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Miles to Go Before We Sleep: Racial Inequities in Health

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Abstract

Large, pervasive and persistent racial inequalities exist in the onset, course 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. Despite our extensive knowledge of the magnitude, trends and determinants of these social inequalities in health, there is still much that we need to learn about the forces that drive them. There is also an even greater opportunity to build the science base that would identify how to trigger the conditions that would facilitate needed societal change, and identify the optimal interventions that would confront and dismantle the societal conditions that create and sustain health inequalities.

For more than 100 years, scientific research has documented that there are racial gaps in health and the federal government provides an update these disparities each year (National Center for Health Statistics 2011 [NCHS]). This paper provides an overview of current knowledge of racial inequities in health. It describes salient patterns in the distribution of disease by race and reviews evidence of race-related aspects of social experience that matter for health. It pays particular attention to recent research on self-reported racial discrimination and health. Despite thousands of published studies, there are still many miles to go in fully understanding the drivers of these differences. Our current knowledge is even more limited with regards to the most effective strategies to reduce health inequities and there is an urgent need to develop a science base to guide societal interventions. The paper also outlines promising areas of research that could inform needed 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, including health (American Sociological Association 2003 [ASA]). 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 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 the interest of economy and parsimony of presentation, the term "race" is used in this paper to refer to both the OMB racial and ethnic categories. In contemporary society, "race" captures 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 (ASA 2003). This paper will use the term ethnicity to refer to

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subgroups of the global OMB categories. Based on the principle of recognizing individual dignity in racial classification (Williams 1997), the most preferred terms for the OMB categories (Tucker et al. 1996) are used interchangeably (e.g., black and African American, Hispanic and Latino, American Indian and Native American).

Mortality data provide a glimpse of health status in the US. In 2007, blacks had an overall death rate that was 30% 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 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, due to problems with both the numerator and denominator, mortality statistics are more accurate for blacks and whites than for the other racial populations (Williams 2005). For example, the misclassification of Asians, Hispanics and especially American Indians as white on death certificates leads to reported mortality rates for these groups that are lower than the actual rates.

Second, although age-adjusted death rates are useful metrics for comparison, they are not accurate measures of actual risk (NCHS 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 seventy-four (Williams et al. 2010). Similarly, in contrast to an overall age-adjusted rate that is lower than whites, American Indians have higher age-specific death rates than whites from birth through age fifty-four (Williams et al. 2010). Morbidity data also reveal elevated rates of illness for American Indians compared to whites for multiple conditions (Barnes, Adams, and Powell-Griner 2010). Moreover, American Indians served by the Indian Health Service (IHS, some 60% of that population) have a markedly worse health profile than that of American Indians nationally (Indian Health Service 2009 [ISH]). Third, when health data for Pacific Islanders is combined with that of Asians, the elevated health risks for Native Hawaiians and other Pacific Islanders is obscured (Panapasa et al. 2010). Fourth, there is important heterogeneity in health status by ethnicity within each of the OMB racial categories. For example, although the patterns are complex, there is emerging evidence that 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 must be understood in light of 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 U.S., had higher levels of allostatic load (a summary measure of biological dysregulation) than recent Mexican immigrants, despite being higher in 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 level of illness and stress similar to 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 impact black Caribbean immigrants over time. Among first generation immigrants, making race salient enhances academic performance while it reduces academic performance for the second generation (Deaux et al. 2007). The transformation of the health of black Caribbean immigrants with

length of stay in the U.S. is also striking. For example, compared to a lifetime rate of psychiatric disorders that is 31% for African Americans and 37% for whites (Miranda et al. 2008), the rate is 19% for black Caribbean immigrants (Williams et al. 2007b). This rate increases to 35% in the second generation and 55% in the third. Black Caribbean men in particular appear to face distinct health challenges. They have a higher prevalence of current and lifetime mental disorders than Caribbean women and current and lifetime rates 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 Caribbean women (Williams et al. 2007a). Suicide attempts are also higher for Black Caribbean men than for Black Caribbean women or 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 their current home in the U.S. (Williams et al. 2007a).

