European Project
Getting Evidence into Practice

Inventory report of the existing review protocols Getting Evidence into Practice (GEP), Strand I 31-03-2005

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The Getting Evidence into Practice Project, (Evidence Consortium, GEP, Grant agreement no 2003123 (790841)) is funded by the European Commission (DG Sanco/G). Neither the European Commission nor any person on its behalf is responsible for any use that may be made of the information contained therein.

Content

Acknowledgement

We thank all GEP project team members and partners for their valuable input. We want to express special thanks to Prof. Maurice Mittelmark, University of Bergen and Dr. Vivian Bos, NIGZ, who helped with the analysis of the original language protocols.

Abbreviations

CRD = Centre for Reviews and Dissemination
EBM = Evidence Based Medicine
EPPI = Evidence for Policy and Practice Information and Co-ordinating Centre
EU = European Union
EUPHA= European Public Health Association
FCHP = The Finnish Centre for Health Promotion
GEP = Getting Evidence into Practice project
HDA = Health Development Agency (currently NICE= National Institute of Clinical Excellence)
HEN = Health Evidence Network
HP = Health Promotion
HP/PH = Health Promotion and Public Health
HTA = Health Technology Assessment
IDM = Interactive Domain Model
IUHPE = International Union for Health Promotion and Health Education
KTL = National Public Health Institute
LEPSS= Learning from Effective Standard System Project
NICE = National Institute of Clinical Excellence
NIGZ = Netherlands Institute for Health Promotion and Disease Prevention
PH = Public Health
RCT = Randomised Control Trials
UK = United Kingdom
UNICEF= United Nations Children's Fund

1 Introduction

Knowing how to use the available research literature and expertise is imperative for ensuring effective health promotion (1-5). Effective, high quality health promotion policy and practice depend on the availability of information from existing research and evaluation, statistical sources and expert knowledge. Evidence-based health promotion requires conducting extensive cross-disciplinary literature search, selecting the most effective of the relevant programmes and applying rules of evidence and appraisal of study quality to determine the validity of the findings. It also requires attention to recognized health promotion concepts, sociocultural factors and organizational factors. (6) In addition, much of the practice in health promotion consists of looking outside the health promotion field (policy, social sciences etc.) for what works in health promotion. This implies a very broad understanding of how evidence is gathered. (4)

The logic of evidence-based practice identifies a cyclic relation between evaluation, evidence, practice and further evaluation (7, 8). Identically, health promotion/public health (HP/PH) practice should be evidence-based. One of the tools for collecting evidence used by health promotion practitioners (practitioners, decision makers as well as researchers) is systematic review of the existing evidence. A systematic review is a method of identifying, appraising and synthesizing research evidence (7, 9). In the context of evidence-based practice, these evidence reviews tend to be technical processes that require a good understanding of research methods and that are guided by review protocols and standard criteria (7).

There are many systematic review initiatives internationally, several of which have focused specifically on health promotion and public health topics and interventions (10). However, most of these initiatives have used review protocols designed for medical and clinical studies (and applied to health promotion). Speller et al (3) have cautioned that considering health promotion with the tools used in Evidence Based Medicine (EBM) carries the risk that health promotion may be designated ‘not effective’ because it is assessed with inappropriate tools. In addition, the selection of studies is done on the basis of the quality of research only, not on the quality of the health promotion interventions. (3)

Even if the adaptation of the EBM review protocols has been common in the field of HP/PH, there have been significant attempts to address scientific evidence for health promotion. The most recent attempts to encounter the challenges of HP/PH in reviewing the evidence are Cochrane health promotion and public health field’s guidelines for reviewers of health promotion and public health interventions (11) and the initiative of the Health Development Agency, HDA Evidence Base (http://www.hda-online.org.uk/). The National Health Service Centre for Reviews and Dissemination in UK, which have close ties with the Cochrane Collaboration, produces systematic reviews of health interventions, predominately health care interventions, but several health promotion and disease prevention reviews have also been conducted (http://www.york.ac.uk/inst/crd/index.htm.

CRD: NHS Centre for Reviews and Dissemination). All of these initiatives have their own instructions on how to find, define and summarize evidence.

Some comparison reports and inventories of the existing review protocols used in health promotion /public health field exist. Jacksons et al (11) have made on an assessment of the methods and concepts used to synthesise the evidence of effectiveness in heath promotion. They compared 17 review protocols and initiatives and have listed ideal features for reviewing process from health promotion and public health field perspective.

Even if some initiatives to compare the existing review protocols do exist, the analysis of the existing review protocols in the field of health promotion and public health would provide information on the stages of reviewing process as well as challenges to be met when reviewing information for HP/PH. Most of the existing review protocols concentrate on finding evidence from research (randomised control trials (RCT) and from published documents. However, little emphasis has been given to finding evidence from practice and from expert opinion.

2 Aims

Strand I, Review protocol is one of the strands within Getting Evidence into Practices project (GEP). It aims to gather existing review protocols in the field of HP/PH, compare these, and find the key issues to be addressed in conducting reviews in the field of public health. Based on the analysis of existing review protocols a consensus review protocol is to be developed.

Inventory report of the review protocol is one of the strand I deliverables. This inventory report aims at:

- Finding the existing review protocols used in and/or designed for health promotion/public health topics
- Analysing the existing protocols: Stages of the reviewing process and instructions
- Discussing on the strengths and weaknesses according to the challenges to be met when reviewing HP/PH.

The overall aim of the strand I is to support the main aims of the GEP by producing a consensus-based review protocol on how to select instruments, literature and expertise as they appear in research, policy and documents. This inventory report aims to help this development work by describing information on already existing review protocols and by relaying on the current practices and existing experience in different countries (18 project team members/partners from 15 countries). The information gathered during the project is aimed at public health policy and decision makers as well as health promotion practitioners and researchers. Ultimate key actors of this project are the health promotion professionals across Europe.

3. Theoretical framework and concepts

3.1 From information to evidence: sources of information

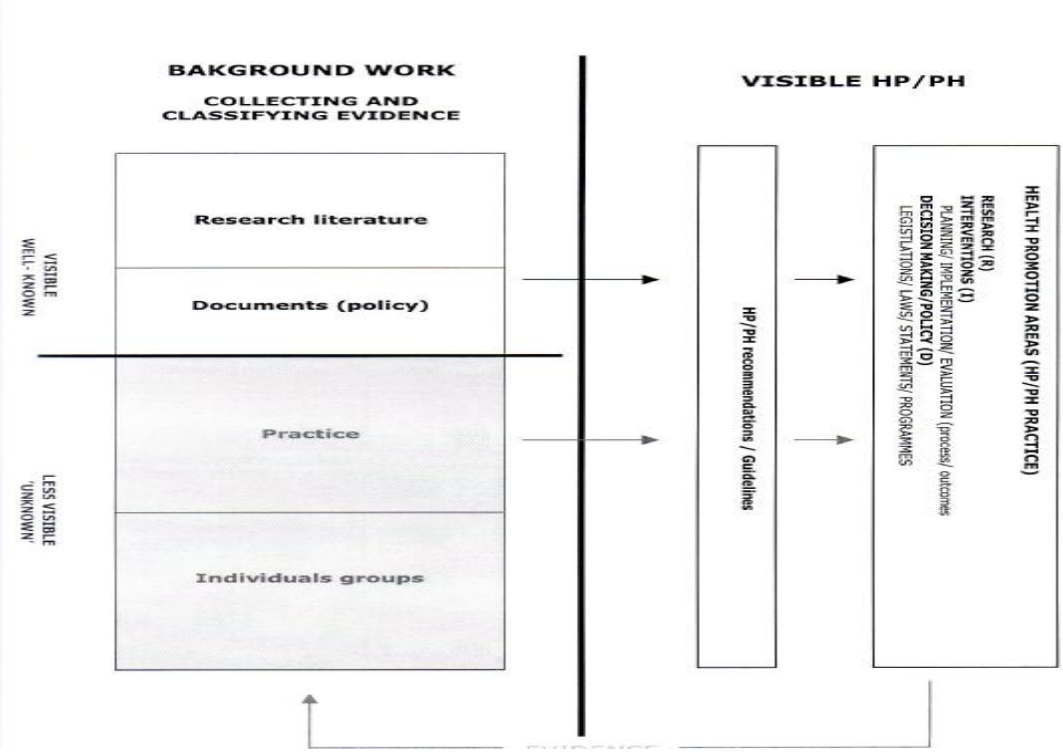
When reviewing the evidence of health promotion effectiveness, one will usually find that several studies yield discrepant findings on a topic and that they are done with varying quality (4, 12). This raises the question on how to pick the most reliable evidence, and how to decide what passes for evidence. What constitutes evidence and how to assess it are fundamental ontological and epistemological questions. Within the GEP project, scientific evidence is seen as crucial, but a limited form of evidence. Scientific, professional and community groups make legitimate claims to expertise, and often these claims compete with each other (6). Research evidence comprises various combinations of study types (RCTs, qualitative studies, etc.) and it has been seen as the highest and most reliable form of evidence. On the contrary, expert opinion has been identified as the least reliable form of evidence on the effectiveness of interventions, and positioned at the lowest level in the hierarchy of evidence (http://www.cebm.net/levels_of_evidence.asp). It has been even stated that expert opinions are not useful or appropriate because they are qualitatively different from the forms of evidence that are derived from research (13). However, expert opinion, in the sense of the view of one person or consensus view of a group of experts, can also be regarded as a means by which research is judged and interpreted, rather than as a weaker form of evidence (7). In addition, experts can also function as information sources, or as a way to find additional sources. In any case, in the real life practice and functioning of health promotion, much of the work is largely based on the experience and expert opinions.

The GEP project builds on a broad definition of 'evidence'. Evidence is not restricted to the results of "hard" scientific research, but should be seen as the broader answer to the question regarding what works in health promotion and public health. In addition to RCTs and publications in peer reviewed journals, this definition also allows the use of other valuable information sources, including the views of experts and examples of good practice. In this way evidence can encompass data derived from several sources of research and practice, which can be combined and compared (Figure 1.). Besides written information, attention should be given to expert knowledge and secondary sources, including the internet. It is not only important to establish evidence on what works in health promotion, but also to understand how things work and why they work, as well as where they work. This implies that in addition to the outcome evaluation, the evaluation of processes is also important, providing insight into the conditions for successful implementation and replication.

The Learning from Effective Practice Standard System, LEPSS project (14) stresses that the need for a systematic approach in planning, delivering and collecting interventions designed to improve health is evident from a number of reviews. Lots of information exist on how to collect information on already published research literature, but very little is known how to collect information from

practical knowledge (Figure1.). The LEPSS project outcome document cautions that there are many examples of what appear to be effective local interventions that are never 'written up' or published in academic journals. This practical knowledge about what is working on the ground needs to be captured and shared in a systematic way. Only then can it be combined with what can be ascertained from the published literature so that robust guidance can be given to policy makers and practitioners about what works, what to invest in and where to disinvest (14). The importance of widening the evidence base has been recognised also by many other projects (15-19).

Figure 1. Collection and classification of the evidence: background work for health promotion



3.2 Reviewing process and review protocols

Knowing how to use the available research literature and expertise is imperative for ensuring effective health promotion (1-4). Effective, high quality health promotion policy and practice must be based on information from the existing evaluation research, statistical and epidemiological sources and expert knowledge. Collecting this evidence requires conducting extensive cross-disciplinary literature searches, selecting the most effective programmes and applying quality appraisal criteria to determine the validity of the findings. It also requires paying attention to agreed-upon health promotion concepts, socio-cultural and organizational factors (6). In addition, health

promotion also involves looking outside of the health field and including evidence from policy and social sciences research. This implies a broad understanding of how evidence is gathered (4). Furthermore, the logic of evidence-based practice identifies a cyclic relation between evaluation, evidence, practice and further evaluation (7, 8). Thus, health promotion and public health practice should build on evidence-based practice.

In order to collect the existing evidence according to the above principles, health promotion researchers make use of systematic reviews. A systematic review is a method of identifying, appraising and synthesizing research evidence (7, 9). In the context of evidence-based practice, these evidence reviews tend to be technical processes that require a good understanding of research methods and that are guided by review protocols and standard criteria.

A wide variety of terms is used to describe reviewing activities including literature reviews, scooping studies, briefing papers and rapid reviews (20). In addition to wide variety of terms there is a wide variety of approaches to reviewing evidence, from traditional reviews to rapid reviews and systematic reviews. Basic differences between traditional and systematic review have been described in Table 1.

Table 1. Comparison of systematic reviews and traditional review (21)

Systematic reviews and traditional review compared (21)		
	Good quality systematic reviews	**Traditional reviews (narrative reviews)**
Deciding on review question	Start with clear question to be addressed or hypothesis to be tested	May also start with clear question to be answered, but they more often involve general discussion of subject with no stated hypothesis
Searching for relevant studies	Strive to locate all relevant published and unpublished studies to limit impact of publication and other biases	Do not usually attempt to locate all relevant literature
Deciding which studies to be included and excluded	Involve explicit description of what types of studies are to be included to limit selection bias on behalf of reviewer	Usually do not describe why certain studies are included and other excluded
Assessing study quality	Examine in systematic manner methods used in primary studies, and investigate potential biases in those studies and sources of heterogeneity between study results	Often do not consider differences in study methods or study quality
Synthesising study results	Base their conclusions on those studies which are most methodologically sound	Often do not differentiate between methodological sound and unsound studies

Systematic reviews provide information about effectiveness of interventions by identifying, appraising, and summarising the results of research. They differ from traditional reviews in that they use a replicable, scientific and transparent approach, which seeks to minimise bias. (31) By following predetermined methodology systematic review process aims to ensure reliable and rigorous evaluation of evidence (3). This predetermined methodology is usually collected to review protocol specifying the plan, which the review will follow to identify, appraise and collate evidence (31). Protocol is a sort of preparatory document including the decision points to be taken into account when conducting a review. Review protocol is a useful tool for promoting transparency, transferability and replicability of the reviewing process outlining what the reviewer indented to do and makes it possible for the review to be repeated at the later date by others (21). In the GEP project a review protocol is seen as a well-developed instruments (agreed principles/rules) that have been (pre)tested and that have been acknowledged by the institutes/stakeholders involved as a useful instrument for gathering, selecting and translating information/data on a (health) topic from different sources in a way that best reflects evidence.

There are many systematic review initiatives internationally, several of which have focused specifically on health promotion and public health topics and interventions (10). However, most of these initiatives have used review protocols designed for medical and clinical studies, and applied them to health promotion. Speller et al (3) have cautioned that considering health promotion with the tools used in evidence-based medicine carries the risk that health promotion is designated as 'not effective' because it is assessed with inappropriate tools. In addition, in the current EBM protocols studies are selected on the basis of their research quality, and not of the quality of the health promotion interventions.

To counter the inherent problems, attempts have been made to address scientific evidence specifically for health promotion. The most recent attempts in this regard are the development of a guideline for reviewers by the Cochrane Health Promotion and Public Health field (11), and the Evidence Base Initiative of the Health Development Agency in England (19). The National Health Service Centre for Reviews and Dissemination, UK, which have close ties with the Cochrane Collaboration, has produced a number of systematic reviews of health promotion and disease prevention interventions. All of these initiatives have their own instructions on how to find, define and summarize evidence. Most of the existing protocols concentrate on evidence from research (mostly RCTs) and from published documents, while little attention is given to evidence from practice and from expert opinions. One of the challenges of the GEP project is to broaden this scope, and to include non-research based evidence on health promotion effectiveness, as well as qualitative research and other qualitative information. The GEP project will not be limited to an inventory of existing review protocols in the field of public health and health promotion, but it will also compare and analyse these protocols, identify gaps, and consider their respective applicability in the field of health promotion. Issues like their theory base, contextual aspects, and replicability, applicability by different end users, and the value of the protocols in adding to the knowledge base of health promotion effectiveness, are of central interest.

3.3 Challenges in reviewing information for HP/PH

Reviewing literature for health promotion and public health topics can be very time-consuming task, partly due to health promotion and public health terminology being non-specific. Health promotion and public health interventions can be very complex and are often influenced by the context of the interventions (22). In addition, a great deal of studies in this area is observational, for which search strategies, critical appraisal and data synthesis present their own challenges. Due to the broad nature of the interventions a review of the health promotion or public health literature may turn be very broad, resulting in an often lengthy and complex process (23). As the health promotion field is multidisciplinary, both qualitative and quantitative information is acceptable and a variety of discipline-specific databases need to be consulted. Health promotion field also applies many different theories at different levels. Because health promotion practice is often multidisciplinary and intersectorial, it is important to be clear about the theories, concepts, definitions and expectations reviewers have from the beginning (11).

When assessing and comparing 17 review initiatives in the field of health promotion Jackson (11) found some general challenges of conducting a synthesis of the evidence in the health promotion field. Also Cochrane's initiative to develop a review protocol for health promotion and public health topic listed some challenges for reviewing process (23, 24). The priority issues to be addressed within the health promotion and public health specific review guidelines include the following:

1. Planning a review
   - setting up an advisory group, involvement of users, consumers
   - broad versus narrow questions
   - involvement of review end users
2. Studies to be included in a review
   - inclusion of controlled before/after studies, non-controlled before/after studies, interrupted time series designs, process evaluations and qualitative research
3. Finding the evidence
   - complexities of searching for health promotion studies
   - hand searching public health and health promotion-related journals
   - useful health promotion and public health-related electronic databases
4. Assessment of non-randomised studies
   - quality criteria
   - assessment of complex interventions (including RCTs)
5. Synthesis of studies
   - heterogeneity
   - combination of results from different study designs
   - narrative synthesis
   - meta-study of qualitative research

6. Other issues
    - integrity of interventions
    - theoretical framework
    - equity
    - sustainability
    - public health ethics
7. Applicability and generalisability of the results
    - context issues (24).

According to Jackson et al. (11) the existing review protocols have already address some of the key challenges. For example the role of the theory in screening and identifying of studies has played an important role in the reviewing process via interdisciplinary team in guiding the review, using analytical frameworks or logic models and being explicit about definitions and theoretical underpinnings. (11). But the role of theory poses still challenges for systematic reviews. Although many public health interventions are planned and implemented without explicit reference to theory, there is substantial evidence from the literature to suggest that the use of theory will significantly improve the chances of effectiveness. Depending on the level of intervention (individual, group, or organisation) or type of change (simple, complex behaviour etc.) different theories may have greater relevance. (25) Also the assessment of theory in the systematic reviews would help e.g. to explain the success or failure of different interventions or assist to identify the key elements or components of an intervention (23).

In addition to the theory base, widening the evidence base from research to other sources of information is already somehow covered in the existing comprehensive review protocols (11). However, there is still room for improvement and arguments for broader criteria around what constitutes an appropriate range of studies from which to obtain evidence. Both qualitative and qualitative information as well as subjective and objective indicators are important. The use of qualitative methods will help to acquire a better understanding of the meaning of the contextual factors. In addition, it may also be useful for achieving generalisability or transferability when representativeness of the sample cannot be achieved (26). Initiatives to widen the evidence base to include also community knowledge and expertise (6, 26) have also been made. A broader inclusion of evidence (sources of information) creates challenges also to the analysis and synthesis phase by adding to the scope and complexity of these phases (11).

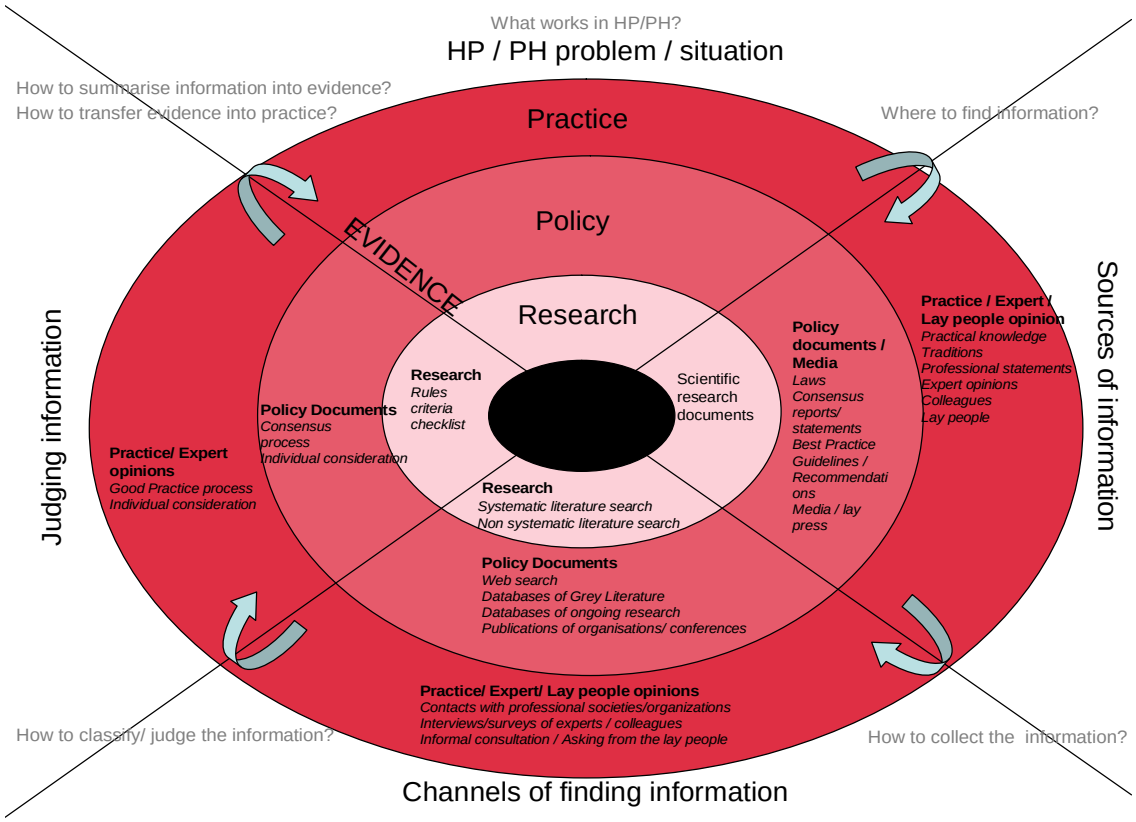
The relevance and value of the systematic reviews is enhanced if the potential users of the review are involved in relevant stages of the process (7). External evidence (derived from research) can inform but can never replace the expertise of individual practitioners. The practitioners/experts decide whether the external evidence is appropriate for the target group of an intervention at all, and if so, how it should be used for achieving effectiveness (22). Getting evidence into practice is dependent on the practitioners' involvement. Health promotion practitioners are required to absorb

and use knowledge in many competency areas (22). The involvement of practical knowledge as well as practitioners to the reviewing process is also a challenge for the reviewing process.

3.4 Theoretical framework

Due to the fact that there are no guidelines or consensus views on how to define the wide range of sources, processes and criteria of evidence used in health promotion, a conceptual map on collecting and defining evidence for health promotion and public health was developed (Figure 2). Especially the areas other than published research literature have been neglected in the recent evidence-based thinking. However, practical health promotion does not solely rely on the published evidence of the reviews or empirical research reports, but has to rely on sources such as documents, expert opinions, practice and experience. Thus collecting information for health promotion and public health is seen to go through all the health promotion arenas: research, policy and practice. Conceptual map developed is based on Nutbeam's Health Promotion Planning and Evaltuation Cycle (25) as well as Knowledge management Cycle (40) and feedback received from GEP project team members and partners.

Figure 2. Collecting and defining evidence for health promotion and public health



4 Methods

An inventory of existing review protocols in the field of health promotion and public health was conducted to be able to compare reviewing process between the existing review protocols. Data collection of the existing review protocols was conducted by an extensive literature search and a questionnaire (Annex 1.) sent to the GEP project team members and partners. The analysis of the review protocols was conducted by two independent researchers with the help of the predetermined criteria.

4.1 Survey on review protocols

4.1.1 Development of the survey

The aim of the survey was to gather information on the review protocols used by the GEP participants to gather evidence for health promotion (HP) and on the quality criteria used to define and classify the evidence in HP. The survey included questions on background information on HP, collecting evidence, defining/ classifying evidence, country-specific protocols and need of training.

Both structured and open questions were used. The open questions were considered valuable in giving information and insight into the variety of protocols and practices used, instead of authoritatively giving a checking list of the main instruments generally used. The questionnaire was piloted in three institutions: NIGZ (H. Saan, J. Bouwens and C. Nijboer), The Finnish Centre for Health Promotion (FCHP) (P. Koskinen-Ollonqvist) and the Swedish National Institute of Public Health (C. Källestål). After the pilot survey a further editing of the questionnaire was done.

4.1.2 Carrying out the survey

The questionnaire developed was sent electronically in 24th June 2004 to 18 institutes, of which 10 were project team members and 8 were partners of Strand I. In addition, the questionnaire was sent to 3 institutes interested in the project (National Centre for Health Services Norway, The Finnish Centre for Health Promotion (FCHP) and Cochrane health promotion and public health field, Australia). Together with the questionnaire, also the tentative conceptual map, and the summary of GEP project was sent. Ten institutes returned (electronically) the filled in survey.

4.2 Review literature: Searching data on existing review protocols

Existing review protocols were searched through extensive web-based search strategy. Databases with published literature (Medline, Web of Science, PsycInfo) were searched with search terms:

- MEDLINE (3rd -5th May 2004, Review Literature, Systematic review, Models/Theoretical, Decision Support Techniques, Data Collection/methods Evidence-Based Medicine, Health Promotion / Health Promotion/methods/ standards. Search limited to 1994-2004)
- Web of Science (6th-10th May 2004, with search terms Review Literature, Systematic review, Methods, Data Collection/methods, Evidence, Health promotion, Evidence-Based health promotion, public health. Search limited to 1994-2004)
- PsycInfo (11th – 14th May 2004, with search terms Review Literature, Systematic review, Methods, Data Collection/methods, Evidence, Health promotion, Evidence-Based health promotion, public health. Search limited to 1994-2004).

