



National Public Health Partnership

# **A Proposed Schema for Evaluating Evidence on Public Health Interventions**

*(Version Two)*

**Lucie Rychetnik and Michael Frommer**

February 2001

# *User's Notes for Version Two of*

## **A Proposed Schema for Evaluating Evidence on Public Health Interventions**

### **Preamble**

In 1999, the National Public Health Partnership (NPHP) funded a project to develop a schema for evaluating evidence on public health interventions. This led to a discussion paper titled "*A proposed schema for evaluating evidence on public health interventions*".<sup>1</sup> The proposed schema was based on a literature review (March 2000) of existing guides or criteria for evaluating research, and on consultation with public health researchers and practitioners across Australia.

In 2000, the proposed schema was distributed for comment to public health researchers, service providers and policy makers. The schema was also pilot tested in a case study, where a group of researcher-practitioners applied the schema to review published papers on interventions to promote the consumption of fruit and vegetables. Feedback from these activities led to modifications, and the development of *Version Two* of the proposed schema for evaluating evidence on public health interventions.

### **Contents of the schema**

The schema comprises a series of critical appraisal questions to be applied to evaluative research papers and reports. In constructing the schema we attempted to arrange the questions in a logical sequence, and we hope that this will help users to formulate a conclusion on the evidence available about the evaluated intervention(s).

The questions in *Version Two* of the schema are arranged into 8 sections, labeled A to H. Sections A to G are used to appraise, and prepare a summary of, each individual paper or evaluation report. Section H is used to formulate an overall statement on the total body of available evidence.

### **Options for using the schema**

It is possible for an individual working alone to use the schema. However, it requires the user to describe and judge different aspects of research reports, and in many instances these judgements will be more soundly based if they are made from multi-disciplinary perspectives. We therefore recommend that, wherever possible, an appropriate multi-disciplinary group be convened to apply the schema. This accords with the NHMRC recommendation for the use of a multi-disciplinary group to develop and evaluate clinical practice guidelines.<sup>2</sup> The multi-disciplinary group should

---

<sup>1</sup> L Rychetnik and M Frommer. A Proposed Schema for Evaluating Evidence on Public Health Interventions. National Public Health Partnership, 2000. <http://www.nphp.gov.au/phinterv/index.htm>

include individuals with expertise in the types of evaluative research to be considered and the relevant area of public health practice. Preferably, the group should also reflect the interests of those who will decide on the future implementation of the intervention(s) under consideration.

There are two main options for a group of reviewers to use the schema. The first option is that one person will apply sections A to G of the schema to review the individual papers, and to prepare a critical appraisal summary of each paper. Other members of the group consider all the summaries of all the papers available for review. The group is then convened, and applies section H of the schema to prepare a collective group statement on the body of available evidence. In this option, sections A to G of the schema are used to *extract and summarise information* to be considered by the wider review group. The primary reviewer should therefore aim to provide a clear description of each paper and to explain the basis of their judgements in sections A to G.

The second option is that all members of a review group read all of the papers. This may be a preferred option if there is a small number of papers available. Each person applies sections A to G to the papers and produces their own summary statement using section H. The group is then convened, where each member presents their conclusions on the papers (section H), together with their *reasoning and supporting facts* (from sections A to G). Members then formulate a consolidated group statement on the overall body of available evidence. Hence in this option for using the schema, section H is used to make individual judgements about the body of evidence, which then inform debate among group members to arrive at a group judgment. Reviewers should aim to use sections A to G of the schema to present a clear basis for their conclusions in section H.

The advantage of the first option is the efficient use of time, with one person reading all the collated papers and summarising the relevant information for others. An important requirement with the first option is that the person allocated the task of reading the papers is highly skilled at critical appraisal of research publications. They must also be conscientious in extracting all the details required by others (who have not read the papers) in order to make an informed assessment of that evidence.

The second option may be preferred when there are not many papers to review. It is possible that reviewers from different disciplinary backgrounds will answer differently some of the questions in sections A to G, particularly about studies that employed diverse methods. It may be important that everyone in the review group gains a direct or “first hand” opinion of the available papers (by applying sections A to G) before forming their conclusions in section H.

### **Steps before and after using the schema**

A review of research evidence about a public health intervention and subsequent use of this review can be described in at least 6 steps, as follows:

---

<sup>2</sup> NHMRC. A Guide to the Development, Implementation and Evaluation of Clinical Practice Guidelines. Commonwealth of Australia, AusInfo, Canberra, 1999.

