

Evaluating Equity in Health Promotion

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The establishment in March 2005 by WHO of an International Commission on the Social Determinants of Health with the goal “(of supporting) countries in placing health equity as a shared goal” (WHO, 2006) constituted a global recognition of the existence of health inequalities and of the necessity for governments to take action to address the social determinants of such health inequalities. Indeed, during the past decade several countries have started to make the reduction of health inequalities an explicit goal of their health and public health policies. Four national health policy orientation documents from four leading western countries formally identified both improving the health and quality of life of the citizens and reducing health inequalities as overarching public health goals. Those documents are the “Integrated Pan Canadian Healthy Living Strategy” (Secretariat for the Healthy Living Network, 2005), the Swedish Health on Equal Terms Public Health Policy (Hogstedt, Lundgren, Moberg, Pettersson, & Ågren, 2004), “Tackling Health Inequalities: A Program for Action” in the UK (Department of Health, 2003), and “Healthy People 2010” in the US (U.S. Department of Health and Human Services, 2000)*. These key documents stand at the forefront of the global preoccupation with health inequalities as a major population health challenge, recognizing that policies and programs that improve overall population health may also lead to increasing health disparities (Health Disparities Task Group of the Federal/Provincial/Territorial Advisory Committee on Population Health and Health Security, 2005).

Less well known, however, is the pioneering work of the early health promotion thinkers who sought recognition of health inequalities as a critical public health issue. Not long after the publication of the Black Report (Townsend & Davidson, 1982), which British Conservative Government of Margaret Thatcher shelved and disregarded (Macintyre, 1997), the task force that was put together by the WHO-EURO office clearly identified health inequalities as a core issue

for health promotion (WHO-EURO, 1984). Because discussions of the Charter often reduce this crucial document to a list of strategies for action, the commitments and values that are also part of the Charter are usually overlooked. It may be helpful to remind readers that in its final formulation the Charter stipulates that participants in the conference committed themselves “to respond to the health gap within and between societies and to tackle the inequities in health produced by the rules and practices of these societies” (WHO, 1986). From the outset, health inequality has been an integral part of health promotion rhetoric.

Consequently, it is somewhat surprising that twenty years later, the field of health promotion mostly uses criteria of effectiveness and efficacy when attempting to assign values to its achievements. Major health promotion evaluation synthesis endeavours have gathered and synthesized evidence primarily on health promotion effectiveness to improve overall health, seldom on its efficacy and efficiency to do so, and never to our knowledge on its capacity to reduce health inequalities and inequity (IUHPE, 1999; Zaza, Briss, & Harris, 2005). A case in point is the report for which this chapter is being written. The IUHPE Global Program on Health Promotion Effectiveness pursues the “aims to raise standards of health promoting policy-making and practice worldwide by: reviewing evidence of effectiveness in terms of political, economic, social and health impact; translating evidence to policy makers, teachers, practitioners, researchers; stimulating debate of the nature of evidence of effectiveness.” (IUHPE, http://www.nyu.edu/cgi-bin/cgiwrap/gjh210/iuhpe/dbsort.cgi?db=iuhpe&uid=default&view_records=1&ID=projects_project2&Language=English) Nowhere is it mentioned in the official program documentation that evidence on the effectiveness of health promotion to reduce health inequalities will also be gathered and analysed. In all fairness, we should mention that in the third edition (2001) of

Tones and Tilford's initial "Health Education: Effectiveness and Efficiency"(1990), the authors have added in the title, "equity" as a value for health promotion. However, in his review of this book, Mittelmark (2002) rightly lamented that one of the book's major disappointments is its failure to give equity issues the same in-depth treatment that it accords the values of effectiveness and efficiency. In this regard, the field of health promotion evaluation does not differ from that of program evaluation in which equity is never discussed as a criterion for program evaluation.

As a critique of all of those efforts devoted to building a case for the effectiveness and efficiency of health promotion, this chapter proposes that the field re-examine the value base used for judging its impact. We argue that the question of which goal health promotion is (or should be) effectively contributing to must be addressed openly and explicitly. Increased health inequalities may be an unintended result of health promotion policies and programs that are effective in increasing population health. Unless there is a deliberate intention to address health inequalities and to build up evaluations that purposefully use equity as a value criterion, the field of health promotion may go astray regarding its underlying commitments to equity in health. With the aim of steering the field of health promotion evaluation toward broader reliance on equity as a value criterion, this paper discusses and illustrates how issues of equity can be built into evaluation studies. As a first step, we present distinctions between notions of effectiveness, inequality and equity proposing that the latter is essentially a value judgment about the fairness of observed inequalities. We then review indicators of inequalities that can be used in equity evaluations of health promotion.

EQUITY AND DISTRIBUTIVE JUSTICE

Effectiveness* is usually defined as a program's ability to produce effects that correspond to the objectives that planners set beforehand (Mathison, 2004). Some authors make a distinction between efficacy and *effectiveness*. The former refers to the establishment of program effects in the conditions controlled in order to maximize the results' internal validity. Effectiveness refers to efficacy as tested in the real world in order to emphasize the external validity of the conclusions (Glasgow, Lichtenstein, & Marcus, 2003). Efficiency, in the realm of program evaluation is understood as the relationship between the effects produced and the resources used to this end. While the definitions of effectiveness and efficiency are fairly straightforward, the exercise of defining equity is less obvious given the polysemic nature of this concept.

Equity is a concept related to that of social justice (Braveman & Gruskin, 2003; Wagstaff & Van Doorsaler, 1993). When the principles of social justice are not applied in a society, inequalities and fractures along the axes of social stratification are created. Disparities in health status across social groups are among the key consequences of these justice deficits. In order for these differences or inequalities to be understood as an injustice that must be remedied, the notion of equity must be invoked and a value judgement made.