In addition to the database search free Internet search via Google (17th-21st May 2004, using search terms review protocol/ systematic review/ handbook/ guidance / health promotion/ public health / evidence based health promotion/ evidence based public health) was conducted**.** More information was gathered by visiting websites of relevant institutes and organisations, also outside Europe, with experience in the field of gathering and evaluating evidence in HP, and contacting/consulting representatives of the relevant institutes. Websites were found through;

- HDA Evidence base. Gateway. NHS Health Development Agency [Website]. Available at: http://www.hda-online.org.uk/evidence/gateway.html. Accessed May 24, 2004.
- Netting the Evidence. SCHARR, University of Sheffield, School of Health and Related Research [Website]. July 2002. Available at: http://www.nettingtheevidence.org.uk/ Accessed May 26, 2004
- USEFUL LINKS. Cochrane Health Promotion and Public Health Field. Available at: http://www.vichealth.vic.gov.au/cochrane/links/index.htm Accessed May 23 2004.
- Summary of Sources of Research Evidence. EPPI Centre (Evidence for Policy and Practice Information) [Website]. Available at: http://eppi.ioe.ac.uk/EPPIWeb/home.aspx?page=/hp/online_evidence.htm. Accessed June 6, 2004.

All the review protocols, which were designed for health promotion and public health field were included as well as review protocols used in the health promotion or public health topics. Review protocols designed for evidence-based medicine, clinical practice, nursing / health care were excluded. Also topic-specific (summary) reviews, project or event-specific reviews as well as review protocols of economic evaluation were excluded. Protocols that did not include precise instructions on conducting the whole reviewing process were also excluded.

5 Results

5.1 Results of the survey: European experiences in reviewing information on HP/PH topics

Information was received from 10 project team members and 8 partner countries (altogether 17 questionnaires were returned, two institutes had cooperated in filling in the information).

Information on the use of specific review protocol by the GEP project team members and partner countries (institutes) is summarized in Table 2. Review protocols were not commonly used to search information for HP/PH. Only three institutes (n= 3) used a specific review protocol in collecting information from research (HDA, Health Development Agency (18), NIGZ (27), Swedish Institute for Public Health (19, 28). Most of the institutes used non-systematic literature searches (n=11) and systematic literature search (n=10) when searching information on research. In addition, libraries (national and university libraries) and references of publications were mentioned as a tool to find information on research-based evidence.

Only four institutes used a review protocol or a handbook in collecting information from documents (HDA , Health Development Agency (18), Swedish Institute for Public Health Sweden (19, 28) and NIGZ (27). Most of the institutes did not use any protocols in collecting information on non-research. Search tools for finding information in the Web (n=10), such as Google, were the most often used tools to find information from documents. Searching for information on conferences / conference abstracts (n=10) as well as grey literature (n= 8) were also common ways of finding relevant documents other than research.

Databases on ongoing research were not commonly searched (n=5). Only NIGZ (27) and HDA (18) used or named certain protocol in collecting evidence from practice. The most common way of finding evidence from practice was contacts with professional organizations (n=11) such as International Union of Health Promotion and Education (IUHPE), EuroHealthNet, European Public Health Association (EUPHA) and United Nations Children´s Fund (UNICEF) etc. Also interviews of experts (n=8) as well as informal consultation (n=7) were commonly used methods to find the evidence from practice. National Public Health Institute from Czech Republic and Health Scotland used evaluation of health promotion intervention of national initiatives/programmes or local projects as a tool for collecting information from practice.

NIGZ (27) and HDA (18) used or named certain protocol in collecting evidence from individuals/groups. National Public Health Institute from Czech Republic used national HP evaluation programme as a tool for collecting evidence from individuals. The most common ways of collecting evidence/information from individuals were contacts with interest groups/ networks/ working groups (n=11) and interviews of experts or groups (n=9). Also expert panels and Delphi studies were mentioned as a tool for finding information from individuals.

All respondent institutes informed having experienced some problems in collecting evidence. The reasons for problems were:

- Lack of information
- Lack of instruments/protocols
- Lack of time and human capacity
- Resource problems
- Difficulties in finding evidence (too many sources)
- Difficulties in knowing what is appropriate evidence.

Most of the institutes rated having satisfactory or rather limited expertise/know-how/resources in choosing the protocol (53%), using the protocols or tools (65%), classifying evidence (59%), teaching or guidance in the use of the protocol (53%). All institutes had either good (47%) or satisfactory (35 %) know-how in using the internet in collecting the evidence.

Table 2. Use of review protocols in collecting information from research, documents, practice and individuals

		Review protocols used in collecting information from			
Country	**Institute**	**Research**	**Document**	**Practice**	**Individuals**
Czech Republic	National Institute of Public Health	NO	YES	YES	YES
Denmark	National Board of Health	NO	NO	NO	NO
Denmark	University of Southern Denmark, Department of Health Promotion research	NO	NO	NO	NO
England	HDA, Health Development Agency	YES	YES	YES	YES
England	International Health Development Research Centre	NO	NO	NO	NO
Estonia	Estonian Union for health Promotion	NO	NO	NO	NO
Finland	National Public Health Institute, KTL	NO	NO	NO	NO
France	Institution national de prévention et d'éducation pour la Santé INPES	NO	NO	NO	NO
Latvia	Health Promotion Centre	NO	NO	NO	NO
Netherlands	NIGZ-Centre for Knowledge & Quality Management	YES	YES	YES	YES
Portugal	Health Promotion and Education Division (Unit) of the Portuguese Directorate – General Health	NO	NO	NO	NO
Sweden	Swedish Institute for Public Health	YES	YES	NO	NO
Slovakia	National Public Health Authority / Community Health Promotion Centre	NO	NO	NO	NO
Scotland	Health Scotland	NO	NO	YES	NO
Switzerland	Swiss Federal Office of Public health	NO	NO	NO	NO
UK Welsh	Welsh Assembly Government	NO	NO	NO	NO

5.3 Results of the literature search: International systematic review initiatives

There are a number of initiatives and organisations worldwide conducting systematic reviews of the health promotion and public health topics.

Current systematic review initiatives:

1. The Cochrane Collaboration – The Cochrane Health Promotion and Public Health Field:
http://www.vichealth.vic.gov.au/cochrane

2. Guide to Community Preventive Services:
http://www.thecommunityguide.org

3. The Evidence for Practice Information and Coordinating Centre (EPPI Centre):
http://eppi.ioe.ac.uk/

4. Effective Public Health Practice Project:
http://www.city.hamilton.on.ca/PHCS/EPHPP/EPHPPResearch.asp

5. Health Development Agency (HDA):
http://www.hdaonline.org.uk/html/research/effectiveness.html

6. Centre for Reviews and Dissemination:
http://www.york.ac.uk/inst/crd/

7. The Campbell Collaboration:
http://www.campbellcollaboration.org/

8. Swedish Institute for Public Health:
http://www.fhi.se/default 3.aspx

9. Health Evidence Bulletins Wales: Project Methodology 5
http://hebw.uwcm.ac.uk/projectmethodology/title.htm

Some of the initiatives do not yet have own review protocols, but the review protocols they use are under development (HEN), or their protocols (Schema) are not pure review protocols including only some instructions on how to do certain part of the reviewing process (such as quality assurance).

Such initiatives are for example:

1. Schema for Evaluating Evidence on Public Health Interventions
http://www.nphp.gov.au/publications/phpractice/schemaV4.pdf

2. Health Evidence Network, HEN
http://www.euro.who.int/hen

5.4 Results of the survey and literature search: Existing review protocols

All together 16 review protocols designed for health promotion or used for health promotions topics were identified through the web based search and survey contacted by GEP project team members and partners. Name of the found protocols and abbreviations used are listed in Table 3.

Table 3. Review protocols used and their abbreviations/acronyms.

Review protocol/ Tool	Abbreviations
Guidelines for the Preparation of Review Protocols .Version 1.0: January 1, 2001 http://www.campbellcollaboration.org/c2_protocol_guidelines%20doc.pdf (15)	CAMPB
Cochrane Reviewers Handbook 4.2.2 http://www.cochrane.dk/cochrane/handbook/hbook.htm (29)	COCH
Systematic reviews of Health Promotion and Public Health Interventions http://www.vichealth.vic.gov.au/cochrane/activities/Guidelines%20for%20HPPH%20reviews.pdf (23)	COCH_HP
Developing an Evidence-Based Guide to Community Preventive Services-Methods. Peter A. Briss, Stephanie Zaza, Marguerite Pappaioanou et al., Am J Prev Med 2000; 18 (1S): 35-43. http://www.thecommunityguide.org/methods/methods-ajpm-developing-guide.pdf http://www.thecommunityguide.org/ (16)	Guide
CRD Report Number 4: Undertaking systematic reviews of research on effectiveness. CRD's guidance for those carrying out or commissioning reviews (2nd edition), 2001 http://www.york.ac.uk/inst/crd/report4.htm (30)	CRD
EPPI-Centre review Group Manual version 1.1. 2001 http://eppi.ioe.ac.uk/EPPIWebcontent/downloads/RG_manual_version_1_1.pdf (17)	EPPI
A systematic approach to identifying the evidence Project methodology 5. Weightman AL, Mann MK, Sander L and Turley RL . Cardiff: Information Services UWCM, January 2004 http://hebw.uwcm.ac.uk/projectmethod/Project%20Methodology%205.pdf (31)	Wales
HDA Evidence Base Swann et al. Process and Quality Standards Manual for Evidence Briefings (October 2003). DRAFT 7 http://www.hda-online.org.uk/evidence/ebmanual_pqs.html (18) Kelly et al. Evidence into Practice: Method 1 for the production of Effective Action Briefings and related material. (January 2004) http://www.hda.nhs.uk/evidence/EIP_Protocol_jan04_V4.pdf (32)	HDA
How to review the evidence: systematic identification and review of the scientific literature. http://www.nhmrc.gov.au/publications/pdf/cp65.pdf (33) How to use the evidence: assessment and application of scientific evidence http://www.health.gov.au/nhmrc/publications/pdf/cp69.pdf (34) How to put the evidence into practice: implementation and dissemination strategies http://www.health.gov.au/nhmrc/publications/pdf/cp71.pdf (35)	NHMRC
IDM Evidence Framework. Kahan & Goodstadt. April 2004.University of Toronto http://idmbestpractices.ca/pdf/evidence_IDM_10-04-02_dist.pdf (26)	IDM
Knowledge Based Public Health Work, Part 1 Handbook for reviews of Published Reviews on the interventions in the field of Public Health Heidin A & Källestål C. 2002 http://www.fhi.se/shop/material_pdf/knowledge.pd (28)	SW1
Knowledge-based Public Health Handbook 2 for compilation of reviews on interventions in the field of public health. Heidin A. & Källestål C. 2004 http://www.fhi.se/shop/material_pdf/r200410Knowledgebased2.pdf (19)	SW2
Å oppsummere Kunnskap Håndbok I å finne, vurdere og oppsummere forskningbasert kunnskap. Avdeling for kunnskapsstotte, 2004 (36)	Nor
Reviewprotocol Versie 1.0 Uitleg NIGZ /Centrum voor Review and Implementation. 18.12.2000. Uitleg (27)	NIGZ
Gyorkos et al. An approach to the development of practice guidelines for community health interventions. Can J Public Health 1994 Jul_aug;85 Suppl 1:S8-13. Community Health_Practice Guidelines, CHPG (37)	CHPG
Methodology and Quality Policy http://libraries.nelh.nhs.uk/oralhealth/Qualitypolicy.asp (38)	Oral

5.4.1 Analysing procedure of the review protocols

From all the 16 review protocols all main phases of the reviewing process were analysed according to the predetermined criteria and instructions (see Annex 2.) keeping in mind challenges of the reviewing process for HP/PH. Review protocols were read and assessed using these criteria to be either category 1= include instructions, or 0= no instructions included. Two independent readers carried out the analysing process. The second reader, reading blind (i.e. unaware of the first reader rating) made an independent judgement on the same review protocol and wrote a summary on the protocol to support the judgement process. The judgement process was followed by a discussion between the two readers. In case of agreement about the categorization (1/0), the categorization was accepted and the summary of the protocols was summed up. The agreement of the scoring varied from 68 % to 95%, and was on the average 80%. In case of disagreement, the readers explained to each other their reasons of their judgement with the help of summaries. No attempt to persuade each other was made, but open discussion was allowed to reach a consensus on the categorization. Where differences were unresolved (three protocols) a third reader was consulted. The third reader's judgement was independent: the reason for disagreement was not informed. The final decision on the categorization was than made by simple majority.

Two of the review protocols (NIGZ (27), Nor (36) were available only in national languages. The analysis of these protocols was made by the third reviewer (knowing Dutch and Norwegian) with assistance of the first reader. In addition, two natives (Dutch/Norwegian) were asked to make an independent scoring and analysis of these two protocols.

Most differences in the scoring occurred in analysing the review protocols with unclear structure or with limited amount of instructions (Wales; agreement of the scoring 68%, Oral; agreement 78%). In addition, protocols that included information in many documents caused some problems for the scoring (HDA, agreement 75%). Analysis categories which caused most problems were selection criteria, quality criteria and additional information on synthesising. Misunderstandings, and carelessness (e.g. misspelling) were the most often mentioned reasons for variability in the findings. Readers' experience on the reviewing process and the topic affected to the scoring results. The reader with less experience on the topic had more difficulties in analysing protocols.

5.4.2 Technical background of the review protocols

The review protocols were classified according to their main aim into five main categories. Eight of the protocols were purely designed for health promotion and public health. Four of the protocols were mainly aimed at health and social care. Two of the protocols were designed from educational perspective and one from clinical practice perspective:

1. Review protocols aimed for clinical practice (NHMR)
2. Review protocols aimed for education (EPPI/ CAMPB)
3. Review protocols aimed for health and social care (CRD, Wales, Oral, Nor)
4. Review protocols aimed for healthcare (COCH)
5. Review protocols aimed for health promotion / public heath (IDM, COCH_HP, Guide, HDA, NIGZ, SW1, SW2, CHPG)

Ten of the 16 review protocols were classified as pure review protocols (CAMPB, COCH, COCH_HP, CRD, NIGZ, Wales, EPPI, SW2, Nor, Oral) giving instructions on how to proceed through the reviewing process when searching information basically from research literature and documents. Two of the review protocols (SW1, HDA) give instructions on collecting and analysing review-level evidence. Four of 16 protocols (Guide, IDM, NHMR, and CHPG) were seen as a guide on how to complete the reviewing process when developing guidelines.

The target group of the protocols varied according to the research/science discipline. Three of the review protocols were targeted to heath promotion (clinical) practitioners and decision makers (NHMRC, IDM, and CHPG). Most of the review protocols were aimed for those carrying out reviews with different research traditions (EPPI, CRD, COCH, COCH_HP, CAMPB, Wales, NIGZ, SW1, SW2, and HDA). One of the protocols was designed for researchers (Nor). In addition, three of the protocols (Wales, IDM, and Oral) used a matrix of statements procedure in instructing the reviewing process. These protocols did not include precise instructions with background information, but included working sheets of statements that instructed the reviewing process.

Main technical characteristic of the review protocols are listed in table 4. Most of the protocols gave instructions in English. The Guide and Cochrane reviewers' handbook gave instructions also in Spanish. The IDM manual gave instructions in French and in English. Four of the protocols were designed for national use. Of these the Norwegian and the Dutch protocols were in national languages but the two Swedish protocols used English. The protocols were developed in 1994 – 2004. All protocols (except NIGZ, Nor, CHPG) are available through Web.

Table 4. Technical characteristics of the protocols				
Developer	Year	Owner/Copyright	Language	Availability
The international Campbell Collaboration (C2)	2001	The Campbell Collaboration	English	http://www.campbellcollaboration.org/Fraguidelines.html http://www.campbellcollaboration.org/c2_protocol_guidelines%20doc.pdf
Alderson P, Green S, Higgins JPT, editors. Cochrane Reviewers' Handbook 4.2.2 [updated December 2003]. In: The Cochrane Library, Issue 1, 2004. Chichester, UK: John Wiley & Sons, Ltd.	2003	The Cochrane Collaboration	English/ Spanish	http://www.cochrane.dk/cochrane/handbook/hbook.htm
EDIT. Nick Jackson and Elizabeth Waters on bleak of the Guidelines for Systematic Reviews in Health Promotion and Public Health Taskforce	2004	The Cochrane Collaboration	English	http://www.vichealth.vic.gov.au/cochrane/activities/ Guidelines%20for%20HPPH%20reviews.pdf
Briss A.P et al. Developing an evidence-based guide to Community Preventive Services-Method. Am J Prev Med 2000;18(1S)	2000	Non-Federal Task Force on Community Preventive Services (Task Force). All material on is public domain. Copying and disseminating freely. Citation to source is appreciated.	English / Spanish	http://www.thecommunityguide.org/methods/methods-ajpm-developing-guide.pdf
Khan K.S., Riet G.t., Glanville J., Sowden A.J. & Kleijnen	2001	NHS Centre for review and Dissemination, University of York	English	http://www.york.ac.uk/inst/crd/report4.htm
EPPI-Centre	2001	EPPI-Centre	English	http://eppi.ioe.ac.uk/EPPIWebcontent/downloads/RG_manual_version_1_1.pdf
Weightman AL., barker J and Lancaster J.	2003	Health Evidence Bulletins Wales	English	http://hebw.uwcm.ac.uk/projectmethod/Project%20Methodology%205.pdf
HDA's authors/researchers	2002-2004	Health Development Agency, HDA	English	http://www.hda-online.org.uk/evidence/
The National Health and Medical Research Council of Australia, NHMRC	1999	The National Health and Medical Research Council of Australia, NHMRC	English	http://www.nhmrc.gov.au/publications
IDM / Kahan & Goodstadt.	2002	IDM / Kahan & Goodstadt.	English/ France	http://idmbestpractices.ca/pdf/evidence_IDM_10-04-02_dist.pdf
Heidine A / Källestål C.	2002	Heidine A / Källestål C.	English	http://www.fhi.se/shop/material_pdf/knowledge.pdf
Heidine A / Källestål C.	2004	Heidine A / Källestål C.	English	http://www.fhi.se/shop/material_pdf/r200410Knowledgebased2.pdf
NKH, Avdeling for kunnskapsstotte	2004	NKH Avdeling for kunnskapsstotte	Norwegian	Not available through WEB
NIGZ / Centrum voor review en Implementatie	2000	NIGZ / Centrum voor review en Implementatie	Dutch	Not available through WEB
National electronic Library for Health	2001	National electronic Library for Health	English	http://libraries.nelh.nhs.uk/oralhealth/Qualitypolicy.asp
Community Health Practice Guidelines, CHPG	1994	CHPG working group / Advisory committee on Community Health , ACCH	English	Gyorkos T.W., Tannenbaum T.N. et al.

5.5 Comparison of the review protocols

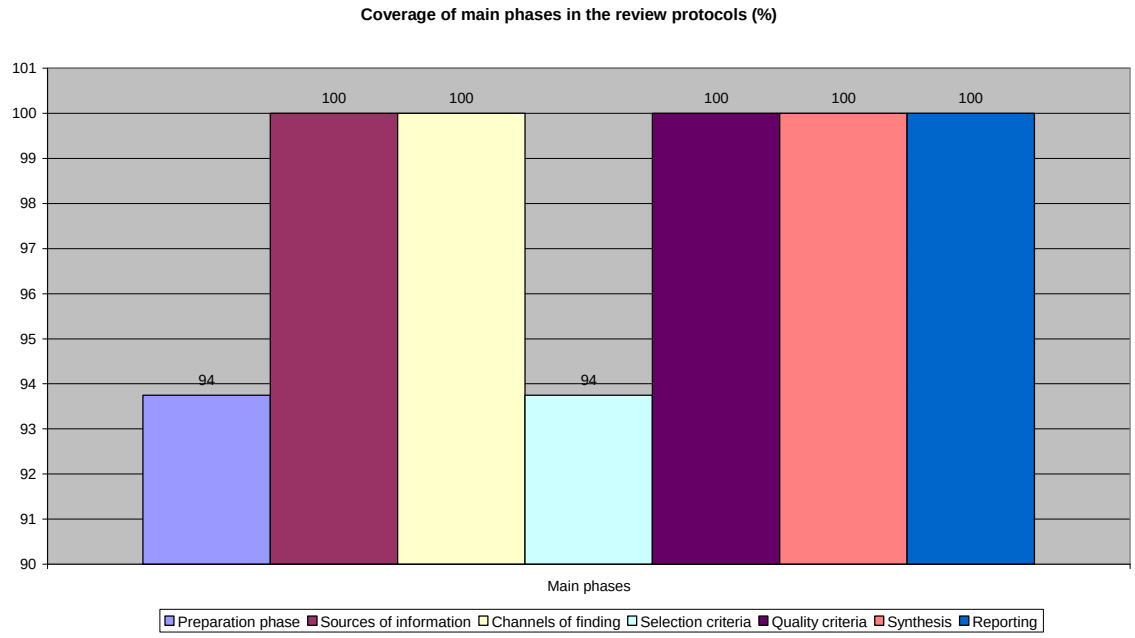
5.5.1 Main phases of the reviewing process

The reviewing process is mainly described to progress in three main stages:

1) Planning
2) Reviewing (search, select, assess the quality of the information and synthesise)
3) Disseminating.

Almost all the review protocols included main phases of the reviewing process (Figure 3). Only Methodology and Quality Policy, Oral health (Oral) did not include any information on the planning phase and selection criteria (inclusion and exclusion criteria).

Figure 3. Comparison of the main phases of the reviewing process



5.5.2 Preparation phase

94 % of the review protocols included instructions on preparation phase (Figure 4). Instructions on forming the review question were covered in 94 % of the protocols (not Oral). Resources, time required to conduct the reviewing and costs, have been discussed in 81% of the protocols. The need of advisory group (75%) and specification of reviewer (94 %) were also well-covered in the existing review protocols. Discussion on contextual factors (such as specific situation, population

etc.) was also well covered in the instructions of the preparation phase (94%). Instead, only half of the review protocols discussed the theory base or the role of theory in the reviewing process.

Figure 4. Comparison the preparation phase

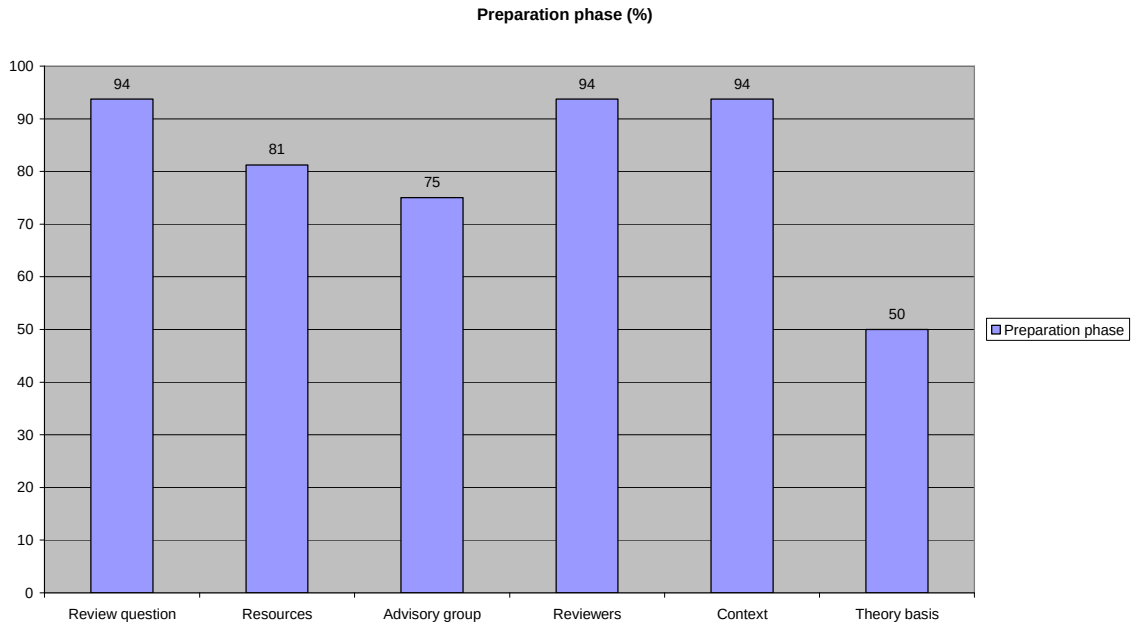
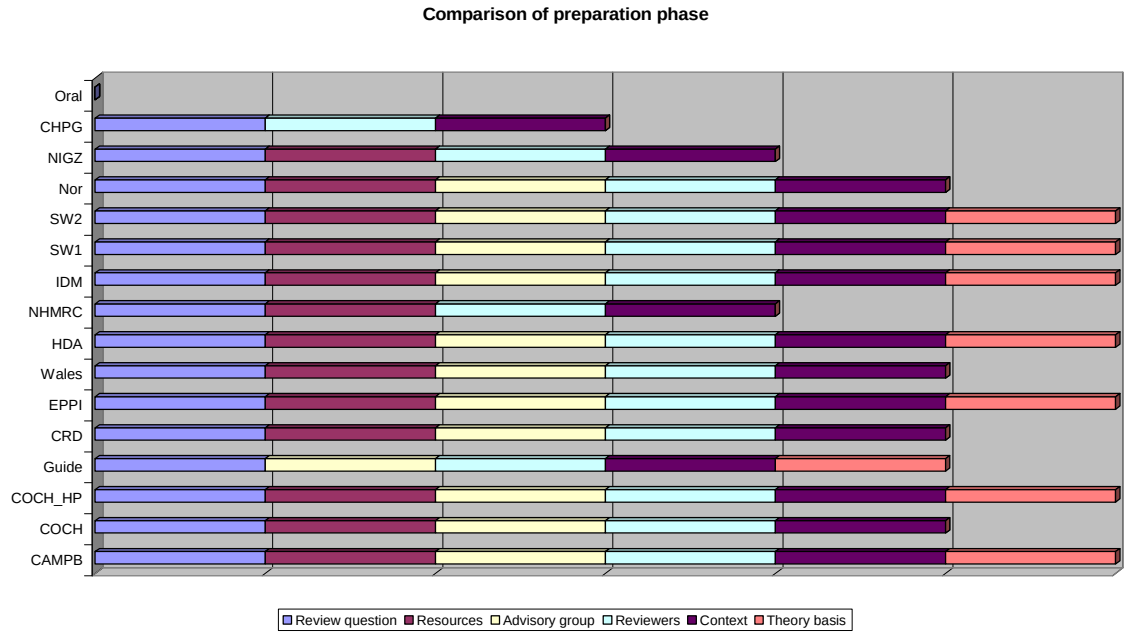


Figure 5. Comparison of the topics covered in the preparation phase



5.5.2.1 Review question

94 % of the review protocols included instructions on forming the review question (Figure 4). Only Methodology and Quality Policy, Oral health (Oral) did not include any instructions related to forming of review question (Figure 5). Most of the existing review protocols emphasised the importance of a well-formulated review question. A clearly framed question will guide both the reader (in their initial assessment of relevance) and the reviewer on how to conduct the reviewing process (collect studies, check whether studies are eligible, conduct the analysis; COCH_HP, COCH, EPPI. It is important that the question is formulated before beginning the review process (COCH_HP). The importance of adequate time and effort to define and form the review question were also stressed in some of the review protocols (IDM, EPPI, SW1).

