Health Promotion International, Vol. 22 No. 3
doi:10.1093/heapro/dam017
Advance access publication 27 June 2007



# The nature of evidence resources and knowledge translation for health promotion practitioners

**REBECCA ARMSTRONG[1,2*], ELIZABETH WATERS[1,2], BELINDA CROCKETT[3] and HELEN KELEHER[3]**

[1]*Cochrane Health Promotion and Public Health Field, Melbourne, Australia,* [2]*School of Health and Social Development, Deakin University, 221 Burwood Highway, Burwood, Melbourne, Victoria 3125, Australia and* [3]*Department of Health Science, Monash University, Victoria, Australia*
**Corresponding author. E-mail: cochrane@vichealth.vic.gov.au*



## SUMMARY

*Governments and other public health agencies have become increasingly interested in evidence-informed policy and practice. Translating research evidence into programmatic change has proved challenging and the evidence around how to effectively promote and facilitate this process is still relatively limited. This paper presents the findings from an evaluation of a series of evidence-based health promotion resources commissioned by the Victorian Department of Human Services. The evaluation used qualitative methods to explore how practitioners for whom the resources were intended, viewed and used them. Document and literature review and analysis, and a series of key informant interviews and focus groups were conducted. The findings clearly demonstrate that the resources are unlikely to act as agents for change unless they are linked to a knowledge management process that includes practitioner engagement. This paper also considers the potential role of knowledge brokers in helping to identify and translate evidence into practice.*

*Key words*: evidence-based health promotion; knowledge translation

## INTRODUCTION

The use of evidence to inform health promotion policy and practice is crucial for achieving health outcomes. Knowledge synthesis, translation and exchange are crucial in supporting evidence-informed health promotion (Bowen and Zwi, 2005), whether through systematic reviews of research or collections of evidence (including rigorous evaluations), evidence-based guidance, or skill development amongst the health promotion workforce. However, programmes designed to support evidence-based health promotion are exploratory and debate continues about which mechanisms most effectively support the evidence-into-policy–practice pathway (and its corollary). Across English speaking countries, at least, key public health agencies are producing practitioner resources for health professionals involved in decision-making stimulated by the belief that policy and practice decisions should be informed by syntheses of research evidence (Macintyre and Petticrew, 2000; Hanney, 2004; Bowen and Zwi, 2005). However, little is known about the effectiveness of these resources in influencing decision-making. In one of the very few review studies, Sheldon *et al.* (Sheldon *et al.*, 2004) demonstrated an uneven impact on the uptake of evidence from the practice guidelines produced by the National Institute of Clinical Excellence (NICE) suggesting the need for

concentrated effort on the relevance of practice guidelines, the provision of professional support to facilitate their uptake and the identification of mechanisms to support implementation of guidelines within organizations.

Although evidence-based resources are now commonplace in large organizations, which are responsible for overseeing health policy implementation and for supporting evidence-based practice, research evidence is the only one component in complex decision-making processes (Davies, 2005; Speller *et al.*, 2005).

There are well-documented barriers to the uptake of evidence-informed health promotion (Innvaer *et al.*, 2002; Petticrew *et al.*, 2004; Choi *et al.*, 2005; Moseley and Tierney, 2005). They include lack of timeliness; lack of relevance of research; mutual mistrust and lack of personal contact between researchers, policy-makers and practitioners; poor quality research; political instability; resource limitations; lack of expertise in evidence translation. Although many organizations are attempting to develop strategies to address these barriers, there is limited published research exploring the experience of practitioners in the uptake of evidence-based resources to inform practice.

We know that in seeking to improve the evidence base for health promotion and public health, a multifaceted approach is required (Nutbeam, 1999; Tang *et al.*, 2003). There is an increasing recognition of the need for 'multidirectional information exchange', which allows the sharing of knowledge between researchers, practitioners and policy-makers (Bowen *et al.*, 2005). Lack of trust can be an initial barrier for practitioners in engaging with evidence and for researchers working with practitioners but challenging preconceptions is important in building confidence in knowledge translation (Bowen *et al.*, 2005). Lomas stresses the importance of bridging what he refers to as the 'know-do' gap by strengthening interpersonal connections between researchers, policy-makers and practitioners to 'drive research into practice' [(Lomas, 2007), p. 334].