Earlier Onset of Disease

Minorities also get sick at younger ages and die sooner than 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 twenties compared to 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 twenties. (Geronimus 1992) 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 blacks, but the opposite pattern exists under the age of 40, where African American women have a higher incidence than their white peers (Anderson et al. 2008). Similarly, a 20 year follow-up of adults in the CARDIA study found that incident heart failure before the age of fifty was 20 times more common in blacks than whites, with the average age of onset being 39 years old for African Americans (Bibbins-Domingo et al. 2009). National data also show that cardiovascular disease develops earlier in blacks than whites, with 28% of cardiovascular disease deaths among blacks occurring before age 65 compared to 13% among whites (Jolly et al. 2010).

Using national data, Geronimus and colleagues (2006) show that the early health deterioration of black adults is evident across multiple biological systems. They used a global measure of allostatic load that summed 10 indicators of clinical and subclinical status: systolic and diastolic blood pressure, body mass index, glycosylated hemoglobin, albumin, creatinine clearance, triglycerides, C-reactive protein, homocysteine and total cholesterol. They found that blacks were more likely than whites to score high on allostatic load (high on 4 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 to that of whites who were 10 years older. Moreover, Blacks continued to have higher allostatic load scores even after adjusted 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 a kidney transplant at younger ages, have a higher incidence of end-stage renal disease (ESRD) at each decade of life and their level of CKD risk factors do not adequately account for their faster progression of CKD to ESRD (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 black women are less likely to get breast cancer in any given year, they are more likely to die from it. Major depression is another example. African Americans have lower lifetime and current rates of depression than whites but depressed blacks are more likely than their white peers to have higher levels of impairment, 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 to whites a given level of tobacco use has a more adverse impact on blacks compared to whites. Black males have higher lung cancer incidence and mortality compared to their white peers (Berger, Lund, and Brawley 2007), and analysis of nicotine metabolism reveals that compared to 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 to 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. 2004; Fuchs et al. 2001; Pletcher et al. 2005). It is unclear if these patterns reflect interactions of alcohol and tobacco with other social, physical, chemical exposures and/or biological adaptations including gene expression changes to these exposures. Alternatively, they could also reflect mis-understanding 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 to 69.1 years for Whites (NCHS 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 is still an almost five-year gap in life expectancy in 2007 (73.6 vs. 78.4 years). Data from the Indian Health Service also provides numerous examples of persisting and in some cases widening disparities for specific causes of death over time for American Indians compared to whites (IHS 2009). 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 U.S. mirror those in other countries and suggest the potential of common societal causes across national and cultural contexts. In race-conscious societies such as Australia, Brazil, New Zealand, the U.K. and South Africa, non-dominant racial groups have worse health than the dominant racial group (Bramley et al. 2004; James and Lever 2001; Nazroo and Williams 2006; Williams et al. 2008). For example, analyses of health data for the New Zealand Maori, Australian Aboriginals and Torres Strait Islanders, First nation on-reserve Canadians and American Indians and Alaskan

Natives found that indigenous people had lower life expectancy compared to the non-indigenous 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. These racial health inequalities are also persistent over time outside of the U.S. For example, a study of mortality differences between the Maori and the non-Maori population 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 19th century, W.E.B. (DuBois 1899 (1967)) documented that blacks in Philadelphia had elevated rates of disease and death compared to whites. He concluded that the determinants of the poorer health for Blacks compared to Whites was multi-factorial, 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) had noted that the upper classes in Liverpool, England had an average life expectancy of 35 years compared to 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 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, racial differences in life expectancy are substantial with whites living 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). Table 2 shows that 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 at every level of income. Geronimus and colleagues (2006) analysis of allostatic load scores parallel the life expectancy data and further illustrate 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 non-poor, but blacks had higher scores than whites at comparable income levels (Geronimus et al. 2006). Moreover, racial disparities in allostatic load scores were larger among the non-poor than among the poor.