A review question sets out the rationale for the review and explains why the questions being asked are important. Thus well-formulated review question should contain conceptual discussion of the research problem and a statement of the problem's significance (15). The Campbell collaboration instructions (CAMPB) emphasised very clearly the importance of presenting a brief overview of the research question, including its theoretical, practical, and methodological history e.g. an overview of the theoretical, conceptual, and/or practical issues surrounding the research problem.

According to most of the review protocols the important facets to be considered when framing precise review questions are:

1. population,
2. interventions,
3. outcomes relevant to the objectives of the review
4. designs of primary studies that are suitable for addressing the review questions (CRD, COCH_HP, EPPI, NHMRC, SW1, SW2, CHPG, Nor)

In addition to the key notions described above, the importance of the final audience is fundamental to scope the review question properly (EPPI, COCH_HP). Thus for example, the Handbook of Systematic Review of Health Promotion and Public Health Interventions (23) emphasized the involvement of consumers in the forming of a review question. The Swedish Knowledge Book Part 1 (SW1) emphasised that everyone involved in compiling the review should discuss the formulation of the review question. Advisory group can also provide valuable assistance with this task (COCH_HP). In addition to the consumer involvement the Handbook of Systematic Review of Health Promotion and Public Health Interventions (COCH_HP) suggested that qualitative research could contribute to the framing the review question (e.g. selecting interventions and outcomes of interest to participants; COCH_HP).

Some of the protocols (HDA, NIGZ, Wales) did not give very clear instructions on forming a review question. For example Wales's Methodology (Wales) instructed only to identify subject areas for searching by examining the existing bulletin or other guidance documents. Also other review protocols emphasised that the well-formulated question occurs in the context of an already formed body of knowledge (CAMPB, EPPI).

5.5.2.2 Resources

Resources, time required to conduct the reviewing process and costs, have been discussed in 81% of the protocols. Only three protocols (NIGZ, CHPG, Oral) did not deal with the resource questions.

All review protocols dealing with resource question pointed out that conducting a systematic review is a time-consuming task. The Handbook of Systematic Review of Health Promotion and Public Health Interventions (COCH_HP) emphasised that there is no research available on the overall time to complete a health promotion and public health systematic review. The estimations of the required time to complete a systematic review varied from 6 to 24 months. Many of the protocols (COCH, COCH-HP, EPPI, CAMBP) stressed that the amount of time required will vary, depending on the topic, the number of studies, the methods used, the experience of reviewers and e.g. the type of support provided by the advisory group.

Thus ideally a minimum of six months (full time) is required to complete a review (COCH_HP). Two of the handbooks (NHMR, COCH_HP) presented Allen and Olkin (1999) estimations on time required to complete a review. According to them the average hours for a review were 1139 (~6 months) or about 30 person-weeks of full-time work (this ranged from 216 to 2518 hours). The breakdown was:

- 588 hours for protocol development, searching and retrieval;
- 144 hours for statistical analysis;
- 206 hours for report writing; and
- 201 hours for administration.

However, The Handbook of Systematic Review of Health Promotion and Public Health Interventions (COCH_HP) pointed out that the time it takes to complete a health promotion and public health review may be longer due to less standardised definitions (e.g. concepts, terminology, language) for public health interventions compared to clinical interventions resulting in a large number of citations to apply the inclusion and exclusion criteria.

Many of the protocols (CAMPB, COCH, IDM, CRD, SW1, and Nor) suggested creating a timetable with target dates for accomplishing the key tasks that helps with scheduling the time needed to complete a review. The timetable should be included in a review protocol (COCH) and the decision on tasks and resources should be done already in the planning phase (EPPI).

According to Cochrane's Reviewer's Handbook (COCH) the tasks to be included in the timetable are:

- Training
- Meetings
- Protocol development
- Searching for studies
- Assessing citations and full text reports of studies for inclusion in the review

Resources that might be required for these tasks, in addition to the reviewers' time, include:

- Searching
- Help for library work and photocopying
- A second reviewer, possibly a student or research assistant, to assess studies for inclusion, assess the quality of included studies, obtain data and conduct analyses
- Statistical support for synthesising (if appropriate) the results of the included studies
- Equipment (e.g. computing hardware and software)
- Supplies and services (long distance telephone charges, facsimiles, paper, printing, photocopying, audio-visual and computer supplies)
- Office space for support staff
- Travel funds

An example of a time chart with target dates describes:

Month

1 – 6 Additional searches for published and unpublished studies
1 Pilot test of inclusion criteria
1 – 6 Relevance assessments
1 Pilot test of validity criteria
1 – 8 Validity assessments
1 Pilot test of data collection
1 – 8 Data collection
1 – 8 Data entry
2 – 8 Missing information
6 – 8 Analysis
1 – 9 Preparation of report
10 - Keeping the review up-to-date

Compared to the time requirements money was not widely discussed in the review protocols. However, many of the review protocols described the funding practice inside their own organisations. CRD's guidance (CRD) for those carrying out or commissioning reviews had most comprehensive and universal discussion of funding. It emphasised that reviews should be undertaken according to rigorous research methods and therefore require an appropriate level of resources. If reviews are to be carried out more rapidly, then more resources will be required to accomplish the task within a shorter time frame. In developing a budget, help should be sought from finance staff and the relevant members of the review team. The budget of a systematic review project should include following items:

- Salaries (reviewers, review manager, information officer, administrative assistants etc.), database searching
- Database searching, documents acquisition and translation costs.
- Consumables supplies and services (office supplies, printing photocopying, postage etc.)
- Equipment and software.

- Advisory panel fees, servicing and travel costs.
- Consultancy costs for areas of expertise not available in the review team).
- Dissemination (costs for arranging conferences and seminars, and/ or producing electronic and printed media for dissemination).
- Overhead/ Indirect costs. (CRD)

IDM Evidence Framework (IDM) had a very interactive approach to deal with the resources concerning both time and money questions. It emphasised the importance of thinking what resources are needed (people, skills, time, commitment and enthusiasm, positive dynamics in working together, money, organizations (own or those of others), tools, sources of information, space, equipment, other), what resources are currently available and accessible, and what resources might be available. It included a discussion on resource needs, availability as well as implications of challenges and potential solutions.

5.5.2.3 Advisory group

75% of the protocols included information on forming an advisory group (Figures 4 and 5). Only NHMR, Nigz, Oral and CHPG did not recommend forming of advisory group. According to the EPPI-centre manual (EPPI) systematic reviews are more likely to be relevant and of higher quality if they are informed by advice from people with a range of expertise, in terms of both topic and the methodology. In addition to the experts many of the protocols (COCH_HP, CRD, EPPI) stressed the importance of involving the potential end-users in the advisory group. Gaining significant input from the potential user of the review will help to bring about a review that is more meaningful, generalisable and potentially more accessible (COCH_HP, CRD). Systematic Reviews of Health Promotion and Public Health Interventions Handbook (COCH_HP) referred to www.invo.org.uk link to receive future information on how to involve vulnerable and marginal people in research. IDM Evidence Framework (IDM) included very useful worksheet to identify the roles and involvement of the key stakeholders (also advisory group members) in each stage of the reviewing process.

The first step at the planning stages in any review should be forming an advisory group (CAMPB, SW1, SW2). A Campbells' Guidelines (CAMPB) instructed to form an advisory group right after selection of review topic. Where possible, the advisory group members should reflect a range of opinions and not one particular perspective. CRD Report (CRD) and the Systematic Reviews of Health Promotion and Public Health Interventions Handbook (COCH_HP) instructed to establish an advisory group whose members are familiar with the topic and include policy, founder, practitioner and potential recipient/consumer perspectives. Methodologists are instructed to be included in the advisory group to assist in methodological questions (COCH_HP). An international perspective may also be useful (EPPI). To increase the relevance of systematic reviews, reviewers could also consult health professionals in developing countries to identify priority topics on which reviews should be conducted (COCH_HP).

The number of people involved in the advisory group varied considerably among review protocols. EPPI-manual (EPPI) and HDA's guidance (HDA) recommended forming a small advisory group to support reviewing process whereas Community Guide (Guide) recommended quite large, 15-20 subject matter experts team, because of the broad and multidisciplinary character of many public health problems. However, a rather smaller advisory group has been found to cover all necessary areas and be potentially better manageable, e.g. the Systematic Reviews of Health Promotion and Public Health Interventions Handbook (COCH_HP) refer to the Effective Public Health Practice Project recommendation of six members of the advisory team.

The broader the review, the broader the experience required of the advisory group members should be (COCH_HP). The broad experience of the team members is vital to:

1) Ensure the usefulness and comprehensiveness of the conceptual approach to the chapter.
2) Ensure knowledge of, and experience with, numerous types of interventions to increase the usefulness of the reviews of interventions ultimately selected.
3) Reduce the likelihood that important information will be missed.
4) Reduce the likelihood of errors or biases in the interpretation of identified information.

Review protocols suggested different tasks for the advisory groups. Advisory groups help reviewers to make necessary but difficult decisions, e.g. in refining the review's scope once the size of the relevant literature becomes known. Tasks for advisory group may include:

- Making and refining decisions about the interventions of interest, the populations to be included, priorities for outcomes and, possibly, sub-group analyses (COCH)
- Providing or suggesting important background material that elucidates the issues from different perspectives
- Helping identify relevant literature – especially grey literature – and to evaluate and suggest changes in the final review of published reviews (SW1).
- Helping to interpret the findings of the review (HDA, COCH_HP)
- Designing a dissemination plan and assisting with dissemination to relevant groups (COCH_HP, CRD, HDA)
- Monitoring the progress of the review team
- Reviewing the final document
- Advising on developing the evidence into practice

Generally there are no set guidelines on how much involvement the advisory group should have in the development of the review, this is dependent on the research group and how much input they feel is necessary (HDA). The advisory group can be consulted either individually, or as a group (CRD). The Systematic Reviews of Health Promotion and Public Health Interventions Handbook (COCH_HP) and IDM Evidence Framework (IDM) recommend developing job descriptions and person specifications to clarify expectations. Especially consumers (end-users) benefit from these kind of descriptions.

5.5.2.4 Specification of reviewers

94% of the review protocols specified or discussed the role and tasks of the reviewers (Figures 4 and 5). All review protocols agreed that systematic reviews should not be conducted by single reviewers. Reviews conducted by single authors are more prone to bias and error than those conducted by multiple reviewers. Multiple reviewers provide essential reliability checks on important aspects of systematic reviews such as study identification, data extraction and data entry. Most of the review protocols (COCH, Guide, SW1, SW2, NHMR, CHPG, Nor) suggested use of at least two independent reviewers. There is evidence that using at least two reviewers has an important effect on reducing the possibility that relevant reports will be discarded (COCH). However, Cochrane's Reviewers Handbook (COCH) reminded that the approach used varies from review to review. Whatever the case, the number of people assessing the relevance of each report should be stated in the review report.

Some of the review protocols specified the expertise requirements for reviewers. Ideally, one of the (at least) two people who do the quality assessment should be an expert in the research field under study, whereas the other one should not be an expert (SW2). Experts in a particular area frequently have pre-formed opinions that can bias their assessments of both the relevance and validity of articles. Thus, while it is important, that at least one reviewer is knowledgeable in the area under review, it may be an advantage to have a second reviewer who is not an expert in the area (COCH). However, some of the review protocols stressed the importance of multidisciplinary approach when selecting reviewers to ensure coverage of all subject areas and viewpoints. Any disagreement between the reviewers have been suggested to be solved by open discussion or by support of a third reader. (NHMRC, SW1, Guide).

Some of the protocols (CRD, HDA, EPPI, Wales) recommended forming a review team to perform the work instead of two independent readers. For example the CRD protocol did not give precise instructions on the number of reviewers; rather, it emphasized the need of the range of expertise in taking part of the reviewing process. The team should have as wide and appropriate range of expertise as possible including:

- review methodology
- information science
- health measurement
- medical statistics
- health technology assessment
- health economics
- qualitative research
- clinical epidemiology
- the clinical subject area
- the consumer perspective.

CRD report emphasised that it is important that the membership of the review team reflects a range of expertise rather than opinions. The EPPI-manual (EPPI) emphasised however, that the review group/team needs one or possibly two individuals (review group co-ordinators) who take responsibility for overseeing the day-to-day work of the group as a whole, ensuring that review protocols and reports of completed reviews pass through a peer refereeing system, and co-ordinating that group's work with others. HAD guidance (HDA) specified the number of the review team: Each research team should ideally consist of a minimum of three people and at minimum; there should be a team leader, a research specialist and a topic health specialist.

5.5.2.5 Contextual factors

Contextual factors were taken into account in 94% of the review protocols (Figure 4). Most of the review protocols (COCH_HP, SW1, SW2, NHMR) recognised the importance of contextual factors by including these factors in the review question (Figure 5). These review protocols emphasised that a clear definition of the review question requires specification of people /community (age, sex, race, educational status or health issue). Contextual factors should also be taken into account when selecting studies for the review. According to the CRD Report (CRD) reviews can be thought of as analyses of existing data in a given set of populations, interventions and outcomes. When a review is dealing with questions where there are substantial differences in the characteristics of the populations, the nature or delivery of the interventions, and the types of outcomes, the estimates of effect of the interventions being reviewed may be influenced by these factors. Such factors may explain apparent differences in the findings of primary studies. Therefore, it is vital that they are specified a priori, and supported by a scientific rationale. Many of the existing review protocols paid attention to the contextual factors in terms of generalisibility and applicability: Contextual factors are particularly relevant in understanding the applicability of results (CRD, NHMR).

Some of the existing review protocols took a bit wider overview of the contextual factors. For example the HDA manual (HDA) took contextual factors into account in the very beginning of the reviewing process: Review topics are based on national public health targets and priorities, forthcoming and recent government strategies and frameworks as well as key partnerships. In addition, contextual factors were taken into account in searching information by including opulation and setting specific search terms in the search strategy. NIGZ review protocol (NIGZ) instructed to take contextual factors into account in the analysis of relevant literature and the Community Guide (Guide) in the data extraction phase. In the IDM Evidence Framework environmental and contextual factors played important role in all stages of the reviewing process. The IDM Evidence Framework emphasized the importance of high quality evidence that originates from own situation (e.g. specific population, location, organization), as well as from other situations. In addition, it stressed that evidence should be appropriate to the issue or setting.

5.5.2.5 Theory base

Only 50% of the review protocols paid attention to theory base of the reviewing process (Figures 4 and 5). Some of the protocols built their operations/practice on some scientific /research traditions. For example, the Campbell Guidelines (CAMPB) built on social and behavioural interventions and public policy, including education, criminal justice, and social welfare, among other areas. Also EPPI-centre manual (EPPI) emphasised that all the initiatives (reviews conducted) have to be within the educational framework.

Only some of the existing review protocols were based on some theory. Theory base was most clearly seen in the IDM Evidence Framework (IDM). The IDM Evidence Framework (IDM) specifically highlighted the role of evidence and research in the decision-making process concerning health promotion practice. It emphasised that all processes and activities related to health promotion evidence should have a well-grounded theoretical basis (health promotion theories/concepts/beliefs). In addition to the IDM Evidence Framework theory base was clearly visible in the HAD Manual (HDA). HDA work builds on comprehensive view of putting evidence into practice: in addition to putting evidence into practice framework, tackling health inequalities is seen as the main arena.

The Swedish handbooks (SW1, SW2) had also some attempts to include theory basis to the review process by defining different work strategies in public health. According to the handbooks (SW1, SW2) public health work can be categorised as disease prevention or health promotion; it can entail one intervention, or several; it can aim for one outcome or more than one. In addition, the main focus of interest when evaluating the intervention can be either the outcome itself or the road toward that goal, i.e., the process. These three main dimensions can form a framework on which to classify work in the field of public health. According to handbooks this kind of initial classification can help in selecting methods for research overviews. Besides the discussion on the theory basis, the role of the theory in the reviewing process was not very clearly combined to the reviewing process itself.

Some of the protocols had very concrete instructions on how to combine theory basis and discussion into the reviewing process. For example, Campbell Guidelines (CAMPB) included discussion on theory basis in the planning phase of the reviewing process when forming a review question and analysing the protocol of the information gathered. Following questions were posed:

- Do theories predict how the major variables involved in the review will relate to one another?
- Do different theories or philosophies of treatment yield conflicting predictions?

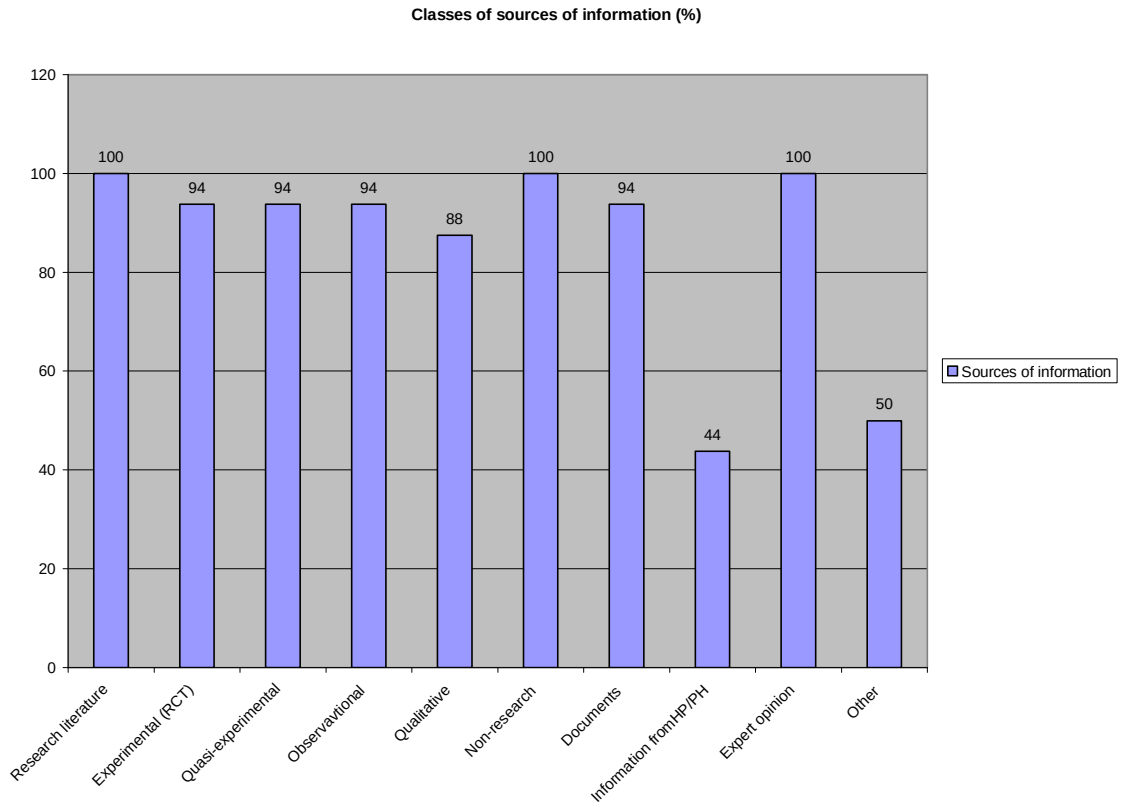
Also the EPPI-Centre Manual (EPPI) instructed to assess both contextual factors and theory basis of the articles during the reviewing process. Also Systematic Reviews of Health Promotion and Public Health Handbook (COCH_HP) paid attention to theory base. It highlighted that reviewers can group interventions by their theoretical basis when combining the findings from different studies. For example, all interventions based on, for example, a Staged of Change model for behaviour change, may be combined in a tabular form, a narrative, or a meta-analysis. From a theoretical perspective, it may also be useful for reviewers to assess whether interventions have used a Program Logic or Program Theory of Action approach to developing, implementing and evaluating the effects of the intervention.

5.5.3 Conducting review

5.5.3.1 Sources of information

All review protocols used research-level as well as non-research level information as a source of information (Figure 6). 94 % of the protocols specified which kind experimental study designs to use as a source of research information. 88 % of the protocols recommended using also qualitative research as a source of information. All review protocols recommend using at least some of the sources of non-research information. Most common sources of non-research information were documents and reports as well as expert opinion. Experts were recommended to be contacted either as a source of further information or as a source of information in all protocols. However, only 44% of the protocols instruct to use information derived from health promotion and public health practitioners.

Figure 6. Coverage of classes of sources



5.5.3.1.1 Research based sources of information

According to Systematic Reviews of Health Promotion and Interventions Handbook (COCH_HP) the decision regarding which study designs to include in the review should be dictated by the review question or methodological appropriateness, and not to vice versa. If the review question has been well formulated then knowledge of the types of study designs needed to answer it should automatically follow. Also IDM Evidence Framework (IDM) emphasised that the best evidence is high quality, produced by the research design appropriate to the question and relevant to health promotion and to the specific situation. Thus IDM Evidence Framework emphasised that information should be:

- Derived from a wide variety of sources, including all key stakeholders and relevant key informants and from a wide variety of methods
- Be drawn from sources internal and external to the particular initiative
- Include results/outcomes related to the past and current practice.

Most of the current review protocols relied in a way still to traditional evidence hierarchy (COCH, NHMR, Wales, SW2, CAMPB). For example, Cochrane Reviewers Handbook (COCH) focused

particularly on systematic reviews of randomised controlled trials because they are seen to provide more reliable information than other sources of evidence on the differential effects of alternative forms of healthcare. Also Cochrane's newest instructions (COCH _HP) from health promotion and public health perspective instruct to rely on RCT when possible. However, it emphasised that where RCTs are lacking or because of issues related to feasibility and ethics are not conducted, other study designs should also be considered for inclusion in the reviews. It pointed out also that comparisons with historical controls and trends may be included to the reviews when this is the only type of evidence that is available. However, it advised to notice that this sort of evidence is necessarily weaker.

88% of the review protocols stressed that information can derive from studies using a range of methods and include both qualitative and quantitative data (Figure 6; CAMPB, EPPI, Guide, COCH_HP, SW2, CRD, IDM, Wales, Oral). For example, the IDM Evidence Framework (IDM) stressed that all research designs can be used as a source of information (both quantitative and qualitative). IDM manual for using Interactive Domain Model Approach to Best Practice in Health Promotion, Research and Evaluation (42) document describes different research designs and discuses also on which study designs are appropriate for which questions (for example effectiveness questions: RCT, before-after with control group and or time series).

