children and grandchildren on a regular basis [Mitchell & Register, 1984]. Elderly whites and blacks are more likely to seek help from their adult children than from their siblings or other relatives [Smerglia, Deimling, & Barresi, 1988]. However, black families are more likely than white families to be involved in exchanging help across generations, to provide assistance to children and grandchildren, and to receive more help from their offspring [Mutran, 1985]. Additionally, Chatters and Taylor (1990)
found that African American elderly are more likely than whites to reside in extended families, less likely to live alone, and more likely to live with their children and grandchildren.

Traditionally, Hispanics are known for their strong emphasis on respect for the elderly and their commitment to assist family members during their later years (Cuellar, 1990). Hispanic households are more likely than those of non-Hispanic whites to have large social networks, multiple family members, and intergenerational living arrangements (Bean & Tienda, 1986). This in part accounts for the finding that when compared to non-Hispanic whites, Hispanics are more likely to rely on family for support than on friends (Commonwealth Fund Commission, 1989). However, this minority group is culturally diverse with different groups sharing different customs, values, beliefs, immigration history, migration patterns, and SES. These differences are not fully understood, and it is unclear the extent to which the general patterns among Hispanic elders are a function of socioeconomic factors or cultural factors linked to ethnicity (Cantor & Little, 1985).

The API population, while also a highly diverse group, is viewed in the literature as very family oriented with values that emphasize the importance of supporting and caring for the elderly. However, there appears to be a weakening of these traditional cultural values, as adult children are tending to rely more on formal care than did their predecessors (Morioka-Douglas & Yeo, 1990). Nonetheless, Asian elders are less likely to live alone than the elderly population in general, although this tends to vary by acculturation, SES, and country of birth. American Indians are known for their traditions of social support and the importance of the extended family in meeting the needs of the elderly. Yet, little empirical evidence exists about the effects of migration from the reservation, area of residence, and the acculturation of younger American Indians on these traditional values. Additionally, little is also known about the extent to which levels of care vary by different tribes of American Indians (McCabe & Cuellar, 1994).

Religious involvement and participation is another important source of support among the elderly. The elderly generally express a higher degree of religiosity than the younger population (Greeley, 1989). National data reveal that almost half of older Americans attend church each week, about one in every four reads the Bible on a daily basis, and one out of five participates in a prayer group (Princeton Religious Research Center, 1984). Religion is also a critical source of social support over the life course. Interaction with fellow church members provides material and emotional support, information, advice, and spiritual benefits for the elderly. Additionally, religious organizations play an important role in providing material and economic assistance to church members.

Moreover, religious participation appears to be more consequential for the quality of life and health of older persons compared to their younger counterparts. As physical functioning declines in age, congregation members often play a key role in providing emotional and instrumental support (Koenig et al., 1997). Religious beliefs can be an important source of hope and comfort and can provide systems of meaning that can facilitate coping with stress, disability, and the loss of loved ones (Koenig, George, & Siegler, 1998). In dealing with the prospect of death, religious belief systems can also provide reassurance and perspective that enable many older adults to manage the fear and anxiety that may be associated with impending death. Religion can serve these functions for the elderly of all races, but religion may be especially salient in the lives of the minority elderly. For
example, research has consistently found that levels of public and private religiosity are higher for blacks than for whites (Levin, Taylor, & Chatters, 1994).

VI. Future Trends and Research Needs

A number of factors can be identified that are likely to be important influences on the minority elderly in the future. It is likely that increasing length of residence and greater acculturation of the Hispanic and Asian populations will lead to worsening health. Across a broad range of health status indicators, the research indicates that foreign-born Hispanics have a better health profile than their counterparts born in the United States. Rates of infant mortality, low birthweight, cancer, high blood pressure, adolescent pregnancy, and psychiatric disorders increase with residence in the United States (Vega & Amaro, 1994).

Another trend that may have implications for the SES and quality of life of the minority elderly is the widening income inequality in the United States. Since the mid-1970s there has been an increase in income inequality, a growing concentration of wealth among the highest income groups, and a worsening of the economic conditions for a substantial portion of the population (Danziger & Gottschalk, 1993). Research from both Western Europe and the United States suggest that widening health status disparities parallel widening economic disparities (Williams & Collins, 1995). Given that the minority elderly are overrepresented among lower income groups, worsening health status linked to economic inequalities is likely to disproportionately affect these populations.

A third factor that is likely to affect the health of the minority elderly in the future is the high rates of childhood poverty. National data suggest that rates of childhood poverty are disproportionately high in the United States. One in five of all children in the United States and two out of every five black and Latino children under the age of 18 are living in poverty (National Center for Health Statistics, 1998). In fact, if we combine persons in poverty with the near poor, 43% of all children in the United States, 31% white, 41% API, 68% black, and 73% Hispanic are economically vulnerable. Health status of adults is affected not only by current SES but also by exposure to economic deprivation over the life course. Several studies reveal that early life economic and health conditions have long-term adverse consequences for adult health (Elo & Preston, 1992).

Finally, the persistence of racism suggests that the disparities in minority health may linger for some time in the future. National data reveal that whites are more opposed to racially targeted policies than to similar policies targeted to the poor (Bobo & Kluegel, 1993). Moreover, the challenges for the African American population may be distinctive and greater than those of other minority groups. Although many groups have suffered and continue to experience prejudice and discrimination in the United States, blacks have always been at the bottom of the racial hierarchy, and the social stigma associated with this group is probably greatest. For example, African Americans continue to be the most discriminated against group in terms of residential segregation (Massey & Denton, 1993) and historically have had the greatest difficulties with socioeconomic mobility (Lieberson, 1980).

Research is needed that would identify the mechanisms and processes that link location in social structure to health outcomes. Such research must also attend to the resources and adaptive coping strategies within minority populations. Research on minority aging has focused heavily on pathologies and deficits and
given scant attention to the resources and cultural strengths within minority communities. We have noted the role that high levels of religious involvement and family and kin support systems can play in enhancing health. Research is needed that would identify how a broader range of social and psychological resources, such as racial identity and cultural belief systems and behavior, may also facilitate coping and adaptation within minority populations. Future research must give greater attention to comprehensively assessing racial minority status and including identifiers for ethnic variation within each of the major racial and ethnic categories.

Researchers also need to be more self-critical about the collection, analysis, and interpretation of racial data [Williams, 1997]. Greater consideration must be given to why race and ethnicity data are being collected, the limitations of racial data, and how the findings should be interpreted. Whenever feasible, additional information that captures the characteristics presumably linked to race, such as SES, acculturation, and economic and noneconomic aspects of discrimination, should be collected.

In contemporary American society, race is often viewed as a master status—a key determinant of social identity and access to power, privilege, and resources in society. Many minority elderly have been exposed to adverse social circumstances throughout their life courses. Many experienced deficits in education and health care during childhood and have been more likely to experience poverty, discrimination, and other forms of exclusion during adulthood. A growing number of the minority elderly in the United States have also had to adjust to a new host society at some point in their lives. The research literature suggests that many of these challenges persist into old age and shape the opportunities and outcomes for minority elders. However, our understanding of the lives of the elderly, especially those who are Hispanic, API, and American Indian is importantly limited by the unavailability of data. More than just more data, we need better data that would identify the ways in which exposures linked to the social, economic, political, and cultural context of elderly Americans combine with racism and migration to influence their lives in ways that can enhance or impair their physical and mental health. This is especially important given that the minority elderly are a large and growing portion of our aging population.

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