Another striking example of large racial differences in health at similar levels of SES comes from 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.

Understanding the Added Burden of Race

Research suggests that three key factors may each contribute to accounting for the residual effect of race after SES is controlled (Williams and Mohammed 2009). First, the measures of SES like income and education are not equivalent across race. For example, compared to whites, blacks and Hispanics have lower earnings at comparable levels of education, less wealth at every level of income, and have less purchasing power because the costs of a broad range of goods and services are higher 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 socioeconomic conditions helps to 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. Personal experiences of discrimination and institutional racism 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 institutional racism (Williams and Collins 2001). Residential segregation by race, a mechanism of institutional discrimination, 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 residential environments than whites and facing higher levels of acute and chronic stressors. Although the majority of poor persons in the U.S. 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 and Latinos are. The neighborhoods where minority children live have lower income, education and home ownership rates and higher rates of poverty and unemployment compared to those where white children reside. In fact, in 100 of America's largest metropolitan areas, 75% of all African American children and 69% of all Latino children are growing up in more negative residential environments than the worst off white children (Acevedo-Garcia et al. 2008). Thus, in the 21st century, most black and Latino children are growing up in neighborhoods that are separate and unequal.

Research has yet to fully understand the effects that the distinctive environments created by residential segregation have on the health of stigmatized racial groups in the U.S. 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 DNA sequence. 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 leads to elevated exposure to environmental pollutants that can interact with other psychosocial exposures to affect health risks (Gee and Payne-Sturges 2004; Morello-Frosch and Shenassa 2006). There is a need to better document the contribution of this toxicity to racial disparities in health.

Perceived Discrimination and Health

The aspect of racism that has received the most empirical study is self-reported experiences of discrimination. Scientific evidence clearly documents the persistence of discrimination in contemporary society. Some of the most impressive evidence comes from audit studies. For example, Devah Pager and colleagues (Pager 2003; Pager, Western, and Bonikowski 2009) have shown that a white job applicant with a criminal record is more likely to be offered a job than a black applicant with an otherwise identical resume, but whose record was clean. Another study mailed 5,000 fictitious applications to 1,300 ads for white-collar jobs (Bertrand and Mullainathan 2004). It found that applications with distinctively white names (such as Alison, Emily, Brad and Greg) were 50% more likely to get call-backs for interviews than identical resumes with distinctively black names (such as Latisha, Aisha, Jamal and Darnell).

Minority group members are aware of at least some experiences of discrimination and such incidents can be a source of stress. Recent reviews document important progress in this area of research (Williams and Mohammed 2009). There are several longitudinal studies and other studies that find that the effects of discrimination persist after adjusting for potential psychological confounders such as social desirability, bias, neuroticism, self-esteem, negative affect and hostility. Extant studies include all major racial/ethnic groups in the U.S. and 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 of C-reactive protein, 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 U.S., South Africa and New Zealand have found that discrimination accounts, in part, for racial/ethnic disparities in health (Pascoe and Richman 2009; Williams and Mohammed 2009).

Several recent studies highlight some of the contributions that research on discrimination is making to our understanding of the determinants of health. Some studies emphasize the potential consequences of exposure to discrimination early in life. One study of 5,147 fifth graders found that 7% of whites, 15% of Hispanics and 20% of blacks reported that they had experienced racial discrimination and that these experiences were associated with an increased risk of depression, attention deficit hyperactivity disorder, oppositional defiant disorder and conduct disorder (Coker et al. 2009). Another study found that a disturbingly high proportion of American adolescents are exposed to racial discrimination in online contexts, such as text messages, chat rooms, online games 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).

Another recent study highlights the importance of assessing how multiple aspects of racism combine to affect health. It found that perceived discrimination was positively associated with CVD among black men who scored low on internalized racism. In contrast, among

black men high on internalized racism, the risk of CVD was highest among those reporting no discrimination (Chae et al. 2010).

