Dissemination and implementation research on community-based cancer prevention: a systematic review

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CRD summary
The review objective was to identify and describe studies for the dissemination and implementation of effective interventions for the primary prevention of cancer in community settings. The authors concluded that further research was required. This review was limited by the focus on describing studies without exploring the relative effects of different dissemination and implementation strategies.

Authors' objectives
To identify and evaluate studies of interventions for the dissemination and implementation of effective interventions for the primary prevention of cancer in community settings.

Searching
MEDLINE, CINAHL, EMBASE, PsycINFO and Sociological Abstracts were searched for the period 1980 to mid 2008 for English-language peer-reviewed articles. Reference lists of review papers were checked for relevant studies and experts in the field were asked to review the final list of studies identified from the searches.

Study selection
Studies that evaluated interventions related to the dissemination or implementation in a community setting of interventions for the primary prevention of cancer were eligible for inclusion if the interventions were known to be effective. Topic areas of interest were smoking, healthy diet, physical activity and sun protection. Studies exclusively focused on prenatal or antenatal populations were excluded. Studies of interventions related to environmental tobacco smoke, vitamin supplements and rehabilitation studies were excluded.

Most of the included studies were in USA schools and had children as the target population. Studies mostly investigated dissemination and implementation of programmes, curricula and guidelines. The most common approach used in the studies was an active dissemination and implementation approach with multimodal strategies. Examples of active strategies described were an interactive website, a training workshop, technical assistance, electronic media and a linkage agent. The authors stated that the most commonly mentioned strategy in the studies was some form of training. An example of a passive strategy was provision of a printed report to a government agency.

Two reviewers independently selected studies. Disagreements were resolved using a consensus approach.

Assessment of study quality
Study quality was assessed using an abbreviated version of the US Task Force on Community Preventive Services process. Studies were classified on suitability of study design (greatest, moderate and least) and the quality of execution based on number of threats to validity or limitations (good, fair and limited).

The authors did not state how many reviewers performed quality assessment.

Data extraction
A previously used framework was applied to guide extraction of the most relevant characteristics of the included studies such as the stage of the implementation or dissemination process also known as a mediator (reach, adoption, implementation, maintenance) and moderators of the intervention (intervention characteristics, adopter characteristics and contextual factors). Effect size was not extracted. Intervention effects for each study were categorised as substantial evidence of effectiveness (significant effects for key mediators and outcomes), some evidence of effectiveness (some key mediators and outcomes suggested effectiveness) and little or no evidence of effectiveness (none of the key mediators or outcomes were significant).
The authors did not state how many reviewers extracted data.

**Methods of synthesis**
Summary tables of study characteristics, quality and effectiveness category were constructed and a narrative summary of study characteristics was provided.

**Results of the review**
Twenty-five unique studies were included: four cluster randomised controlled trials (RCTs), two quasi-experimental studies and 19 studies of various observational study designs without a control group. Most studies were classed as having the least suitable study design. Three studies had a good quality of execution (few threats to study validity), 13 were classified as fair and 12 were of limited quality (some studies that targeted more than one preventive behaviour and were counted as two studies).

Twelve of the studies reported outcomes, most commonly process outcomes followed by change in attitudes and behaviour. Measures of implementation, such as the number of lessons delivered, were the most commonly reported type of mediating factor. Contextual factors were the most common type of moderator reported.

Twenty-one studies were classified as having substantial or some evidence of effectiveness and four had little or no evidence of effectiveness.

**Authors’ conclusions**
There was a need for use of uniform terminology, studies that targeted various populations and settings, valid and reliable outcome measures, triangulation with and more practice-based evidence, standardised reporting criteria and use of active and multimodal strategies.

**CRD commentary**
There were explicitly stated inclusion criteria for intervention and population/setting. The outcomes of interest were not stated explicitly. A large proportion of the included studies did not appear to include outcome data. Several relevant sources were searched for studies. Relevant studies may have been missed as unpublished studies and studies not in English were excluded. Appropriate methods were used to reduce error and bias in study selection; it was unclear whether the same approach was used for other review processes.

The broad approach to coding of the data seemed reasonable given the descriptive nature of the review, but it was unclear from the information presented how studies that were classified as not reporting outcomes could then be classified as having substantial or some evidence of effectiveness. The synthesis was focused on describing the characteristics of the included studies in keeping with the study objectives and did not explore the relative effects of different implementation and dissemination strategies.

The authors recommendations for further research seemed appropriate, but the way the review was reported limited its value as a review of effectiveness.

**Implications of the review for practice and research**
Practice: The authors did not state any implications for practice.

Research: See Author’s Conclusions

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