



WEALTH WITHOUT HEALTH

ALL OF US OF SOUND MIND, even the most sports-crazed among us, *really* care deeply about only one reality in our lives, our own individual health and the health of our loved ones. We want everyone close to us to live a long and healthy life.

But if we are truly of sound mind, we also care deeply about the health of everyone we encounter, not just everyone dear to us. We care about our neighbors, our co-workers, even the people we pass on the streets. None of us, after all, want to live among sick, unhealthy people. Self-interest and altruism reinforce each other here: The healthier those around us, the healthier we individually and those we love are likely to be.

All people around us, unfortunately, are not healthy. We typically cite several reasons. Some people, we note, are born unhealthy. Some people engage in unhealthy behaviors. And some people, we acknowledge, have much less money than others.

This last reality, public health researchers have helped us understand, is “powerfully related” to longevity and illness.¹ People with lower incomes are more likely to suffer heart attacks and strokes, more likely to develop diabetes and cancer, more likely to become disabled.² Older Americans in excellent health have, on average, two and half times more income and five times more wealth than older Americans in poor health.³

Why are people without much wealth less healthy than people of means?

Low-income people, some analysts contend, simply don’t have access to decent health care. Poor people with health problems in the United States are “only half as likely to see a doctor” as more affluent people.⁴ But access alone doesn’t seem to explain why people with more money tend to be healthier than people with less money. Health varies by income bracket, researchers have shown, “even in countries with universal access to care, where health care resources seem to be distributed justly.”⁵

If lack of access to care doesn’t adequately explain why lower-income people suffer poorer health, what does? Other analysts have an answer: poverty itself. Deprivation breeds chronic ill-health. Poor kids breathe more polluted air and get more asthma. Poor adults, after lives spent working in jobs that expose them to environmental hazards, end up with elevated blood-lead levels.⁶

Better access to health care, these analysts point out, cannot by itself undo the daily insults to good health that a life without money inevitably engenders. Only by ending deprivation — only by ensuring all people decent housing, clean air and water, nutritious food, adequate clothing — can societies make significant strides against ill-health. Help poor people out of squalor and health outcomes will improve appreciably.

So have argued insightful champions of public health ever since the middle of the nineteenth century. And history has affirmed their wisdom. Medical science “breakthroughs” have typically won the popular culture credit for triumphs over disease, but rising standards of living have actually mattered much more than medical fixes. A vaccine, for instance, did end the scourge of smallpox in nineteenth century England. But nineteenth century English doctors had no vaccines for diphtheria, pneumonia, and a host of other infectious killers. Yet death rates for all these diseases, over the course of the nineteenth century, fell as dramatically as death rates from smallpox.⁷ Medicines didn’t stop these other infectious diseases. Better incomes did. People who could afford to live in decent homes and eat decent diets developed stronger immune systems. Their more adequately nourished bodies could, for the first time, fight off disease.

Rising incomes, by the mid twentieth century, had essentially eradicated mass malnutrition throughout the developed world. Diseases that had once routinely killed children, like measles, now meant little more, in developed nations, than a few days off from school. In the world’s poorly nourished nations, meanwhile, diseases like measles remained killers. To public health advocates, a half century ago, the prescription for better health seemed obvious. Incomes needed to rise. Greater wealth would lead to greater health. If nations kept living standards rising, health outcomes everywhere, in nations rich and poor, would continue to improve.

This certainty would not last. Epidemiologists — researchers who study how and why diseases spread within populations — soon began to have second thoughts. Yes, rising living standards did seem to work wonders against the classic infectious diseases. But infectious diseases, in economically developed nations at least, no longer posed the prime medical challenge. In these nations, degenerative, not infectious diseases, now ravished populations. By the late twentieth century, heart disease, cancer, diabetes, and other degenerative conditions accounted for three-quarters of all deaths in the United States.⁸ Against these ailments higher per capita incomes seemed to make no difference.

The statistics told a striking story. Economically developed nations with higher per capita incomes — per capita incomes, remember, are simple averages computed by dividing total income by total number of people — did not necessarily register lower death rates than economically developed nations with lower per capita incomes.⁹ The Dutch, for instance, lived longer than Americans despite living in an economy that generated about 30 percent less per capita wealth.¹⁰

The conclusion from these numbers? Rising income levels, researchers would agree, do make a significant contribution to better health — but only in societies where most people live amid horrible material deprivation.¹¹ In societies that have conquered this deprivation, societies where most people can count on decent living conditions, more income and wealth do not automatically translate into longer, healthier lives.¹²

Had income and wealth, in developed economies, become irrelevant to health? In one sense, yes: More money did not guarantee better health. But money, investigators in the late twentieth century began to argue, did certainly still matter a great deal, only in a different way. In developed societies, what matters most to health is not aggregate wealth, but wealth distribution. The more concentrated a developed society's wealth, the less healthy the society. Populations of people who live "in countries and regions with smaller gaps between rich and poor," as one researcher would note, "are, in general, healthier than the populations of countries and regions in which the gap is larger."¹³

Christopher Jencks, a widely known and respected Harvard sociologist, would come late to this research into the links between health and the distribution of income and wealth. "If you had asked me a year ago," he told an interviewer in 1998, "if there was evidence that income inequality had some social consequence, I would have said, 'Gee, I don't know.'" But Jencks found his attitudes changing after he began studying the epidemiological research. The data, he noted, "seem to say that if you are of average income, living among people of average income, you are less likely to have a heart attack than if you live more stressfully in a community where there is you in the middle, and a bunch of rich people and a bunch of poor people."¹⁴

Inequality, in effect, could kill.

"That seems hard to believe," observed Jencks, "but it is the direction in which the evidence seems to point."

