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THE SOCIAL AND ECONOMIC DETERMINANTS OF HEALTH

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INTRODUCTION

If you are a man between the ages of twenty-five and sixty-four, and your family income is $50,000 or more, your chance of dying this year is less than one-third that of a man whose income is $5,000 or less.[1] Conversely, if you are at the bottom of the distribution in terms of education, income, or occupational standing, your risk of death is two to three times higher than it would be if you were at the top of such distributions.

Such mortality figures are not the only evidence of dramatic inequality. By other definitions of health as well—including measures of morbidity, disability, and pain—people are less healthy if they are closer to the bottom of the social and economic spectrum than to the top.

Disparities in health outcomes have increased over the last three decades, according to several reports.[2] Yet insufficient attention has thus far been paid to these findings. To the contrary, analysts have typically emphasized two pieces of good news: life expectancy at birth for Americans has increased to an all-time high, and infant mortality has fallen to a record low.[3] Where disparities have been noted, they are generally attributed to racial differences. For example, age-adjusted death rates for blacks are still 50 percent higher than for whites; for black infants, the difference is more than 100 percent.[4] Where solutions have been sought, they have generally focused on improving access to high-quality medical care or making requests to

change individual lifestyles or behaviors rather than on attributing poor health outcomes to socioeconomic status.

These access or lifestyle approaches fail to recognize the many complex and interrelated influences of economic factors on health. One reason is that far more research is needed, at both the individual and the population level, to appreciate the role that socioeconomic status plays in determining health outcomes. By more fully understanding this process, policymakers can better address some of the key barriers to improving health.

The fierce heat wave that swept across much of the United States in the summer of 1999 illustrates the neglect of this perspective. Between July 19 and July 31, 1999, at least two hundred persons around the country died from the heat, mostly poor and elderly people who lacked fans or air-conditioning systems. Some met their demise because they chose to keep their windows shut rather than risk their safety in areas where criminal activity was routine. These unnecessary deaths were portrayed as tragic human-interest stories in which the irrational behavior of the deceased was the news. The link between the higher-than-expected mortality rates of this vulnerable population and their economic and social disadvantage went almost unmentioned. There was no angry public response, nor any recognition that broad-based initiatives might address the problem at its roots.

This paper takes as its premise that documenting the links between socioeconomic status and health disparities would have a large impact on public policies. In Canada and Western Europe, procedures for assessing the health impact of new economic or social initiatives are being developed. But in the United States, the health consequences of public policy are virtually absent from the debate. Recent discussions of important social policies such as raising the minimum wage or revamping the Social Security system rarely mention the potential health impact.

We focus here on three key areas, and since elements of this analysis are controversial and have not been widely accepted by economists, we offer substantial documentation in the international literature on socioeconomic status and health inequalities:

- First, we review some of the basic findings from the social determinist health perspective, illustrating the importance of socioeconomic conditions in explaining patterns of population health.

- Second, we examine traditional explanations of the link between socioeconomic status and illness. Most notably, we look in greater depth at the so-called health selection effect and the assertions that poor health is the result of limited access to medical care. We find these analyses are too narrow and divert attention away from the underlying social and economic conditions that have a larger impact on our health.

- Finally, we consider the implications of requiring health impact assessments of both existing and new economic and social initiatives and review how this is already being done in England, Canada, and other industrialized countries.

Understanding the Problem

Socioeconomic status (SES) as a major determinant of health inequalities has been documented for most countries, including the United States, for many years. Low socioeconomic status, measured variously in terms of poverty, income, wealth, education, or occupation, has been repeatedly linked to a greater burden of disease and death.[5] Although this has been one of the most consistent findings in social epidemiology for decades, neither the general public nor the mainstream of the economics profession has generally accepted it.

Overall, life expectancy increases as income rises.[6] In fact, the relationship between socioeconomic status and mortality appears graded such that each increment in level of income, education, and occupational status is associated with a reduced risk of death.[7] However, the relationship between income and health does not appear to be linear—large improvements in health are seen when moving up the income ladder from low to average or median levels, with increasingly diminishing returns to health from gains at the upper end of the income distribution. One likely explanation is that higher income groups reach a "health ceiling" in which good health is enjoyed into later life and thus the ability to make further health improvements in adulthood are small.[8] If true, policies that improve the social and economic status of lower-income populations can dramatically

improve their health without worsening the health of higher-income groups, thereby enhancing the overall health of the population.

