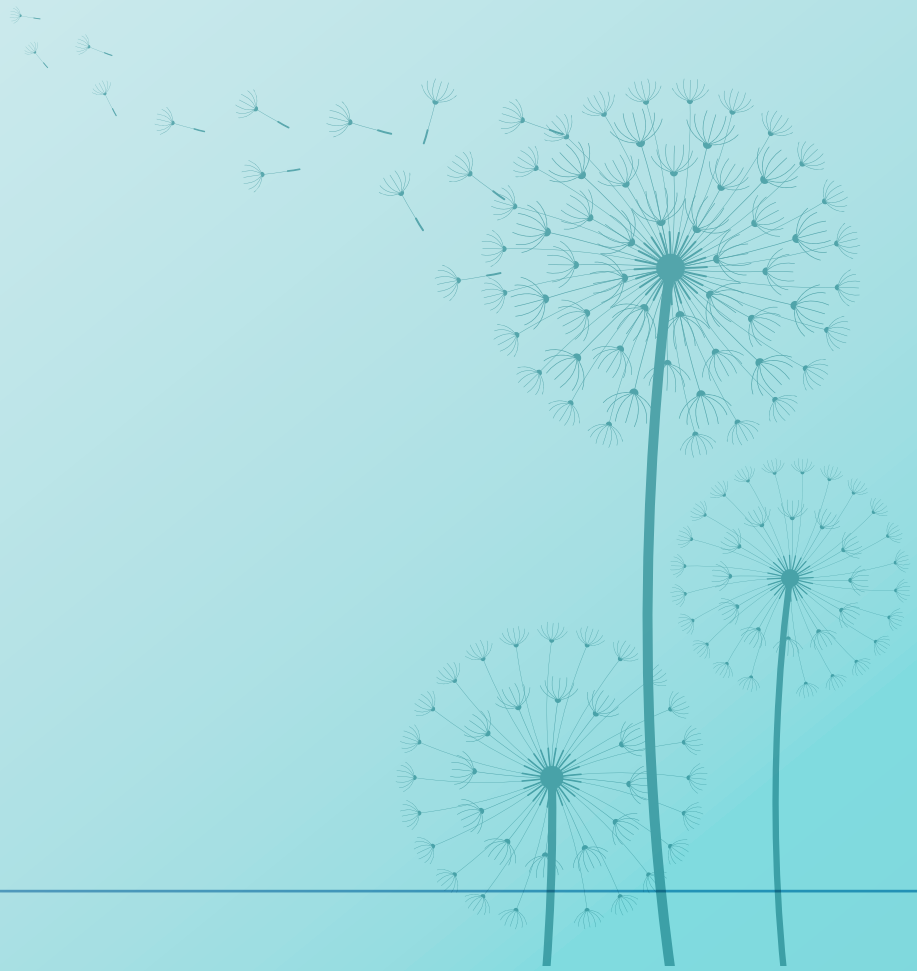


GUIDE TO QUALITATIVE EVIDENCE SYNTHESIS

EVIDENCE-INFORMED POLICY-MAKING

USING RESEARCH IN THE EVIPNET FRAMEWORK

EVIDENCE-INFORMED POLICY NETWORK (EVIPNET) EUROPE



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Abstract

The Evidence-informed Policy Network (EVIPNet) is an initiative of the World Health Organization (WHO) that promotes the use of evidence from health research in policy-making. EVIPNet Europe focuses on increasing country capacity to develop evidence-informed policies on health system priorities, and thus contributes to the achievement of WHO's triple billion targets, and the Sustainable Development Goals.

EVIPNet Europe is committed to increasing the capacities of countries in utilizing the best available evidence in all the relevant forms, both quantitative and qualitative, to support policy-makers' needs when making decisions. This guide aims to support country efforts to generate

evidence, including qualitative evidence. It summarizes what a qualitative evidence synthesis is, and how it can contribute to the evidence-informed policy-making process; how a synthesis can be retrieved, appraised and used; how to develop a qualitative synthesis as recommended by Cochrane.

This document can be used when commissioning, developing or reviewing a qualitative evidence synthesis, or any other synthesis product that includes qualitative data. It is not intended to provide a detailed step-by-step guide, but gives a broad overview of the methods, and provides references to other relevant sources of information.

