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Achieving 'best practice' in health promotion: improving the fit between research and practice

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Abstract

This paper is based on the proposition that transfer of knowledge between researchers and practitioners concerning effective health promotion interventions is less than optimal. It considers how evidence concerning effectiveness in health promotion is established through research, and how such evidence is applied by practitioners and policy makers in deciding what to do and what to fund when addressing public health problems. From this examination it is concluded that there are too few rewards for researchers which encourage research with potential for widespread application and systematic development of promising interventions to a stage of field dissemination. Alternatively, practitioners often find themselves in the position of tackling a public health problem where evidence of efficacy is either lacking, or has to be considered alongside a desire to respond to expressed community needs, or the need to respond to political imperative. Several different approaches to improving the fit between research and practice are proposed, and they include improved education and training for practitioners, outcomes focussed program planning, and a more structured approach to rewarding research development and dissemination.

Introduction

The body of evidence concerning the effectiveness of health promotion activities has grown steadily over the past two decades. However, difficulties in applying lessons learned from research, together with a failure to make good use of available evidence, are problems which have the potential to stifle progress in achieving public health goals in many countries. The reasons for this failing are complex. They not only concern the way in which resources are made available for health promotion and the ways in which health promotion practitioners develop health interventions, but also the decisions of researchers to pursue research and theory development of dubious practical relevance.

This paper draws upon a selection of literature on health promotion and related topics to identify some of the key issues and potential solutions to promote a better fit between the development of evidence and its application in health promotion. A framework is presented to describe different types of research and practice, and to propose ways of improving the interface between the evidence developed by researchers, and its application by practitioners.

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How is the base of evidence built in health promotion?

Research producing evidence to support the development and widespread use of different health promotion interventions takes many forms. A previous paper by the author presented a model to describe the process that leads from basic research and theory development to intervention development and testing (Nutbeam *et al.*, 1990). Figure 1 describes four basic stages and types of research.

Problem definition: epidemiological and demographic research to investigate the *causal basis*

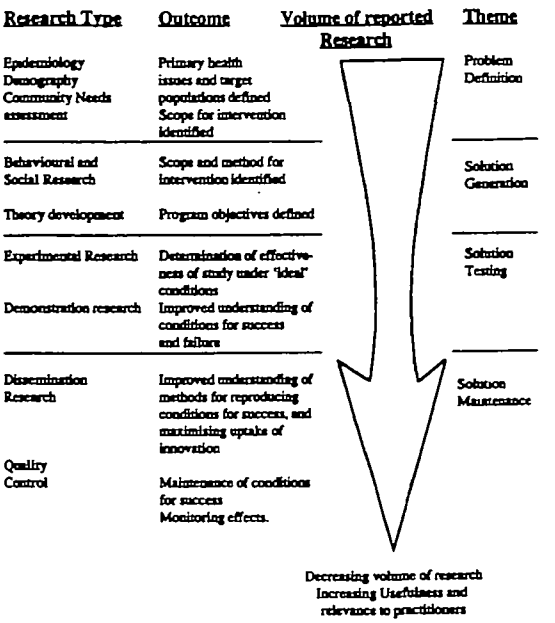

Fig. 1. Sequential model illustrating the relationship between different types of health promotion research and corresponding usefulness and relevance to practitioners.

of health problems and scope for an intervention, and community needs assessment to clarify community priorities and opportunities for intervention.

Solution generation: social, behavioural and organizational research to improve understanding of target populations, and the range of personal, social and environmental characteristics which may be modifiable to form the *content* for intervention. Such research may also identify key access points to reach target populations. Intervention theory development identifies possible *methods* for achieving change in the personal, social and environmental characteristics referred to above, and the potential for general application in different settings and with different population groups. This latter point implies the application of political science and policy analysis in theory development.

