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The Health and Life Expectancy of Older Blacks and Hispanics in the United States

Despite advances in health care and increases in income over the past 50 years, significant gaps in life expectancy and health by race and ethnicity persist among older Americans. This newsletter highlights recent work by National Institute on Aging (NIA)-supported researchers and others who examined life expectancy and health trends among older blacks and Hispanics. By 2030, the U.S. elderly population is expected to become more racially and ethnically diverse than it is today (see Box 1, page 2). Understanding their differences in health and addressing disparities are critically important to improving the nation's overall health and well-being.

Life Expectancy

Disparities in life expectancy between older minorities and their non-Hispanic white counterparts are well documented. But the nature and extent of these differences may surprise some people. According to the National Center for Health Statistics (NCHS), life expectancy for blacks—whether at birth, at age 65, or at age 75—tends to be lower than for non-Hispanic whites. For example, a 65-year-old African American male in 2010 was expected to live another 15.9 years, compared with 17.7 years for a white man at that age (see table). A black woman age 65 is expected to live another 19.3 years, a full year less than a white woman of that age.

In This Issue

This publication summarizes research related to the objectives of the National Institute on Aging, with emphasis on work conducted at the NIA demography centers. Our objective is to provide decisionmakers in government, business, and nongovernmental organizations with up-to-date scientific evidence relevant to policy debates and program design. These newsletters can be accessed at www.prb.org/TodaysResearch.aspx

Yet while older blacks have lower life expectancies than older whites, Hispanics actually are expected to live longer—again, both at birth and at older ages. At age 65, for example, Latino males can expect to live, on average, an additional 18.8 years, while Latina women have a life expectancy of an additional 22 years—almost two years more than 65-year-old white females. Similar differences can be found at age 75 for both men and women. (See Box 2, page 3, for a discussion of factors influencing life expectancy among Hispanics.)

Hispanics have longer life expectancies than non-Hispanic whites or blacks.

Average Life Expectancy at Selected Ages (in Years), 2010, by Race and Ethnicity

	Birth	Age 65	Age 75
BOTH SEXES			
Total Population	78.7	19.1	12.1
Non-Hispanic White	78.8	19.1	12.0
Black	75.1	17.8	11.6
Hispanic	81.2	20.6	13.2
MALES			
Total Population	76.2	17.7	11.0
Non-Hispanic White	76.4	17.7	11.0
Black	71.8	15.9	10.2
Hispanic	78.5	18.8	11.7
FEMALES			
Total Population	81.0	20.3	12.9
Non-Hispanic White	81.1	20.3	12.8
Black	78.0	19.3	12.5
Hispanic	83.8	22.0	14.1

Note: Black totals include Hispanics.

Source: National Center for Health Statistics, "Deaths: Final Data for 2010," *National Vital Statistics Report* 61, no. 4 (forthcoming): Table 7, accessed at www.cdc.gov/nchs/data/dvs/deaths_2010_release.pdf, on April 30, 2013.

Box 1
Growth of the Elderly Minority Population

Of the 41.4 million persons ages 65 and over in 2011, 8.5 million—slightly more than one in five—were members of minority groups (identifying as anything other than "white alone, not Hispanic" on census forms). The older minority population has grown 48 percent since 2000, which is four times the growth rate of the older non-Hispanic white population. Put another way, minorities accounted for nearly one-half of the 6.3 million Americans added to the age-65-and-older population between 2000 and 2011.

While Hispanics surpassed African Americans as the country's largest minority group a number of years ago, blacks still outnumber Latinos among the 65-and-over population. However, the older Latino population has grown nearly three times as fast as the older black population since 2000—and the number of older Asian Americans grew even faster (see table).

The aging of the post-World War II baby boom (born 1946 to 1964) will contribute to a sharp rise in the elderly population in the coming years. According to Census Bureau projections, older Americans ages 65 and over are expected to number 72.8 million by 2030, when the youngest baby boomers will have turned 65. Of these, 20.2 million will be members of minority groups, which is more than double the current number of minority elderly. And by 2030, Hispanics (projected to reach 8 million) will surpass blacks (projected to reach 7.5 million) as the largest minority group among older Americans, while the number of older Asian Americans will likely approach 3.5 million.