However, such a judgment is often ambiguous. A number of inequalities in health status are perceived as "natural" and caused by fate. In such cases, the judgement is "objective" and is based on the observation of facts. Alternatively, deeming certain inequalities to be inequitable implies a "subjective" value judgment in which the principles of distributive justice are used to confirm that the health inequalities observed stem from a complex process of social inequalities. The situation is further complicated because the outcome of the judgment exercise can differ according to the notion of distributive justice adopted. Indeed, there are several distribution

theories and models to attain the ideal of social justice and equity and to judge what is fair in a society (Krasnik, 1996; Mooney, 1987; Olsen, 1997). Table 1 indicates the most frequently cited distributive justice models in relation to health systems and their definitions.

Insert Table 1

Effectiveness in health promotion and distributive justice

Neglecting equity issues in health policies is a consequence of the predominance of libertarian theories (Gilson, 1998). However, public health in general and research on efficacy in health promotion in particular are often rooted in the classical utilitarian model. Thinkers faithful to this model are not interested in the distribution of utilities but in overall utility (Gilson, Kalyalya, Kuchler, Lake, Organa et al., 2000). These utilitarian values underpin arguments for the use of the cost-effectiveness ratio criteria to select interventions. Indeed, this ratio seeks to maximize the overall benefits stemming from an intervention regardless of their distribution (Ubel, DeKay, Baron, & Asch, 1996). While this model has been criticised (Farmer & Castro, 2004), public health project managers continue to pursue utilitarian values (de Savigny, Kasale, Mbuya, & Reid, 2004) following the famous 1993 World Bank report “Investing in health”.

This utilitarian vision also appears to underpin several recent or older interventions (IUHPE, 1999; Thurston, Wilson, Felix, MacKean, & Wright, 1998) pursuing effectiveness in health promotion. The proceedings of the symposium devoted to this topic in Paris in late 2003 do not mention the problem of equity (IUHPE, 2004), nor does recent Canadian or African research mention equity or health inequalities (Amuyunzu-Nyamongo, 2005; Hills & Carroll, 2004). Concerning these two regional examples, the analytical frameworks that promoters use to assess effectiveness clearly stipulate that the objective of health promotion interventions is the

enhancement of health, overlooking the principle of a reduction in health inequalities advocated by the Ottawa Charter. More precisely, it must be noted that the Canadian conceptual framework has changed. In its initial form equity appeared as a contextual condition and one of the numerous criteria for potential effectiveness mechanisms, while in the model's latest iteration, the reduction in health inequalities is appended to the utilitarian objective of health improvement (Hills & Carroll, 2004). This example simply reveals the gulf that has yet to be bridged in order for equity to be given better consideration in attempts to demonstrate health promotion programme effectiveness.

Difficulties regarding fair redistribution

Addressing health inequalities and attempting to eliminate them is neither a spontaneous nor a universal process. It varies across societies. One must first acknowledge the plurality of these principles and theories of justice (Culyer, 2001; Dubet, 2006). Then come difficulties associated with the subjective nature of the notion of equity (Ubel, DeKay, Baron, & Asch, 1996). Some authors believe that relying on fair (re)distribution is an ideological objective. Others, like Rawls (2004), are of the opinion that society's resources must be used to enhance the lot of the worst-off. It is inequalities, inevitable in all societies according to the author, but unacceptable, that the principles of justice wish to tackle to achieve greater equity. For Rawls (2004), inequalities thus engender the need to improve the chances of those who have the fewest chances. Unlike equal opportunity rooted in the ideology of meritocracy (Dubet, 2006, Rawls, 2004) advocates instead equitable equal opportunity (p. 93). However, Mooney (1999) criticizes this position since it only takes into account the specific needs of the most disadvantaged individuals and positive discrimination is only directed toward them. Economists regard equity

and particularly vertical equity which consists in applying a different treatment to different people, as imposing the obligation to find a fair solution, not only for the worst-off but for everyone. This vision of justice has practical consequences since acting against poverty and its effects on the worst-off does not solve the problem of health inequalities stemming from belonging to specific social groups. This political focus on poverty instead of health inequalities is not new, as the French case reveals and to a lesser extent, the Quebec case (Ridde, 2004). To adopt a charity and assistance policy does not call into question the foundations of an unjust society which can only be addressed through social justice policies.

Given the diversity of theories of distributive justice, to take into account equity in intervention implementation supposes discussions and prior agreement on the manner in which resources or goods must be distributed to satisfy the specific theory of justice that prevails in the situation. Who decides to channel an intervention toward certain subgroups in the population? Who decides that some practitioners and not others participate in the implementation process? The notion of equity is a reflection of the values of the society in which the interventions are undertaken (Mooney, 2002). Both the political context and the plurality of values influence definitions of equity (Peter, 2001; Popay, Williams, Thomas, & Gatrell, 1998). Therefore, local populations must participate in defining criteria of equity in health (Peter, 2001). Here are five examples of different perspectives on distributive justice: (a) the Anglo-American neo-liberalist tradition of equal opportunities (Labonte, 2004, p.119); (b) the desire among Swedish politicians to avoid sacrificing equity to efficiency (Lindholm, Rosen, & Emmelin, 1998); (c) the rejection in Australia of a policy aimed at maximizing health results if people in poor health must curtail their access to care (Nord, Richardson, Street, Kuhse, & Singer, 1995); (d) the Rawlsian vision of social justice among public health practitioners in Quebec who believe public health should

devote much of its resources to specific subgroups of the population (worst-off, Groups from Aboriginal Descent, Drug addicted) who are considered disadvantaged because of socially created injustices (Massé & Saint-Arnaud, 2003), and (e) the rhetorical precedence of egalitarianism among the Mossi of Burkina Faso (Fiske, 1990; Ridde 2006), who believe like their neighbours the Haoussa in Niger, that in inequality is constitutive of the social order (Raynault, 1990, p.139).

Equity is thus a value that appears to be as difficult and tricky to define as effectiveness is an empty concept that must be fleshed out, along with that of performance or quality. An extreme position would be to qualify as effective for health promotion only those interventions that address the problem of equity and achieve a certain reduction in health inequalities. To this end, health promotion evaluation would have to incorporate criteria of equity and rely on indicators of inequalities. Experiences have shown that health promotion evaluation can measure inequalities and be conducted with criteria of values of equity (Gepkens & Gunning-Schepers, 1996; Mackenbach & Stronks, 2002). In an attempt to systematize the evaluation of equity in health promotion we will examine in the sections that follow how evaluation can provide insights regarding whether and how health promotion contributes to reducing health inequalities. In so doing, we will also review some of the most salient technical issues that have to be dealt with in order to quantify inequality in a distribution and to assign an equity value to those inequalities.