THE EVIDENCE, BY THE MID 1990S, had been accumulating for some years. Even the world's top medical authorities had begun taking notice. In 1996, the prestigious *British Medical Journal* would inform readers that "studies have related income inequality to infant mortality, life expectancy, height, and morbidity, with a consistent finding that the less equitable the income distribution in a country, the less favourable the health outcome." The studies, the journal added, "seem to show that inequality per se is bad for national health, whatever the absolute material standards of living within a country."¹⁵

The more unequal a country, the less healthy its people.¹⁶ And by "people," researchers emphasized, they meant all people, not just the poor. Low-income people suffer poorer health in unequal societies, investigators explained, but so does everyone else. People with modest incomes in an equal society could actually look forward to longer, healthier lives than people with higher incomes who lived in an unequal society.¹⁷

Researchers, by century's end, had demonstrated this "inequality effect" on health in one comparative study after another. The first wave of these studies compared countries. People lived longer, investigators found, in nations with narrower income gaps. In the late 1980s, the nation with the developed world's lowest level of income inequality, Japan, boasted the world's highest life expectancy. And that relationship between inequality and life expectancy didn't appear to be a coincidence. The nation with the developed world's second-lowest level of income inequality, Sweden, held the world's second highest life expectancy.¹⁸

British epidemiologist Richard Wilkinson, in a powerful 1996 book, *Unhealthy Societies: The Afflictions of Inequality*, would collect this mounting international evidence for "a strong relationship" between income distribution and mortality.¹⁹

"In the developed world," he would conclude, "it is not the richest countries which have the best health, but the most egalitarian."

This conclusion, noted Wilkinson, rested on a wide and deep pool of research data.²⁰ Some "eight different groups of researchers," working on "ten separate sets of data," had clearly demonstrated linkages between national mortality rates and income inequality.²¹

Investigators would find the same relationships between inequality and death rates when they compared states within the United States. In 1996, two separate high-powered research teams published landmark studies. One team, led by George Kaplan, later the top epidemiologist at the University of Michigan School of Public Health, gathered state-by-state mortality data, adjusted that data by age, and stirred into the mix other health-related data on everything from low birth weight to homicides. The researchers found "a significant correlation" between death rates and the share of income received by each state's bottom 50 percent of households — and substantial correlations between inequality and "a large number of other health outcomes" as well.²²

These results, the Kaplan team concluded, did not "prove that income inequality causes poor health." But their findings, the researchers quickly added, ought to be a "cause for alarm given the increasing inequality of income and wealth in the United States."

A second study, published simultaneously, pounded home the same point. Researchers Bruce Kennedy, Ichiro Kawachi, and Deborah Prothrow-Stith calculated a state-by-state inequality index and then examined the relationships between income distribution and specific causes of death. This Harvard-based team found "strong associations" between inequality and "all of the indicators of treatable causes of mortality." In states with greater inequality, all people, from a health standpoint, appeared worse off.²³

Researchers from both research teams, in explaining their work, took care to distinguish the impact of poverty from the impact of inequality. The conventional wisdom, as George Kaplan pointed out, assumed that the states with the highest death rates would be the states with the most poor people. But that assumption did not hold. The research, Kaplan observed, "suggests that the

increased death rates” in more unequal states “are not due simply to their having more poor people.” In more unequal states, he noted, “income inequality seems to be increasing mortality rates among nonpoor people as well.”²⁴

That point would be reinforced repeatedly, by new studies, over the next several years. In 1998, an expanded Kennedy team sought to determine whether inequality alone could account for differences in health outcomes between states, or whether those differences could be better explained by other factors ranging from smoking habits and obesity to level of schooling and health insurance coverage. Or, the researchers asked, were still other factors — age, sex, and race, for instance — the key determinants? The investigators took all these factors into account. Their finding: Inequality in and of itself, separate from all other factors, does indeed significantly matter. People in states with the highest income inequalities turn out to be 30 percent “more likely to report their health as fair or poor than individuals living in states with the smallest inequalities in income.”²⁵

Inequality, in short, could help explain why people in some states lived healthier lives than others. Could inequality also help explain health differences in jurisdictions smaller than states? The answer would come, in 1998, after researchers compared health outcomes in America’s metropolitan areas. The analysts, based at the University of Michigan, collected data from all but one of the 283 official metro areas in the United States.²⁶ Their aim: to test whether “the size of the gap between the rich and the poor in a society is importantly related to health.” Their finding: The more unequal a metropolitan area, the higher the area’s death rate is likely to be.

“Given the mortality burden associated with income inequality,” the health researchers would conclude, “business, private, and public sector initiatives to reduce economic inequalities should be a high priority.”

Other epidemiological investigators, meanwhile, drilled down even deeper than metro areas. In New York, Peter Arno and two colleagues at the Albert Einstein College of Medicine, Chee Jen Chang and Jing Fang, plowed through four years of infant-mortality data from every zip code in the nation’s largest city.²⁷ These zip codes included some of the richest neighborhoods in the entire United States and some of the poorest. In which zip codes did the fewest babies die? The answer proved an eye-opener. The fewest babies did not die in the city’s highest-income zip code. The fewest babies died in a zip code that sported one of the city’s most narrow income gaps between top and bottom, Staten Island’s overwhelmingly middle-class South Beach.²⁸

Nations. States. Cities. Zip codes. The evidence, notes James Lardner, a former *US News & World Report* journalist who has written widely on health and inequality, tells a consistent story. Societies divided by deep economic inequality “are more unhealthy — not just in some highfalutin moral sense but in the plain old medical sense, and not just for the poor (as anyone would suspect) but for the bulk of the population.”²⁹

“To put it more baldly, if you live in a place where differences in income and wealth are unusually large,” adds Lardner, “your chances of escaping chronic illness and reaching a ripe old age are significantly worse than if you live in a place where differences are not as large.”³⁰

OF ALL THE COMPARISONS RESEARCHERS have made between equal and unequal, healthy and unhealthy, the most compelling of all may well be the contrast between the world’s richest nation, the United States, and the nation that has been, over most recent decades, the world’s most equal, Japan.