The U.S. older population is becoming more racially and ethnically diverse.
Size and Growth of U.S. Population Ages 65 and Over: 2000, 2011, and 2030

	Population			Percent Change	
	2000	2011	2030	2000-2011	2011-2030
TOTAL POPULATION 65+	35,069,568	41,394,141	72,774,454	18	76
Non-Hispanic White Alone	29,358,831	32,925,603	52,593,799	12	60
Minority	5,710,737	8,468,538	20,180,655	48	138
Non-Hispanic Black Alone	2,815,964	3,511,502	7,483,028	25	113
Non-Hispanic American Indian and Alaska Native Alone	127,352	192,933	442,758	51	129
Non-Hispanic Asian Alone	818,105	1,494,108	3,455,916	83	131
Non-Hispanic Native Hawaiian and Other Pacific Islander Alone	19,783	33,322	96,381	68	189
Non-Hispanic Two or More Races	173,985	267,692	679,558	54	154
Hispanic or Latino	1,755,548	2,968,981	8,023,014	69	170

Source: U.S. Census Bureau, Population Division.

Recent research suggests that life expectancy among racial and ethnic groups may not be converging as quickly as some expected. Montez and colleagues (2011) examined life expectancy trends, documenting the widening gap between lower- and higher-educated adults between 1986 and 2006, focusing on blacks and non-Hispanic whites. They argued that this expanding disparity by education level does not mean that policy initiatives to reduce socioeconomic differences in health failed. Rather, they suggest other factors played a stronger role, particularly differences in income and tobacco use, but also neighborhood living environments, access to medical care, job fulfillment, occupational hazards, psychosocial resources, and the availability and sophistication of health-related information.

Olshansky and colleagues (2012) also examined life expectancy trends and found that the overall gap in life expectancy at birth shrank between blacks and whites but increased between Hispanics and non-Hispanic whites between 1990 and 2008. Contributing to these shifts were declines in life expectancy among whites without high school degrees. When the researchers explored the impact of race and education together, they found stark differences:

In 2008, white men and women with 16 or more years of education had life expectancies at birth that were more than a decade longer than for black men and women with less than 12 years of education. Even among males with 16 or more years of education, the gap between white and black men was about five years. They called the disparities in life expectancy by race/ethnicity and education levels "alarming" and the role of education "profound." The researchers argued that when it comes to life expectancy, there are at least "two Americas" divided along lines of race/ethnicity and educational attainment. They urge policymakers to improve and expand education opportunities for people of all ages, including lifelong learning programs for older adults.

Black-White Differences Explored: A body of research suggests that socioeconomic status (education and income levels) accounts for much—but not all—of the racial disparity in life expectancy. To quantify the influences, Geruso (2012) explored what black life expectancy would be if blacks shared

Box 2
Explaining the Hispanic Paradox

Research finds that lower socioeconomic status (frequently defined by lower average income and education levels) is usually associated with higher death rates, but not in the case of U.S. Hispanics, which presents a paradox. Despite having generally lower overall socioeconomic status than their non-Hispanic white peers, Hispanics tend to live longer, with greater life expectancies at all ages.

The causes of this "Hispanic Paradox" have been explored from a variety of angles. Some researchers suggest that cultural factors, such as better health habits and stronger networks of social support in the Hispanic community, may offer protection from some diseases and lead to longer lives. Osypuk and colleagues (2009) studied Hispanics living in neighborhoods with high concentrations of Latin American-born immigrants and found low levels of high-fat foods in their diets but also low levels of physical activity. They suggest that living in an immigrant enclave is not uniformly related to beneficial health behaviors. But compared to whites, both older foreign-born and U.S.-born Hispanics are healthier, with lower levels of fatal chronic diseases, such as heart disease, cancer, chronic lung disease, and stroke (Zhang, Hayward, and Lu 2012). A relatively small share of Hispanics smoke, contributing to fewer smoking-related deaths among Hispanics than non-Hispanic whites. One analysis suggests that smoking could explain close to three-quarters of the difference in life expectancy at age 50 between Hispanics and non-Hispanic whites (Blue and Fenelon 2011).

