What can we learn from equity research and interventions?

Equity in health has been defined, in terms to facilitate its assessment and achievement, as the absence of systematic and potentially remediable differences in one or more aspects of health across population groups defined socially, geographically, or demographically (International Society for Equity in Health, 2004). Thus, the key to success in equity research and interventions is to understand those factors that influence the distribution of health in populations.

In a remarkable series of graphs, researchers at the Karolinska Institute (2004) demonstrated the wide disparity in various measures of health among countries with the same level of wealth, as characterised by GDP per capita. Although these graphs show the well-known relationship between country wealth and country health, it is the outliers that provide more useful information than the generalisation. For example, Cuba and Swaziland have the same GDP per capita; the former saves almost 100 more children from dying before age five than the latter. Even at the upper end of country wealth, Sweden and Finland save five more children per thousand than the United States, although they have slightly lower GDP per capita. Such findings could only be a result of differences in policies in the different countries. There is even evidence to support this assertion: countries with high child survival devote a higher percentage of expenditures for health from the government to the poorest 20% of the population versus the richest 20% of the population than comparable countries with the same GDP but poorer child survival (Starfield, unpublished analyses).

Despite a very large literature on "social determinants of health", we understand very little about how to use the information to devise strategies for intervention. This is, in part, a result of the orientation of the research, which focuses almost exclusively on "determinants" that are characteristics of individuals. Even apart from health behaviours (which are clearly individual in nature), social class, housing inadequacy, and food insufficiency are properties describing individuals. "Social epidemiologists" are increasingly recognising the importance of group characteristics (e.g., neighborhood poverty) but, even here, most of the measures are aggregations of individual characteristics to the community level. Largely ignored by the majority of researchers are characteristics that describe the context in which these characteristics are found; that is, the SOCIETAL determinants. A serious search for policy solutions requires an understanding of societal contexts. A cursory review of a convenient sample of major edited books on "social determinants", and published within the most recent four years (Adler, Marmot, McEwen, & Stewart, 1999; Berkman, & Kawachi, 2000; Eckersley, Dixon, & Douglas, 2001; Mackenbach & Bakker, 2002; Marmot & Wilkinson, 1999), reveals that the majority of chapters are focused on describing findings from studies with the individual as the unit of analysis and, at best, from studies that include characteristics derived from aggregating individual characteristics to a community level. Particularly lacking are contributions that deal with policy variables, societal structures, or macroeconomic forces. The Australian and continental European literature does better than the US (or even the UK) literature; in the latter, only about 5% of the writings deal with the influence of policies.

Another shortcoming of social determinants research lies in its conceptualisation. With rare exceptions, there are no determinants of health (or ill health). Even in the case of infectious diseases, exposure to the infectious agent is no guarantee of illness. Taking from the pages of genetics, a more relevant focus would be on explaining why "penetrance", "etiologic heterogeneity", and "pleiotropism" have much broader applicability in pointing to areas of possible intervention. Penetrance relates to the observation that not all exposures lead to ill health. Etiologic heterogeneity signifies that ill health, even of specific types, has a variety of "causes". Pleiotropism indicates that any given set of causes can result in quite different illnesses.

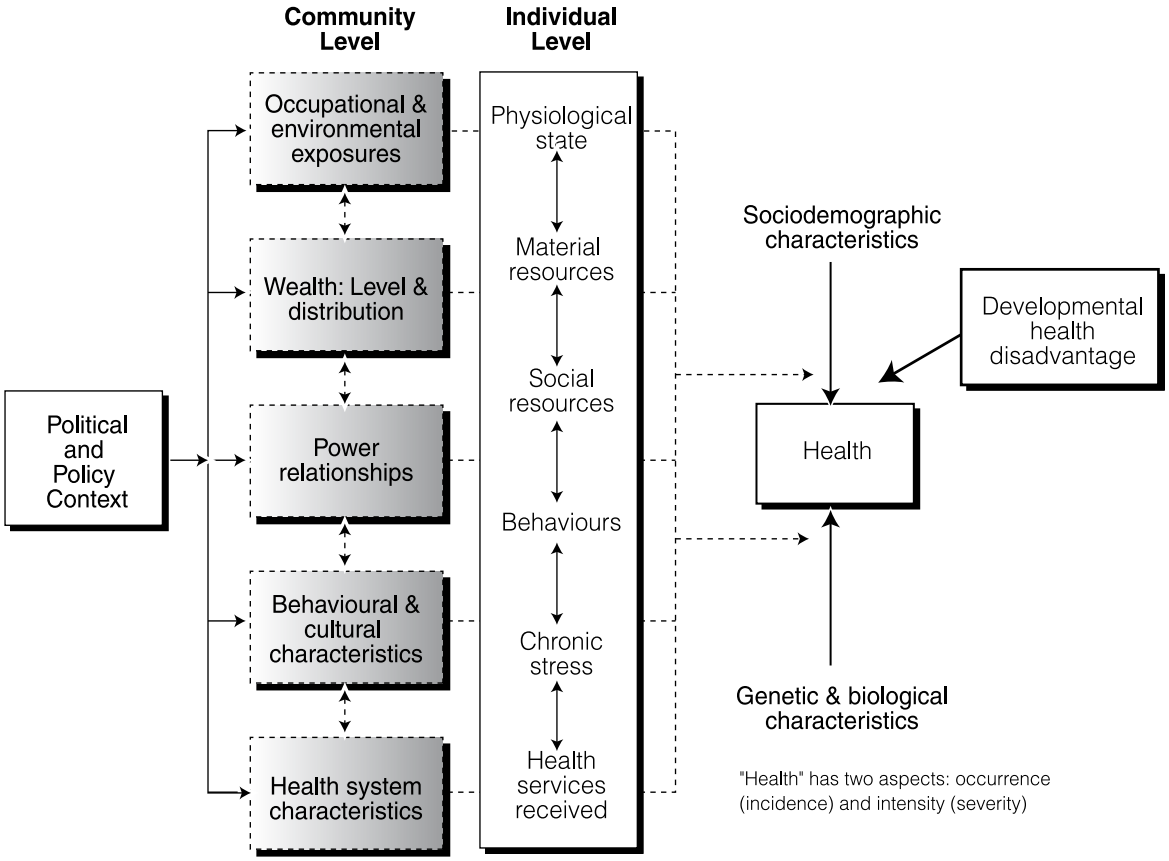
The clue to understanding policy-relevant challenges to attaining greater equity is to understand that the origins of compromised health at the individual level are multiple and, especially, that they interact in ways to enhance or reduce their relative influence (Figure 1). Most important, from a