Keywords

Qualitative evidence, Capacity-building, Evidence synthesis, Policy-making, Health policy

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ABBREVIATIONS

CASP	Critical Appraisal Skills Programme (tool)
DIR	Division of Information, Evidence, Research and Innovation
EBP	evidence brief for policy
EIP	evidence-informed policy-making
EHII	WHO European Health Information Initiative
EQUATOR	Enhancing the QUALity and Transparency Of health Research
EVIPNet	Evidence-informed Policy Network
GRADE	Grading of Recommendations Assessment, Development, and Evaluation
GRADE-CERQual	Confidence in the Evidence from Reviews of Qualitative research
KT	knowledge translation
QES	qualitative evidence synthesis
SPIDER	Sample, Phenomenon of Interest, Design, Evaluation, Research type
UHC	universal health coverage
WHO	World Health Organization
WHO Europe	World Health Organization Regional Office for Europe

1. INTRODUCTION

1.1 EVIPNET EUROPE

Knowledge translation (KT) links researchers and knowledge users through interactions that can be of different complexity, intensity or level of engagement. The World Health Organization (WHO) defines KT as *“the synthesis, exchange, and application of knowledge by relevant stakeholders to accelerate the benefits of global and local innovation in strengthening health systems and improving people’s health.”* KT in the context of evidence-informed policy-making (EIP) involves summarizing and contextualizing research evidence in a suitable manner for policy development. This seeks to ensure that decisions made about health policies are based on the best available evidence. Policy decisions typically need to be informed by integrating a broad range of various types of evidence. This is especially the case for complex policies that involve implementation at systems level and across different sectors. Qualitative research is therefore integral to such an evidence landscape, where the addition of an interpretive naturalistic approach¹ helps us to better understand whether interventions will work or not; whether they are feasible and acceptable for implementation. In order to fully understand the potential of effective policy options, for example, stakeholder views might be important in determining what should be implemented, where, for whom and how.

The Evidence-informed Policy Network (EVIPNet) Europe was launched in October 2012 in recognition of the need to scale up national efforts aimed at closing the gap between research and policy. EVIPNet is a global WHO initiative that promotes the systematic use of health-research evidence in policy-making. It has a presence in all WHO regions and is coordinated at both the regional and global levels. EVIPNet Europe focuses on increasing country capacity to develop evidence-informed policies on health system priorities. As such, it supports the implementation of the Action Plan to strengthen the use of evidence, information and research for policy-making in the WHO European Region and also contributes to the achievement of the Sustainable Development Goals and WHO’s triple billion targets. These targets are: to ensure that by 2023, one billion more people benefit from universal health coverage (UHC); one billion more people have better protection from health emergencies; and one billion more people enjoy better health and well-being.⁹

One of the key tools of EVIPNet Europe is the evidence brief for policy (EBP), which synthesizes the best available research evidence to answer a specific policy problem in a concise way, written in non-expert language, and adapted to the needs of various stakeholders. EBPs are based on a systematic search and appraisal of the global, regional and local evidence

to understand what is known about the policy issue, and which policy options effectively address the issue. Systematic reviews are the key source of the evidence base. EBPs therefore should integrate information from both quantitative systematic reviews as well as from reviews of qualitative studies. The inclusion of qualitative evidence in evidence-informed policies on health system priorities is essential to ensure that the views and perceptions of people facing the problem at hand are incorporated.

The adoption of the above-mentioned Action Plan has reaffirmed Member States' continued commitment to increasing the capacities of countries in utilizing the best available evidence in all the relevant forms, both quantitative and qualitative, from various sectors and disciplines. In response to this, the Secretariat of EVIPNet Europe has commenced the development of a guide for countries on qualitative evidence synthesis (QES). This guide summarizes what a qualitative evidence synthesis is and how it can contribute to the EIP process; how a QES can be retrieved, appraised and used in the EIP process; and how to develop a QES, including recommendations by Cochrane and the CERQual (Confidence in the Evidence from Reviews of Qualitative research) approach of the GRADE Working Group.⁵

1.2 QUALITATIVE EVIDENCE SYNTHESIS

The 2030 Agenda for Sustainable Development¹⁰ and the Thirteenth General Programme of Work 2019–2023 mark a shift towards an approach to health that recognizes that the prevention of death is not a sufficient indicator of the healthy lives we strive to attain. Despite huge improvements, health gains have been uneven, and inequalities persist. To tackle these challenges, health must be understood as it unfolds within the broader social, cultural and political context of people's lives. Qualitative approaches are uniquely situated to capture the full complexity of the subjective, lived experiences of people and communities, thus complementing the acknowledged importance of quantitative research.

