

Chapter 5 - Searching for Studies

Key Points

- Retrieval of qualitative evidence syntheses or primary qualitative research studies can inform the definition and refinement of the Cochrane Review Question.
- For the purposes of scoping use of brief methodological filters may be sufficient.
- Retrieval of qualitative trial-related evidence should not rely merely on serendipity or chance occurrence.
- Systematic approaches to identifying trial-related evidence will include searching for process evaluations; identification of sibling studies, use of related articles features and citation searching.
- Methods exist to identify studies for a full qualitative evidence synthesis alongside a Cochrane Review of Effectiveness. However it should be noted that such reviews are not to be considered as Cochrane reviews as they lie outside the current Cochrane remit.

Introduction

For qualitative research to realise its potential in informing many aspects of the Cochrane Review from the protocol through to analysis and interpretation requires the use of search methods that are not only appropriate to the type of material being sought but also to the stage and purposes for which the qualitative research is to be used. This chapter seeks to build on earlier chapters in this guidance and on the generic chapter on Searching for Studies in the Cochrane Handbook (Lefebvre et al, 2008). Within the constraints of current Cochrane Collaboration recommendations (Higgins & Green, 2009) there are three contexts within which you might need to conduct literature searching for qualitative data or research studies:

1. To inform the formulation of the question to be addressed by a Cochrane Effectiveness Review;
2. To identify qualitative evidence either conducted alongside or associated with those trials included within a Cochrane Effectiveness Review;
3. To retrieve qualitative evidence to explore and/or explain the findings of a Cochrane Effectiveness Review

Section One identifies the common starting point for all three of the above contexts namely identification of existing systematic reviews. **Section Two** then examines how primary qualitative research studies can specifically be used to inform question formulation. Next **Section Three** specifically looks at techniques for retrieving what might be referred to as “sibling studies” (i.e. qualitative research studies or process evaluations associated with specific randomised controlled trials). Then **Section Four** examines broader strategies to retrieve additional qualitative evidence to facilitate interpretation of the effectiveness review. Finally **Section Five** (and accompanying

Appendix A) summarises additional methods and resources available to assist in the identification of qualitative research.

Section One: Your starting point: Identification of existing systematic reviews

Regardless of whether your primary purpose is to inform question formulation, to identify sibling studies or, subsequently, to assist in interpretation of an effectiveness review you need to know if any systematic reviews already exist in your chosen topic area. For this reason it is essential to precede any planned review with a search to establish the existence of extant reviews. Such a search will typically identify both quantitative and qualitative systematic reviews.

In formulating a review question an existing qualitative systematic review is a helpful starting point because:

1. It may help in identifying key issues that have a bearing on the acceptability or effectiveness of a programme or intervention;
2. It may help in identifying barriers or facilitators to the implementation of a programme or intervention. For example, Bunn et al (2008) have conducted a systematic review of older people's perceptions of facilitators and barriers to participation in falls-prevention interventions;
3. It may help in identifying important perceptions of the experience of the condition that may help in either the selection or targeting of a candidate intervention.

In identifying related (or “sibling”) studies an existing qualitative systematic review is a useful source of possible studies for inclusion, capitalising on a previous review team’s search processes.

An existing qualitative systematic review may also assist in interpretation of an effectiveness review in exploring possible explanations regarding any heterogeneity identified across quantitative studies: in informing tactical decisions on splitting the review, on which subgroups to analyse and in justifying a review team’s position on ‘lumping versus splitting’. It can also identify possible explanations for unexpected findings such as where effects are greater or lesser than the review team had anticipated or, indeed, where there is no effect when some demonstration of effect is predicted.

Finally it is important to identify whether an existing review already satisfactorily addresses the question of interest as this removes the need for replication or, at the very least, provides a starting point for an update process.

Methods for identification of systematic reviews

Methods for identifying existing reviews will include the following:

1. Searches of databases of reviews

2. Searches of general databases using the publication type “review” or review-related terms (e.g. “overview” or “systematic review”) (See Table 1)
3. Looking through the reference lists of policy documents, editorials, or statements from professional bodies.