HOW CAN HEALTH PROMOTION DECREASE HEALTH INEQUALITIES AND WHERE SHOULD EVALUATION FOCUS IN ORDER TO DEMONSTRATE THIS CAPACITY?

There is no question that the health sector, including public health, has been, and continues to be, very effective in increasing the overall health in western societies* (Detels &

Breslow, 2002). Despite an already high level, life expectancy is still increasing in Western Europe and in the Americas. However, this overall success masks important variations across various groups. If, on average, everyone seems to have enjoyed health gains, these gains have been distributed differently between segments of the population. Often interventions leading to improvements in average health may have had no effect on inequalities. Furthermore those inequalities could have been widened by policies and programs that had a greater impact on the better-off (Acheson, 1998; Braveman, 2000; Braveman, Krieger, & Lynch, 2000; Gwatkin, Bhuiya, & Victora, 2004; Gwatkin, 2000; Gwatkin, 2005; Starfield, 2006; Wagstaff, 2002).

Smoking is a case in point. In Canada, where the overall prevalence of smoking has been cut by more than half over the past forty years, data show that this habit is now four times more prevalent among people who have not finished secondary school compared with those with a university degree (Choinière, Lafontaine, & Edwards, 2001). In Canada and the US, while people in higher socioeconomic strata are still reducing their tobacco consumption, smoking cessation is stagnating among lower classes (Barbeau, Krieger, & Soobader, 2004; The National Strategy, 2005). Differences observed in the results of health interventions suggest that the latter might contribute to widening the gap in morbidity and mortality between the rich and the poor (G.A. Kaplan, 2001; G.A. Kaplan, Everson, & Lynch, 2000).

A health promotion evaluation rhetoric centered exclusively on values of effectiveness and efficiency for judging interventions without specifying also values of equity can, therefore, inadvertently mask increases in health inequities. We suggest that there are potentially four sources of inequalities and inequities associated with health promotion interventions. Those sources are related to: (a) the planning process; (b) the implementation process; (c) the effect of

intervention; and (d) the impact of those effects on the health of the population. Each of these potential sources could be the focus of evaluations that use equity as a criterion.

Evaluating inequalities and inequities associated with the planning process

Examining inequalities potentially resulting from the intervention planning process amounts to conducting a strategic evaluation that examines whether an intervention was decided and designed with a view to reducing disparities between various groups. Unless interventions are explicitly and intentionally designed to address health inequities, they are very unlikely to reduce health inequalities. At best, such interventions contribute to the reproduction of health inequity.

Evaluating inequities related to the planning process requires that the normative basis and values that prevailed throughout planning are examined. This issue is, indeed, directly linked to the public health dilemma of planning interventions targeting the overall population or specific groups. Although both strategies have pros and cons, it is important to remember that Rose's (1992) goal in advocating for a population approach was not to reduce health inequities but to pursue a utilitarian goal of increasing overall population health. As evaluators concerned with equity, our task is to provide information as to whether or not the planning of an intervention fosters the reproduction or alteration of health inequities and inequalities.

As for the construction of the problematic situation, equity-sensitive strategic evaluations would attempt to determine to what extent and how data related to the determinants of health were considered. In most countries, however, there is no complete population data set linking individual health or mortality/morbidity indicators with the social determinants of health. Health planners must either use survey data when available or aggregate census data. Under an equity

perspective, the evaluation of health promotion planning strategy would, therefore, start by questioning whether an initial assessment of areas of inequality regarding a specific health objective was performed. Such an assessment would involve, at the outset, a measurement of health or health determinants. In pursuing the evaluation, it could be asked what constituents of health or health related factors were considered. For health, it is suggested that the full range of aspects of health status itself be considered, not only morbidity and mortality but functional status or disability, suffering, and quality of life (Braveman, 2006; Macinko & Starfield, 2002; Measuring Inequalities in Health Working Group, 2003). For health determinants, this entails considering the many conditions that produce different consequences in different groups of people (Braveman, 2006; Braveman, Egerter, Cubbin, & Marchi, 2004).

Moreover, evaluation could examine whether complexities in the measurement of inequalities have been taken into account. Such complexities concern firstly the fact that health status inequality appears to be sensitive to the type of health measure used. Various measures of morbidity or health each lead to varying conclusions about inequality (Clarke, Gerdtham, Johannesson, Bingefors, & Smith, 2002; Turrell & Mathers, 2001). In addition, inequalities related to different social groups vary whether health measures concern the occurrence or progression of illness (Starfield, 2006). Jo Phelan et al. (2004, in Starfield, 2006) demonstrated that the more preventable the causes of death, the more strongly socioeconomic status is associated with mortality, because prevention is more accessible to those in socially advantaged groups. Also, people at lower levels of income have both more illness and more co-morbidity. Differences in health between social groups can hence at times be greater for indicators of severity than for those of appearance of new cases (Starfield 1992, in Starfield, 2006).

Once proper indicators are identified, measuring them across different social groups or generally across individuals in the population (Murray & Gakidou, 1999) essentially reflects the distinction between “inequity” and “inequality”, respectively (Kawachi, Subramanian, & Almeida-Filho, 2002). The former reflects the assumption that the relevant differences are those between better- and worse-off social groups, selected in light of which groups are known to be more and less advantaged in society (Braveman, 2006), while the latter reflects that the important differences are those between the individuals and the population average.

If the population is stratified into subgroups, evaluation should also take into account interactions between various determinants of health (Reagan & Salsberry, 2005). It should consider whether the population has been stratified into relevant subgroups as well as which particular health outcome was targeted for change (Starfield, 2006). It is proposed that socioeconomic, racial/ethnic, gender, and geographic groups should always be considered as potentially relevant (Braveman, Egerter, Cubbin, & Marchi, 2004). The recent approach to study inequalities in health and health care devised by Braveman et al., (2004) proposed that it is necessary to examine indicators of health separately for each social group, comparing all other social groups with the most-advantaged group (Braveman et al., 2004). Such measures that reveal inequalities between social groups should facilitate the elaboration of interventions which would better target certain subgroups according to the particular health or health determinant improvement objectives.