Other researchers find evidence that the Hispanic Paradox is related to migration: Hispanics who migrate to the United States tend to be healthier than their peers who remain in Latin America (a selection effect), and the immigrants who return to their home countries often do so when their health deteriorates, called "salmon bias" or return migration effect (Palloni and Arias 2004). Examining Social Security data, Turra and Elo (2008) found that foreign-born Hispanics who left the United States had higher mortality levels than those who remained, particularly among the most recent returnees. But they concluded that the share of Hispanics who returned to their countries of origin was too small to fully explain the Hispanic mortality advantage.

Similarly, Riosmena, Wong, and Palloni (2012) found "modest" evidence of both selection and return migration when they compared four groups of men ages 50 and older—Mexican-born men with experience living in the United States, Mexican-born men who never lived in the United States, U.S.-born men of Mexican descent, and U.S. non-Hispanic whites. They examined self-reported health, hypertension, obesity, and diabetes using the U.S. National Health Interview Survey and the Mexican Health and Aging Study. They found that compared to their Mexican-born peers who remained in the United States, returnees were more than three times more likely to rate their health as fair or poor, offering evidence of a return migration effect. Nonmigrants living in Mexico were about 1.5 inches shorter than migrants, suggesting a selection effect. Assessing their results across multiple measures, the authors concluded that emigration selection plays a stronger role in explaining the Hispanic Paradox than return migration.

Sources

Laura Blue and Andrew Fenelon, "Explaining Low Mortality Among U.S. Immigrants Relative to Native-Born Americans: The Role of Smoking," *International Journal of Epidemiology* 40, no. 3 (2011): 786-93.

Theresa Osypuk et al., "Are Immigrant Enclaves Healthy Places to Live? The Multi-Ethnic Study of Atherosclerosis," *Social Science and Medicine* 69, no. 1 (2009): 110-20.

Alberto Palloni and Elizabeth Arias, "Paradox Lost: Explaining the Adult Hispanic Mortality Advantage," *Demography* 41, no. 3 (2004): 385-415.

Fernando Riosmena, Rebeca Wong, and Alberto Palloni, "Migration Selection, Protection, and Acculturation in Health: A Binational Perspective on Older Adults," *Demography* (2012), article ID 1533-7790 (online).

Cassio Turra and Irma Elo, "The Impact of Salmon Bias on the Hispanic Mortality Advantage: New Evidence From Social Security Data," *Population Research and Policy Review* 27, no. 5 (2008): 515-30.

Zhenmei Zhang, Mark Hayward, and Chuntain Lu, "Is There a Hispanic Epidemiological Paradox in Later Life? A Closer Look at Chronic Morbidity," *Research on Aging* 34, no. 5 (2012): 548-71.

the same socioeconomic characteristics (income, education, employment, and occupation) as the white population as a whole. His analysis suggests that socioeconomic differences explain 70 percent of the life expectancy gap between black and white females and 80 percent of the gap for males. Probing further, he found that differences in education and income levels are the most important explanatory factors.

Blacks tend to have lower life expectancy than whites until about age 85, after which blacks tend to outlive their white peers (a phenomenon called racial crossover). Jackson and colleagues (2011) suggest that discrimination and chronic stress may lead to increased mortality among blacks beginning at midlife, leaving those who reach older ages hardier than whites of similar ages. Compared to whites, U.S. blacks experience more hardship and trauma early in life, as well as stressors related to their disadvantaged social status (discrimination, residential segregation). Among blacks, these stressors build up over the years, contributing to earlier onset of disease (particularly cardiovascular disease and Type 2 diabetes) and leading to lower life expectancy throughout early old age.

