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EDITORIAL

SOCIAL DETERMINANTS OF HEALTH: AN ECONOMIC PERSPECTIVE

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SUMMARY

The World Health Organization has recently received the findings of its Commission on the Social Determinants of Health. The Commission's report offers a remarkable summary of the evidence, and makes a passionate case for government action to address the social determinants of health, especially as they relate to health inequity. This paper summarizes the ways in which economic analysis could strengthen policy under three headings: examining the causal impact of the determinants of health and of associated policies; prioritising actions; and determining the role of government in influencing behaviour. Copyright © 2009 John Wiley & Sons, Ltd.

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1. INTRODUCTION

The World Health Organization's *Commission on the Social Determinants of Health* was created to assemble the evidence on the 'causes of the causes' of ill-health and health inequities and to identify and promote effective policies and actions at national and global level, beyond the traditional boundaries of the health-care sector (CSDH, 2008). The Commission presents a wealth of evidence identifying the most important determinants of health as well as examples of policies that have had a positive effect. It makes three broad sets of recommendations that taken together would help 'close the gap' in various health inequities by: (1) improving daily living conditions – housing, early child development, health care, and social protection; (2) tackling the unequal distribution of resources; and (3) measuring and understanding the problem.

The Commission makes a passionate case for governments (as well as other actors) to address the social determinants of health (SDH), arguing that the right to good health, and ending avoidable inequalities in health, is a matter of social justice. While the 'social justice' perspective is a legitimate position, the report only partially addresses the demands of policy makers. Alongside other disciplines, the methodologies and concepts used by economists might therefore be usefully applied to build on the work of the Commission and strengthen any resulting policy implications in three major areas: (1) how to assess the causal impact of the determinants of health and health inequalities, and even more crucially of policies addressing both; (2) how to prioritise between a set of possibly competing policies and objectives, and (3) how to determine the appropriate role of government in influencing behaviour in this domain.

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In what follows we briefly elaborate on each of these issues.

2. ASSESSING CAUSALITY

As the Commission fully recognises (Kelly *et al.*, 2007, p. 87), identifying causality is crucial in order to understand the problem and to design effective interventions. The well-known observed association of different socioeconomic status (SES) indicators and health, much of which is documented in the report, may mean that SES causes health, that health causes SES or that both are determined by a common third factor.[1] Only if SES causally determines health would it make sense to consider social and economic policy as health policy. Studies that have controlled for endogeneity and selection bias confirm the impact of long-term income on health,[2] although this is by no means a result that holds for all relevant SES and for all phases of the lifecycle (see e.g. Cutler and Lleras-Muney, 2007 on education, or Böckerman and Ilmakunnas 2009 on employment status).

Although it may be useful to examine the general influence of SDH on average population health, the WHO Commission focuses mainly on the more complex relationship between inequality in the distribution of SDH and health inequalities (Wagstaff, 2002). SES-related health inequality is driven by (1) possible variation across social groups in the elasticity of health with respect to its determinants (2) variation in the distribution of the underlying determinants, and (3) interactions between those determinants (Contoyannis and Forster, 1999). Depending on the shape of the individual health production functions, it is by no means certain that a reduction in income inequality (or other SES indicator) by itself could achieve the desired reduction in SES-related health inequalities, as the report asserts. For example, in examining the small increases in health inequalities observed in the majority of EU countries during the 1990s, Van Ourti *et al.* (2009) show that the potentially health inequality reducing effect of economic growth that was either pro-poor or distributionally neutral was outweighed by the fact that the income elasticity of health was positive and increasing in income.

Even where a factor is known to be a determinant of health or health inequality, evidence is needed on what interventions work to reduce the problem, and at what costs.

Despite some innovative examples of the use of randomised control trials (RCTs) for the assessment of such interventions (Gertler, 2004; Kremer and Holla, 2008), RCTs have not gained widespread acceptance outside the medical context (Rutter, 2007). As the Commission argues, the conventional hierarchy of evidence used for clinical evaluations (that places RCTs as the most valid source) might not be appropriate for SDH, and the development of alternative criteria for appraising SDH policies is an urgent methodological priority (Kelly *et al.*, 2007).