By all rights, the United States ought to be the healthiest place in the world. The United States spends more money to keep people healthy — over \$1 trillion annually — than any other nation on the face of the globe. Americans make up less than 5 percent of the world’s population, yet our medical bills add up to 42 percent of what the world spends on health care.³¹ And we Americans don’t just spend money on health care. We mount mammoth mobilizations against unhealthy habits. We have waged war against smoking and fatty foods and drunk driving. We invented aerobics and mass marathons.

“We should be pretty healthy,” notes Dr. Stephen Bezruchka, a veteran observer of the international health scene from the University of Washington School of Public Health.³²

We should be, but we’re not.

In 1970, the year Bezruchka started medical school, the United States ranked fifteenth in the world on the most significant health measures. By 1990, the United States had dropped to twentieth place. Over a decade later, in 2001, Americans occupied the twenty-fifth rung in the world’s health ratings. We trailed nearly every other rich nation in the world and even, notes Bezruchka, “a few poor ones.”³³

First place, meanwhile, belonged to Japan, the world’s most equal developed country.

Japan’s lofty health status, of course, could conceivably have nothing to do with its distribution of income and wealth. The Japanese could simply, for instance, be the fortunate beneficiaries of a healthy gene pool. A possibility? Certainly. But back a few decades, in 1960, Japanese people had the same genes they have now, and their health status only ranked the world’s twenty-third best.³⁴

How about diet? Could Japanese people owe their longevity to the healthy food they eat? Nutritionists certainly do give Japanese cuisine high marks for healthfulness. But this cuisine didn’t change much between 1965 and 1986, yet life expectancy in Japan, over these two decades, soared seven and a half years for men and eight for women.³⁵

Maybe the Japanese are healthier because they’ve done a wonderful job eliminating unhealthy behaviors. Actually, the Japanese have some way to go on the unhealthy behavior front. Japanese men smoke at twice the rates of American men. Yet deaths attributable to smoking in Japan run at only half the

American rate.³⁶ Smokers in Japan simply live longer than smokers in the United States.

Everybody in Japan lives longer. Life expectancy in Japan, now almost eighty years, stretches three and a half years longer than life expectancy in the United States.³⁷ These three and a half years, in epidemiological terms, amount to an enormous gap. How enormous? If Americans stopped dying from heart attacks tomorrow, life expectancy in the United States would only jump up to levels the Japanese have already achieved.³⁸

People in Japan, of course, are still dying from heart attacks and cancer and lung disease and all the other ailments that are killing Americans, but they are dying at substantially lower rates. What explains this gap? Has Japanese medicine become that much more effective than ours? No serious observer makes that claim. Japanese doctors have discovered no super cures. Only one Japanese medical scientist has ever won a Nobel Prize. Sickly people across the world do not flock to Tokyo for treatment. Medical science, in short, has not marched faster in Japan than anywhere else.

Japan, as a society, has marched fast and far only in one area important to health. The Japanese, since the 1940s, have done more than any other people to create a society where, relatively speaking, only narrow gaps of income and wealth separate the affluent from the average.

Japan had been, before World War II, just an ordinary unequal country. But the war left Japan's traditional hierarchies battered and discredited. A "flood of egalitarian ideas" soon swept over the country — and swept out of economic power the old elites. By 1949, 95 percent of the directors of Japanese companies were people who had worked their way up through the ranks.³⁹ The Japanese companies that these new directors helped shape valued workers and their ideas — and their need for stable, secure employment — more than companies anywhere else in the world. Corporate Japan, in compensation patterns, in job security, in employee involvement, would in no way resemble corporate America. By the 1980s, the two nations, Japan and the United States, had evolved two different economies, two different societies, and two different health outcomes.

But can the economic organization of a society actually make a difference in how long people live? Apparently so. Researchers have reviewed the medical records of Japanese people who have emigrated to other countries. If something peculiarly "Japanese" explains why Japanese people are living longer than people elsewhere, emigrants from Japan would be outliving their neighbors in their new homes. But Japanese emigrants, the research shows, are no healthier in their new countries than their new neighbors.⁴⁰

Must we conclude, from all this evidence, that inequality somehow "causes" disease? How foolish this question sounds to American ears. We who have been raised on the germ theory of disease can readily understand how deadly to our health a virus can be. But inequality is no virus, no saturated fat, no carcinogen. How can inequality "cause" disease? The honest answer: We don't yet

know for sure, just as, generations ago, we didn't know exactly why foul water makes people sick. Still, researchers and analysts do have some ideas on how inequality is doing us in. We turn now to these ideas.

HAPPY WITH YOUR CHIN? Feel that you're projecting enough grim determination? Or does that chin of yours make you seem indecisive? Not a problem. Legions of cosmetic surgeons, in every major American metropolitan area, now stand ready to recast your countenance. Or straighten your droopy eyelids. Or trim your thunder thighs. All, of course, for a price. A price only the affluent can afford.

In the United States today, the "needs" of these affluent have come to drive — and distort — the distribution of our health care services. Physicians who could be providing prenatal care for frightened young mothers are instead performing tummy tucks.

We should not be surprised. Where wealth concentrates, health care providers will invariably concentrate on the wealthy. Inequality, notes Mark Cullen, a professor of public health at Yale, even warps our medical research priorities. In a United States ever more unequal, research dollars are increasingly flowing into "developing treatments only the rich can afford."⁴¹

This disproportionate attention to the affluent makes, from a medical perspective, no sense. Affluent people face fewer daily insults to their health than less prosperous people. They are less likely to work around hazardous chemicals, less likely to encounter people with untreated illnesses, less likely to lose heat in their homes. Any distribution of health care resources that privileges wealthy people will, consequently, inevitably undermine a society's overall level of healthfulness. And this privileging is exactly what plays out in unequal places. In the United States, medical "specialties" that cater to high-income people have proliferated the fastest in the nation's most unequal states. By contrast, notes a research team led by Leiyu Shi of Johns Hopkins University, states with narrower gaps between rich and poor provide their citizens with many more primary care options.⁴²

Unequal societies, in other words, get health care backwards. They devote valuable health care resources to people who need these resources the least. Such misplaced priorities, many researchers believe, help explain why people in unequal societies live, on average, shorter, unhealthier lives than their counterparts in more equal societies.