These three inputs describing *cause*, *content* and *method* represent the basic building blocks for health promotion interventions. Such information will describe a problem, can identify determinants of that problem, can indicate individuals and groups in a population most in need of attention, and propose likely solutions.

Solution testing: finding a successful and sustainable solution to a defined health problem requires the systematic development and testing of an intervention. Figure 1 also describes a staged approach to evaluation research. It indicates the two fundamental tasks in evaluation research of *assessing outcome* in order to determine the extent to which the intervention achieved the health and social outcomes it was established to achieve, and *understanding the process* in order to identify the basic conditions for successful implementation of an intervention, thus allowing for successful reproduction of the intervention and subsequent repetition of successful outcomes. Conditions for success might include the development of practitioner skills, creation of an operational infrastructure

and the development of public policy required to facilitate action.

The relative importance of these questions will vary as an intervention goes through different stages of development. The figure indicates a hierarchy of study beginning with *experimental research* which concentrates primarily on the question of whether or not an intervention achieves its desired outcomes. The role of the researcher here is to create the best possible conditions for success. Because such studies are developed in such a way as to meet rigorous standards of empirical testing, they are of great interest to academic researchers, but for the same reasons are not easily reproduced. The greatest number of intervention studies reported in the literature appear to be those which report on program outcomes produced in ideal, controlled circumstances (Sanson-Fisher and Campbell, 1994).

The second stage, *demonstration research*, represents a shift in emphasis to consider more the identification of the conditions for success and analysis of costs relative to benefits. Here the task is to reproduce the intervention in circumstances which are closer to 'real life', in order to see if the desired outcomes can be achieved in a less artificial environment and represent a reasonable investment of resources. Typical examples of such studies might include Heartbeat Wales Program in the UK and Stockholm Cancer Prevention Program in Sweden (Tilgren *et al.*, 1992; Nutbeam *et al.*, 1993a,b).

Such studies are of greater relevance and interest to policy makers and practitioners as they indicate that desired outcomes may be achievable in circumstances closer to real life, they take account of the contextual variables of health promotion practice, and indicate the essential conditions which need to be established and resources which need to be committed for success (Burdine and McLeroy, 1992; McLeroy *et al.*, 1993).

Solution maintenance: the final stage, which includes *dissemination research* and *quality control*, indicates a shift in emphasis still further. Here, attention is given to identifying the ways in which successful programs can be widely implemented. This includes understanding ways in which practitioners can be encouraged to adopt innovations, and studies of communities and organizations to determine how best to create the necessary conditions for success in different settings (Orlandi, 1986; Parcel *et al.*, 1989; Goodman *et al.*, 1993; Allensworth, 1994).

This research provides information of greatest interest to managers and practitioners because it helps to define what needs to be done, by whom, to what standard and at what cost. This type of research is least common in the health promotion research literature (Sanson-Fisher and Campbell 1994), partly reflecting a natural consequence of decline in the number of interventions which reach this stage of development (i.e. of proven efficacy).

The arrow in Figure 1, which indicates a change in research emphasis from demonstrating effect to understanding the implementation process, also reflects the relative increase in applicability to practice and relevance to the practitioner. In addition, it indicates the decrease in number of reported studies in academic journals (Sanson-Fisher and Campbell, 1994).

The challenge emerging from this analysis is to find ways of encouraging researchers to follow through the developmental sequence indicated in Figure 1, particularly in order to promote the transfer of new knowledge from basic research into intervention program development, and to ensure that evidence of success from experimental research is systematically tested in real life conditions and disseminated in ways which are sensitive to the needs of practitioners who need to know how to create conditions for success.

How do practitioners use evidence?

