

Miles to Go before We Sleep: Racial Inequities in Health

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David R. Williams^{1,2}

Abstract

Large, pervasive, and persistent racial inequalities exist in the onset, courses, and outcomes of illness. A comprehensive understanding of the patterning of racial disparities indicates that racism in both its institutional and individual forms remains an important determinant. There is an urgent need to build the science base that would identify how to trigger the conditions that would facilitate needed societal change and to identify the optimal interventions that would confront and dismantle the societal conditions that create and sustain health inequalities.

Keywords

health policy, interventions, race, racism, socioeconomic status

For more than 100 years, scientific research has documented that racial gaps in health exist, and the federal government provides an annual update of these disparities (National Center for Health Statistics 2011). This article provides an overview of current knowledge of racial inequities in health. I describe salient patterns in the distribution of disease by race and review evidence of race-related aspects of social experience that matter for health. I pay particular attention to recent research on self-reported racial discrimination and health. Despite thousands of published studies, our current knowledge is limited with regard to the most effective strategies to reduce health inequities, and there is an urgent need to develop a science base to guide societal interventions.

MILES TO GO: LARGE RACIAL GAPS IN HEALTH PERSIST

Race is one of America's most important social categories. It has historically captured economic exploitation, political marginalization, and social stigmatization that has made it consequential for virtually every aspect of life (American Sociological

Association 2003). The U.S. government's Office of Management and Budget (OMB) requires federal statistical agencies to classify the U.S. population into five racial categories (white, black, American Indian or Alaskan Native, Asian, and Native Hawaiian and other Pacific Islander) and into either the Hispanic or non-Hispanic ethnic category (Office of Management and Budget 1997). The OMB's distinction between race and ethnicity is arbitrary and flawed (Williams 1997), and most Hispanics would prefer that Hispanic be treated as a "racial" category (Tucker et al. 1996). Accordingly, in this article, I use "race" to refer to the OMB's racial and ethnic categories, and I use the terms "black" and "African American," "Hispanic" and

¹Department of Society, Human Development and Health, Harvard School of Public Health, Boston, MA, USA

²Department of African and African American Studies and of Sociology, Harvard University, Cambridge, MA, USA

Corresponding Author:

David R. Williams, Harvard School of Public Health, 677 Huntington Avenue, 6th Floor, Boston, MA 02115, USA
E-mail: dwilliam@hsph.harvard.edu

Table 1. The 15 Leading Causes of Death in 2007 and Age-Adjusted Minority/White Death Rates

Rank	Cause of Death	<i>n</i>	Black/ White	American Indian/ White	Asian or Pacific Islander/ White	Hispanic/ Non- Hispanic White
	All causes	2,423,712	1.3	.8	.6	.7
1	Heart disease	616,067	1.3	.7	.5	.7
2	Cancer	562,875	1.2	.7	.6	.6
3	Stroke	135,952	1.5	.7	.8	.8
4	Lung disease	127,924	.7	.7	.3	.4
5	Accidents	123,706	.9	1.3	.4	.7
6	Alzheimer's disease	74,632	.8	.5	.3	.6
7	Diabetes	71,382	2.1	1.8	.8	1.5
8	Flu and pneumonia	52,717	1.2	.9	.9	.8
9	Kidney disease	46,448	2.2	1.1	.7	.9
10	Septicemia	34,828	2.2	1.0	.5	.8
11	Suicide	34,598	.4	.9	.5	.4
12	Liver cirrhosis	29,165	.8	2.6	.4	1.6
13	Hypertension	23,965	2.5	.9	1.0	1.0
14	Parkinson's disease	20,058	.5	.5	.5	.6
15	Homicide	18,361	5.7	1.8	.6	2.5

Source: Xu et al. (2010).

“Latino,” and “American Indian” and “Native American” interchangeably. These racial categories capture many traditional aspects of ethnicity, such as common geographic origins, ancestry, family patterns, language, cultural norms, and traditions, but also historic legacies of social injustice and contemporary social inequality (American Sociological Association 2003). I use the term “ethnicity” to refer to subgroups of the OMB’s categories.

Mortality data provide a glimpse of health status in the United States. In 2007, blacks had an overall death rate that was 30 percent higher than that of whites, while the rates for all other groups were lower than that of whites (Table 1). African Americans had higher death rates than did whites for 10 of the 15 leading causes of death. Hispanics and American Indians had higher death rates than whites for diabetes, liver cirrhosis, and homicide. American Indians also had elevated mortality rates for accidents and hypertension. These nationally available health data have several limitations. First, because of problems with both the numerator and denominator, mortality statistics are more accurate for blacks and whites than for the other racial populations, with the misclassification of Asians, Hispanics, and American Indians as white on death certificates leading to understated mortality rates for these groups (Williams 2005).

Second, although age-adjusted death rates are useful metrics for comparison, they are not accurate measures of actual risk (National Center for Health Statistics 2011) and when interpreted as such can lead to distortions of the magnitude of racial disparities (Williams 2005). For example, age-specific black/white mortality ratios are larger than the overall age-adjusted ratio of 1.3 from birth through age 74 (Williams et al. 2010). Similarly, in contrast to an overall age-adjusted rate that is lower than that of whites, American Indians have higher age-specific death rates than do whites from birth through age 54 (Williams et al. 2010). Morbidity data also reveal elevated rates of illness for American Indians compared with whites for multiple conditions (Barnes, Adams, and Powell-Griner 2010). Moreover, American Indians served by the Indian Health Service (some 60 percent of that population) have a markedly worse health profile than that of American Indians nationally (Indian Health Service 2009). Third, when health data for Pacific Islanders are combined with those for Asians, the elevated health risks for Native Hawaiians and other Pacific Islanders are obscured (Panapasa et al. 2010). Fourth, there is important heterogeneity in health status by ethnicity within each of the OMB’s racial categories. For example, although the patterns are complex, the health of

Arab Americans (a subgroup of the white population) differs from the health profile of whites for some indicators of health status (Dallo et al. 2012).

The health profile of Asians and Hispanics is influenced by the high proportion of immigrants within these populations. Immigrants of all racial groups tend to have better health than their native-born peers, but their health declines with increasing length of stay and generational status (Singh and Miller 2004). Recent research illustrates the deteriorating health of immigrants. One study found that middle-aged U.S.-born Mexican Americans and Mexican immigrants with long-term residence in the United States had higher levels of allostatic load (a summary measure of biological dysregulation) than did recent Mexican immigrants, despite being higher in socioeconomic status (SES) and even after adjustment for health practices and medical care (Kaestner et al. 2009). Similarly, a study of Chicago adults found that foreign-born Hispanics had levels of illness and stress similar to those of whites, while U.S.-born Hispanics were similar to African Americans on these indicators (Sternthal, Slopen, and Williams 2011).

The negative stigmatization of being black appears to adversely affect black Caribbean immigrants over time. The activation of negative stereotypes about blacks enhances academic performance among first-generation immigrants but, similar to African Americans, reduces it for the second generation (Deaux et al. 2007). The worsening of health of black Caribbean immigrants with length of stay in the United States is also striking. For example, compared with a lifetime rate of psychiatric disorders that is 31 percent for African Americans and 37 percent for whites (Miranda et al. 2008), the 19 percent rate for first-generation black Caribbean immigrants increases to 35 percent for the second generation and 55 percent for the third (Williams et al. 2007b). Black Caribbean men in particular appear to face distinct health challenges. They have a higher prevalence of mental disorders than Caribbean women and of mood disorders than African American men (Williams et al. 2007b). Women generally have higher rates of major depression than men, but black Caribbean men have a current rate of depression that is higher than that of Caribbean women (Williams et al. 2007a). Suicide attempts are also higher for black Caribbean men than for black Caribbean women and African Americans (Joe et al. 2006). We currently do not understand how structural and cultural factors combine to affect these patterns of illness. It has been suggested that differential economic benefits to migration, by gender, may alter family dynamics and mental health for Caribbean men

who were raised in a more patriarchal society than the United States (Williams et al. 2007a).