Qualitative research explores people's perceptions and experiences of the world around them. Researchers collect data from, for example, interviews, documents or observations to explore people's perspectives in connection with their health and use of health care services. They then explore the data by means of qualitative analytical methods and present their findings narratively rather than through numbers. Qualitative research is widely used within health and social care to understand patients' experiences of conditions, their priorities and concerns, perspectives on implementation

of interventions, and how and why people choose to utilize health services. Qualitative research can be understood as research that cannot and should not be easily reduced to numbers.

QES is an umbrella term used to capture all the different types of systematic reviews of qualitative evidence; that is, a systematic review where primary qualitative studies are identified, appraised and synthesized in a systematic manner. A systematic review, as defined by Cochrane, is a review of a clearly formulated question that uses systematic and explicit methods to identify, select and critically appraise relevant research, and to collect and analyse data from the studies that are included in the review. Like all systematic reviews, QES should have clear and transparent question/s, criteria for considering studies, search methods, data collection and analysis methods. Where they are to supply a basis for decision-making, for instance, health technology assessments or guidelines, they should also include methods for assessing how much confidence to place in the findings and reporting of findings.

Systematic reviews hold the potential to provide the best available evidence to support decisions for policy and practice. While systematic reviews of quantitative studies (including techniques such as meta-analyses) extend power and confidence in a precise collective result, a synthesis of relevant qualitative studies can provide a holistic view of the research question across multiple contexts, and provide an overall understanding on the topic which, by exploring differences and variations, may “go beyond” the findings of any individual primary study. QES can offer evidence related to questions about programme acceptability, feasibility and implementation, as well as about potential consequences on equity across populations and how people value outcomes – which of the potential benefits and harms are actually important to them.¹⁵

Despite the value that qualitative evidence could bring to the policy-making process, it has tended to be excluded or marginalized from reviews and from being synthesized. Systematic reviews of effectiveness, initially designed to inform decision-making on clinical interventions and technology improvements, have focused on results from conventional biomedical study designs. By comparison, qualitative research has often been considered to lack sufficient scientific rigour, being either relegated to a lower position or excluded altogether from the original hierarchy of evidence pyramid. However, evolution of the criteria for good scientific standards has facilitated the inclusion of timely and important qualitative research input to decision-making. Organizations are gradually encouraging the inclusion of qualitative data within the review process, leading to wider acceptance of qualitative methods and increasing compliance with standards of scientific rigour. Qualitative evidence, and

QES in particular, can offer unique insights to policy problems, and their use in EIP is essential for successful implementation of any strategy. QES permits us to go beyond the narrow definitions of health and allows us a comprehensive and integrated understanding of well-being within the larger “whole-of-society” perspective.

1.3 QUALITATIVE EVIDENCE SYNTHESIS IN THE POLICY-MAKING PROCESS

Policy-makers need different types of evidence to guide their decisions during the policy-making process. For instance, QES can provide evidence to define the problem by examining stakeholders’ perceptions about the problem, and evidence about the effects or benefits and harms of a policy option. Qualitative evidence can also be used to assess policy and programme options, or to inform implementation considerations. Table 1 provides examples of how qualitative evidence can be used in policy-making processes.