Overwork may also help explain how inequality "causes" ill-health. Average Americans spend far more hours at work today than Americans who lived in earlier, more equal decades. Families of workers on the job more than fifty hours a week, research shows, have more "severe" interpersonal conflicts.⁴³ Family conflicts can lead to health-deflating depression or alcoholism. Overwork, to make matters worse, invites overeating. Obesity comes naturally when time-squeezed people are continually grabbing bites on the run. Nearly 100 million Americans now carry enough extra pounds to increase their mortality risk.⁴⁴

But frazzled Americans are grabbing bites on the run all across the United States, not in any one particular state. So why then in some states, the more economically equal states, do residents lead longer, healthier lives? Something basic about life in more equal places must be offsetting the strains, the daily pounding, of modern life. Researchers have a label for this something. They call it *social cohesion*.

Social cohesion — the sum total of human relationships that help people feel respected, valued, and safe in their everyday lives — cannot be bought over the counter or prescribed by any doctor. Social cohesion can only be nurtured, over time, by and between people who care about each other, who support each other, who trust each other. Social cohesion, many epidemiologists contend, makes societies healthier places. If we can go about our daily routines knowing we can count on others, these researchers posit, we feel better about life. Feeling better, we do better — in our physical health.

People who live outside supportive, cohesive networks lead lives that are, in effect, socially “malnourished.” They suffer, suggests Yale’s Robert Lane, from a “famine,” not of food, but “of warm interpersonal relationships,” a “malnutrition” that leaves them weak and vulnerable to disease.⁴⁵

Some of the most dramatic early evidence for “social malnutrition” came from a nine-year project that traced individual health histories in California’s Alameda County. The most socially isolated of the seven thousand county residents studied turned out to be “two to three times more likely to die of all causes” than their more socially connected neighbors, even after taking cigarette smoking, drinking, and other health-impacting factors into account.⁴⁶

Other early evidence, even more dramatic, came from a small town nestled in the foothills of Pennsylvania’s Pocono Mountains. Immigrants from southern Italy had started settling this community, a town named Roseto, in the 1880s. Roseto’s residents led lives that appeared, at least outwardly, not much different from the lives led by immigrants in nearby towns. Rosetans smoked. They ate fatty sausages. They seldom exercised.⁴⁷ In other Pennsylvania small towns, as in the rest of America, this sort of lifestyle invariably generated waves of heart attacks. But doctors in the 1950s discovered something strange about little Roseto. Rosetans weren’t dropping dead, at standard rates, from heart attacks, nor from anything else. Roseto’s heart attack rate ran 40 percent under what medical experts figured the rate should be, and the town’s overall death rates were also “substantially lower” than rates in neighboring towns.⁴⁸

Why weren’t people in Roseto dying off as regularly as everybody else? Researchers eventually came to credit the town’s good health to its deeply rooted social cohesion.⁴⁹ The original Rosetans had all come from the same Italian village. Their community had remained, over the years, especially close. People didn’t just know each other, they protected each other from whatever bad breaks life could throw their way.⁵⁰ Rosetans displayed deeply seated egalitarian sensibilities. Some of them did come to earn more than others, but few people ever did anything to flash their financial success.

“Practically everyone,” one reviewer of the literature on Roseto would later write, “dressed in the same simple clothes and lived in similar square, clapboard houses with front porches, screen doors, and small gardens.”⁵¹

Roseto’s more prosperous locals, medical researchers Stewart Wolf and J. G. Bruhn found, paid close attention to the “delicate balance between ostentation and reserve, ambition and restraint, modesty and dignity.” Should they lose their balance, and show themselves too preoccupied with making money, the local priest would point out the error of their ways. The town’s entire culture, investigators concluded, “provided a set of checks and balances to ensure that neither success nor failure got out of hand.”⁵²

Roseto’s cohesive, egalitarian culture, by the 1970s, would start to unravel. The more affluent third-generation Rosetans “started building newer, bigger houses on the outskirts of town.” They “hired interior decorators, walled off their gardens, and no longer invited their relatives to move in.”⁵³ The “social taboos against conspicuous consumption began to weaken,” as Rosetans moved steadily deeper into the American mainstream.⁵⁴

“Roseto became a lonelier place,” analyst Helen Epstein sums up. “There were fewer picnics, the brass bands performed less frequently, membership in social clubs and other organizations dropped off.”⁵⁵

Rosetans in these lonelier years actually began adopting, along with the rest of America, some healthier habits. They started watching their diets. They started smoking less. They also started dying, despite these healthier habits, at ordinary American rates. Within a decade, heart attacks were striking down Rosetans as often as people in neighboring towns.⁵⁶ Roseto, a truly unique place, had become, rather swiftly, just another place, a town no more healthy, no more cohesive, no more equal, than any other.

CLOSE, WARM, CARING RELATIONSHIPS, the evidence suggests, are seldom sustained in communities where differences in income and wealth keep people far apart. Inequality stretches the bonds of friendship and caring that keep people close. At some point, even the closest bonds snap. Individuals no longer “cohere.” They become less trusting, as they have in the United States. At the height of America’s post-World War II equality, in 1968, 55 percent of Americans said they trusted others. Three decades of increasing inequality later, in 1998, only 35 percent called themselves trusting.⁵⁷

The larger a society’s income gap, many investigators now agree, the less trust, the less cohesion, the less healthy the lives that people lead. But again the same question, why? Why should people in less cohesive, less trusting environments end up less healthy?