Qualitative research/studies can contribute to reviews of effectiveness in number of ways:

- Helping to frame the review question
- Identifying factors that enable/impede the implementation of the intervention (e.g. human and contextual factors)
- Describing the experience of participants receiving the intervention
- Providing participants' subjective evaluation of outcomes
- Helping to understand the diversity of effects across studies, settings and groups
- Providing a means of exploring the fit between subjective needs and evaluated interventions to inform the development of new interventions or refinement of existing ones. (COCH _HP, CAMPB, CRD, CHPG)
- Adding background information (CHPG)

In conclusions qualitative research can provide in depth understanding of peoples' experience, perspectives and histories in the context of their personal circumstances.
Two of the review protocols (HDA, SW1) concentrated on summarising review-level evidence. From these HDA recommended relying on:

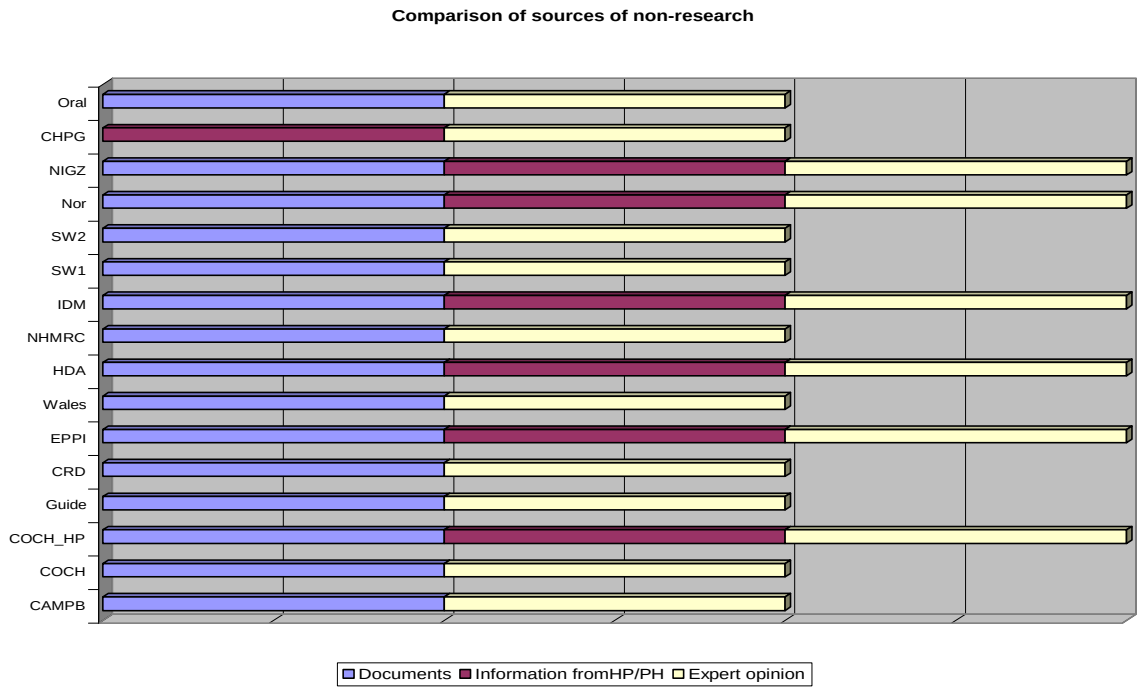
- High quality systematic reviews
- Meta-analysis and other 'reviews' that provide information about what works to improve health and reduce health inequalities
- Also non-published review, for example guidelines (documents) and E-mail discussion groups and meetings could offer further information.

5.5.3.1.2 Non-research sources of information

COCH_HP, EPPI, HAD, IDM, Nor and NIGZ were the most comprehensive protocols suggesting to use non-research sources of information (Figure 7). Even if relying on traditional evidence hierarchy most of the protocols stressed the importance of searching both published and unpublished primary studies, which may be suitable for answering the questions posed in the review (CRD, COCH, COCH _HP, CAMPB, EPPI, IDM, NHMR, SW2, SW1). The IDM Evidence Framework (IDM) did not judge evidence in terms of a hierarchy, i.e. evidence produced by one type of research design is not necessarily better than evidence produced by another kind of research design. IDM relied on:

1. Human sources of information
   - § Key stakeholders
   - § Other key informants (those who have special expertise to contribute that is relevant to the particular question even if they are not a key stakeholder)
2. Documentation (published and unpublished) relating to our initiative or population
   - § Generated by own organization (e.g. evaluations, reports, log books, minutes)
   - § Generated by other organizations (e.g. census data)
3. Documentation (published and unpublished) relating to other initiatives or populations (e.g. evaluations and other research studies, statistical reports)
4. All research designs can be used as a source of information (both quantitative and qualitative).

Figure 7. Coverage of non-research information



From the non-research sources of information, documents and other reports were commonly recommended to be included in the reviews as a source of information (Figure 7). It was stated that finding out about unpublished studies, and including them in a systematic review, when eligible, may be important in minimizing bias (COCH, NHMR). Conference proceedings, abstracts and other grey literature such as government reports, graduate school theses and dissertations were most commonly mentioned to be searched. In addition, also governmental or non-governmental organisations might have relevant surveys or registers.

Information from individuals, contacts of experts, were seen a way to identify relevant published and unpublished studies. Most commonly expert opinion was seen as a valuable source of information especially in finding future information on relevant research and studies. For example the Campbell manual (CAMPB) stressed that colleagues can be an important source of information about unpublished studies, and informal channels of communication can sometimes be the only means of identifying unpublished data. Cochrane's Reviewers Handbook (COCH) suggested that formal letters of request for information can be used to identify completed but unpublished studies. Also researchers/ pharmaceutical companies maybe contacted if impossible to extract all the information from published reports (COCH). The EPPI-Centre manual (EPPI) suggested that through email discussion lists (personal contacts) it is also possible to get further information.

EPPI-manual (EPPI) proposed also users involvement – users of services, policy makers, members of public, should be included to the reviewing process and they can provide further perspective to the reviewing process. CHPG recommended contacting experts in the field in order to obtain directly information on the effectiveness or efficiency of the community health interventions under review and key issues and possible consequences of interventions and ethical considerations. However, expert opinion was not seen as a source of rigorous unbiased evidence. In addition to the expert opinion CHPG protocol suggested to include information from practice surveys and other sources of evidence: in some cases for example data collected routinely by public health units, hospitals and federal agencies can be used to assess the burden of disease or potential improvement in health. According to CHPG also other types of indirect evidence may also be taken into consideration although not reviewed in detail. These are studies in which the target population is different or an intervention is different than the one of interest.

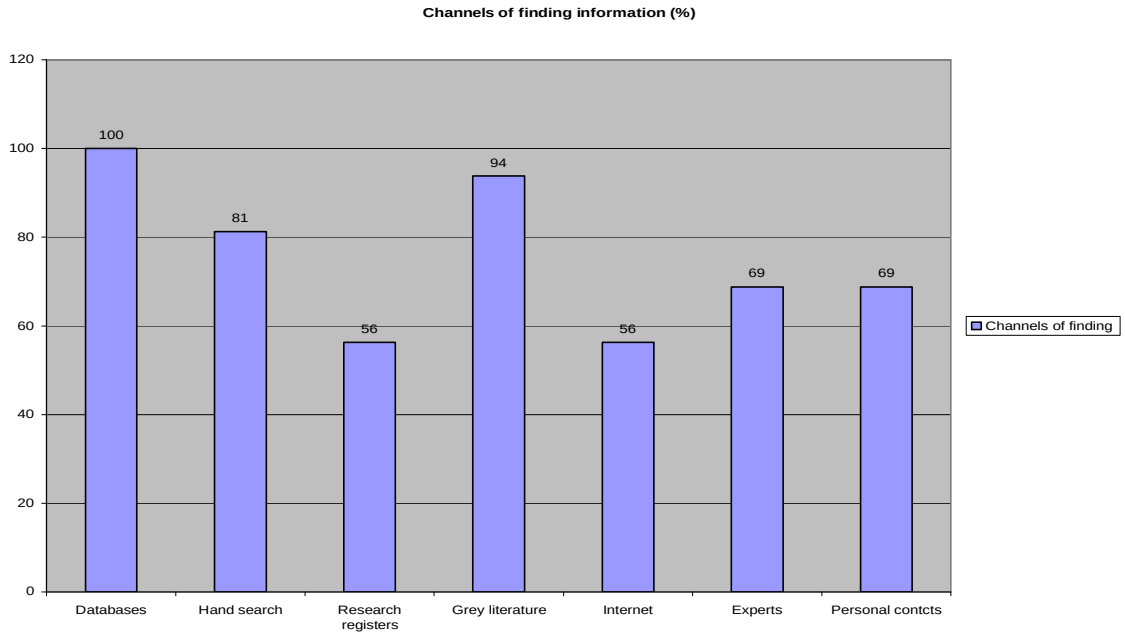
From non-research field information from health promotion and/or public health practice was not commonly seen as a source of relevant information for reviews. However, some of the most recent review protocols have started to face the challenge of widening the evidence base. For example HDA has included in its evidence briefing process meetings with practitioners, and Systematic Reviews of health Promotion and Public Health Interventions Handbook (COCH_HP) suggested using reports conducted by practice level actors.

5.5.3.2 Finding information

All review protocols used electronic databases as a channel of finding information (Figure 8). Searching grey literature was instructed in 94% of the review protocols. In addition, hand searching of journals was instructed in 81 % of the protocols. All protocols instructed to contact either experts or use other personal contacts when searching information. Instead, registers of ongoing research and Internet were quite rarely instructed to be searched. Only a bit over half (56%) of the protocols included list or instructions on research registers and search engines.

Searching for primary studies on health promotion and public health topics can be very time-consuming task, as a search strategies will need to be adapted for number of databases, and broad searches using a wide range of terms because health promotion and public health terminology is very non-specified and non-standardised. Reviewers should thus ensure that the search strategy is developed for a number of databases that cover the variety of domains where the literature may be located. (COCH_HP).

Figure 8. Channels of finding information



5.5.3.2.1 Search strategy

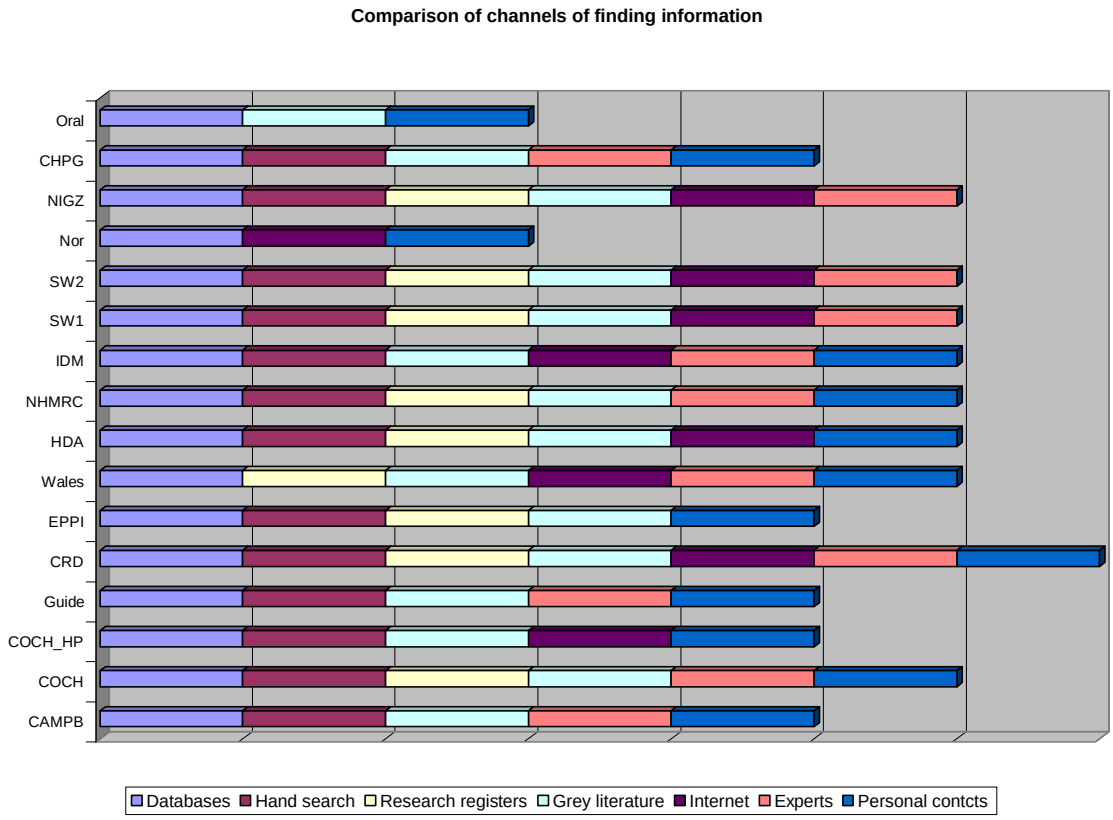
According to CRD Report (CRD) databases and other channels that will be searched together with the search terms should be included in a search strategy for identifying relevant research. The construction of a search strategy should be based on the components of the review questions, i.e. populations, interventions, outcomes along with the study designs being considered. However, The Systematic Reviews of Health Promotion and Public Health Interventions Handbook (COCH_HP) points out that it is not usually recommended to include outcomes to the search strategy because outcomes are described in many different ways and may not be described in the abstracts of the articles. The CRD Report (CRD) as well as the Swedish protocols (SW1, SW2) gave general instructions for the search process:

- It is important that the search for primary studies is extensive, otherwise reviews risk producing biased and/or imprecise estimates of effects.
- To develop a thorough search strategy, reviewers and librarians should work together to identify search terms and resources to be searched.
- Comprehensive searching can only be achieved by using a variety of search methods (both computerised and manual) and searching multiple, possibly overlapping, sources of studies.
- Although the majority of searching will be undertaken at the beginning of the review, a series of updating searches may need to be scheduled to take place near the end of the project.
- A systematic approach to recording and managing references and papers will help to keep the review on track.
- The search should be well documented and search results should be saved and retained for future potential reanalysis.
- A reference management system will facilitate the work and save time.

5.5.3.2.1 Channels of finding information

Besides search strategies and common instructions on how to search all the protocols listed channels of finding information. Most comprehensive search strategies and channels of finding information were presented in the CRD protocol (Figure 9). In addition, comprehensive lists of channels of finding information were presented in NIGZ, COCH, IDM, NHMR, HDA, Wales and both Swedish protocols (SW1, SW2).

Figure 9. Comparison of channels of finding information



All review protocols suggested to search electronic databases (Figure 9). The most often mentioned search engines were MEDLINE, EMBASE, CINHAL, PsycInfo. Review protocols designed from the clinical perspective referred more often to the medical databases where as for example the EPPI-Centre Manual (EPPI) referred to educational databases such as ERIC etc. The Systematic Reviews of Health Promotion and Public Health Interventions Handbook (COCH_HP) included a comprehensive list of databases relevant to the public health and health promotion. It referred to a full list of free public health databases and subscription-only databases available at http://library.unmassmed.edu/ebpph/dblist.cfm. Some of the databases are listed below:

Psychology:	PsycINFO/PscyLIT
Biomedicine:	CINAHL, LILACS (Latin American Caribbean Health Sciences Literature) http://www.bireme.br/bvs/I/ibd.htm, Web of Science, Medline, EMBASE, CENTRAL, Combined Health Information Database (CHID) http://chid.nih.gov/, Chronic Disease Prevention Database (CDP) http://www.cdc.gov/cdp/
Sociology:	Sociofile, Sociological Abstracts, Social Science Citation Index
Education:	ERIC (Educational Resources Information Center), C2-SPECTR (Campbell Collaboration Social, Psychological, Educational and Criminological Trials Register) http://www.campbellcollaboration.org, REEL (Research Evidence in Education Library, EPPI-Centre) http://EPPI.ioe.ac.uk
Transport:	NTIS (National Technical Information Service), TRIS (Transport Research Information Service) http://ntl.bts.gov/tris, IRRD (International Road Research Documentation), TRANSDOC (from ECMT (European Conference of Ministers of Transport)
Physical activity:	SportsDiscus
HP/PH:	BiblioMap (EPPI-Centre) http://EPPI.ioe.ac.uk, HealthPromis (HDA, UK) http://www.hda-online.org.uk/evidence/, Global Health
Other:	Popline (population health, family planning) http://db.jhuccp.org/popinform/basic.html, Enviroline (environmental health) – available on Dialog, Toxfile (toxicology) – available on Dialog, Econlit (economics)
Qualitative:	ESRC Qualitative Data Archival Resource Centre (QUALIDATA) (http://www.qualidata.essex.ac.uk), Database of Interviews on Patient Experience (DIPEX) (http://www.dipex.org).

Finding out about unpublished studies, and including them in a systematic review is challenging task. According to some of the existing review protocols methods to find grey literature were e.g.:

- Scanning reference lists of relevant studies
- Contacting authors/academic institutions of key studies
- Searching theses, dissertations, conference proceedings
- Searching the internet (COCH_HP, EPPI)

In addition to the methods described above, some of the review protocols listed database including grey literature. For example CRD Report (CRD) mentioned SINGLE, NTIS, Health Management Information Consortium-CD-ROM, British National Bibliography for Reports as good sources of grey literature information. In addition, the SW1 mentioned Spriline, Dissertation Abstracts, Conference paper index, Index to Scientific and Technical Proceedings as good sources of information for other than published research.

Hand searching of journals was quite often recommended to identify further primary research studies (Figure 9). Hand searching involves a manual page-by-page examination of the entire contents of a journal issue to identify all eligible reports of trials, whether they appear in articles, abstracts, news columns, editorials, letters or other text (CRD). It was stressed that hand searching journals is a necessary adjunct to searching electronic databases for at least two reasons: 1) not all trial reports are included in the electronic bibliographic databases, and 2) even when they are included, they may not be indexed with terms that allow them to be easily identified as trials. (COCH)

Some of the review protocols recommended list of journals to be searched. For example, Systematic Reviews of Health Promotion and Public Health Handbook (COCH _HP) presented two lists of health promotion and public health journals:

1) The Lamar Journal Soutter Library list of public health journals
2) The Core Public Health Journals List compiled by Yale University.

In addition, it referred to the list of most productive journals to hand search to locate public health and health promotion articles found by Effective Public Health Practice Project in Canada: American Journal of Health Promotion, American Journal of Preventive Medicine, American Journal of Public Health, Canadian Journal of Public Health, BMJ. Other useful journals include Annual Review of Public Health, Health Education and Behaviour (formerly Health Education Quarterly), Health Education Research, JAMA, Preventive Medicine, Public Health Reports, Social Science and Medicine. Besides health promotion and public health journal Systematic Reviews of Health Promotion and Public Health Handbook (COCH_HP) suggested searching also non-health promotion and public health journals which may cover the topic of interest, i.e. marketing journals etc.

Free internet search was recommended in the most recent review protocols (Figure 9). Free internet search was recommended to find national public health reports, local public health reports, reviews serving background documentation for legislation, quality assurance reports etc. According to Systematic Reviews of Health Promotion and Public Health Handbook (COCH_HP) a useful search engine for locating academic work is Google Scholar (http://scholar.google.com). In addition to this CRD report suggested using search engines such as Copernic, Dogpile, MedNet, NSABP Medical Search Engines, and Northern light and Knowledge Based Public Health Work Handbook (SW1) Dogpile and Scirus.

Research registers were not so commonly mentioned to be searched. And if they were most of the review protocols did not specify any example. Cochrane's Reviewers Handbook (COCH) mentioned that Cochrane central register of controlled trials, and other research registers on ongoing research should be searched. Two such examples are TrialsCentral™ (www.trialscentral.org) and Current Controlled Trials (www.controlled-trials.com). In addition to these the NHMR protocol mentions the CENTRAL.

The most comprehensive and practical instruction on contacting experts were given in the Cochrane's Reviewers Handbook (COCH). According to this handbook, formal letters of request for information can be used to identify completed but unpublished studies. One way of doing this is to send a comprehensive list of relevant articles along with the inclusion criteria for the review to the first author of reports for included studies, asking if they know of any additional studies (published or unpublished) that might be relevant. It may also be desirable to send the same letter to other experts and pharmaceutical companies or others with an interest in the area. However, it should be borne in mind that asking researchers for information about completed but never published studies has not typically been fruitful. (COCH) HDA protocol pinpoints that e-mail discussion groups and meetings as well as evidence-based websites are also good ways of finding relevant information. Experts in the field are good channels to obtain directly information on the effectiveness or efficiency of the community health interventions under review and key issues and possible consequences of interventions and ethical considerations (CHPG).

IDM Evidence Framework (IDM) had the most practical perspective in the channels of finding information. It started with very important questions:
1. What sources of evidence/information are needed?
2. What sources of evidence/information already exist?
3. How will availability (of what) assist/restrict our practice (including research/evaluation)?

In addition to the traditional channels of finding information the IDM Evidence Framework (IDM) instructed to go to the community. The IDM protocol emphasised that the knowledge of issues and people's life has to come from this source. In addition, it saw that one way of finding information is to carry out a survey/study. Also CHPG stressed that surveys may bring additional data for assessing the effectiveness of the interventions.

5.5.3.3 Selection criteria

Only one of the existing review protocols did not include any selection criteria (Figure 10). 69% of the review protocols instructed to base their selection criteria on the review question. Most often (81%) selection criteria were instructed to be formulated according to the population and situation. Also outcomes (69%) and study designs (75%) were mentioned as components of the selection criteria. The languages questions were mentioned in 75% of the review protocols. Other selection criteria than review question or its components were mentioned in 43% of the protocols.

Figure 10. Selection criteria in the review protocols

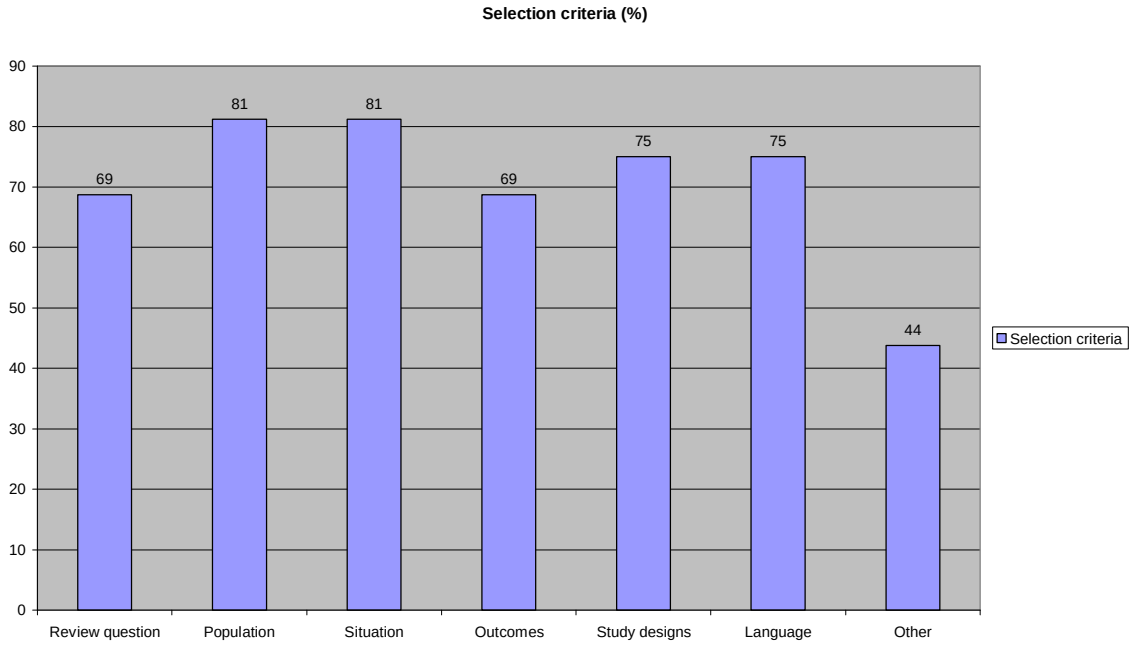
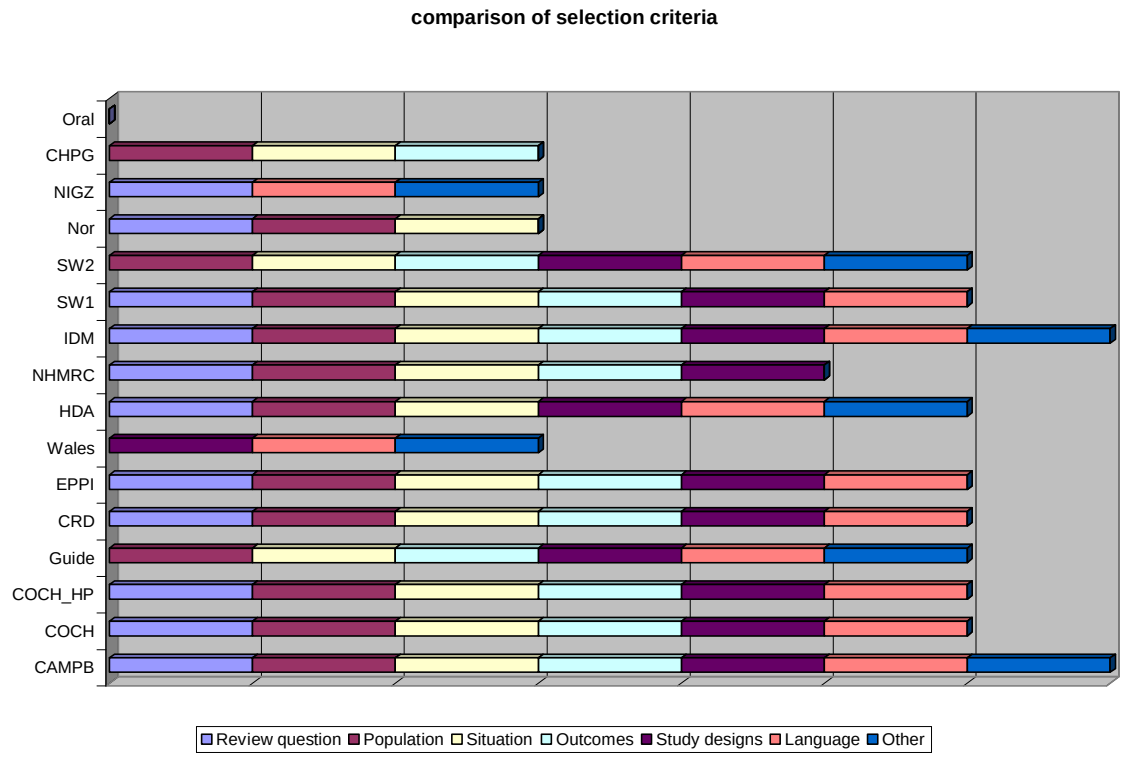


Figure 11. Comparison of the selection criteria of the review protocols



According to most of the protocols inclusion and exclusion criteria (e.g. selection criteria) should be in line with the review question (Figure 11). The aim of study selection is to identify those articles that help to answer the review questions. Therefore, most of the review protocols instructed that selection criteria (both inclusion and exclusion criteria) should follow logically from the questions and they should be defined in terms of

- the population
- the interventions
- the outcomes
- the study designs. (CRD, EPPI, SW1, SW2, COCH, COCH_HP)

To be included in the review, a study needs to meet all inclusion criteria and not meet any exclusion criteria. 'Excluded' studies, however, may have a very useful contribution to make elsewhere, even though they are not considered relevant to the current review.