From the standpoint of the elaboration of interventions, evaluators should identify the type of intervention be it specific or generic, individual or structural that was proposed and the justification for its selection as regards equity considerations. On the one hand, given that morbidity clusters in vulnerable subgroups, planning for overall improvements in equity in

health is likely to require the elaboration of integrated interventions rather than interventions geared to specific manifestations of ill health (such as disease) (Starfield, 2006). On the other hand, it is recognized that structural changes at the population level provide greater improvement and equity than interventions targeted at individual behaviour. The latter interventions are less effective for individuals with limited social resources (Starfield, 2006).

Evaluation of planning could also examine whether life stages were considered. The literature reveals that good health in earlier life stages represents an opportunity for good health in later stages in life (Braveman, 2005; Kawachi, Subramanian, & Almeida-Filho, 2002; Power, Matthews, & Manor, 1998). It also demonstrates that the roots of many types of inequities in health appear in early life (Davey-Smith & Lynch, 2004; Galobardes, Lynch, & Davey Smith, 2004). Evaluation could, therefore, examine if priority is given to effective interventions at younger ages (Starfield, 2006) or to other priority areas justified by an equity perspective.

Evaluating health inequalities and inequities associated with the implementation process

Evaluators interested in inequities associated with intervention implementation examine whether the intervention is reaching vulnerable populations to the same extent that it reaches other segments. To answer this question, we need to monitor the social characteristics of participants, which is rarely done. Indeed, very few published evaluation studies have systematically documented differential intervention coverage across various groups. To the extent that the health care sector reflects the capacity for public health to reach vulnerable populations, there is mounting evidence that traditionally vulnerable populations such as people of low SES and people of Aboriginal descent are under-represented among those who take advantage of preventive health services available through medical care, such as screening and

immunization (Lees, Wortley, & Coughlin, 2005). This is so even in jurisdictions where these services are covered by universal medicare programs (Hagoel, Ore, Neter, Shifroni, & Rennert, 1999; Wain, Morrell, Taylor, Mamoon, & Bodkin, 2001). With specific reference to health promotion, there are indications that participation in health promotion intervention trials is lower among people from deprived areas (Chinn, White, Howel, Harland, & Drinkwater, 2006) Monitoring of program implementation is generally regarded as a secondary and less noble function of evaluation. Furthermore, most discussions on process evaluation focus on the sequence of events that need to take place for the program to produce the intended effect (Scheirer, 1994). Documenting intervention implementation of population programs among specific vulnerable groups poses various sorts of problems. The most obvious methodological problem is to operationally define and assess whether program participants or intervention beneficiaries belong to vulnerable groups. Less obvious but as important is to be able to obtain estimations of group denominators to provide rates of program penetration into those various groups.

Evaluating inequalities and inequities associated with intervention effects

A third source of inequalities and inequities that can be taken into account in health promotion evaluation relates to intervention effects. It requires that evaluators examine whether the intervention effects are the same for all groups in the population. Technically this means testing interaction effects between the intervention, the intended effects and one or more social determinants. Although such a requirement may appear to be easily met, there are some technical difficulties especially in cases where the evaluation studies were not specifically designed to test the hypothesis of differential effects. One such difficulty is the issue of sample size; there are

often not enough people in some of the interaction cells to provide sufficient power to test for interaction effects. First, there are fewer people from vulnerable groups than from the mainstream population so, even if all groups were equally proportionately represented in the program, there would be a numerical imbalance favouring non-vulnerable groups. This imbalance is further aggravated by the above-mentioned coverage deficit of people from vulnerable groups. Another difficulty arises with the requirement for a longitudinal evaluation design, meaning that the same subject units (individuals or aggregated units such as classrooms or neighbourhoods) are tested at baseline and at post test. Indeed, testing for interaction involves that individual unit effects are regressed on other individual characteristics. Longitudinal designs are infrequent in health promotion interventions and community interventions usually involve too few community units to allow for community-level analyses.

To our knowledge, only a few evaluation studies have reported interaction effects showing that people from vulnerable populations gain more from population interventions. One such intervention is water fluoridation. Data show that in jurisdictions where water fluoridation is introduced, children from low SES families experience a greater reduction of dental decay compared with children from higher SES families (Riley, Lennon, & Ellwood, 1999). Indeed, this interaction effect is explained by the fact that higher SES children experience lower rates of dental cavities in situations where water is not fluoridated. However, as most interventions initially reach those of higher socioeconomic status and only later affect the poorer segments of society, there are early increases in morbidity and mortality disparities that must be considered in evaluating interventions (Victora, Vaughan, Barros, Silva, & Tomasi, 2000).

In assessing what works for the reduction of health inequalities, tension arises between absolute and relative measures and their implications for policy and program evaluation (Gilson,

Kalyalya, Kuchler, Lake, Oranga et al., 2000; Macinko & Starfield, 2002; Starfield, 2006; Yip & Berman, 2001). Improvement in equity in health, as measured by decreased absolute differences, may appear as increases in relative differences (Measuring Inequalities in Health Working Group, 2003; Wagstaff, 2002). Thus, the extent to which goals are met depends on how they are stated, that is, as percentages or absolute reductions (Starfield, 2006). The relative difference between any two groups is calculated by dividing the rate of a given indicator in one group by the rate in the other group (rate ratio). The rate difference is obtained by calculating an absolute difference in rates. Expressing inequality in relative terms therefore implies a relation to a benchmark (Alleyne, Castillo-Salgado, Schneider, Loyola, & Vidaurre, 2002). Both relative and absolute measures are meaningful and provide complementary information (Asada, 2005; Braveman, 2003, 2006; Mackenbach & Kunst, 1997; Wagstaff, Van Doorslaer, & Paci, 1991). For some, relative measures constitute the most appropriate method for measuring inequality (Measuring Inequalities in Health Working Group, 2003). For others, it is essential to combine both relative and absolute measures because the meaning of a large relative gap between two groups varies depending on how the absolute difference compare with some minimum adequate level (Braveman, 2003, 2006). Relative measures are most often used as they are more stable and easier to understand. Absolute measures are more useful for decision-makers because they permit a better appraisal of the magnitude of the public health problem (Schneider et al., 2004).