The answer may rest in how, at the most fundamental level, we experience inequality.

Within all societies, however equal or unequal they may be, we experience inequality through hierarchy. We are all born into humanity’s oldest hierarchy, the family. We move on through school, another hierarchy, and then into the

workplace, still another. We may play on a sports team or serve in the army or join a theater company. More hierarchies. Some hierarchies we experience may be benign, others cruel. All share one commonality: All hierarchies involve positions of higher and lower status. These differing levels of status may seriously impact our health. Even seemingly minor inequalities in hierarchical status, researchers have found, can make a substantial difference on how long and how healthily people live. Just how substantial only became clear after British epidemiologists began publishing results from a massive study of about seventeen thousand men employed in Britain's civil service.

University of London epidemiologists began what became known as the "Whitehall study" to learn why heart attacks hit some people and not others. The civil servants at Whitehall, the British seat of government, offered a nearly ideal research sample. In the late 1960s, when the study started, these civil servants constituted a remarkably undiverse group — one white, middle-class, Anglo-Saxon man after another, all between the ages of forty and sixty-four. The massive uniformity of the Whitehall sample, investigators believed, would help them zero in on the exact factors that generated heart failures.⁵⁸

The researchers would work diligently — for years. They examined all the "obvious risk factors for heart disease," everything from diet and exercise to smoking. They checked blood pressures. They measured cholesterol levels. They even compared health outcomes between civil servants at various rungs of the civil service ladder. The lead researcher in this latter effort, Michael Marmot, soon uncovered a consistent phenomenon. White-collar employees at the bottom of the civil service hierarchy were many times more likely to die from heart attacks than employees at the top. And lower-grade employees also appeared to be much more prone to other ailments, including cancer and stomach disease.

Marmot found more as well. Health outcomes improved, rung by rung, as civil servants moved up the employment grade ladder. Clerks had three times as many fatal heart attacks as the supervisors immediately above them in the civil service hierarchy. These supervisors, in turn, had twice as many fatal heart attacks as the administrators above them. The most modest of distinctions, Marmot and fellow investigators discovered, could produce striking differences in death rates. Senior assistant statisticians suffered fatal heart attacks at almost twice the rate of chief statisticians.

The conventional risk factors for heart disease — poor diet, lack of exercise, smoking, high blood pressure — could only account, the investigators determined, for less than half of the health differences, overall, between Whitehall employment grades. Hierarchical status, in and of itself, clearly seemed to be making a health impact.

"If a clerk and a manager both smoked twenty cigarettes a day," as Helen Epstein, a reviewer of the Whitehall literature, would note, "the clerk was more likely to die of lung cancer."⁵⁹

Other studies, from Massachusetts to Finland, would later find similar patterns.⁶⁰ Social standing everywhere, not just Whitehall, appeared to shape

health outcomes. The lower an individual's slot in a workplace hierarchy, the worse the individual's health. Subordinate status, somehow, some way, was "causing" ill-health.

And just how was subordinate status making this impact? Some clues would emerge from research conducted far from Whitehall's white collars, out in the wilds of Africa, among the baboons of the Serengeti plains.

Baboons, like people, interact within hierarchies. Males at the bottom of these hierarchies, researchers have found, exhibit far higher levels of hormones called glucocorticoids than male baboons at or near the top. Glucocorticoids typically release out through the body whenever primates encounter stressful situations. These hormones serve a necessary function. At threatening moments, they divert a body's resources away from tissue repair and other "non-urgent tasks" and help the body mobilize for action.⁶¹ A threatened baboon, flush with glucocorticoids, either fights or takes flight. Without these hormones flowing, an individual baboon would never last long out in the wild.

But glucocorticoids, if they're *always* flowing, create a different set of problems. In a baboon awash with glucocorticoids, the body never ends up devoting enough resources to needed maintenance work. Blood pressure rises. The immune system eventually starts to break down. These breakdowns, interestingly, never seem to afflict baboons that sit high in baboon hierarchies. The explanation? High-ranking baboons can go for appreciable periods of time without feeling particularly threatened. Baboons lower in the hierarchical order, by contrast, live much more stressful existences. They find themselves, as British epidemiologist Richard Wilkinson observes, "constantly faced down by more dominant" baboons. This chronic stress eventually blunts the body's feedback mechanisms that regulate glucocorticoids.⁶² Hormone levels run out of whack. Health deteriorates.⁶³

Chronic stress, the Whitehall researchers found, can make the same sort of negative biochemical impact on human bodies. With civil servants, as with baboons, body chemistry varies with status. Levels of low-density lipoproteins, chemicals that make blood vessels more likely to clog, ran higher in both low-status civil servants and low-status baboons. High-density lipoproteins, substances that help bodies clear cholesterol, displayed exactly the reverse pattern. These health-enhancing chemicals ran at higher levels among civil servants and baboons at the top end of their hierarchies.⁶⁴

Primates, people and baboons alike, may share the same chemistry. But the exact stresses we primates face obviously differ enormously. Low-ranking baboons face physical violence. They worry about getting bitten. In human workplaces, we rarely encounter threats of violence. Our stresses come instead from the emotional ebb and flow of nine-to-five life, from getting passed over for promotions or having our ideas belittled, from worrying about job security, from struggling to meet impossible deadlines.