- Step 1 Identify the purpose of the literature review
- Step 2 Formulate the review question to be addressed
- Step 3 Find and collate studies to be reviewed (i.e. papers and evaluation reports)
- Step 4 Use sections A to G of the schema to appraise each study
- Step 5 Use section H of the schema to formulate a statement on the body of evidence
- Step 6 Apply review findings to inform decisions about public health policy or practice

The schema is *not* a guide to steps 1 to 3 identified above. It is essential however that these steps are done thoroughly and are clearly articulated for the review group. You may find it useful to refer to publications from the NHMRC and the Cochrane Collaboration on how to conduct systematic reviews.<sup>3 4</sup>

The proposed schema was developed to guide the appraisal of a collated body of research evidence, and to form a summary statement on that evidence. This application of the schema has been identified above as steps 4 and 5.

A review of the literature may be conducted for many reasons. In many cases these reasons will include the important step of applying the review findings to inform decisions about public health interventions, identified as step 6. The proposed schema is *not* a guide for public health decision making. For guidance on step 6, you may find it useful to refer to the National Public Health Partnership's Planning Framework.<sup>5</sup>

---

<sup>3</sup> NHMRC "How to Review the Evidence: Systematic Identification and Review of the Scientific Literature." AusInfo, Canberra, 2000.

<sup>4</sup> Mulrow CD, Oxman AD. Cochrane Collaboration Handbook for Reviewers, Cochrane Library. Update Software; Issue 4, 1999. Online: <http://www.cochrane.org/cochrane/hbook.htm>

<sup>5</sup> National Public Health Partnership. A Planning Framework for Public Health Practice. NPHP, 2000. Online: <http://www.nphp.gov.au/planfrwk/index.htm>

## **SUMMARY OF SECTIONS A TO H OF THE SCHEMA**

### **SECTION A THE INTERVENTION**

The aims of Section A are to:

- specify the exact intervention that was examined in each study, and
- assess whether the intervention was adequately described.

Note that many research reports provide inadequate information about the intervention that was evaluated, and little detail about particular strategies. Some research reports include a summary description of the intervention, and refer to other documentation where a full description is given. Therefore it may be necessary for you to also obtain and review this additional documentation.

### **SECTION B THE EVALUATION OF THE INTERVENTION**

The aims of Section B are to:

- specify the exact evaluation questions that were asked about the intervention,
- determine whether the evaluation questions were appropriate, given the nature of the intervention and its stage of development,
- assess the quality and rigour of the evaluation methods used, and
- determine whether the evaluation was comprehensive and provided all the information required.

Some research reports only provide summary descriptions of the evaluation process and the methods used, and refer to other documentation where a full description is given. It may be necessary for you to also obtain and review this additional documentation.

### **SECTION C INTERVENTION CONTEXT**

The aims of Section C are to:

- specify the setting or context in which the intervention was evaluated, with regard to place, time, and socio-economic, organisational and political factors that might be relevant to your intended possible use of the intervention, and
- determine whether the evaluation report has provided sufficient information about the context to determine the applicability of the intervention to other settings.

You will use your findings from Section C to assess transferability of the intervention (i.e. its relevance to your context) in Section E. Note that many research reports provide little information about the context in which it was implemented and evaluated.

## **SECTION D            EVALUATION FINDINGS**

The aim of Section D is to:

- draw together information provided about the intervention's beneficial and adverse effects, and
- assess the sustainability of the reported effects.

## **SECTION E            APPLICABILITY OF THE FINDINGS**

The aims of Section E are to:

- determine whether, and to what extent, the intervention strategies are transferable to another setting, and
- assess whether the reported effects can be replicated.

If you are undertaking a literature review without a new implementation setting in mind, then this section can be used to consider whether adequate information has been provided in the research report to make future judgements about applicability.

## **SECTION F            ETHICAL CONSIDERATIONS**

The aim of Section F is to consider important ethical dimensions of the evaluation that may influence the use of the study findings. This includes:

- sponsorship of the intervention and vested interests,
- funding of the evaluation and potential conflicts of interest, and
- the relative impact on disadvantaged groups.