Table 1 Terminology for retrieving systematic reviews (including both quantitative and qualitative examples)

<p>(systematic review [ti] OR meta-analysis [pt] OR meta-analysis [ti] OR systematic literature review [ti] OR (systematic review [tiab] AND review [pt]) OR consensus development conference [pt] OR practice guideline [pt] OR cochrane database syst rev [ta] OR acp journal club [ta] OR health technol assess [ta] OR evid rep technol assess summ [ta]) OR ((evidence based[ti] OR evidence-based medicine [mh] OR best practice* [ti] OR evidence synthesis [tiab])</p> <p>AND</p> <p>(review [pt] OR diseases category[mh] OR behavior and behavior mechanisms [mh] OR therapeutics [mh] OR evaluation studies[pt] OR validation studies[pt] OR guideline [pt])) OR ((systematic [tw] OR systematically [tw] OR critical [tiab] OR (study selection [tw]) OR (predetermined [tw] OR inclusion [tw] AND criteri* [tw]) OR exclusion criteri* [tw] OR main outcome measures [tw] OR standard of care [tw] OR standards of care [tw])</p> <p>AND</p> <p>(survey [tiab] OR surveys [tiab] OR overview* [tw] OR review [tiab] OR reviews [tiab] OR search* [tw] OR handsearch [tw] OR analysis [tiab] OR critique [tiab] OR appraisal [tw] OR (reduction [tw]AND (risk [mh] OR risk [tw]) AND (death OR recurrence)))</p> <p>AND</p> <p>(literature [tiab] OR articles [tiab] OR publications [tiab] OR publication [tiab] OR bibliography [tiab] OR bibliographies [tiab] OR published [tiab] OR unpublished [tw] OR citation [tw] OR citations [tw] OR database [tiab] OR internet [tiab] OR textbooks [tiab] OR references [tw] OR scales [tw] OR papers [tw] OR datasets [tw] OR trials [tiab] OR meta-analy* [tw] OR (clinical [tiab] AND studies [tiab]) OR treatment outcome [mh] OR treatment outcome [tw]))</p> <p>NOT (letter [pt] OR newspaper article [pt] OR comment [pt])</p> <p>Source: http://www.nlm.nih.gov/bsd/pubmed_subsets/sysreviews_strategy.html</p>

You should note that qualitative systematic reviews employ a similarly diverse range of terminology as reviews in general. For this reason you will need to employ an imaginative variety of terms. A search strategy illustrating a majority of these more specialist terms is provided in Table 2.

Table 2 Search terms to identify existing qualitative systematic reviews

1. Qualitative systematic review* OR (systematic review AND qualitative)
2. evidence synthesis OR realist synthesis
3. Qualitative AND synthesis

4. meta-synthesis* OR meta synthesis* OR metasynthesis
5. meta-ethnograph* OR metaethnograph* OR meta ethnograph*
6. meta-study OR metastudy OR meta study
7. OR/1-6

Because your review team may be interested in perspectives on the disease in general or on experiences (of either providers or recipients of care) of the intervention you may choose to conduct sensitive search strategies (i.e. maximising your chances of retrieval) that combine the string of terms from Table 1 with the condition or the intervention separately rather than focus only on the intersection of both condition and intervention (See Table 3). Note too that the term “qualitative systematic review” is occasionally used more loosely (e.g. within analgesia or pain relief studies) to describe those reviews where it was not possible to perform a quantitative meta-analysis. Use of this term may therefore result in unexpected “false hits”.

Table 3 Searching for qualitative systematic reviews of Condition OR Intervention

1. Qualitative systematic review* OR (systematic review AND qualitative)
2. evidence synthesis OR realist synthesis
3. Qualitative AND synthesis
4. meta-synthesis* OR meta synthesis* OR metasynthesis
5. meta-ethnograph* OR metaethnograph* OR meta ethnograph*
6. meta-study OR metastudy OR meta study
7. OR/1-6 {Combining qualitative systematic review synonyms}
8. 7 AND Postnatal Depression {Combining review terms [1-6] with Condition}
9. 7 AND Cognitive Behavior Therapy {Combining review terms [1-6] with Intervention}
10. 8 OR 9 {Reviews of Postnatal Depression or Reviews of Cognitive Behavior Therapy}

Section Two: Identifying qualitative research to inform question formulation

Current Cochrane guidance states that:

“The formulation of a question to be addressed by a Cochrane review will often usefully be informed by qualitative research. This statement carries no implication that the qualitative research should be subject to systematic review”.

The emphasis of this Section is thus on the identification of relevant individual studies that are closely associated with the question to be addressed by a Cochrane Review. As Chapter Two makes clear qualitative research may contribute to many of the elements of a focused PICO question. For ease of reference these are summarised in Table 4.

