Broadening the Focus
The Need to Address the Social Determinants of Health

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Overcoming Obstacles to Health: a Report from the Robert Wood Johnson Foundation to the Commission to Build a Healthier America[1] was issued from the foundation to the commission at the commission's 2008 public launch. The purpose was to present the foundation's rationale for establishing the commission and provide a conceptual framework and scientific guidance for the commission's work, summarizing and translating current knowledge about the social determinants of health for an audience of policymakers and advocates. Adapted from that report, this paper is intended to lay the foundation for this supplement to the *American Journal of Preventive Medicine* by providing a statement of the problem addressed by the commission and a framework for seeking the solutions that are explored more fully in the articles that follow.

After presenting new evidence produced for the commission about the extent of unrealized health potential in the U.S., a brief overview is provided of the science supporting a more comprehensive approach to reducing health disparities and improving health overall, and a summary of the case for taking societal action now to address the obstacles to health faced by many Americans. While ensuring that individuals have access to appropriate medical care and information about health-promoting behaviors remains important, effective solutions also will require a broader focus on the contexts that powerfully shape both health behaviors and health itself. Much remains to be learned about which strategies are most effective, but current knowledge is sufficient to indicate promising directions.

Overview

The human impact of health is clear: Good health is essential to well-being and full participation in society, and ill health can mean suffering, disability, and loss of life. The economic impacts of health have become increasingly apparent as well. While the overall economy declined by 1.1% from 2008 to 2009, total health expenditures rose by 5.7%.[2] Annual per capita medical care expenditures in the U.S. are higher than those in any other nation, and if current trends continue medical care costs in the U.S. will reach more than 19% of the Gross Domestic Product by 2019. Although recent reforms should help many Americans obtain and keep coverage, the costs of medical care and insurance remain out of reach for many households. These costs also affect employers, threatening the bottom line of many American businesses and deterring job creation. Medical care spending at the local, state, and federal level limits government investments in other crucial areas including infrastructure and education. The rising costs of providing care to aging baby-boomers and the growing number of obese Americans will further strain public and private budgets.

Despite spending more on medical care than any other nation, the U.S. ranks at or near the bottom among industrialized countries on key health indicators. For example, while both infant mortality and life expectancy have improved over the last few decades, U.S. rankings have fallen relative to other nations—from 18th in 1980 to 28th in 2006 for infant mortality, and from 14th in 1980 to 24th in 2006 for life expectancy.[3] At the same time, levels of health within the U.S. vary dramatically across states and localities and among social and economic groups, and many Americans are far less healthy than they could and should be.[4,5]

Identifying more effective strategies to reduce these health disparities and more fully achieve America's health potential would improve quality of life for the population overall. Furthermore, it also offers promise for helping to contain escalating medical care costs and strengthening the nation's economy by creating a healthier workforce. Of particular note, reducing social and economic disparities in health affecting children will not only improve child health; it will increase opportunities to be healthy throughout life, because healthier children are more likely to grow up to be healthy adults.[6–8]

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Reducing social disparities in health (i.e., health differences by racial or ethnic group or by socioeconomic factors like income and education) will require solutions that address their root causes. For some time, there has been awareness that the prevalence of health-related behaviors known to be strong risk factors for morbidity and premature mortality, such as smoking, diet, exercise, and alcohol and drug use, vary across different social groups.[9–12] Although these behaviors to varying extents reflect choices made by individuals, they can have consequences for families and society as well.

Unquestionably, individuals must take personal responsibility for their health and the health of their families, but individuals do not act in a vacuum. The contexts in which people live, learn, work, and play influence both the choices available to them and their ability to choose paths leading to health.[13–16] In many instances, the barriers to good health exceed an individual's abilities, even with the greatest motivation, to overcome these obstacles on his or her own. Children—who cannot choose their environments—are particularly vulnerable to the health-damaging effects of harmful physical and social conditions, and childhood adversity often results in seriously diminished health in adulthood.[7,13,17–20]

Although many questions remain unanswered, extensive evidence can be applied now to find ways to reduce health disparities and their perpetuation across lifetimes and generations. Current knowledge supports the importance of programs and policies that influence the choices available to individuals and the contexts in which those choices occur—including conditions in homes, schools, workplaces and neighborhoods—that can constrain or enable healthier living.[13,21–24] More than simply making health information available, effective strategies will focus on strengthening individuals' abilities to use information to make healthy choices, by ensuring access to healthy options and removing obstacles to choosing health—particularly for groups whose abilities have been severely constrained.[13]

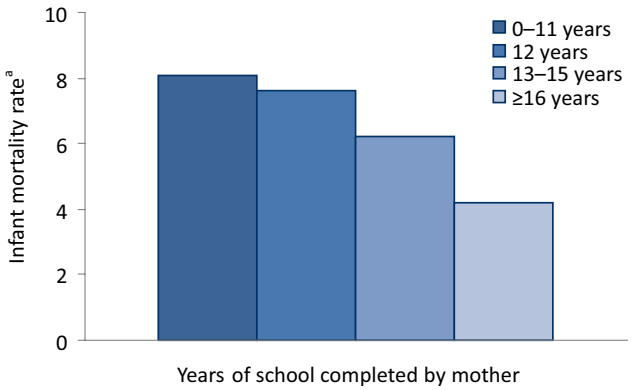

Figure 1. An infant's chances of survival, by mother's education level[26]
[a]Per 1000 live births

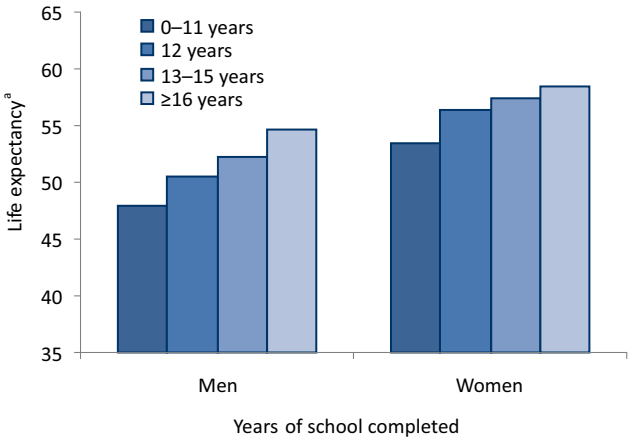

Figure 2. More education, longer life[27]
[a]Number of additional years of life expected at age 25 years

Documenting the Problem of Unmet Health Potential in the U.S.