## **SECTION G            SUMMARY STATEMENT ON EACH PAPER**

The aim of Section G is to collate the information obtained from sections A to F to formulate a summary statement on each paper, covering:

- the evaluation of the intervention,
- the reported findings, and
- the potential applicability of those findings.

These summaries will be used in Section H to formulate an overall conclusion on the available evidence

## **SECTION H            SUMMARY STATEMENT ON BODY OF EVIDENCE**

The aim of Section H is to consider your appraisals of the individual research reports and to formulate an overall statement about the available evidence. After completing Section H you should have:

- decided whether or not the body of research is good enough to serve as the basis for a decision about implementing the proposed intervention,
- understood what the body of research tells you about the intervention, and
- decided whether the available evidence is potentially applicable in the setting in which the intervention might be implemented in the future.

## DETAILS OF PAPER OR REPORT TO BE ARRAISED USING THE SCHEMA

**Provide the following details for each paper or report to be appraised using the schema.**

Title of paper or report:

Authors:

Date:

Publication details:

Reviewer completing Sections A to G of the schema:

Reviewer(s) completing Section H of the schema (where relevant):

## SECTION A THE INTERVENTION

### A1 DESCRIBING THE INTERVENTION

- **Exactly what intervention was evaluated in the study?**

*Hint: Look for the following information to describe the intervention fully.*

- What was the main intervention(s)? Note whether the intervention(s) involved multiple strategies and how these were combined.
- What were associated changes to the environment or setting to support the intervention?
- Were different types and different levels of intervention evaluated? *For example: printed materials compared to a television campaign to promote sun protection; or one week compared to three weeks of a daily television campaign.*
- Was it a one-off, time-limited intervention, or was it an ongoing or repeated intervention?
- Who was responsible for deciding that the intervention should occur?
- Who actually implemented the strategies used (what skills and/or qualifications did they have)?
- Whom did the intervention target?
- Where and when did the intervention take place?
- For how long was the intervention implemented?

*Example of a summary incorporating each of these questions:*

*The intervention was a campaign to promote healthy eating among all staff in a large teaching hospital in the western suburbs of Sydney. The intervention consisted of two strategies: a change to the foods available for sale in the staff canteen (more low-fat, high-fibre and vegetarian dishes) and halving the price of low-fat and high-fibre foods. The intervention was trialled for a six-month period from January to June 1997. The intervention was a part of a five-year plan (1995-2000) to develop and implement a hospital-wide food and nutrition policy for staff and patients. The food and nutrition policy was initiated by the hospital general manager, supported by other senior managers, clinical staff and staff unions, and was developed in consultation with the hospital staff and local community in 1995 and 1996. The strategies evaluated in 1997 in this study were developed and implemented by the hospital Catering Department (Catering manager and cooks), in consultation with the Department of Nutrition and Dietetics.*

- **Was enough information provided in the paper to enable you to describe the intervention as required above? If not, identify the major deficiencies.**

## A2 RATIONALE AND THEORETICAL BASIS OF THE INTERVENTION

- **What was the rationale for the intervention selected?**

*Hint: the rationale for an intervention may be multifactorial. Look for information to answer the following questions.*

- What were the problems addressed by the intervention?
- What were the reasons given for the intervention(s) adopted to address these problems?

*Example: Hospital management wanted to promote healthy eating among their staff to be in line with the State Government's nutrition policy and to address complaints from some of its staff about the unhealthy foods on sale in the canteen. Previous studies had shown that food choice and price affect the foods sold in retail outlets.*

- **What was the anticipated sequence of events (the program logic) that were intended to link the intervention with its intended effects?**

*Example: Price changes in the canteen may encourage the purchase of low-fat and high-fibre foods, promote an opportunity to try healthy food choices, and potentially contribute to an increase in staff daily fibre intake and a reduction in their daily fat consumption.*

- **Was a formal theory identified as a basis for the intervention strategies adopted (e.g. diffusion of innovation, stages of behaviour change)? If so, what was it?**
- **Was enough information given in the paper to enable you to answer the questions about the rationale and/or theoretical basis of the intervention?**

### A3 STAGE OF DEVELOPMENT OF THE INTERVENTION

- **What was the stage of development of the intervention at the time of its evaluation?**

*Hint: Interventions may go through several stages of planning and evaluation. For example, an intervention may be part of a pilot study; it may undergo detailed process evaluation; or the intervention may be well developed and ready for impact or outcome evaluation. Some interventions may have been shown to be effective in other settings and undergo dissemination evaluation (implementation in a new context).*

- **How ready was the intervention for the evaluation that was conducted?**

*Hint: To determine the readiness of the intervention for evaluation, look for the following information:*

- Was a pilot study or ‘process’ evaluation done before an ‘impact’ or ‘outcome’ evaluation?
- What, if any, prior evaluations of this type of intervention have been done in other settings? If so, were the references cited in the paper or are you aware of these studies from other sources?

