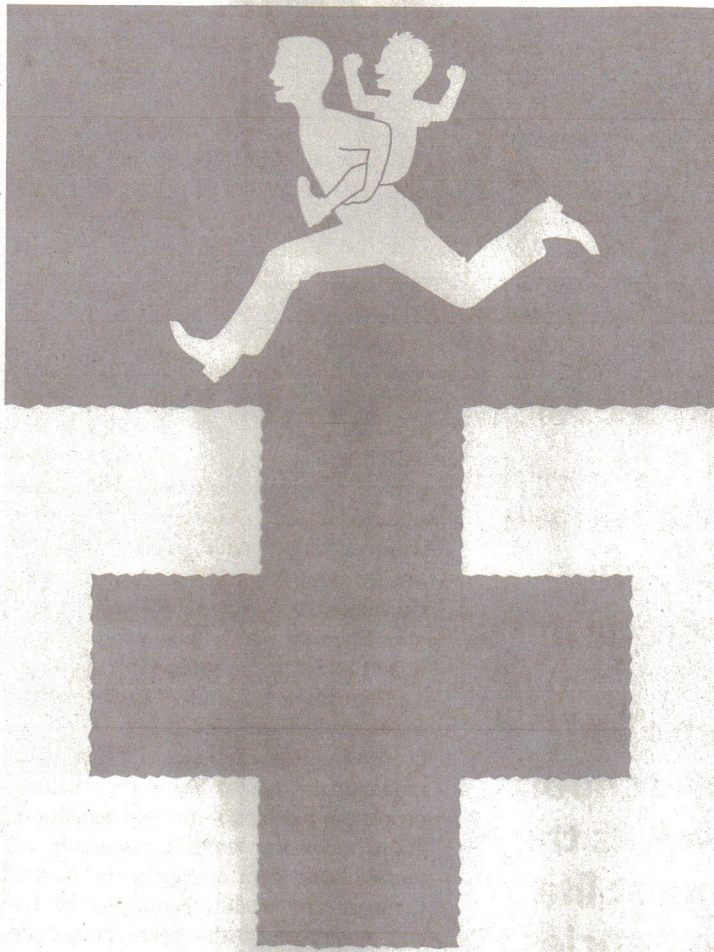
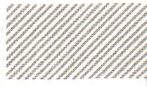




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# The Disease of Poverty

Helping parents to help their children can close the rich-poor health gap

By Michael Marmot

In Baltimore, men in one of the most down-at-the-heels, blighted parts of the city live 20 years less, on average, than men in the leafiest, most well-to-do neighborhoods. Numbers such as these are why poverty and lack of access to medical care are often blamed for poor health in the U.S.

But it is not a simple money = health equation. Other numbers make that clear. By global standards, the poor of the U.S. are fantastically rich, yet they die sooner than the poor of other

lands. Again, look at the poorest part of Baltimore. In 2010 the median household income here was \$17,000, whereas the median in India was \$5,150 *after* adjusting for purchasing power. Yet men in this part of Baltimore have a shorter life expectancy—63 years—than the Indian average of just more than 65 years. These Americans have more than triple the median purchasing power of Indians and yet have nearly two years less to live.

The U.S. problem is not limited to the poor. The average 15-year-old American boy has a 13 percent chance of dying before the age of 60. That risk of death—calculated in 2012—is double the probability for such boys in Sweden, about the same as in Turkey and Tunisia, Jordan and the Dominican Republic, and much higher than in Costa Rica, Chile and Cuba. In fact, the U.S. survival figure is lower than that in 51 other countries—although the U.S. spends more on health care than any other land.

To improve health, we have to stop blaming the sufferers and look not only at lack of money but lack of other resources. My research, and that of other scientists, points the finger at social and psychological disempowerment, a personal sense of marginalization in society, as a factor with greater effect than lack of money alone. When people feel deprived relative to those around them, stress rises, and then health suffers. Fortunately, the research also indicates that interventions with parents—improving parenting skills, for example—profoundly empowers their children. This, in turn, appears tied to a lifetime of better health.

## A SOCIAL SLOPE

AS A PUBLIC HEALTH SPECIALIST and epidemiologist, I have been investigating reasons for health inequalities for more than 35 years. I first described the connection between a person's social status and his or her health in studies of British civil servants, called the Whitehall Studies. No civil servant is poor or unemployed, and none is as rich as a banker or hedge fund manager. Yet among these white-collar men and women the higher their civil service grade, the longer their life expectancy and the better their health. This has become known as the social gradient, and it is not just about money but about a whole cluster of socioeconomic factors, and the way they give you a sense of control over your life and how you perceive your position in society relative to others. In my book *The Health Gap*, I follow this connection to the U.S. Someone in the middle of the U.S. income distribution curve has worse health than people with higher incomes but better health than poorer people. If we use education as our measure, we find the same thing: more years of education mean longer life expectancy and better health.