While the precise pathways between social factors and health status remain elusive and a fertile area for research, empirical studies in the United States confirm that specific populations bear a disproportionate burden of poor health. Blacks have higher mortality rates than whites for nearly every cause of death.[9] In a report published by the federal government in 1985, a few causes of death were identified as being responsible for 80 percent of the excess deaths: cancer; heart disease and strokes; chemical dependency; diabetes; homicide, suicide, and unintentional injuries; and infant mortality and low birth weight.[10] In some impoverished inner cities, more than one-third of African-American girls and nearly three-quarters of boys who reach their fifteenth birthday do not live to see their sixty-fifth.[11] And those that do survive have three times the rate of health-induced disability as do their white counterparts nationwide. A widely publicized paper published in 1990 reported that black males in Central Harlem between the ages of twenty-five and forty-four are six times more likely to die than white males in that age group, and the life expectancy of adult males in Harlem is lower than that of men in Bangladesh.[12]

Despite these dramatic differences in health outcomes, when researchers adequately control for socioeconomic status, the racial disparities in health are considerably (though not entirely) reduced.[13] This is not say that other factors are not extremely important. The impact on health of social and cultural pressures related to racism, residential and occupational segregation, and environmental exposures is beginning to draw increasing attention among researchers.[14] While the complex ways in which race, ethnicity, and socioeconomic status are associated are not fully understood, it is evident that social and economic disadvantage has been uniquely reproduced for certain populations along racial and ethnic lines. David Williams from the University of Michigan argues that "culture, biology, racism, economic structures, and political and legal factors are the fundamental causes of racial differences in health."[15] Without a more sophisticated analysis of these factors and their historical interplay, policymakers and the public at large will remain narrowly focused on the medical model in which access to services and exposure to individual risk factors are perceived as the key to understanding the etiology of disease.

The Health Selection Effect

To the extent that mainstream economists have considered disparities in health at all, they generally have focused their attention on what is known as the "healthy worker" or "health selection" effect. At its most basic, this means that healthy workers are more likely to be employed than sick workers and therefore are more likely to earn higher incomes. Certainly, there is some truth to this commonsense notion—numerous economic studies document the magnitude of income loss that results when individuals are in poor health and are able to work less or not at all.[16] But the proponents go too far in arguing that the direction of causality moves from health to income, rather than from income (or socioeconomic status) to health. In advancing this position, they undermine the past fifty years of social epidemiology and public health, which argues that socioeconomic status and the social and economic conditions under which people live are primary determinants of health status.

The real question is not whether a health selection effect exists, but how powerful it is and whether it can explain the dramatic socioeconomic differences in health outcomes. A growing body of research has shed considerable doubt on the large-scale impact of the health selection effect. These studies suggest that income remains strongly associated with health outcomes even after controlling for baseline differences in health status; excluding persons with chronic conditions or disabilities; and particularly when the results are based on long-term follow-up.[17] While these studies have generally found some evidence that those who are most healthy have higher incomes, they also suggest that this phenomenon explains only a small part of the overall mortality differentials between socioeconomic or racial groups.[18]

Will Access to Care Eliminate Health Disparities?

Improving access to care has been embraced by health service researchers as a strategy for eliminating health disparities and has been the primary focus of health care policy reform for the past thirty

years. Certainly, access to medical care makes a difference, particularly at the individual level, and wider insurance coverage is one tool for achieving this. To a degree, this notion has gained even more poignancy as the number of uninsured Americans has grown to nearly 45 million. Social justice dictates that in the United States the availability of affordable health care for everyone should certainly be a national goal. But we want to emphasize strongly that the debate should not end there.