Some of the protocols had a more comprehensive and not so traditional view of the selection criteria. For example the Community Guide (Guide) instructed to consider the:

1. potential for reducing the burden of disease and injury
2. potential for increasing healthy behaviours and reducing unhealthy behaviours
3. potential to increase the implementation of effective interventions that are not widely used
4. potential to phase out widely used less-effective interventions in favour of more-effective or more-cost-effective options
5. current level of interest among providers and decision makers.

In addition to these also other features were mentioned to be used as selection criteria: judgments may also be based on characteristics of the intervention, depth of the available literature**,** theory, and other considerations.

Knowledge-based Public Health Handbook (SW2) emphasised that the inclusion criteria may vary from review to review, but the following items should be considered when the standards are set:

- empowerment
- participation
- equality.

IDM Evidence Framework protocol (IDM) stressed that information must be relevant to the HP/PH question, consistent with and reflective of health promotion underpinnings and understanding of the environment, high quality, and applicable to the situation. Selection of the information must be of the highest quality and relevant to current question, health promotion and specific situation and population as well as to outcomes, research designs and best practices initiatives.

Language question were taken into account in 75 % of the protocols (Figures 10 and 11). Both Campbell and Cochrane's Reviewers Handbook instructed to take an international perspective. The evidence collected should not be restricted by nationality or language without good reason. Also

CRD Report (CRD) emphasised that whenever feasible, all suitable reports should be included regardless of language, and the influence of then on-English language literature on estimation and precision of the effect should be explored in a sensitivity analysis.

Some of the protocols instructed to limit the search or select only some languages. For example HDA Manual (HDA) instructed to use only English language wile IDM Evidence Framework (IDM) instructed to include all languages or English and French only. The both Swedish handbooks (SW1, SW2) recommended including material in English, Swedish, Norwegian, and Danish. However, it emphasised that translation should be arranged.

CRD Report (CRD) and also both Swedish handbooks (SW1, SW2) include a useful list of common rules of selection criteria:

1. In order to be selected, a study should fulfil all of the inclusion criteria and none of the exclusion criteria
2. Study selection is a staged process involving sifting through the citations located by the search, retrieving full reports of potentially relevant citations and, from their assessment, identifying those studies that fulfil the inclusion criteria.
3. Parallel independent assessments should be conducted to minimise the risk of errors of judgment. If disagreements occur between reviewers, they should be resolved according to a predefined strategy using consensus and arbitration as appropriate. The study selection process should be documented, detailing reasons for inclusion and exclusion.
4. Knowledge of the authorship, institutions, journal titles, and year of publication is also discussed .
5. Two independent reviewers is enough.

5.5.3.4 Quality criteria

All the review protocols used some quality criteria to assess the quality of information selected (Figures 12 and 13). 69 % of the review protocols used quality criteria for different study designs of which 44% included also criteria for qualitative research. Clinical based review protocols (25%) relied on traditional evidence hierarchies. Some of the protocols (25%) did not specify the quality criteria for different study designs, but instead, they proposed to use a general form for all types of information. Only 13% of the review protocols discussed or took into account the complex interventions from the view point of health promotion and/or public health interventions.

More precise analysis of the quality criteria can be found in a separate document: Inventory of the existing quality criteria for reviewing processes (39).

Figure 12. Quality criteria in the review protocols

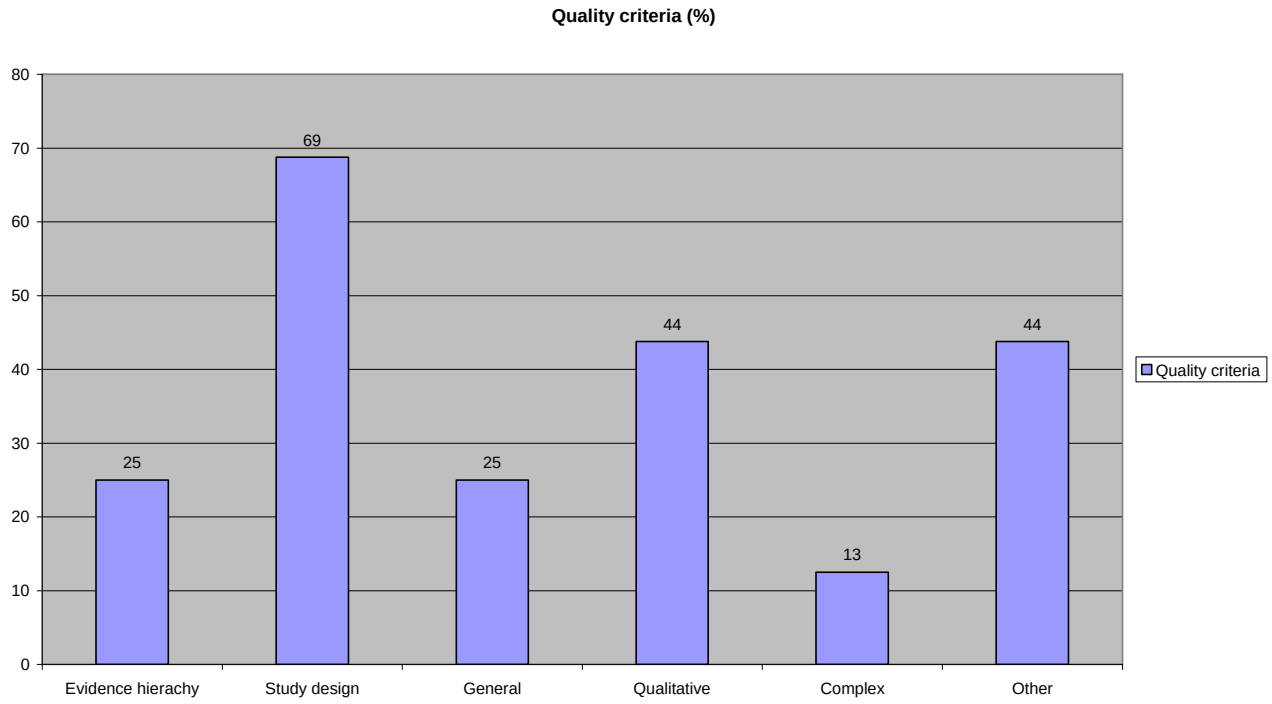
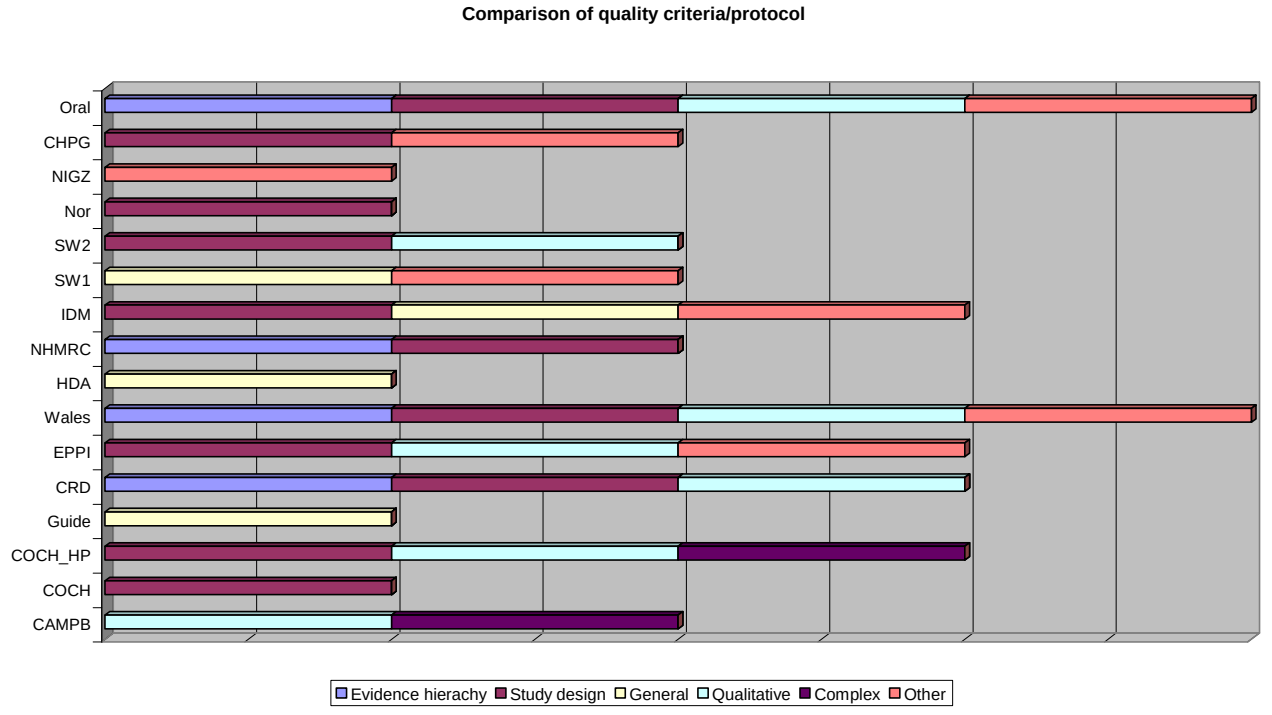


Figure 13 Comparison of the quality criteria in the review protocols



5.5.3.5 Data extraction and synthesis

Data extraction/abstraction and synthesis phase are inter-related. Once the data has been abstracted from primary studies/ information the synthesis of findings becomes much easier. 69 % of the review protocols suggested data extraction or included a data extraction forms (Figure 14). Generally, there are two approaches in synthesising the findings from a range of studies. Narrative synthesis, in which the findings are summarised and explained in words was suggested in 69 % of the protocols, end quantitative e.g. statistical synthesis in which data from individual studies are combined statistically was suggested in 63% of the protocols. 30 % of the protocols did not suggest either narrative or qualitative synthesis but they recommended some other form of synthesis such as summaries.

Figure 14. Data extraction and synthesis phase in the review protocols

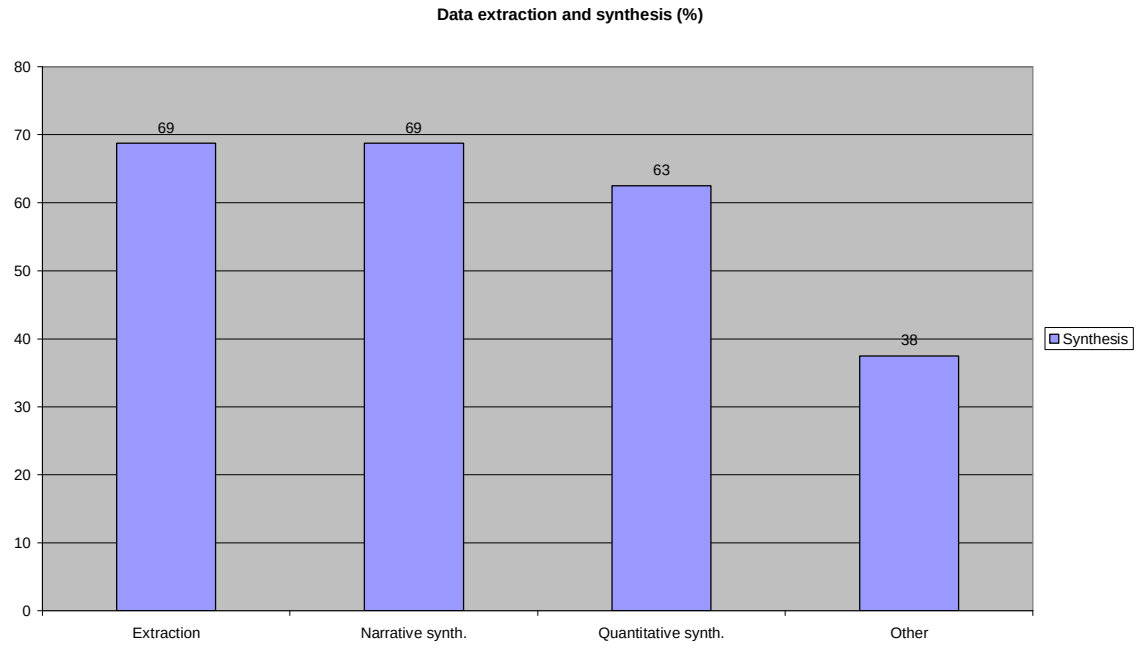
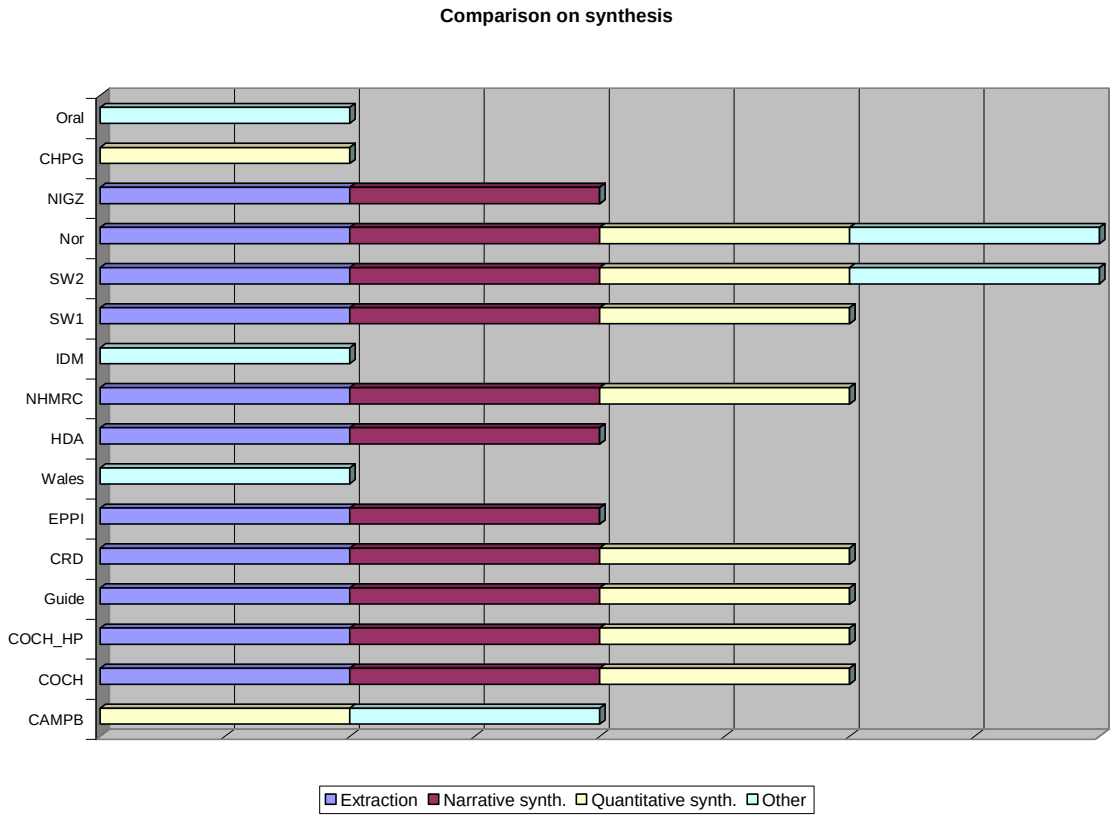


Figure 15. Comparison of the data extraction and synthesis in review protocols



5.5.3.5.1 Data extraction/abstraction

Data extraction/abstraction was suggested in 11 protocols (Figure 15). Some of the protocols only mentioned or recommended a data extraction phase but they did not included any specific forms or instructions on how to do it (for example SW1). Most of the protocols included, however, elaborate discussion on how to develop a data extraction form. For example Cochrane Reviewers' Handbook (COCH) advised to use either paper or electronic data collection form. It was instructed that paper forms can be easier to design because electronic forms require computer-programming knowledge. On the other hand, large amounts of data from reviews involving large numbers of studies are more easily stored and retrieved with electronic than paper forms. In addition to this Cochrane Reviewers' Handbook (COCH) gave also instruction on developing a data extraction form. According to it, data extraction form should include:

- Information about study references and reviewers
- Verification of study eligibility
- Study characteristics
    - Methods
    - Participants
    - Interventions
    - Outcome measures and results

Systematic Reviews of health Promotion and Public Health Interventions Handbook (COCH_HP), The Knowledge-based Public Health Handbook (SW2) and CRD Report (CRD) emphasised that different study designs require different data abstraction forms, to match the quality criteria and reporting of the study. According Systematic Reviews of Health Promotion and Public Health Interventions Handbook (COCH_HP), the data abstraction form should mirror the format for which the results will be presented. It emphasised also that no single data abstraction form is absolutely suitable for every review. Forms will need to be adapted to make them relevant to the information required for the review (COCH_HP, Sw2).

The Systematic Reviews of Health Promotion and Public Health Interventions Handbook (COCH_HP), advised also that data abstraction form should include the criteria used for quality appraisal. Useful data to collect were suggested to be for example:

- Publication details
- Study details
- Population details
- Intervention details
- Theoretical framework
- Provider
- Setting
- Target group
- Consumer involvement
- Process measures, adherence, exposure, training etc.
- Contextual details
- Outcomes
- Findings.

The Systematic Reviews of Health Promotion and Public Health Interventions Handbook (COCH_HP) referred also to other review protocols abstraction forms. The Knowledge-based Public Health Handbook (SW2) and CRD Report (CRD), The Community Guide (Guide) as well as to The Effective Public Health Practice Project reviews (http://ww.city.hamilton.on.ca/phcs/EPHPP/default.asp) and Effective Practice and Organisation of Care Review Group (http://www.epoc.uottawa.ca.tools.html) include good examples of different data extraction forms.

For example through the Community Guides' (Guide) standardized abstraction form information is collected on: (1) the intervention being studied; (2) the context in which the study was done (e.g., population, setting); (3) the evaluation design; (4) study quality; and (5) the results. Each study is characterized based on both the suitability of study design for assessing the effectiveness and the quality of study execution. The Knowledge-based Public Health Handbook (SW2) provides data extraction forms for 1) randomised controlled trials (RCT), 2) cohort studies, 3) controlled before-

and-after studies, 4) time-series studies, and 5) qualitative studies. And CRD Report (CRD) includes instructions on how to develop data extraction forms for different study designs.

In addition to the protocols mentioned above also the EPPI-Centre Manual (EPPI) has developed a set of data extraction questions to extract data from studies of health education or promotion studies which have been known as 'review guidelines'. The guidelines contain over 100 questions, along with pre-determined possible answers. The EPPI-Centre data extraction guidelines currently contain the following sections: how the report was identified; how the study was supported (e.g. sources of funding); the context and aims of the study (e.g. the theoretical basis, if any, used by the study's authors; the author's stated aims for the study); study methods (e.g. sample recruitment, data collection and analysis); description of the study population (e.g. gender, age, ethnicity); the study findings and indicators of study quality. Further development of this phase was suggested.

Generally speaking data extraction is the process by which the members of the group compiling the review obtain from the selected original articles the data they need to make their synthesis:

- Each study design will require its own special data extraction form, which means that every group will have to create as many different forms as there are study designs included in the review.
- Existing data abstraction forms can be used as a starting point but forms will need to be adapted to make them relevant to the information required for the review.
- The forms should be tested in a pilot study where each member of the review group extracts data from a couple of articles with each study design. The pilot study may identify gaps in the form or items that are unnecessary. In addition, this gives the review group a chance to practice collecting data in a consistent manner (CRD, SW2).

5.5.3.5.2 Data synthesis

Some of the existing review protocols only mentioned to do a summary without presenting more precise instructions (Figure 15; WALES, HAD, NHMRC, IDM, NIGZ, Nor). However, half of the existing review protocols recommended either narrative and/or qualitative synthesis. In general, analyses of the information may be narrative, such as a structured summary and discussion of the studies' characteristics and findings, or quantitative, that is involving statistical analysis. Meta-analysis – the statistical combination of results from two or more separate studies – is the most commonly used statistical technique (CRD, COCH).
The Cochrane Reviewers' Handbook (COCH) suggested the following framework for the synthesis of primary studies regardless of the method (narrative/qualitative) used to synthesise data:

1. What is the direction of effect?
2. What is the size of effect?
3. Is the effect consistent across studies?
4. What is the strength of evidence for the effect?

According to the Systematic Reviews of Health Promotion and Public Health Interventions Handbook (COCH_HP) and the Knowledge-based Public Health Handbook (SW2) the choice of doing either narrative or qualitative synthesis depends on the diversity of studies included in the review (diversity of studies is often referred to as heterogeneity). Both handbooks stressed that if studies differ in such characteristics as design, methods, or outcome measures, a quantitative synthesise is not always possible. If the studies are more homogenous a meta-analysis is usually possible. (SW2, COCH_HP). The Cochrane's Reviewers Handbook (COCH) included quite comprehensive instructions on meta-analysis, and the Knowledge-based Public Health Handbook (SW2) referred also to these instructions in case of doing meta-analysis.

The Systematic Reviews of Health Promotion and Public Health Interventions Handbook (COCH_HP) emphasized that guidelines for narrative synthesis for systematic reviews are not yet available, although research is currently underway to develop these guidelines. According to the CRD Report (CRD) in narrative synthesis the reviewers should ideally:

- Describe studies
- Assess whether quality is adequate in primary studies to trust the results
- Demonstrate absence of data for planned comparisons
- Demonstrate degree of heterogeneity
- Stratify results by populations, interventions, settings, context, outcomes, and validity.

According to the Knowledge-based Public Health Handbook (SW2) and the CRD Report (CRD) key notions of the data synthesis procedure are:

- The purpose of the synthesis is to summarise the data that have been extracted from the primary publications.
- Data synthesis entails describing the characteristics and results in tabular form (non-quantitative synthesis) and analysing them for statistical significance if necessary (quantitative synthesis).
- The synthesis will be of aid in determining whether the intervention under study is effective, and if so, in which context.
- Quantitative analysis will employ statistical methods to compile data from several studies (meta-analysis), to assess heterogeneity, and to evaluate publication bias.

5.5.3.6 Additional information on synthesis and interpretation of results

Only 38 % of the existing review protocols discussed characteristics of the HP/PH interventions (Figure 16). Also synthesis of the qualitative studies and complex interventions was rarely discussed. Instead, combination of the results of different study designs and knowledge base was discussed in half of the existing review protocols. Applicability of the results was discussed in 69% of the protocols and theory base or the role of the theory only in 25 % of the protocols.

Figure 16. Additional information on synthesis

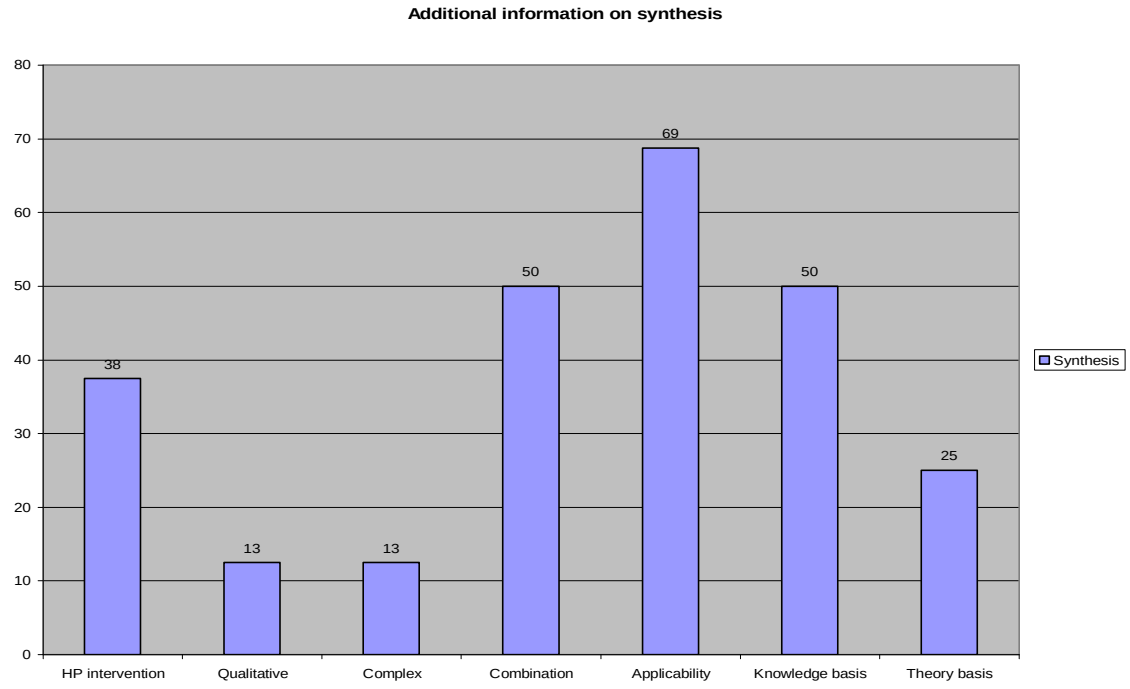
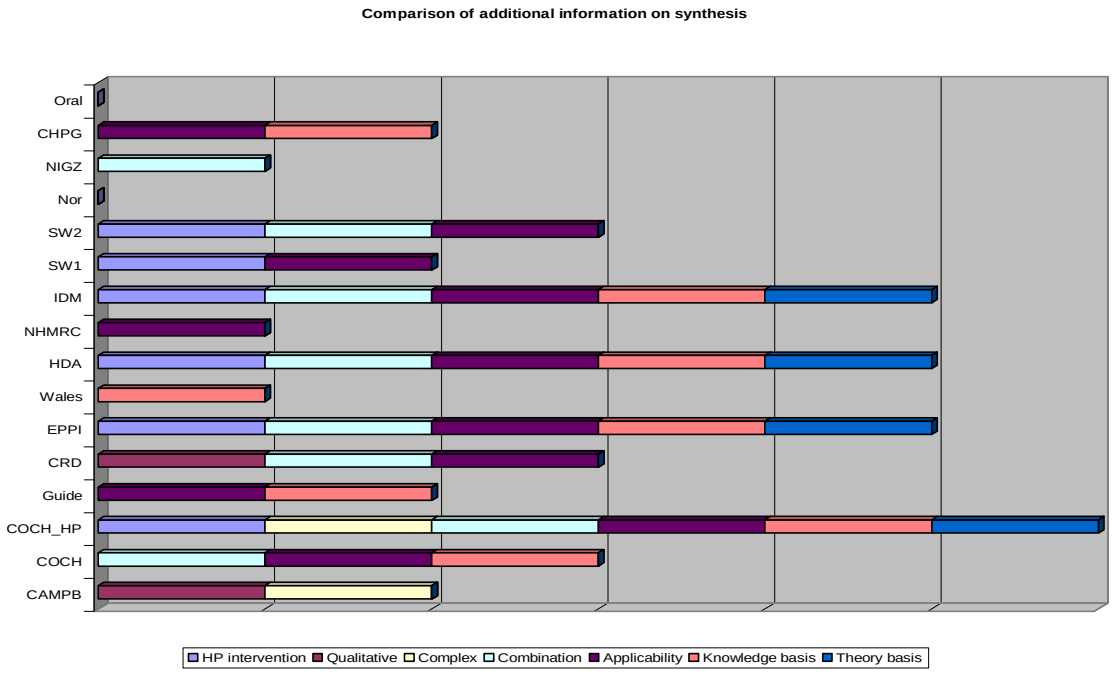


Figure 17. Comparison on additional information on the synthesis in the review protocols



5.5.3.6.1 Characteristics of the data synthesis of HP/PH interventions' effectiveness

Protocols designed for health promotion and public health (COCH_HP, EPPI, HDA, IDM, SW1 and SW2) discussed the characteristics of health promotion interventions (Figure 17). For example, the HDA work is aimed at bringing together all relevant evidence of the effects of interventions to improve health and reduce health inequalities, and provide vital information for effective public health practice. The manual discussed widely synthesising systematic reviews (review-level information) of effectiveness. Also, the Systematic Reviews of Health Promotion and Public Health Interventions Handbook (COCH_HP) discussed effective public health interventions and characteristics of their synthesising. Characteristic features for effectiveness studies in HP (e.g. heterogeneity) were recommended to take into account when synthesising the results: reviewers should discuss whether the studies included in the review illuminated the key process factors that led to effective interventions. In addition, the relationship between intervention integrity and effectiveness should be described, i.e., did studies that addressed integrity thoroughly show a great impact? According to the Systematic Reviews of Health Promotion and Public Health Interventions Handbook (COCH_HP) these facts should be described and discussed when interpreting the results of the synthesis.