Another measurement classification method is the simple and complex dichotomy. Simple measurements refer to the previously explained rate ratios or rate differences, which involve comparing only two groups, preferably those at the extremes. In order to reflect comparisons among more than two groups, or to address changes in group size over time, or to reflect both absolute and relative differences across social groups, more complex methods may

be used (Braveman, 2006; Macinko & Starfield, 2002; Schneider et al., 2004). Examples of such methods are the population attributable risk (PAR), the slope index of inequality (SII), the relative index of inequality (RII), the concentration curve and index and the index of dissimilarity. Mackenbach and Kunst (in Schneider, 2004) and Braveman (2003) recommend that decision-makers use simple methods, but that investigators confirm the results using more complex ones.

Evaluating inequalities and inequities associated with intervention impacts

Finally differential impact constitutes the fourth potential source of inequities and inequalities associated with health intervention. It is usually assumed that a given effect has the same health impact regardless of the characteristics of individuals. For example, in physical activity promoting interventions, this would amount to assuming that there is no interaction between health, the degree to which an individual is physically active and characteristics that affect this person's vulnerability. There are two reasons to question such an assumption. The first is the multiplicative nature of the interactions between most risk factors coupled with the fact that by definition people in vulnerable populations cumulate a higher number of risk factors. In other words, the more numerous the risk factors one is exposed to, the less predictable is the impact on one's health following the alleviation of one risk factor. The second reason is related to the growing evidence of the effects of contextual characteristics on health. Most of the vulnerable groups live in impoverished neighbourhoods, the characteristics of which may interact with known risk factors. The impact on health of smoking cessation for someone living in a heavily polluted environment might be marginally lower than that for someone not exposed to pollution. In order to rule out differential impact as a source of inequity resulting from a

population intervention, evaluators must design longitudinal studies in which data regarding the entire sequence of events leading from intervention exposure to effect on risk factors to health impact are collected.

Regarding indicators, measurement of impact of socioeconomic inequalities on health “takes into account the actual socioeconomic situation and measures changes in health conditions that are to be expected as a result of potential interventions” (...) Measures of impact are therefore “particularly relevant for decision-making and for public health aimed at achieving equity.” (Alleyne, Castillo-Salgado, Schneider, Loyola, & Vidaurre, 2002, p. 391)

The population attributable risk (PAR) is one of the most widely used indicators of overall impact, which can be both relative and absolute. In simple terms, the PAR is defined as “the (level of) reduction in ill health in a population that could be achieved if all social groups experienced the level observed in the most advantaged group.” (Braveman, 2003, p. 189) This indicator is easy to calculate and interpret (Alleyne, Castillo-Salgado, Schneider, Loyola, & Vidaurre, 2002). Braveman (2003) suggests that although the PAR is categorised as a complex indicator, it remains an intuitive and useful one to present information on equity to policy-makers.

The index of dissimilarity (ID) has also been proposed to measure the magnitude of disparities across diverse groups (Pearcy & Keppel, 2002) and is another example of an impact measure (Schneider et al., 2004). “The ID for a given health indicator sums differences between rates in each subgroup and the overall population rate, expressing the total as a percentage of the overall population rate.” (Braveman, 2006, p179) This method has been criticized because it implies comparing to the population average. This is problematic when important proportions of the population are disadvantaged (Braveman, 2006).

CONCLUSION

The Ottawa Charter for Health Promotion (WHO, 1986) proposed an agenda for action that is much more ambitious than simply improving population health. It forcefully advocated that public health interventions and programs pursue the goal of reducing those health inequalities that are unfair and unjustifiable from a distributive justice perspective. Although the Charter does not identify the principles and models of justice that should be promoted in the name of health, it clearly rejects the utilitarian goal of insuring maximum health for a maximum number of persons if this means that large groups of people are neglected and do not benefit from public health initiatives. Furthermore, the Charter challenges public health practitioners to take action on those social determinants of health that result from social inequities and are at the root of social health inequalities.

Unless evaluation projects clearly and explicitly search for indicators of health promotion effects and impacts on the reduction of health inequalities, they will contribute little to the central agenda of health promotion. Under certain conditions such projects may even contribute to promote interventions that increase health inequalities. Effectiveness is an empty shell and indeed a monograph on health promotion effectiveness begs for someone to ask the critical question: effectiveness for what?

As we have seen, equity is not an easy value to assess and use as a criterion for evaluation. It involves subjective judgements, collective discussions of values and the use of very complex indicators and statistical techniques. True, it is much easier to assess intervention effectiveness in terms of overall improvement in population health indicators than in terms of changes in the distribution of health determinants, health services or health outcomes. In addition, because the inequalities at the root of health inequities result from the ways in which

our societies are organized and from the mostly libertarian ideologies that guide governance, it comes as no surprise that little effort is made to overcome the enormous difficulties that would plague evaluating the equity of health promotion interventions.

