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It seems obvious that poor people are more likely to be sick, and to die at an earlier age, compared to rich people. Several recent studies from the U.S. confirm that this is the case.[1,2,3,4]

What is not so obvious is that the health of the poor is harmed in proportion to the size of the gap between rich and poor. It isn't the absolute level of poverty that matters so much as the size of the gap between rich and poor. In other words, "...what matters in determining mortality and health in a society is less the overall wealth of that society and more how evenly wealth is distributed. The more equally wealth is distributed the better the health of that society," according to an editorial in the BRITISH MEDICAL JOURNAL April 20th.[5] Two recent studies of the U.S. indicate that this is so,[6,7] and they are not the first to make the case.[8,9]

The two recent studies, published in April in the BRITISH MEDICAL JOURNAL, examine all 50 states within the U.S. Each study defines a measure of income inequality and compares it to various rates of disease and other social problems. Both the studies --one from Harvard and one from University of California at Berkeley --conclude that the greater the gap between rich and poor, the greater the chances that people will be sick and die young. It isn't the absolute level of wealth in a society that determines health; it is the size of the gap between rich and poor. Let's look at some of the details:

George Kaplan and his colleagues at Berkeley measured inequality in the 50 states as the percentage of total household income received by the less well off 50% of households.[6] It ranged from about 17% in Louisiana and Mississippi to about 23% in Utah and New Hampshire. In other words, by this measure, Utah and New Hampshire have the most EQUAL distribution of income, while Louisiana and Mississippi have the most UNEQUAL distribution of income.

This measure of income inequality was then compared to the age-adjusted death rate for all causes of death, and a pattern emerged: the more unequal the distribution of income, the greater the death rate. For example in Louisiana and Mississippi the age-adjusted death rate is about 960 per 100,000 people, while in New Hampshire it is about 780 per 100,000 and in Utah it is about 710 per 100,000 people. Adjusting these results for average income in each state did not change the picture: in other words, it is the gap between rich and poor, and not the average income in each state, that best predicts the death rate in each state.

This measure of income inequality was also tested against other social conditions besides health. States with greater inequality in the distribution of income also had higher rates of unemployment, higher rates of incarceration, a higher percentage of people receiving income assistance and food stamps, and a greater percentage of people without medical insurance. Again, the gap between rich and poor was the best predictor, not the average income in the state.

Interestingly, states with greater inequality of income distribution also spent less per person on education, had fewer books per person in the schools, and had poorer educational performance, including worse reading skills, worse math skills, and lower rates of completion of high school.

States with greater inequality of income also had a greater proportion of babies born with low birth weight; higher rates of homicide; higher rates of violent crime; a greater proportion of the population unable to work because of disabilities; a higher proportion of the population using tobacco; and a higher proportion of the population being sedentary (inactive).

Lastly, states with greater inequality of income had higher costs per person for medical care, and higher costs per person for police protection.

The Harvard researchers used a slightly different measure of inequality, called the Robin Hood index.[10] The higher the Robin Hood index, the greater the inequality in the distribution of income. The researchers calculated the Robin Hood index for all 50 states and then examined its relationship to various measures of health and well being.

They found that the Robin Hood index correlated with the overall age-adjusted death rate. Each percentage point increase in the Robin Hood index was associated with an increase in total mortality of 21.7 deaths per 100,000 population.

The Robin Hood index was also strongly associated with the infant mortality (death) rate; with deaths from heart disease; with deaths from cancer; and with deaths by homicide among both blacks and whites.

The Harvard team concludes that reducing inequality would bring important health benefits. For example, if the Robin Hood index were reduced from 30% to 25% (about where it is in England), deaths from coronary heart disease would be reduced by 25%.

These studies are important because they confirm work that has previously found a relationship between income inequality and health, using data of good quality from all 50 states.[11] Inequality in the distribution of income and wealth[12] has been increasing in the U.S. for about 20 years.[13,14,15,16] In 1977 the wealthiest 5% of Americans captured 16.8% of the nation's entire income; by 1989 that same 5% was capturing 18.9%. During the 4-year Clinton presidency the wealthiest 5% have increased their take of the total to over 21%, "an unprecedented rate of increase," according to the British ECONOMIST magazine.[17]

Inequality in the distribution of wealth in the U.S. is even greater than the inequality in income. In 1983, the wealthiest 5% of Americans owned 56% of all the wealth in the U.S.; by 1989, the same 5% had increased their share of the pie to 62%.[16,pg.29]

These trends in inequality in the U.S. are accelerating as time passes. We now know that these trends have real consequences for the health of people and society. As a nation, we have traditionally thought it was acceptable if the rich got richer, so long as the poor were minimally provided for. These studies now reveal that such a situation is not acceptable. As the gap grows between rich and poor, the health of the nation deteriorates, the social fabric unravels, and the cost of maintaining community goes up.

How does the gap between rich and poor harm the health of the poor? Evidently, the psychological hardship of being low down on the social ladder has detrimental effects on people, beyond whatever effects are produced by the substandard housing, nutrition, air quality, recreational opportunities, and medical care enjoyed by the poor.[18]

The growing gap between rich and poor has not been ordained by extraterrestrial beings. It has been created by the policies of governments: taxation, training, investment in children and their education, modernization of businesses, transfer payments, minimum wages and health benefits, capital availability, support for green industries, encouragement of labor unions, attention to infrastructure and technical assistance to entrepreneurs, among others. In the U.S., government policies of the past 20 years have promoted, encouraged and celebrated inequality. These are choices that we, as a society, have made. Now one half of our society is afraid of the other half, and the gap between us is expanding. Our health is not the only thing in danger. They that sow the wind shall reap the whirlwind.