Table 4 Elements of PICO question addressed by qualitative research

P	Perceptions of health issues	For patients For providers For policymakers For the general public
	Social and cultural beliefs	
P/I	Accessibility factors	
I	Acceptability of intervention	
	Mode of delivery	
C	Perceptions of treatment options	
	Preferences of treatment options	
O	Acceptable/ important outcomes	

The challenges of retrieving qualitative research are well-documented (Evans, 2002, Barroso et al, 2003). These include non-meaningful titles, poor quality and unstructured abstracts, a superficial depth of indexing, and poor description of qualitative method used. Several authors, such as Campbell et al (2003), describe the difficulties they encounter when trying to retrieve all of the literature relevant to their work

Scoping searches are now an accepted stage of most types of systematic review (Jones, 2004). As Chapter Two demonstrates scoping searches can identify contextual information important to the protocol. Provided that reviewers do not allow themselves to be prematurely exposed to the results of studies for inclusion it is frequently helpful, and rarely harmful, to investigate the quantity and likely quality of the evidence available for the topic as well as the different study designs available for a particular question. This stage helps to conceptualise the review in terms of the language and concepts used in the literature and also to manage the logistics in terms of the yield and likely workload for the review team. The review team may also find it useful to engage in some form of “area scanning”, that is to identify major organisations in the field, significant international or national policy reports and traditional reviews to orientate themselves to the main issues relating to the disease condition or the intervention. The aim is to develop a rounded out (holistic) picture of issues associated with the intervention.

As mentioned in Chapter Two it may well prove useful to identify, or alternatively, to construct a “logic model” to guide the development of the background section of a Cochrane Review and to assist in defining, and indeed refining, the review question. A sufficiently robust logic model may already be present in the identified literature, it may be constructed *de novo* as part of the scoping process or, indeed it may be a synthetic product of refining an existing model in the light of other relevant literature.

How might searching help to inform this scoping process? Scoping is envisaged primarily as a three-stage process:

1. Identification of existing systematic reviews (identified above as prerequisite in any review context)
2. Identification of key items of existing primary research
3. Elicitation of the views of stakeholders for the potential review

A review team will not always view it as desirable or feasible to undertake all three stages of the process. At a minimum they should undertake the first stage. They should then review the extent to which there is added value in proceeding to each subsequent step.

Identification of existing primary research

Where a qualitative systematic review does not, as yet, exist, or where a review team does not feel that it has gained a sufficiently holistic picture of the issues that surround the question from existing reviews, it is helpful to identify key items of qualitative research, as well as other examples of research, to inform the background and conception of the review. Here the intention is not to systematically identify all qualitative research on a topic but simply to identify and characterise the main issues relating to a review topic. In such a context it is considered acceptable to use search techniques that prioritise specificity (retrieval of most highly relevant studies) over sensitivity (retrieval of all potentially relevant studies). One way of achieving this is through use of a methodological filter (Evans, 2002). Put simply a methodological filter is a search strategy that is added on and combined with the terms representing a subject or topic of a review to increase the likelihood of retrieving those studies with study designs that are most likely to be appropriate to the question being asked. So, for example, a genuine qualitative study is more likely to have an abstract that contains such words as “qualitative” or “findings” (instead of “results”) as well as terms relating to qualitative data (such as “themes”) or to qualitative methods (such as “grounded theory”) (Box 1).

Box 1 Brief methodological filters for scoping purposes

Grant (2004) suggests using such terms as “qualitative\$”, “findings” and “interview\$” (where \$ denotes truncation) to identify qualitative research designs.

Flemming & Briggs (2007) similarly concluded that a simple search strategy using broad-based terms was as effective as a complex one (free text) in locating qualitative research examining patients' experiences of living with a leg ulcer.

PubMed Health Services Research Special Queries

(<http://www.nlm.nih.gov/nichsr/hedges/search.html>) provides a similar brief function which allows searchers to enter topic terms which are then run against a brief set of qualitative search terms ((interview*[tiab] OR psychology[sh:noexp] OR health services administration[mh]) to produce a narrow search of predominantly qualitative research articles.

The InterTASC Information Specialists' Sub-Group (ISSG) Search Filter Resource, hosted at the University of York, collects and evaluates published and unpublished filters: <http://www.york.ac.uk/inst/crd/intertasc/>

Brief methodological filters exist for many key subject databases (e.g. MEDLINE, CINAHL, EMBASE, PsycLit). Published versions for major databases are listed in Box 2.

