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Commentary: uncertainties in addressing the 'health gap'

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The uncertainties in addressing the 'health gap': A commentary on The Health Gap by Michael Marmot

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Introduction

Health inequalities appear to be both universal and persistent. Looking across Europe since the 1990s, there has been some decline in absolute inequalities in health but relative inequalities have actually widened[1]. Professor Sir Michael Marmot's new book, The Health Gap[2], is a popular re-statement of the deeply troubling differences between health outcomes among the affluent and the disadvantaged. Inequalities in health are found in almost every country for which we have data, but the extent of these inequalities varies. Marmot argues that inequalities in power, empowerment, and material resources are driving inequalities in health and that these are unjust because they are amenable to change. Moreover, inequalities in health affect almost everyone because there is a social gradient in health; people in the middle of the income distribution have poorer health than those at the top but better health than those at the bottom.

Three ideas 'animate' The Health Gap: 1) biology alone does not explain inequalities in health within and between countries, 2) economic growth by itself will not improve health and reduce inequalities, and 3) 'we know what to do to make a difference' to health inequalities. Point one is well-supported by available research, and although widely accepted in the public health is worth reinforcing. Point two is more contested because it is contingent on how you measure

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income; as Deaton[3] shows, there is an almost linear relationship between income and life expectancy at birth if you measure income on a log-scale. But point three is a more problematic claim, in part, because the evidence base supporting specific interventions currently entails a great deal of uncertainty; rendering the claim that we know what to do to make a difference difficult to support empirically.

There are some things we do know regarding reducing health inequalities. Reductions in smoking prevalence appear to have played a substantial role in reducing absolute inequalities in mortality since the 1990s in Europe. This has been observed primarily in men but will, presumably, be found among women in the future as well[4]. Moreover, reductions in absolute health inequalities were also observed in conditions that were amenable to medical intervention, suggesting that medical technologies combined with universal health coverage have reduced the 'health gap'[1]. Empowering people to quit smoking while altering the choice architecture so that quitting becomes easier, still has the potential to further reduce socioeconomic inequalities in health in the future, especially in countries where regulation on smoking is weak[4,5].

The challenge is that there are many things we – as researchers and academics – still do not know[6].

The cautionary tale of New Labour

In 1997, Tony Blair's New Labour came into power. This marked a dramatic shift in policy-making in the UK with a very explicit focus on reducing health inequalities. The government implemented a minimum wage, introduced and expanded tax credits, and embarked on a series of programmes directly intended to reduce health inequalities by investing in Sure Start programmes (aimed at improving child health), Health Action Zones (aimed at reducing regional disparities in health), and anti-tobacco policies, among many others[7,8]. Some of these policies have been good for health. For example, there is some evidence the introduction of the minimum wage improved mental health in the short-term[9] while other policies, such as tax credits, did much to reduce inequality at the bottom of the distribution[10]. However, when we consider the wider pattern of health inequalities more generally the evidence is more mixed[7,8].

If we look at longitudinal analysis of life expectancy at birth across local authorities in the UK – i.e., the 'Marmot Curves' – there is some suggestion that regional inequalities in mortality narrowed slightly between the beginning and the end of New Labour's time in power[11]. This appears to be partially explained by initiatives which reallocated NHS resources so that the most deprived areas of the country received additional investment[12]. However, when we look at socioeconomic inequalities in health, the strategy failed to reach its own targets[7]. Moreover, New Labour's policies did not even seem to mark a break in the trend. The reductions in health inequality observed in England during New Labour (2000 to 2010) was consistent with the trends in the previous decade (1990 to 1999). If we compare what happened in England with what happened in three other countries that did not attempt to systematically reduce health inequalities during this period (i.e., Italy, Finland, and the Netherlands), there are no clear differences between them[8]. In short, New Labour's massive investment in addressing the social determinants of health did, in fact, very little to alter health inequalities.

Of course, there are explanations for this lack of success (e.g., the policies did not target the right areas for intervention or they were insufficient to dent broader inequalities) but this is precisely the challenge that New Labour's experience poses to Marmot's thesis. To paraphrase the final line of his book, they did something, they did more, and they tried to do it better; but they did not see results[2]. It is not yet entirely clear why New Labour's initiatives had little success but their failures suggest there is still a great deal of uncertainty about how societies can reduce inequalities in health.

