The Role of Employment Relations in Reducing Health Inequalities

BEYOND ROSE'S STRATEGIES: A TYPOLOGY OF SCENARIOS OF POLICY IMPACT ON POPULATION HEALTH AND HEALTH INEQUALITIES

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There is growing interest and debate in the area of policy strategies to tackle health inequalities, as well as the impact of health policies and non-health-sector policies on the health of populations. Geoffrey Rose's milestone idea of a population strategy to "shift the curve" has provided key insights for both research and policy on social determinants of health. However, changes that occur both in the overall *shift* and in the *shape* of the curve (i.e., in inequality) should also be considered. This article presents a classification of policies and interventions based on all possible outcome scenarios of changes in population health and health inequalities, with examples of real policies.

In the current decade, we have witnessed a surge in debate on policy strategies to tackle health inequalities (1, 2), including attempts to broaden the understanding of the interventions available and their potential effectiveness (3–5) Recently, the report *Closing the Gap in a Generation*, by the World Health Organization's Commission on Social Determinants of Health, gathered evidence on what can be done to promote health equity at a global level (6; summarized in 7). Coinciding with this was the initiation of political plans and interest in Brazil, Canada, England, and other countries. Brazil, for instance, launched a National Commission on Social Determinants of Health in March 2006; Canada set up the Canadian Reference Group to make political progress in advancing the agenda of social determinants of health; and England established a task force to review

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the most effective strategies, policies, and interventions to address the social determinants of health inequalities from 2010 (8, 9). In the future, more countries will most likely engage politically by implementing policies and programs that both improve population health and reduce health inequalities (8). Additionally, there has been growing interest in evidence-based health policy, broadening the scope of what constitutes evidence, making judgments on a fitness-for-purpose basis to adapt interventions to the contextual features of broader policy environments (9, 10).

Many of the ideas developed by Geoffrey Rose (11) have been a milestone in the debate on social determinants of health inequalities, providing multiple key insights for both research and policy for many years. Rose emphasized, for example, the critical importance of the social and economic determinants of health, pointing out that "medicine and politics cannot and should not be apart" and that if current knowledge were put into practice, we would be able to "achieve great health gains for all and to reduce our scandalous international and national inequalities in health" (11). Rose also used concepts such as "the causes of the causes" to define the social, including economic and political, determinants of "proximal" or immediate causes of disease, an issue recently brought up again by the WHO Commission on Social Determinants of Health (6). Among the many concepts raised by Rose is the differentiation of two strategies of disease prevention: the so-far dominant "high-risk strategy," which identifies and "treats" individuals with high disease risk or with a concrete risk factor beyond a certain established cut-off, opposed by Rose's "population strategy," which aims to shift the entire population/societal distribution of risk factors or health outcomes (11). Even though this has helped raise debate on the need to act on social determinants, neither of the two strategies focuses specifically on health inequalities.

Rose's population strategy of "shifting the curve" is inequality-blind, because it does not consider the opportunity to change the curve's shape in a way that reduces distances between socioeconomic groups. For example, as Frohlich and Potvin (12) recently made the case, when interventions act on social norms, advantaged social groups take up positive lifestyle changes earlier, resulting in increased inequality (10). This has been seen in the results of specific population-level policies such as smoking cessation programs (13), and of broader public health efforts to achieve population-wide changes in knowledge and attitudes toward healthy lifestyles (14). Recently, a useful distinction has been established between population-wide prevention strategies based on structural determinants and behavioral determinants. McLaren and colleagues (15) argue that a population-level prevention strategy will not necessarily worsen social inequalities in health, and that the likelihood of its doing so will depend on whether the strategy is more structural in nature (i.e., targets conditions in which certain behaviors occur) or more agentic (i.e., targets behavioral change among individuals). We agree with the concern about what strategies targeted to "vulnerable" population pose in practical terms (e.g., the term "vulnerable" itself already

suggests stigmatization by focusing the problem on an internal feature of the population that makes it prone to disease).

The effects of Rose's policies have to be considered in terms of both their global population impact and their effect on health inequalities. In other words, using the image of Rose's population curve, we need to consider the changes that occur both in the overall *shift* and in the *shape* of the curve. Until now, different policies using Rose's preventive strategies have not been analyzed with respect to their effects on reducing health inequalities.

In this article we present a classification of policies and interventions based on all possible outcome scenarios of change in population health and health inequalities, attempting to give examples of real policies for each scenario. Both health and social policies, voluntarily or involuntarily affecting population health, are included.

THE IMPACT OF POLICY ON POPULATION HEALTH AND HEALTH INEQUALITIES: A TYPOLOGY OF SCENARIOS

Changes in population health can be described in eight scenarios, as shown in Figure 1. These scenarios consider changes—better (B), equal (E), or worse (W)—in both the overall level of population health (P; shift of the curve) and inequality in the population with regard to health (I; shape of the curve). For the sake of simplifying our discussion, we use the following three assumptions: the risk factor or health problem represented by the curve follows a population normal distribution; a shift of the population health curve to the left implies a reduction in the health problem, or better health, and vice versa for a shift to the right; and a reduction in the standard deviation (i.e., a narrower curve) implies smaller inequalities among socioeconomic groups, and vice versa for an increased standard deviation (broader curve).