Earlier Onset of Disease

Minorities also get sick at younger ages and die sooner than do whites. In a classic study, Geronimus (1992) showed that national infant death rates were lower for white and Mexican American women who delayed first births to their 20s compared with those who gave birth in their teens. The opposite pattern was evident for black and Puerto Rican women, with infant mortality lower for 15- to 19-year-olds than for women who had their first baby in their 20s. Geronimus argued that this pattern was due to “weathering”: early physiological deterioration due to the cumulative impact of multiple social disadvantages. Recent studies provide evidence of this earlier onset of disease or accelerated aging for minorities across multiple health status indicators. White women have a higher incidence of breast cancer than do black women, but the incidence rate under the age of 40 is higher for black than white women (Anderson et al. 2008). Similarly, a 20-year follow-up study found that incident heart failure before the age of 50 was 20 times more common in blacks than whites, with the average age of onset being 39 years for African Americans (Bibbins-Domingo et al. 2009). National data also show that cardiovascular disease develops earlier in blacks than whites, with 28 percent of cardiovascular disease deaths among blacks occurring before age 65 compared with 13 percent among whites (Jolly et al. 2010).

Geronimus et al. (2006) also showed that the early health deterioration of black adults is evident across multiple biological systems. Using a global measure of allostatic load that summed 10 indicators of clinical and subclinical status, they found that blacks were more likely than whites to score high on allostatic load (high on four or more indicators) at all ages, and the size of the black-white gap increased with age. In each age group, the average score for blacks was comparable with that of whites who were 10 years older. Moreover, blacks continued to have higher allostatic load scores even after adjustment for poverty.

Racial Differences across the Continuum of Disease

Racial inequities in health are also evident in the severity and progression of disease. For example, African Americans have a higher prevalence of

chronic kidney disease (CKD) than whites, require dialysis or kidney transplantation at younger ages, and have a higher incidence of end-stage renal disease at each decade of life, and their level of CKD risk factors does not adequately account for their faster progression of CKD to end-stage renal disease (Bruce et al. 2009). Disparities in the severity and progression of illness have been documented even for outcomes that are less prevalent in blacks. Breast cancer is one example. Although black women are less likely than whites to get breast cancer, they are more likely than their white peers to have tumors that grow quickly, recur more often, are resistant to treatment, and kill more frequently (Chlebowski et al. 2005). Thus, although less likely than white women to get breast cancer in any given year, black women are more likely to die from it. Major depression is another example. African Americans have lower lifetime and current rates of depression than do whites, but depressed blacks are more likely than their white peers to have higher levels of impairment, to have more severe symptoms, to be chronically depressed, and to not receive any treatment (Williams et al. 2007a).

Racial Disparities Exist in the Effects of Some Risk Factors

Although levels of cigarette smoking are similar for blacks compared with whites, a given level of tobacco use has a more adverse impact on blacks compared with whites. Black men have higher lung cancer incidence and mortality compared with their white peers (Berger, Lund, and Brawley 2007), and analysis of nicotine metabolism reveals that compared with whites, blacks have a higher nicotine intake and cotinine level per cigarette (Perez-Stable et al. 1998). In a similar vein, despite comparable levels of alcohol consumption, alcohol-related mortality is twice as high for blacks compared with whites (Stinson, Nephew, and Dufour 1996). Research also reveals that at equivalent levels of alcohol use, blacks are more susceptible to liver damage than whites (Stranges et al. 2004) and that in contrast to a protective effect for whites, there was no beneficial effect of moderate alcohol consumption on all-cause mortality for blacks (Sempos et al. 2003), and moderate alcohol consumption

was positively related to indicators of cardiovascular disease for black men (Fuchs et al. 2001, 2004; Pletcher et al. 2005). It is unclear if these patterns reflect interactions of alcohol and tobacco with other social, physical, and chemical exposures and/or biological adaptations, including gene expression changes to these exposures. Alternatively, they could also reflect misunderstanding of the associations between these health practices and health status. For example, some evidence suggests that some of the reported beneficial effects of moderate alcohol consumption are due to residual confounding with high SES and good health practices (Fillmore et al. 1998; Naimi et al. 2005).

Racial Disparities in Health Persist over Time

Life expectancy data illustrate the striking persistence of racial disparities in health over time. In 1950, blacks had a life expectancy at birth of 60.8 years, compared with 69.1 years for whites (National Center for Health Statistics 2011). Life expectancy has been improving for both groups over time, but it was not until 1990 that blacks achieved the life expectancy that whites had in 1950. And although the racial gap has narrowed, there was still an almost 5-year gap in life expectancy in 2007 (73.6 vs. 78.4 years). Data from the Indian Health Service (2009) also provide numerous examples of persisting and in some cases widening disparities for specific causes of death over time for American Indians compared to whites. It is noteworthy that the extent of health inequalities over time varies by the use of absolute versus relative measures of inequality and that an exclusive use of relative measures can obscure progress (Harper et al. 2010; Williams 2005).

The pattern of racial inequities in health in the United States mirrors that in other countries and suggests the potential of common societal causes across national and cultural contexts. In race-conscious societies such as Australia, Brazil, Canada, New Zealand, South Africa, and the United Kingdom, nondominant racial groups have worse health than dominant groups (Bramley et al. 2004; Hamilton et al. 2001; Nazroo and Williams 2006). For example, analyses of health data for the New Zealand Maori, Australian Aboriginals and Torres

Strait Islanders, First Nations on-reserve Canadians, and American Indians and Alaskan Natives found that indigenous people had lower life expectancy compared with the nonindigenous population in every country (Bramley et al. 2004). Instructively, three specific causes of death—diabetes, homicide, and suicide—showed a consistent pattern of elevated risk for indigenous groups across these diverse societies. Racial health inequalities are also persistent over time outside of the United States. For example, a study of mortality differences between the Maori and non-Maori populations in New Zealand from 1951 to 2006 found that health inequalities remained substantial in 2006 (Tobias et al. 2009).

MAKING SENSE OF RACIAL INEQUALITIES IN HEALTH

In the late nineteenth century, W.E.B. DuBois ([1899] 1967) documented that blacks in Philadelphia had elevated rates of disease and death compared with whites. He concluded that the determinants of the poorer health for blacks compared with whites were multifactorial but primarily social. His list of contributing factors included neglect of infants, bad dwellings, poor ventilation, dampness and cold, poor food, unsanitary living conditions, inadequate outdoor life, and poor heredity. Sociologists had long noted that social class and social contextual factors play a critical role in influencing the social distribution of disease. Half a century earlier, Friedrich Engels ([1845] 1984) documented that the upper classes in Liverpool, England, had an average life expectancy of 35 years, compared with 15 years for day laborers. He argued that British society was committing “social murder” by exposing workers to living and working conditions that made it difficult to be healthy and live to an advanced age. Location in social structure reflects differential power and differential exposure to psychological, social, physical, and chemical exposures in occupational, residential, and other societal contexts. There are large racial differences in SES, and they account for a substantial part of observed racial differences in health. However, race and SES combine in complex ways to affect health. Race is a social status category that was created by larger societal processes and institutions, including institutional and individual dimensions of

racism (Williams 1997). SES is not thus just a confounder of the relationship between race and health but part of the causal pathway that links race to health. That is, historical and contemporary racial discrimination created and perpetuates both racial inequities in SES and racial inequality in health status.