The weight of the past

One reason there is uncertainty about how to address health inequalities is because the weight of the past continues to bear upon the present. This is the problem of path-dependence. More than just the notion that 'history matters', path dependence stresses how decisions made in the past limit the set of available choices in the present and that pre-existing institutions or culture may alter how any particular intervention affects people and communities; both of which may shape a society's ability to alter health inequalities. Path dependence, for example, has been used to explain why some countries have made great progress in improving health and others have not, despite substantial investment and considerable financial aid[3].

One example of the challenge of path dependence is a recent cash transfer programme in Kenya. This basic income experiment tried to unconditionally provide $1 dollar per day to approximately 6,000 people[13]. But some people refused the money. Most of the time, refusal rates for similar experiments in other contexts are 5% but in one region of Kenya the refusal rate is 40% (in some areas it was as high as 80%). Give Directly, the charity running the trial, investigated why refusal rates were so high, finding that people in this community are sceptical that anyone would give this much money unconditionally and have, as result, created conspiratorial counter-narratives to explain why money is being given away freely and which explain the reticence of potential recipients to participate[13]. The intervention is interacting with pre-existing conditions and attitudes in unexpected ways, undermining the effectiveness of the cash transfers.

Similarly, a cash subsidy experiment in China reduced the price of a staple food to increase caloric intake among extremely poor households. The subsidy had no effect on caloric intake because people used the money they saved to buy more expensive foods that had far fewer calories, such as shrimp[14]. The impact of the cash subsidies was path dependent on pre-existing preferences; these people did not just want more calories, but they wanted better tasting calories[15].

The problem of path dependence applies to high income countries too[16], where, in the US for example, the political legacies of slavery, the Tuskegee trials, and Jim Crow laws have profoundly shaped health inequalities and continue to affect how particular communities will respond to health system changes[17,18].

Path dependence may shape the effectiveness of a particular policy in a specific context. Uncertainty about possible interactions between the past and the present undermines confidence

that doing something is better than doing nothing.

What is the treatment?

The second source of uncertainty in knowing how to address health inequalities is that we do not always know why a specific intervention works or for whom it will work. It is this uncertainty that has led to a small but growing literature on intervention generated inequalities[19].

Consider, for example, education. Educational inequalities are documented in many countries and so expanding access to education appears to be a clear case where a policy intervention will reduce inequalities in health[2].

But what does education do? What is the treatment? Does it increase access to information, empowerment, or income? Cross-European evidence suggests the effect of education on health has been declining during the 20th century[20]. If this is accurate then it is suggestive of what the education effect might be; it is likely not greater information-processing capacity nor does it seem to be empowerment. Rather, education may improve health, in part, because it is linked with income. As the 20th Century progressed, European nations expanded social security and access to healthcare; as a result, education became less necessary to achieve a decent standard of living in Europe, and so the health effects of expanding compulsory education declined. Now, in the US, for example, the distributions of income within different educational categories are largely overlapping, suggesting income inequalities within educational categories are far larger than the income inequalities between educational categories[21]. In this context, simply expanding access to higher education may do little for your income and therefore may not have any effect on your health.

Marmot acknowledges some of these problems in his discussion of Deaton's critique of the economics literature on field experiments[22]; but these are not necessarily applied to public health or social epidemiology as well. According to Deaton, randomised controlled trials suffer from many of the same problems as other methods – they can tell us whether something works but not why it works. One implication of this uncertainty is that it becomes very difficult to know whether something will work in the UK simply because it worked in USA.

This ambiguity about precisely what is the health-improving treatment also has large implications for how we decide to deliver that treatment. To return to the education example: if the impact of education on health is because of higher incomes then we want to debate whether unconditional income transfers may have more health benefits in some contexts that expanding compulsory education. Without knowing why an intervention works it is very difficult to know whether it will work in a specific context.

Positional goods and inequality

An additional source of uncertainty arises because interventions can affect the treated and the untreated at the same time; radically altering the relationships between specific groups in society. Access to education alters your future income, increases information-processing capacity,

and empowers people[2]. The challenge posed by rapidly expanding access to education is that doing so will almost certainly alter the relationship between education and each of those outcomes (income, information-processing, empowerment, and status) for any given individual. This is because education is often seen as a positional good; meaning that the total benefit that can be gained from any particular good is fixed for that society[23,24]. For example, if one additional person finishes university then it will affect the incomes of everyone else who already has a degree.