Most of the protocols dealing with effectiveness of the interventions did not include precise instructions on what to take into account or what to describe e.g. the Knowledge-based Public Health Handbook (SW2) stressed that data synthesis will be of aid in determining whether the intervention under study is effective, and if so, in which context, but it does not include any further discussion on the synthesis of the effectiveness of the interventions.

5.5.3.6.2 Characteristics of data synthesis of qualitative studies

Only two of the review protocols explicitly discussed the characteristics of synthesizing the information from qualitative studies (Figure 17).The Campbell Collaborations Guidelines (CAMPB) pointed out that when a review contains descriptions of qualitative research relevant to the topic of interest, the reviewers should operationally describe the (a) criteria for inclusion and exclusion of studies, (b) methods used in primary research, (c) criteria for determining independent findings, and (d) characteristics of included studies in the same detail as they do for quantitative research. The CRD Report (CRD) pointed out that first of all findings from studies using qualitative methods can help to inform the various features of data synthesis such as exploration of the diversity of effects across studies, settings and groups; and investigation of average and divergent effects. Secondly they can, for example, identify differences between interventions in apparently similar studies or between the contexts within which interventions are delivered. And finally they may also illuminate the impact of contextual factors, such as the qualitative impact of unexpected events in the delivery of the intervention.

The CRD Report (CRD) emphasised that the data synthesis of qualitative research is far from simple. In theory at least, the synthesis of findings from qualitative studies may be narrative or meta-analytical. There are no formal procedures available to aid narrative synthesis of findings from qualitative studies within the context of a systematic review (CRD, COCH_HP). However, the same criteria used to judge the quality of the studies to be included in the synthesis could be applied to the synthesis itself (CRD).

5.5.3.6.3 Characteristics of data synthesis of complex interventions

Only two review protocols touch on the topic of complex interventions (Figure 17). The Campbell Collaboration Guidelines (CAMPB) described the complex interventions e.g. multiple outcome measures. It described that complex interventions can either happen because several types of outcomes are measured within the same study (e.g., recidivism and school attendance within a study of intervention effects on juvenile delinquency) and/or because the same outcome is measured at multiple points in time. But the more precise instructions on how to synthesise these were not described. It only pointed out that the characteristics of complex interventions should be taken into account. The Systematic Reviews of Health Promotion and Public Health Interventions Handbook (COCH_HP) touched also briefly on the characteristics of complex interventions. According to it especially the integrity of interventions should be discussed in the reviews.

5.5.3.6.4 Characteristics of combining results from different sources

Synthesising studies with variable methods or information were discussed in 11 review protocols (Figure 17). However, some of the protocols only touched on the subject very briefly (COCH, IDM, SW1, SW2) while others included a quite comprehensive discussion on the subject. The CRD Report (CRD) included a comprehensive discussion on integrating different study designs in a systematic review. It pointed out that when studies of different designs are included in a systematic review, it is important that the potential biases that could be introduced by statistical combination are investigated. According to it, one approach to do this is to separately synthesise the results of the subgroups of the studies with different designs or levels of validity and to compare the summary estimates of the subgroups for trends and important differences. An alternative approach is cumulatively combining studies of decreasing strength of evidence and monitor changes in the overall estimates when studies of lower validity are included (a form of sensitivity analysis). Producing a plot of the study effects in decreasing order of validity may support this. A third approach presented in the CRD Report (CRD) involved modelling the strength of evidence as a variable in a regression analysis similar to that used in exploration of causes of heterogeneity. This requires that each study is given a grading according to its quality or validity. This method may be useful to describe systematic relationships between the validity of the primary studies and their results, and may give insights into the value of different methodological approaches.

The CRD Report (CRD) stressed that when synthesising results of studies with different designs, non-quantitative synthesis is often the only feasible option. A related issue is the potential for combining qualitative and quantitative findings from different studies. One approach to this type of synthesis is being developed using Bayesian hierarchical modelling. Triangulation may provide another approach. Triangulation is a widely accepted technique for exploring the validity of, and relationship between, findings from research through the systematic comparison of data collected from different perspectives. Another approach to the synthesis of information from different types of sources, which may be relevant to the review of findings from qualitative research, underpins consensus methods, such as the Delphi process and the nominal group technique. (CRD)

The Systematic Reviews of Health Promotion and Public Health Interventions Handbook (COCH_HP) referred to the EPPI centre's instructions on integrating qualitative and quantitative information within one review. The EPPI Centres methods involve conducting three types of syntheses in the same review: 1) a statistical meta-analysis to pool trials of interventions tackling particular problems (or a narrative synthesis when meta-analysis is not appropriate or possible); 2) a synthesis of studies examining people's perspectives or experiences of that problem using qualitative analysis ('views' studies); and 3) a 'mixed methods' synthesis bringing the products of 1) and 2) together. These developments have been driven by particular review questions rather than methodology; 'users' of the reviews want to know about the effects of interventions, but also want to know which interventions will be most appropriate and relevant to people. However, they do illustrate how qualitative studies can be integrated into a systematic review as 'views' studies are

often, but not always, qualitative in nature. The methods for each of the three syntheses are described in brief below:

Synthesis 1) Effectiveness synthesis for trials
Effect sizes from good quality trials are extracted and, if appropriate, pooled using statistical meta-analysis. Heterogeneity is explored statistically by carrying out sub-group analyses on a range of categories specified in advance (e.g. study quality, study design, setting and type of intervention).

Synthesis 2) Qualitative synthesis for 'views' studies
The textual data describing the findings from 'views' studies are copied verbatim and entered into a software package to aid qualitative analysis. Two or more reviewers undertake a thematic analysis on this data. Themes are descriptive and stay close to the data, building up a picture of the range and depth of people's perspectives and experiences in relation to the health issue under study. The content of the descriptive themes are then considered in the light of the relevant review question (e.g. what helps and what stops children eating fruit and vegetables?) in order to generate implications for intervention development. The products of this kind of synthesis can be conceptualised as 'theories' about which interventions might work. These theories are grounded in people's own understandings about their lives and health. These synthesis methods have much in common with the work of others who have emphasised the theory building potential of synthesis (Harden et al, in press).

Synthesis 3) A 'mixed methods' synthesis
Implications for interventions are juxtaposed against the interventions which have been evaluated by trials included in Synthesis 1. Using the descriptions of the interventions provided in the reports of the trials, matches, miss-matches and gaps are identified. Gaps are used for recommending what kinds of interventions need to be newly developed and tested. The effect sizes from interventions, which matched implications for interventions derived from people's views can be compared to those which do not, using sub-group analysis. This provides a way to highlight which types of interventions are both effective and appropriate. Unlike Bayesian methods, another approach to combining 'qualitative' and 'quantitative' studies within systematic reviews, which translates textual data into numerical data, these methods integrate 'quantitative' estimates of benefit and harm with 'qualitative' understanding from people's lives, whilst preserving the unique contribution of each (43).

The HDA manual (HDA) focused on difficulties in integrating review-level information. It stressed that it is surprisingly hard to provide a similar level of guidance on how to actually bring evidence from different reviews, and from different types of reviews, together. It raised two main reasons for this. Firstly, very little has been written elsewhere on the subject of synthesis in the area of systematic reviews of effectiveness. Much has been written on how to select studies for inclusion and rate them, virtually nothing on how to write about them once they have been selected. Secondly, if little has been written about synthesising the findings from primary research, then

virtually nothing (or at least nothing identified thus far) has been written about synthesising the findings of secondary level research. The HDA manual attempted to provide broad guidance on the transparent synthesis of data from reviews. Some good general principles for synthesising the findings of primary research have been applied to the activity of synthesising secondary level research reviews:

- The research questions of the evidence briefing should determine the scope of the review
- The critical appraisal form should guide conclusions about the quality of the review and the reliability of its content
- Points of consensus and difference between reviews should guide interrogation

HDA's Integrative approach to qualitative and quantitative evidence (45) document discussed very widely the role of qualitative form of evidence describing the current attempts to integrate qualitative approaches with trial designs, combining information from qualitative and quantitative research. In addition, HDA instructions included discussion and instruction on combining research information with information gained from practice (44). When constructing the HDA Effective Actions Briefing one aim is to integrate the best scientific evidence with knowledge derived from doing (practice). This integrating process, (appraising of the likelihood of success) is done by number of appraisal of practice field meetings.

5.5.3.6.5 Applicability and generalisability of synthesis

Most of the existing review protocols discussed the applicability of the results (Figure 17). Only CAMPB, Wales, Oral and Nor protocols did not touch on the subject. Some of the review protocols included discussion on the applicability (CRD, EPPI, IDM, CHPG) including only very narrow instructions on the subject. According to the Systematic Reviews of Health Promotion and Public Health Interventions Handbook (COCH_HP) applicability is a key part of the process of summarising evidence, since the goal of systematic reviews is to recommend interventions that are likely to be effective in different settings. According to the Cochrane's Reviewers Handbook (COCH) the decisions about applicability depend on the knowledge of the particular circumstances in which decisions are being made. In addressing the applicability of the results of a review, reviewers should be cautious not to assume that their own circumstances, or the circumstances reflected in the included studies are necessarily the same as those of others.

According to the Cochrane's Reviewers Handbook (COCH) reviewers can, however, help people to make decisions about applicability by drawing attention to the spectrum of circumstances to which the evidence is likely to be applicable, circumstances where the evidence is not likely to be applicable and predictable variation in effects across different circumstances. Reviewers can sometimes help people to make specific decisions by identifying important variation where divergence might limit the applicability of results, including:

- Biologic and cultural variation

- Variation in compliance
- Variation in baseline risk

However, the Cochrane's Reviewers Handbook (COCH) pointed out that in addressing these issues, reviewers cannot be expected to be aware of, or address the myriad differences in circumstances around the world. They can, however, address differences of known importance to many people and, importantly, they should avoid assuming that other people's circumstances are the same as their own in discussing the results and drawing conclusions.

The Community Guide (Guide) included also wide discussion on applicability. To help users to determine the likelihood that available information will or will not apply to their local situations reviewers should:

1. Define target populations and settings for which the intervention might be considered
2. Assess whether available studies have evaluated the intervention in those populations and settings
3. Assess the extent to which the populations or settings in those studies are likely to represent the target populations and settings of interest
4. Make judgments about whether the intervention works better or worse in some populations and settings than in others.

Based on that information, a judgment should be made about how widely the resulting recommendations should apply, as well as to identify areas for further research.

The Systematic Reviews of Health Promotion and the Public Health Interventions Handbook (COCH_HP) advised that the reviewers should describe the body of evidence with respect to the main domains relevant to the applicability of public health and health promotion interventions to the users' needs. It included an evaluation form of the applicability of an individual study or body of evidence. In the Handbook the organisation of the domains of applicability is based on the RE-AIM model of Glasgow and colleagues (46) that conceptualises the public health impact of an intervention as a function of Reach, Efficacy, Adoption, Implementation, and Maintenance. The Systematic Reviews of Health Promotion and Public Health Interventions Handbook (COCH_HP) advised that when a body of evidence is synthesised in total for a review, a summary table can be developed with the relevant characteristics relating to applicability. The users can compare their situation to the RE-AIM profile of individual studies or the body of evidence, facilitating conclusions about potential applicability. The users can also select interventions that match most closely with their values and interests with respect to RE-AIM characteristics (e.g., maximise reach to a broad population). The aim is to point the user towards interventions that are ready for translation to real world settings.

In addition to the Systematic Reviews of Health Promotion and the Public Health Interventions Handbook (COCH_HP) also both Swedish handbooks (SW1, SW2) instructed the reviewer to address applicability/generalisability in the discussion part of the review report. One part of the discussion should address whether the results can be generalised. Health promotion work is almost

always affected by the context: community norms and values, the people involved, organisational and economic constraints, etc. Thus, according to the Swedish handbooks (SW1, SW2) it should be made crystal-clear in the discussion that the success of a project in one setting by no means guarantees that it will be successful if carried out in another setting. Once this point has been made, the discussion can move on to the basic components of the successful projects included in the review, attempt to pinpoint the “lowest common denominator” or the “active ingredients” that make for success.

5.5.3.6.6 Knowledge base

Half of the existing review protocols discussed the reviews’ implications for practice and future health promotion and public health research (Figure 17). According to the IDM Evidence Framework (IDM) reviewers should think what lessons have been learned through the reviews that are relevant to health promotion. The Systematic Reviews of Health Promotion and Public Health Interventions Handbook (COCH_HP) supported the idea. It stressed that public health and health promotion reviews are in ideal position to determine the implications for practice and future research to be conducted to address any gaps in the evidence base. For example, where evidence is shown to be lacking, reviewers should clearly describe the type of research required, including the study design, participants, intervention details and context and settings. If the reviewed evidence base is flawed due to particular methodological issues (e.g. outcome, assessment tools, allocation bias etc.) these quality issues can be addressed in future studies. The Community Guide (Guide), HDA Manual (HDA), Wales methodology (Wales) and CHPG methodology emphasised also that an important additional benefit of reviews is the identification of areas where information is lacking or of poor quality.

Evidence-based reviews explicitly show limitations and uncertainties in available data, thereby creating opportunities to improve the quality of research and to stimulate research that will close important gaps. Some of the protocols (EPPI, HDA, Wales) emphasize that also reviewers' experience conducting each new systematic review will add considerably to what is known about carrying out systematic reviews.

5.5.3.6.7 Theory base

Only few of the existing review protocols included discussion on the role of the theory when synthesising or discussing the results of the review (Table 19). Only two of the protocols, the IDM Evidence framework (IDM) and the Systematic Reviews of Health Promotion and Public Health Interventions Handbook (COCH_HP) included clear instructions on the theoretical discussion while some other (HDA, EPPI, CHPG) touched on the subject very narrowly. Both the IDM Evidence framework (IDM) and the Systematic Reviews of Health Promotion and Public Health Interventions

Handbook (COCH_HP) stressed that theoretical as well as conceptual perspectives should be discussed when synthesising the evidence.

The Systematic Reviews of Health Promotion and Public Health Interventions Handbook (COCH_HP) stressed that reviewers should seek to examine the impact of the theoretical framework on the effectiveness of the intervention for two reasons. According to this handbook, the assessment of the theory within systematic review:

1. Helps to explain success or failure in different interventions, by highlighting the possible impact of differences between what was planned and what actually happened in the implementation of the program
2. Assists in identifying the key elements or components of an intervention, aiding the dissemination of successful intervention.

In addition the Systematic Reviews of Health Promotion and Public Health Interventions Handbook (COCH_HP) stressed that a theory may be used as a framework within which to explore the relationships between findings from different studies. For example, when combining the findings from different studies, reviewers can group interventions by their theoretical basis: all interventions based on, for example, Stages of Change Model for behaviour change, may be combined in a tabular form. Alternatively, it may also be useful for reviewers to assess whether interventions have used a Program Logic or Program Theory of Action approach to developing, implementing and evaluating the effects of the intervention. In addition, Cochrane's Reviewers HP/PH handbook emphasises that systematic reviews would be greatly enhanced if in the discussion attention was paid to the gaps in the theoretical coverage of interventions. For example, a large number of interventions seek to change the choices people make by focusing on single level changes (knowledge, attitude, behaviour, etc) rather than (also) seeking to change the environment within which people make their choices.

5.5.4 Reporting and disseminating

All of the existing review protocols included some instructions on reporting and disseminating the results of the reviewing process (Figure 18). 75 % of the review protocols included practical instructions on how to write the report or what to take into account when writing the report. However, instructions on disseminating the results of the review were included more often than instructions on writing the report. Most of the review protocols ended the instructions given in reporting and disseminating. Less than half of the protocols touched on how to get evidence into practice.

Figure 18. Reporting and disseminating in the review protocols

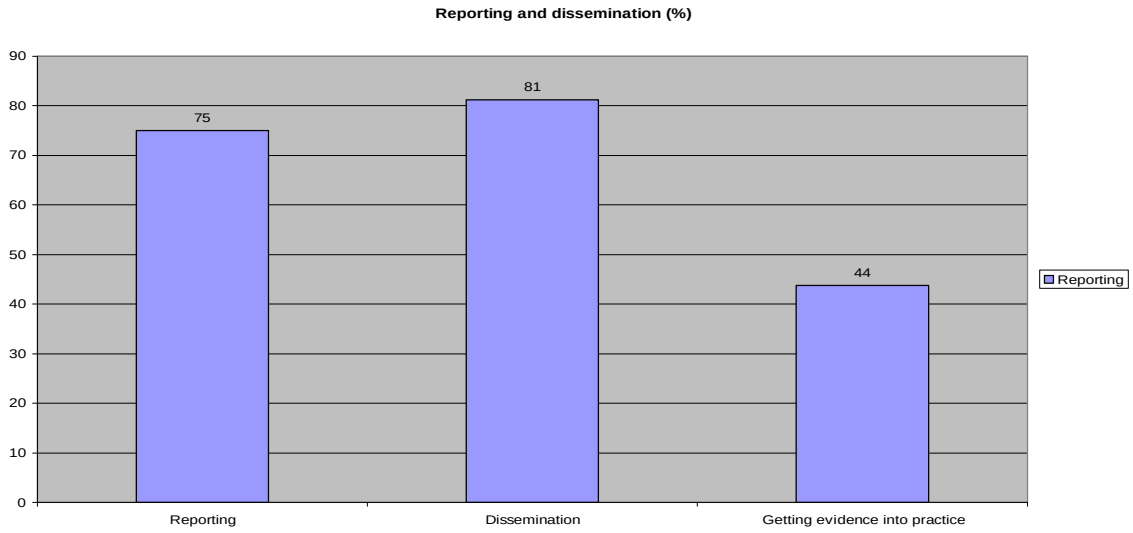
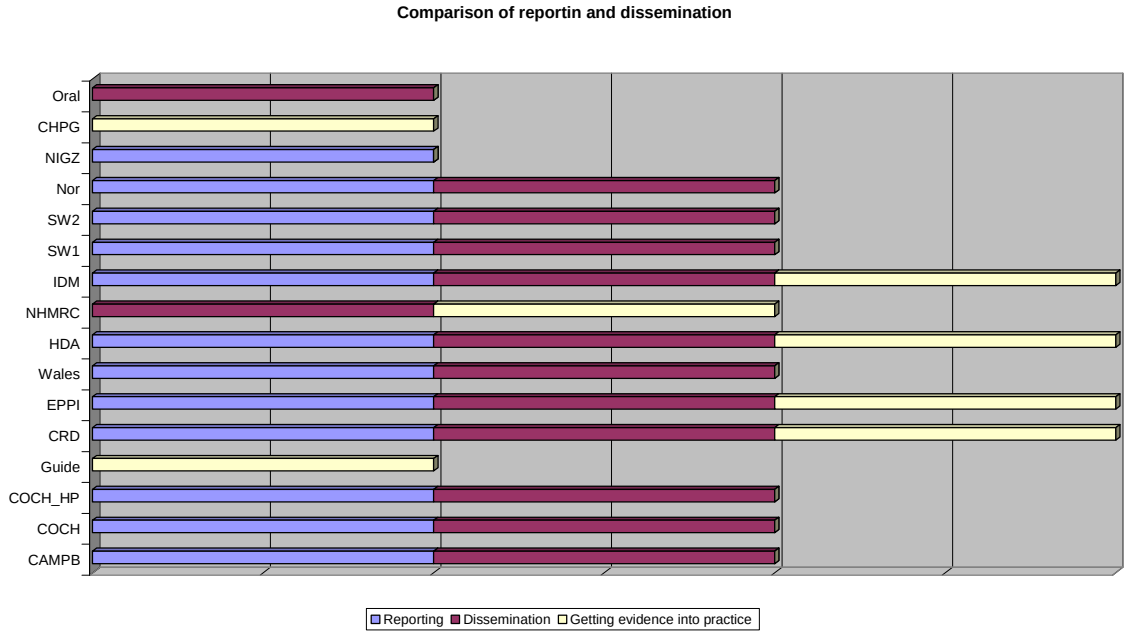


Figure 19. Comparison on reporting and dissemination in the review protocols



5.5.4.1 Reporting

12 review protocols included instructions on report writing (Figure 19). Report writing is an integral part of a systematic review. Clear reporting enables readers to judge the validity and usefulness of the review for decision-making (CRD). A clear structure helps readers to find the results of research quickly and to assess the validity, applicability and implications of those results. (CRD, COCH, CAMPB)

Most of the existing review protocols suggest a certain structure for the review reports (Figure 19). For example the Campbell Guidelines (CAMPB) suggested that the review report should include:

1. Cover Sheet
2. Background for the Review
3. Objectives of the Review
4. Methods
    - Criteria for inclusion and exclusion of studies in the review
    - Search strategy for identification of relevant studies
    - Description of methods used in the component studies
    - Criteria for determination of independent findings
    - Details of study coding categories
    - Statistical procedures and conventions
    - Treatment of qualitative research
5. Timeframe
6. Plans for Updating the Review
7. Acknowledgments
8. Statement Concerning Conflict of Interest
9. References
10. Tables

The main headings are rather similar in all of the review protocols suggesting the structure (EPPI, COCH, HDA, EPPI, SW1, SW2). In addition to the list described above, the HDA Manual (HDA) suggest including chapters for recommendations for research ands policy implications.

The HDA Manual (HDA) method emphasised the importance of the report being informative, reliable, and accessible, and developed in a consistent format and style. Also EPPI-Centre Manual (EPPI) and Wales Methodology (Wales) instructed to produce easily accessible review reports. EPPI-Centre Manual (EPPI) preferred a full report that covers review's methods in detail so that readers can appraise the study for themselves to see how the authors have reached their conclusions. In addition, an accessible summary could be useful in disseminating results to a wider audience.

The IDM Evidence Framework (IDM) presented a very practical view when starting the review reporting. It posed critical questions to be considered when writing the results of the review process:

1. Who is the audience?
2. What is the appropriate type of reporting for the audience?
    - format presentation style
    - language level
    - distribution/dissemination methods

3. What steps have to be taken to ensure high quality reporting?
    - have we received feedback from relevant stakeholders?
    - have we revised the report appropriately?
    - have we double checked for accuracy, language, spelling, presentation?
    - have we planned for production, distribution, and follow up discussion?
4. What is included in the report?
    - identifying the question
    - accurately reflecting all the relevant findings of analysis and/or summary/synthesis
    - providing the important information in a clear manner
    - providing a full description of the methodology and perspective
    - describing learning's relevant to health promotion
    - identifying limitations and the implications of these limitations reflecting concerns of relevant stakeholders

In addition to the IDM Evidence Framework (IDM), the Systematic Reviews of Health Promotion and Public Health Interventions Handbook (COCH_HP) too introduced an alternative way to think when writing a review report. It instructed to take into account the perspective of the end-user of the review when writing a report. It states that it is a useful tool also for the review writers is the Critical Appraisal Skills Programmer's (CASP) 10 questions to help to make sense of review. This tool assesses the quality of the review and the Systematic Reviews of Health Promotion and Public Health Interventions Handbook (COCH_HP) instructed the reviewers to keep this tool in mind when writing the final report.