The first four scenarios (a to d) show negative intervention effects. The fifth scenario (e) is perhaps more controversial, but quite common. The sixth (f) and seventh (g) show overall positive outcomes, since results are either better or equal at the overall population level or in terms of inequalities; however, results may not be free of controversy. The last scenario (h) represents the ideal situation of positive effects on both health and health equity.

Scenario (a): P = Worse, I = Worse. In the first scenario (a), both overall population health and inequalities worsen. An example is the recent reduction in alcohol prices in Finland, which resulted in an increased alcohol-related mortality, particularly among the less privileged social groups (16). Another example is the mortality crisis that took place in countries of the former Soviet Union following dismantlement of the socioeconomic system, with some benefits for the more privileged, but declines in overall life expectancy and increasing inequalities (17).

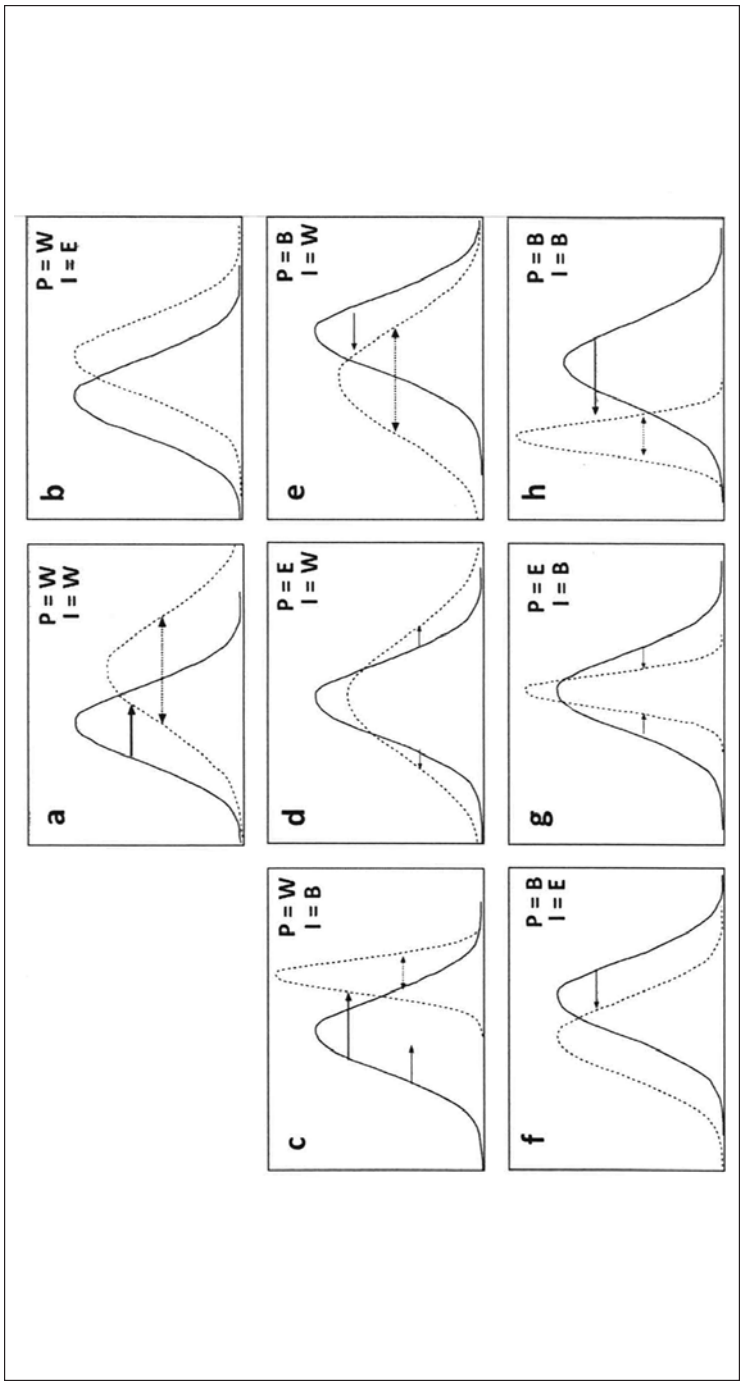

Figure 1. Eight scenarios describing changes in population health, P, overall level of population health, with change represented by shifts in the curve; I, inequality in population with respect to health, with change represented by narrowing or widening of the curve; B, better, E equal; W, worse.

Scenario (b): P = Worse, I = Equal. The second scenario (b) shows stable inequalities but worse overall health of the population. An example could be the policy of promoting private vehicle ownership in China, which has increased overall pollution, with important implications for the population's health but not necessarily larger environmental health inequalities (18)—for which, nevertheless, there is recent evidence (19). Another example is the complete destruction of a nation's public health infrastructure, such as during the Iraq Wars, which affects the whole population (20, 21).