The uncertainty here is that some parts of the education-health relationship will behave more like a positional good than others. The relationship between education and income, for example, appears to be positional; in high-income countries expanding higher education has reduced the wage premium for university graduates, meaning that education is not necessarily a route out of poverty[25]. At the same time, the relationship between education and status also appears to change as the number of graduates increases and the boundaries delineating 'graduate occupations' becomes fuzzier[25].

However, the link between education and information-processing or empowerment may not be positional; that is, as an additional person graduates from university their increased information-processing capacity almost certainly does not affect the information-processing capacity of anyone else. Personal empowerment may be similar.

If, as existing evidence suggests, the mechanisms linking education and health are through income and status then the association between education and health will be positional, i.e., it will be determined by the relations between those with high levels of education. In short, expanding access to university education may do very little to reduce health inequalities if there are already a large proportion of graduates in a population. Of course, this does not mean that governments should not seek to expand education; only that is unclear whether it will reduce health inequalities.

Cross-national analyses and country-specific policies

Addressing uncertainty regarding how health inequalities are produced requires that researchers begin to take more seriously the political economy of health[26–28]. The profile of health in a particular country is the product of both political and economic factors that shape the social determinants of health[2]. Education, income inequalities, and status hierarchies are the determined by trade agreements, social security policies, and housing infrastructure, among many other factors. Marmot's book persuasively highlights how aspects of political economy shape the social determinants of health by drawing on some key work in this area. Certainly political economy approaches to health will offer important insights regarding how and why certain social determinants of health are more prevalent in some contexts rather than others. For example, focussing on political economy will illuminate how trade deals may affect consumption of sugar-sweetened beverages or how labour market policy may affect the relationship between unemployment and mortality[29,30]. But research exploring the political economy of health can do more; it may also suggest how and why certain interventions may be more or less effective in some contexts rather than others.

There are at least two possible approaches to political economy that may contribute to explaining the patterns of the social determinants and to understanding the context-specific uncertainties that may undermine the effectiveness of an intervention[31]. First, careful cross-national comparisons that seek to decompose why one country's health profile or trajectory differs from another. Here we might look to work comparing the US with other high-income countries in Europe, which also explicitly points toward the gaps in understanding the political economy of health[27,32]. Second, detailed analyses of country-specific policies or events that affect the shape of health inequalities over time. Here we can consider work examining the collapse of communism in Eastern Europe or the rise and fall of social security in high income countries[33]. This may require exploiting natural experiments that affect some parts of the population but not others but may also rely on documenting cross-national comparisons where some countries/regions are exposed to some change in the production of health (such as changes to maternity leave or tax policy) but others are not[34–36].

Giving more attention to the political economy of health will not entirely remove our uncertainty regarding how health inequalities are produced (and how they can be reduced)[27]; but it will go some way to improving our understanding of what works and why. It will also increase our confidence regarding whether a particular intervention will effectively reduce health inequalities in a particular context.

Marmot's book documents widespread health inequalities and narrows the range of possible factors that could explain these differences, articulating rejecting, for example, health selection. The book also demonstrates an abiding commitment to public engagement with civil society and policymakers and his work has shifted the academic field in profound ways. The Health Gap is also inspiring because it provides multiple examples of people becoming persuaded by the evidence and moving to act; this is a particularly timely reminder in an era of post-fact politics that evidence still matters. Marmot brings urgency and intensity to these issues, passionately arguing that inequalities in health are amenable to change. But how societies, in practice, reduce health inequalities remains uncertain. This uncertainty will persist unless researchers are able to account for path dependence, unpack the specifics of the treatment, and be sensitive to how interventions shape relationality. Addressing this uncertainty will require careful cross-national work that moves beyond randomised controlled trials and even natural experiments to a political economy approach that offers careful documentation of the trends within and between countries. By persistently reminding his readers of the health gaps within and between societies and by insisting that these are amenable to change, Marmot's book points toward a deeper engagement with the political economy of health.

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