Living in a disadvantaged neighborhood also may limit life expectancy. Focusing on mortality before and after age 80, Yao and Robert (2011) examined national data on blacks and whites from the Americans' Changing Lives study and census tract information. They found that older adults who lived in more disadvantaged neighborhoods (mainly measured by high levels of poverty and low levels of education) had a higher mortality rate, even when individual income was taken into account. Compared to their white peers, black older adults have higher risks of dying before age 80, reflecting the impact of neighborhood and individual socioeconomic status. They argue that both individual and neighborhood socioeconomic disadvantages must be addressed to reduce the mortality disparities evident in old age.

Poor quality health care in predominantly black communities also may contribute to differences in life expectancy differences (Bach et al. 2004; Skinner et al. 2005). Researchers have found that doctors and hospitals that treat a disproportionate share of black patients tend to be less qualified and to have access to fewer resources than those that treat mainly white patients. (Only limited evidence suggests individual health providers treat black and white patients differently.) Analysis by Deaton and Lubotsky (2009) supports the explanation of differing quality of care by location. They examined data for U.S. cities and found a link between mortality and income inequality that virtually disappeared once they took into account the proportion of black residents. This finding suggests that whites who live in cities with large black populations also receive inferior care, affecting mortality rates.

Causes of Death: Despite differences in life expectancy, the leading causes of death among Americans ages 65 and over are very similar across the major racial and ethnic groups. For example, heart disease and cancer were the two leading causes of death in 2010 among older whites, blacks, and Hispanics, according to NCHS data. Stroke was the third leading cause of death for older blacks and Hispanics, while chronic respiratory diseases ranked third among older whites. (Stroke was fourth.) Further down the list, there were some differences. For example, diabetes was the fourth leading cause of death among both African American and Hispanic elderly, while Alzheimer's disease was the fifth leading cause of death among older whites (both men and women). And the sixth leading cause of death among older whites, accidents, did not rank among the top 10 causes for older blacks. There were not many gender differences within each racial group: Slightly more older black males died from cancer in 2010 than from heart disease, while Alzheimer's disease was the fifth leading cause of death among older black women. (It ranked only ninth among older black men.)

Health

Most researchers agree that socioeconomic status, access to health care, and health behaviors interact in complex ways to create racial and ethnic health disparities. While there is no consensus on which factors matter the most, there is some general agreement on the main causes. These include education, income, health-risk behavior, psychosocial factors (especially stress), access to and quality of health care, culture, genetic factors, and environmental and occupational risks.

Deaton (2011) explored the dynamics that produce racial differences in overall health, highlighting the consequences of living in a racist society, the relatively poorer quality of hospitals that predominantly serve African Americans, and environmental factors (as measured by relative proximity to sites judged to be toxic or hazardous). Deaton also speculated that three other factors could account for the poorer health status of some older minority groups: income disparities caused by unhealthy behaviors; a propensity toward more physically demanding jobs, which causes great stresses on the body; and increased income inequality, by which persons with wealth often are less likely to support initiatives to improve health conditions of people who are less financially secure.

Diez Roux and colleagues (2009) examined the role of accumulated stress, exploring the biological mechanisms that underlie racial and ethnic health differences among older people. After adjusting for income, education, and a variety of behavioral factors (including smoking and physical activity), they found that the "biological aging" process occurs faster for blacks and Hispanics than for whites. They studied telomere length, a genetic measure of stress on a person's body. While they found marked differences in telomere length among adults, the length did not differ among black, white, and Hispanic newborns, suggesting that racial differences in telomere length emerge and increase with age. Similarly, Geronimus and colleagues (2010) focused on black and white middle-age women (ages 49 to 55) and found that such factors as health behaviors (smoking, for example) and perceived stress (resulting from such conditions as economic hardship and discrimination) led black women to age biologically faster than white women, even when controlling for socioeconomic status.