TABLE 1. EXAMPLES OF STEPS IN THE POLICY-MAKING PROCESS WHERE QUALITATIVE EVIDENCE SYNTHESSES COULD PROVIDE EVIDENCE

Steps in a policy-making process	Associated data and/or research evidence requirements	Examples of how qualitative synthesis could provide evidence
Defining the problem	Highlighting alternative ways to frame the problem to assist in mobilizing support among different groups to address the problem	Reviews of qualitative studies that examine stakeholders’ views about and experiences with the problem (e.g. studies in which qualitative data are collected from individual or groups of “informants” through interviews, focus groups, participant observation or from documents)
Assessing potential policy and programme options	Identifying policy and programme options that could affect the problem (or the factors that contribute to it)	(Frameworks embedded in) Reviews or overviews of systematic reviews of any type that provide frameworks to organize the search for, and presentation of, research evidence (as well as theories and frameworks that are the focus of articles/reports in their own right)
	Identifying the key elements of complex policy options (to facilitate local adaptation if necessary)	Reviews of qualitative studies that examine how or why interventions work and/or reviews of observational studies
	Characterizing stakeholders’ views about and experiences with the policy options	Reviews of qualitative studies that examine stakeholders’ views about and experiences with particular options
Identifying implementation considerations	Identifying potential barriers to implementation at the level of patients/consumers, health workers, organizations and systems	Reviews of observational studies and/or qualitative studies

Adapted from: Lavis JN. How can we support the use of systematic reviews in policymaking? PLoS Med. 2009;6(11): e1000141.

2. QUESTION FORMULATION

Developing an appropriate question is the first and key step in writing a study protocol for a QES. Developing the question and protocol requires a clear framing of the problem that the synthesis intends to address. Defining the problem and setting the question sometimes requires that the research team and the commissioners of the review clarify what the real issue is, and that a QES is needed to address that question.

Problems can be framed in diverse ways. For instance, a problem can be framed to focus on the underlying causes of, or on the solutions to address the problem. The framing of the problem can influence the question and scope of the review. It is therefore important that authors clearly describe the problem as well as the scope of the review. Formulating the question and defining the scope of the review are often done concurrently. When refining the scope of the review, an author should scope the relevant qualitative research in the field to identify, clarify and map contextual issues as well as to gain an overview of the literature. Scoping helps authors to quantify the available literature and gain a sense of eligible studies to be included. Scoping the literature helps in designing the QES and can help clarify the focus of the review. The following should be addressed during that process:

- Setting: to determine the context in which the intervention (or policy) is set
- Population: to determine the populations that would receive and/or provide the intervention (or for implementation of the policy)
- Intervention: to determine which intervention (or policy) is relevant and appropriate for the population of interest (patients, the public, providers, and/or policy-makers)
- Comparators (if relevant)
- Evaluation (including Outcome(s)): to determine which outcomes are relevant, appropriate and acceptable.

Once the scope of the QES is clear, the question the review seeks to answer can be defined. Different structured question formats are available to guide the development of the review questions. The choice of question format can be guided by the purpose or focus of the review. Several of the question formats adapt the Population, Intervention, Control, Outcome (PICO) structure commonly used in quantitative reviews. For example, one commonly used format (also used above for scoping the literature) specifies the setting (S), perspective (P), intervention or phenomenon of interest (I), the comparison, if appropriate (C), and the means of Evaluation (E) (SPICE).²⁷

However, adapting the PICO format taken from the quantitative setting for use in QES has been criticized and other methods specifically designed for qualitative review questions such as SPIDER (Sample, Phenomenon of Interest, Design, Evaluation, Research type) could be more appropriate. Box 1 presents a worked example of a research question using the SPIDER format.

BOX 1: A WORKED EXAMPLE OF THE SPIDER QUESTION STRUCTURE APPLIED TO A QES THAT EXPLORED THE PERCEPTIONS, EXPERIENCES AND BEHAVIOURS OF HEALTH PROVIDERS (AND THOSE WHO SUPPORT THEM) ON THE FACTORS THAT INFLUENCE THE PROVISION OF INTRAPARTUM AND POSTNATAL CARE IN LOW- AND MIDDLE-INCOME COUNTRIES

Sample	The group of people that participates in the research	Health professionals, including various cadres of nurses, midwives, doctors, clinical officers Those who support them as part of the team, e.g. managers
Phenomenon of Interest	This considers the reasons for the behaviour and decisions, rather than an intervention	Factors that influence provision of intrapartum and postnatal care
Design	The form of qualitative research used, such as interview or survey	Studies that used qualitative methods for data collection and analysis
Evaluation	The outcome measures, e.g. attitudes and views	Views, experiences, behaviours
Research type	Qualitative, quantitative and/or mixed methods	Qualitative, mixed methods studies that reported qualitative data

3. SEARCHING THE LITERATURE

3.1 IDENTIFYING EXISTING REVIEWS

The starting point for any QES should be a search for existing and ongoing reviews in the topic area. These reviews will inform what is already known about the question the QES seeks to answer, and the gaps in the evidence that the planned QES could fill. The published reviews could provide complementary information to inform the QES, for example, on the logic models to explain how factors relate to one another to lead to programme outcomes. In order to identify previously published QES or protocols focusing on the question of interest, a search strategy that includes terms for qualitative literature as well as broad elements of the topic of interest is developed. Relevant terms for published qualitative reviews may include “review” or review-related terms (e.g. “qualitative evidence synthesis”, “meta-synthesis”, “overview” or “systematic review”).