Race Captures More Than Socioeconomic Inequality

Recent research documents that there is an added burden of race, over and above SES, that is linked to poor health. Table 2 illustrates this using national data on life expectancy. At age 25, whites live 5 years longer than African Americans (Murphy 2000). However, for both blacks and whites, variations in life expectancy by income and education data are larger than the overall black-white difference (Braveman et al. 2010). High-income blacks and whites live 7.1 and 6.8 years longer, respectively, than their low-income counterparts. For both racial groups, as income levels rise, health improves in a stepwise manner, but there are black-white differences in life expectancy of at least three years at every level of income. Geronimus et al.’s (2006) analysis of allostatic load scores parallels the life expectancy data and further illustrates how race and SES reflect two related but not interchangeable systems of inequality. For both blacks and whites, allostatic load scores were higher for the poor than for the nonpoor, but blacks had higher scores than for whites at comparable income levels (Geronimus et al. 2006). Moreover, racial disparities in allostatic load scores were larger among the nonpoor than among the poor.

Large racial differences in health at similar levels of SES are also evident in national data on birth outcomes (Braveman et al. 2010). The expected inverse association between mother’s education and infant mortality is evident for blacks, whites, and Hispanics. However, the infant mortality rate for college-educated African American women is more than two and a half times as high as that of similarly educated whites and Hispanics. Moreover, black female college graduates have a higher rate of infant mortality than Hispanic and white women who have not completed high school. These patterns highlight the need to understand pathogenic race-related exposures at all SES levels.

Table 2. Life Expectancy at Age 25, United States

Group	White	Black	White – Black
All (1998) ^a	53.4	48.4	5.0
By income (1988–1998) ^b			
Poor (<FPL)	49.0	45.5	3.5
Near poor (>FPL to <2 × FPL)	51.4	48.0	3.4
Middle income (>2 × FPL to <4 × FPL)	53.8	50.7	3.1
High income (>4 × FPL)	55.8	52.6	3.2
Income difference	6.8	7.1	

Note: FPL = federal poverty level.

^aMurphy (2000).

^bBraveman et al. (2010).

Understanding the Added Burden of Race

Research suggests that three key factors may each contribute to the residual effect of race after SES is controlled (Williams and Mohammed 2009). First, indicators of SES are not equivalent across race. Compared with whites, blacks and Hispanics have lower earnings at comparable levels of education, less wealth at every level of income, and less purchasing power because of higher costs of goods and services in their communities (Williams and Collins 1995). Second, health is affected not only by one's current SES but by exposure to social and economic adversity over the life course. Racial-ethnic minority populations are more likely than whites to have experienced low SES in childhood and elevated levels of early life psychosocial and economic adversity that can affect health in adulthood (Colen 2011). In national data, early life SES helps explain the black-white gap in mortality for men (Warner and Hayward 2006). Another recent study linked early life adversity to multiple markers of inflammation for adult African Americans but not for whites (Slopen et al. 2010).

Third, a growing body of evidence is documenting that racism is a critical missing piece of the puzzle in understanding the patterning of racial disparities in health. Institutional racism and personal experiences of discrimination are added pathogenic factors that can affect the health of minority group members in multiple ways (Williams and Mohammed 2009): Discrimination can lead to reduced access to desirable goods and services, internalized racism (acceptance of society's negative characterization) can adversely affect

health, racism can trigger increased exposure to traditional stressors (e.g., unemployment), and experiences of discrimination may be a neglected psychosocial stressor.

Arguably, the most consequential effects of racism on health are due to residential segregation by race, a mechanism of institutional racism (Williams and Collins 2001). Segregation can restrict socioeconomic attainment and lead to group differences in SES and health. It also creates pathogenic neighborhood conditions, with minorities living in markedly more health-damaging environments than whites and facing higher levels of acute and chronic stressors. Although the majority of poor persons in the United States are white, poor white families are not concentrated in contexts of economic and social disadvantage and with the absence of an infrastructure that promotes opportunity in the ways that poor blacks, Latinos, and Native Americans are. The neighborhoods where minority children live have lower incomes, education, and home ownership rates and higher rates of poverty and unemployment compared with those where white children reside. In 100 of America's largest metropolitan areas, 75 percent of all African American children and 69 percent of all Latino children are growing up in more negative residential environments than are the worst-off white children (Acevedo-Garcia et al. 2008).

Research has yet to fully document the effects that the distinctive environments created by residential segregation have on the health of stigmatized racial groups in the United States. These adverse environmental conditions have important implications for the potential contribution of epigenetics to

racial disparities in health (Williams et al. 2010). “Epigenetics” refers to changes in the patterns of gene expression resulting from changes in a chromosome without alterations in the sequence of deoxyribonucleic acid. Research on the role of genetics in racial disparities in health has historically emphasized gene frequency over gene expression (Williams et al. 2010). Environmental exposures are one potential contributor to epigenetic changes, reflecting the reality that biology is not static but adapts to environmental conditions. Inadequate attention has been given in prior research to the extent to which the different residential environments of racial minorities lead to elevated exposure to environmental pollutants that can interact with other psychosocial exposures to affect health risks (Gee and Payne-Sturges 2004).

Perceived Discrimination and Health

The aspect of racism that has received the most empirical study is self-reported experiences of discrimination. Impressive evidence of the persistence of discrimination in contemporary society comes from audit studies. One study found that a white job applicant with a criminal record is more likely to be offered a job than is a black applicant with an otherwise identical resume whose record was clean (Pager 2003). Another study found that applications for white-collar jobs with distinctively white names, such as Alison, Emily, Brad, and Greg, were 50 percent more likely to get callbacks for interviews than identical resumes with distinctively black names such as Latisha, Aisha, Jamal, and Darnell (Bertrand and Mullainathan 2004).

Minority group members are aware of at least some experiences of discrimination, and these incidents can be a source of stress. Recent reviews document important progress in this area of research (Pascoe and Richman 2009; Williams and Mohammed 2009). Several longitudinal studies and other studies have found that the effects of discrimination persist after adjusting for potential psychological confounders such as social desirability bias and negative affect. Extant studies include all major racial groups in the United States; non-dominant racial groups in New Zealand, South Africa, and Australia; and immigrants in Canada, Hong Kong, and many countries in Europe. These

studies document that discrimination is associated with a broad range of health conditions, ranging from violence, sexual problems, and poor sleep quality to elevated risk for increased C-reactive protein levels, high blood pressure, and coronary artery calcification, breast cancer incidence, uterine myomas (fibroids), and subclinical carotid artery disease. Discrimination has also been associated with delays in seeking treatment, lower adherence to medical regimes, and lower rates of follow-up. Importantly, studies in the United States, South Africa, and New Zealand have found that discrimination accounts, in part, for the residual racial disparities in health after controls for SES (Williams and Mohammed 2009).

Recent studies highlight important but neglected aspects of discrimination. First, some studies suggest that both exposure to discrimination and its consequences are evident early in life. A study of 5,147 fifth graders found that 7 percent of whites, 15 percent of Hispanics, and 20 percent of blacks had experienced racial discrimination, and these experiences were associated with an increased risk for depression, attention deficit hyperactivity disorder, oppositional defiant disorder and conduct disorder (Coker et al. 2009). Another study found that the majority of American adolescents are exposed to racial discrimination in online contexts, such as chat rooms and social network sites, and that online racial discrimination was positively related to mental health symptoms even after adjustment for general adolescent stress and offline discrimination (Tynes et al. 2008). Second, another study illustrated the importance of assessing interpersonal discrimination in the context of other aspects of racism. It found that perceived discrimination was positively associated with cardiovascular disease among black men who scored low on internalized racism, but among black men high on internalized racism, the risk for cardiovascular disease was highest among those reporting no discrimination (Chae et al. 2010).

Third, several studies have found that although whites report lower levels of discrimination than blacks, discrimination also adversely affects their health (Williams and Mohammed 2009). Limited evidence indicates that whites understand questions about discrimination in ways similar to blacks and that their emotional reactions and

reported stress responses are similar to those of African Americans (Williams et al. 2012). However, it remains unclear whether perceptions of episodic, occasional experiences of discrimination by whites are equivalent to reports of discrimination by racially stigmatized groups for whom these experiences are likely to be more systematic, insidious, and constant and may serve to reinforce their historic status characterized by social inequality and oppression. At the same time, there is much that we need to understand about social stigmatization and the conditions under which it can affect health across population groups. A recent national study of Jewish Americans, a white ethnic group with a history of structural disadvantage and stigmatization, found that Jews had higher levels of income and education than other whites, but they reported health status worse than other whites (and similar to African Americans) once the association was adjusted for SES (Pearson and Geronimus 2011).