Using data from the Americans' Changing Lives study, Yao and Robert (2008) found that racial and socioeconomic differences in self-reported health persist into old age and that among older African American adults, self-reported health declines more rapidly over time than that of older white adults. While individual and neighborhood socioeconomic factors account for much of the initial difference, they do not explain the more rapid decline in self-reported health among older blacks.

Pereira and colleagues (2011) probed black-white differences further. Using data from the National Health Measurement Study, they report that among persons ages 65 to 89, white men and women had higher health-related quality of life scores than black men and women, respectively. Moreover, elderly black men and women were far more likely to report poor health, but only older black women were more likely to report more than one chronic medical condition. The fact that black men are less likely to seek routine medical care (and therefore are less likely to have health conditions diagnosed) may contribute to the latter result.

Cancer Trends: The CDC's National Program of Cancer Registries reported cancer-incidence data for all states except Wisconsin in 2009. Data showed that the incidence of cancer (adjusted for age) was higher for older whites than it was for minorities in 2009. For example, the age-adjusted cancer rate for elderly African Americans was 3 percent lower than that for whites, while the incidence rate for older Latinos was 24 percent lower. The overall pattern was true for both men and women, although the age-adjusted cancer incidence rate for older black males was slightly higher (6 percent) than it was for white males.

Depression: Steffens and colleagues (2009) examined depression among persons ages 70 and over by race, drawing on a nationally representative sample that included people with cognitive impairment (a milder condition than dementia). They found that the prevalence of depression was about equal in men and women, but it was significantly higher (up to three times) among older whites and Latinos than among older African Americans. Other studies that do not include cognitively impaired people tend to find higher rates of depression among African Americans than whites. George and Lynch (2003) examined black and white adults ages 65 and older and found a relationship between stress levels (measured by instances of death and serious illness among family members and close friends) and increases in depressive symptoms. The older African Americans studied experienced more stress and more depressive symptoms than their white counterparts. Additionally, a study by Spence, Adkins, and Dupre (2011) that examined black and white women ages 52 to 81 found consistently higher levels of depressive symptoms among black women. Their analysis suggests that differences in physical health and socioeconomic status explain the racial gap.

Cognitive Functioning: Researchers increasingly view low formal education levels as a risk factor for developing Alzheimer's disease, and there is some evidence that educational quality also may play a role (see Mehta et al. 2009 for summary). Using data from the Aging, Demographics, and Memory Study, Mehta and colleagues (2009) found a link between self-reported "below average" school performance and increased odds of developing Alzheimer's disease among whites, blacks, and Hispanics. They argue that both quantity and quality of education may be key to building the cognitive capacity (known as cognitive reserve) that adults may draw on if they begin to suffer mental decline. "Not only is 'staying in school' important," they write, "but increasing school performance is equally important" … as a "possible protective mechanism to stave off the onset of Alzheimer's."

Studies on the prevalence of dementia and cognitive impairment have found a great deal of variability in rates, sometimes finding black rates similar to white rates and at other times finding black rates higher than white rates (see Potter et al. 2009 for summary). While differences between blacks and whites may reflect differences in education levels and socioeconomic status, Potter and colleagues (2009) sug-

gest that the varying prevalence rates documented in studies may reflect cultural differences as well. Using data from the Aging, Demographics, and Memory Study, they compared direct tests of cognitive function, reports by family members, and clinical diagnoses. Both blacks and whites perceived that their older family members were having cognitive difficulties, and their reports predicted a clinical diagnosis of dementia. However, whites' reports also tended to predict the emergence of cognitive impairment in their older family members, but blacks' reports did not. This suggests that family members' predictions of early cognitive changes may be influenced by cultural differences in perception and reporting, including that whites may be more inclined to report early signs of impairment, that blacks may be less inclined to report these changes, or that both patterns exist.

Another recent study found that most of the differences in cognitive function scores among whites, blacks, and Hispanics could be explained by differences in both educational attainment and current physical activity levels (Masel, Faji, and Peck 2010). Masel and colleagues used data from the Health and Retirement Study to examine adults ages 51 to 61 and found that higher levels of education and leisure-time physical activity (but not housework) were associated with higher cognitive test scores. The researchers suggest that programs promoting cognitive training and physical activity be examined to assess their impact on reducing the onset of cognitive decline.