For example, the search terms for QES that are used by the Cochrane Qualitative & Implementation Methods Group (QIMG) are summarized in Table 2. These terms are combined with other terms reflecting the phenomenon/topic or condition or intervention of interest to increase the chances of retrieving relevant systematic reviews. Table 3 includes an example of broad terms for postnatal depression (the condition) and cognitive behaviour therapy (the intervention) that have been combined with the search terms for qualitative reviews taken from Table 2. The search strategy is then applied to core health databases to retrieve references to qualitative reviews. Searching databases is also advised, such as PROSPERO and Cochrane Library for protocols, as well as PubMed Health Services Research Queries (www.nlm.nih.gov/nichsr/hedges/search.html) for published reviews relevant to EIP.

TABLE 2. MEDLINE SEARCH TERMS TO IDENTIFY EXISTING QUALITATIVE EVIDENCE SYNTHESSES

Search string number	Search string
1.	(«Qualitative systematic review» OR «qualitative systematic reviews») OR («qualitative evidence synthesis» OR «qualitative evidence syntheses») OR («qualitative research synthesis» OR «qualitative research syntheses»)
2.	(«Qualitative synthesis» OR «qualitative syntheses») OR ((«integrative synthesis» OR «integrative syntheses») AND qualitative) OR ((«integrative review» OR «integrative reviews») AND qualitative) OR («interpretive synthesis» OR «interpretive syntheses»)
3.	(Mega-ethnograph* OR megaethnograph* OR «mega ethnograph*») OR (meta-ethnograph* OR metaethnograph* OR «meta ethnograph*») OR («meta interpretation»[All Fields] OR «meta interpretive»[All Fields]) OR (meta interpretation) OR (meta interpretive)

4.	[Meta-method* OR «meta method*» OR metamethod*) OR («meta narrative» OR «meta narratives» OR «narrative synthesis» OR «narrative syntheses»]
5.	meta-study OR metastudy OR «meta study») OR [meta synthese[All Fields] OR meta syntheses[All Fields] OR meta synthesis[All Fields] OR meta synthesise[All Fields] OR meta synthesised[All Fields] OR meta synthesist[All Fields] OR meta synthesized[All Fields] OR meta synthesizing[All Fields]
6.	meta-triangulation OR «meta triangulation» OR meta triangulation) OR («realist review» OR «realist reviews» OR «realist synthesis» OR «realist syntheses») OR («thematic synthesis» OR «thematic syntheses») OR [(synthesis OR syntheses) AND «Thematic analysis») OR [(«systematic review» OR «systematic reviews») AND «Thematic analysis»)]
7.	OR/1–6

Note: Updated from Table 2 in Booth A. Chapter 3: Searching for studies. In: Noyes J, Booth A, Hannes K, Harden A, Harris J, Lewin S, et al., editors. *Supplementary guidance for inclusion of qualitative research in Cochrane Systematic Reviews of*

Interventions. Version 1 (updated August 2011). Cochrane Collaboration Qualitative Methods Group, 2011. (Personal communication – Andrew Booth [2018])

TABLE 3. SEARCHING FOR QUALITATIVE SYSTEMATIC REVIEWS OF CONDITION OR INTERVENTION

8.	7 AND Postnatal Depression {Combining review terms [1–6] with Condition}
9.	7 AND Cognitive Behaviour Therapy {Combining review terms [1–6] with Intervention}
10.	8 OR 9 {Reviews of Postnatal Depression or Reviews of Cognitive Behavior Therapy}

3.2 IDENTIFYING THE PRIMARY LITERATURE

There are well-documented challenges to searching for qualitative research and these include “non-meaningful titles, poor quality and unstructured abstracts, a superficial depth of indexing, and poor description of qualitative method(s) used”. Nevertheless, over time, most relevant databases have developed methodological filters to aid in retrieving qualitative research (see Table 4).