Box 2 Published versions of methodological filters for retrieving qualitative research

Database	Filter
CINAHL	Wilczynski NL, Marks S, Haynes RB. Search strategies for identifying qualitative studies in CINAHL. <i>Qualitative Health Research</i> 2007; 17 (5):705-10.
EMBASE	Walters LA, Wilczynski NL, Haynes RB; Hedges Team. Developing optimal search strategies for retrieving clinically relevant qualitative studies in EMBASE. <i>Qualitative Health Research</i> 2006, 16 (1):162-8.
MEDLINE	Important note: MEDLINE strategies reported below precede introduction of the MeSH Heading 'Qualitative Research' (2003). This term should be added to these strategies. Wong SS, Wilczynski NL, Haynes RB. Developing optimal search strategies for detecting clinically relevant qualitative studies in MEDLINE. <i>Medinfo</i> 2004; 11 (1):311-6.
PsycINFO	McKibbin KA, Wilczynski NL, Haynes RB. Developing optimal search strategies for retrieving qualitative studies in PsycINFO. <i>Evaluation & the Health Professions</i> 2006; 29 (4):440-54.

Less rigorous approaches that, nevertheless, may identify useful examples of qualitative research studies may include browsing through the contents pages of qualitative research or condition-specific journals (using a journal-site search engine where possible) or accessing online conference proceedings.

Elicitation of stakeholder views

Stakeholder views are an important feature of the planning for any review. If they are genuinely to shape the subsequent review it is important to ensure that all possible perspectives are mapped and acknowledged. At this stage data should be gathered uncritically and judgement suspended until the subsequent processes of quality assessment and critical analysis. Qualitative systematic reviews or primary qualitative research may prove useful in identifying the views of those delivering or receiving interventions. They may yield useful economies in time and effort for reviewers and

stakeholders alike, thereby reducing the scale and scope of consultation, by highlighting issues that have already been identified and allowing the review team to focus on key unanswered questions. Where stakeholder views are poorly or inadequately represented in the literature it will be necessary to initiate a more extended version of the dialogue between stakeholders and the review team.

Methods for identifying stakeholder views from the literature will include the following:

- Identification of qualitative evidence syntheses and key primary qualitative studies of the target population (as above);
- Major national or international surveys of the target population
- Websites for major advocacy or self-help groups

It should be noted that the Cochrane Collaboration's current recommendation, by which qualitative evidence is used to supplement the effectiveness review question, is not universally accepted as the appropriate starting point for the process. Some authors claim that the contribution of qualitative research may be to provide an alternative to an *a priori* definition of the phenomenon of interest. They argue that it can actually be prerequisite to the formulated question in helping the review team to develop a clearer conceptualization of the phenomenon itself (Jensen & Allen, 1996).

Section Three: Searching to identify trial-related qualitative evidence

Current Cochrane Collaboration recommendations state that:

“Cochrane reviews on the effects of interventions may, if the authors feel strongly and the Cochrane Review Group agrees, include qualitative evidence from included quantitative studies (e.g. randomized trials) to facilitate the interpretation of the findings from these included quantitative studies” (Higgins & Green, 2009).

Increasingly reports of trial data include qualitative data that may prove useful in the conduct of the review. This may include information on the views of populations towards a condition or intervention, process evaluation data relating to implementation or qualitative data relating to outcome. Alternatively such data may be contained within associated reports, clearly linked to the included trials. Clearly such data (whether conducted alongside or associated with included trials), with the considerable merit of being context-specific to the actual trials included within the Cochrane Review, has the potential to enhance our understanding where successfully incorporated within the output of the review. For the moment it will suffice to outline additional options available to the review team.

Specific searching for process evaluations:

Although validated filters for retrieving process evaluations have not yet been developed certain terms are more useful than others for the retrieval of these types of study. For

example on MEDLINE there is the Medical Subject Heading (MeSH) term “Program Evaluation”. This could be used along with free text terms such as “Process Evaluation”, “Programme Evaluation”, or “Program Evaluation” for identification of relevant studies. Both singular and plural variations should be used. In some cases it may be valuable to use a broader strategy using any combination of the individual single term words e.g. process(e)(s) AND evaluation; program(me)(s) AND evaluation or even the word evaluation on its own with the intervention or phenomenon of interest (with or without the population-related terms). The PubMed Health Services Research Special Queries (<http://www.nlm.nih.gov/nichsr/hedges/search.html>) offers an additional function with respect to “Process Assessment” studies which allows searchers to enter topic terms which are then run against a brief set of process assessment-related search terms (broad strategy: health services administration[mh] OR therapy[sh:noexp] OR adjusted[tiab] and narrow strategy: (practice*[tiab] OR adjusted[tiab])) to produce either broad or narrow searches of predominantly process assessment studies.

Examination of references

It is standard practice to examine reports of trials for reference to additional reports of the same trial or for mention of additional related trials. This option simply involves extending the brief of the reviewers to also actively identify any process evaluations, implementation reports or qualitative studies conducted alongside the target trial. Such studies should be actively linked to the trial reports and full copies of such reports obtained for subsequent analysis. It should be noted that the Cochrane Handbook cautions that:

“Since investigators may selectively cite studies with positive results, reference lists should be used with caution as an adjunct to other search methods” (Lefebvre et al, 2008).