Disability: Disabilities tend to be more prevalent among elderly in minority groups than among their non-Hispanic white counterparts. Preliminary estimates from the National Health and Aging Trends Study (NHATS) find that blacks and Hispanics are more likely than non-Hispanic whites to be among the 10 percent of Medicare enrollees ages 65 and older who became disabled in some way before their 65th birthday (Spillman 2012). A study examining disability trends based on National Health Interview Survey data from 1982 to 2002 showed that the difference between the disability rates of minorities and non-Hispanic whites narrowed over the 20-year period, from a 10 percentage point difference to about a 5-point gap in 2002 (Schoeni, Freedman, and Martin 2009). The same study found that differences in disability levels by socioeconomic status and education widened during the period.

Liang and colleagues (2010) examined differences in how disabilities emerge and worsen during the aging process. Using data from the Health and Retirement Study (among other data), they measured levels of physical functioning based on the need for assistance with personal activities (such as bathing, dressing, eating, walking, or getting in and out of bed) and with household tasks (preparing hot meals, grocery shopping, managing money, taking medication, or using a telephone). They found that older blacks and Latinos tended to experience more rapid functional declines than non-Hispanic whites as they aged. When they controlled for factors such as socioeconomic status, baseline health, and marital status, white-black differences persisted while white-Latino differences were all but eliminated. Their findings suggest that other factors—such as neighborhood characteristics, lifestyle, and discrimination—may play a role in older blacks' level of disability and contribute to the pace of their physical decline as they age.

Disability at older ages is closely linked to lifelong health. In an analysis based on the Health and Retirement Study, Hayward and Montez (2012) found that both poor health and low socioeconomic status during childhood each increase the likelihood that older blacks and non-Hispanic whites would have a disabling condition later in adulthood. But they also found that higher levels of educational attainment appeared to offset the impact of low childhood socioeconomic status, thereby decreasing the likelihood of having a disability in later life. The researchers suggest that these findings reflect the powerful role education plays in enabling individuals to overcome childhood disadvantages. They argue that education policy should be part of public policy strategies to limit disability, improve health, and reduce disparities. Additionally, a study of older African Americans not living in nursing homes found that having symptoms of major depression or two or more medical conditions significantly increased the odds of having a disability (Thorpe et al. 2011). The researchers suggest that chronic disease prevention efforts should target African Americans in midlife in order to slow or stop the progression of mobility problems that worsen in old age.

Freedman and colleagues (2009) found racial and ethnic disparities in the use of assistive technology and devices (walkers, scooters) and environmental modifications (grab bars, bath seats, or ramps) that allow people to function independently. Use of assistive technology is more widespread among non-Hispanic whites than among other groups. Minorities and those with lower socioeconomic levels were more likely to rely on someone else for help. The researchers suggest that public information campaigns and more widespread access could increase the use of assistive technology and devices by blacks and Hispanics, narrowing this gap, promoting independence, and improving quality of life.

End-of-Life Health Care Decisions: Compared to whites, blacks are more likely to distrust the health care system and hospice, to request aggressive care at the end of life, and to express discomfort discussing death (Carr 2011; Johnson, Kuchibhatla, and Tulsky 2008). The Health and Retirement Study asked respondents to make treatment choices for a hypothetical person, describing a woman in her 80s with cancer and asking what decisions respondents would make given different probabilities of survival and out-of-pocket costs (Chao, Pagan, and Soldo 2008). Older adults opted for treatment when costs were covered by Medicare, even if chances for survival were low. Blacks were more likely to choose to continue treatment regardless of the likelihood of survival or cost. Hispanics were more likely than whites to recommend opting out of costly end-of-life care, particularly if it would deplete savings and impoverish a surviving spouse.