Beginning in 2000 and using establishing commissioning processes, the Victorian Department of Human Services (DHS) published six Evidence-Based Health Promotion Resources (EBHPRs) on the topics of oral health, adolescent health, falls prevention, child injury prevention, body image and healthier communities in relation to diabetes and cardiovascular disease[1]. The commissioned authors were content area experts who each approached the review methods differently. For example, the oral health promotion resource comprised a review of the literature as did resources 2 and 3, which also had searchable online databases to complement the hard copy resources. Child injury prevention comprised a systematic review and a distilled summary; and the remaining three resources were written as practitioner guides that included recommendations for implementation.

The EBHPRs were intended to assist and encourage practitioners to use and evaluate evidence-based interventions in public health topics. The target audience were practitioners working in community and primary and women's health services, indigenous and multicultural health centres and local government. The resources were disseminated primarily by passive methods over the period 2000–2004. In 2005, we conducted an evaluation study of the EBHPR, which aimed to:

I. evaluate their contents, relevance and currency
II. evaluate the effectiveness of the dissemination strategies
III. record practitioners' views about the relevance and functionality of the EBHPR series
IV. assess the extent to which practitioners used the EBHPR to inform their practice
V. formulate recommendations based on the study's findings to inform the DHS' strategic role in producing and disseminating future evidence-based health promotion resources.

This provided the opportunity to consider the contribution of evidence-based resources to knowledge translation and to explore the role of knowledge brokering in supporting the process of knowledge translation and exchange. This paper aims to highlight two critical findings of the study:

I. the types of evidence-based health promotion resources to which practitioners are most likely to refer; and
II. the nature of the knowledge translation roles that policy and funding bodies could fulfil in order to encourage uptake of resources.

[1] The reviews are available at: http://www.health.vic.gov.au/healthpromotion/quality/evidence_index.htm

## METHODS

The evaluation involved three stages:

I. analysis of policy documents that guided the commissioning of the EBHPR,
II. consultation with stakeholders and practitioners and
III. review of the EBHPR to determine whether the resources matched practitioner requirements.

Qualitative methods were used to analyse the policy context, and practitioner and stakeholder interview data, in conjunction with careful documentary analysis and appraisal of the literature about evidence-based health promotion.

### Project advisory group

A project advisory group including policymakers, practitioners and researchers was established to oversee the project.

#### *Stage 1: Analysis of policy documents and EBHPR*

Documentary analysis was undertaken to examine the degree of alignment between the EBHPR and government policy statements for health promotion, and to compare the presentation styles of the EBHPR and their dissemination strategies.

#### *Stage 2: Consultation with stakeholders and practitioners*

Semi-structured consultations (interviews and focus groups) were conducted with government policy officers, lead agencies, authors of the EBHPR and practitioners ($n = 47$). E-mail lists, newsletters and regional meetings were used to promote the consultations and invite participation, with information sheets provided for project team contact details. Interviews were conducted either face-to-face or by telephone. Questions focused on how evidence was used in organizations, what assistance organizations received to support the finding and incorporation of evidence into practice, and their use of the EBHPR including issues of accessibility, relevance, currency and dissemination. Comprehensive notes were taken and transcripts prepared. Data were collected from all respondent categories until data saturation was achieved. Thematic analysis of the transcripts permitted development of key themes about the meanings and experiences that practitioners and policy makers attached to the EBHPR. The rich range of perspectives elicited about values ascribed to evidence and evidence-based practice allowed us to assess how these understandings influence workforce capacity for, or readiness to adopt, evidence-based practice.

#### *Stage 3: Review of evidence-based resources*

A detailed review of the contents of the six EBHPR was conducted to determine the fit between review styles and presentation of the information, compared with practitioner preferences identified in Stage 2. The currency of evidence cited in the EBHPR series was assessed through a systematic search of a range of sources using related key words including PubMed; Academic Search Premier, the Cochrane Library Reviews; Central Register of Controlled Trials (CENTRAL); the Database of Abstracts of Reviews and Effects (DARE).