But doesn't everyone within a workplace hierarchy feel stress, even CEOs at the summit? Top executives, after all, have quarterly earnings expectations to

meet. What could be more stressful? And if everyone in a modern workplace is stressed and if chronic stress really does make people sick, why should high-ranking executives be any healthier than low-ranking clerks? Just one reason: High-status executives, researchers believe, do not experience the *same* stress as low-status clerks. The pressure they feel from having too many appointments on their calendar or having to make an important decision, explains analyst Helen Epstein, “is very different from the kind of stress a clerk feels when he thinks that he is stuck in a routine, under someone else’s often arbitrary authority.”⁶⁵

Some people within a hierarchy, in other words, control their own fates, or feel they do. Others experience little or even no control at all over the work they do. The lower the hierarchical rung, the less control, the more damaging the stress. In the Whitehall research, Michael Marmot found feelings of low control “associated with lower civil service rank, greater risk of heart attack, and higher blood levels of a substance called fibrinogen, which is associated both with stress and with heart attacks.”⁶⁶ Other studies in Sweden, the United States, Germany, and elsewhere in Britain have demonstrated comparable links between health and the control people feel they have over their work.⁶⁷

Outside the workplace, meanwhile, individuals also experience control and lack of control issues, only here, off the job, hierarchies are defined not by employment rank but by the distribution of income and wealth. Those with appreciable income and wealth simply have a much greater wherewithal to control how their lives unfold than those without.⁶⁸ The less wealth, the less control, the more stress.

These stresses build over time, one upon another, stirring up, in the process, a toxic biochemical brew. People at the lower end of hierarchies, on and off the job, can come to “feel depressed, cheated, bitter, desperate, vulnerable, frightened, angry, worried about debts or job and housing insecurity.”⁶⁹

“Prolonged stress from any of these sources,” notes Richard Wilkinson, “is often all it takes to damage health.”⁷⁰

How potent are these chronic stresses? They can, contends Wilkinson, “dominate people’s whole experience of life.”⁷¹ They can even, over time, *physically* alter our insides, as Stanford neurochemist R. M. Sapolsky has so deftly illustrated.

Throughout the nineteenth century, Sapolsky relates, cadavers for medical anatomy classes in London came from local poorhouses. The adrenal glands anatomists found in these cadavers became the adrenal gland textbook standard. But every so often doctors would get a chance to dissect a cadaver from a wealthier life. The adrenal glands found in these more affluent cadavers seldom met the textbook standard. They were too small. Doctors subsequently “invented a new disease” to account for these smaller adrenal glands, and this new disease “flourished” until physicians came to realize, early in the twentieth century, that smaller adrenal glands were actually “the norm” — and the larger adrenals of the poor “the result of prolonged socioeconomic stress.”⁷²

Doctors made the same mistake with the thymus gland, with more tragic results. In poor people's cadavers, the thymus appeared small. Doctors classified the larger thymus glands of more affluent people "as a disorder." They "treated" this disorder with radiation. The doctors eventually realized their error. Too late. The radiation treatments they had administered "later caused thyroid cancer."⁷³

Inequality had killed still again.

IN THE UNITED STATES, OUTSIDE ACADEMIC CIRCLES, the vast upsurge of epidemiological interest in inequality has made relatively little impact on our ongoing national discourse over health care policy. In Britain, by contrast, the notion that inequality, not just poverty, can significantly undermine health, has actually become a matter of somewhat heated public debate. In 1998, for instance, a well-publicized report by the British government's former chief medical officer, Sir Donald Acheson, talked about the struggle for better health outcomes as "fundamentally a matter of social justice."⁷⁴ Nonsense, critics charged. Sir Donald, fumed one commentator in London's *Sunday Times*, actually "blames ill-health on economic inequality."⁷⁵ Such an "absurd" conclusion, the critique continued, could only come from an "equality fanatic." And why was this conclusion so absurd? Acheson had totally failed, the *Times* would disdainfully charge, to take into account the "choices" about health that people in modern societies make.

"The most likely reason for the widening health gap is that better-off people have changed their behaviour, for example by stopping smoking or choosing to breast-feed, whereas worse-off people have not," the *Times* critique concluded. "Behaviour associated with poor health is concentrated among poor people, but this has nothing to do with the earning power of the better-off."⁷⁶

The poor, in short, have no one to blame for their ill-health but themselves.

This blame-the-victim message can and does resonate powerfully within modern societies, largely because the core "fact" at its root turns out to be absolutely true. Many habits we now know as unhealthy — smoking, overeating, engaging in substance abuse — *are* practiced more by people who rank low in wealth and income. All these unhealthy behaviors, from smoking to obesity, carry what epidemiologists call a "social gradient." Their frequency increases as social and economic status decreases.

So do low-income, "low-status" people simply "choose" to be unhealthy? Many researchers think not. The same stresses that enlarge adrenal glands, they suggest, can help us understand why people low in hierarchical status seem to hang on to unhealthy habits with more tenacity than their "betters." Lower-status people practice unhealthy behaviors not because they want to be unhealthy, but because they need relief — from social stress.⁷⁷ People typically respond to stress, investigators note, by increasing their intake of our society's readily available relaxants, disinhibitors, and stimulants. They smoke. They do drugs. They "increase their consumption of various comforting

foods,” digestibles that “usually have high sugar and fat content.”⁷⁸ The more chronic the stress, the more likely a reliance on one or another of these comforting props.

And the more chronic the stress, the harder to end that reliance. Researchers, for instance, have found a clear “social gradient” in smoking cessation programs. People of lower social and economic status who attend such programs are less likely to give up smoking than people of higher status. But “the desire to give up smoking,” interestingly, carries no social gradient.⁷⁹ Clerks turn out to be just as eager as CEOs to stop smoking. What then explains the economic differentials in cessation success rates? Stopping an unhealthy habit may simply be easier for people of means. They can always afford, after all, to engage in other forms of relief. People whose prospects seem hopeless, on the other hand, often cannot. Smoking may well be their “only relaxation and luxury.”⁸⁰ Do they “choose” to smoke? Literally speaking, yes. Is their “choice” a purely individual decision, totally unrelated to their subordinate place in the social and economic hierarchy? Clearly not. The stresses that hierarchical life generates, in other words, don’t just wreak biochemical havoc. They encourage behaviors that can contribute, *over the long run*, to poor health outcomes, to reduced life expectancies.