*Example: Canteen-based pricing and product strategies to promote healthy eating have been tested in the USA and Europe and been shown to have an impact on staff food choices (references given). The intervention evaluated in this study was pilot tested in 1996 (reference given), and these local strategies appeared to be ready for the impact and outcome evaluation reported in the paper.*

## SECTION B EVALUATION OF INTERVENTION

### B1 OVERVIEW OF THE EVALUATION

- **Exactly what research questions were asked in the evaluation?**
- **What study design or type of research method was used in the evaluation?**
- **What measures of effect or intervention outcomes were examined?** *For example, evaluation of an immunisation program may focus on one or more of the following outcomes - access to immunisation services, distribution and cold storage of vaccines, the delivery of immunisation services, immunisation rates, or the impact of an intervention on occurrence of vaccine-preventable disease.*
- **If the research was not primarily an economic evaluation, were economic factors considered?**

*Hint: Look for information to answer the following questions.*

- How much did the intervention cost?
- What resources were needed to implement the intervention?
- Was value for money assessed? Were intervention costs and resources weighed against intervention benefits (or harms)?

### B2 FURTHER INFORMATION ON OBSERVATIONS OR MEASURES

- **From whose perspective(s) were the evaluation questions formulated?**

*Hint: Evaluations can be designed to answer questions that reflect different perspectives, e.g. the perspectives of consumers, policy-makers, practitioners or academics. Look for the following information:*

- Whose perspective(s) is/are reflected in this evaluation?
- Was enough information given in the paper to enable you to determine this?

- **Did the observations or measures provide information about the implementation of the intervention?**

*Hint: It is important to know how well an intervention was implemented before attempting to measure its impact or outcome. Look for information to answer the following questions.*

- Was enough information given in the paper to enable you to determine how well the intervention was implemented?
- What, if any, process measures were taken?
- Was the intervention adequately implemented?
- Did the implementation differ from what was planned? If so, what was the rationale or explanation for the difference?

- **Were the measures of effect or intervention outcome adequately defined?**

- **Were the measures of effect or intervention outcome validated or pilot-tested? If so, how?**

- **Were the measures of effect or intervention outcome comprehensive?**

*Hint: Look for information to answer the following questions.*

- How well did the observations or measures address the research questions asked in the study?
- Was there a capacity to identify and measure unanticipated, as well as anticipated, benefits and adverse effects?
- Did the observations or measures include relevant individual and group-level effects? *For example, a campaign to promote healthy eating could be assessed by its impact on the diet of defined individuals (individual-level effects) or by its impact on supermarket sales of certain food items (group-level effects).*

- **Was the evaluation conducted from a single perspective or multiple perspectives?**

*Hint: Multiple perspectives often strengthen an evaluation. Multiple perspectives can be derived from combining different types of observations or measures, taking impact and outcome measures over several points in time, using quantitative and qualitative methods, and comparing the perspectives of multiple observers.*

## B3 RIGOUR OF EVALUATION METHODS

Appendix 1 includes several guides for critically appraising the rigour of research methods. Select the relevant critical appraisal guide(s) by the research method(s) used in the study.

- Systematic review of studies of intervention effectiveness (use Guide 1)
- Randomised Control Trial (Guide 2)
- Observational study (Guide 3)
- Economic evaluation (Guide 4)
- Qualitative study (Guide 5)

*Hint: Evaluations of public health interventions often rely on a combination of research methods (e.g. quantitative and qualitative). Where two or more methods (or study designs) are reported, you will need to refer to more than one critical appraisal guide. This may highlight discrepancies in the quality of different components of the study, or discrepancies in the adequacy with which those components were reported.*

Once you have appraised the study using the relevant guide(s), answer the remaining questions in Section B3 (below).