The Swedish Knowledge-based Public Health Work Handbook (SW2) emphasised that the way in which the report is written and presented will have impact on how the results are received, interpreted and used. Thus the report should be clear and concise and take into consideration the needs of its intended readers. In addition, the summary is critical in catching the reader's attention. It should therefore contain enough information to enable the reader to quickly determine the usefulness and reliability of the conclusions. Policy-makers and practitioners often do not have time to read the entire report. For this reason, the discussion section and the conclusions should be written to make it clear that they are based on the results of the overview and not on speculation.

5.5.4.2 Disseminating

13 protocols (81%) included discussion on disseminating the review results (Figure 19). Most of the review protocols described different ways of publishing the final products. To maximise the impact of the review the Campbell, EPPI, HAD, Wales, SW1, SW2 and CRD reports instructed to undertake several reporting formats. For example, a journal article, a conference abstract, a scientific electronic preprint, an awareness report for health professionals, a consumer report, a

web version of the consumer and in some cases also a patient information leaflet may all be used to disseminate a review's findings. All of these review protocols emphasised the importance of taking into account the needs of the potential audiences in each format. The EPPI- Centres Guidelines (EPPI) stressed that clarity over who the report is intended for at the very start of the review will make the writing easier.

Wales Methodology (Wales) instructed to complete an action plan for the dissemination of each review report, clearly covering:

- Distribution list (in primary, secondary, tertiary settings);
- World-wide publication;
- Relevant talks and conferences

HDA's dissemination plan included also:

- How many hard copies of the full version should be produced
- How many copies of the executive summary should be produced
- Whom each should be sent to.

According to the Swedish handbooks (SW1, SW2) taken together promotion and dissemination strategies will vary from review to review, and that they must be tailored to suit the aim of the project and the needs of the target group. Conceivable strategies include direct mailings to target group networks, advertisements in professional journals, press releases, sending review copies of the article to selected journals, and publicising the report on web sites. It is also a good idea to follow up and evaluate the dissemination of the article. (SW1, SW2)

5.5.4.3 Getting evidence into practice

Only a bit under half of the protocols (44%) included instructions for getting evidence into the practice (Figure 19). Most of the protocols (Guide, EPPI, CHPG, IDM) only mentioned that one of the aims of the protocol is to support the process of getting evidence into practice, but more precise instructions were missing. EPPI-Centre Guidelines stressed that including practitioners and other key stakeholders to the reviewing process is a good way to bring the practical perspective to the reviewing process as well as help to plan the dissemination of results to the practitioners. According to HDA Manual (HDA) it is not only enough to produce evidence reviews. In order for the evidence to be used, an active approach to the evidence to make it accessible, usable and implemented is required. The HDA's role (as a whole) in developing the evidence base for public health is to disseminate advice and guidance and support change in practice and systems to improve the quality of public health through:

- Dissemination – planned efforts at raising awareness and encouraging adoption
- Adoption – making a commitment to initiate
- Implementation – interventions to assist in delivering the programme to its original design

- Maintenance – encouragement to continue use

According to NHMRC and CRD reports the process of transferring evidence into the practice is often slow. Main principles for dissemination are:

- Development of evidence-based plan for dissemination
- Targeting three key groups (consumers, specialists clinicians)
- Development of a systematic framework for each target group
- Further evaluation

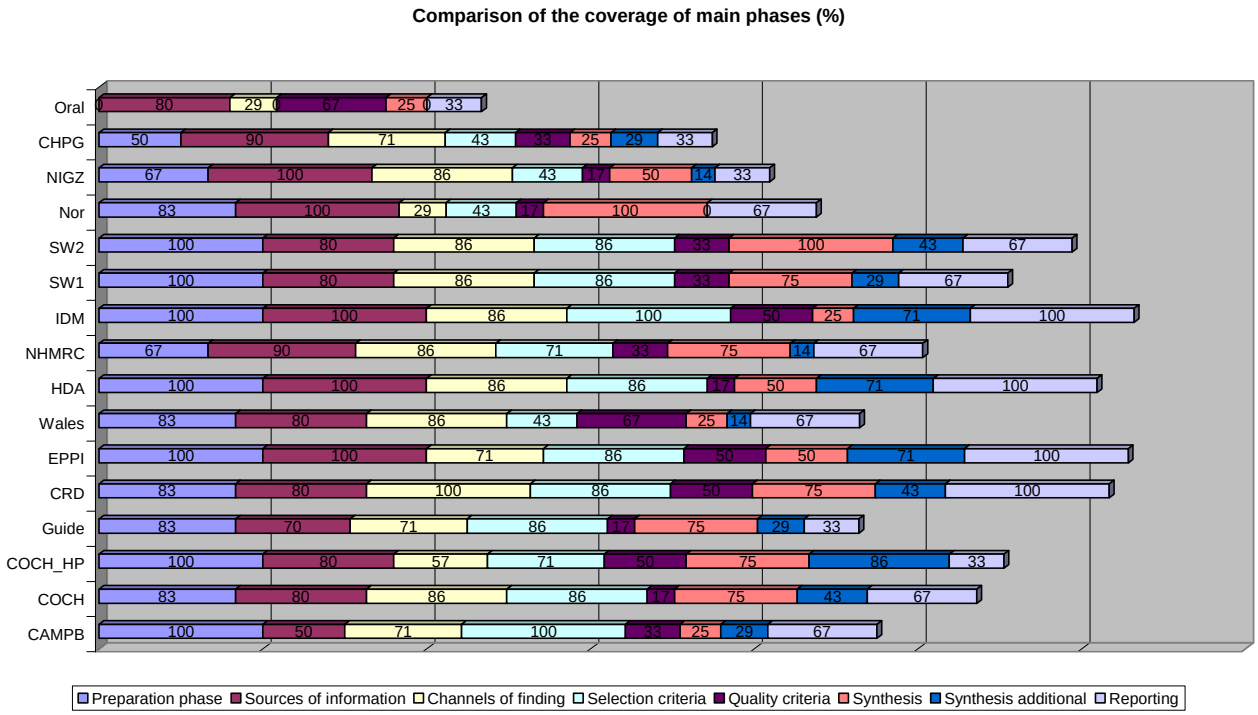
The transfer of research evidence from systematic reviews into practice is also a complex process and its research base is incomplete. Any attempt to change practice should first involve a 'diagnostic analysis'. Dissemination may be undertaken by national and regional organisations, but implementation cannot be accomplished without local involvement in activities designed to get research translated into practice (CRD).

5.5.5 Comparison of the protocols

All of the 16 review protocols included instructions on the main phases of the reviewing process (except Oral). Most comprehensive instructions were given in the Systematic Reviews of Health Promotion and Public Health Interventions Handbook (COCH_HP), the EPPI-Centre Review Group Manual (EPPI) and the IDM Evidence Framework (IDM) (Figure 20). These review protocols covered most comprehensively all the main phases of the reviewing process and took into account the characteristics of the health promotion and public health interventions.

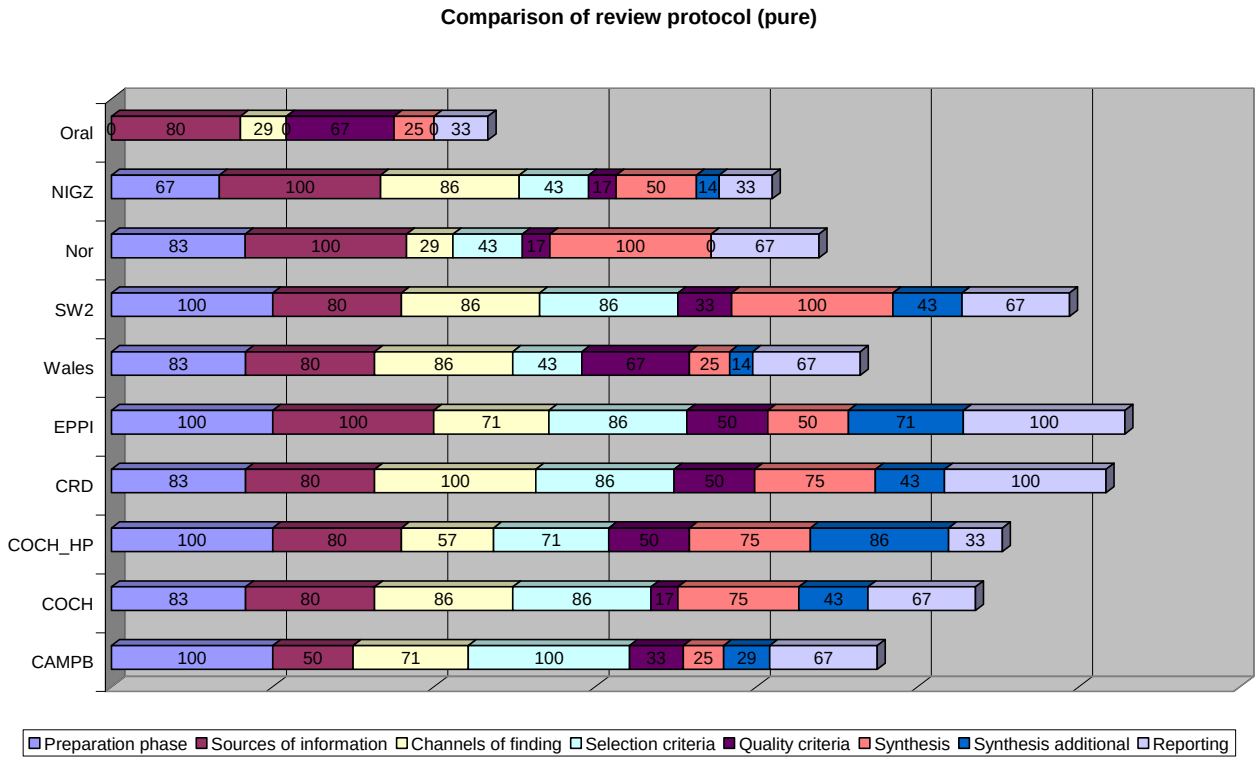
Figure 20 presents the percentages of the coverage of the topics of each main phase analysed. The table illustrates the coverage and comprehensiveness of the phases of each review protocol making it possible to compare the review protocols against each other. For instance, most comprehensive instructions on preparation phase are given in CAMPB, COCH_HP, EPPI, HDA, IDM, SW1 and SW2 protocols. These protocols included instructions on the review research question, resources, forming and advisory group and specification of reviewers. In addition, all of these gave instructions on theory basis and contextual factors.

Figure 20. Comparison of the main phases of the 16 review protocols.



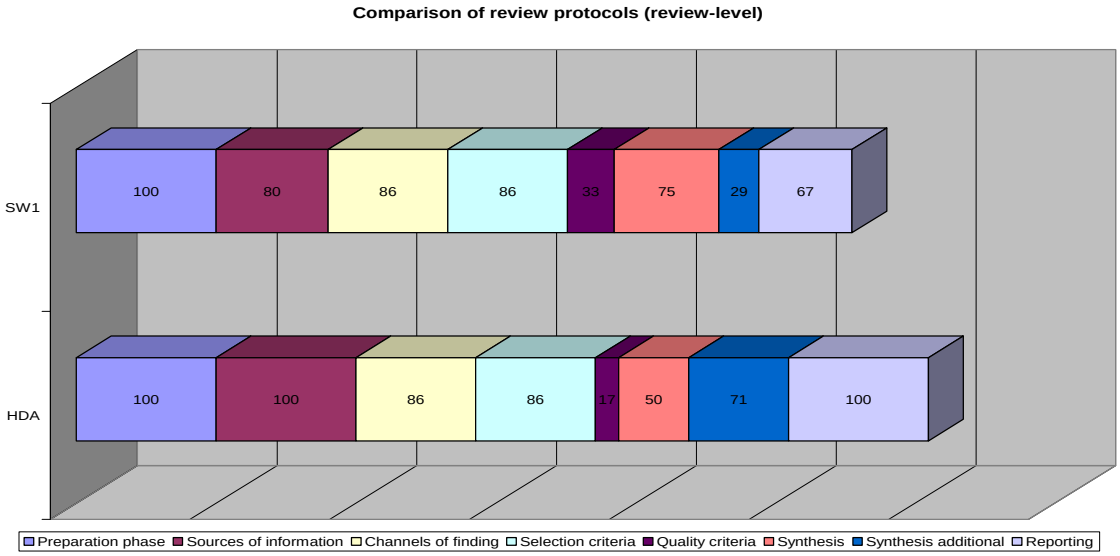
The review protocols were classified into pure review protocols, review protocols concentrating to give instructions on how to review review-level information, and review protocols designed to support the guideline development (see 5.4.2). When comparing pure review protocols (Figure 21) the EPPI-centres Review Group Manual (EPPI), CRD Report (CRD) and Systematic Reviews of Health Promotion and Public Health Interventions Handbook (COCH_HP) cover all the main phases of the reviewing process most comprehensively. From the health promotion and public health perspective CRD report includes rather widely clinical information where as Systematic Reviews of Health Promotion and Public Health Interventions Handbook (COCH_HP) have been designed to meet the challenges when reviewing topics related to health promotion and public health interventions.

Figure 21. Comparison of pure review protocols



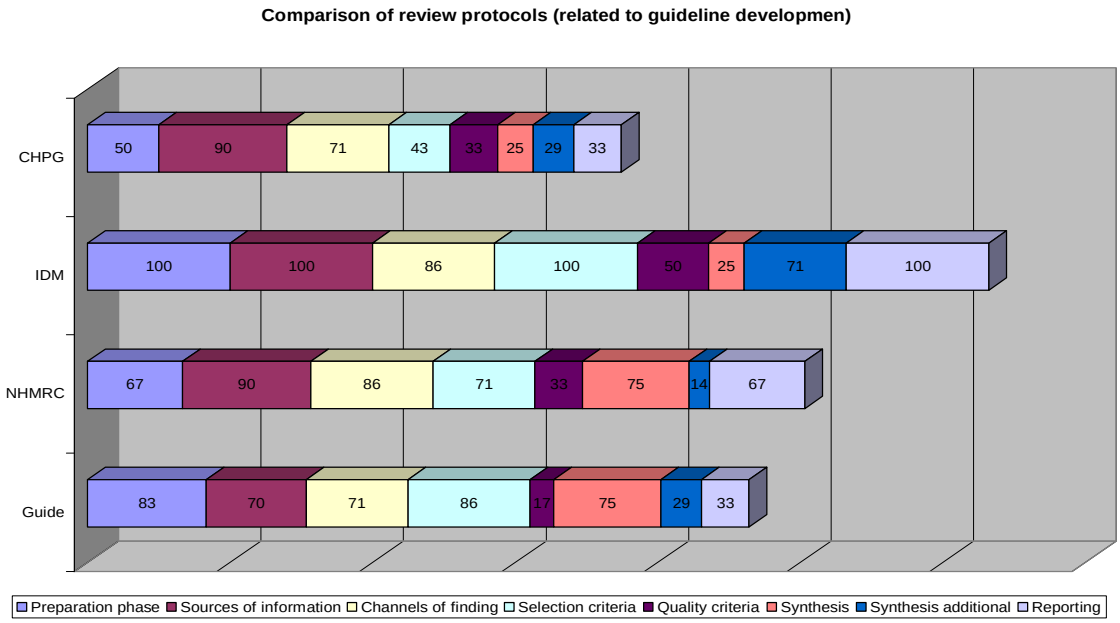
Of the review protocols designed for reviewing review-level information the HDA Process and Quality Standard Manual (HDA) covered more comprehensively the critical topics when reviewing information for health promotion than the Knowledge Based Public Health work, Part 1 handbook (SW1, Figure 22).

Figure 22. Comparison of the review protocols of review-level information



Four of the review protocols were developed to support the guideline development process (recommendation development, Figure 23). Of these the IDM Evidence Framework (IDM) covered most of the critical topics and phases when reviewing the literature. In addition to the IDM Evidence Framework (IDM) also the Community Guide (Guide) protocol included valuable information especially on the synthesis phase.

Figure 23. Comparison of the review protocols related to guideline development



5.6 State of the art of the existing review protocols

The analysis showed the comprehensiveness of the existing review protocols. The strengths and weaknesses of the protocols are summarised in Appendix 3. The direct comparison of the protocols may not be feasible because they are designed for different purposes. However, the comparison makes it possible to illustrate how well the existing review protocols answer the key challenges in reviewing the literature for health promotion and public health topics.

Instructions on the preparation phase were quite convergent between the review protocols. Almost all protocols instructed to form an advisory group to support the reviewing process. Some of the protocols emphasized challenges to include experts from a variety of backgrounds as well as lay people. This can be seen as an attempt to widen the theory base of the reviewing process. In addition to the advisory group most of the protocols stressed that two reviewers with different backgrounds are enough.

In the preparation phase of the reviewing process most time and effort should be spend to form the review question. The review question should determine what information to include and what to exclude, thus it is one of the most important steps in the whole process. Almost all protocols instructed to take into account population, interventions, and outcomes relevant to the objectives of the review as well as the designs of primary studies that are suitable for addressing the review question. However, in many protocols the selection of the studies and/or sources of information was still based on the study designs (e.g. COCH, CRD, NHMR, Wales, Oral, COCH_HP). In the absence of RCTs some protocols preferred the next best level of evidence available. On the other hand, e.g. IDM puts value on the most relevant information instead of study design.

The existing review protocols have noticed the challenges of **widening the evidence base.** Even if many of the protocols still relied somehow on the traditional evidence hierarchy, quite many instructed also to include qualitative research as well as other information than research. Even if qualitative research was instructed to be included, instructions on its quality assessment and synthesis were often missing. One reason for this is that the instructions on the synthesis of qualitative research are still under development. Information from practice and expert opinion was not so commonly included as a source of information. There is clearly a challenge to do so, but also to develop ways to assess the quality of this information. Combining different information sources also remains a challenge. Good examples (EPPI, CRD) on how to combine the different sources of information already exist and the testing of these will show how feasible they appear to be.

Channels of finding information were quite comprehensively and well covered in the existing review protocols. Many protocols included comprehensive lists of electronic databases. Finding other information than research, so called grey literature, was less well covered. Some databases

exist on grey literature but more precise instructions where and how to search could allow more precise and repeatable search. To be relevant to policy makers, practitioners, lay people and researchers, review reports need to include these as sources and involved in the review process. However, more precise instructions and further development of the methods in this area are necessary. The channels of finding information described in the protocols were mostly international databases. National sources may be needed to be able to bring **contextual perspective** to the reviews.

Widening the evidence base poses challenges related to the **inclusion criteria and quality assessment,** but also for the analysis. Variety of **quality assessment tools** for qualitative and quantitative information is already available but there is no consensus on the best approach. Clearly more work needs to be done to develop quality assessment also for other information than research. The same challenge concerns also expert opinion and information derived from the HP/PH practices.

Good **data extraction forms** and instructions on how to develop these exist in many review protocols. They give a good starting point and can be adapted. Different study designs require different data abstraction forms to match the quality criteria and reporting of the study. The data abstraction form should be compatible with the review report. The choice of doing either **narrative or quantitative synthesis** depends on the diversity (heterogeneity) of studies included in the review. If studies differ in such characteristics as design, methods, or outcome measures, a quantitative synthesise is not always possible. If the studies are more homogenous a meta-analysis is usually possible. However, guidelines for narrative synthesis for systematic reviews are not yet available, although research is currently underway to develop these guidelines.

The interpretation of the **synthesis** is an important phase also for the report writing. The applicability of the results is a key part of the process of summarising evidence, since the goal of systematic review is to recommend interventions that are likely to be effective in different settings. Health promotion work is almost always affected by the context: community norms and values, the people involved, organisational and economic constraints, etc., thus it should be made crystal-clear that the success of a project in one setting by no means guarantees that it would be successful if carried out in another setting.

All review protocols included instructions on **reporting and disseminating** results of the reviewing process. Most protocols included practical instructions on how to write the report or what to take into account when writing. The main headings were rather similar in all of the protocols suggesting the structure of the reports. In many cases different forms for review reports were suggested to different target groups. Common generally usable report formats were presented and also implications for policy- and decision makers were discussed. The importance of taking into account the needs of the potential audiences in each format was stressed. In addition, it was emphasised

the importance of the report being informative, reliable, and accessible, and developed in a consistent format and style.

Although report writing and dissemination were quite well covered, instructions on **getting evidence into practice** were covered in less than half of the protocols. More attention should be paid to the usability of the results of the reviewing process through widening the instructions on how to get evidence into practice. Getting evidence into practice is partially dependent on the practitioners' involvement. Thus representatives of the practice, policy, research and different contexts need to be involved in the reviewing process to guarantee applicability and relevance of the reviews. This strengthens the cyclic development of the evidence base and interaction between research and practice.

Generally, reviewing literature for health promotion and public health topics can be very time-consuming, partly due to terminology being non-specific, partially due to the lack of knowledge and resources. Even if the discussion on the evidence base in health promotion field is common there still remain difficulties in knowing what is appropriate evidence and where to find it. As the health promotion field is multidisciplinary, both qualitative and quantitative information is useful and (thus) a variety of discipline-specific databases need to be consulted. Health promotion field also applies different theoretical approaches. This carries a risk that reviewing process remains too complex. Thus good, informative, simple and practical instructions e.g. review protocol from the health promotion and public health perspective is needed.

Review protocols from the health promotion and public health perspective already exist but the use of these protocols is not so common at least in the European countries. Most of the GEP project team member and partner countries do not use any review protocol when searching information on health promotion and public health topics. The usability and arrangement of the training of the review protocols are the key challenges for the developers of the review protocols. There is a clear need to further develop review protocol on health promotion and public health perspective to support the evidence work that is already underway.

Annex 1. Questionnaire on review protocols and quality criteria in health promotion research, policy and implementation

Please reply by filling the information asked in the empty space (you can use as much space as needed for each answer) or by crossing the alternative best describing your situation or option. Do remember answer all questions!

QUESTIONS ABOUT YOU AS A RESPONDENT TO THIS QUESTIONNAIRE

Your name

Your position

Institution address

Phone number

Email address

BACKROUND QUESTIONS

The first questions (1A and 1B with sub questions) concern health promotion (HP) in your country. *Please fill the information on empty space after the question. Use as much space as needed.*

1 A. Who/which agency/institute/body is mainly responsible for HP in your country (before answering, please see for example www.HP-source.net)?

1 B. Concerning the previous question, what are the main content themes (smoking, overweight etc.) of using evidence in HP in your country?

B1. Research:

B2. Interventions:

B3. Decision making/policy:

COLLECTING EVIDENCE

The following questions concern your organization / institute.

2. List the <u>tools for collecting evidence</u> in your organization in health promotion (HP). Before answering please familiarize yourself with the appendix 1 (picture 1, red column).

Please give also the themes or health problems the research/interventions/policy concerns – if at all feasible. E.g. prevention of obesity among youngest, non-smoking work-place intervention etc. Use as much space as relevant to give a complete picture in your organization.

2 A. Please look at picture 1 and list **the tools related to collect evidence from research literature**. What protocols/methods are used in your organization? If feasible give us the names of the protocols as well as references and specify the steps in the protocol.

2 B. Please look at picture 1 and list **the tools related to collect evidence from practice of HP**. What protocols/methods are used in your organization? If feasible give us the names of the protocols as well as references and specify the steps in the protocol.

2 C. Please look at picture 1 and list **the tools related to collect evidence from documents in HP**. What protocols/methods are used in your country /organization? If feasible give us the names of the protocols as well as references and specify the steps in the protocol.

2 D. Please look at picture 1 and list **the tools related to collect evidence from individuals/ groups**. What protocols/methods are used in your organization? If feasible give us the names of the protocols as well as references and specify the steps in the protocol.

2 E. Please look at picture 1 and list **the tools related to collect evidence from other sources – please specify the sources**. What protocols/methods are used in your organization? If feasible give us the names of the protocols as well as references and specify the steps in the protocol.

DEFINING/ CLASSIFYING EVIDENCE

3. List the <u>methods for define/classify evidence</u> in your organization in health promotion (HP). Before answering, please familiarize yourself with the appendix 1 (picture 1, blue column).

Please give also the themes or health problems the research/interventions/policy concerns – if at all feasible. E.g. prevention of obesity among youngest, non-smoking work-place intervention etc. Use as much space as relevant to give a complete picture in your organization.

3 A. Please look at picture 1 and list **the methods related to define/classify evidence from research literature (for example)**. What protocols/methods are used in your organization? If feasible give us the names of the protocols as well as references and specify the steps in the protocol.

3 B. Please look at picture 1 and list **the methods related to define/classify evidence from practice of HP**. What protocols/methods are used in your organization? If feasible give us the names of the protocols as well as references and specify the steps in the protocol.

3 C. Please look at picture 1 and list **the methods related to define/classify evidence from documents in HP**. What protocols/methods are used in your organization? I If feasible give us the names of the protocols as well as references and specify the steps in the protocol.

3 D. Please look at picture 1 and list **the methods related to define/classify evidence from individuals/ groups**. What protocols/methods are used in your organization? If feasible give us the names of the protocols as well as references and specify the steps in the protocol.

3 E. Please look at picture 1 and list **the methods related to define/classify evidence from other sources – please specify the sources**. What protocols/methods are used in your organization? If feasible give us the names of the protocols as well as references and specify the steps in the protocol.

COUNTRY SPECIFIC INFORMATION / PROTOCOLS

4 A. Do you know other partie(s) / organization(s) in your country occupied with collecting evidence?

Please give us the name(s) of the organization(s) and contact person(s) and specify what protocols are used for collecting evidence in this/these organization(s). If possible you may also give more details/descriptions on this/these protocol(s).