Contact with lead authors:

Again it is common practice to contact trial authors with requests for additional data that may help to inform the quality assessment or subsequent analysis of the trial. It is important to keep such requests to essential information and to coordinate such requests to avoid, as far as possible, multiple requests. It would therefore be useful to include, as a standard feature of such requests, a request for details of any associated reports (published or unpublished) that relate to the target trial. Principally these may include process evaluations or qualitative research studies although they could also include other useful data such as associated economic evaluations or cost details. Such requests should make it clear that it is the trial, not the lead author, that is the item of interest and that outputs associated with the trial are being sought regardless of whether the lead author has been attributed with authoring such “sibling” studies. Indeed such sibling studies may well be led by another research colleague such as a qualitative researcher or a health economist. The Cochrane Handbook considers that:

“asking researchers for information about completed but never published studies

has not always been found to be fruitful though some researchers have reported that this is an important method for retrieving studies for systematic reviews” (Lefebvre et al, 2008)..

Searching for lead authors:

From making direct contact with authors it is a small extension to consider conducting brief targeted author searches aimed at identifying publications associated with each included trial (Barroso et al, 2003). Author searches aim for specificity and so do not necessitate extended search procedures. However where an author may have several variants of his/her name (e.g. J Brazier or JE Brazier) it will be necessary either to search for both variants or to use a truncated form (such as Brazier J\$ or Brazier J*, depending on the exact syntax of each database). Where an author’s surname is common it may be necessary to further refine the search results by combining the name with the subject terms from the general search strategy of the review or associating the researcher with an institution or by adding additional names of other members of the research team (although each of these approaches is associated with some risk of missing relevant items). This step, and the following step, using “Related Articles” may be necessary because it is not always the case that publication of the randomised controlled trial will precede publication of the associated qualitative research report (indeed the respective scales of the two endeavours may well mean the reverse is more likely to be true) and so simply checking the references at the end of the trial report will not be sufficient to retrieve the associated research. It should be noted that a qualitative research report may involve only one from the permuted list of authors for the major trial output. Indeed in some cases the entire qualitative research team may be independent from the team conducting the trial and links between the two “sibling” studies may only be made at the level of a study identifier, grant reference or cross-citation.

Using “Related Articles” features:

An increasing number of databases now carry a “Related Articles” feature. This uses a pattern-matching algorithm that seeks to match key features of a bibliographic reference with identical or related features from a similar reference. The way such a feature works means that references may be matched across a number of possible similarities, not simply those of interest to the review team. However an associated qualitative research report will usually appear within the top 100 associated related references (Box 3).

Box 3- Example of Related Articles Feature

For example clicking on the Related Articles feature of the following:
O’Cathain A, Walters SJ, Nicholl JP, Thomas KJ, Kirkham M. Use of evidence based leaflets to promote informed choice in maternity care: randomised controlled trial in everyday practice. <i>BMJ</i> . 2002 Mar 16;324(7338):643.
would retrieve the following associated reference within the

top 5 references:

O'Cathain A, Thomas K, Walters SJ, Nicholl J, Kirkham M. Women's perceptions of informed choice in maternity care. *Midwifery*. 2002 Jun;18(2):136–44.

Citation searching:

This feature, available only through a limited number of databases, such as the Institute of Scientific Information Citation Indexes and CINAHL, allows a reviewer to search for studies that have cited an earlier study. In the case of a randomised controlled trial identification of the report from a list of papers by that author would allow identification of any subsequent papers that have cited the earlier trial. Some of these may well have been associated with the original study. The Cochrane Handbook recognises that

“Citation searching is an important adjunct to database searching and handsearching”.(Lefebvre et al, 2008).

Regardless of whether one is identifying qualitative research studies to inform question formulation or retrieving “sibling studies” (i.e. qualitative research/process evaluations associated with included randomised controlled trials), the methods used for specifying, identifying, critically appraising and synthesizing the qualitative research should be reported in a separate heading under the Methods section. The current Cochrane Collaboration recommendation is that:

“The emphasis of every Cochrane Intervention review must be on the effects of the interventions. Discussions of qualitative aspects must therefore always be secondary” (Higgins & Green, 2009).