- **How appropriate was the evaluation study design in relation to the evaluation questions posed in the study?**

*Hint: Take into account the intervention and the evaluation questions posed in the study. Include the following information in your answer:*

- What would the best, feasible study design have been? *Hint: For evaluations that aim to quantify intervention effectiveness, take into account the hierarchy of study designs outlined in Appendix 2 (Figure1).*
- Did the study design used differ from this? If so, how?
- Were reasons given for the method used? If so, what were they?

## SECTION C INTERVENTION CONTEXT

### C1 DESCRIPTION OF THE INTERVENTION CONTEXT

- **What aspects of the evaluation context were identified in the paper?**

*Hint: What information does the report provide about the context in which the intervention was evaluated. Look for the following information:*

- Demographic characteristics of the group receiving the intervention?
- Social and cultural factors, concurrent social changes or social movements?
- Organisational factors, physical environment, time of year?
- Economic climate and the availability of resources?
- Political or policy environment (including institutional policies and management support for the intervention)?
- Skills and experience of those implementing the intervention?

- **Is the context in which the intervention was evaluated described in sufficient detail to enable comparison with contexts in which the intervention might be implemented?**

*Hint: Insufficient detail about the evaluation context is often an important limitation of evidence about an intervention's effectiveness. Intervention strategies and intervention effects vary in the degree to which they are context dependent. For example, the efficacy of a screening procedure may not depend much on the social context, while a campaign promoting its uptake by the general public is likely to be very context-dependent. Answer the following questions:*

- How dependent on the context is/are the intervention(s) evaluated in the study?
- Is sufficient detail on the context provided? If not, what information is missing?

## C2 INTERACTIONS BETWEEN THE INTERVENTION AND THE CONTEXT

- **Which interactions, if any, between the intervention and the context were investigated?**

*Hint: Researchers may report whether an intervention was easier or more difficult to implement in some settings compared to others. They may also report whether it was more or less effective in different settings or circumstances.*

- **Was there enough detail provided about interactions between the intervention and its context, so that enabling factors can be replicated and adverse effects avoided in the future?**

- **Were the interactions to be examined selected before the intervention was implemented or (if post-hoc) targeted and based on a clear rationale?**

*Hint: Multiple post-hoc statistical tests for interaction effects are likely to give spurious findings of statistical significance.*

- **Are there other important potential interactions between the intervention and its context that should have been considered (but were not)?**

*Hint: Identify important interactions that should have been considered?*

## SECTION D EVALUATION FINDINGS

### D1 FINDINGS

- **What findings were reported from the study?**

*Hint: Look for information to answer the following questions:*

- What were the beneficial and adverse effects? *Where relevant, give the estimates of effect and their confidence intervals.*
- Were there unanticipated effects? *Note whether the intervention had an effect on the community or setting other than the stated objectives.*
- What was the cost and cost effectiveness of the intervention?

- **Did the study achieve the stated objectives?**

*Example: An objective may be to achieve a 50% reduction in the prevalence of smoking, but the results report a 20% reduction, therefore the study did not achieve its stated objectives, although the findings were statistically significant..*

### D2 DIFFERING EFFECTS AMONG SUB-GROUPS

- **Were reported intervention effects examined among sub-groups of the target population?**

*Hint: Sub-groups may be identified by (for example) gender, age, socio-economic status, or ethnicity. If sub-group effects were examined, answer the following questions:*

- What sub-groups were identified and explored?
- How did the effects of the intervention differ among the sub-groups explored?
- Were reasons for different intervention effects in the sub-groups explored? If so, what was/were the explanation(s) given?

- **Were the sub-group effects to be examined selected before the intervention was implemented or based on a clear rationale?**

- **Are there other important sub-group effects that should have been considered (but were not)?**

*Hint: Identify important sub-groups that should be have been considered?*

### D3 SUSTAINABILITY OF THE OBSERVED EFFECTS

- **Were the intervention outcomes sustainable?**

*Hint: It is quite common for evaluations to measure effects immediately after an intervention, but not to consider the sustainability of those effects. This is often an important gap in the evidence. Answer the following questions:*

- For how long were data collected about the effects of the intervention?
- How long were the reported intervention effects sustained?

### D4 ATTRIBUTABILITY OF OBSERVED EFFECTS TO THE INTERVENTION

- **Are observed effects attributable to the intervention, or do other possible explanations exist?**

*Hint: Confounding occurs when observed effects could have been due to factors other than the intervention.*

- What potential confounders exist?
- Were these adequately addressed (controlled for) in the study design or analysis?