Social and Economic Disparities in Health

In the U.S., where education and income are the most frequently used socioeconomic measures, Americans who are poor and those who have not graduated from high school experience considerably worse health on average than more affluent or educated Americans. Health disparities across income and education groups are seen in a range of health conditions from the beginning of life to old age.[25] Evidence of these disparities by education or by income is shown here for selected conditions in

Figure 3. Higher income, longer life[27]
[a]Number of additional years of life expected at age 25 years
FPL, federal poverty level

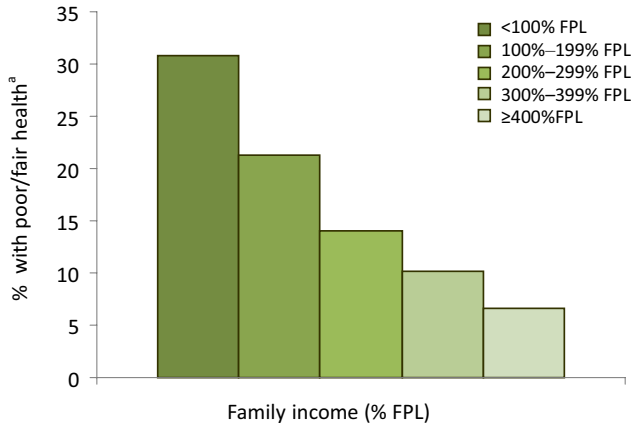

Figure 4. Health status, by income level[28]
[a]At age ≥25 years; age-adjusted
FPL, federal poverty level

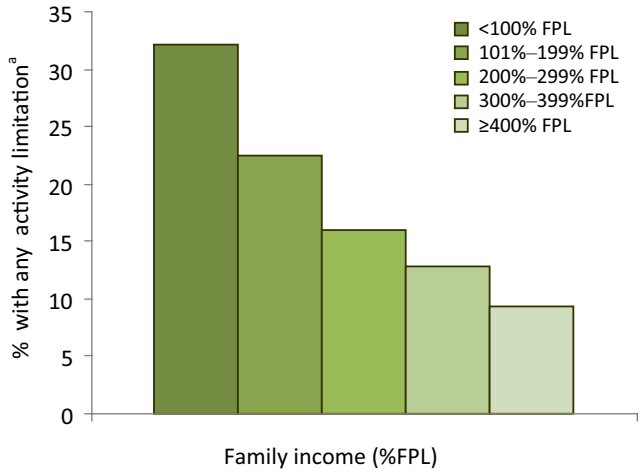

Figure 6. Chronic illness, by income level[28]
[a]At age ≥25 years; age-adjusted
FPL, federal poverty level

Figures 1–6, which display findings from new analyses conducted for the commission of recent nationally representative U.S. data.[1] For most of these conditions, the pattern of disparities is generally similar whether examining differences by income or education.[25]

Infant mortality and life expectancy are important indicators of a population's health, and both vary markedly across U.S. groups defined by education and/or income. For example, babies born to mothers who have completed fewer than 12 years of schooling are nearly twice as likely to die before their first birthdays as babies born to mothers who have completed 16 or more years of schooling (Figure 1). More education is also linked with longer life: Men and women who have graduated from college can expect to live at least 5 years longer on average than their counterparts who have not completed high school (Figure 2). A similar pattern in life expectancy is seen by income, with higher-income men and women living longer than people with lower incomes (Figure 3).

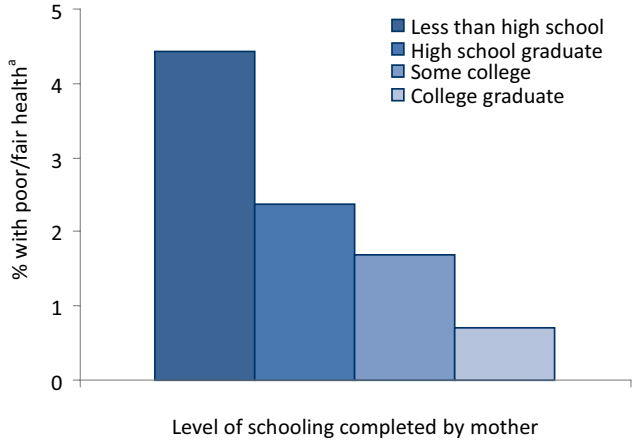

Figure 5. Children's health, by parental education level[28]
[a]At age ≤17 years; age-adjusted

Individuals' reports of whether their health is poor, fair, good, very good, or excellent are generally considered to be reliable indicators of their health status.[29,30] The percentage of U.S. adults who report being in poor or only fair (rather than good or better) health increases as levels of income (Figure 4) and education decrease.[1] For example, poor adults are nearly five times as likely to report being in poor or only fair health as adults with family incomes above 400% of the federal poverty level (Figure 4).