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References

- ABSP. (2004). *Plan d'action janvier 2004-décembre 2005*. Ouagadougou: Association burkinabè de santé publique.
- Acheson, D. (1998). *Independent Inquiry into Inequalities in Health Report*: The Stationery Office. London.
- Alleyne, G. A., Castillo-Salgado, C., Schneider, M. C., Loyola, E., & Vidaurre, M. (2002). Overview of social inequalities in health in the Region of the Americas, using various methodological approaches. *Revista Panamericana de Salud Pública/Pan American Journal of Public Health, 12*(6), 388-387.
- Amuyunzu-Nyamongo, M. (2005). *Health Promotion and Education: African Programme on Effectiveness (APE). Working Paper*: IUHPE.
- Asada, Y. (2005). A framework for measuring health inequity. *J Epidemiol Community Health, 59*(8), 700-705.
- Barbeau, E. M., Krieger, N., & Soobader, M. J. (2004). Working class matters: socioeconomic disadvantage, race/ethnicity, gender, and smoking in NHIS 2000. *American Journal of Public Health, 94*(2), 269-278.
- Braveman, P. (2000). Round table discussion. Combining forces against inequity and poverty rather than splitting hairs. *Bulletin of the World Health Organization, 78*(1), 78-79.
- Braveman, P. (2003). Monitoring Equity in Health and Healthcare: A Conceptual Framework. *Journal of Health Population Nutrition, 21*(3), 181-192.
- Braveman, P. (2005). The question is not: "is race or class more important?" *Journal of Epidemiology & Community Health, 59*(12), 1029.
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- Braveman, P. (2006). Health disparities and health equity: concepts and measurement. *Annu Rev Public Health, 27*, 167-194.
- Braveman, P., Egerter, S. A., Cubbin, C., & Marchi, K. S. (2004). An Approach to Studying Social Disparities in Health and Health Care. *Am J Public Health, 94*(12), 2139-2148.
- Braveman, P., & Gruskin, S. (2003). Defining equity in health. *Journal of Epidemiology and Community Health, 57*, 254-258.
- Braveman, P., Krieger, N., & Lynch, J. (2000). Health inequalities and social inequalities in health. Feedback. . *Bulletin of the World Health Organization, 2000, 78*(2):232-3, 78(2), 232-233.
- Chinn, D. J., White, M., Howel, D., Harland, J. O., & Drinkwater, C. K. (2006). Factors associated with non-participation in a physical activity promotion trial. *Public Health, 120*, 309-319.
- Choinière, R., Lafontaine, P., & Edwards, A. C. (2001). Distribution of cardiovascular disease risk factors by socioeconomic status among Canadian adults. . *Can Med Assoc J, 162* (suppl.9), S13-S24.
- Clarke, P. M., Gerdtham, U.-G., Johannesson, M., Binglefors, K., & Smith, L. (2002). On the measurement of relative and absolute income-related health inequality. *Social Science & Medicine, 55*(11), 1923-1928.
- Culyer, A. J. (2001). Equity - some theory and its policy implications. *J Med Ethics, 27*(4), 275-283.
- Davey-Smith, G., & Lynch, J. (2004). Commentary: Social capital, social epidemiology and disease aetiology. *Int. J. Epidemiol., 33*(4), 691-700.

[Insert Running title of <72 characters]

- de Savigny, D., Kasale, H., Mbuya, C., & Reid, G. (2004). *In Focus: Fixing Health Systems*. Ottawa: IDRC.
- Department of Health. (2003). *Tackling health inequalities: a program for action*. London UK: Department of Health
- Detels, R., & Breslow, L. (2002). Current scope and concerns in public health. In R. Detels, J. McEwen, R. Beaglehole & H. Tanaka (Eds.), *Oxford textbook of public health. The scope of Public Health* (Fourth ed., Vol. 1, pp. 3-20). Oxford, UK: Oxford University Press.
- Dubet, F. (2006). *Injustices : l'expérience des inégalités au travail*. Paris: Seuil.
- Farmer, P., & Castro, A. (2004). Pearls of the Antilles? Public Health in Haïti and Cuba. In A. Castro & M. Singer (Eds.), *Unhealthy health policy : a critical anthropological examination* (pp. 3-28). Walnut Creek, Calif. ; Toronto: AltaMira Press.
- Fiske, A. P. (1990). Relativity within Moose culture: Four incommensurable models for social relationships. *Ethos* 18, 180-204.
- Galobardes, B., Lynch, J. W., & Davey Smith, G. (2004). Childhood Socioeconomic Circumstances and Cause-specific Mortality in Adulthood: Systematic Review and Interpretation. *Epidemiol Rev*, 26(1), 7-21.
- Gepkens, A., & Gunning-Schepers, L. J. (1996). Interventions to reduce socioeconomic health differences : a review of the international literature. *European Journal of Public Health*, 6, 218-226.
- Gilson, L. (1998). In defence and pursuit of equity. *Social Science and Medicine*, 47(12), 1891-1896.

[Insert Running title of <72 characters]

- Gilson, L., Kalyalya, D., Kuchler, F., Lake, S., Oranga, H., & Ouendo, M. (2000). The equity impacts of community financing activities in three African countries. *The International Journal of Health Planning and Management*, 15(4), 291-317.
- Gilson, L., Kalyalya, D., Kuchler, F., Lake, S., Organa, H., & Ouendo, M. (2000). The equity impacts of community financing activities in three African countries. *International Journal of Health Planning and Management*, 15, 291-317.
- Glasgow, R. E., Lichtenstein, E., & Marcus, A. C. (2003). Why don't we see more translation of health promotion research to practice? Rethinking the efficacy to effectiveness transition. *Am J Public Health*, 93, 1261-1267.
- Gwatkin, D., Bhuiya, A., & Victora, C. G. (2004). Making health systems more equitable. *The Lancet*, 364(9441), 1273-1280.
- Gwatkin, D. R. (2000). Health inequalities and the health of the poor: what do we know? What can we do? . *Bulletin of the World Health Organization*, 78(1), 3-18.
- Gwatkin, D. R. (2005). How much would poor people gain from faster progress towards the Millennium Development Goals for health? *The Lancet*, 365(9461), 813-817.
- Hagoel, L., Ore, L., Neter, E., Shifroni, G., & Rennert, G. (1999). The gradient in mammography screening behavior: a lifestyle marker. *Social Science and Medicine*, 48, 1281-1290.
- Health Disparities Task Group of the Federal/Provincial/Territorial Advisory Committee on Population Health and Health Security. (2005). *Reducing health disparities – Roles of the health sector: Discussion paper*.
(No. ISBN 0-662-69313-2).
- Hills, M., & Carroll, S. (2004). Health promotion evaluation, realist synthesis and participation. *Ciência & Saúde Coletiva*, 9(3), 530-543.
- [Insert Running title of <72 characters]