These same chronic stresses, researchers note, help drive the behaviors — homicide, for instance — that reduce life expectancies *in the short run*.

Homicide statistics reflect as strong a social gradient as the numbers on smoking. People on society’s lower rungs commit more murders than people higher up. Why do people commit homicides? Research has identified “loss of face” as the largest single “source of violence.”⁸¹ People lose face when they feel humiliated by others. Everyone, of course, feels humiliated at some point or another. But our social status conditions how we respond to the humiliation. People of means, of “larger reserves of status and prestige,” will likely “feel less fundamentally threatened by any particular loss of face” than someone whose life seems to be tumbling out of control.⁸²

No homicide records ever list inequality as the cause of death. Maybe they should.

AND NOW THE GOOD NEWS. Hierarchies may figure to be with us for many millennia to come, but the biochemical stresses hierarchies generate can be mitigated, even neutralized, by the caring, compassionate, public-spirited social cohesion that thrives whenever inequalities of income and wealth are significantly narrowed.

“It seems likely,” notes epidemiologist Richard Wilkinson, summing up the evidence, “that social support may be important in changing the way people respond to stressful events and circumstances.”⁸³

Epidemiologists found that social support in Roseto, the town where local customs helped nurture a deeply embraced egalitarian ethos. And they have found that same social support, even more strikingly, in war-time Great

Britain. Life expectancy in England and Wales actually increased more during the 1940s, the years that included World War II, than in any other decade of the twentieth century.⁸⁴

The 1940s added six and a half years to the life expectancy of British men, seven full years to the lives of British women. British life expectancy, overall, jumped over three times faster in the 1940s than in the 1980s.⁸⁵ These numbers, analyst Helen Epstein suggests, should astound us. British life expectancies in the 1940s rose despite “hundreds of thousands” of battlefield deaths and bombings that killed thirty thousand civilians.⁸⁶

But more than bombs, notes Richard Wilkinson, dropped in Britain over the course of World War II. The war years also saw a “dramatic” drop in inequality. Higher taxes on high incomes and lower unemployment levels kept income gaps narrowing. People at the top and bottom of British society moved closer to the middle. Overall, the number of people making less than 50 percent of Britain’s median income may have dropped by as much as half.⁸⁷ And that, in turn, nurtured an egalitarian spirit that lifted people’s hearts.

“Inequality did not disappear, but something changed,” Helen Epstein points out. “There was an ethos of cooperation and common striving. For a time, most of the nation was of one mind.”⁸⁸

By war’s end, most British felt inspired to take the next step, to do whatever they could to build a society that “took better care of its members.”⁸⁹ Voters, after the war, sent war-time Prime Minister Winston Churchill packing. The new Labor Party government that succeeded him promptly created a national health system that guaranteed every British man, woman, and child free basic care. Britain had become, despite the horrors and deprivation of a war-ravaged decade, a more cohesive, caring place. A healthier place.

THE WORK OF EPIDEMIOLOGISTS LIKE Michael Marmot and Richard Wilkinson, many scholars believe, “provides a direct biological rationale” for how inequalities impact health.⁹⁰ But not all scholars consider their emphasis on hierarchies and biochemistry, on “psychosocial pathways,” an appropriate explanation for the stark differences in health outcomes that widening inequality inevitably seems to generate.

These skeptical scholars focus their attention on the *material* realities of life in unequal societies. Growing economic inequality within any society, they contend, will always mean that more people will lack access to “education, health care, and other services, with long-term consequences for health.”⁹¹ And more people will lack this access because unequal communities tend to invest less in the medical, educational, and other public services vital to health than do more equal communities.

“Increases in income inequality go hand in hand with underinvestment, which will reap poor health outcomes in the future,” as George Davey Smith has argued in the *British Medical Journal*. “In the United States, poor invest-

ment in education and low expenditure on medical care is seen in the states with the most unequal income distribution.”⁹²

John Lynch, George Kaplan, and several University of Michigan colleagues deepened the case against the centrality of psychosocial factors in research they published in 2001.⁹³ Using newly available international data, Lynch and colleagues found that some psychosocial measures, like levels of distrust, do not always match up with the health outcomes. France, Italy, and Spain, for instance, show high levels of social distrust, but low incidences of coronary heart disease and relatively long life expectancies. Psychosocial factors like trust between people and the control people feel over their own lives, Lynch and colleagues conclude, “do not seem to be key factors in understanding health differences” between many wealthy countries.

That may be the case, the researchers advise, because many wealthy nations have made “investments in public health relevant goods and services” that tend to equalize the basic medical care all people receive. In societies where most people receive similar health care services, the argument goes, the psychosocial stresses generated by economic inequalities will be offset — and become less important to health outcomes.

To illustrate this point, some investigators contrast health outcomes in the United States and Canada. In the United States, public officials have chosen not to make the investments that equalize access to health care. Americans at different income levels receive widely varying levels of care. Health outcomes in the United States, not surprisingly, *do* match up with income inequality data. The more unequal an American state or metropolitan area, the higher the mortality rate.

In Canada, provinces also vary by level of income inequality, just as states do in the United States. But these provincial differences in inequality do not translate into significantly different death rates, as do state-level inequality differences in the American context.⁹⁴ What explains the difference? In Canada, health care and other material resources are “publicly funded and universally available.” In the United States, health resources are distributed through the market, based largely on ability to pay. In Canada, as a result, income inequality appears to matter less for health.⁹⁵

Case closed? Do we have proof here that psychosocial factors are not that central to differences in health outcomes? Maybe not. Analyst Stephen Gorin asks us to consider the differences between *how* health care is provided in the United States and Canada. In the United States, the poor only gain access to health care “through public assistance or charity, in short, through programs that differentiate them from the rest of the population.” These programs have a stigma attached, and that stigma, notes Gorin, “is undoubtedly a source of stress, and possibly poor health, for the individuals relying on them.”⁹⁶ In Canada, with everyone covered by government health insurance, no stigma applies to health care. In short, Gorin suggests, even investments in health care can have psychosocial dimensions.