The patterns in children's health status (as reported by parents or guardians) by income and education[1] also are striking. As seen in Figure 5, for example, the prevalence of poor or fair health among U.S. children increases dramatically with decreasing parental education; children whose parents have not completed high school are approximately six times more likely to be in poor or fair health as children with at least one college-graduate parent (Figure 5). Individuals in more disadvantaged groups also are more likely to have a chronic disease that limits their activity. For example, compared with higher-income adults, adults with family incomes below the federal poverty level are more than three times as likely to report activity limitation (inability or limited ability to work, requiring help with personal care, inability to perform activities usual for individuals their age) due to chronic illness (Figure 6), more than twice as likely to have diabetes, and nearly 1.5 times as likely to have coronary heart disease.[1]

While Figures 1–6 reveal the largest disparities when comparing the worst-off to the best-off groups, they also show health differences at each step of increased/lower income or education, including health differences between the next-to-highest income or education group and those with even higher incomes/educational attain-

ment. These examples—and evidence from other studies in the U.S. and elsewhere—illustrate an important point: the effects of socioeconomic disparities in health are not limited to those in the most disadvantaged groups.[25,31–34] Although individuals in the poorest or least educated groups typically experience the poorest health, even Americans who by most standards are considered to be "middle-class" are on average less healthy than Americans with greater advantages. Socioeconomic disparities in a wide range of health conditions typically follow a gradient pattern, with greater social and economic advantage corresponding to better health. The gradient does not necessarily follow a straight line,[25,35] however; increases in income for people at the lower end of the income scale tend to translate into larger increases in health, while increases in income among already very high–income people may not be associated with better health.[36]

Results of these observational and unadjusted analyses certainly do not establish a causal role for income or educational attainment per se. However, the findings add to and support a large and growing body of evidence, including research identifying pathways and physiologic mechanisms, that suggests likely causal roles in many health conditions for factors tightly linked with income and education.[37–41] Though reverse causation—with poor health leading to lower income—may in part explain income gradients in health, it is a less likely explanation for the education gradients.

Links Between Socioeconomic and Racial or Ethnic Disparities in Health

Over the past few decades, a large and growing body of evidence has revealed marked racial and ethnic disparities in health in the U.S. In the U.S., there generally is more awareness of racial or ethnic disparities than of socioeconomic disparities, at least in part because routine public health data in the U.S. generally have been reported by racial or ethnic group but less frequently by socioeconomic factors such as income and education.[42,43] Despite research demonstrating their role in health, socioeconomic conditions in neighborhoods (such as the percentage of households in poverty), and, in studies of adult health, conditions experienced during childhood are even less frequently measured than current income or education of individuals around the time when a health outcome is assessed.

Without adequate socioeconomic information, racial or ethnic differences in health may be interpreted, implicitly if not explicitly, as reflecting genetic or entrenched "cultural" differences that are unlikely to be influenced by policy. In fact, modifiable social factors shaped by income, education, wealth, and childhood and neighborhood socioeconomic conditions, which vary systematically by race or ethnic group, are likely to be more important in explaining health differences by race or ethnicity.[44,45] Blacks, Hispanics, and American Indians, as well as some Pacific Islander and Asian-American groups, are disproportionately represented among the more socioeconomically disadvantaged groups in the U.S.[46–50]; researchers at the CDC have estimated that 38% of the twofold excess mortality among black adults compared with whites in the U.S. was related to differences in income.[51]

The links between socioeconomic and racial or ethnic differences in health underscore a consensus among social scientists and many medical researchers (including the architects of the Human Genome Project[52]) that racial or ethnic groups are primarily social rather than biological constructs. The genetic differences reflected by superficial secondary characteristics such as skin color and hair texture are unlikely to reflect fundamental bio-

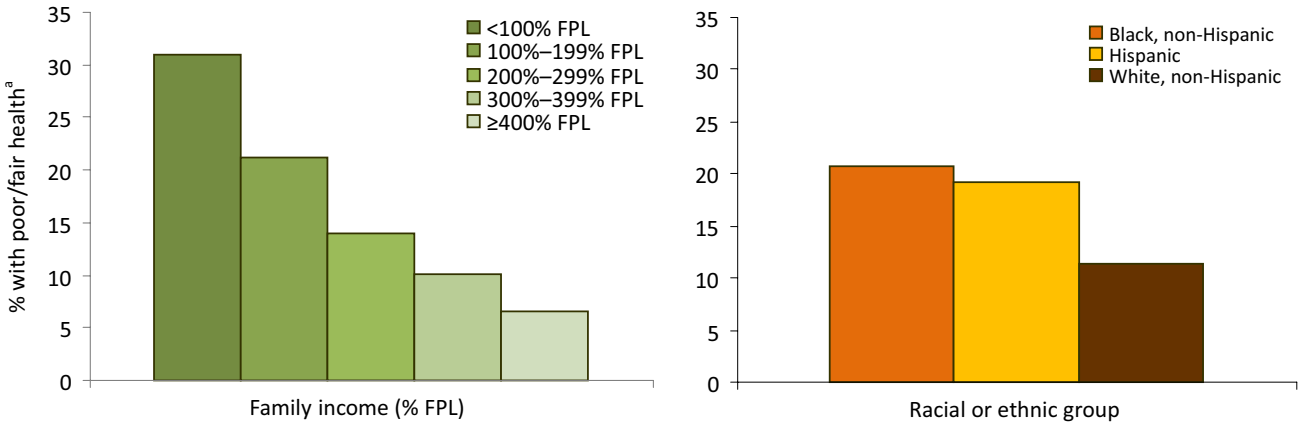

Figure 7. Health status, by income level and by racial/ethnic group[28]
[a]At age ≥25 years; age-adjusted
FPL, federal poverty level

logical differences that would explain large, widespread health disparities across multiple health indicators. Rather, racial or ethnic differences in health are more likely to reflect profound differences in people's experiences from birth on, based on the relatively advantaged or disadvantaged position in society of the race or ethnic group of the families into which they are born.[53]

The importance of considering health disparities across both socioeconomic and racial or ethnic groups is underscored when income or education and racial or ethnic group are considered together—as is illustrated in Figures 7 through 9. Poor or fair health is less prevalent both among higher-income adults and among whites (Figure 7), which could lead to the erroneous inference that poorer health among blacks and Hispanics is the primary explanation for both observed gradients. When income and racial or ethnic group are considered jointly, however, income gradients in fair or poor health are seen within each racial or ethnic group (Figure 8), and racial or ethnic differences are seen at each level of income (Figure 9).