- Hogstedt, C., Lundgren, B., Moberg, H., Pettersson, B., & Ågren, G. (2004). *Scandinavian Journal of Public Health*, 32(suppl. 64), 3-64.
- IUHPE. Global Programme on Health Promotion Effectiveness (GPHPE). PROMOTING EFFECTIVE HEALTH PROMOTION [Electronic Version]. Retrieved 8 septembre 2006 from http://www.nyu.edu/cgi-bin/cgiwrap/gjh210/iuhpe/dbsort.cgi?db=iuhpe&uid=default&view_records=1&ID=projects_project2&Language=English.
- IUHPE (Ed.). (1999). *The Evidence of Health Promotion Effectiveness: Shaping Public Health in a new Europe. Part Two*. Brussels - Luxembourg: ECSC-EC-EAEC.
- IUHPE (Ed.). (2004). *Efficacité de la promotion de la santé. Actes du colloque organisé par l'Inpes avec la collaboration de l'UIPES*. Paris: IUHPE.
- Kaplan, G. A. (2001). Economic policy is health policy: Findings from the study of income, socioeconomic status and health. In B. Auerbach & J. Krimgold (Eds.), *Income, socioeconomic status, and health: Exploring the relationships* (pp. 137-149). Washington DC: National Policy Association.
- Kaplan, G. A., Everson, S. A., & Lynch, J. W. (2000). The contribution of social and behavioral research to an understanding of the distribution of disease: A multilevel approach. In B. Smedley & S. Syme (Eds.), *Promoting health. Intervention strategies from social and behavioral research* (pp. 37-80). Washington DC - Institute of Medicine
- Kawachi, I., Subramanian, S. V., & Almeida-Filho, N. (2002). A glossary for health inequalities. *J Epidemiol Community Health*, 56(9), 647-652.
- Krasnik, A. (1996). The concept of equity in health services research. *Scandinavian Journal of Social Medicine*, 24(1), 2-7.
- [Insert Running title of <72 characters]

- Labonte, R. (2004). Social inclusion/exclusion: dancing the dialectic. *Health Promotion International*, 19(1), 115-121.
- Lees, P., Wortley, S., & Coughlin, K. (2005). Comparison of racial/ethnic disparities in adult immunization and cancer screening. *American Journal of Preventive Medicine*, 29, 404-411.
- Lindholm, L., Rosen, M., & Emmelin, M. (1998). How many lives is equity worth? A proposal for equity adjusted years of life saved. *J Epidemiol Community Health*, 52(12), 808-811.
- Macinko, J., & Starfield, B. (2002). Annotated Bibliography on Equity in Health, 1980-2001. *International Journal for Equity in Health* 1(1), 1.
- Macintyre, S. (1997). The Black Report and beyond: what are the issues? *Social Science & Medicine*, 44, 723-745.
- Mackenbach, J. P., & Kunst, A. E. (1997). Measuring the magnitude of socio-economic inequalities in health: An overview of available measures illustrated with two examples from Europe. *Social Science & Medicine*, 44(6), 757-771.
- Mackenbach, J. P., & Stronks, K. (2002). A strategy for tackling health inequalities in the Netherlands. *BMJ*, 325(7371), 1029-1032.
- Massé, R., & Saint-Arnaud, J. (2003). *Éthique et santé publique : enjeux, valeurs et normativité*. [Québec]: Presses de l'Université Laval.
- Mathison, S. (2004). *Encyclopedia of Evaluation*: Sage Publication.
- Measuring Inequalities in Health Working Group. (2003). *Inequalities in Health - Report of the Measuring Inequalities in Health Working Group*
- Mittlemark, M. (2002). Health promotion: Effectiveness, efficiency and equity, 3rd edition. *Health Promotion International*, 17, 376-377.
- [Insert Running title of <72 characters]

Mooney, G. (1987). Qu'est-ce que l'équité en matière de santé. *Rapport trimestriel statistique sanitaire mondial*, 296-303.

Mooney, G. (1999). *Vertical equity in health care resource allocation* (Vol. 3/99). Sydney: Department of public health and community medicine, University of Sydney.

Mooney, G. (2002). Reply to Barbara Starfield UK Health Equity Network,
<http://www.ukhen.org.uk/> Sent: Sun 10/13/2002 9:42 AM.

Murray, C., & Gakidou, E. J. F. (1999). Health inequalities and social group differences: what should we measure? *Bull World Health Organ* 77(7), 537-543.

Nord, E., Richardson, J., Street, A., Kuhse, H., & Singer, P. (1995). Maximizing health benefits vs egalitarianism: an Australian survey of health issues. *Social Science and Medicine*, 41(10), 1429-1437.

Olsen, J. A. (1997). Theories of justice and their implications for priority setting in health care. *Journal of Health Economics*, 16, 625-639.

Pearcy, J. N., & Keppel, K. G. (2002). A summary measure of health disparity. *Public Health Rep*, 117, 273-280.

Peter, F. (2001). Health equity and social justice. *J Appl Philos*, 18(2), 159-170.

Popay, J., Williams, G., Thomas, C., & Gatrell, A. (1998). Theorising inequalities in health : the place of lay knowledge. In M. Bartley, D. Blane & G. D. Smith (Eds.), *The sociology of health inequalities* (pp. 59-83). Oxford: Blackwell Publishers.

Power, C., Matthews, S., & Manor, O. (1998). Inequalities in self-rated health: explanations from different stages of life. *The Lancet*, 351(9108), 1009-1013.

[Insert Running title of <72 characters]

Raynault, C. (1990). Inégalités économiques et solidarités sociales. Exemples haoussa au Niger.

In D. Fassin & Y. Jaffré (Eds.), *Sociétés, développement et santé* (pp. 136-154). Paris: ELLIPSES.

Reagan, P. B., & Salsberry, P. J. (2005). Race and ethnic differences in determinants of preterm birth in the USA: broadening the social context. *Social Science & Medicine*, 60(10), 2217-2228.

Ridde, V. (2004). Une analyse comparative entre le Canada, le Québec et la France : l'importance des rapports sociaux et politiques eu égard aux déterminants et aux inégalités de la santé. *Recherches Sociographiques*, XLV(2), 343-364; accessible à <http://www.erudit.org/revue/rs/2004/v2045/n2002/index.html>.