We live in a world, apparently, where psychosocial and material factors continually interact to keep some people healthier than others. Epidemiologists will no doubt continue to debate which of these factors carry greater causal weight. The psychosocial camp, for its part, readily acknowledges the significance of material underinvestment, but contends that the most telling impact of inequality on health goes deeper.

“If, in the spirit of neo-materialism, you give every child access to a computer and every family a car, deal with air pollution, and provide a physically safe environment, is the problem solved?” as Michael Marmot and Richard Wilkinson ask. “We believe not.”⁹⁷

Not if people remain trapped in subordinate status, they argue, not if widening inequality is making that status an ever heavier weight to bear. That status will generate terribly debilitating stress — and undermine health — even if living standards are rising. How else to explain, wonder Marmot and Wilkinson, the “dramatic mismatches in living standards and health between societies”?⁹⁸

Contrast, for instance, the situation of black men in the United States and men in Costa Rica, historically the most equal of Latin American nations. By absolute level of material well-being, black American men far outdistance their Costa Rican counterparts. In 1996, black males in the United States, with a median income that stood at \$26,522, had over four times the purchasing power of Costa Rican men, whose median income barely topped \$6,400. Yet Costa Rican men, on average, could look forward to nine more years of life expectancy than black men in the United States.⁹⁹

The explanation for this difference, note Marmot and Wilkinson, “must have more to do with the psychosocial effects of relative deprivation” — the stresses of subordinate-status daily life in a racially and economically unequal society — “than with the direct effects of material conditions themselves.”¹⁰⁰

“To emphasize psychological pathways,” Wilkinson takes pains to make clear, “does not mean that the basic cause of the problem is psychological or can be dealt with by psychological interventions.”¹⁰¹ The base problem, to his perspective, remains economic inequality. Greater inequality “increases the burden of low social status.” Greater inequality dissolves social cohesion. Better health outcomes can never be attained, or maintained, in societies that grow more unequal.

On this last point, at least, most all researchers who have delved deeply into the links between economic inequality and health seem to agree. No good, in health terms, can come when a society becomes more unequal.

IF GROWING INEQUALITY WITHIN A SOCIETY leaves people less healthy, can people only get more healthy if their society becomes less unequal?

Some health professionals, based on the epidemiological evidence, argue that the struggle for healthier societies must, first and foremost, be a struggle for more equal societies. All people will have a meaningful chance to “get well,”

these health professionals believe, only in societies that are striving to get more equal.

“If we share the resources of our country more fairly,” as Scottish medical educator George Watt has put it, “we shall have a more cohesive society and reduce inequalities in health. It will not happen the other way around.”¹⁰²

Other health care professionals disagree. They do not dispute the epidemiological evidence that links inequality and health. But they see the struggle against overall economic inequality as a long-term matter. What about, they ask, the here and now? Improvements in the health of the American people, these experts argue, will never begin to be made if these improvements must wait until America first becomes more equal.

“Those of us dedicated to a more just society find the American public’s toleration of gross — and growing — inequalities in income and political power puzzling and frustrating,” notes National Institutes of Health bioethicist Ezekiel Emanuel. “Yet this is the reality in which changes will have to be fashioned.”¹⁰³

“Income redistribution is important,” agrees Barbara Starfield from the Johns Hopkins University School of Public Health, “but it is unlikely to happen any time soon.”¹⁰⁴ In the meantime, conscientious health advocates ought to be promoting “more practical and feasible” strategies, by working, for instance, to increase access to primary health care.

Health advocates, adds Yale’s Ted Marmor, should be addressing “the doable but difficult task of making medical care more fairly distributed before taking on the more utopian task” of narrowing economic inequality.¹⁰⁵

These voices all seem eminently reasonable. But their logic is not without flaws. Access to medical services certainly does deeply impact our individual health. But the stresses and strains, disappointments and deprivations of everyday life in a deeply unequal society, taken cumulatively, seem to impact our overall health far more significantly.

“By the time a sixty-year-old heart attack victim arrives at the emergency room, bodily insults have accumulated over a lifetime,” as researchers Norman Daniels, Bruce Kennedy, and Ichiro Kawachi have noted. “For such a person, medical care is, figuratively speaking, ‘the ambulance waiting at the bottom of the cliff.’”¹⁰⁶

The basic social and economic inequalities that drive people over that cliff, these three analysts contend, simply must be seriously addressed, as impractical and utopian as that task may feel in an increasingly unequal society.

Daniels and his colleagues also make another point, a more “practical” observation about access to health services. Champions of better and wider health care services, they note, have exerted enormous energy over recent years to extend access to affordable, quality care. Yet more, not fewer, Americans now go without health care services. This shameful situation, contends the Daniels team, could have been predicted. In times of growing inequality, advocates for social decency seldom make significant progress in any realm, health includ-

ed.¹⁰⁷ To be truly “practical,” to actually improve people’s health, Daniels and his colleagues argue, advocates must not “*choose* between expanding coverage of health care and devoting our energies to changing the social distribution of other resources.”¹⁰⁸ They must do both.

“Popular support for universal health care coverage,” the Daniels team concludes, “*arises* (when it does) out of a shared egalitarian ethos that is itself a product of maintaining a relatively short distance between the top and bottom of the social hierarchy.”

Where no egalitarian ethos exists, neither will a consensus that society ought to work to keep all people well. Where the “haves” and “have nots” stand wide apart, those with health security simply do not care, enough, about those without. In these sorry places, no secure health safety net will ever be strung. In these sorry places, the social fabric, in essence, has frayed. We move now to how — and why.