Blacks and Hispanics are significantly less likely to complete advance directives (writing living wills, selecting a durable power of attorney for health care) than whites, even when socioeconomic differences are taken into account (Carr 2011). Compared to whites, Hispanics are less likely to believe that illness is a burden on their families and more likely to prefer family-centered decisionmaking (including informal discussions) rather than formal legal plans. Blacks and Hispanics' limited use of advance directives has been linked in part to the religious belief that God alone determines the timing and nature of death. Carr explains that "legal documents specifying one's medical treatment preferences may be deemed irrelevant, undesirable, or as intruding on God's plan." Patients who have an advance directive are more likely to receive the level of care they prefer at death; end-of-life Medicare spending was lower among patients with advance directives, particularly in areas of the country with high Medicare expenditures (Nicholas et al. 2011). These racial and ethnic differences will have growing implications for Medicare spending as minorities make up an increasing share of the older population.

References

Peter Bach et al., "Primary Care Physicians Who Treat Whites and Blacks," *New England Journal of Medicine* 35, no. 1 (2004): 575-84.

Deborah Carr, "Racial Differences in End-of-Life Planning: Why Don't Blacks and Latinos Prepare for the Inevitable?" *Omega* 63, no. 1 (2011): 1-19.

Li-Wei Chao, Jose Pagan, and Beth Soldo, "End-of-Life Medical Treatment Choices: Do Survival Chances and Out-of-Pocket Costs Matter?" *Medical Decision Making* 28, no. 4 (2008): 511-23.

Angus Deaton, "What Does the Empirical Evidence Tell Us About the Injustice of Health Inequalities?" Working Paper, Center for Health and Wellbeing, Princeton University (2011).

Angus Deaton and Darren Lubotsky, "Income Inequality and Mortality in U.S. Cities: Weighing the Evidence," *Social Science and Medicine* 68, no. 1 (2009): 1914-17.

Ana Diez Roux et al., "Race/Ethnicity and Telomere Length in the Multi-Ethnic Study of Atherosclerosis," *Aging Cell* 8, no. 3 (2009): 251-57.

Vicki A. Freedman et al., "Trends in Assistance With Daily Activities: Racial/Ethnic and Socioeconomic Disparities Persist in the U.S. Older Population," in *Health at Older Ages: The Causes and Consequences of Declining Disability Among the Elderly*, ed. David M. Cutler and David A. Wise (Chicago: University of Chicago Press, 2009).

Linda George and Scott Lynch, "Race Differences in Depressive Symptoms: A Dynamic Perspective on Stress Exposure and Vulnerability," *Journal of Health and Social Behavior* 44, no. 3 (2003): 353-69.

Arlene T. Geronimus et al., "Do U.S. Black Women Experience Stress-Related Accelerated Biological Aging?" *Human Nature: An Interdisciplinary Biosocial Perspective* 21, no 1 (2010): 19-38.

Michael Geruso, "Black-White Disparities in Life Expectancy: How Much Can the Standard SES Variables Explain?" *Demography* 49, no. 2 (2012): 553-74.

Mark Hayward and Jennifer Karas Montez, "Childhood Origins of a Long Life and Good Health," presentation at an interagency conference sponsored by the Administration for Community Living, U.S. Department of Health and Human Services and the National Institute on Aging, Washington, D.C., May 17-18, 2012.

James S. Jackson et al., "Discrimination, Chronic Stress, and Mortality Among Black Americans: A Life Course Framework," in *International Handbook of Adult Mortality*, ed. Richard Rogers and Eileen Crimmins (New York: Springer, 2011).

Kimberly Johnson, Maragatha Kuchibhatla, and James Tulsky, "What Explains Racial Differences in the Use of Advance Directives and Attitudes Toward Hospice Care?" *Journal of the American Geriatric Society* 56, no. 10 (2008): 1953-58.

Jersey Liang et al., "Ethnicity and Changing Functional Health in Middle and Late Life: A Person-Centered Approach," *The Journals of Gerontology Series B: Psychological Sciences and Social Sciences* 65, no. 4 (2010): 470-81.