Skeptics will counter that the most common causes of death, such as diabetes, cardiovascular disease and cancer, are linked to lifestyle problems such as smoking and obesity, not disempowerment. But look harder. Smoking follows the social gradient: the lower the social position, the greater the smoking. Obe-

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sity, too, follows the gradient. When we see social trends such as these, it is inadequate to ask why an individual fails to heed health advice and is thus exposed to causes of ill health. We need to seek the causes of the causes—the social conditions that give rise to these unhealthy lifestyles.

For example, evidence from Britain shows that the more deprived a region or neighborhood is economically, the lower the proportion of children, at age five, who have a good level of cognitive, linguistic, social, emotional and behavioral development. But it is very important to realize that deprivation does not have the same effect in all places. Pick any given level of deprivation, and you will see that some local areas are doing better than others. For instance, one such area will have a higher proportion of children ready for school. These findings suggest that deprivation alone does not determine how children will fare. There is something else going on, and research indicates that variation in parenting skills is a major part of that something.

To test out the contribution of parenting activities to the social gradient in child development, a group of us now at University College London, led by Yvonne Kelly, analyzed data from the U.K. Millennium Cohort Study, a research project in England. We asked mothers of children aged three whether it was important to talk to and to cuddle their children. About 20 percent of mothers denied that these activities were important. Our analyses suggested that about a third of the social gradient in linguistic development and about half of the social gradient in social and emotional development could be attributed to differences in parenting attitudes.

#### PARENT POWER

GIVING PARENTS SUPPORT, however, can quickly make a difference in their children's lives. Some good evidence comes from research in the English city of Birmingham. The city scores below the national average on measures of employment, household income and other factors that reflect deprivation. Until recently, that pattern apparently contributed to deficits in child development. In 2007 the percentage of children aged five achieving a good score on measures of social, cognitive and behavioral development was 40 percent in Birmingham, whereas the English average was 46 percent. Then, in that year, Birmingham decided to try to change this situation. It instituted a Brighter Futures program for its 260,000 children. The aim was to adopt programs, which had been shown to be effective elsewhere, that showed parents ways to read, sing, talk, teach and otherwise interact with children to foster development.

In just three years after Brighter Futures started, Birmingham closed the gap between the city and the rest of England. By 2010 the proportion of children, aged five, with a good level of development rose to meet the national average. More detailed studies of program components indicated they were the cause behind the effect. In the U.S., Holly Schindler of the University

of Washington, Jack Shonkoff of Harvard University and others showed in a recent paper that focus on early child development in the family, along these same lines, sharply reduced behavior problems in young children.

Do such changes affect adult longevity? In Latin America, Costa Rica, Cuba and Chile have the highest proportion of children enrolled in preschool and the highest percentage of children performing at the top reading level in the sixth grade. These three are also the countries with the longest life expectancy in the region. There is a thread of cause and effect that runs from poor child development through low educational achievement, low incomes, insecure employment, stressful working and living conditions, unhealthy lifestyle, and poor health. We suspect this link exists because there are several biological systems that tie social stresses to physical reactions. For instance, what is called the hypothalamic-pituitary-adrenal (HPA) axis in the

nervous system increases the output of the hormone cortisol when the brain responds to stress. In the body, cortisol can suppress immune responses. Children from disadvantaged families are more likely to be stressed, which would activate this HPA axis frequently. (In "Sick of Poverty" in the December 2005 issue of *Scientific American*, Stanford University neurobiologist Robert M. Sapolsky explains this biology.)

There is another strategy to decrease the social gradient in child development: use tax-driven income transfer to reduce socioeconomic inequality. Taxes on wealthier people can pay for government benefit programs for poorer families; essentially this moves assets from one group to another. Compare two wealthy countries, the U.S. and Australia. In the years 2007–2009, 25 percent of children in the U.S. were in poverty, defined as households at less than

**In Latin America, Costa Rica, Cuba and Chile have the highest proportion of children enrolled in preschool, as well as the longest life expectancies.**

50 percent of the median national income. In Australia, 28 percent were in poverty. After adding in the effects of taxes and value of benefit programs, in the U.S. poverty levels were reduced just a little, to 23 percent. But in Australia, poverty levels dropped down to 11 percent. Clearly, income transfers can reduce inequality, and the U.S. has chosen not to use this strategy.

So we return to programs, such as parent training, to enhance child development and education. The fact that childhood may affect adult health inequalities has compelling implications. Politically, it means society should shift more resources to early interventions. Morally, it becomes harder to blame the adult poor for their poverty or poor health. Scientifically, we need more research on the long-term negative effects of childhood experiences because some consequences appear to be reversible. New discoveries may suggest more effective approaches. The science already done gives good cause for optimism. ■

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