The use of evidence to guide decision making in health promotion varies considerably and there are good reasons why this should be the case. In some cases sufficient 'evidence' of effectiveness simply does not exist, and may be impossible to conclusively establish because, for example, it requires

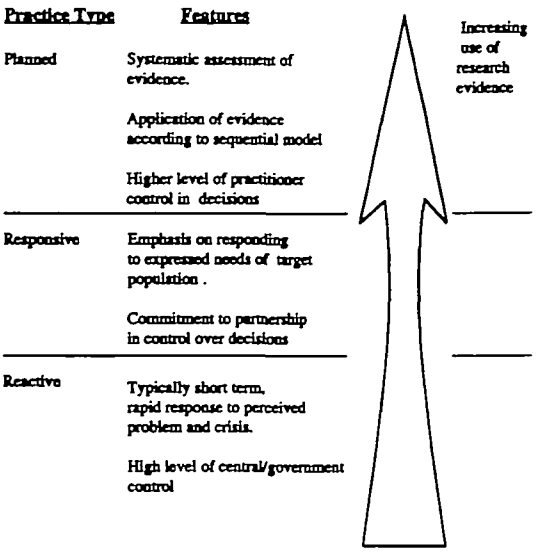

Fig. 2. Three types of health promotion practice, illustrating variable application of research evidence.

studies of such size, complexity and cost as to be impractical (Chapman, 1993). In other cases, such as with the appearance of a new public health threat, the need for rapid intervention demands a response in advance of the establishment of good evidence from careful research. In such cases, health promotion practitioners are placed in an unenviable position.

Figure 2 presents a summary of three health promotion program stereotypes. In this instance, a line indicates the relative emphasis given to the use of evidence of effectiveness from research in determining practice. Unlike Figure 1 there is no sense that one stage leads to another, but there is a proposed hierarchy which suggests that superior practice will be based on the greater use of theory and research evidence.

The *planned* approach to health promotion practice has been widely promoted in the past decade and is exemplified by planning models developed by Green and Kreuter (1991) in the US. Such an approach is based on a rational and systematic assessment of the best available evidence concerning population health needs, effective interventions, and the organizational and administrative context for successful intervention. These models represent the closest thing to evidence-based practice in health promotion, and present an approach which links planning and evaluation in a logical sequence. Perceived community needs and the context for the implementation of programs are accounted for in the planning process, but within defined boundaries. Success is seen in terms of the achievement of pre-determined health goals and objectives, and the maintenance of program integrity.

Such an approach may have greatest appeal to academics and researchers, partly because of the overt intention to use research evidence and theory to guide decision making, and partly because control in decision making rests largely with the program management. In the context of the model presented in Figure 2 it is the approach to health promotion which is most clearly based in the use of evidence in decision making.

The *responsive* approach to health promotion indicated in Figure 2 is probably the most common basis for programs and projects, and is typified by many community-based programs which place highest value on the role of a community in defining health problems and participating in their solution, and place strong emphasis on the impor-

tance of methods of working alongside consideration of the effects of programs on individual health problems. In this case the *response* is to the perceived needs of the target population. This includes the choice of health problem and preferred form of intervention. Again, it is not difficult to see why this is the case. Such an orientation may be for market reasons (providing the program which a paying client requests) or for ideological reasons (based on a belief in the primacy of community development in health programs). In this latter case there is a strong element of the *responsive* approach in the rhetoric of the 'new public health' emanating from the Ottawa Charter for Health Promotion (WHO, 1986). It should also be acknowledged that there is good evidence to suggest that involved communities are more likely to respond to programs and sustain effects (Bracht *et al.*, 1994).

In this case, the use of research evidence concerning the definition of priorities and selection of interventions is only one of several elements to decision making. Community needs analysis may indicate health issues and preferred ways of tackling them which are at odds with priorities which might be identified through epidemiological analysis, and methods of solving problems which are identified through an analysis of available evidence of effectiveness. Success might thus be seen in terms of meeting expressed community needs, and achieving a high level of community direction and participation.