At the population level, there is no guarantee that greater access would significantly reduce the disparity in health outcomes among different groups.[19] For example, despite the improved access to medical care that exists in countries with national health insurance programs, findings from many European countries demonstrate that health disparities persist.[20] Moreover, these disparities exist both among people with medical conditions that are amenable to medical intervention—where one might reasonably expect improved access to make a difference—and those that are not.[21] Further, those conditions that are sensitive to medical intervention comprise a much smaller component of overall mortality than conditions that are less amenable to treatment. As a result of such findings, a number of researchers conclude that death rates are more closely related to social and economic factors than to the provision of medical care.[22]

One of the problems in the debate is that access tends to be considered from a narrow perspective. Access involves more than the simple ability to afford care. It also requires that adequately funded health services be available in a nonthreatening environment.[23] For many rural and urban populations, significant access barriers exist in the form of cultural and racial discrimination and the lack of convenient health care services, and these barriers will not be entirely eliminated even by more readily available insurance coverage.[24]

Another assumption underpinning discussions of access is that allocating more resources toward the health care system within the United States would inevitably improve health outcomes for most people. Yet the United States already outspends all twenty-nine members of the Organization for Economic Cooperation and Development (OECD) on health care services. This has not resulted in achieving better, or even comparable, health outcomes based on a number of major indicators. For example, despite dramatic increases in health care spending over the past few decades, U.S. infant mortality rates—though they have decreased absolutely—have

slipped significantly in international comparisons, from twelfth place in 1967 to twenty-fourth in 1996.[25]

Unfortunately, discussions of rankings on these and other major health indicators have been largely absent from the debate over health disparities. This poor performance suggests that reforming the medical system may not be the only, or even the best, route to improving the nation's health.[26] It adds more evidence to the claims that the genesis of disease and illness lies outside the medical domain and in the social and economic nexus of everyday life, involving issues such as employment, education, housing, nutrition, and environmental exposure.

Individual risk factors such as health-related behaviors including diet, exercise, and alcohol and tobacco use show clear differences by income and socioeconomic status. But the relative importance of behavioral explanations (lifestyle issues) in determining health outcomes continues to be debated.[27] Whatever the precise role that individual risk factors play in disease etiology, perhaps the more fundamental issue is that the pattern of risk factors in different population groups at different moments in history are shaped by political, economic, and social conditions.[28] For example, Michael Marmot from the University of London and Fraser Mustard, founder of the Canadian Institute for Advanced Research, trace the incidence of coronary heart disease from its being thought of as a "disease of affluence" in the first half of the twentieth century to its more recent association with lower-income and less-educated populations.[29] They find convincing evidence to support the notion that biological processes respond to the social and physical environment. From a public health perspective this implies that focusing mainly on targeted, individual-based health behavior interventions may be misguided. Such findings strongly suggest the need to move beyond questions of individual risk factors and improved access to care to consider structural and institutional factors that are militating against health equity in the United States.

Conceptualizing the Relationship between Income Inequality and Health

Although the association between socioeconomic status and health has been known for decades, the notion that economic inequality, or the relative difference between the rich and the poor, is itself a health

risk factor has received increased attention in just the past few years.[30] Many studies have explored the relationship between levels of income inequality and health status both across nations and within nations.[31] These studies, which remain controversial, suggest that regions with greater levels of income inequality experience higher mortality and morbidity rates.

While further research needs to be done to confirm and explain these findings, they are especially troubling given the dramatic growth of income inequality in the United States and the world. According to the 1996 United Nations Development Report, the poorest 20 percent of the world's population experienced a drop in their share of global income from 2.3 percent to 1.4 percent during the past thirty years. At the same time the richest 20 percent saw an increase in their share from 70 percent to 85 percent.[32] Studies in the United States conducted by the Census Bureau indicate that the level of income inequality fell by approximately 9 percent from 1947 to its postwar low in 1969, but has since grown by at least 25 percent, reaching a postwar high in 1993 and 1994 and remaining stable since then.[33] As a result, income inequality in the American economy now surpasses that of any other advanced industrial country.[34]

In 1997, the top fifth of all families in the United States received approximately 47 percent of the nation's total income while the bottom fifth received about 4 percent.[35] This growing income dispersion has been accompanied by absolute declines in real income among individuals at the bottom of the income distribution and by real gains at the top. Lynn Karoly of the RAND Corporation has demonstrated that in 1995 the poorest 25 percent of the U.S. population had a lower real family income than it had more than twenty years earlier, in 1973.[36] Wealth is even more dramatically skewed: In 1995, 39 percent of total household wealth was controlled by the top 1 percent of wealth holders, while the bottom 80 percent controlled just 16 percent of the nation's wealth.[37] This is the highest concentration of wealth amassed in the United States since the Great Depression.