Several studies have found that although their levels of discrimination are lower than those of blacks, discrimination also adversely affects the health of whites (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 conceptually, qualitatively and experientially equivalent to reports of discrimination by racially stigmatized minority groups for whom these experiences are 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 still much that we need to understand about the role of stigmatization and the conditions under which it can affect health. 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 poorer health status than other whites once the association is adjusted for SES (Pearson and Geronimus 2011). This finding calls for deeper interrogation of the nature of social stigmatization and the mechanisms by which it may matter for health across population groups.

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 social inequalities in health should be characterized by a sense of urgency. First, the economic status of disadvantaged minority groups is declining in the U.S. One recent report documented that between 2005 and 2009 the median wealth of white households declined by 16% compared to 53% for black and 66% 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 level. Public sector employment has been a key to black upward mobility and the development of the black middle class (Wilson 2011). Wilson (2011) also indicates that these challenges will be especially acute for black males. He shows that there are higher levels of college completion for women than men in all racial groups in the U.S., but the gap is largest among blacks. In addition, the black/white earnings ratio for male college graduates, aged 25 to 29, has been declining over time, from 93% in 1977 to 73% in 1987, 83% in 1997 to 80% in 2007 (Wilson 2011).

Second, the current economic crisis in the U.S. is leading to spending reductions at the federal, state and local level. These budget cuts, many of them outside the health sector, weaken the social safety net for vulnerable populations and will likely lead to increased rates of illness, greater numbers of premature deaths and increased healthcare costs (Woolf 2011). Prior research reveals that government spending reductions during the early years of the Reagan administration 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 U.S. Both whites who voted for President Obama and those who did not indicate that there is less need to address racial inequality in the U.S. and they would be less supportive of policies to address inequities (Williams et al. 2010). In striking contrast, the evidence reviewed here document the persistence of inequality and discrimination and suggest that anti-discrimination programs may be crucial for ensuring racial equality. Relatedly, there has also been a national shift toward a conservative/Republican ideology. Since President Obama has been elected, there has been

marked growth in Republican party membership among White voters that has been particularly pronounced among the young (18-29) and the low income (less than \$30k) (Pew Research Center 2011a). Thus in 2011, the Republican edge (Republicans or Independents leaning Republican) over democrats among whites was 13 points (52% to 39%), compared to a two point edge (46% to 44%) in 2008.

Building the Necessary Political Will

Over 100 years ago, (DuBois 1899 (1967) p.163) 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”. Research is needed to identify effective communication strategies to create the conditions for change. First we need to increase awareness of the magnitude and consequences of racial inequalities in health. A national public opinion survey in 2008 and 2009 found that less than half (46%) of all American adults were aware of health disparities between African Americans and whites (Booske, Robert, and Rohan 2011). Second, there is a need to change the hearts and minds of the American public. The social patterning of awareness of social inequalities in health suggest that more than knowledge is needed. Political ideology is 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, most of the U.S. public view personal health behaviors and access to care as very strong determinants of health (Robert and Booske 2011). Many fewer see social and economic factors such as employment, level of 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).

Enhancing Emotional Affect

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 disparities (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 non-whites have separate fates because of differences in core American values.

This research has found that several framing strategies that are widely used such as framing diversity as a strength, arguing that disparities for minorities were early warning indicators (canaries in a coal mine), or 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 (like 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.

The finding 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 importance 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 with social action and initiatives to reduce some of the barriers that make it extremely difficult for many Americans to make healthy choices.