The racial/ethnic differences within each income group could reflect unmeasured socioeconomic differences; at the same level of income, black and Hispanic adults have far less wealth, are more likely to have grown up in households with fewer socioeconomic advantages, and are more likely to live in socioeconomically disadvantaged neighborhoods[44,45] where conditions such as inadequate housing, crime, noise, pollution, and lack of services may have health impacts above and beyond those associated with the income or educational attainment of individual residents.[54,55] These residual racial or ethnic differences also may reflect health effects of experiences of discrimination, including subtle everyday experiences in which discrimination may not have been consciously intended (see Table 1).[56] The patterns—displayed here

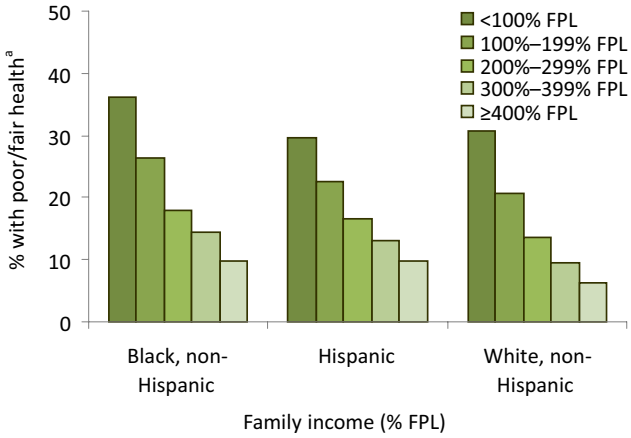

Figure 8. Health status, by income level[28]
[a]At age ≥25 years; age-adjusted
FPL, federal poverty level

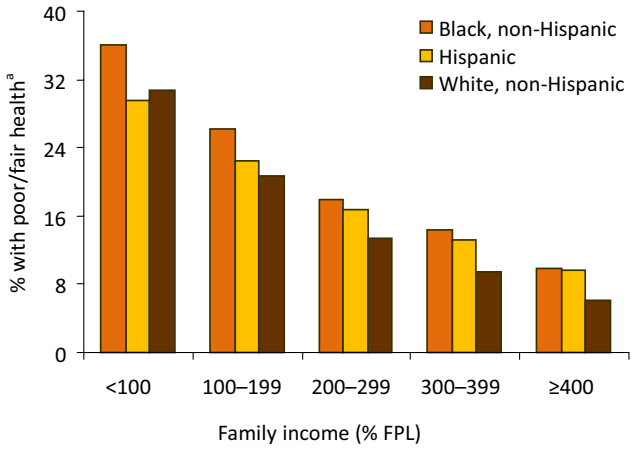

Figure 9. Health status, by income level and race/ethnicity[28]
[a]At age ≥25 years; age-adjusted
FPL, federal poverty level

for self-reported health status but seen across a wide range of health conditions—indicate that *both* socioeconomic advantage and race, independently and in combination, contribute to health inequalities in the U.S.

Geographic Disparities in Social Advantage and Health

Geographic variations in the income and education levels of Americans across the country often correspond to

Table 1. Discrimination and its legacy also contribute to health disparities.

Although it is no longer legal to discriminate on the basis of race or ethnicity, the legacy of racial inequality and residential segregation has left members of disadvantaged racial or ethnic groups more heavily concentrated in resource-poor neighborhoods.[57,58] This uneven pattern of neighborhood disadvantage is not fully explained by differences in family income. For example, among families with similar incomes, blacks[59] and Hispanics live in neighborhoods with higher concentrations of poverty than whites.[44,60] These neighborhood differences can contribute to health disparities through differential access to resources and exposures to harmful social and physical conditions. Living where crime rates are high or near toxic waste dumps, freeways, and other sources of exposures that are harmful to health is highly correlated with race as well as SES.[61,62] Racial segregation also has meant that blacks and Hispanics are more likely than whites to live in poor-quality housing,[57] posing a greater risk of exposure to conditions that can contribute to poor health, such as indoor allergens that can lead to and exacerbate asthma.[63,64] Favorable and unfavorable social factors tend to cluster. Escaping health-damaging physical and social environments is challenging, because these neighborhoods typically lack employment opportunities and services—including good schools—that can lead to upward mobility. There may also be fewer positive role models and fewer community members with sufficient resources themselves to provide a "leg up" to those who are most needy.

striking geographic differences in health. A 1998 study revealed dramatic disparities in life expectancy across U.S. counties overall, particularly when racial or ethnic differences were also considered. For example, black men in the county with the shortest life expectancy for blacks lived only 58 years (well below average life expectancy in many developing nations), while white men in the county with the longest life expectancy for whites could expect to live to age 78 years—2 decades longer.[65]

A more recent study showed that whites in Louisiana, where median household income in 2005–2006 was $37,472, had a death rate 30% higher than that for whites in Minnesota, where the median household income was $56,102. The discrepancy between the two states is even greater for blacks, whose death rate was 37% higher in Louisiana.[66,67] Findings from a recent report[68] that ranked counties both on health indicators and on a set of key social and economic factors found that counties with higher levels of health also were more likely to rank favorably on measures of advantage including rates of high school graduation, employment, and children living in poverty. These geographic differences add to other evidence, including findings from studies adjusting for other potentially relevant factors,[10,69,70] of the important role in health disparities played by modifiable conditions linked with income, education, and/or occupation.

Making Sense of the Patterns: What Influences Health?