There are potential opportunity costs associated with responding to perceived community needs without due consideration of the nature of the problems identified or the evidence available on potential interventions. Put bluntly, the interventions chosen may not be effective or efficient, and not tackle fundamental problems even though they are strongly supported by the community. Such an approach also places a large part of decision making beyond the immediate control of practitioners. For these reasons, such genuinely 'community-based' interventions can be difficult to plan, monitor and evaluate according to traditional scientific criteria (Oberle *et al.*, 1994).

Reactive practice is epitomized by responses to a perceived problem or crisis. Typically, resources are made available to (or through) a governmental agency for an urgent and frequently high profile response. This type of health promotion practice can be observed in many countries, particularly in those where governments exert a high level of control over health promotion programs. Governments inevitably take an interest in the use of the mass media to communicate health messages and use such opportunities to pursue policy, as well as being seen to be reacting positively to public concerns about health.

Often this type of practice is characterized by a rapid response and, not surprisingly, time does not allow for evidence-based planning and the application of relevant health research and theory to practice, except in the application of effective mass communication techniques. Campaigns of this sort would typically be short-term, centrally directed, and usually not engage practitioners working in local communities and specific settings such as schools and worksites. Success might be seen in terms of high levels of message penetration and the relief of political pressures.

Examples of reactive practice include public education campaigns to highlight risks of HIV infection and to promote abstinence from illicit drug use in the UK. Evidence available from evaluation of these campaigns shows that although they may have improved the knowledge of the public about HIV infection and illicit drug use, they also had negative consequences of reinforcing existing prejudice in the community and creating a level of anxiety which was out of all proportion to individual risk (Rigby *et al.*, 1989; Rhodes, 1990).

In summary, health promotion practice includes a wide range of interventions and different models which make use of theory and research in greatly varying ways. Although Figure 2 implies a hierarchy of practice, placing greatest value on the application of traditional research evidence to a rational planning model, this is not necesssarily the preferred approach of practitioners who may use a wider set of criteria to decide on priorities and on intervention options. Practitioners adopting

a more structured and disciplined approach to program planning can find themselves in an uncomfortable position of being less able to respond to expressed community needs (a rewarding way to work) and political imperatives (a pragmatic way to work). Achieving wider recognition of the need to match practice to evidence of effect, whilst at the same time ensuring flexibility of response and sensitivity to the community, appears to be the major challenge emerging from this overview of practice.

Fostering evidence-based practice in health promotion

It would be naive to believe that the quality of evidence to guide practice in health promotion was such that decisions concerning methods and organization will ever be routine. The complexity of the factors which influence individual behaviours, exposure to risk, and the capacity of individuals and communities to change their circumstances mean that research evidence will always need to be adapted to fit local circumstances, and that a variety of different models need to be considered by practitioners. However, to make continued progress in health promotion it is essential that lessons learned from research are more systematically applied to practice. Decision making should be based on the best available evidence concerning effectiveness *and* its application in 'real life' circumstances. How to improve the fit between research and practice has been a long-standing dilemma in health promotion (and many other disciplines in the health and social sciences) (Frenck, 1992). Several different approaches are available to address this problem. These are considered below.

Improving communication

One of the more obvious and frequently proposed approaches to improving the fit between research and practice is to improve communication between researchers, health managers and practitioners. There are examples of this in the literature which generally describe the efforts of researchers to communicate their research findings in a variety of forms beyond the traditional journal publication (Mutter, 1989; Weir, 1991; Crosswaite and Curtis, 1994). Such approaches have opened up the information available to an expanded audience and have often been successful in building a constituency of support for action to address the issue researched. These are obviously valuable outcomes, but this communication is generally one way and is often reflected in the reporting language which refers, for example, to practitioner 'compliance' with program implementation (Perry *et al.*, 1990). Less obvious in such processes is a true dialogue between researcher and practitioner where the information flow is two way, with researchers taking back messages from practitioners concerning the relevance and practical application of their research activity.

