Cochrane Update

Cochrane Public Health Review Group update: incorporating research generated outside of the health sector

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Strengthening our focus on the social determinants of health

2008 has been a busy and exciting inaugural year for the Cochrane Public Health Review Group (PHRG). There are now three titles registered (protocol in-development) with this editorial group and several more close to registration. A need for collaborative action to ensure the production of systematic reviews of most relevance to decision-makers, researchers and communities has continued to be the catalyst for our work. In 2009, the work programme of the Cochrane PHRG will be guided in particular by the recommendations emerging from the World Health Organization’s Commission on the Social Determinants of Health. The three principles of action as described in the Commission’s final report include:

• Improve daily living conditions
• Tackle the inequitable distribution of power, money and resources
• Measure and understand the problem and assess the impact of action.1

The Cochrane PHRG can contribute in two ways. First, we can support reviews that aim to address issues relevant to these principles of action, in particular to focus on the effects of interventions to address the broader social determinants of health. Secondly, we can contribute to methods needed to measure and understand public health problems. The reviews in-focus below illustrate methods and challenges for determining the effects of interventions to address social justice issues within both the Cochrane and Campbell Collaborations.

Systematic reviews of policing issues: implications for public health

Two systematic reviews on policing issues have recently been published; one by the Cochrane Collaboration and the other through the Campbell Collaboration. Both of these reviews highlight issues for conducting reviews of complex public health issues. In particular, these two reviews identify issues for reviews of interventions operating outside the ‘health sector’. This has implications for the search strategy, the selection and assessment of outcomes and the comparison of study designs.

Increased police patrols for preventing alcohol-impaired driving


Authors conclusion: Studies examining increased police patrol programmes were generally consistent in reporting beneficial effects on traffic crashes and fatalities, but study quality and reporting were often poor. Methodological limitations included inadequate sample size, dissimilar baseline measures, contamination and inadequate data analysis. Thus, existing evidence, although supportive, does not firmly establish whether increased police patrols, implemented with or without other intervention elements, reduce the adverse consequences of alcohol-impaired driving.
Street-level drug law enforcement


Authors conclusions: Our results reveal that geographically targeted problem-oriented policing interventions, involving cooperative partnerships between police and third parties, tend to be more effective at disrupting street-level drug markets than policing efforts that involve partnerships, but are spread across a community. Yet our results suggest that both problem-oriented policing and community-wide partnerships are more effective at disrupting street-level drug markets than traditional, law enforcement-only interventions, whether they are focused on hotspots or not. Our results suggest that rather than simply increasing police presence or intervention (e.g., arrests) at drug hotspots, street-level drug law enforcement should (1) focus on forging productive partnerships with third parties, (2) target drug hotspots rather than spreading intervention efforts across neighbourhoods and (3) make efforts to alter the underlying criminogenic conditions that exist in places with street-level drug market problems.

Both these reviews illustrate the need to search for studies outside the traditional health and social science databases. This included the use of databases in the areas of criminology and law, politics and government, education and transport. There are a number of challenges in using these databases. Some databases may use limited indexing, hence the authors are reliant on the use of free text words. This can be problematic in an area such as policing where terminology may differ according to geography and context (e.g., political environment). Both reviews demonstrate that some degree of effort went into identifying unpublished and hard to find studies, including hand searching of key journals and conference proceedings, contact with experts and internet searching. A comprehensive understanding of the content area and knowledge of where intervention information is presented is crucial to sourcing this grey literature. This is where a review advisory group of content experts and potential end users of the review is useful from the early planning stages of the review, as strongly advocated by the Cochrane PHRG.

Complex reviews are often challenged by the types of interventions they include and the descriptions (or lack thereof) attached to these interventions. For example, Mazerolle et al.2 identify that their review included community-wide policing, problem-oriented policing or hotspots policing compared with the standard, law enforcement model of policing. In using these categories, the authors acknowledge the variation in the interventions in each of these categories. This presents challenges for the selection of outcome measures that are most likely to represent effectiveness and for identifying potentially important implementation factors. The diversity of the included studies no doubt contributed to both reviews’ being unable to adequately answer the questions they had identified as important for informing public health policy.

These reviews have highlighted the need for high-quality intervention studies to address these important public health questions. They present this argument in the context of significant investment in policing strategies with limited evidence about what works in a range of contexts. Goss et al.3 acknowledge that these studies may be conducted, but are either not evaluated or not presented in the published literature. Data on the cost-effectiveness of these interventions is also essential to inform policy-level debates. The need for high-quality primary research has been discussed by our team in a previous paper published in this journal.4

A number of methodological differences can be identified between these two reviews; these reflect some of the differences in approaches taken not only by Campbell and Cochrane reviewers, but systematic reviewers more broadly. For example, Mazerolle et al.2 refer to their review as ‘meta-analytic’ and use this approach to guide their synthesis of research findings from a range of study designs that use similar outcome measures. In doing so, they compute effect sizes and then compare the studies using odds ratios. This is a different approach to that taken by Goss et al.3 Whilst this review also included a range of study designs (including randomized controlled trials, controlled trials, controlled before–after studies and interrupted time series designs), the effects of interventions were analysed within the study designs. This was an issue of much debate at the recent Cochrane Colloquium, particularly with reference to ongoing work in the area of drug treatments and how this may be applied to other domains including public health.5

Reviews of public health interventions will often, by necessity, involve inclusion of literature generated outside the health sector. Even if published in health-related journals, the primary studies are likely to be reliant on data collected outside traditional health sources. This presents challenges for the conduct of systematic reviews. The two reviews presented in this paper have, however, acknowledged the importance of conducting reviews despite their complexities. Each has taken an alternative approach but present results that will be important in informing public health policy and further research.
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References