The Importance of Broadening the Focus

Health is influenced by a wide array of biologically determined factors, including individual characteristics like age, gender, and genetic make-up. Because individuals have little or no control over these biologically determined risk factors (and, despite high hopes, the yield of gene therapy for improving population health is as yet unproven), it makes sense to focus health policies on risk factors that are potentially modifiable, including those that may interact with genetic makeup. When considering strategies for addressing such modifiable factors on a large scale to improve health, medical care is clearly important; in fact, many use the terms "health" and "health care" almost interchangeably. Widespread and substantial socioeconomic and racial or ethnic disparities have been documented in access to and quality of medical care for many serious health conditions such as heart disease and cancer,[71,72] and reducing these disparities is essential. Such efforts alone, however, will not be sufficient to substantially reduce socioeconomic and racial or ethnic disparities in health. Despite its importance, particularly after disease or injury occurs, medical care often has little impact on the underlying causes of disease or injury—for example, the array of health-related behaviors, including smoking and physical inactivity, that have been identified as major causes of preventable deaths.[73,74]

During the past few decades, the general public has become increasingly aware of the strong influences on health exerted by health-related behaviors—whether or not an individual exercises regularly, eats a nutritious diet, abstains from smoking, and limits his or her alcohol intake. Along with efforts to improve medical care access and quality, prevailing strategies for improving health in the U.S. have often focused on promoting behavior change— beginning by increasing awareness of how individuals' behaviors affect their health, and in some cases providing tools and resources to support individuals' efforts. Although these approaches undoubtedly have contributed to overall improvements in health, as reflected in average national statistics, there has been limited evidence that progress has been made in reducing relative health disparities across social groups.[75]

Disparities in some key health-related behaviors (discussed in another paper in this issue[76]) have persisted and in some cases have widened.[9–11,77] For example, although the prevalence of high cholesterol and smoking—two cardiovascular disease–risk factors— decreased overall during the past three decades, the decrease was smallest among adults with lower family incomes.[11] Income disparities in diabetes, an adverse health outcome in itself and another important risk factor for cardiovascular disease, have widened in the past 30 years, corresponding to greater increases in prevalence among adults in lower-income groups.[11]

These disappointing patterns indicate the need to reassess current strategies for improving health and the assumptions on which they are based. Positive changes in health-related behaviors clearly depend on individuals making choices that promote good health. While such choices typically begin with awareness of the benefits and risks of particular behaviors, they also require opportunities and support in the environments where people live, learn, work, and play. Experience has shown that efforts focused solely on informing or encouraging individuals to modify behaviors, without taking into account their physical and social environments, too often fail to reduce—and may even exacerbate— health inequalities.[78,79] Making further improvements—and reducing disparities—in health-related behaviors will require adopting a much broader perspective based on a deeper understanding of what shapes behaviors.[80]

Figure 10 illustrates relationships among some of the key factors that influence health and thus represent potential opportunities for reducing health inequalities. Although the relationships are far more complex than depicted in the diagram, this simplified framework

highlights several important concepts. First, it shows that behaviors are shaped by **living and working conditions**. A large and growing body of research has shown how the contexts in which people live and work—their physical and social environments at home, in neighborhoods, at schools and work, and when traveling among these—appear to powerfully shape many behaviors with strong effects on health.[13,15,16,24,80–83]

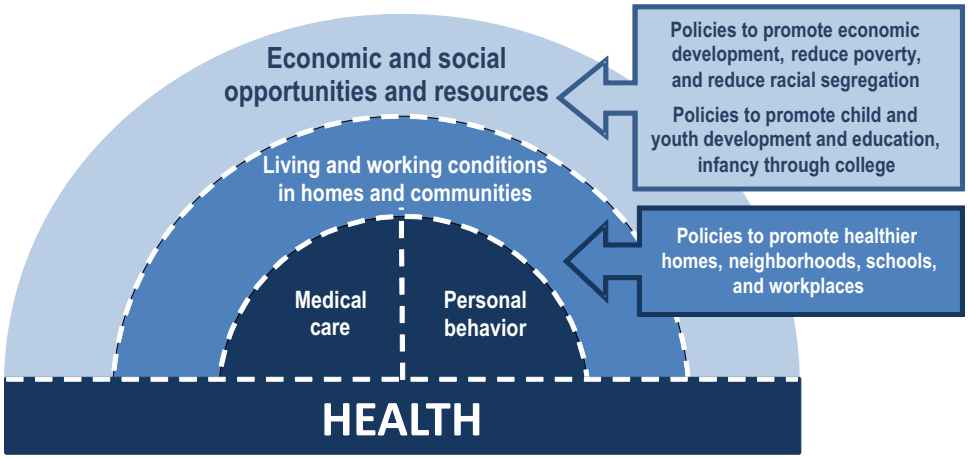

Figure 10. Factors that influence health
Prepared for the Robert Wood Johnson Foundation Commission to Build a Healthier America by the Center on Social Disparities in Health, University of California San Francisco

Physical and social environments can be overtly hazardous, exposing people to high levels of pollution or crime, for example. They also can severely limit choices and resources available to individuals. For example, an individual's ability—and motivation—to exercise and avoid smoking and excessive drinking can be limited by living in a neighborhood that lacks safe areas for exercise, where liquor stores abound and intensive tobacco and alcohol advertising target poorer and minority youth, and where healthy role models and hope are scarce. In addition, a neighborhood's socioeconomic conditions can affect whether its residents smoke,[14,84] drink alcohol,[54] have healthy diets,[85,86] and pursue protective reproductive health behaviors.[87] By the same token, aspects of living and work environments—such as the presence of sidewalks and playgrounds in neighborhoods, after-school physical activity programs for children and youth, nutritious food services in schools and workplaces, and on-site facilities for breastfeeding—can promote health by encouraging healthy behaviors and making it easier to adopt and maintain them.

But what determines the quality of living and working conditions? People are not randomly distributed into healthy and unhealthy circumstances. Living and working conditions are shaped by many factors, including geography, climate, culture, and individual choices. As seen in Figure 10, living and working conditions (and medical care and behaviors) are also powerfully shaped by factors—such as income or wealth, education, and social standing (respect, prestige, or acceptance in society)—that reflect people's **economic and social resources and opportunities** and influence their ability to make healthier choices.