Maximizing Opportunities to Address Disparities in Health Care Settings

Sociologists have tended to down-play the role of medical care as a key determinant of health (McKinlay and McKinlay 1977). However, several lines of evidence highlight the potential of at least some types of medical care to improve health and reduce social inequalities in health. First, primary care, with its emphasis on preventive care and the early management of disease is associated with lower total costs of health services, better health at the individual and population level and smaller social disparities in health (Starfield, Shi, and Macinko 2005). Second, a recent study found that each 10% increase in local public health spending was associated with declines in mortality from major preventable causes of death of between 1.1% and 6.9% (Mays and Smith 2011). Third, the receipt of medical safety net services is associated with better health. A recent study that randomized uninsured residents 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, lower medical debt and financial stress, and better self-reported physical and mental health than the control group (Finkelstein et al. 2011). Fourth, international evidence provides further examples of the potential of medical care to 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 a comprehensive and innovative preventive health care system (Tavassoli 2008), Iran has erased a two-fold elevated risk of infant mortality in rural areas compared to urban ones (Aghajanian et al. 2007). Efforts are currently underway to apply the Iranian model to address the unmet health care needs in Mississippi, Arkansas and Louisiana (Bristol 2010). Other research from Iran indicates that that medical care alone is not a panacea. Although increased access to health care led to declines in child and maternal mortality and increases in life expectancy at birth, the low birthweight rate has not declined (Jafari et al. 2010). The study found that the determinants of low birthweight were low SES and material deprivation. The bottom-line is that 40,000 people die in the U.S. annually because of a lack of health insurance and we need to maximize the potential of health care to reduce disparities (Wilper et al. 2009).

More Systematic and Rigorous Evaluation of Social Policies

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 during 1965-74 exceeded those of other race and sex groups and were three times as large as those in the prior decade (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 the Civil Rights movement and anti-poverty policy, black males and females, aged 35-74, had larger absolute and relative declines in mortality than whites (Cooper et al. 1981).

Other research has documented that changes in social policies during the Civil Rights era linked to hospital desegregation, the advent of Medicaid and food stamps led to a reduction in the black-white gap in infant mortality in southern states between the mid-1960s to the early 1970s and to substantially lower risk factor rates for the adult women who benefited from them (Almond, Chay, and Greenstone 2006; Almond and Chay 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. As the income of blacks fell relative to that of whites during the decade of the 1980s, racial disparities in health worsened for multiple indicators (Williams and Collins 1995). For example, the life expectancy for blacks declined from the 1984 level for 5 years in a row while the life expectancy of whites increased slightly during this period. Research from New Zealand also indicates that Maori-non Maori gaps in mortality 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) TANF and Medicaid program rules had better overall population health (Kim and Jennings 2009) with the effects being stronger for overall mortality than for infant mortality. Future research should assess more specific aspects of social welfare programs and identify the conditions under which they 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.

Family structure is shaped by larger economic conditions and single motherhood in turn has negative effects on economic mobility (McLanahan and Percheski 2008). The U.S. military also provides a laboratory that illustrates how addressing socioeconomic inequality can affect marital status and economic well-being. 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, day care centers, and school-age activity centers. Research reveals that active duty military service promotes marriage over cohabitation, increases the likelihood of first marriage, and leads to greater stability of marriage and that these effects are greater for blacks than for whites (Teachman 2007; Teachman 2009; Teachman and Tedrow 2008). Thus, access to employment, opportunities for economic mobility and other social and economic resources can eliminate disparities in marriage and promote health.

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 that whites wanted to keep blacks down and the lowest reports of racial discrimination. The researchers suggest that there was a spill-over 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, national data revealed that 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 Aug 6, 2008 to Jan 24, 2009 documented an Obama effect. Quasi-experimental “interrupted time-series” analysis adjusted for income, education, health insurance, age, sex, marital status, Dow Jones average, and the unemployment rate, found that self-rated health was higher for blacks and Hispanics, after Obama’s nomination for president (Malat, Timberlake, and Williams 2011). A similar effect not evident after his election or inauguration and no effect was found among whites. Other research reveals that when President Barak Obama’s stereotype-defying success received considerable media attention (just after his nomination at the Democratic 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.