Section Four: Searching for qualitative evidence to inform interpretation of Cochrane review findings

A further alternative is to develop search strategies specifically to retrieve process evaluations or qualitative research reports that relate to the *findings* of a Cochrane review but that are not specifically linked to the included studies from that review. The current Cochrane Collaboration recommendation is that:

“Cochrane reviews on the effects of interventions may, if the authors feel strongly and the Cochrane Review Group agrees, specifically seek evidence from qualitative research studies to inform the interpretation of the findings of the review” (Higgins & Green, 2009).

The methodological justification for this type of approach is that relying only on data that is opportunistically contained in a trial report opens up the possibility of significant selection and reporting bias. The practicalities of trying to inform an existing Cochrane

Review within a realistic timescale will probably require a selective or purposive approach to the identification of supporting evidence. Key issues or themes, perhaps taken from the logic model formed at the beginning of the review, can be used as keywords or search terms for very targeted searches of the qualitative literature. For example if “compliance” is identified as an issue for a particular *intervention* an appropriate search strategy may consist of a combination of *Intervention* terms, *Qualitative Research* filter terms and *Compliance-related* terms such as “comply”, “compliance”, “adherence”, “concordance” etcetera. Alternatively if barriers relate to access by the *population* being considered an appropriate search strategy may consist of a combination of *Population* terms, *Qualitative Research* filter terms and *Access-related* terms such as “access”, “accessibility”, “availability” etcetera.

Any purposive approach to the identification of evidence is open to potential bias. To minimise the prospect of such bias additional actions may be undertaken. These may be selected individually from the comprehensive approaches outlined in **Appendix A**. Each additional action has resource implications but may realise corresponding benefits with respect to reducing potential bias. Empirical data is required on the respective benefits of each alternative. This will allow them to be prioritised in the future.

Section Five: Searching beyond the current Cochrane remit

There is general acknowledgement, supported by empirical examples, that qualitative evidence can serve to inform questions raised by an Effectiveness Review. One way of providing sense and coherence to such qualitative evidence is through the separate conduct of qualitative evidence syntheses. In this connection it should be noted that the current Cochrane Collaboration recommendation is:

“Any review of qualitative research that is performed to inform a Cochrane review question, or that does not constitute a secondary objective to aid interpretation of the effects of interventions, is not a Cochrane review” (Higgins & Green, 2009).

In the interests of completeness supplementary search techniques that may be used within this wider context of qualitative systematic review are given in **Appendix A**.

Reporting Search strategies

Regardless of the purpose for which qualitative research is being retrieved there is a requirement to report methods for identification and retrieval in an explicit and transparent manner. The requirements of general standards such as the PRISMA Statement on Preferred Reporting Items for Systematic Reviews and Meta-Analyses (Moher et al, 2009; Liberati et al, 2009) apply equally to qualitative evidence syntheses. The most relevant items in this context are Item 7 on Information Sources and Item 8 on the Search. Authors are thus required to “Describe all information sources in the search

(e.g., databases with dates of coverage, contact with study authors to identify additional studies) and date last searched”. Furthermore it recommends:

At a minimum, for each database searched, authors should report the database, platform, or provider (e.g., Ovid, Dialog, PubMed) and the start and end dates for the search of each database. This information lets readers assess the currency of the review, which is important because the publication time-lag outdates the results of some reviews. This information should also make updating more efficient. Authors should also report who developed and conducted the search”.

There is a further requirement to report the “use of supplementary approaches to identifying studies, such as hand searching of journals, checking reference lists or contacting authors”.

With regard to Item 8 on the Search authors are required to “Present the full electronic search strategy for at least one major database, including any limits used, such that it could be repeated”. Booth (2006) has proposed use of the mnemonic STARLITE (sampling strategy, type of study, approaches, range of years, limits, inclusion and exclusions, terms used, electronic sources) to convey the essential elements for reporting literature searches (Box 4).

Box 4 Elements of the STARLITE mnemonic

S: Sampling strategy _
<ul style="list-style-type: none"> • Comprehensive: attempts to identify all relevant studies on the topic • Selective: attempts to identify all relevant studies but only within specified limits • Purposeful: samples from specific disciplines, years, journals
T: Type of studies _
<ul style="list-style-type: none"> • Fully reported: describes actual study types (e.g., grounded theory) or designs to be included • Partially reported: uses an “umbrella” category such as “qualitative studies” without defining what this means
A: Approaches _
<ul style="list-style-type: none"> • Approaches other than electronic subject searches (see below) • Example: hand-searching • Citation snowballing
R: Range of years (start date–end date)
<ul style="list-style-type: none"> • Fully reported: includes start and end dates with justification for time period chosen • Partially reported: includes start and end dates but only determined available coverage of databases
L: Limits