Education, for example, can correspond to knowledge about health and healthy choices, and to feeling able to take control of one's life. Education is also tightly linked with income and wealth. Greater educational attainment typically translates into increased opportunities for more rewarding and higher-paying employment, which in turn is associated both with healthier working conditions, better health-related benefits including medical insurance, and greater ability to accumulate wealth and economic security for oneself and one's family. Higher income and accumulated wealth make it easier for people to pay for insurance premiums, deductibles, copayments and medicines; to purchase more nutritious foods; to obtain quality child care (which can affect a parent's ability to keep a job and can also reduce stress); and to live in a neighborhood with resources to support good schools and recreational facilities. Conversely, limited economic means can make everyday life an all-consuming struggle, leaving little or no time or energy to adopt a healthier lifestyle and even crushing personal motivation.

The Role of Stress

The last decade has seen marked increases in scientific knowledge about causal pathways and physiologic mechanisms that help explain the links between socioeconomic factors and health. An important example includes physiologic damage to multiple vital organ systems caused by chronic stress, through neuroendocrine and immune pathways.[18,88–93] Stressful experiences—like those associated with greater socioeconomic disadvantage[94,95] or with racial discrimination[96]—can trigger the release of hormones and other substances which, particularly with repeated stresses over time, can damage immune defenses and vital organs.[97] This physiologic chain of events can result in more rapid

Table 2. The vicious cycle of social disadvantage and ill health across individual lifetimes and generations.

At each life stage, social advantage or disadvantage leads to health advantage or disadvantage. In addition, social and economic disadvantage and health disadvantage accumulate over time, creating ever more daunting constraints on a person's ability to be healthy (Figure 11). These obstacles to health are transmitted across generations, as disadvantaged children become adults with limited socioeconomic resources and health who are less able to provide healthy environments for their children. Conversely, social advantages can accumulate across lifetimes and generations, to produce better health.

onset and progression of chronic illnesses, including cardiovascular disease,[90] and the bodily wear and tear associated with chronic stress may accelerate aging.[98–100] Increasing evidence indicates that the accumulated strain from trying to cope with daily challenges (e.g., noise, crime, and negative influences on children in one's neighborhood; feeling disrespected, intimidated, or powerless at work; or having inadequate financial resources for decent housing, food, child care, transportation, or medical care) may, over time, lead to far more physiologic damage than a single stressful event, even if that event is dramatic.[98]

Social Advantage and Health Across Lifetimes and Generations

Socioeconomic conditions—like family income, education, and concentrated neighborhood poverty—affect health at every stage of life. The effects of socioeconomic adversity on young children, however, may be most dramatic. A body of research shows that children's nutrition varies with parents' income and education,[101–103] and that nutrition in childhood can have lasting effects on health throughout life.[104–106] Lead poisoning in childhood—commonly due to lead-based paint in substandard housing—can lead to irreversible neurologic damage, and unsafe levels of lead have been found more frequently among lower-income children than among their high-income counterparts.[107]

Socioeconomic adversity in childhood shapes child health and development in other ways as well. Parents with low educational attainment and/or low income face greater obstacles—such as lack of knowledge, skills, time, money, or other resources—to creating healthy home environments and modeling healthy behaviors for their children. Recent scientific advances have shed light on other ways in which economic and social conditions during the first few years of life affect brain development in infants and toddlers. Children in more favorable socioeconomic circumstances often receive more positive stimulation from parents and caregivers[102,108–111] and high levels of such stimulation are associated with increased brain, cognitive, behavioral, and physical development. Thus, biological changes due to adverse socioeconomic conditions in infancy and toddler years become literally "embedded" in a child's body, limiting developmental capacity.[20] Early childhood developmental interventions, however, have been shown to greatly ameliorate the effects of social disadvantage on children's physical, mental, and social development; the first 3–5 years of life appear to be most crucial[112,113] although opportunities for intervention appear to continue throughout childhood[112] and adolescence.[114]

A child's health also predicts his or her health in adulthood. For example, a baby born too small or too early is more likely to be cognitively, behaviorally, and physically handicapped as a child, and to develop high blood pressure, heart disease, and diabetes as an adult.[115,116] Obese children are more likely to be obese as adults,[117] increasing their risk of serious chronic diseases including diabetes, heart disease, and stroke. Poor dental health in childhood can lead to painful, disabling, or disfiguring dental problems in adulthood.[118,119] At the same time, poor childhood health can limit educational attainment, which then limits adult health in multiple ways.[120–123]

While the associations between poorer health in childhood and poorer health later in life have been recognized for some time, there is increasingly evidence of how poorer socioeconomic circumstances in childhood can

Figure 11. Health is transmitted by social factors across lifetimes and generations
Prepared for the Robert Wood Johnson Foundation Commission to Build a Healthier America by the Center on Social Disparities in Health, University of California San Francisco

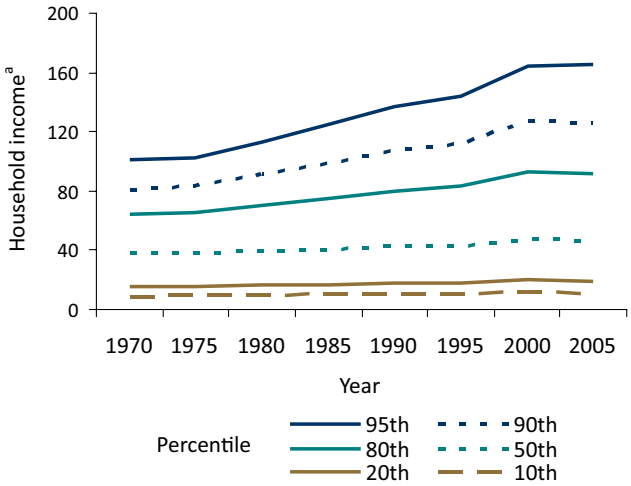

Figure 12. Household income level, by year[143]
[a]In 1000s of 2005 inflation-adjusted dollars

lead both to poorer socioeconomic circumstances and poorer health in adulthood. Transmission of health across generations is also strongly influenced by social factors.[7,106,115,124] Economists have shown how family income in one generation shapes family income in the next.[125,126]