### D5 VALUE OF OBSERVED EFFECTS

- **Was there a report on the value of the effects to those interested in or affected by them?**

*Hint: The target group, the wider community, local practitioners, fund holders and policy makers are likely to have different interests in the reported intervention effects (e.g. whether the effects are clinically important, value for money, or a political priority).*

- **If there was a report on the value of the effects, this speculative (by the authors) or based on empirical data? Give details.**

## **SECTION E    APPLICABILITY OF THE RESEARCH**

### **E1    COMPARABILITY OF TARGET GROUP OR SETTING**

- **Are the characteristics of the target group or target setting, as described in the evaluation research, comparable to the target group or target setting that is being considered for future implementation?**

*Hint: Provide the following information:*

- If the target groups are similar, then how?
- If the groups are different, then how?
- **If there are significant differences, what are the potential implications for the applicability of the research? Why?**

### **E2    REPRODUCIBILITY OF INTERVENTION**

- **Are the intervention and its component strategies described with sufficient precision to be reproducible?**
- **Is the capacity to implement the intervention in the new setting comparable to the capacity described in the evaluation?**

*Hint: The capacity to implement the intervention may depend on several factors e.g. resources, skills of local people, organisational factors or the policy and political environment. Answer the following questions:*

- How comparable are the important contextual factors in the implementation setting (e.g. social and political) with those described in the evaluation?
- Could the essential components of the intervention be replicated in practice in the new implementation setting?

### **E3    TRANSFER OF OBSERVED EFFECTS**

- **Can the results be applied to the new population for whom the intervention is being considered?**

- **Are the effects of the intervention big enough to be important to people who will be affected by them?**

*Hint: Consider the magnitude and social and / or clinical importance of the intervention effects, in addition to their statistical significance.*

- **If an economic evaluation was conducted, did the report include and address the issues that are required to inform an investment decision?**

*Hint: Consider whether the study provided the information required to make decisions about whether to invest (or not to invest) in the intervention that was evaluated? Indicate what relevant information was provided and what information was missing.*

## **SECTION F ETHICAL CONSIDERATIONS**

### **F1 INTERESTS AND CONFLICTS OF INTEREST**

- **How was the evaluation research funded?**
- **Was the intervention, or its component parts, sponsored (e.g. provision of resources, products, education materials etc)?**

*Hint: If the intervention was sponsored, describe who sponsored the intervention and how.*

- **Was there a significant potential for conflict of interest (in the way the intervention and / or its evaluation were funded and implemented) that might affect interpretation of the findings?**

*Hint: Answer the following questions:*

- What was the relationship between those involved in planning, implementing and funding the intervention (their objectives and interests) and those conducting the evaluation of that intervention (their objectives and interests)?
- What is the potential impact of the relations on the study findings?
- **Was enough information provided to make an assessment about potential conflicts of interest? If not, what information is missing?**

### **F2 EQUITY CONSIDERATIONS**

- **What groups or communities did the intervention target?**
- **Was the recipient community involved in developing the intervention? To what degree?**

*Hint: Some interventions may be developed in partnership with the target community, while other community consultations may be largely tokenistic.*

- **Was the relative impact on disadvantaged groups assessed?**

### **F3 ADVERSE EFFECTS**

- **Were there any potential side effects or harms for the target group, or for those recruited to carry out the intervention?**

## **SECTION G SUMMATION OF EVIDENCE FOR EACH INDIVIDUAL PAPER OR REPORT**

*Answers to the questions in section G of the schema should be based on your replies to questions posed in sections A to F.*

### **G1 SUMMARY OF EVALUATION**

- **Prepare a summary of the study by completing the table below**

<b>Intervention</b> (Section A)	
<b>Target group(s)</b> (Section A)	
<b>Setting / Context</b> (Section C)	
<b>Research questions</b> (Section B)	
<b>Evaluation study design</b> (Section B)	
<b>Methodological weaknesses</b> (Section B)	
<b>Findings</b> (Section D)	
<b>Transferability of findings</b> (Section E)	

## G2 CONCLUSIONS ON EVALUATION

- **Overall, was the study good enough to inform your conclusions about the intervention?**