<ul style="list-style-type: none"> • Functional limits that are applied for logistic reasons but do not alter the topic conceptually (e.g., human, English etc.)
I: Inclusion and exclusions
<ul style="list-style-type: none"> • Conceptual limitations that mediate the scope of the topic area (e.g., geographical location, setting, or a specific focus of study)
T: Terms used
<ul style="list-style-type: none"> • Fully present: example of a sample search strategy from one or more of the main databases
<ul style="list-style-type: none"> • Partially present: reports terminology used but without evidence of search syntax and operators
E: Electronic sources
<ul style="list-style-type: none"> • Reports databases used and, optimally, search platforms and vendors to assist in replication

The same article (Booth, 2006) provides an example of this level of reporting (Box 5):

Box 5- Outline example of a report of a literature search structured according to STARLITE principles

Title: Qualitative systematic review of support for breastfeeding [Publication pending]
S: Sampling strategy Purposive: Samples two databases from medicine, nursing, and social science fields
T: Type of study Any kind of qualitative study (includes ethnographic, grounded theory, focus groups, etc.)
A: Approaches Subject searching, citation searching, hand-searching, Internet searching, contact with experts
R: Range of years (start date: end date) No restrictions: to the beginning of each candidate database—to the end of 2003
L: Limits English, human
I: Inclusion and exclusions Inclusion: qualitative method, about support for breastfeeding women; exclusion: quantitative method, animal lactation, physiology of breast milk (i.e., not related to aspects of support)
T: Terms used Complete search strategies available as additional files via Website
E: Electronic sources MEDLINE [Ovid], EMBASE [Ovid], CINAHL [Ovid], British Nursing Index [SilverPlatter], Applied Social Sciences Index and Abstracts (ASSIA) [Cambridge Scientific Abstract], Social Sciences Citation Index
[Web of Knowledge], other databases (e.g., MIDIRS, NeLH)

Conclusion

This chapter has sought to cover five circumstances under which a search of the

qualitative literature can contribute to the value of an effectiveness review. First, identification of existing systematic reviews can be valuable for all aspects of the review process (**Section One**). Next a search for qualitative research studies can aid the formulation of a focused, appropriate and answerable question (**Section Two**). Then, a search can yield important within trial or alongside trial qualitative data to help explain the specific trial effects (**Section Three**). Furthermore broader strategies may be used to retrieve additional qualitative evidence to facilitate interpretation of the effectiveness review (**Section Four**). Finally, a more thorough and comprehensive search can be used, outside the existing remit and resources of the Cochrane review process, in order to effect a related or stand-alone qualitative evidence synthesis around such issues as compliance or implementation (**Section Five** and **Appendix A**). The chapter also reports on the requirements for reporting the information sources and search strategies used.

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Appendix A – Supplementary Techniques of potential usefulness for non-Cochrane qualitative systematic reviews

The following search techniques will be useful when conducting either a qualitative systematic review to address additional questions raised by an Effectiveness Review or a stand-alone qualitative systematic review answering questions other than those relating to effectiveness. The assumption in suggesting these sources is that one is trying to achieve a comprehensive and exhaustive search, analogous to that required for a review of effectiveness. Clearly the scale of such an endeavour is considerable and will require a level of resourcing analogous to that required for a Cochrane Review. Alternatives to such a comprehensive approach are addressed in the following sub-section.

Where the intent of a qualitative evidence synthesis is aggregative (cp. the methods of the EPPICentre and the Joanna Briggs Institute) comprehensive search processes will include most, if not all, of the following:

- 1. Qualitative research methodological filters.** Methodological filters or hedges involve the use of a standardised search strategy that is designed to be used in conjunction with a subject search to retrieve valid studies from the (primary) medical literature.
- 2. Examination of references.** However, as previously cautioned, over-reliance on this approach at the expense of other methods may lead to bias in identification of studies.
- 3. Using “Related Articles” features.** It should be noted, however, that studies may be related for a variety of factors and as databases use a computer-generated process (or algorithm) to match “relations” this approach will yield both relevant and irrelevant “hits”.
- 4. Citation searching** (forward chaining and backward chaining (Bates, 1999)). Again the selectivity of author citation behaviour may introduce potential bias and so reviewers should guard against over-reliance on this particular method.

In addition the following search methods should be used if one is attempting to achieve the widest possible coverage of eligible studies:

- 5. Handsearching**
- 6. Identifying theses and dissertations**
- 7. Internet searching**

Specific details for these methods are provided below:

5. Handsearching

Handsearching for qualitative research reports is a particularly labour intensive process (Barroso et al, 2003). In comparison to reports of clinical trials the nature of both the journals and the reports included within them means that it is less likely that titles and abstracts will include identifiers of study design. There are three main sources for such qualitative research reports:

- 1. Topic specific journals that contain both quantitative and qualitative research**

reports. A list of these candidate journals may be generated from the reference list of included studies, excluding any journals that are known not to publish qualitative research reports.