Socioeconomic disadvantage in childhood has been linked repeatedly with lower educational attainment,[127–131] and poverty in early childhood may be particularly damaging to chances of high educational attainment.[128] Lower educational attainment leads to lower chances of good jobs in adulthood, which then means lower income (and potentially poorer nutrition, housing, schools, and lack of medical insurance) for the next generation. Researchers are beginning to link these bodies of evidence—examining the interplay between economic and social resources (including income and education) and health, and the influence of those resources on the transmission of health across lifetimes and generations (Table 2).[132,133]

Identifying Solutions

Solutions to the complex problem of health disparities will not be simple, but this is a particularly opportune time to seek them. Widespread concern—on the part of business, government, and the general public—about medical care costs has created a sense of urgency and increased attention to potential solutions beyond the realm of medical care. This is evidenced by the American Recovery and Reinvestment Act's creation of new grants for state policy and community-level prevention and wellness initiatives[134,135] and by the community prevention and wellness provisions in the Patient Protection and Affordable Care Act signed early in 2010.[136] Concerns about global economic competitiveness add to pressures not only to reduce medical care costs but to have a healthier and more economically productive workforce; other potential savings, such as those associated with less crime, reduced welfare dependency, and lower Medicaid expenditures, also should be considered.[137] The public and policymakers should be more receptive than ever to recognizing the human and economic costs associated with health disparities.[138]

While the current economic crisis makes it more difficult to undertake ambitious social policies, it may present new opportunities. For example, increased media coverage of poverty, social class, and economic inequality in recent years are likely to have increased many Americans'—including middle-class Americans'—awareness of their potential vulnerability and of how difficult it can be to overcome obstacles related to social and economic disadvantage. The unequally distributed misery and death in the aftermath of Hurricane Katrina shocked many Americans, providing stark testimony of deep divides by class and race within our society. This memory should be refreshed and updated with the emerging data on the numbers of formerly middle-class but now financially insecure Americans affected by job loss and/or home foreclosures and dependent on public assistance.[139] Furthermore, poverty in America increasingly is not restricted to inner cities and rural areas; by 2005, 1 million more poor Americans lived in suburbs than lived in cities,[140] making poverty more visible to the middle class.

While public concern about poverty may create momentum for addressing disparities, middle-class Ameri-

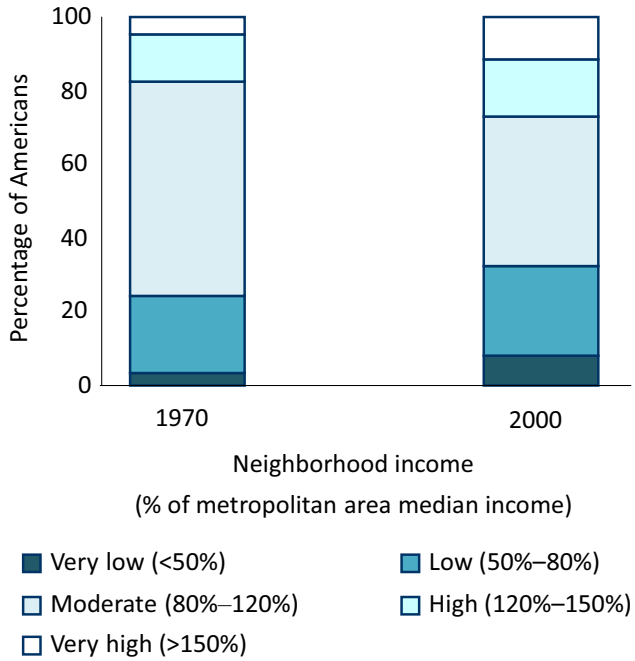

Figure 13. Widening disparities in income, based on where Americans live[145]

cans are increasingly concerned about their own economic security as well. Economic inequality has increased in the U.S., and the middle class has lost ground. Over the past 25 years, the middle class has become increasingly insecure financially (i.e., less able to weather a job loss or serious medical crisis), in part because of rising costs of medical care, housing, and education; many middle-class families have had to work longer hours to maintain their standard of living, leaving parents less time to spend with their children.[141]

Information from the U.S. Census Bureau shows that the wealthiest 20% of Americans experienced dramatic increases in their incomes over the past 35 years, while the rest of the population experienced little improvement (Figure 12).[142] From 1970 to 2000, the percentage of middle-income neighborhoods decreased, while the percentage of both very high– and very low–income neighborhoods increased (Figure 13).[143] Both current Federal Reserve Chairman Ben Bernanke and former chairman Alan Greenspan have called rising economic inequality a serious concern for the American economy.[144]

In the face of these concerns about the nation's economic security, existing knowledge can—and must—be applied to reduce health disparities and improve health for all Americans. As health policy continues to be an important issue for both policymakers and the public, this is a particularly timely moment to ensure that the powerful health influences of social factors—such as child care, education, and housing—receive attention. Along with the growing body of scientific knowledge about how social and economic advantage, particularly in early childhood, can affect health throughout lifetimes and across generations, practical experiences in the U.S.[145] and other countries[13,146–149] offer guidance for effective action. As illustrated in Figure 10, reducing health disparities in this country will require expanding our focus beyond medical care and personal behaviors to the broader social and economic contexts that influence health, in part by enabling or constraining healthy behaviors. In the private sector and at every level of government, effective policies will need to address the differences in underlying resources and opportunities that are the root causes of health inequalities across social groups.

Building on the recommendations of the Robert Wood Johnson Foundation Commission to Build a Healthier America,[150] other papers in this supplement[76,151,152] explore promising, knowledge-based directions for action, including: programs to improve development in early childhood, which should improve adult health through effects both on child health and on educational attainment; economic development initiatives targeting and engaging disadvantaged communities; and community-focused initiatives that can lead to healthier communities by attracting additional resources and by building on and developing community strengths. Other important strategies not addressed by the commission and thus not explored in this supplement include programs to improve the quality of K–12 education, picking up where early childhood programs leave off; youth development programs targeting youth in disadvantaged communities; and efforts to strengthen community colleges and increase financial access to college for low-income and middle-class students.