Most of the studies relating economic inequality to adverse health outcomes have done so at the population level using large, unlinked datasets. In other words, economic and health conditions have been measured not at the individual level but over broad geographical categories—nations, states, or standard metropolitan areas. Thus they have been subject to criticism that findings that link the two are based on aggregate data that are not necessarily applicable to individuals

residing in those areas. However, the most recent studies have attempted to address this issue by combining data at the individual and aggregate levels. They have used individuals' specific income and health status along with more geographically based measures of economic inequality. With only a few exceptions,[38] these studies tend to support the view that income inequality has an independent adverse effect on health outcomes, but its impact is most acutely felt at the lower end of the income distribution.[39]

Thus, the empirical work to date provides fairly consistent evidence of a statistical relationship between economic inequality and health. The greater degree of economic inequality found in a region, the worse the health outcomes are in that area. But discussions of the precise pathways or mechanisms through which disparities in income or socioeconomic status influence health are still in an exploratory stage. A number of competing hypotheses have been advanced. Hugh Gravelle from the University of York has argued that the association between income inequality and mortality in a geographic area is merely a reflection of the inverse relationship between income and mortality risk at the individual level. In other words, in areas of high inequality there are more poor people who are at greater risk of dying in the near future and therefore inequality itself is not causally linked to adverse health.[40] This suggests that the more skewed the distribution of income in a society, the more likely that the mortality rates of the poor will outweigh the mortality rates of the affluent, leading to a rise in average mortality rates.

Other researchers, however, believe there are more complex factors at play. Richard Wilkinson from the University of Sussex, one of the world's leading proponents of the inequality-health dynamic, argues that psychosocial factors related to deprivation explain the relationship between income distribution and health. He claims it is "less a matter of the immediate physical effects of inferior material conditions than of the social meanings attached to those conditions and how people feel about their circumstances and about themselves."[41] Thus people's perception of their place in the social hierarchy rather than the underlying material conditions they experience can explain the relationship between inequality and health. Ichiro Kawachi, Bruce Kennedy, and other colleagues at Harvard have applied the concept of social capital—measured crudely as voluntary membership in groups and levels of social trust—to link the characteristics of communities to the

health experiences of individuals.[42] John Lynch and George Kaplan from the University of Michigan add a more materialistic explanation: "Inequitable income distribution may be associated with a set of social processes and policies that systematically underinvest in human, physical, health and social infrastructure, and this underinvestment may have health consequences."[43]

None of these conceptual approaches as yet adequately explains the nature of the relationship between economic inequality and health. Yet it is useful to remember that it took decades after cigarette smoking was widely recognized as a health hazard before scientists were able to articulate the pathways by which smoking caused disease. It hardly seems too early to acknowledge that economic and social policies that exacerbate economic inequality may have important health consequences.

Policy Implications and Directions

Documenting the links between socioeconomic status and health disparities has the potential for an enormous public policy impact. This is suggested by one of the principles of the Charter on Environment and Health, which was initiated by the World Health Organization's European Regional Office in 1989 and eventually adopted by all member states and the Commission of the European Union. The document asserts that, "The health of the individual and communities should take precedence over consideration of economy and trade."[44]

Requirements that governmental agencies consider potential health consequences when they construct long-term plans involving employment opportunities, tax and income transfer policies, monetary policy, or the size and quality of the social safety net can have a major impact on population health. In general, however, there has been a greater willingness among industrialized countries outside the United States to include health impact assessments as part of the process of introducing new economic and social initiatives.

In England, there has been a resurgence of research in this area following the release of the *Black Report* in 1980 and more recently the *Acheson Report* of 1998.[45] These reports, commissioned by the government, provided solemn assessments of the state of health disparities

in England, discussed their potential causes, and outlined a framework for remediation. Likewise, the Canadian government has taken an active role in studying inequalities in health, grouping the determinants of health into nine categories for policy research: health and child development, education, income and social status, employment and working conditions, social support networks, the physical environment, biological and genetic endowments, personal health practices and coping skills, and access to health care services.[46]

The decline of tuberculosis from the late nineteenth century through most of the twentieth century in the United States provides a good case study in how investing in the social and physical environments in which people live, including housing, water systems, proper ventilation, and the maintenance of higher standards of nutrition, can yield a much larger health payoff than short-term governmental or medical interventions targeted at the individual.[47] While there is a time lag between public expenditures for such goods as quality housing, clean environmental conditions, and protection from occupational safety and health hazards, the size of the investment ultimately helps determine the level of public health.