2. Topic specific journals, excluding the above, that focus primarily on qualitative research. For example several nursing journals may be considered complementary to medical journals within the same discipline.
3. Specialist qualitative research journals such as *Qualitative Health Research*.

6. Identifying theses and dissertations

Although qualitative research methods are no less demanding than many quantitative research techniques the scale of investigation and the fact that a single investigator may be used make qualitative research a prime candidate for being conducted within a postgraduate research (i.e. as a thesis) or postgraduate teaching (i.e. as a dissertation) context (Barroso et al, 2003). Specialist sources of thesis and dissertation literature include:

- Dissertation Abstracts is an online catalogue of American and other international dissertations. It is available from <http://www.lib.umi.com/dissertations/gateway>
- EthOS - British Library run Electronic Thesis Online Service (EthOS) provides free electronic access to all UK Higher Education Institutional doctoral theses. <http://ethos.bl.uk/>
- Index to Theses Online covers theses accepted for higher degrees through research by the universities of Great Britain and Ireland, with the earliest thesis being 1716. Abstracts are included for most theses since 1986. <http://www.theses.com/>
- Networked Digital Library of Theses and Dissertations - details of theses and dissertations from universities in U.S. and worldwide with some links to online full text. <http://www.ndltd.org/>
- PhDData - A database of doctoral dissertations in progress around the world. <http://www.phddata.org/>

It is recommended that you consult with a local librarian over selection of specific sources of thesis and dissertation literature.

7. Internet searching

Methods for systematic Internet searching are still in their infancy. Generally, because they are searching full-text documents rather than abstracts, Internet search engines are overly sensitive in retrieving potentially useful documents at the expense of relevance. Two particular techniques are likely to enhance retrieval of legitimate qualitative research:

1. To increase the likelihood of retrieving *research* it is suggested that you use specialist search engines that index primarily academic content. Foremost amongst this type of search engine is Google Scholar. Another possibility, when using general search engines, is to add the keyword “research” to your subject query or to limit to particular types of domain e.g. .gov, .edu, .ac.uk,

- .edu.au etcetera. You can find out how to do this, if the function is available, via the Help pages of the relevant search engine.
2. To increase the likelihood of retrieving qualitative studies it is suggested that it may be helpful to add qualitative terms such as “qualitative”, “interview*” “findings” to your subject query. Such an approach will likely be particularly valuable if performed in conjunction with the above technique in 1.

Supplemental search techniques

Although indexers for bibliographic databases such as MEDLINE are generally instructed to index at the highest available level of specificity it is not uncommon for one or more of the search attributes to have been omitted. In this context it may be helpful to use a search tactic known as “Drop a concept”. If, for example, a review team is searching for qualitative research on compliance of children with inhalers for asthma they may find that use of search terms for all five concepts (children, compliance, inhalers, asthma and qualitative) within the same document may be unduly restrictive and result in fewer hits than expected. In this case dropping one of the concepts, typically the one yielding the smallest amount of individual hits (probably “compliance” in this example), will provide a larger result set. Although this will likely increase the number of irrelevant results (“false hits”) this will likely be to the benefit of additional relevant results. Of course a similar occurrence will take place where a review team does not use a filter for identifying randomised controlled trial designs alongside a focussed topic search with the result that qualitative studies will be identified along with other non-randomized research designs. This is an option to be considered where quantitative and qualitative reviews are undertaken together and members of the extended team are trained and ready to sift abstracts for both reviews by identifying all empirical studies.

Alternatives to comprehensive literature searches

Considerable debate continues to exist around the appropriate sample to be included in a qualitative evidence synthesis and hence the most appropriate sampling method and the specific search strategies to achieve the review objective. Such issues include being able to identify when “big bang” and when more iterative approaches are most appropriate and whether the total population or a selective subset of studies should be chosen (Jensen & Allen, 1996). For the moment it seems that the general principles that underlie any area of methodological uncertainty within systematic reviews apply equally to this circumstance; that is the need to give considered attention to the choice of available methodologies, to select according to a clear and systematic rationale and then to document both the justification for selection and the outcomes of such a decision.

Guidance on different sampling strategies for stand-alone qualitative evidence syntheses is currently being produced and may be obtained by contacting the author of this chapter: A.Booth@sheffield.ac.uk