Most smaller-scale community-level interventions have not been rigorously evaluated, yet many appear to have improved diverse aspects of health in disadvantaged communities. Careful review of the evidence from such local efforts—many of them supported by philanthropies, including the Robert Wood Johnson Foundation—and consideration of costs could provide a rationale for scaling up some of the most promising models. Successful initiatives cited in other papers in this issue illustrate principles with wide generalizability, including the need to simultaneously address risks to health from multiple causes, rather than looking for a single magic bullet; the need for mutually reinforcing efforts in different domains, such as providing high-quality child care for toddlers along with support to strengthen their parents' abilities as effective parents; and a focus on capacity-building. The White House's new Social Innovations Fund[153] is an effort to identify and scale-up promising initiatives led by nonprofit organizations, particularly at the community level; while not its primary focus, improvements in health are likely to be achieved if efforts to improve social conditions in communities prove successful.

Although the U.S. is unique in many ways, useful lessons may be gleaned from international experience, particularly that accumulated in Europe over the past two decades with interventions (both successful and unsuccessful) aiming to narrow socioeconomic inequalities in health in relatively affluent countries.[149] The 1998 report from the WHO's European Office, titled "Social Determinants of Health: the Solid Facts" (and a more technical reference document supporting that document) reviewed evidence both of the social causes of ill health and, when available, of interventions to reduce social inequalities in health, in nine areas: stress, early life, social exclusion, work, unemployment, social support, addiction, food, and transportation. Over one decade ago, the authors concluded that, in a number of these areas, the evidence was sufficient to act.[154]

For example, to promote health in early childhood (and ultimately throughout life) policies should aim to "reduce parents' smoking; increase parents' knowledge of health and understanding of children's emotional needs; introduce preschool programs not only to improve read-

ing and stimulate cognitive development but also to reduce behavior problems in childhood and promote educational attainment, occupational chances, and healthy behavior in adulthood."[154] Although general recommendations like these do not provide a blueprint for designing specific programs, they add to evidence from the U.S. and should increase the confidence of U.S. policymakers in pursuing health strategies focusing on social factors. The work of the WHO's recently concluded Commission on the Social Determinants of Health supports those conclusions on a global level and provides an array of resources with relevance for efforts in countries of all levels of economic development, including the U.S. Based on the large bodies of international evidence amassed by its knowledge networks about what does and does not work, the WHO commission concluded that, "The knowledge exists to make a huge difference to people's life chances and hence to provide marked improvements in health equity."[13]

Policymakers also should look to past successes in reducing health and medical care inequalities within this country. Although there also is evidence of the importance of intervening throughout children's lives[155] the strongest scientific case at present probably can be made for intervening early in life [112,113] to interrupt the vicious cycle of social disadvantage and poor health. Scientists agree that the mental and behavioral development of children in less favorable socioeconomic circumstances can be markedly improved through high-quality early child care.[112,113,156–158] The evidence for the effectiveness of early childhood development programs is so strong that national business groups—including the Committee for Economic Development (CED), PNC Financial Services Group, the Business Roundtable,[159–161] and economists Arthur Rolnick and Rob Grunewald of the Federal Reserve Bank of Minneapolis,[162] have called for universal early childhood development programs as a wise financial investment in the future U.S. workforce. The strength of this consensus is reflected in the RWJF commission's first recommendation.[152]

Many questions remain, and support for high-quality research to identify, develop, and implement the most effective and efficient approaches will be crucial, but we know enough to act now in a number of important areas. Particularly with greater attention to the health impacts of current policies, societal resources could be directed to higher-yielding investments. In weighing whether to act now, policymakers must also weigh the enormous human and economic costs society incurs every day because of lost opportunities to help everyone in this nation achieve her or his full health potential. (See Schoeni et al.,[138] elsewhere in this supplement for a discussion of the potential health capital gains that could be achieved if education disparities in health and longevity were reduced.)

Final Remarks: A Timely Moment to Act

This paper reviews evidence highlighting the powerful influences exerted on health by socioeconomic factors such as family income and education—factors that have been shown in other studies to be more important than medical care and genetic makeup in sustaining large gaps in health among Americans with different levels of socioeconomic advantage.[22,23,163,164] While those at the bottom of the social and economic ladder experience the greatest health consequences of social inequalities, those in the middle are affected as well. Middle-class Americans and their families have poorer health than those with greater education and economic resources, even as they struggle to meet the rising costs of medical care and insurance on flat or declining incomes.

Of greatest concern, perhaps, is the future of America's children, particularly those who grow up in resource-scarce environments where good schools are rare, crime rates are high, and access to nutritious food is limited. These children are at risk for poor health—not only while they are young, but in adulthood as well; and their children in turn are at risk. Research findings presented here also provide evidence that poor health can limit a person's—and a family's—educational, career, and financial opportunities, creating a cycle of disadvantage that extends across lifetimes and generations.

Concerted efforts are needed to not only improve the health of the population as a whole, but to reduce the size of the gaps in health across social and economic groups. The RWJF commission's call to broaden the focus—to address the social factors that are powerful influences on health—adds to momentum that has been building in the U.S. and internationally. The momentum has accelerated over the past decade, but its recent origins can be traced back at least to the WHO's Primary Health Care strategy, which focused on the need to address living conditions to achieve health, calling for intersectoral action.[165]

While much remains to be learned, enough is known now to identify and test promising new approaches to reduce health disparities. Effective solutions are unlikely to be simple and may require substantial investment. In both economic and human terms, however, the costs of maintaining the status quo—and the potential societal benefits—are enormous.

The economic reasons for taking action now to address health disparities and more fully realize America's health potential are compelling, but perhaps the most important reason to act now is the shared American ideal of fair

opportunity for all to pursue life, liberty, and happiness—each of which depends on good health.

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