policy viewpoint, is to realise that more antecedent factors in the societal realm are likely to have more predictable effects on the distribution of health in populations because they operate on individual-level factors as a group rather than singly (Figure 2). Equity research takes social determinants research a large step forward by explicitly considering the societal context that influences the multiplicity of individual and community-level influences.

Taylor-Ide and Taylor (2002) provide a basis for health and economic development through supportive political and economic framework and equitable distribution" (page 97). They conclude, in this era of target-setting, that it is more important to devise processes that can be predicted by evidence to achieve desired ends than to set targets for the ends themselves—in notable contrast to current strategies in countries such as the United States and England.

The role of policy in providing the basis specifically for changes in health services was shown in an international comparison of primary

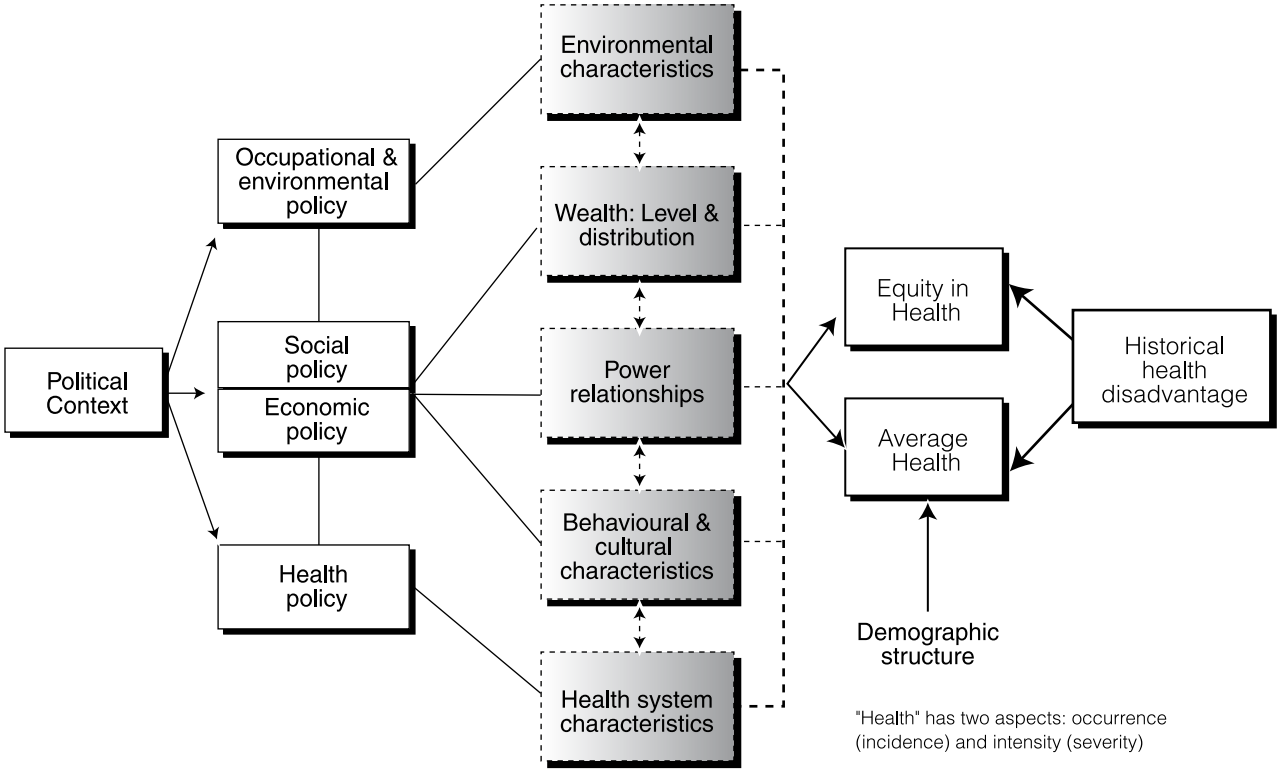
Figure 1: Influences on Health: Individual Level