When searching for primary literature, it is recommended that at a minimum MEDLINE and Cumulative Index to Nursing and Allied Health Literature (CINAHL) are searched in order to maximize the chances of retrieving relevant studies.³² However, there is no consensus on the maximum number of databases to search in order to retrieve relevant studies.

The choice of databases to be searched is guided by the relevance of the topic, as well as access to these databases. Other key databases that may be searched include PsycINFO, Embase and Social Services Abstracts. It is important to consider country or regional databases if the context of the policy is considered particularly relevant.

A search strategy is needed in order to identify relevant published literature for the QES. As with the search for published reviews, the search strategy combines terms for qualitative research and terms reflecting the topic of interest. Table 4 indicates references to publications on methodological filters for retrieving qualitative research from commonly used databases. Methodological filters are strings of keywords that increase the likelihood of retrieving relevant study designs that answer your review questions. Alternatively, filters may target a specific aspect of the phenomenon of interest. For example, one filter aims to retrieve studies on patients' and carers' experiences and preferences.

Given the difficulties in retrieving qualitative studies, it is recommended to search alternative sources apart from electronic databases to find relevant qualitative research. Strategies that can be used include hand-searching, going through reference lists (backward citation searching) while snowballing for further relevant research, forward citation searching and correspondence with authors published within the field^{11,32}. Complementary sources, such as programme reports, theses, book chapters and process evaluations that accompany effectiveness trials, may prove useful as a source of relevant studies.

TABLE 4. METHODOLOGICAL FILTERS FOR RETRIEVING QUALITATIVE RESEARCH IN COMMONLY USED DATABASES

Database	Filter
CINAHL	Wilczynski NL, Marks S, Haynes RB. Search strategies for identifying qualitative studies in CINAHL. <i>Qual Health Res.</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>Qual Health Res.</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	McKibbon KA, Wilczynski NL, Haynes RB. Developing optimal search strategies for retrieving qualitative studies in PsycINFO. <i>Eval Health Prof.</i> 2006;29(4):440–54

Note: Adapted from Box 2 in Booth A. Chapter 3: Searching for studies. In: Noyes J, Booth A, Hannes K, Harden A, Harris J, Lewin S, et al., editors. *Supplementary guidance for inclusion of quali-*

tative research in Cochrane Systematic Reviews of Interventions. Version 1 (updated August 2011). Cochrane Collaboration Qualitative Methods Group, 2011.

4. CRITICALLY APPRAISING THE LITERATURE

Critical appraisal, also referred to as assessment of the methodological strength and limitations of individual studies, is an important part of developing a QES. Critical appraisal is often conducted at various stages of the review process, for instance, when assessing the quality of an individual study, and subsequently when assessing how the data from that study influence the overall findings. While consensus largely exists for the importance of critical appraisal in the review process, there is considerable debate as to whether concepts from quantitative research, such as validity, reliability and objectivity, translate to critical appraisal of qualitative research and, if so, how they should be assessed or measured. This has led to the development of multiple instruments, with no agreement on the gold standard for critically appraising the methodological limitations of qualitative primary studies. For instance, the Cochrane qualitative Methodological Limitations Tool (CAMELOT) maps the diverse tools available and identifies common criteria across the tools. One common tool, sometimes used in modified form, is the Critical Appraisal Skills Programme (CASP) tool. Table 5 presents an example of the modified CASP tool applied to a qualitative study that was included in a QES.

TABLE 5. EXAMPLE OF CRITICAL APPRAISAL OF A QUALITATIVE STUDY USING THE MODIFIED CASP TOOL

Author/year of publication	Pitchforth 2010³⁹
Is study qualitative research?	Yes
Are research questions clear?	Yes
Are ethical issues considered?	Yes – ethics clearance obtained from University, purpose of study explained to participants, confidentiality assured, and verbal consent obtained from service users
Is qualitative approach justified?	Yes, justified the use of social science methodologies to assess patient and provider experiences, and perceptions of care but also for assessing quality of care and identifying priorities
Is approach appropriate for research question?	Yes
Is study context clearly described?	Yes, hospital service area described – serves 5 million people in region, 94% of births conducted at home, is mountainous area with rural areas
Is role of researcher described?	Not clear
Are sampling methods clearly described?	Yes – hospital selected for its case-mix, patient load, position as referral hospital. Purposive samples of women and health-care providers to represent the range of providers
Is sampling strategy appropriate?	Yes