Alternative approaches to the presentation of evidence were also considered by reviewing current work of the following key organizations: the National Institute for Health and Clinical Excellence; The Joanna Briggs Institute; the Social Care Institute for Excellence (SCIE); Health-Evidence Canada; Interactive Domain Model (IDM) Best Practices for Health Promotion, Public Health and Population Health; and the Centres for Disease Control and Prevention (CDC). Recommendations were developed from this review with the intention of identifying strategies to build infrastructure to support resource development for evidence-informed health promotion.

## RESULTS

### Practitioners' views about the EBHPR series

Respondents consistently emphasized the importance of evidence-based practice, and many reflected positively on the government commitment to both its adoption and development of EBHPR resources. Perceptions varied considerably on what constitutes the evidence base for health promotion. In addition to the findings from rigorous and systematic studies, a strong theme was the support for resources to include emerging learnings and promising practices yet to be rigorously evaluated along with locally generated evidence about the implementation of interventions. The credibility of the

EBHPR was diminished where there was a disconnection between practice realities and the evidence cited, however current the evidence. If the evidence-based recommendations were impractical to implement in practice, the resource was regarded as less relevant to practitioner needs. Access to current statistics and case studies was also regarded as important in building an evidence-based rationale for programme planning.

Respondents reported limited use of the EBHPR in planning interventions or guiding implementation, identifying that resources were consulted on an *ad hoc* basis rather than as a primary source. There was a clear gap between the positive attitude expressed towards evidence-based practice, and practitioner behaviour. Reasons for this apparent inconsistency are noted in Box 1 and they are consistent with previous studies. Respondents referred frequently to the difficulty of evaluating evidence and identified a need for capacity and skills building in both the appraisal and application of evidence. Relevance was related to time pressures for practitioners. Practitioners were also less likely to make use of the resources, which were too long, too general, or too difficult to navigate. Box 2 outlines the attributes of EBHPR preferred by practitioners and which were seen as contributing to their uptake, making them easier to navigate, to locate key points of information. Case studies illustrating evidence into practice were regarded as particularly illustrative. In sum, usefulness, applicability and relevance were key mechanisms that influenced uptake of the resources. EBPHR developed early in the history of the suite of resources which did not have these learnings available to them, and thus were not commissioned to adopt this approach, were regarded by practitioners as unfriendly and irrelevant, even though the evidence reviews were of high quality.

## Dissemination strategies employed for the EBHPR series

There was no uniform dissemination strategy for the various resources by government over time. Mailouts, websites and workshops were used variably with the nature of the dissemination strategy determined by the availability of funding. A small number of all EBHPR were printed in hard copy (DHS, 2003, *unpublished report*). Outcomes from the dissemination strategies are therefore inconsistent. Practitioners were very supportive of workshops when they were conducted to introduce a new resource. Although the study did not allow rigorous assessment of the dissemination strategies that were more likely to change practice, it was clear that practitioners preferred active dissemination in addition to passive forms of dissemination.

**Box 1:** Barriers to uptake of EBHP resources

I. Time constraints
II. Lack of skills in knowing how to use evidence to inform practice
III. Doubts about the transferability of evidence across contexts
IV. High mobility in the sector and possible lack of awareness of the resources amongst new staff
V. Diminishing use as the time elapsed from initial release
VI. Difficulties in interpreting technical/academic language and jargon
VII. Lack of evaluation data
VIII. Little relevance to their practice given the high cost of implementing the interventions cited

**Box 2:** Attributes of EBHPR preferred by practitioners

I. Short clear summaries to accompany detailed report
II. Updates to ensure recommended evidence has not gone out of date
III. Plain language explanations of how to use a resource effectively to inform practice
IV. Case studies to illustrate planning, implementation and evaluation strategies
V. Searchable database of papers and programs generated from evidence review process
VI. High level of production values to ensure resource is well presented and attractive
VII. Practitioner consultations during development and draft piloted with practitioners
VIII. Presentation of evidence about implementation and focus on minority and disadvantaged population groups
IX. Resource identified as a 'practitioner guide', with sections on planning and evaluation that make explicit links between the evidence and recommendations for policy and practice
X. Active dissemination with opportunities to explore local relevance