MILES TO GO: ENHANCING THE SCIENCE OF INTERVENTION

Future research needs to build a science base that will stimulate and inform effective societal efforts to reduce inequalities in health. Several lines of evidence suggest that efforts to reduce racial inequalities in health should be characterized by a sense of urgency. First, the economic status of disadvantaged minority groups is declining in the United States. One recent report documented that between 2005 and 2009, the median wealth of white households declined by 16 percent, compared with 53 percent for black and 66 percent for Hispanic households (Pew Research Center 2011b). Thus, the median wealth of whites is 20 times that of blacks and 18 times that of Hispanics. Another storm cloud for the African American population is the contraction of government employment at both the state and federal levels. Public sector employment has been a key to black upward mobility and the development of the black middle class (Wilson 2011). These challenges will be especially acute for black men. There are higher levels of college completion for women than for men in all racial groups in the United States, but the gap is largest among blacks,

and the black/white earnings ratio for male college graduates, aged 25 to 29, has been declining over time, from 93 percent in 1977 to 73 percent in 1987, 83 percent in 1997, and 80 percent in 2007 (Wilson 2011).

Second, the current economic crisis in the United States is leading to spending reductions at the federal, state, and local levels. Although many of these budget cuts are outside the health sector, they weaken the social safety net for vulnerable populations and will likely lead to increased rates of illness, greater numbers of premature deaths, and increased health care costs (Woolf 2011). Government spending reductions during the early 1980s led to worsening health for low-SES populations and racial minorities (Williams and Collins 1995). Third, there is declining interest in and support for policies to address racial inequalities among whites in the United States. Both whites who voted for President Obama and those who did not indicate that there is less need to address racial inequality in the United States and that they would be less supportive of policies to address inequities (Williams et al. 2010). In striking contrast, the persistence of racial inequality and discrimination suggest that antidiscrimination programs may be crucial for ensuring racial equality. Relatedly, there has been a national shift toward a conservative or Republican ideology. Since President Obama was elected, there has been marked growth in Republican Party membership among white voters that has been particularly pronounced among the young (aged 18 to 29 years) and the low income (earning less than \$30,000) (Pew Research Center 2011a). Thus, in 2011, the Republican edge (Republicans or independents leaning Republican) over Democrats among whites was 13 points (52 percent to 39 percent), compared with a 2-point edge (46 percent to 44 percent) in 2008.

Building Awareness and Political Will

Over 100 years ago, DuBois ([1899] 1967) lamented that

the most difficult social problem in the matter of Negro health is the peculiar attitude of the nation toward the well-being of the race. There have . . . been few other cases in the history of civilized peoples

where human suffering has been viewed with such peculiar indifference. (p. 163)

Research is needed to identify effective communication strategies that would create the conditions for change. We need to increase public knowledge of the magnitude and determinants of racial inequalities in health. A recent national survey found that fewer than half (46 percent) of all American adults were aware of health disparities between blacks and whites (Booske, Robert, and Rohan 2011). Political ideology was associated with knowledge of health disparities, with liberals being three times as likely as conservatives to be aware of racial and SES gaps in health (Booske et al. 2011). Education was also positively associated with knowledge. In addition, there was limited appreciation of the contribution of social and economic factors to health. Most Americans viewed personal health behaviors and access to care as very strong determinants of health (Robert and Booske 2011). Many fewer saw employment, education, housing quality, and community safety as important determinants of health. Individuals who were politically liberal, minority group members, older, and of low SES were more likely to endorse the importance of social factors (Robert and Booske 2011).

That minorities and low-SES persons were among the most knowledgeable about social factors suggests that experience plays an important role in providing knowledge (Robert and Booske 2011). This highlights the value of narrative approaches that enable socially advantaged individuals to envision and sympathize with the harsh realities of disadvantaged individuals and situations. The strong public endorsement of the role of individual action also suggests the necessity of simultaneous attention to personal responsibility and to social policies and initiatives to reduce the barriers that make it extremely difficult for many Americans to make healthy choices.

Research is also needed to identify how best to enhance emotional identification with racial disparities and to build empathy and support to address them. The FrameWorks Institute has done pioneering work on the dominant frames about race that are activated by the mention of racial inequalities (Davey 2009). These dominant frames include the beliefs that U.S. society has made dramatic

progress on race in recent decades; changes in laws and policies have eliminated discrimination and racism, except at the level of the individual; this residual level of personal racism persists and is as common in whites as in minorities; personal responsibility (and character, values, and effort) are the drivers of success in life; discrimination does not play a role; and whites and nonwhites have separate fates because of differences in core American values.

This research has also found that several widely used framing strategies such as viewing diversity as a strength, arguing that disparities for minorities are early warning indicators (canaries in a coal mine), and claiming that disparities reflect white privilege or are structurally driven were all ineffective (Davey 2009). In each of these cases, the dominant racial framing obscures an alternative viewpoint. In contrast, framings that work are those that focused less on racial disparities and emphasized widely shared American values (such as enhancing opportunity for all and ingenuity) and that link communities in a sense of shared fate. Specifically, frames that gave primacy to effective solutions and innovation, emphasized opportunity for all, highlighted the interdependence of all communities, stressed preventing community problems before they occurred, and emphasized fairness (not between individuals but) between places all have the potential to build support for addressing disparities.

Maximizing Opportunities to Address Disparities in Health Care Settings

Sociologists have tended to downplay the role of medical care as a key determinant of health (McKinlay and McKinlay 1977), but research reveals that 40,000 people die in the United States annually because they lack health insurance (Wilper et al. 2009). Several lines of evidence suggest that some types of medical care can improve health and reduce social inequalities in health. First, primary care, with its emphasis on prevention and the early management of disease, is associated with lower health care costs, better health at the individual and population levels, and smaller social disparities in health (Starfield, Shi, and Macinko 2005). Second, a recent study found that

each 10 percent increase in local public health spending was associated with declines in mortality from major preventable causes of death of between 1.1 percent and 6.9 percent (Mays and Smith 2011). Third, the receipt of medical safety net services is associated with better health. A recent study that randomized uninsured persons to apply for Medicaid services found that, one year later, the treatment group had higher use of health care services (including primary and preventive care); lower out-of-pocket medical expenses, medical debt, and financial stress; and better self-reported physical and mental health than the control group (Finkelstein et al. 2011). Fourth, international evidence suggests that medical care can improve the health of vulnerable populations. Access to primary care is a likely major contributor to the unexpectedly good health profiles of Cuba and Costa Rica (Starfield et al. 2005). Similarly, with an innovative preventive health care system (Tavassoli 2008), Iran has erased, in two decades, a twofold elevated risk for infant mortality in rural compared with urban areas (Aghajanian et al. 2007). Efforts are currently under way to apply the Iranian model to address the unmet health care needs in Mississippi, Arkansas, and Louisiana (Bristol 2010). However, a recent Iranian study reported that although increased health care led to declines in child and maternal mortality and increases in life expectancy at birth, the rate of low birth weight had not declined (Jafari et al. 2010). It found that the determinants of low birth weight were low SES and material deprivation, a reminder that medical care alone is not a panacea.