Meredith Masel, Mukaila Faji, and M. Kristen Peck, "Education and Physical Activity Mediate the Relationship Between Ethnicity and Cognitive Function in Late Middle-Aged Adults," *Ethnicity and Health* 15, no. 3 (2010): 282-302.

Kala Mehta et al. "'Below Average' Self-Assessed School Performance and Alzheimer's Disease in the Aging, Demographics and Memory Study," *Alzheimer's & Dementia* 5, no. 5 (2009): 380-87.

Jennifer Karas Montez et al., "Trends in the Educational Gradient of U.S. Adult Mortality From 1986 to 2006 by Race, Gender, and Age Group," *Research on Aging* 33, no. 2 (2011): 145-71.

Lauren Hersch Nicholas et al., "Regional Variation in the Association Between Advance Directives and End-of-Life Medicare Expenditures," *Journal of the American Medical Association* 206, no. 13 (2011): 1447-53.

S. Jay Olshansky et al., "Differences in Life Expectancy Due to Race and Educational Differences Are Widening, and Many May Not Catch Up," *Health Affairs* 31, no. 8 (2012): 1803-13.

Claudia Pereira et al., "Race and Preference-Based Health-Related Quality of Life Measures in the United States," *Quality of Life Research* 20, no. 6 (2011): 969-78.

Guy G. Potter et al., "Cognitive Performance and Informant Reports in the Diagnosis of Cognitive Impairment and Dementia in African Americans and Whites," *Alzheimers & Dementia* 5, no. 6 (2009): 445-53.

Robert Schoeni, Vicki Freedman, and Linda Martin, "Socioeconomic and Demographic Disparities in Trends in Old-Age Disability," in *Health at Older Ages: The Causes and Consequences of Declining Disability Among the Elderly*, ed. David M. Cutler and David A. Wise (Chicago: University of Chicago Press, 2009).

Jonathan Skinner et al., "Mortality After Acute Myocardial Infarction in Hospitals That Disproportionately Treat Black Patients," *Circulation* 112, no. 1 (2005): 2634-41.

Brenda Spillman, "Implications of Disability Onset Before Late Life for Supportive Services," presentation at the annual meeting of Academy Health, Orlando, FL, June 25-27, 2012.

Naomi Spence, Daniel Adkins, and Matthew Dupre, "Racial Differences in Depression Trajectories Among Older Women: Socioeconomic, Family, and Health Influences," *Journal of Health and Social Behavior* 52, no. 4 (2011): 444-59.

David C. Steffens et al., "Prevalence of Depression Among Older Americans: The Aging, Demographics, and Memory Study," *International Psychogeriatrics* 21, no. 5 (2009): 879-88.

The NIA Demography Centers

The National Institute on Aging supports 14 research centers on the demography and economics of aging, based at the University of California at Berkeley, University of Chicago, Duke University, Harvard University, Johns Hopkins University, University of Michigan, National Bureau of Economic Research, University of Pennsylvania, Princeton University, RAND Corporation, Stanford University, Syracuse University, University of Southern California/University of California at Los Angeles, and University of Wisconsin-Madison.

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For More Information

Aging, Demographics, and Memory Study (ADAMS)
http://aging-memory.duhs.duke.edu/ADAMS.html

National Program of Cancer Registries
www.cdc.gov/cancer/npcr/

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Roland Thorpe et al., "Correlates of Mobility Limitation in African Americans," *The Journals of Gerontology Series A: Biological Sciences and Medical Sciences* 66A, no. 11 (2011): 1258-63.

Li Yao and Stephanie A. Robert, "The Contributions of Race, Individual Socioeconomic Status, and Neighborhood Socioeconomic Context on the Self-Rated Health Trajectories and Mortality of Older Adults," *Research on Aging* 30, no. 2 (2008): 251-73.

Li Yao and Stephanie A. Robert, "Examining the Racial Crossover in Mortality Between African American and White Older Adults: A Multilevel Survival Analysis," *Journal of Aging Research* (2011), article ID 132073 (online).

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