Income inequality and health – a new challenge

"The problem is capitalism", screamed the speaker, at a meeting in Colombia, "and there is nothing you can do to reduce health inequalities until you smash capitalism. Nothing. Nothing. Nada. Nada." He was giving an invited commentary on my lecture, in which I had set out the recommendations on social determinants of health that my colleagues and I made in several reports.

Asked for my reactions to what I had just heard, I said that obviously I didn't quite agree. Had I thought that there was nothing one could do to reduce health inequalities without smashing capitalism, I would not have set out six domains of recommendations in my English Review(1), and three groups of recommendations in the Commission on Social Determinants of Health(2) – none of which involved smashing capitalism.

I am not equating income inequality with capitalism, although some might, but I have a similar reaction to the work on income inequality and health.

It is a simple, and powerful, proposition: too much income inequality is bad for everyone in all the ways that matter, including health. Richard Wilkinson, in a series of papers and books over several decades, has compiled the evidence that forms the basis for this assertion. The evidence was gathered together in *The Spirit Level,* the 2009 book, co-authored by Wilkinson and Kate Pickett.(3) The quotes they put on the cover include: 'A sweeping theory of everything' and "A big idea, big enough to change political thinking.'

It is indeed an idea, appealing in its power and simplicity, that has had a profound influence on research and political thinking. Take the steps necessary to reduce inequality of incomes within countries, and health of everyone will improve, both of the rich and the poor. It would imply that other recommendations on the social determinants of health are beside the point. One would not, for example, need to focus on recommendations about the health impacts of destitution or social disadvantage. Just pay attention to income distribution.

In a fifteen-year update, the authors spell out the current policy implications of their original synthesis of the evidence.(4) Those of us concerned with inequalities in health should all be enormously grateful for the agenda-setting of *The Spirit Level,* the research on which it is based, and the further research that it stimulated.

There are several questions that the findings on income inequality and health raise. Are the findings generalisable? Does the health of the rich suffer in more unequal societies, as well as that of the poor; or is the effect largely due to relative and absolute poverty? Is the social gradient in health steeper in societies characterised by greater income inequality? What else is going on?

Generalisability of the findings

The empirical basis for the finding that larger income inequality is associated with higher mortality rates (lower life expectancy) rests, in large measure, on two types of evidence. The first is a comparison among high income countries. These results form the basis of *The Spirit Level*. It is not clear if the results extend to low income countries where, in general, income inequalities are higher. One should be wary of citing outliers but, as illustration, Chile has male life expectancy 1.7 years longer than the US, despite Chile having higher levels of income inequality. That said, a recent analysis in 151 countries linked income inequality with AIDS incidence and mortality and Covid-19 excess mortality.(5)

The other major evidence plank is a comparison among US states. Among the many studies that examined this question was one by Ross and colleagues.(6) They showed that around the 1990 census, among US states but not Canadian provinces, the greater the income inequality the higher the mortality rate. The new study, in this issue of the Journal, including two of the authors of the original, revisits that question in two ways. First, they examine the relation between income inequality and mortality, at the state level, in 1989, 1999, 2009 and 2019. As in the earlier paper, they adjust for median income of the state. Second, they examine time trends – changes in income inequality and changes in mortality rates, again comparing states.

The background to the study is the dismal state of health in the US. In general, working age mortality rates rose from 2010 to 2019 but at very different rates. The 30-year change in mortality rates varied from -47% for working-age males in New York to +32% for working-age females in West Virginia.

The cross-sectional comparisons for 1989, as expected, reproduce the findings of the older paper. The greater the income inequality of a state, the higher the mortality rate for working-age women and men, and people of all ages. Over time this relation weakens and reverses. By 2019, the relation between income inequality and mortality goes the other way – greater inequality lower mortality. Further, trends by state are in the 'wrong' direction. Increases in income inequality are associated with more favourable trends in mortality – a bigger decrease.

It is probably a fair generalisation that if you, as a researcher, never come across findings that you did not expect, you are probably not doing your job properly. I'll return to the implications of these findings for policies to address health inequalities.

Poverty and/or inequality

One of the striking conclusions of *The Spirit Level* was that the relation between income inequality and life expectancy held up when controlling for income. The problem was not poverty, but inequality. I never quite agreed – the problem was inequality *and* poverty. For interest, I went back to the 2008 report of the Commission on Social Determinants of Health(2) and found that this is what we wrote:

> *There has been a vigorous debate as to whether income inequality itself is a major contributor to the level of health of a country (Wilkinson, 1996; Deaton, 2003). However income inequality is one marker of the unequal distribution of goods and services. There is therefore strong empirical justification for a concern with growing income inequalities. Governments have the power to reduce the effects of pretax income inequality. Fig. 3.2 shows, for a number of high income countries, the effects of policy on poverty. It takes a relative definition of poverty as below 60% of median income and shows that in Nordic countries fiscal policy leads to a much lower prevalence of poverty than in the United Kingdom or the United States. Policy matters*.