The evaluation of policies addressing social determinants therefore almost inevitably relies on non-experimental data. Observational data sets are often larger, have less restrictive inclusion criteria than experimental studies, and results based on those data sets are often considered to be more generalisable, although methods such as instrumental variables to adjust for selection bias can be sensitive to assumptions and difficult to interpret (Attanasio and Vera, 2004; Basu *et al.*, 2007).

For example, a range of econometric methods has recently been applied to study the outcomes of the Conditional Cash Transfer initiative (CCT), variants of which operate in Mexico, Brazil and many other countries (Gertler, 2004; Morris *et al.*, 2004; Attanasio *et al.*, 2005). Families enrolled in CCT programmes receive cash in exchange for complying with certain conditions: preventative health requirements, nutrition supplements, enrollment in school and monitoring. A systematic review found

[1]While we continue using the expression 'SES' as a comprehensive proxy, we emphasise that the precise choice of SES (i.e. income, education, occupation, or others) may make a great difference both in the assessment of the extent of socio-economic inequalities in health (Wagstaff and Watanabe, 2003) as well as for policy implications (Deaton, 2002).

[2]Transitory fluctuations in income may only have a small influence on health (Contoyannis *et al.*, 2004), compared with the strong influence of long term income (Case *et al.*, 2001).

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CCT programmes effective in improving school enrollment, nutritional and anthropometric outcomes, and preventative behaviour (Lagarde *et al.*, 2007). Yet important questions remain about their effect on other health indicators, their outcomes and costs if implemented in other settings (such as nationwide, or in sub-Saharan Africa), or about the relative importance of the various components of the programmes (Popay, 2008).

One response might be to repeat the study in different settings or on a larger scale (Banerjee, 2008) but this is often not feasible. Consequently, despite the few examples of successful evaluations described above, there is in general very little direct evidence on the effect of social policies on improving health and health inequalities, and the evaluations that have been conducted are difficult to generalise.[3]

Economic modelling may offer a framework to begin to address some of these issues. Bourguignon *et al.* (2002) developed a microsimulation model of households' choice between school attendance, leisure and work for their children based on a microeconomic model of demand for health over time (Becker, 1965) and was parameterized using household survey data from Brazil. The model was used to simulate outcomes in several scenarios. First, it was used to help policy makers estimate the average outcome if the programme were scaled up to the whole eligible Brazilian population. Second, the model estimated the impact of the policy on different socio-economic groups. Third, it assisted in the evaluation of alternative programme designs, such as changing the means test identifying eligible families, the size of the cash transfer or the behaviour conditions. Microsimulation is therefore potentially a very powerful tool for SDH policy development, offering a complement to empirical data and allowing policy makers to explore rapidly many different scenarios.

Advanced microsimulation techniques are nevertheless highly complex, and require considerable investment in analytic capacity. Policies that tackle SDH can be on a large scale – for example, the CCT programme in Mexico covers 40% of rural families (Gertler, 2004). It is almost certainly infeasible to model all the interactions with the rest of the economy at an individual level. Computable general equilibrium models have been used to predict the impact on income distribution of policies such as debt relief and investment in education (Agenor *et al.*, 2003). In principle, this approach might be extended to estimate the impact on health and health inequalities, including at least some of the potential feedback effects. For example, a policy that reduces prevalence of a widespread condition with high morbidity may improve labour productivity and supply in other sectors (Smith *et al.*, 2005), including reduced demand and increased labour supply in the health-care sector (Van Zon and Muysken, 2005).

3. PRIORITISATION

The three broad policy recommendations of the CSDH are broken down into a list of some 50 policy measures (CSDH, 2008, Annex A). This is appropriate for a report that has strong inspirational objectives, but it raises the question of how, in a world of limited resources, decision-makers should go about deciding what out of those should be assigned greatest priority. Prioritisation will obviously depend on what the overarching objective is – to the authors of the report this is the achievement of 'health equity', operationalised to some degree in the report (CSDH, 2008, p. 197).