--Peter Montague

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[1] George Davey Smith and others, "Socioeconomic Differentials in Mortality Risk among Men Screened for the Multiple Risk Factor Intervention Trial: I. White Men," AMERICAN JOURNAL OF PUBLIC HEALTH Vol. 86, No. 4 (April, 1996), pgs. 486-496.

[2] George Davey Smith and others, "Socioeconomic Differentials in Mortality Risk among Men Screened for the Multiple Risk Factor Intervention Trial: II. Black Men," AMERICAN JOURNAL OF PUBLIC HEALTH Vol. 86, No. 4 (April, 1996), pgs. 497-504.

[3] Gopal K. Singh and Stella M. Yu, "US Childhood Mortality, 1950 through 1993: Trends and Socioeconomic Differentials," AMERICAN JOURNAL OF PUBLIC HEALTH Vol. 86, No. 4 (April, 1996), pgs. 505-512.

[4] C. Wayne Sells and Robert Wm. Blum, "Morbidity and Mortality among US Adolescents: An Overview of Data and Trends," AMERICAN JOURNAL OF PUBLIC HEALTH Vol. 86, No. 4 (April, 1996), pgs. 513-519.

[5] Editorial, "The Big Idea," BRITISH MEDICAL JOURNAL Vol. 312 (April 20, 1996), pg. [985].

[6] George A. Kaplan and others, "Inequality in income and mortality in the United States: analysis of mortality and potential pathways," BRITISH MEDICAL JOURNAL Vol. 312 (April 20, 1996), pgs. 999-1003.

[7] Bruce P. Kennedy and others, "Income distribution and mortality: cross sectional ecological study of the Robin Hood index in the United States," BRITISH MEDICAL JOURNAL Vol. 312 (April 20, 1996), pgs. 1004- 1007.

[8] Richard G. Wilkinson, "Income distribution and life expectancy," BRITISH MEDICAL JOURNAL Vol. 304 (January 18, 1992), pgs. 165-168. See also footnote 11, below.

[9] Robert J. Waldmann, "Income Distribution and Infant Mortality," THE QUARTERLY JOURNAL OF ECONOMICS Vol. 107 (November 1, 1992), pgs. 1283- 1302.

[10] The Robin Hood index (RHI) is calculated by dividing the population into 10 groups, richest to poorest. The RHI calculation proceeds by first summing the percentage of income for each 10% group whose percentage of available income exceeds 10% and then subtracting the product of the number of 10% groups that meet this criterion times 10%. Example: in Massachusetts in 1990, the top 10% received 29.93% of income; the next lower 10% received 16.41% of all income; the next lower 10% received 13.09% if all income; the next lower 10% received 10.83% of all income, and the remaining six 10% groups each received less than 10% of income and are therefore ignored in the RHI calculation. The RHI index for Massachusetts in 1990 is therefore calculated from the top four 10% groups: $(10.83\% + 13.09\% + 16.41\% + 29.93\%) - (4 \times 10\%) = 70.26\% - 40\% = 30.26\%$. See Appendix, pg. 1007, of Kennedy, cited above in note 7.

[11] The body of literature linking health to the gap between rich and poor is reviewed in Richard G. Wilkinson, "Commentary: A reply to Ken Judge: mistaken criticisms ignore overwhelming evidence," BRITISH MEDICAL JOURNAL Vol. 311 (November 11, 1995), pgs. 1285-1287, which was written as a response to Ken Judge, "Income distribution and life expectancy: a critical appraisal," BRITISH MEDICAL JOURNAL Vol. 311 (November 11, 1995), pgs. 1282-1285.

[12] Wealth is the net worth of a household, calculated by adding up the current value of all assets a household owns (bank accounts, stocks, bonds, life insurance savings, mutual fund shares, houses, unincorporated businesses, consumer durables such as cars and

major appliances, and the value of pension rights), then subtracting the value of all liabilities (consumer debt, mortgage balances, and other outstanding debt).

[13] Sheldon Danziger and others, "How the Rich Have Fared, 1973-1987," AMERICAN ECONOMIC REVIEW Vol. 79 (May, 1989), pgs. 310-314.

[14] McKinley L. Blackburn and David E. Bloom, "Earnings and Income Inequality in the United States," POPULATION AND DEVELOPMENT REVIEW Vol. 13, No. 4 (December, 1987), pgs. 575-609.

[15] Johan Fritzell, "Income Inequality Trends in the 1980s: A Five-Country Comparison," ACTA SOCIOLOGICA Vol. 36 (1993), pgs. 47-62.

[16] Edward N. Wolff, TOP HEAVY; A STUDY OF THE INCREASING INEQUALITY OF WEALTH IN AMERICA (New York: Twentieth Century Fund, 1995). Although this is a study of wealth inequality, chapter 6 deals with income inequality.

[17] "Up, down and standing still," THE ECONOMIST February 24, 1996, pgs. 30, 33.

[18] George Davey Smith, "Income inequality and mortality: why are they related?" BRITISH MEDICAL JOURNAL Vol. 312 (April 20, 1996), pgs. 987- 988.

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