Ridde, V. (2006). *Efficacité ou équité ? Les politiques de santé à l'épreuve des inégalités au Burkina Faso*. Paris: L'Harmattan.

Riley, J. C., Lennon, M. A., & Ellwood, R. P. (1999). The effect of water fluoridation and social inequalities on dental caries in 5-year-old children. *International Journal of Epidemiology*, 28, 300-305.

Rose, G. (1992). *The Strategy of Preventive Medicine*. Oxford: Oxford University Press.

Scheirer, M. A. (1994). Designing and using process evaluation. In J. S. Wholey, H. P. Hatry & K. E. Newcomer (Eds.), *Handbook of practical program evaluation* (pp. 40-68). San Francisco: Jossey-Bass.

Schneider, M. C., Castillo-Salgado, C., Bacallao, J., Loyola, E., Mujica, O. J., Vidaurre, M., et al. (2004). Methods for measuring health inequalities (Part 1). *Epidemiological Bulletin PAHO*, 25(4).

[Insert Running title of <72 characters]

- Secretariat for the Healthy Living Network. (2005). The Integrated Pan-Canadian Healthy Living Strategy. Retrieved September 8, 2006, from www.phac-aspc.gc.ca/hl-vs-strat/pdf/hls_e.pdf.
- Starfield, B. (2006). State of the Art in Research on Equity in Health. *Journal of Health Politics Policy and Law*, 31(1), 11-32.
- The National Strategy. (2005). *Moving Forward: The 2005 Progress Report on Tobacco Control*. Retrieved from.
- Thurston, W. E., Wilson, D. R., Felix, R., MacKean, G., & Wright, M.-F. (1998). *A review of the effectiveness of health promotion strategies in Alberta*.
- Tones, K., & Tilford, S. (2001). *Health Promotion: Effectiveness, Efficiency and Equity* (3 ed.). Cheltenham: Nelson Thornes.
- Tones, K., Tilford, S., & Robinson, Y. K. (1990). *Health Education: Effectiveness and Efficiency*. London: Chapman & Hall.
- Townsend, P., & Davidson, N. (1982). *Inequalities in health: The Black Report*. Harmondsworth, UK: Penguin.
- Turrell, G., & Mathers, C. (2001). Socioeconomic inequalities in all-cause and specific-cause mortality in Australia: 1985-1987 and 1995-1997. *Int. J. Epidemiol.*, 30(2), 231-239.
- U.S. Department of Health and Human Services. (2000). *Healthy People 2010: Understanding and Improving Health* (2d ed.). Washington, DC: U.S: Government Printing Office.
- Ubel, P. A., DeKay, M. L., Baron, J., & Asch, D. A. (1996). Cost-effectiveness analysis in a setting of budget constraints--is it equitable? *N Engl J Med*, 334(18), 1174-1177.

[Insert Running title of <72 characters]

- Victora, C. G., Vaughan, J. P., Barros, F. C., Silva, A. C., & Tomasi, E. (2000). Explaining trends in inequities: evidence from Brazilian child health studies. *The Lancet*, 356(9235), 1093-1098.
- Wagstaff, A. (2002). *Inequalities in health in developing countries - swimming against the tide?* : The World Bank-Policy Research Working Paper Series 2795.
- Wagstaff, A., & Van Doorsaler, E. (1993). Equity in the finance and delivery of health care : concepts and definitions. In A. Wagstaff, E. Van Doorsaler & F. Rutten (Eds.), *Equity in the finance and delivery of health care, an international perspective* (pp. 7-19). Oxford, New York, Tokyo: Oxford University Press.
- Wagstaff, A., van Doorslaer, E., & Paci, P. (1991). On the measurement of horizontal inequity in the delivery of health care. *Journal of Health Economics*, 10(2), 169-205.
- Wain, G., Morrell, S., Taylor, R., Mamoon, H., & Bodkin, N. (2001). Variation in cervical cancer screening by region, socio-economic, migrant and indigenous status in women in New South Wales. . *Australian & New Zealand Journal of Obstetrics & Gynaecology*, 41, 320-325.
- WHO-EURO. (1984, 9-13 July). *Health Promotion: Concepts and Principles. A selection of papers presented at the Working Group on Concept and Principles*, Copenhagen.
- WHO. (1986). The Ottawa Charter for Health Promotion. Retrieved September 8, 2006, from www.euro.who.int/AboutWHO/Policy/20010827_2 .
- WHO. (2006). Commission on Social Determinants of Health. Retrieved September 8, 2006, from http://www.who.int/social_determinants/resources/csdh_brochure.pdf

[Insert Running title of <72 characters]

Yip, W., & Berman, P. (2001). Targeted health insurance in a low income country and its impact on access and equity in access: Egypt's school health insurance. *Health Economics, 10*(3), 207-220.

Zaza, S., Briss, P. A., & Harris, K. W. (2005). *The Guide to community preventive services. What works to promote health?* . New York: Oxford university Press.

[Insert Running title of <72 characters]

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Footnotes

P2. Translating the rhetoric of health inequalities into action is often difficult. A close examination of the list of objectives in Healthy People 2010 and the recommendations for action in the Pan Canadian Healthy Living Initiative reveals more immediate preoccupations with improving overall health.

P5. In this chapter, we will not examine the differences between different types of effectiveness (i.e. population-based, use, trial, theoretical and so on), or between technical efficiency (cost efficiency) and allocative efficiency (cost-benefit).

P9. Having to make this distinction about the geographical dimension of public health's progress constitutes in itself a statement of failure on the global health equity issue, that we cannot address here for lack of space.

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Table 1

Most Frequently Cited Distributive Justice Models

Distribution models	Definition
Ownership/libertarian theory	<i>The freedom to own property and use it according to one's choices..</i>
Egalitarian model	<i>All individuals are equal and must be treated in the same manner.</i>
Needs-based model	<i>Care is part of the basic needs that must be satisfied.</i>
Classical utilitarian model	<i>We must ensure a maximum of goods for a maximum number of people, regardless of how those goods are distributed.</i>
Maximin theory	<i>We must ensure an acceptable threshold for those who possess only the minimum.</i>

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