Scenario (c): P = Worse, I = Better. In the case of scenario (c), health inequalities are reduced but overall population health is worse. An example could be the massive food crisis in Zimbabwe that put the majority of people on the margins of survival, with just a much-reduced elite able to escape (22).

Scenario (d): P = Equal, I = Worse. Scenario (d) shows a stable population health level overall, but larger inequalities. An example is found in health care policy with any movement toward privatization or more co-pay for health services, where the affluent get more timely and higher quality access to health care, but those most in need lose access or have reduced access to care (2). This scenario also includes any policy that has the effect of shifting resources from satisfying the needs of the less privileged or working class to satisfying those of professionals and elites.

Scenario (e): P = Better, I = Worse. Scenario (e) is the case described by Frohlich and Potvin (12), where an improvement in overall health is obtained at the expense of widening inequalities. An example is the historical effects of anti-smoking campaigns, in which there is an overall improvement in the population health, but mostly for the better-off. In the United Kingdom, smoking prevalence has declined sharply in the past few decades, but policies associated with this overall improvement have failed to reduce the socioeconomic differentials in smoking. Instead, the gap in smoking prevalence among socioeconomic groups has widened (23). The effectiveness of smoking cessation services, or restrictions on smoking in workplaces and in public spaces, has been found to be more favorable for people with higher incomes or higher occupational grade (24).

Scenario (f): P = Better, I = Equal. In scenario (f), there is an improvement in overall population health but no change in health inequalities. This should be the case for universal policies such as legislation that drives a change in adverse exposures in all sectors of the population. Real-life examples, however, show contrasting results: the mandatory use of seatbelts in the United States reduced racial inequalities in seatbelt use (25), but U.S. policy on folic acid fortification of cereal grains widened income-related inequalities in the distribution of folate status (26).

Scenario (g): P = Equal, I = Better. Scenario (g) portrays a complex picture in which health inequalities are reduced but overall population health remains the same in such a way that for social groups with better health outcomes, the situation worsens. This scenario contrasts with the so-called "leveling up" approach, which argues that inequalities must be tackled by improving health levels for less privileged groups without damaging the situation of the better-off (27), and therefore that a "leveling down" approach is not equitable under any circumstances (5). In spite of our general theoretical agreement with the "leveling up" approach, when dealing with key social determinants closely linked to health inequalities, this principle might not always be followed. Thus, in a context of usually limited economic resources—in low-income countries, for instance—mobilizing resources for the worst-off may imply a trade-off for the most privileged. Some examples could be income redistribution policies through progressive taxation, or shifting the focus of policies such as employment training from those with already high skills and education toward the less-skilled working class. In both cases, though, the health benefits resulting from increases in income or training at the lower levels of the scale are expected to be greater than the potential health loss resulting from marginal decreases for the more privileged groups (28).

Scenario (h): P = Better, I = Better. Policies with the best expected positive impact are represented by the last, ideal scenario (h), with the co-occurrence of better overall population health and reduced health inequalities. This follows the idea that population health policies should have the dual purpose of promoting health gains in the population as a whole and reducing health inequalities (27). An example is the establishment of universal health care and reduction of private care for the rich, in a country where the great majority of the population has lacked access to health care(29). Another example is a universal smoking cessation program with a priority focus on disadvantaged areas (30).

FINAL REMARKS

Using Rose's preventive strategies and population distribution curves as a starting point, this article examines the possible scenarios of policy impact on population health and health inequalities resulting from policies with intended or unintended health consequences, and includes examples of real or potential policies. In our hypothetical scenarios, we point to structural determinants such as those that are more likely to produce the effect envisioned by Rose (15). For some theoretically possible scenarios, real-life historical examples were more difficult to find, particularly scenarios (c) and (g); in a context of stable or worsening population health, increased equality—the less privileged having relatively improved health outcomes—seems to be rare. The concern or policy option for equity seems to arise only when improvements in overall population health are being achieved; or,

conversely, a reduction in inequalities does not necessarily imply or accompany an increase in overall health standards. On the contrary, and unfortunately, plenty of examples would be available for scenario (e), showing the main pitfall of an equity-blind population health strategy: the better-off take up the benefits to a greater extent (or at least faster) than less privileged groups. We encourage readers and colleagues to enrich this discussion by presenting additional examples for these and other scenarios.

Of course, not all public health risk factors and population health problems may be represented by Rose's normal distribution curve; and an increase or decrease in variability, or standard deviation, does not necessarily correspond to an increase or decrease in social inequalities. Nevertheless, these scenarios should be viewed as "heuristic tools" to interpret the potential impact of social and public health policy interventions. This initial assessment opens up a novel, simple, and useful approach to understanding how different policies may affect, in different ways at the same time, both population health and health inequalities. The approach might serve as a basis not only for policy evaluations ex-post, but also for prospective evaluations of potential effects, such as Health Impact Assessment, which could include qualitative presumptions and quantitative simulations of changes in the "shift and shape" of a health outcome or determinant.

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