### Practitioner views about the role of central policy and funding agencies

Respondents expressed strong support for the active engagement of government in the promotion of evidence-based practice. Importantly, they considered that government's role was wider than the production of more and better EBHPR, emphasizing the need for government to implement systematic and proactive strategies in identifying relevant research evidence, synthesizing it and presenting it in formats that practitioners would find relevant and accessible. Although practitioners support the notion of evidence-based practice, they reported that they did not have the time or skills to source and appraise evidence. Practitioners observed that it is inefficient for many agencies or organizations to attempt to source and appraise current evidence, keep evidence updated and translate it into guidance for the design and implementation of interventions. It was suggested that one central agency could more efficiently undertake these tasks.

## DISCUSSION

This is the first published evaluation of evidence-based resources and associated field perspectives for health promotion in Australia. The generalized assumption of resource development across many sectors, not only in health, has been that provision of research evidence, or information alone, will result in changes in practice. However, we know that this is rare and tends to occur when 'research findings are non-controversial, require limited change and are implemented in a supportive environment' (Weiss, 1980 as cited in Nutley *et al.*, 2004, p. 2). This evaluation study (and others including Speller *et al.*, 2005) supports this assertion and suggests the need for central agencies like government health departments to transition from a conventional focus on knowledge synthesis to a framework that integrates knowledge generation, knowledge synthesis and knowledge translation.

This framework could include networking, development of key 'change agent' posts (including research specialists and knowledge brokers), development of evidence resources and practice guides, and workforce development initiatives to support capacity building (Speller *et al.*, 2005).

The acceptance of very broad notions of evidence by respondents to this study suggests that evidence-based health promotion resources are only one source of evidence sought, and potentially used. It was also clear that many practitioners do not consistently use research evidence to inform their practice. This highlights the need to better understand what is used, such as tacit knowledge or 'practitioner wisdom', and how it could and should be integrated with evidence (Davies *et al.*, 2002). Although there remains some debate over just how explicit and tacit knowledge can be integrated in developing evidence-based practice (Nutley *et al.*, 2004) examples are emerging that involve practitioners in the production of evidence-based guidance. As would be expected, therefore, the one EBHPR developed more recently, which had incorporated a pilot test with practitioners, was consistently rated favourably for its relevance to practice.

Processes are needed to adequately link research, practice and policy into a meaningful interface for knowledge translation. One of the key foci is the development and production of evidence-based health promotion resources, dissemination strategies that facilitate their use and methods to support the translation of evidence into policy and practice in complex organizations. Each of these is a complicated process and requires the development of appropriate methods (Speller *et al.*, 2005).

To sustain a programme of this kind, a central agency must build active networks with other agencies involved in the promotion of evidence-based practice. Effective links will avoid duplication of research and resource development initiatives, and ensure that evidence-based resources are produced in ways that practitioners can readily use. Recent international developments in translating evidence into effective health promotion practice emphasize the importance of workforce and organizational development opportunities to build capacity (Speller *et al.*, 2005).

Fig. 1 describes a model that integrates the necessary functions and is operationalized through a 'knowledge broker', a term used to describe someone who helps to support the implementation of evidence into policy–practice and the evaluation of policy–practice to build the evidence-base. Knowledge broker models may offer a solution to many of these issues and their implementation is gaining in popularity (Dobbins *et al.*, 2004; Speller *et al.*, 2005). Their role is based on a theoretical view