There are some encouraging signs on the American scene. The United States has taken a step in the right direction in the drafting of *Healthy People 2010 Objectives*.[48] This lengthy document, assembled by the U.S. Department of Health and Human Services, is designed to help guide government, provider, and voluntary community efforts to improve the nation's health over the next decade. But although it laudably calls for the elimination of health disparities for low-income populations and people of color, its approach is based largely on improving access to care and modifying individual behavior.

We have already discussed the limitations of such an approach. It has strong and multiple roots in the United States. At one level, everyone experiences their own health as an individual, and therefore individual risk factors (such as smoking, poor diet, excessive drinking, and lack of exercise) rather than poverty or income inequality have a strong intuitive appeal as direct causal factors of poor health. Second, the biomedical model, which has dominated medical research in the United States, has fostered an almost exclusive focus on individual risk factors as the key to disease etiology, at the expense of social conditions. And finally, pointing the finger of blame at individuals for their "bad" choices is always an easier political response to health issues than questioning the underlying social and economic conditions that may promote poor health for the public at large.

Uncertainty over how to control or reduce health disparities that have their origins in the social and economic mix remains a serious political obstacle. Lacking a universal health care system in which population data is routinely collected and monitored, researchers in the United States have not developed a common protocol for incorporating health equity concerns into regional and local health plans.

This is an unfortunate knowledge gap because exploring the health implications of our social policies would almost surely alter the dimensions of the public discourse. For example, as noted, the health impact of raising the minimum wage has rarely been raised in the ideologically charged public debate during the past few years. Yet a number of studies have shown that the decline in the real value of the minimum wage contributed to wage stagnation experienced by the majority of Americans and to the increase in economic inequality during the 1980s.[49]

A more comprehensive model of health determinants would include not only conventional information on an individual's biologic and genetic endowment but also measures of the physical and social environment as well. If more rigorous data becomes available in the United States and the health consequences of economic policies are better understood, they could be incorporated into the public debate and perhaps change its character. Entrenched economic and political interests in Congress are constantly attempting to repeal the estate tax and diminish tax rates for the top income earners within the United States. Policymakers should give careful thought to possible lag structures and how the rising inequality and diminished social cohesion that such tax policies could promote would affect population health.

Just as environmental impact statements have become part of the routine process of developing policy, so too should matters vital to the public health be considered. Understanding the health consequences of economic and social welfare policies likely to affect levels of economic inequality would surely enhance public debate. When policies involving welfare reform, higher educational subsidies, the minimum wage, capital gains taxes, earned income tax credits, and changes in Social Security come before the American public and their elected officials, for example, they should be accompanied by "health impact statements" that examine the social, economic, and human costs and benefits of such policies. If public health interests are factored into the development of our economic and social policies a consensus may emerge that a more egalitarian and healthier society is not only possible but also prudent.

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Chapter 6

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Chapter 7

1. Full technical details on data sources and methods can be found in the following works of mine: "Trends in Household Wealth in the United States, 1962–1983 and 1983–1989," *Review of Income and Wealth* 40, no. 2 (June 1994): 143–74; *Top Heavy: A Study of Increasing Inequality of Wealth in America* (New York: New Press, 1996); "Recent Trends in the Size Distribution of Household Wealth," *Journal of Economic Perspectives* 12, no. 3 (Summer 1998): 131–50; "Recent Trends in Wealth Ownership," in Thomas M. Shapiro and Edward N. Wolff, eds., *Benefits and Mechanisms for Spreading Asset Ownership in the United States* (New York: Russell Sage Press, forthcoming).

2. The time trend is similar when the value of vehicles is also included in net worth, as some researchers are wont to do. Instead of rising by 3.8 percent between 1989 and 1998, median net worth increases by 7.5 percent, and the mean rises by 11.3 percent instead of by 11.0 percent.

3. A proper analysis of this issue requires the use of panel data, tracking individual families over time, in order to test the hypothesis that the increase in mortgage debt is positively related to the rise in stock equity.