Communication of research findings without adequate explanation also carries risk. For example, the communication of new information on individual health risk or population disadvantage may promote the type of response characterized earlier as 'reactive' health promotion (Lupton, 1993). Furthermore, the active communication of findings from experimental intervention research may lead to overemphasis of the success of individual interventions which might not have been adequately tested in real-life conditions. There are examples of projects taken directly from success in experimental conditions to widespread implementation without adequate field testing to establish the key conditions for success. Not surprisingly, subsequent evaluation of projects disseminated in this way have identified significant implementation failure (Nutbeam *et al.*, 1993b).

In a review of these issues several years ago Green argued strongly for far greater involvement of policy makers and practitioners in the planning and conduct of research, a message repeated in subsequent papers (Green, 1987; Green and Kok, 1990). Despite such compelling arguments, examples of real dialogue and the level of involvement advocated by Green are still relatively rare.

Directing research and auditing results

The system of incentives and rewards for both academics and practitioners does not always pro-

mote an optimal relationship. For example, to obtain a research grant in most countries involves a rigorous process of application development, peer review and, sometimes, personal interview. It is little wonder that researchers greatly value awards obtained from such a rigorous process. Considerable emphasis is placed on the methodological strengths of proposals, their sample design and selection, evaluation design, use of controls, and so on. It is not difficult to get the impression that the problem being researched is of less importance than the method used (Whitelaw and Williams, 1994). In such circumstances it is little wonder that public health researchers find it easier to obtain funding for studies describing problems and harder to obtain resources for intervention studies which solve them.

Major research funding bodies are not unaware of such problems, and have tried various methods to direct research funding to improve the relevance and practical application of research findings. Many now identify priority research issues and/or set aside earmarked funds to ensure that priority research is supported. Examples include extra funding for research into ways of reducing tobacco and illicit drug use in the 1980s in the USA, and more recently for research on preventing HIV/AIDS. In some countries such as Australia, funding for public health research is considered separately from funding for bio-medical research, ensuring that a defined proportion of resources is devoted to public health research each year and offering the opportunity for a wider repertoire of research methods (including those from the behavioural, social and political sciences) to be considered. Again these are valuable steps which help ensure that public health research is directed more towards solving problems rather than merely describing them.

Further incentives will be necessary to promote and reward researchers for their efforts to ensure that research findings are translated to practice. One option is for a *post-project audit* of results of similar rigor to that used at application. Such an audit could clarify how the results obtained have been reported and examine the application of findings to practice. Increasingly, grant giving bodies are seeking this kind of feedback in a relatively ad-hoc way, but more widespread use of post-project audit and the use of the results of audit in guiding subsequent decisions concerning funding would be merited.

Practice-oriented reporting

Other than to be awarded research grants, the greatest rewards for academic researchers are to be had in publishing papers in peer-reviewed journals. Indeed this is a criteria used by funding agencies to judge the track record of applicants. Most journals have a cycle of a year or longer from submission to eventual publication and many demand that authors should not have previously released data from papers submitted for publication. In effect, researchers are rewarded for keeping quiet about their results and delaying access to them for months. More often than not, published papers have to conform to a journal style which prevents the authors from providing anything but the briefest of descriptions of interventions—the part of greatest use to practitioners.

There are encouraging signs of a shift in thinking on the part of journals to include more of a practitioner focus to their publications. Changes can be observed, e.g. the requirement by some journals to include a 'so what' part to an abstract which forces researchers to think more carefully about the use of their findings. Support for 'brief reports' and case studies in journals might support faster feedback of preliminary results, and even encourage practitioners to submit short reports on field experience.

Most journals publish and sometimes commission 'state of the art' reviews. As the volume of research in health promotion has grown, so too has the possibility of conducting systematic review or, in some cases, formal meta-analysis of results from studies. Examples can be found in recent reviews of community cardio-vascular disease programs, patient education and school-based interventions (Shea and Basch, 1990; Mullen *et al.*, 1992; Bruvold, 1993). Although relatively uncommon at present, such reviews offer another mechan-

ism for identifying best practice and considering issues of generalizability in linking experimental research to 'real-life' practice.