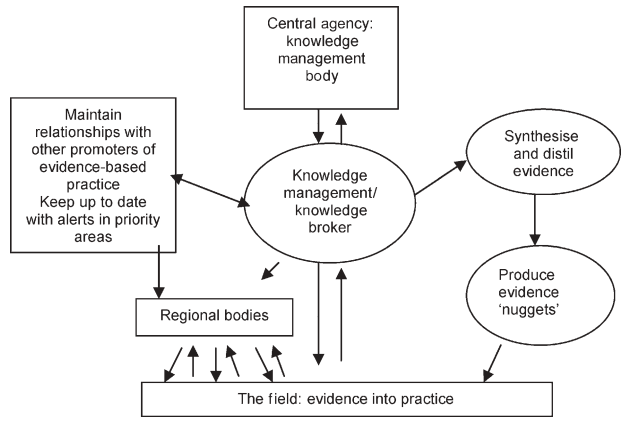


**Fig. 1:** A framework for knowledge management.

that 'an evidence-based approach involves more than producing systematic reviews of evidence and active, rather than passive, dissemination efforts, but also requires the cultivation of new professional roles and the development of collaborative mechanisms working across research-policy–practice boundaries' (Speller *et al.*, 2005, p. 18). The knowledge broker provides the necessary human element of interaction, communication, mentoring, skills building and knowledge sharing (known as the 'human interface') required for effective evidence-based health promotion practice (Kelly *et al.*, 2004).

Our evaluation revealed practitioner concerns about the need for quick and easy access to the evidence-based literature and for resources that are consistent in format, free of jargon and focused on implementation. A range of solutions has emerged in the field since the commencement of commissioning of these reviews. New approaches to communicating evidence will help address these issues, such as the 1:3:25 model described by the Canadian Health Services Research Foundation (Canadian Health Services Research Foundation, 2001). This model recognizes needs for different formats by a range of users and decision makers. It involves a systematic review of the evidence, followed by a distilling process to produce a practice guide and a further distillation into 'evidence nuggets', or one to two page summaries. Other Australian research-practitioner interfaces have recommended that 'actionable messages should be communicated from a body of research knowledge' [Australian Research Alliance for Children and Youth (ARACY), 2005] and those experienced in knowledge translation and communication should be employed as intermediaries between the generators and users of knowledge to ensure the final product is relevant, couched in appropriate language and tailored to users' needs.

Successful dissemination practice supports the transfer and uptake of innovations (Rogers, 2003; Pawson *et al.*, 2005). Analysis of the dissemination approaches used for the EBHPR series, together with reference to studies of dissemination in the literature, suggests that a structured and deliberate dissemination strategy improves the use of resources and supports the translation of evidence into practice. Structured strategies would use a combination of passive and active approaches including training workshops, professional development opportunities, communication through print and electronic media and personal, face-to-face contact (King *et al.*, 1996). A knowledge broker may be in a position to govern the timing of elements of the dissemination strategy, allowing them to align the promotion of new resources with the announcement of new policy initiatives, for example, or with annual planning or funding cycles, and be intimately engaged in the rigorous evaluation of resources to assess their impact on practice.

## LIMITATIONS

This study was conducted after the release of the EBHPR series. It was not possible, therefore, to assess the views of practitioners prior to the availability of these resources, or the use of evidence or the pre-existing knowledge of effective interventions in each of the EBHPR topic areas.

## CONCLUSION

Evidence-based resources are the valuable tools in supporting the translation of knowledge into practice. Effectiveness is contingent on the processes used to develop the evidence, its presentation and dissemination strategies. This evaluation found that evidence-based resources are likely to be more effective if they are part of a process which identifies mechanisms to enhance the uptake of evidence approaches at all levels, incorporating a network of research specialists and change agents from policy and practice fields. Careful attention to the translation of evidence into useful and relevant material is critical, with practitioners citing the value of case studies, implementation strategies, planning and evaluation support and active dissemination in local contexts.

## ACKNOWLEDGEMENTS

Funding for the evaluation was provided by the Victorian Government Department of Human Services. The Cochrane Health Promotion and Public Health Field is funded by the Victorian Health Promotion Foundation (VicHealth).

## REFERENCES

Australian Research Alliance for Children and Youth (ARACY). (2005) ARACY Evidence into Action Services. *Draft Business Plan*. ARACY, WA.

Bowen, S, Martens, P. and The Need To Know, Team. (2005) Demystifying knowledge translation: learning from the community. *Journal of Health Services Research and Policy*, **10**, 203–211.