4 B. Has someone/anyone in your country developed own review protocols or methods[1] to collect evidence from:

a) Research literature

YES ☐
NO ☐

Specify what and who; | |

b) Policy

YES ☐
NO ☐

Specify what and who; | |

c) Implementation documents

YES ☐
NO ☐

Specify what and who; | |

d) Expert opinion

YES ☐
NO ☐

Specify what and who; | |

[1] **Notice that review protocols are seen as well-developed instruments that have been (pre)tested and that have been acknowledged by the institutes/stakeholders involved as a useful instrument for gathering, selecting and translating information/data on a (health) topic from different sources in a way that best reflects evidence.**

e) Internet

YES ☐
NO ☐

Specify what and who; ☐

f) What were the reasons to develop new/own review protocols?

☐

5 A. Do you know other partie(s) / organization(s) in your country occupied with defining/classifying evidence?

Please give us the name(s) of the organization(s) and contact person(s) and specify what protocol(s) (principles/rules) is/are used for collecting evidence in this/these organization(s). If possible you may also give more details/descriptions on this/these protocol(s).

☐

5 B. Has someone/anyone in your country developed own quality criteria for defining / classifying[2] evidence from

a) Research literature

YES ☐
NO ☐

Specify what and who; ☐

d) Policy

NO ☐ YES ☐

Specify what and who; ☐

[2] Notice that quality criteria are seen as well-developed instruments and/ or agreed principles or rules that have been (pre)tested and that have been acknowledged by the institutes/stakeholders involved as a useful instrument for gathering, selecting and translating information/data on a (health) topic from different sources in a way that best reflects evidence.

c) Implementation documents

	YES	Specify what and who;
	NO	

d) Expert opinion

	YES	Specify what and who;
	NO	

e) Internet

	YES	Specify what and who;
	NO	

f) What were the reasons to develop new/own quality criteria?

6. Does your agency/organization collaborate with other countries or organizations in collecting evidence? Please specify the nature of the collaboration?

a) Cochrane, specify:

b) Campbell, specify:

c) Any other, specify:

d) Any other, specify:

e) Any other, specify:

f) Any other, specify:

NEED FOR TRAINING

One aim of the GEP project is strengthening capacity in getting evidence into practice. For this reason we would like to know strengths and weaknesses in collecting and analyzing evidence in HP in your country / organization.

7. Have you experienced any problems in collecting evidence?

8. Please use the scale good to poor and rate the expertise/know-how/resources in collecting and analyzing the evidence for HP in your agency/ organization.

Please rate each alternative using the scale 1=Good, 2= Satisfactory, 3= Rather limited and 4= Very limited or poor

	1 *Good*	**2** *Satis-factory*	**3** *Rather limited*	**4** *Very limited or poor*
a) Choosing the protocol				
b) Using the protocols/tools				
c) Using the criteria/classifying the evidence				
d) Performing reviews				
e) Teaching/guidance in the use of protocol				
f) Using the internet				

9. Do you see there is a need for training for collecting evidence (performing reviews etc.) and classifying evidence in your agency/organization (in the field of HP/PH)?

Please rate each alternative using the scale 1= definitely yes, 2= probably, 3= no, and 4= can't tell

	1 *definitely yes*	**2** *probably*	**3** *no*	***4*** *can't tell*
a) Choosing the protocol				
b) Using the protocols/tools				
c) Using the criteria/classifying the evidence				
d) Performing reviews				
e) Teaching/guidance in the use of protocol				
f) Using the internet				

SAVE THE QUESTIONNAIRE WITH THE FILE NAME:

questionnaire_yourlastname.doc

Thank you for completing the questionnaire! Please check that you have answered all items. If you have some questions or problems do not hesitate to contact me (sanna.raty@ktl.fi)

PLEASE RETURN THE QUESTIONNNAIRE AS ATTACHEMENT BY E-MAIL TO sanna.raty@ktl.fi by the 5th of August 2004

Annex 2. Instructions for analysing the review protocols

Analysing process of the review protocols is based on predetermined criteria. The analysing criteria are based on reviving process (phases/main steps) and challenges in summarising evidence for health promotion (HP) and public health (PH, Jackson 2004, see also report Inventory of revive protocols). The criteria are presented in the table 1.

All main phases of the reviewing process are analysed keeping in mind challenges of the reviewing process for HP/PH. Review protocols are read and assessed using these criteria to be either category 1= include instructions or 0= no instructions included. The analysing process is carried out by two independent readers. The second reader, reading blind (ie unaware of the first reader rating) makes an independent judgement on the same review protocol and writes a short summary on the protocol to support the judgement process. The judgement process is followed by a discussion between these two readers. Where there is agreement about the categorization (1/0), the categorization is accepted and the summary of the protocols is summed up. Where there is disagreement about the categorization, the readers explain to each other their reasons for their judgement with the help of brief summaries. No attempt to persuade each other is maid, but open discussion is allowed to reach a consensus on the categorization. Where differences are unresolved, another (a third) reader is consulted. The third reader's judgement is independent: the reason for disagreement is not informed. The final decision on the categorization is than maid by simple majority.

Table 1. Analysing review protocols with help of variables/criteria described below.

Variables	Instructions for the coding Answer: YES=1 NO=0
I PLANNING THE REVIEW	WRITE A SHORT DESCRIPTION ON THIS PAHSES/STEPS (Review question, planning the protocol etc.) No coding
1 Preparation phase YES=1 NO=0	**Does the review protocol include preparation phase?**
1.1 Instructions on review / research question * **YES=1 NO=0**	Does the review protocol include discussion/instruction on review (research) question? Defining a question for a review is similar to formulating questions for primary research. **Write few sentences into the summary** (what is instructed to be taken into account when forming the review question. Pay attention on discussion on narrow/broad questions)
1.2 Resources (money /time) required to reviewing process mentioned / discussed * **YES=1 NO=0**	Does the review protocol mention / include discussion on recourses need to be taken into account when starting the reviewing process? **If yes specify** (write few sentences into the summary:whati is said about time, money etc.)
1.3 Need/use of advisory/ reference group (in the reviewing process) mentioned/discussed* **YES=1 NO=0**	Does the review protocol mention / include discussion on advisory/ reference group? **If yes specify** (specify what kind of experts are recommended etc.)
1.4 Specification of reviewers (persons to do the reviewing process) * **YES=1 NO=0**	Is the number of reviewers (number of persons to perform the reviewing process) specified/ discussed? **If yes specify the number of person** into the summary and specify also how disagreement between the reviewers is to be handled?
1.5 Contextual factors taken into account * **YES=1 NO=0**	Does the review protocol mention / include discussion on contextual factors (such as the scope of the review [global perspective, country or community specific topics] or e.g. socio economic factors related to the research/review question)? **If yes specify (write few sentences into the summary)**
1.6 Theory basis or frame of reference identified * **YES=1 NO=0**	Does the review protocol mention / include discussion on theory basis (does it include or is it based for example some HP/PH theory? Or does it instructs to look/document the theory basis of the articles/interventions found e.g theories supporting the interventions)? **If yes specify (write few sentences into the summary)**

Variable 1, Preparation phase, is an independent variable (upper concept).
Sum variable for preparation phase will be formed from variables 1.1 – 1.6 describing (sum [1.1: 1.5]/6 *100) the percent (%) of critical questions to be taken into account in the planning phase of the review process (and on which instructions are essential to be given in the review protocol)

II CONDUCTING REVIEW (searching and judging the information)	WRITE A SHORT DESCRIPTION ON THIS PAHSES/STEPS (No coding) (Searching the information, inclusion/exclusion, quality criteria etc.)
2 Classes of sources of information (Instructions on what information is to be searched) **YES=1 NO=0**	**Does the review protocol include/discuss on classes of information sources (e.g. what information is to be included to review)?** **List the sources**
2.1 Research/literature **YES=1 NO=0**	Is the research information (different study designs) instructed to be included to review (information sources)? **List the sources**
- Experimental (RCT, cohort studies) **YES=1 NO=0**	Is the experimental study designs (RCT) instructed to be searched/ included to review? **List the sources**
- Quasi-experimental designs (Before-After studies) **YES=1 NO=0**	Is the quasi-experimental study designs instructed to be included to review? **List the sources**
- Observational studies quantitative **YES=1 NO=0**	Is the observational study designs (quantitative) instructed to be included to review? **List the sources**
- Qualitative (observational / narrative) * **YES=1 NO=0**	Is the qualitative study designs instructed to be included to review? **If yes specify (write few sentences into the summary)**
2.2 Non research **YES=1 NO=0**	Is the non- research information instructed to be included to review (information sources)?
- Documents (other than research) **YES=1 NO=0**	Are information form documents other than research instructed to be included to review? **If yes specify (what kind of documents: grey literature etc)**
- Information from HP/PH practice * **YES=1 NO=0**	Is information form HP/PH practice instructed to be included to review **If yes specify (what kind of information, from who)**
- Information from individuals (expert opinion) * **YES=1 NO=0**	Is information form experts (contact experts etc.) instructed to be included to review **If yes specify (what kind of information, from who)**
2.3 Other sources **YES=1 NO=0**	Is the any other sources instructed to be searched? **If yes specify (what kind of information, from who and where?**

Variable 2, Classes of sources of information, is an independent variable (upper concept).

Sum variable for classes of sources of information will be formed from variables 2.1 – 2.3 describing (sum [2.1: 2.3]/10 *100) the percent (%) of the essential study designs to be taken into account when searching information
(and on which instructions are essential to be given in the review protocol)

3 Channels of finding information mentioned/specified **YES=1 NO=0**	**Does the review protocol include/mention channels of finding information (e.g. does it include names of databases/ list of sources to be searched)?**
3.1 Electronic literature databases (Medline, PsychInfo etc.) **YES=1 NO=0**	Does the review protocol include/mention electronic literature databases (Medline, PsychInfo etc.) where to search information **List and mark page number of the possible list of sources described**
3.2 Hand searching of reference lists/journals/conference proceedings etc. **YES=1 NO=0**	Does the review protocol include/mention hand searching as a tool/channel for finding information? **List and mark page number of the possible list of sources**
3.3 Research registers **YES=1 NO=0**	Does the review protocol include/mention research registers as a tool/channel for finding information? **List and mark page number of the possible list of sources**
3.4 Grey literature **YES=1 NO=0**	Does the review protocol include/mention databases of grey literature (reports, conference proceedings, theses etc.) or search of grey literature as a tool/channel for finding information? **List and mark page number of the possible list of sources described**
3.5 Free internet search (Google etc.) **YES=1 NO=0**	Does the review protocol mention free Internet search as a tool/channel for finding information? **List and mark page number of the possible list of sources described**
3.6 Interviews of experts (format/questionnaire)* **YES=1 NO=0**	Does the review protocol mention interviews/contact of experts as a tool/channel for finding information? **If yes specify (e.g. does it include instructions on how to interview (form/questionnaire)**
3.7 Other personal contacts (informal)* **YES=1 NO=0**	Does the review protocol mention other personal contacts, such as contact practitioners other key stakeholders, discussion list etc., as a tool/channel for finding information? **If yes specify**
Variable 3, Channels of finding information, is an independent variable (upper concept). **Sum variable (sum [3.1: 3.7/7 *100) for channels of finding information will be formed from variables 3.1 – 3.7 describing the percent (%) of essential sources/channels of information to be searched (and on which instructions are essential to be given in the review protocol)**	

4 Selection criteria (inclusion/exclusion criteria) **YES=1 NO=0**	**Does the review protocol include/discuss on selection criteria (inclusion and exclusion criteria)? And how these are to be formed?** **Give a short description** of the criteria (e.g. inclusion and exclusion categories)
4.1 Review question **YES=1 NO=0**	Is the review question used as a basis of selection criteria **Describe the main idea**
4.2 Population (settings) **YES=1 NO=0**	Are population (target population) and settings discussed as topics to be taken into account in forming of selection criteria? **Describe the main idea**
4.3 Interventions / specific situations **YES=1 NO=0**	Is interventions discussed as a topic to be taken into account in forming of selection criteria? (e.g. what types of interventions to included) **Describe the main idea**
4.4 Outcomes **YES=1 NO=0**	Is study/research outcomes discussed as a topic to be taken into account in forming of selection criteria? **Describe the main idea**
4.5 Study designs (hierarchy etc.)* **YES=1 NO=0**	Are study designs instructed to be taken into account in forming of the selection criteria (e.g. evidence hierarchy)? **Describe the main idea and give a short summary e.g. is some study designs recommended (see variable 3)**
4.6 Language* **YES=1 NO=0**	Is inclusion of different languages discussed Describe the main idea and specify the languages recommended
4.7 Other (such as authorship, journal, the form of the information [published/unpublished], HP situation etc.)* **YES=1 NO=0**	Are some other topics discussed to be taken into account in forming the selection criteria? For example is the authorship or journal recommended to be taken into account in forming the inclusion and exclusion criteria? Or some other topics such as suitability of studies etc. If yes, please give a short description
Variable 4, Selection criteria, is an independent variable (upper concept).. **Sum variable for inclusion criteria will be formed from variables 4.1 – 4.7 describing (sum [2.1: 2.7]/7 *100) the percent (%) of essential study designs on which instructions are essential to be given in a review protocol.**	

5 Quality Criteria **YES=1 NO=0**	**Does the review protocol include/mention how the information gathered is to be judged? Does it include quality criteria?** **Describe the main idea**
5.1 Use of 'traditional' evidence hierarchy **YES=1 NO=0**	Does the review protocol recommend using 'traditional' evidence hierarchy for judging the information? **Describe the main idea**
5.2 Use of quality checklists / scales / assessment form for different study designs **YES=1 NO=0**	Does the review protocol recommend using quality checklists / scales / assessment form for different study designs for judging the information? **If yes specify (which study designs are mentioned)**
5.3 Use of quality checklists / scales / assessment form general (not specified for certain study designs) **YES=1 NO=0**	Does the review protocol recommend using general (not study design specific) quality checklists / scales / assessment form for judging the information?
5.4 Use of quality checklists / scales / assessment form for qualitative research* **YES=1 NO=0**	Does the review protocol recommend using quality checklists / scales / assessment form for qualitative research? **If yes specify (short description and mark the pages /appendixes)**
5.5 Use of quality checklists / scales / assessment form of complex interventions* **YES=1 NO=0**	Does the review protocol include/discusses on quality criteria/ assessment of complex interventions? Complex interventions e.g. multiple outcome measures: can happen because several types of outcomes are measured within the same study (e.g., recidivism and school attendance within a study of intervention effects on juvenile delinquency) and/or because the same outcome is measured at multiple points in time **If yes specify**
5.6 Use other evaluation method for other information than research* **YES=1 NO=0**	Does the review protocol recommend using other evaluation method for judging other information than research? **If yes specify (short description and mark the pages/appendixes)**

Variable 5 quality criteria is independent variables (upper concept).
Variables 5.1 – 5.6 are independent variables (no sum variables are performed)

6 Data extraction and synthesis **YES=1 NO=0**	**Does the review protocol include/mention how the information gathered is to be summarised/ synthesised?**
6.1 Data extraction **YES=1 NO=0**	Does the review protocol include data extraction phase/ form? **Describe the main idea**
6.2 Recommendations on making descriptive data synthesis (non-quantitative) **YES=1 NO=0**	Does the review protocol recommend make a verbal summary? **Describe the main idea**
6.3 Recommendations on making empirical synthesis (meta-analysis) **YES=1 NO=0**	Does the review protocol recommend make empirical synthesis? **Describe the main idea**
6.4 Other **YES=1 NO=0**	Does the review protocol recommend some other form of synthesis/summary than descriptive or empirical data synthesis **If yes specify**
Variable 6, data extraction and synthesis is independent variables (upper concept). **Variables 6.1 – 6.4 are independent variables (no sum variable is performed)**	
7 Additional information on synthesis	NO CODING and NO CLASSIFICATION
7.1 data synthesis of effectiveness studies HP interventions(only)* **YES=1 NO=0**	Does the review protocol recommend/ give instruction on to make data synthesis on effectiveness studies? **If yes specify**
7.2 data synthesis of qualitative studies/information* **YES=1 NO=0**	Does the review protocol recommend/ give instruction on to make data synthesis on qualitative studies **If yes specify**
7.3 data synthesis of complex interventions* **YES=1 NO=0**	Does the review protocol recommend / give instructions on to make data synthesis on complex interventions? Complex interventions e.g. multiple outcome measures: can happen because several types of outcomes are measured within the same study (e.g., recidivism and school attendance within a study of intervention effects on juvenile delinquency) and/or because the same outcome is measured at multiple points in time **If yes specify**
7.4. Combination of results from different sources / study designs* **YES=1 NO=0**	Is combining the results from different sources/ study designs discussed/mentioned? **If yes specify**
7.5 Applicability and genaralisibility of the synthesis discussed* **YES=1 NO=0**	Is the applicability/ generalisibility of the synthesis discussed (e.g. implication for practice and policy discussed)? **If yes specify**
7.6 Knowledge basis discussed/mentioned* **YES=1 NO=0**	Is the knowledge basis discussed/mentioned? e.g instructs to identify areas where information is lacking or of poor quality and in that way creates opportunities to improve the quality of research and to stimulate research and e.g. to help to increase agreement regarding appropriate community health strategies and help to increase their implementation: HELP TO INCREASE THE EVIDENCE BASE

	If yes specify
7.7 Theory basis discussed/mentioned* **YES=1 NO=0**	Is the theory basis discussed/mentioned? **If yes specify**
Sum variable (sum [7.1: 7.7/7*100) for additional information on data synthesis will be formed from variables 7.1 – 7.6 describing the percent (%) of essential aspects to be taken into account / to be covered in data synthesis (and on which instructions are essential to be given in the review protocol)	
III REPORTING AND DISSEMINATION	WRITE A SHORT DESCRIPTION ON THIS PAHSES/STEPS (No coding)
8. Reporting and dissemination **YES=1 NO=0**	**Does the review protocol include/mention how reporting and dissemination of results will be maid?** **Describe the main idea**
8.1 Instructions on writing the report **YES=1 NO=0**	Does the review protocol include/mention how to write the report (recommend the form/structure of the report)? **Describe the main idea**
8.2 Instructions on dissemination of report* **YES=1 NO=0**	Does the review protocol include/mention how to disseminate the report (to whom and how)? **Describe the main idea**
8.3 Instructions on getting evidence into practice* **YES=1 NO=0**	Does the review protocol include/mention plans how to get evidence into practice? **Describe the main idea**
Variable 8, reporting and dissemination, is an independent variables (upper concept).	

Appendix 3. Strengths and challenges of the 16 review protocols

1. Campbell Guideline is quite short and designed for the purposes of Campbell Collaboration. It has a very clear structure but information is not very deeply discussed. It includes basic discussion on from qualitative studies to the interventions, but discussion on how to combine qualitative and quantitative studies (different information sources) is lacking. Beside empirical study designs information from unpublished sources is recommended, but information from practice and from experts is not discussed. Expert opinion is recommended to be used as a source for future information. Quality criteria phase is very narrowly discussed and any precise instruction on how to analyse gathered information is not given. It proposes a very clear structure for the report writing and has some good suggestion on to include advisory team members to the dissemination phase of the review report. Any discussion on how to utilise review and how to transfer evidence into practice does not exists. To be able to conduct a reviewing process with help of Campbell Guideline a reviewer has to contact to Campbell collaboration for asking future information.

2. Cochran Reviewers' Handbook is designed to collect and summarise information related to health care. It has a very clear structure and includes good background information on reviewing process. Sources of information are concentrated to the upper levels of traditional evidence hierarchy, but it suggests also including unpublished information to the reviews. However no quality assessment of unpublished information is suggested. It has to be remembered that Cochran Reviewers Handbook is only one part of the Cochran Collaborations instructions on reviewing process. Future information on for example on including qualitative research can be found trough collaborations WebPages (http://www.cochrane.org/index0.htm).

3. The Cochran's Systematic Reviews of Health Promotion and Public Health Handbook is designed for the needs of reviewing information on public health and health promotion. It is based on the main challenges found by the specialist in the field. The protocol has a very clear structure and in addition it includes good and informative exercises to support the reviewers work. However the ambition to broaden the evidence base is only partly covered. The protocol instructs to include RCT's whenever possible and also other forms of research information are suggested. In addition it instructs to include grey literature but instructions on how to assess the quality of these documents is lacking. Information from practical level is gathered trough documents, but there is no discussion on how to use expert opinion or information from practitioners. Integrating different study designs is discussed and many good references are presented. In addition applicability, contextual factors and theory basis is very well covered in this protocol.

4. The Community Guide is designed for health promotion and public health. The methods used in Guide aims to obtain and use the best available empirical evidence to support decision making and to set standards that will improve the availability and quality of evidence over time. It gives instructions on which issues to consider in the systematic reviews. It tries to give answers to the questions what evidence is appropriate enough (what are the better or worse study designs and executions for assessing effectiveness). How to judge study quality, how to distinguish insufficient, sufficient and strong evidence as well as how to relate evidence to recommendations are discussed. It includes a common form for describing and classifying the evidence.

5. CRD Report is very comprehensive and has a very clear structure to conduct the review process (easy to follow and understand). It includes good instructions for example to develop a quality assessment form/scale and data extraction forms for different study designs and good general instructions on for example timetable, resources, selection criteria etc. The CRD report includes good basic information and clear structure for reviewing process. However it is not designed for heath promotion or public health purposes and thus lacks some relevant information characteristics for reviewing health promotion or public health information.

6. EPPI-Centre Manual has a good coverage of different stages in reviewing process. However the structure of the report is not very clear. The text includes lots of overlaps. EPPI-centre is developing its procedures and method all the time. This additional information makes the EPPI-centre review protocol comprehensive including important and usable information for also heath promotion and public health field.

7. Health Evidence Bulletin Wales Methodology is designed for clinical and social care practice. Instructions on developing a review protocol and how to progress in the reviewing process are quite limited. However it includes good quality assurance forms for different study designs as well as for economic evaluation and guidelines. This review protocol is a good example of the protocols designed for certain purpose and certain context: for outside reviewer conducting reviewing process on the basis of these instructions is almost impossible. The repeatability of the instructions (due to lack of information/ instructions) is poor.

8. HDA Evidence Work covers many of the critical questions from health promotion and public health field. The HDA Process and Quality Manual is designed to summarise review-level evidence. The process to collect evidence and transfer it into practice is divided into many phases and deliverables. For the outsider (not working in HDA) the understanding this process is quite demanding. Instructions in many areas of the evidence work are under construction which hinders to get a clear picture from the whole process. However HDA work is very advanced in the field of gathering, judging and summarising the evidence and lots can be learned and adapted from the work of HDA.

9. NHMR reports are designed for clinical purposes. NHMR report includes all basic information on reviewing process. However it does not answer all the critical questions important for health promotion and public health. The third report of the NHM, How to put evidence into practice, is quite comprehensive and includes information which can be adapted also for health promotion and public health field.

10. IDM Evidence Framework is base on health promotion theory and it takes into account comprehensively the contextual factors in all stages of reviewing process. It includes good instructive question on forming the review team and advisory group as well as on deciding on time and resources. In addition it include a worksheet identifying internal and external challenge related to reviewing process and a worksheet for developing an action plan to address environmental issues. IDM manual advises to use a wide variety of sources as information starting from research literature to expert opinion. It even advises to go to the community and ask peoples opinion. General evaluation is recommended to assess the quality of information (not dependent what kind of information). It has a comprehensive view of sources of information. It is answers many of the critical questions from the health promotion and public health perspective. Its' Research & Evaluation manual includes good instructions on each research designs and their usability in a reviewing process. IDM manuals' workbook advise reviewer to progress trough the reviewing process. It includes good working sheets to go through the reviewing process.

11. Knowledge Based Public Health Work, Part 1Handbook, is a good instruction on how to make a review of already existing reviews. It has a clear structure and good quality assessment tool for different review designs (general). Even if it includes discussion on theory basis and framework, these remain external in the reviewing process. In addition many of the challenges in conducting review in the field of public health are not discussed in the protocol: complex interventions and how to deal with combining results from different sources. However the handbook has taken first steps to deal these issues, but the concrete instructions are still missing.

12. Knowledge Based Public Health Work; Part 2 Handbook is designed for compilation of review on interventions in the field of public health. It includes discussion on public health theories and build it's basis on them. Handbook 2 has a clear structure and it's based on other already existing review protocols (both clinical and public health). It has widened the evidence basis by including information from grey literature. However it des not discuss very widely how to use expert opinion and information on health promotion and public health practice. In addition information on quality criteria other than research is note very broadly covered. It includes very useful data extraction forms for different study designs (from RCT to Qualitative research) and it has a very clear structure and theory part as background information.

13. The Norwegian protocol is very precise and clear in its instructions and examples for searching, evaluation, summarizing and reporting information from the empirical (epidemiological/clinical/controlled studies) research sources. Qualitative studies, as well as non-research information (like documents) is mentioned only in passing. Applicability for practice is included in the planning phase, but in the evaluation and synthesis phase passes this in short grading without elaborating for what, with which kind of implications etc. Neither knowledge-base nor theory-base are touched. The protocol is available only in Norwegian language.

14. The main aim of the NIGZ Review Protocol is facilitating the production of reviews within the NIGZ. It is available only in Dutch. The review protocol is based on existing review protocols. It includes instructions on main phases of the reviewing process. It has a very comprehensive view for including different kind of information to the reviews. The review protocol focuses on information obtained from Research, Policy and Practice. In addition to all kind of information from research and policy it emphasises that all kind of information from individuals is included. It is explicitly stated that experts should be interviewed. However the instructions are very organisation specific and thus limiting the replicability and usability.

15. The CGPH Protocol is designed for collect and summarise information on health promotion and public health interventions when developing guidelines. It combined to the guideline development process with reviewing process and thus is not a pure review protocol. The instructions on doing the review are quite limited.

16. Methodology and Quality Policy document includes only very limited amount of information. It refers to see the Health Evidence Bulletin Wales review methodology for more prises instructions. However it includes good quality appraisal tools for different study designs (same as in Health Evidence Bulletin protocol).

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