Assimilating evidence to guide planning

Alongside such efforts to change the direction of researchers, guiding practitioners towards the greater use of evidence is also esssential. This will be assisted by a general increase in interest in health outcomes in countries around the world. Health promotion practitioners will do well to recognize the advantages of the move towards evidence-based best practice in the medical disciplines (Evidence-based Medicine Working Group, 1992). Such an approach to practice demands improved knowledge about best practice and, ultimately, the use of funding incentives to adopt best practice. This represents a significant challenge to practitioners (and politicians) who may be used to far greater freedom from the constraints of evidence in decision making. The introduction of best practice guidelines and of outcome focussed program planning and monitoring will do much in the future to support evidence-based practice. Work by the International Union for Health Promotion and Education to analyse effectiveness studies on 16 topics and settings provides a good example of efforts being made to recognize and promote best practice in health promotion (IUHPE, 1994).

Improved practitioner education and training

Crucial to efforts to improve this link between research and practice is the development of skills among health promotion practitioners in critical appraisal of evidence, in planning, and in the evaluation of program effects. In the past, much has been made of the need for improved education and training of practitioners in the application of theory and evidence from research (Green and Kreuter, 1991).

In the past decade there has been an explosion in training programs for practitioners, both at undergraduate but primarily at post-graduate levels. In many countries it is now possible to study at an advanced level in health education/promotion. Related to this there have been a number of texts developed to support education and training in program planning and management (e.g. Glanz *et al.*, 1990; Green and Kreuter, 1991; Tones and Tilford, 1995).

One useful approach which supports practitioner adoption of accountable planning and evaluation is that advocated by Hawe and colleagues in Australia in developing a practitioner guide to planning and evaluation (Hawe *et al.*, 1990). This was developed over a 3 year period involving practitioner workshops and subsequent resource development. The resulting text thus reflects the culture and experience of practitioners integrated with research and evidence-based planning models. It is very widely used by practitioners in Australia. A similar, practitioner-focussed text has been published in the UK (Eweles and Simnett, 1995).

This professional development has helped improve standards in health promotion practice. In countries such as the UK, Canada and Australia, where there is a significant publicly funded health promotion infrastructure and workforce, the most obvious manifestation of this can be seen in the evolution of specialist professional organizations where none previously existed, and in a more overt use of strategic and operational planning for health promotion at local, provincial and national level.

Despite this apparent progress, recent debate in the health promotion literature has centred around the disparity between the ways in which theory is developed and advocated by academics, and the way in which it is understood and used by practitioners (McLeroy *et al.*, 1993; Green *et al.*, 1994). This debate has served a useful purpose in opening up discussion of the relevance and application of established models for health promotion which are drawn from a relatively narrow social-psychological base. It is a useful reminder of the fact that practitioners have varying requirements from theories and models in planning and implementing health programs, and that to be useful and relevant, planning models and theory have to be capable of adaptation to the real-life conditions of practice (D'Onofrio, 1992; Hochbaum *et al.*, 1992). Deciding on which models to use and how to teach health promotion theory pose a significant challenge for

the organization of health promotion education and training, and for the future development of the 'profession' of health promoters. The approach developed by Hawe and her colleagues appears to offer a practical way forward (Hawe *et al.*, 1990).

Concluding remarks

Despite considerable progress in building a sound theoretical and research base for health promotion, and the development of a skilled workforce, the connection between the expansion of knowledge through research and the development of health promotion practice is far from optimal. Guiding practice towards more overt use of evidence will become easier as education and training programs lift the discipline of health promotion from the realms of the 'gifted amateur' and funding agencies demand greater rigor in the application of best practice in health promotion. Academic researchers, and the funding policies and publishing practice which define rewards and access to resources for research, will need to change to match this progress in workforce development.

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