Bowen, S. and Zwi, A. B. (2005) Pathways to 'evidence-informed' policy and practice: a framework for action. *PLoS Medicine*, **2**, 600–605.

Canadian Health Services Research Foundation. (2001) *Communication Notes: Reader Friendly Writing—1:3:25*. www.chsrf.ca

Choi, B. C. K., Pang, T., Lin, V., Puska, P., Sherman, G., Goddard, M., *et al.* (2005) Can scientists and policy makers work together? *Journal of Epidemiology and Community Health*, **59**, 632–637.

Davies, P. (2005) Workforce development to support evidence-informed public health. Presentation delivered at '*Cutting Edge Debates*', VicHealth, Melbourne on 27 October 2005. www.vichealth.vic.gov.au/cochrane

Davies, H., Nutley, S., Walter, I. and Wilkinson, J. (2002) Making it happen. Developing understanding of research utilization and EBP implementation. Report of One-Day Seminar on 6th March 2002. Research Unit for Research Utilization (RURU), University of St Andrews, St. Andrews.

Department of Human Services (DHS). (2003) *Investigation of Dissemination Methods used for the Evidence-based Adolescent Health Promotion Resource.* Unpublished report.

Dobbins, M., DeCorby, K. and Twiddy, T. (2004) A knowledge transfer strategy for public health decision makers. *Worldviews on Evidence-Based Nursing*, **1**, 120–128.

Hanney, S. (2004) Personal interaction with researchers or detached synthesis of the evidence: modelling the health policy paradox. *Evaluation and Research in Education*, **18**, 72–82.

Innvaer, S., Vist, G., Trommald, M. and Oxman, A. (2002) Health policy makers' perceptions of their use of evidence: a systematic review. *Journal of Health Services Research and Policy*, **7**, 239–244.

Kelly, M. P., Speller, V. and Meyrick, J. (2004) *Getting Evidence into Practice in Public Health*. Health Development Agency. http://www.publichealth.nice.org.uk/dowload.aspx?o=502709.

King, L., Hawe, P. and Wise, M. (1996) *From Research into Practice in Health Promotion: a review of the literature on dissemination*. National Centre for Health Promotion, Sydney, Australia.

Lomas, J. (2007). The in-between world of knowledge brokering. *BMJ*, **334**, 129–132.

Macintyre, S. and Petticrew, M. (2000) Good intentions and received wisdom are not enough. *Journal of Epidemiology and Community Health*, **54**, (November), 802–803.

Moseley, A. and Tierney, S. (2005) Evidence-based practice in the real world. *Evidence and Policy*, **1**, 113–119.

Nutbeam, D. (1999) The challenge to provide 'evidence' in health promotion. *Health Promotion International*, **14**, 99–101.

Nutley, S., Davies, H. and Walter, I. (2004) *Conceptual Synthesis 2—Learning From Knowledge Management*. Research Unit for Research Utilisation, St Andrews.

Pawson, R., Greenhalgh, T., Harvey, G. and Walshe, K. (2005) Realist review—a new method of systematic review designed for complex policy interventions. *Journal of Health Services Research and Policy*, **10**, (Suppl. 1), 21–34.

Petticrew, M., Whitehead, M., Macintyre, S., Graham, H. and Egan, M. (2004) Evidence for public health policy on inequalities: 1: the reality according to policymakers. *Journal of Epidemiology and Community Health*, **48**, 811–816.

Rogers, E. (2003) *Diffusions of Innovations*. Free Press, New York.

Sheldon, T. A., Cullum, N., Dawson, D., Lankshear, A., Lowson, K., Watt, I., *et al.* (2004) What's the evidence that NICE guidance has been implemented? Results from a national evaluation using time series analysis, audit of patients' notes, and interviews. *British Medical Journal*, **329**, 999.

Speller, V., Wimbush, E. and Morgan, A. (2005) Evidence-based health promotion practice: how to make it work. *Promotion and Education*, (Suppl. 1), 15–20.

Tang, K. C., Ehsani, J. P. and McQueen, D. V. (2003) Evidence-based health promotion: recollections, reflections, and considerations. *Journal of Epidemiology and Community Health*, **57**, 841–843.