Shading represents degree to which characteristics are measured at the ecological level (lighter colour) or at the individual level aggregated to community

policies that operate at the community level. Taking the lead from historical experiences in China (Ding Xian), India (Kerala), and Bangladesh (Narangwhal), from community demonstrations in Brazil (Curitiba), India (Jamkhad and Gadchiroli), Kenya (Kakamega), and the US (White Mountain Apache), and from large-scale application in Peru, Tibet, and China's Model Cities, the authors demonstrate the need for forming three-way partnerships among community members, officials, and experts; basing action on locally specific data; and using a community work plan to change collective behaviour, emphasising that "successful social development requires a care practice in 13 industrialised countries. Countries with strong national policies conducive to primary care had much stronger scores on primary care practice and, on average, better health outcomes (Starfield & Shi, 2002). In particular, the national policies most related to better population health were strategies to foster the equitable distribution of health services resources; guarantee of financial access through government accountability; and low or no co-payments for primary care services, reinforcing the suggestion that it is probably not possible to change population health status without strong national support.

Approaches to reducing inequities in health often



Longer dashed lines indicate the existence of pathways through individual level characteristics that most proximally influence health

Shading represents degree to which characteristics are measured at the ecological level (lighter colour) or at the individual level aggregated to community

founder because of disagreements about where the focus of activities should be. Those emphasising social determinants generally assume that efforts should start by attacking the social determinants themselves: poverty, medical care for the "major killers", improving transport to public services, making environments safer, and dealing with the effects of social exclusion (Acheson, 1998). Although unarguably laudable goals, it is not clear that efforts focused on changing life circumstances, individual by individual, are the most efficient strategy. It is difficult to argue against the proposition that opportunities for health should be equitably distributed (Sen, 1999); the proposition that wealth or material resources should be distributed equitably is far more contentious. There is a strong evidence base which indicates that certain health services reforms are associated with improved health. There are far fewer demonstrations of the utility of other societal reforms (apart from pubic health efforts) in modern times. Szreter (2004) points out, in fact, that reform of working conditions had more to do with the perceived needs of industrialists than with their interest in improving the health or wellbeing of workers.

Fortunately, there is evidence of the benefit of reform in health services, when that reform is designed to change practices rather than to increase exposure to existing ones. In the United States as well as New Zealand, development of direct, primary care-oriented services in the form of community health centres achieves much more in the way of improved health and equity in its distribution than does expansion of financial access to existing services (Crampton et al., 2004; Starfield, 2003). This is the case in the industrialised country with the most economic and health inequity (the United States) as well as in developing countries. In almost all (save the United States) industrialised countries, access to and use of primary health services is distributed equitably in the population, at least in the sense of horizontal equity (equal use for equal need), if not always in vertical equity (greater use for greater need). The same is not the case for specialty services, which remain inequitably distributed—although

to varying degrees—in different countries (van Doorslaer, Koolman, & Jones, 2004). Thus, primary care is demonstrably more equitable than specialty care. Moreover, primary care is less costly than specialty care (Starfield & Shi, 2002), thus making possible the release of resources to meet additional population health needs. In developing countries, the same is the case. In studying seven African countries, Castro-Leal, Dayton, Demery, and Mehra (2000) found that the most advantaged 20% of the population receive more than double the percentage of public expenditures on health than the most disadvantaged (31% versus 12%), but for public expenditures on primary care, the poor-rich distribution is much lower (32% versus 15%).

Thus, from equity research, we can conclude that:

- To devise strategies for intervention, it is necessary to consider the relative impact of various policies that influence specific practices in different sectors, particularly but not limited to the health sector.
- Evaluation of interventions to improve equity can provide information on the relative impact of political and societal strategies.
- Political and societal strategies are more productive than approaches at the individual level.
- Political support is necessary for local changes in practice.
- Local change requires community commitment and involvement.
- A population approach to primary care will facilitate better practice of primary care, with consequent improvements in health.
- Appropriate health systems changes will improve equity overall, through empowering people as well as through the indirect effect of encouraging intersectoral reform as a by-product of efforts to improve health.

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