Despite the growing interest among health economists in the issue of health inequalities, economists would tend to opt for a broader objective that includes at least the average health achievement (in the extra-welfarist view of the world) or even more broadly 'welfare' (in the welfarist view).

The conventional economic approach to evaluation is to advocate cost-benefit analysis (CBA). However, measuring individuals' willingness to pay for policy outcomes is often complex, and results are not easily transferred to the valuation of another programme (Diener *et al.*, 1998). Furthermore, as

[3]For examples of systematic reviews of social policies on health in high-income countries, see Bambra *et al.* (2008) (looking at education, housing, and employment) or Ludbrook and Porter (2004) (income support and anti-poverty measures).

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willingness to pay increases with income, many researchers and policy makers fear that application of CBA could give priority to initiatives that benefit the rich (Claxton *et al.*, 2007).

It is because of such difficulties that health economists have usually resorted to cost-effectiveness analysis, under which aggregate health outcome is maximised subject to a budget constraint. In principle, equity concerns can be incorporated into the cost-effectiveness approach (Hurley, 2000; Hauck *et al.*, 2004; Dolan *et al.*, 2005), for example by estimating a social welfare function that takes account of societal preferences for sacrificing aggregate gains in health in favour of greater overall equality in health or for greater weight to be given to the health of certain groups. Using this approach, Dolan *et al.* (2008) found a strong willingness to prioritise interventions that improve health in groups with lower than average life expectancy, but concluded that estimating preferences for giving greater weight to the health of certain social classes *per se* was infeasible given the confounding effects of public attitudes to lifestyle choices and other factors.

Cost-effectiveness analysis has been widely accepted as a normative framework for priority setting within the health-care sector. However, given the cross-cutting nature of SDH policies, priority setting within an SDH programme may need to incorporate national policy objectives of health, GDP, and human capital development (Anand and Sen, 1994) along with measures of equity or social cohesion, as for example in the EU's Lisbon Strategy (CEC, 2008).

A number of adaptations to the cost-effectiveness framework have been proposed. Cost-effectiveness might be considered one of several criteria (such as, say, risk of catastrophic out-of-pocket expenditure) for adopting a SDH policy, and although always important might not always be decisive (Musgrove, 1999). Priority setting might also need to take an account of political and institutional constraints (Goddard *et al.*, 2006). Claxton *et al.* (2007) develops a framework for evaluating the net benefit of a policy where there are institutional inflexibilities preventing public sector agencies from operating under a common budget and where each agency has a distinct objective. Such constraints might impede implementation if a country wanted to adopt, for example, a reform to increase the responsibility of schools for child development and health along a Swedish model (Choi, 2002). In this case, financial compensation between agencies may be needed.

Any measure of social welfare with more than one attribute is likely to generate complementarities and/or conflicts between different objectives. Health may promote economic growth, acting through, for example, labour productivity, labour supply, or lifetime savings (Bloom *et al.*, 2001; CMH 2001; Sala-í-Martin 2005; CSDH 2008, p. 39), although other variables, particularly demographic changes in the case of low-income countries, have been found to dampen or even reverse the effect (Acemoglu and Johnson, 2007; Ashraf *et al.*, 2008).

Policy focused on reducing inequality by increasing the security of current workers might have undesirable side effects that make it hard to achieve all the stated goals of the Commission simultaneously. One example may be the recommendation for 'full and fair employment and decent work' (CSDH, 2008, p. 76): as a considerable body of labour economics research suggests, unemployment tends to increase, the more 'secure' and well-paid incumbent workers are (Lindbeck and Snower, 2001).

The World Bank Development Report (2008) advises policy makers to prioritise universal health care and education but warns that redistributive and protectionist policies can in some cases restrict movement in search of economic opportunity by workers, goods and capital and slow economic growth. These considerations, taken together with the possibility discussed earlier that the income elasticity of health may be increasing in income (van Ourti *et al.*, 2009) may mean the Commission is overstating the importance of redistribution for the goals of increasing population health and reducing health inequality and/or it may be downplaying the importance of economic growth as a potential solution.

