Cochrane Update
Better evidence about wicked issues in tackling health inequities

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The need for better evidence continues to be emphasized by both researchers and users of research. ‘Better evidence for a better world’ was the theme of this year’s Campbell Colloquium for example, a gathering of researchers and policy-makers who aim to systematically build the evidence on the effectiveness of social policies and programs, including those aimed at improving social welfare, reducing crime and improving educational outcomes. This resonates with continuing political interest in making policies more evidence informed. In keeping with this spirit of evidence-based enquiry, it is reasonable to consider what ‘better evidence’ might look like.

What might better evidence look like?

One important way to improve current evidence on health and social outcomes is to consider, and report on, the impact of interventions on health equity. Currently much research on the effects of interventions, which address the social determinants of health is focused on the mean population-level effects and less on the differential effects within populations, such as on differences in effectiveness for those who are disadvantaged. This ‘evidence with a utilitarian bias’ results in insufficient evidence on how to adequately address health inequalities. Primary studies often fail to collect, analyse and present data on differential effects, and even where such data are available, systematic reviews often fail to use it.2,3 ‘Better evidence’, then, means evidence that explores the effects of interventions within different sections of society, and that can be used to tackle inequalities in health. In the absence of this information we may proceed on best guesses and practical experience; however, in both clinical and population-level interventions, we know that current practice and conventional wisdom are often poor guides to what works.4

A recent report from the WHO Commission on Social Determinants of Health Measurement and Evidence Knowledge Network notes that there is no shortage of good ideas on how we might reduce inequalities:

The social determinants of health inequities is truly a field which is extensive in its coverage, diverse in its ways of formulating the problem, full of good ideas, and replete with suggestions as to what might be done to help to improve things, along with various political solutions.4

Despite this, the problem of health inequity remains ‘stubbornly ubiquitous’, and the report notes the need ‘... to begin to marshal evidence on social determinants of health in such
What is wrong with the evidence we have?

It has been suggested that the ability of systematic reviews to inform broader policy and service planning needs has not yet been fully realized; in part because it may be difficult to apply their findings because of missing contextual information. Where this information is available it allows users to better understand the features of the context, which contributed to the outcomes of the program as well as to enable assessment of the local applicability of the findings.

It is therefore important for systematic reviewers to consider how study contexts may impact on the delivery, uptake and effectiveness of interventions. Moving from reviewing impacts to reviewing evidence on context, while still ensuring that the resulting review is usable and readable, is undoubtedly challenging. In the UK, the recent NICE guidance has highlighted some of the key issues: while we need both scientific and other types of evidence about ‘what works’, we also need to know why it works, what might work (and how) in specific circumstances and then need to place this alongside other issues related to context, ethics and theory, to allow users to assess the reviews applicability to local settings; to do this requires evidence from ‘multiple sources, extracted for different purposes and through different methods’.

A recent systematic review of school feeding adopted just this approach, and included randomized and non-randomized studies evaluating the impacts of school feeding differentiated by age, sex, socioeconomic status and baseline nutritional status in order to assess the potential effects on health inequalities. Evidence on the process and implementation of the intervention, and aspects of each study’s history and context were then made the subject of a further separate review, which explored the interactions between context, mechanism and outcome for each individual study. Reviews that incorporate this type of guidance on the interaction between the context and the outcomes may prove particularly helpful to users, as they may then be able to judge the relevance of the findings to their own local setting.

Such reviews may find it particularly helpful to be guided from the outset by a logic model that describes a priori those relationships, and in particular the causal pathways between intervention and outcome. This model provides a schematic ‘description’ of the relationships between intervention and outcomes, which can be helpful in guiding decisions about what evidence to include in the review. For example, the development of a logic model will be undertaken during a proposed review on the effects of slum upgrading that is currently being undertaken by the Cochrane Public Health Review Group. At a minimum, the model will help the review team to think through the potential effects of such development programmes on communities, who they affect, and what the pathways between different types of intervention may be and the subsequent health, and non-health outcomes.

‘Better evidence’ also means more robust evidence. The task of collecting evidence on inequalities is especially difficult and has been described as a ‘wicked issue’—a problem that is complex, difficult to define, with no immediate solution, and one where every wicked problem can be considered to be a symptom of another problem (Box 1). Assembling evidence to reduce health inequalities through social determinants certainly seems to fit this definition. The causes and symptoms are highly interrelated, and the causal pathways complex, passing through many sectors, including housing, transport, crime, health, welfare and education, all of which fall within the purview of the Campbell and Cochrane Collaborations. Better evidence to address this wicked issue therefore will involve synthesizing complex sets of evidence across disciplines and methodological divides, and understanding the process and context of interventions, while using these syntheses to inform real-world decisions.

Recent years have seen considerable progress in improving the public health evidence base, including work on the integration of a wide range of scientific evidence—both qualitative and quantitative—as reflected in the recent update of the Cochrane Handbook, and in the registration of the Cochrane Public Health Group, which focuses on upstream interventions (www.ph.cochrane.org). The Cochrane Health Equity Field and Campbell Equity Methods Group (www.equity.cochrane.org) is also dedicated to facilitating considerations of equity in systematic reviews. At the same time, Cochrane and Campbell reviews have also involved collaborations of interested organizations in developing methods of assessing the distribution of effects. But much remains to be done, and the rapid development and evaluation of such approaches to evidence synthesis is essential—both to help us integrate the evidence we already have, and to
continue to improve the quality and utility of the evidence we produce in future.

**Box 1: Wicked issues**

- There is no definitive formulation of a wicked problem.
- Wicked problems have no stopping rule.
- Solutions to wicked problems are not true-or-false, but better or worse.
- There is no immediate and no ultimate test of a solution to a wicked problem.
- Every solution to a wicked problem is a ‘one-shot operation’ because there is no opportunity to learn by trial-and-error, every attempt counts significantly.
- Wicked problems do not have an enumerable (or an exhaustively describable) set of potential solutions, nor is there a well-described set of permissible operations that may be incorporated into the plan.
- Every wicked problem is essentially unique.
- Every wicked problem can be considered to be a symptom of another problem.
- The existence of a discrepancy representing a wicked problem can be explained in numerous ways. The choice of explanation determines the nature of the problem’s resolution.
- The planner has no right to be wrong (planners are liable for the consequences of the actions they generate).

**New Cochrane protocols and reviews in Issue 2, 2009 of The Cochrane Library**

**Protocols**

Behavioral interventions for increasing the use of condoms in women with HIV.

Collaboration between local health and local government agencies for health improvement (PHRG protocol/review).

Community-based intervention package for preventing maternal morbidity and mortality and improving neonatal outcomes.

Interventions for preventing injuries caused by impaired alertness in individuals who are not sleep deprived.

Interventions for preventing injuries caused by impaired alertness in individuals who are sleep deprived.

Interventions for preventing injuries caused by impaired alertness in individuals with jet lag and shift work disorder.

Psychological and/or educational interventions for reducing alcohol consumption in pregnant women and women planning pregnancy.

Vaccines for preventing anthrax.

Workplace interventions for alcohol and other drug problems.

**Reviews**

Alcohol and drug screening of occupational drivers for preventing injury.

Education of children and adolescents for the prevention of dog bite injuries.

Interventions for preventing falls in older people living in the community.

Workplace interventions for preventing work disability.

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**References**