Using Social and Economic Policies to Improve Health

Research has also given inadequate attention to the effects, positive and negative, that changes in social policies can have on health. There is limited but compelling evidence that reducing social inequalities can reduce health inequalities. Research reveals that the improvements in SES that were associated with the civil rights movement led to improved health status for the black population. Civil rights policies narrowed the black-white economic gap, with the gains being greater for women than for men (Kaplan, Ranjit,

and Burgard 2008). In turn, the gains in life expectancy for working-age black women from 1965 to 1974 were three times as large as those in the prior decade and exceeded those of other race and sex groups (Kaplan et al. 2008). Another study documented that between 1968 and 1978, a period during which the racial gap in income declined as a result of civil rights and antipoverty policy, black men and women aged 35 to 74 years had larger absolute and relative declines in mortality than whites (Cooper et al. 1981).

Changes in social policies during the civil rights era linked to hospital desegregation and the advent of Medicaid and food stamps also led to a reduction in the black-white gap in infant mortality in southern states between the mid-1960s and the early 1970s and to substantially lower risk factor rates for the adult women who benefited from them (Almond and Chay 2006; Almond, Chay, and Greenstone 2006). These policies also had intergenerational benefits, with the women who benefited from them being less likely to give birth to infants with low birth weight and low Apgar scores. However, as the incomes of blacks fell relative to those of whites during the 1980s, racial disparities in health worsened for multiple indicators (Williams and Collins 1995). For example, the life expectancy of blacks declined from its 1984 level for five years in a row, while the life expectancy of whites increased slightly during this period. Research from New Zealand also indicates that mortality gaps between the Maori and non-Maori populations between 1951 and 2006 narrowed and widened (with a five-year lag) in tandem with social inequalities (Tobias et al. 2009).

A recent study using cross-sectional data for 50 states for a 10-year period documented that states with more generous spending on education, more progressive taxation systems, and more humane (lenient) Temporary Assistance for Needy Families and Medicaid program rules had better overall population health, with the effects being stronger for overall mortality than for infant mortality (Kim and Jennings 2009). Future research should seek to identify the conditions under which specific aspects of social welfare programs can have consequences for specific indicators of health. We need to focus not just on the existence of a policy or intervention but also on the fidelity

with which it is implemented. Attention should also be given to the possibility of differential effects by race, ethnicity, and SES.

Research on blacks in the military illustrates how addressing socioeconomic inequality can affect marital status and economic well-being. Family structure is shaped by larger economic conditions, and single motherhood in turn has negative effects on economic mobility (McLanahan and Percheski 2008). Research documents that active-duty military service promotes marriage over cohabitation, increases the likelihood of first marriage, and leads to greater stability of marriage (Teachman 2007, 2009; Teachman and Tedrow 2008). These effects are all greater for blacks than for whites. Black men in the military earn more than their civilian peers, and the command-and-control, bureaucratic structure of the military has created a more race-blind environment than the larger society (Teachman 2007). Military benefits include family housing, daycare centers, and school-age activity centers. Thus, access to employment, opportunities for economic mobility, and other social and economic resources can eliminate entrenched disparities in marriage, improve SES, and thus promote health.

Research is needed to identify which macro interventions have the greatest impact in improving health and to better understand the conditions under which population-based interventions could enhance their effectiveness when targeted at the socially marginalized and vulnerable who typically have the highest levels and greatest clustering of risk factors. Historically, population-targeted interventions have had limited impact on vulnerable and marginalized groups (Lawrence, Mitrou, and Zubrick 2011). Research needs to identify the structural or psychosocial barriers that need to be addressed to ensure that interventions are maximally beneficial to the most vulnerable.

Sustaining the Health Impact of Positive Race-Related Events

Some limited evidence also suggests that positive race-related events can also enhance the health of disadvantaged racial groups. A national panel study of U.S. blacks from 1979 to 1992 noted that reports of health problems, disability, and psychological distress were at their lowest levels during

the third wave of data collection in 1988 (Jackson et al. 1996). That year also marked the lowest proportion of blacks reporting racial discrimination and that whites wanted to keep blacks down. The researchers suggested that there was a spillover effect from the political climate to health given that Jesse Jackson, a black man, was running the most successful presidential campaign ever by a black person in U.S. history during 1988. However, the effect was no longer evident in 1992. Similar evidence comes from South Africa. During apartheid, blacks reported markedly lower levels of happiness and life satisfaction than whites. In 1994, the year that Nelson Mandela was elected, black levels of happiness and life satisfaction were at the highest level observed between 1983 and 1995, with the racial gap in psychological well-being eliminated for the first time in history (Moller 1998). However, levels of psychological well-being for black South Africans reverted to earlier levels 18 months later.

Analyses of data from 46,000 Ohio adults interviewed between August 6, 2008, and January 24, 2009, documented an Obama effect. Quasi-experimental “interrupted time-series” analysis adjusted for demographic factors, SES, the Dow Jones Industrial Average, and the unemployment rate found that Obama’s nomination for president was associated with higher self-rated health for blacks and Hispanics (Malat, Timberlake, and Williams 2011). A similar effect was not evident for his election or inauguration, and no effect was found among whites. Other research reveals that when President Obama’s stereotype-defying success received considerable media attention (just after his nomination at the Democratic National Convention and his election), there was improvement in black academic performance and a marked reduction in the well-documented negative effects of racial stereotypes on black academic performance (Marx, Ko, and Friedman 2009). Research is needed to better understand how to maximize and sustain these effects.

Building on Resilience and Protective Factors

The patterning of risk factors by race highlights the need to better understand the potential contribution of resilience and protective factors. For example,

American Indians and whites have suicide rates that are similar to each other and two to three times as high as those of blacks, Asians, and Hispanics (Centers for Disease Control and Prevention 2011). We do not fully understand why adverse exposures are associated with elevated risks in some disadvantaged minority population but not in others. We need to better understand how the resources, resilience factors, and capacities of social groups, at the individual and area levels, can affect their responses to exposure to health risks (Ahern et al. 2008). Both exposure to protective resources and the patterns of response to potential threats can affect the levels and impact of particular exposures. For example, higher levels of religious involvement by black than white teens play a key role in the lower levels of substance use among black adolescents (Wallace et al. 2003). Communities also vary in their levels of social cohesion and other protective resources, such that community capacity can be an important resource at the local level. Community capacity refers to characteristics of communities that can affect their ability to address community problems, including the potential to develop and deploy skills, knowledge, and resources that can aid in this effort (Goodman et al. 1998). Research is needed to better understand how to find solutions to local problems by building on the strengths and capacities of community institutions (families, neighborhoods, schools, churches, businesses, and voluntary agencies) and enlisting them to be agents of change in promoting health (McLeroy et al. 2003).

CONCLUSION

In spite of these spectacular strides in science and technology, and still unlimited ones to come, something basic is missing. There is a sort of poverty of spirit which stands in glaring contrast to our scientific and technological abundance. . . . We have learned to fly the air like birds and swim the sea like fish, but we have not learned the simple art of living together as brothers. (Martin Luther King, Jr., 1964 Nobel lecture, Oslo, Norway)

Racial disparities in health are a stark symbol of the historic and ongoing racial inequalities in society.

They reflect the enduring effects of the institutionalization of inequality for stigmatized social groups. They are a potent reminder of the many miles that we still need to journey to achieve equality. The evidence reviewed in this article indicates that inequalities in health are created by larger inequalities in society. Their existence reflects the successful implementation of social policies. Eliminating them requires political will and a commitment to thorough and sustained approaches to improve living and working conditions. We have many miles to go in better understanding and maximizing the levers of change, but our greatest need is to begin, with a renewed commitment, and in a comprehensive, systematic, and integrated manner, to use all of the knowledge that we have.