*Hint: Answer the following questions:*

- Was the intervention adequately implemented in the research context?
- Was the evaluation sufficiently rigorous? *Hint: Take into account your appraisal of the study design and the research methods.*
- Were the measured effects attributable to the intervention, or could they have been due to influences other than the intervention? *Hint: Think about the research rigour and the magnitude of the measured effects?*
- **How convinced are you that the intervention has the potential to be effective (or that it is unlikely to be effective) in a new setting?**

*Hint: Give reasons for your answer. Answer in relation to the setting proposed for future implementation of the intervention if one has been identified.*

- **Are there other lessons to be learnt from this study?**

*Example: If the evaluation methods were poor but the described intervention seemed promising, you may recommend a proper evaluation in a new setting. If the evaluation methods were good but the intervention was inadequate, you may recommend better intervention development prior to further evaluations.*

*Continue to answer the remaining questions in Section G2 only if the study was good enough to inform your conclusions about the intervention.*

- **Could the intervention and its component strategies be replicated in the new setting? If so, to what degree? Give reasons for your answer.**
- **What were the costs and resource requirements of the intervention, as determined in the evaluation research?**
- **If cost-effectiveness or cost-efficiency was assessed, what did the assessments show?**
- **Did the findings in this publication help you to contribute to the overall purpose of the literature review? Briefly explain your answer.**

*Hint: Those conducting the review may have a different, broader or more specific question from the research questions addressed in the available publications.*

## SECTION H SUMMATION OF EVIDENCE FROM COLLECTED RESEARCH REPORTS

*Formulate a judgement on the body of evidence about the intervention under consideration, based on the critical appraisal summaries that have been produced by applying sections A to G to all the papers included for review. Prepare a summary statement on the body of evidence by answering the following questions:*

- **Were some studies in the review good enough to serve as a basis for decisions about implementation of the intervention(s) evaluated?**

*Hint: Identify which studies (and how many) were good enough to inform your conclusions. Base your answers to the remaining questions on those studies that you thought were good enough.*

- **What does the body of research tell us about the intervention?**

*Hint: Answer the following questions:*

- Has the intervention been shown to work?

*If it worked:*

- In what context did it work?
- For whom did it work, and for whom did it not work?
- Can you identify factors that are necessary for its success?

- **Did studies with similar research questions produce consistent results? Give details.**
- **Did studies examining different research questions produce compatible results? Give details.**
- **What are the important gaps in the body of available evidence?**
- **Overall, to what degree was the research convincing? Explain your answer.**
- **Do the contexts in which the intervention has been evaluated correspond to the setting for which the intervention is being considered?**
- **Overall, to what degree are the review findings applicable to the new setting for which the intervention is being considered?**

## **APPENDIX 1**

Critical Appraisal Guides 1 to 5.

(Note: Guide 3 not included at this stage)

## APPENDIX 2

Figure 1: Hierarchies of study design and designation of levels of evidence<sup>6</sup>

Study design	Level of evidence
Systematic review of all relevant randomised control trials (RCT)	I
Properly designed RCT	II
Well-designed pseudo-randomised controlled trial (e.g. alternate allocation)	III-1
Comparative studies (or systematic reviews of such studies) with concurrent controls and allocation not randomised, cohort studies, case-control studies, or interrupted time series with a control group	III-2
Comparative studies with a historical control, two or more single arm studies, or interrupted time series without a parallel control group	III-3
Case series, post-test or pre-test/post test, with no control group	IV

This hierarchy of study designs (also commonly referred to as “levels of evidence”) was developed by NHMRC and others<sup>7 8</sup> to indicate the relative potential for bias in alternative epidemiological studies (there is an increasing potential for bias from top to bottom).

It is important to be aware of the relative strengths of alternative epidemiological studies. However, when deciding if a study is “good enough” to inform your conclusions about an intervention (Section G2 of the schema), it is also important to note that in some public health settings it may only be feasible, or politically and/or ethically acceptable, to conduct observational studies.

---

<sup>6</sup> National Health and Medical Research Council. How to Use the Evidence: Assessment and Application of Scientific Evidence, p8. AusInfo, Canberra, 2000.

<sup>7</sup> Canadian Task Force on the Periodic Health Examination. The Periodic Health Examination. *Canadian Medical Association Journal* 121:1193-1254, 1979.

<sup>8</sup> NHS Research and Development Center for EBM:  
Online: <http://cebm.jr2.ox.ac.uk/docs/levels.html>