More generally, a research agenda is needed that would seek to identify which macro interventions can 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 persons who are most marginalized and vulnerable and who have the highest levels of risk factors. Persons with highest exposure will not necessarily benefit from an intervention. Historically, population-targeted interventions have had limited impact on vulnerable and marginalized populations (Lawrence, Mitrou, and Zubrick 2011). Research needs to identify and address the limitations of the interventions and the structural or psychosocial barriers that need to be removed to ensure maximal benefits to the most vulnerable.

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, among both males and females, American Indians and whites have suicide rates that are comparable to each other and two to three times higher than those of blacks, Asians and Hispanics (Centers for Disease Control 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 level, can affect their responses to exposure to health risks (Ahern et al. 2008). Both exposure to protective resources and the particular patterns of response that are mobilized to deal with potential threats can affect the levels of risk factors and also minimize the negative effects of particular risks. For example, higher levels of religious involvement by black than white teens plays a key role in the lower levels of substance use among black adolescents (Wallace et al. 2003). In addition, communities vary in their levels of social cohesion and other protective resources such that community capacity can be an important resource at the local level. The term community capacity includes the characteristics of communities that can affect their ability to address community problems, as well as, the development and deployment of skills, knowledge, and resources that can aid in this effort (Goodman et al. 1998). By embracing the capacity of various community institutions (families, neighborhoods, schools, churches, businesses and voluntary agencies), community needs can be more effectively addressed and these institutions can be enlisted to be agents of change to seek solutions to local problems (McLeroy et al. 2003). Research is needed to better understand how to build on the strengths and capacities of communities in order to promote health.

Conclusions

In his 1964 Nobel Lecture in Oslo, Norway, Martin Luther King, Jr, declared, “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." Racial disparities in health are a stark symbol of the historic and ongoing racial inequalities in society. They attest to 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 comprehensive 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 in a systematic and integrated manner, to use all of the current knowledge that we have.

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Biography

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Table 1
The 15 Leading Causes of Death in 2007 and Age-adjusted Minority/White Death Rates¹

Rank	Cause of death	Number	Black to White	Am Indian ² to White	Asian or PI ² to White	Hispanic to Non-Hisp Whites
...	All causes	2,423,712	1.3	0.8	0.6	0.7
1	Heart Disease	616,067	1.3	0.7	0.5	0.7
2	Cancer	562,875	1.2	0.7	0.6	0.6
3	Stroke	135,952	1.5	0.7	0.8	0.8
4	Lung Disease	127,924	0.7	0.7	0.3	0.4
5	Accidents	123,706	0.9	1.3	0.4	0.7
6	Alzheimer's Disease	74,632	0.8	0.5	0.3	0.6
7	Diabetes	71,382	2.1	1.8	0.8	1.5
8	Flu and Pneumonia	52,717	1.2	0.9	0.9	0.8
9	Kidney Disease	46,448	2.2	1.1	0.7	0.9
10	Septicemia	34,828	2.2	1.0	0.5	0.8
11	Suicide	34,598	0.4	0.9	0.5	0.4
12	Liver Cirrhosis	29,165	0.8	2.6	0.4	1.6
13	Hypertension	23,965	2.5	0.9	1.0	1.0
14	Parkinson's Disease	20,058	0.5	0.5	0.5	0.6
15	Homicide	18,361	5.7	1.8	0.6	2.5

¹National Vital Statistics Report (Xu et al. 2010)

²Am Indian = American Indian; PI= Pacific Islander

Table 2
Life Expectancy at Age 25, United States

Group	White (W)	Black (B)	W - B
All (1998) ¹	53.4	48.4	5.0
By Income (1988-1998) ²			
Poor	49.0	45.5	3.5
Near Poor	51.4	48.0	3.4
Middle Income	53.8	50.7	3.1
High Income	55.8	52.6	3.2
Income Difference	6.8	7.1	

Poor = below federal poverty level (FPL); Near Poor = above the FPL but less than twice the FPL;

Middle Income = more than twice but less than four times the FPL; High Income = four times the FPL or more.

¹National Vital Statistics (Murphy 2000);

²National Longitudinal Mortality Study (Braveman et al. 2010)