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REFERENCES

- Acevedo-Garcia, Dolores, Theresa L. Osypuk, Nancy McArdle, and David R. Williams. 2008. "Toward a Policy-Relevant Analysis of Geographic and Racial/Ethnic Disparities in Child Health." *Health Affairs* 27(2):321-33.
- Aghajanian, Akbar, Amir H. Mehryar, Ahmadnia Shirin, and Shahla Kazempour. 2007. "Impact of Rural Health Development Programme in the Islamic Republic of Iran on Rural-Urban Disparities in Health Indicators." *Eastern Mediterranean Health Journal* 13(6):1466-75.
- Ahern, Jennifer, Sandro Galea, Alan Hubbard, and Adam Karpati. 2008. "Population Vulnerabilities and Capacities Related to Health: A Test of a Model." *Social Science and Medicine* 66(3):691-703.
- Almond, Douglas and Kenneth Y. Chay. 2006. "The Long-Run and Intergenerational Impact of Poor Infant Health: Evidence from Cohorts Born during the Civil Rights Era." Working Paper: National Bureau of Economic Research, Cambridge, MA.
- Almond, Douglas, Kenneth Y. Chay, and Michael Greenstone. 2006. "Civil Rights, the War on Poverty, and

- Black-White Convergence in Infant Mortality in the Rural South and Mississippi." MIT Department of Economics Working Paper No. 07-04, Cambridge, MA. Retrieved July 12, 2012 (<http://ssrn.com/abstract=961021>).
- American Sociological Association. 2003. *The Importance of Collecting Data and Doing Scientific Research on Race*. Washington, DC: American Sociological Association.
- Anderson, William F., Philip S. Rosenberg, Idan Menashe, Aya Mitani, and Ruth M. Pfeiffer. 2008. "Age-Related Crossover in Breast Cancer Incidence Rates between Black and White Ethnic Groups." *Journal of the National Cancer Institute* 100(24):1804–14.
- Barnes, Patricia M., Patricia F. Adams, and Eve Powell-Griner. 2010. *Health Characteristics of the American Indian or Alaska Native Adult Population: United States, 2004-2008*. Hyattsville, MD: National Center for Health Statistics.
- Berger, Mitchel, Mary Jo Lund, and Otis W Brawley. 2007. "Racial Disparities in Lung Cancer." *Current Problems in Cancer* 31(3):202–10.
- Bertrand, Marianne and Sendhil Mullainathan. 2004. "Are Emily and Greg More Employable Than Lakisha and Jamal? A Field Experiment on Labor Market Discrimination." *American Economic Review* 94(4):991–1013.
- Bibbins-Domingo, Kirsten, Mark J. Pletcher, Feng Lin, Eric Vittinghoff, Julius M. Gardin, Alexander Arynchyn, Cora E. Lewis, O. Dale Williams, and Stephen B. Hulley. 2009. "Racial Differences in Incident Heart Failure among Young Adults." *New England Journal of Medicine* 360(12):1179–90.
- Booske, Bridget C., Stephanie A. Robert, and Angela M. Rohan. 2011. "Awareness of Racial and Socioeconomic Health Disparities in the United States: The National Opinion Survey on Health and Health Disparities, 2008-2009." *Preventing Chronic Disease* 8(4):A73:1–9.
- Bramley, Dale, Paul Hebert, Rod Jackson, and Mark Chassin. 2004. "Indigenous Disparities in Disease-Specific Mortality, a Cross-Country Comparison: New Zealand, Australia, Canada, and the United States." *New Zealand Medical Journal* 117(1207):U1215.
- Braveman, Paula A., Catherine Cubbin, Susan Egerter, David R. Williams, and Elsie Pamuk. 2010. "Socioeconomic Disparities in Health in the United States: What the Patterns Tell Us." *American Journal of Public Health* 100(Suppl. 1):S186–96.
- Bristol, Nellie. 2010. "US Region to Model Health Service on Iranian System." *The Lancet* 375(9715):625.
- Bruce, Marino A., Bettina M. Beech, Mario Sims, Tony N. Brown, Sharon B. Wyatt, Herman A. Taylor, David R. Williams, and Errol Crook. 2009. "Social Environmental Stressors, Psychological Factors, and Kidney Disease." *Journal of Investigative Medicine* 57(4): 583–9.
- Centers for Disease Control and Prevention. 2011. "CDC Health Disparities and Inequalities Report—United States." *Morbidity and Mortality Weekly Report* 60(Suppl.):1–116.
- Chae, David H., Karen D. Lincoln, Nancy E. Adler, and S. Leonard Syme. 2010. "Do Experiences of Racial Discrimination Predict Cardiovascular Disease among African American Men? The Moderating Role of Internalized Negative Racial Group Attitudes." *Social Science and Medicine* 71(6):1182–88.
- Chlebowski, Rowan T., Zhao Chen, Garnet L. Anderson, Thomas Rohan, Aaron Aragaki, Dorothy Lane, Nancy C. Dolan, Electra D. Paskett, Anne McTierman, F. Alan Hubbell, Lucile L. Adams-Campbell, and Ross Prentice. 2005. "Ethnicity and Breast Cancer: Factors Influencing Differences in Incidence and Outcome." *Journal of the National Cancer Institute* 97(6):439–48.
- Coker, Tumaini R., Marc N. Elliott, David E. Kanouse, Jo Anne Grunbaum, David C. Schwebel, M. Janice Gilliland, Susan R. Tortolero, Melissa F. Peskin, and Mark A. Schuster. 2009. "Perceived Racial/Ethnic Discrimination among Fifth-Grade Students and Its Association with Mental Health." *American Journal of Public Health* 99(5):878–84.
- Colen, Cynthia G. 2011. "Addressing Racial Disparities in Health Using Life Course Perspectives." *Du Bois Review: Social Science Research on Race* 8(1):79–94.
- Cooper, Richard S., Michael Steinhauer, Arthur Schatzkin, and William Miller. 1981. "Improved Mortality among U.S. Blacks, 1968-1978: The Role of Antiracist Struggle." *International Journal of Health Services* 11(4):511–22.
- Dallo, Florence, Kendra Schwartz, Julie Ruterbusch, Jason Booza, and David R. Williams. 2012. "Mortality Rates among Arab Americans in Michigan." *Journal of Immigrant and Minority Health* 14(2):236–41.
- Davey, Lynn. 2009. "Talking About Disparities: The Effect of Frame Choices on Support for Race-Based Policies." Washington, DC: FrameWorks Institute.
- Deaux, Kay, Nida Bikmen, Alwyn Gilkes, Ana Ventuneac, Yvonne Joseph, Yasser A. Payne, and Claude M. Steele.