While establishing rational and transparent priorities as part of the SDH agenda is no doubt an enormous task, it is clearly one that the SDH agenda will need to take on more explicitly than it may have done to date.

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4. THE ROLE OF GOVERNMENT IN CHANGING BEHAVIOUR (AND ITS CAUSES)

The WHO Commission generally recommends a strong role for government to implement SDH policies (CSDH, 2008, p. 44). In the prevailing global financial crisis a call for more government action and regulation may be understandable, but from an efficiency perspective any role of government requires additional justification. A government intervention may be justified when resource allocation resulting from the private market produces inefficient outcomes, i.e. a market failure. While market failures are only too well-known to be at the very heart of health care markets (Hurley, 2000) and explain the major government involvement in health care and health insurance, it is not *a priori* clear that there is necessarily a market failure in people's health behaviour outside the health-care context, which is what the CSDH is primarily concerned with. The need for an explicit discussion of such market failures is not commonly discussed in the public health literature, where maximisation of health (or the reduction of health inequalities) may serve as often the sole and sufficient justification. This is in stark contrast to the economic perspective according to which health is an important but by no means the only component of the overall maximand utility. Hence, from an economic perspective people may rationally decide to give up some of their health in exchange for other utility-enhancing choices, in which case there may not exist an efficiency based rationale for government to interfere.

This contrast between public health and economic perspective is probably strongest in the case of so-called lifestyle-related chronic diseases. Some recent work in the economics of prevention has explored in some detail the extent to which at least in principle there may be an efficiency-based rationale for government intervention to interfere with people's health behaviour (Kenkel, 2000; Suhrcke *et al*., 2006). At the risk of oversimplifying, given the present state of knowledge, classical market failures (especially external costs) are far more likely to exist in the context of smoking and alcohol, rather than obesity, and generally there is more of an economic rationale for interventions addressing children and youth than there is for adults. However, recent behavioural economics work that represents a significant departure from the traditional welfare economic perspective has shed light on how individuals may not be acting in their best long-term interest in situations that involve incurring short-term costs in exchange for rather long-term gains, such as 'healthy lifestyle' decisions (Le Grand, 2008). Such 'failures of rationality' might imply a further justification for state intervention, though Sassi and Hurst (2008) suggest in this case preventative interventions should be selectively targeted to avoid penalising more rational consumers.

Obviously, the possibility of market failures has to be balanced against the arguably no smaller risk of government failure. For example, where the capacity of the state is weak, public services may be inefficiently run or captured by self-serving interests. Services might not reach their intended recipients and public expenditure may end up subsidising the rich (Gwatkin *et al*., 2005). In some circumstances, and with adequate governance, market mechanisms might both promote efficiency and provide benefit to the poor. Galiani *et al*. (2005) find that privatisation stimulated investment in water services, with improved access for the poor and reduced child mortality from water-borne disease. The Commission notes that privately run water services cost far more per litre in Nairobi than North America (CSDH, 2008, p. 65), but this does not show that access or pricing would be improved in Kenya under public ownership. Government intervention in SDH might take many forms, including developing appropriately regulated markets. Policies should be evidence-based and consider the consequences for consumers and producers and the effect on their behaviour.

5. CONCLUSIONS

The CSDH offered a passionate exposé of the injustice of the current distribution of health, and the primary importance of reducing socio-economic inequalities. Many economists would sign up to this objective. However, we believe that much more work is needed in understanding and making explicit the

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trade-offs inherent in addressing SDH, designing experiments and interventions, identifying the proper role of government, and prioritising actions. Economic analysis – a feature notably lacking from the otherwise prodigious CSDH effort – may play a relevant role in informing the design, implementation, and evaluation of SDH policies, and we hope that this paper can start the process of creating an agenda for economists to pursue.

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