In other words, we acknowledged the importance of income inequality as one part of inequality in goods and services, but then shifted quickly to its effect on poverty. Poverty concerned us more. But we were comfortable with an approach to relative poverty.

The English Review, *Fair Society Healthy Lives,* followed more or less directly from the Commission on Social Determinants of Health. It is not then surprising that we had a similar approach. We acknowledge the empirical relation between income inequality and health and immediately shifted to discussing poverty, absolute and relative. We note, and quote with approval, *The Spirit Level's* insistence on psychosocial mechanisms and write:

> *The most powerful sources of stress are low status and lacking social networks, particularly for parents with young children*.

Our conclusion is that income inequality is important precisely because it relates to absolute and relative poverty.

A related theme is Wilkinson and Pickett's argument that the health of the rich is harmed by income inequality as well as that of the poor. It would imply that there should be geographic variation in life expectancy of the rich that is of the same order as that of the poor. That is not what we find in the UK. The Figure comes from our report, *Heallth Equity in England: the Marmot Review 10 Years On.(7)* It contrasts London and the North-East of England. At low levels of deprivation, life expectancy in London and the North-East are similar. The health disadvantage associated with deprivation is bigger in the North East than it is in London – the gradient is steeper, the health inequalities are greater.

In fact wage inequalities are greater in London than in the North(8). London's better health is more consistent with higher income than with degree of inequality. The point, here, though, is that we commonly see that geographic variations in health are greater among poorer people. As a result, the magnitude of health inequalities varies considerably. Chetty in the US showed a similar pattern to that in the Figure. Comparing four cities, New York, San Francisco, Dallas, and Detroit, he shows identical life expectancy for people whose household income is at the median or above. The further

household incomes are below the median, the bigger the city difference in life expectancy from New York, the healthiest, to Detroit, the least healthy.(9)

These findings from the UK and US are not a direct test of the assertion that inequality of income harms the rich as well the poor. They do suggest, though, that the rich are relatively protected from the influences that cause geographic inequalities in health.

Figure

What else is going on?

Dunn and colleagues in the present paper conclude that their results are not consistent with income inequality causing health inequalities. After all, the states with biggest increase in income inequalities had the most favourable trends in mortality. They have two types of speculation: the earlier state-level associations that showed income inequality to harm health may have been the result of other influences on health that were correlated with income inequality in the past and are less so now. The other type of speculation is that other important causes are operating that protect against the harmful effects of income inequality.

Another analysis of state-level variations in mortality provide clues as to what some of these other causes might be.(10) Montez and colleagues documented an association between state-level policy contexts and life expectancy. They found that several policy domains – notably those on the environment, civil rights, tobacco, labour, and immigration – were key predictors of life expectancy. Except for marijuana policy, more liberal versions of the policies predicted higher life expectancy.

Covid mortality is also instructive. It showed changing political affiliations in the US or, more accurately, political affiliations affected rate of death from Covid-19. The Pew Research Center examined Covid-19 mortality by county, dividing counties into whether they voted for Trump or Biden in 2020. The first wave of the pandemic, up to June 2020, hit densely populated areas in the Northeast of the US, particularly the New York City region, heavily Democratic-voting areas. In subsequent waves, increasingly, the pandemic affected Republican, Trump-voting, counties. One explanation for the changing pattern is that counties that voted Trump in 2020 had lower vaccination uptake rates.

Inequality is still important

This current paper showed that, among US states, the direction of association of income inequality with mortality changed markedly. In 1989, the greater the income inequality of a state the higher the mortality of working age people. By 2019, that had changed so that the higher the income inequality of a state the lower the mortality of working age people. Further, states with steeper increases in income inequality had more favourable trends in mortality, than states with smaller increases in income inequality.

These results raise questions about the degree to which income inequality, *per se,* is causally linked to overall health of an area. It does not mean that inequality of income and social conditions are unimportant. Quite the contrary. My own introduction to the social gradient in health came from the Whitehall studies(11). Classify men and women by their level in the occupational hierarchy, and the lower the socioeconomic level, the higher the mortality rate. Income, education, social conditions are all unequally distributed in society and each may be playing a role in causing inequalities in health. In the UK, nationally, when people are classified by where they live, and where they live is classified according to the Index of Multiple Deprivation, we see clearly gradients in life expectancy, as illustrated in the Figure. It is likely that the more unequal the society with respect to all the key social determinants of health, including income, the greater will be the health inequalities. Public policy does need to address these inequalities.(12)

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