2007. "Becoming American: Stereotype Threat Effects in Afro-Caribbean Immigrant Groups." *Social Psychology Quarterly* 70(4):384–404.
- DuBois, William E. B. [1899] 1967. *The Philadelphia Negro: A Social Study*. New York: Schocken.
- Engels, Frederick. [1845] 1984. *The Condition of the Working Class in England*. Chicago: Academy Chicago.
- Fillmore, Kaye M., Jacqueline M. Golding, Karen L. Graves, Steven Knip, E. Victor Leino, Anders Romelsjo, Carlisle Shoemaker, Catherine R. Ager, Peter Allebeck, R., and Heidi P. Ferrer. 1998. "Alcohol Consumption and Mortality. III. Studies of Female Populations." *Addiction* 93(2):219–29.
- Finkelstein, Amy, Sarah Taubman, Bill Wright, Mira Bernstein, Jonathan Gruber, Joseph P. Newhouse, Heidi Allen, Katherine Baicker, and The Oregon Health Study Group. 2011. "The Oregon Health Insurance Experiment: Evidence from the First Year." Working Paper No. 17190, National Bureau of Economic Research, Cambridge, MA.
- Fuchs, Flávio D., Lloyd E. Chambless, Aaron R. Folsom, Marsha L. Eigenbrodt, Bruce B. Duncan, Adam Gilbert, and Moyses Szklo. 2004. "Association between Alcoholic Beverage Consumption and Incidence of Coronary Heart Disease in Whites and Blacks: The Atherosclerosis Risk in Communities Study." *American Journal of Epidemiology* 160(5):466–74.
- Fuchs, Flávio D., Lloyd E. Chambless, Paul K. Whelton, F. Javier Nieto, and Gerardo Heiss. 2001. "Alcohol Consumption and the Incidence of Hypertension: The Atherosclerosis Risk in Communities Study." *Hypertension* 37(5):1242–50.
- Gee, Gilbert C. and Devon C. Payne-Sturges. 2004. "Environmental Health Disparities: A Framework Integrating Psychosocial and Environmental Concepts." *Environmental Health Perspectives* 112(17):1645–53.
- Geronimus, Arline T. 1992. "The Weathering Hypothesis and the Health of African-American Women and Infants: Evidence and Speculations." *Ethnicity and Disease* 2(3):207–21.
- Geronimus, Arline T., Margaret Hicken, Danya Keene, and John Bound. 2006. "'Weathering' and Age Patterns of Allostatic Load Scores among Blacks and Whites in the United States." *American Journal of Public Health* 96(5):826–33.
- Goodman, Robert M., Marjorie A. Speers, Kenneth McLeroy, Stephen Fawcett, Michelle Kegler, Edith Parker, Steven Rathgeb Smith, Terrie D. Sterling, and Nina Wallerstein. 1998. "Identifying and Defining the Dimensions of Community Capacity to Provide a Basis for Measurement." *Health Education and Behavior* 25(3):258–78.
- Hamilton, Charles, Lynn Hutnley, Neville Alexander, Antonio Sergio Alfredo Guimaraes, and Wilmot James. 2001. *Beyond Racism: Race and Inequality in Brazil, South Africa and the United States*. Boulder, CO: Lynne Rienner.
- Harper, Sam, Nicholas B. King, Stephen C. Meersman, Marsha E. Reichman, Nancy Breen, and John Lynch. 2010. "Implicit Value Judgments in the Measurement of Health Inequalities." *Milbank Quarterly* 88(1):4–29.
- Indian Health Service. 2009. "Trends in Indian Health 2002-2003." Rockville, MD: U.S. Department of Health and Human Services, Indian Health Service.
- Jackson, James S., Tony N. Brown, David R. Williams, Myriam Torres, Sherill L. Sellers, and Kendrick Brown. 1996. "Racism and the Physical and Mental Health Status of African Americans: A Thirteen Year National Panel Study." *Ethnicity and Disease* 6(1–2):132–47.
- Jafari, Fatemeh, Hassan Eftekhari, Abolghasem Pourreza, and Javad Mousavi. 2010. "Socio-Economic and Medical Determinants of Low Birth Weight in Iran: 20 Years after Establishment of a Primary Healthcare Network." *Public Health* 124(3):153–58.
- Joe, Sean, Raymond E. Baser, Gregory Breeden, Harold W. Neighbors, and James S. Jackson. 2006. "Prevalence of and Risk Factors for Lifetime Suicide Attempts among Blacks in the United States." *JAMA* 296(17):2112–23.
- Jolly, Stacey, Eric Vittinghoff, Arpita Chattopadhyay, and Kirsten Bibbins-Domingo. 2010. "Higher Cardiovascular Disease Prevalence and Mortality among Younger Blacks Compared to Whites." *American Journal of Medicine* 123(9):811–18.
- Kaestner, Robert, Jay A. Pearson, Danya Keene, and Arline T. Geronimus. 2009. "Stress, Allostatic Load, and Health of Mexican Immigrants." *Social Science Quarterly* 90(5):1089–1111.
- Kaplan, George A., Nalini Ranjit, and Sarah Burgard. 2008. "Lifting Gates—Lengthening Lives: Did Civil Rights Policies Improve the Health of African-American Woman in the 1960s and 1970s?" Pp. 145–69 in *Making Americans Healthier: Social and Economic Policy as Health Policy*, edited by R.F. Schoeni, J.S. House, G.A. Kaplan, and H. Pollack. New York: Russell Sage.

- Kim, Ae-Sook and Edward T. Jennings. 2009. "Effects of U.S. States' Social Welfare Systems on Population Health." *Policy Studies Journal* 37(4):745–67.
- Lawrence, David, Francis Mitrou, and Stephen R. Zubrick. 2011. "Global Research Neglect of Population-Based Approaches to Smoking Cessation: Time for a More Rigorous Science of Population Health Interventions." *Addiction* 106(9):1549–54.
- Malat, Jennifer, Jeffrey M. Timberlake, and David R. Williams. 2011. "The Effects of Obama's Political Success on the Self-Rated Health of Blacks, Hispanics, and Whites." *Ethnicity and Disease* 21(3):349–55.
- Marx, David M., Sei Jin Ko, and Ray A. Friedman. 2009. "The 'Obama Effect': How a Salient Role Model Reduces Race-Based Performance Differences." *Journal of Experimental Social Psychology* 45(4):953–56.
- Mays, Glen P. and Sharla A. Smith. 2011. "Evidence Links Increases in Public Health Spending to Declines in Preventable Deaths." *Health Affairs* 30(8):1585–93.
- McKinlay, John B. and Sonja J. McKinlay. 1977. "The Questionable Contribution of Medical Measures to the Decline of Mortality in the United States in the Twentieth Century." *Milbank Memorial Fund Quarterly* 55(3):405–28.
- McLanahan, Sara and Christine Percheski. 2008. "Family Structure and the Reproduction of Inequalities." *Annual Review of Sociology* 34:257–76.
- McLeroy, Kenneth R., Barbara L. Norton, Michelle C. Kegler, James N. Burdine, and Ciro V. Sumaya. 2003. "Community-Based Interventions." *American Journal of Public Health* 93(4):529–33.
- Miranda, Jeanne, Tomas G. McGuire, David R. Williams, and Philip Wang. 2008. "Mental Health in the Context of Health Disparities." *American Journal of Psychiatry* 165(9):1102–1108.
- Moller, Valerie. 1998. "Quality of Life in South Africa: Post-Apartheid Trends." *Social Indicators Research* 43(1–2):27–68.
- Murphy, Sherry L. 2000. "Deaths: Final Data for 1998." *National Vital Statistics Reports* 48(11):1–105.
- Naimi, Timothy S., David W. Brown, Robert D. Brewer, Wayne H. Giles, George Mensah, Mary K. Serdula, Ali H. Mokdad, Daniel W. Hungerford, James Lando, Shapur Naimi, and Donna F. Stroup. 2005. "Cardiovascular Risk Factors and Confounders among Nondrinking and Moderate-Drinking U.S. Adults." *American Journal of Preventive Medicine* 28(4):369–73.
- National Center for Health Statistics. 2011. "Health, United States, 2010." Hyattsville, MD: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention.
- Nazroo, James Y. and David R. Williams. 2006. "The Social Determination of Ethnic/Racial Inequalities in Health." Pp. 238–66 in *Social Determinants of Health*, edited by M. G. Marmot and R. G. Wilkinson. New York: Oxford University Press.
- Office of Management and Budget. 1997. "Revisions to the Standards for the Classification of Federal Data on Race and Ethnicity." *Federal Register* 62:58781–90.
- Pager, Devah. 2003. "The Mark of a Criminal Record." *American Journal of Sociology* 108(5):937–75.
- Panapasa, Sela V., Marjorie K. Mau, David R. Williams, and James W. McNally. 2010. "Mortality Patterns of Native Hawaiians across Their Lifespan: 1990–2000." *American Journal of Public Health* 100(11):2304–10.
- Pascoe, Elizabeth A. and Laura S. Richman. 2009. "Perceived Discrimination and Health: A Meta-Analytic Review." *Psychological Bulletin* 135(4):531–54.
- Pearson, Jay A. and Arline T. Geronimus. 2011. "Race/Ethnicity, Socioeconomic Characteristics, Coethnic Social Ties, and Health: Evidence from the National Jewish Population Survey." *American Journal of Public Health* 101(7):1314–21.
- Perez-Stable, Eliseo J., Brenda Herrera, Peyton Jacob, III, and Neal L. Benowitz. 1998. "Nicotine Metabolism and Intake in Black and White Smokers." *JAMA* 280(2):152–56.
- Pew Research Center. 2011a. "GOP Makes Big Gains among White Voters." Washington, DC: Pew Research Center.
- Pew Research Center. 2011b. "Wealth Gaps Rise to Record Highs between Whites, Blacks and Hispanics." Washington, DC: Pew Research Center.
- Pletcher, Mark J., Paul Varosy, Catarina I. Kiefe, Cora E. Lewis, Stephen Sidney, and Stephen B. Hulley. 2005. "Alcohol Consumption, Binge Drinking, and Early Coronary Calcification: Findings from the Coronary Artery Risk Development in Young Adults (CARDIA) Study." *American Journal of Epidemiology* 161(5):423–33.
- Robert, Stephanie A. and Bridget C. Booske. 2011. "US Opinions on Health Determinants and Social Policy as Health Policy." *American Journal of Public Health* 101(9):1655–63.
- Sempos, Christopher T., Jurgen Rehm, Tiejian Wu, Carlos J. Crespo, and Maurizio Trevisan. 2003. "Average Volume of Alcohol Consumption and All-Cause Mortality in African Americans: The NHEFS Cohort." *Alcoholism, Clinical and Experimental Research* 27(1):88–92.

- Singh, Gopal K. and Barry A. Miller. 2004. "Health, Life Expectancy, and Mortality Patterns among Immigrant Populations in the United States." *Canadian Journal of Public Health* 95(3):114–21.
- Sloven, Natalie, Tené T. Lewis, Tara L. Gruenewald, Mahasin S. Mujahid, Carol D. Ryff, Michelle A. Albert, and David R. Williams. 2010. "Early Life Adversity and Inflammation in African Americans and Whites in the Midlife in the United States Survey." *Psychosomatic Medicine* 72(7):694–701.
- Starfield, Barbara, Leiyu Shi, and James Macinko. 2005. "Contribution of Primary Care to Health Systems and Health." *Milbank Quarterly* 83(3):457–502.
- Sternthal, Michelle J., Natalie Sloven, and David R. Williams. 2011. "Racial Disparities in Health: How Much Does Stress Really Matter?" *Du Bois Review* 8(1):95–113.
- Stinson, Frederick S., Thomas M. Nephew, and Mary C. Dufour. 1996. *U.S. Alcohol Epidemiologic Data Reference Manual*. Bethesda, MD: National Institute on Alcohol Abuse and Alcoholism.
- Stranges, Saverio, Jo L. Freudenheim, Paola Muti, Eduardo Farinero, Marcia Russell, Thomas H. Nochajski, and Maurizio Trevisan. 2004. "Greater Hepatic Vulnerability after Alcohol Intake in African Americans Compared with Caucasians: A Population-Based Study." *Journal of the National Medical Association* 96(9):1185–92.
- Tavassoli, Mojgan. 2008. "Iranian Health Houses Open the Door to Primary Care." *Bulletin of the World Health Organization* 86(8):577–656.
- Teachman, Jay. 2007. "Race, Military Service, and Marital Timing: Evidence from the NLSY-79." *Demography* 44(2):389–404.
- Teachman, Jay. 2009. "Military Service, Race, and the Transition to Marriage and Cohabitation." *Journal of Family Issues* 30(10):1433–54.
- Teachman, Jay and Lucky Tedrow. 2008. "Divorce, Race, and Military Service: More Than Equal Pay and Equal Opportunity." *Journal of Marriage and Family* 70(4):1030–44.
- Tobias, Martin, Tony Blakely, Don Matheson, Kumanan Rasanathan, and June Atkinson. 2009. "Changing Trends in Indigenous Inequalities in Mortality: Lessons from New Zealand." *International Journal of Epidemiology* 38(6):1711–22.
- Tucker, Clyde, Ruth McKay, Brian Kojetin, Roderick Harrison, Manuel de la Puente, Linda Stinson, and Ed Robison. 1996. "Testing Methods of Collecting Racial and Ethnic Information: Results of the Current Population Survey Supplement on Race and Ethnicity." *Bureau of Labor Statistical Notes* 40:1–149.
- Tynes, Brendesha M., Michael T. Giang, David R. Williams, and Geneene N. Thompson. 2008. "Online Racial Discrimination and Psychological Adjustment among Adolescents." *Journal of Adolescent Health* 43(6):565–69.
- Wallace, John M., Jr., Tony N. Brown, Jerald G. Bachman, and Thomas A. Laveist. 2003. "The Influence of Race and Religion on Abstinence from Alcohol, Cigarettes and Marijuana among Adolescents." *Journal of Studies on Alcohol* 64(6):843–48.
- Warner, David F. and Mark D. Hayward. 2006. "Early-Life Origins of the Race Gap in Men's Mortality." *Journal of Health and Social Behavior* 47(3):209–226.
- Williams, David R. 1997. "Race and Health: Basic Questions, Emerging Directions." *Annals of Epidemiology* 7(5):322–33.
- Williams, David R. 2005. "The Health of U.S. Racial and Ethnic Populations." *Journals of Gerontology: Series B* 60B(Spec. No. 2):53–62.
- Williams, David R. and Chiquita Collins. 1995. "U.S. Socioeconomic and Racial Differences in Health: Patterns and Explanations." *Annual Review of Sociology* 21:349–66.
- Williams, David R. and Chiquita Collins. 2001. "Racial Residential Segregation: A Fundamental Cause of Racial Disparities in Health." *Public Health Reports* 116(5):404–16.
- Williams, David R., Hector M. Gonzalez, Harold Neighbors, Randolph Nesse, Jamie Abelson, Julie Sweetman, and James S. Jackson. 2007a. "Prevalence and Distribution of Major Depressive Disorder in African Americans, Caribbean Blacks, and Non-Hispanic Whites: Results from the National Survey of American Life." *Archives of General Psychiatry* 64(3):305–15.
- Williams, David R., Rahwa Haile, Hector M. Gonzalez, Harold Neighbors, Raymond Baser, and James S. Jackson. 2007b. "The Mental Health of Black Caribbean Immigrants: Results from the National Survey of American Life." *American Journal of Public Health* 97(1):52–59.
- Williams, David R., Dolly John, Daphna Oyserman, John Sonnega, Selina A. Mohammed, and James S. Jackson. 2012. "Research on Discrimination and Health: An Exploratory Study of Unresolved Conceptual and Measurement Issues." *American Journal of Public Health* 102(5):975–78.

- Williams, David R. and Selina A. Mohammed. 2009. "Discrimination and Racial Disparities in Health: Evidence and Needed Research." *Journal of Behavioral Medicine* 32(1):20–47.
- Williams, David R., Selina A. Mohammed, Jacinta Leavell, and Chiquita Collins. 2010. "Race, Socio-economic Status, and Health: Complexities, Ongoing Challenges, and Research Opportunities." *Annals of the New York Academy of Sciences* 1186:69–101.
- Wilper, Andrew P., Steffie Woolhandler, Karen E. Lasser, Danny McCormick, David H. Bor, and David U. Himmelstein. 2009. "Health Insurance and Mortality in US Adults." *American Journal of Public Health* 99(12):2289–95.
- Wilson, William Julius. 2011. "The Declining Significance of Race: Revisited & Revised." *Daedalus* 140(2):55–69.
- Woolf, Steven H. 2011. "Public Health Implications of Government Spending Reductions." *JAMA* 305(18):1902–1903.
- Xu, Jiaquan, Kenneth D. Kochanek, Sherry L. Murphy, and Betzaida Tejada-Vera. 2010. "Deaths: Final Data for 2007." *National Vital Statistics Reports* 58(19):1–69.

Bio

David R. Williams is the Florence and Laura Norman Professor of Public Health and a professor of African and African American studies and of sociology at Harvard University. His research interests are focused on socio-economic and racial disparities in health and the effects of stress, racism, and religious involvement on health. He currently directs the Lung Cancer Disparities Center at Harvard.