Is method of data collection clear?	Yes, used ward observation, staff interview, service user interviews and modified nominal group technique with key stakeholders
Is method of data collection appropriate to question?	Yes
Is method of data analysis clear?	Yes – largely inductive, looked for themes from data, coding done iteratively
Is method of data analysis suitable?	Yes
Are the claims supported by evidence?	Yes
Overall assessment	Good

Some tools are better able to assess some criteria than others. Cochrane recommends selecting a published and commonly applied tool that assesses:³⁵

- how clear the aims and research question are;
- how congruent the research aims/question and research design/method(s) are;
- how rigorously the case or participant was identified, sampled and data collected to address the question; and
- if the method was appropriately applied, the richness or conceptual depth of the findings, whether the study explores deviant cases or alternative explanations, as well as researcher reflexivity.

Cochrane suggests other considerations for selecting a tool, such as how well the tool assesses study designs, whether mixed methods studies or the grey literature are to be included in the QES, and the review team's expertise in managing diverse study or publication types.

When critically appraising individual studies, Cochrane advises against scoring each domain to determine an overall quality score, since this assumes that each of the domains are equally important. Also, studies that perform poorly against several criteria are not excluded since they may contribute relevant data to the synthesis. After the review authors have appraised each included study, the results from the appraisal are used to make a judgement on methodological limitations. Studies will typically be sorted into those with low, moderate or high likelihood of methodological limitations. These methodological limitations constitute one of four criteria needed to make a judgement on confidence that the finding is a true representation of the phenomenon (see section 5.2 on GRADE-CERQual).

5. DATA EXTRACTION, SYNTHESIS AND ASSESSING CONFIDENCE IN THE FINDINGS

5.1 DATA EXTRACTION AND SYNTHESIS

How the data are extracted can significantly impact the review findings as it can shape the data used in the synthesis. Data extraction is often an iterative process where the reviewer goes back and forth from reading the study, to data extraction and synthesis as the themes emerge. The review team needs to agree on and extract data that are appropriate for the review from the format presented in the individual study. It is recommended that data on the context, participants, study design, methods and findings be extracted. The review team will also need to decide what they will consider as findings from the primary study. Reviewers may choose to take verbatim extracts from participants (first-order data), and/or themes and interpretations made by the author (second-order data) or, in addition to these, reviewers may add their meaning by synthesizing the data. Third-order constructs are the results of this synthesis (third-order data). There are many ways to do this, but some review authors extract data based on a best-fit framework synthesis. To do this, they extract data based on the categories from a theoretical framework identified when developing the QES and synthesize additional data to further develop the framework. For instance, the Supporting the Use of Research Evidence framework can be used to extract data on factors in the health system that can influence implementation of policy options. Other reviewers choose a flexible approach to extract data. Some commonly extracted information for QES is summarized in Appendix 8.1.

There is a wide variety of approaches to synthesizing qualitative research, of which the some commonly used synthesis approaches are summarized in Table 5. Methods that use aggregative approaches, for example, meta-aggregation, seek to summarize research themes based on predefined concepts, while interpretative approaches such as meta-ethnography seek to develop theories emerging from the data to explain the evidence. The choice of synthesis method can depend on the purpose of the review. For example, if the aim of the review is to develop a new theory then a more interpretive or constructivist method (such as meta-ethnography) could be suitable. However, it is important to note that the findings of theory-generating reviews are conceptual and therefore less instrumental in answering specific questions.

On the other hand, if the aim of a review is to summarize the views of people on a particular health issue, aggregative approaches such as framework synthesis may be appropriate. Additionally, one should note

that meta-ethnography approaches may not be feasible where only limited qualitative evidence is available (data are thin), as the theorizing that they attempt requires primary studies that include thick descriptions/data.

Seven criteria have been suggested for determining the choice of synthesis method. These include the review question, the epistemology underpinning the review, the richness and thickness of the evidence available, as well as the intended audience, resources, experience of the review team and the amount of time available to undertake the synthesis.

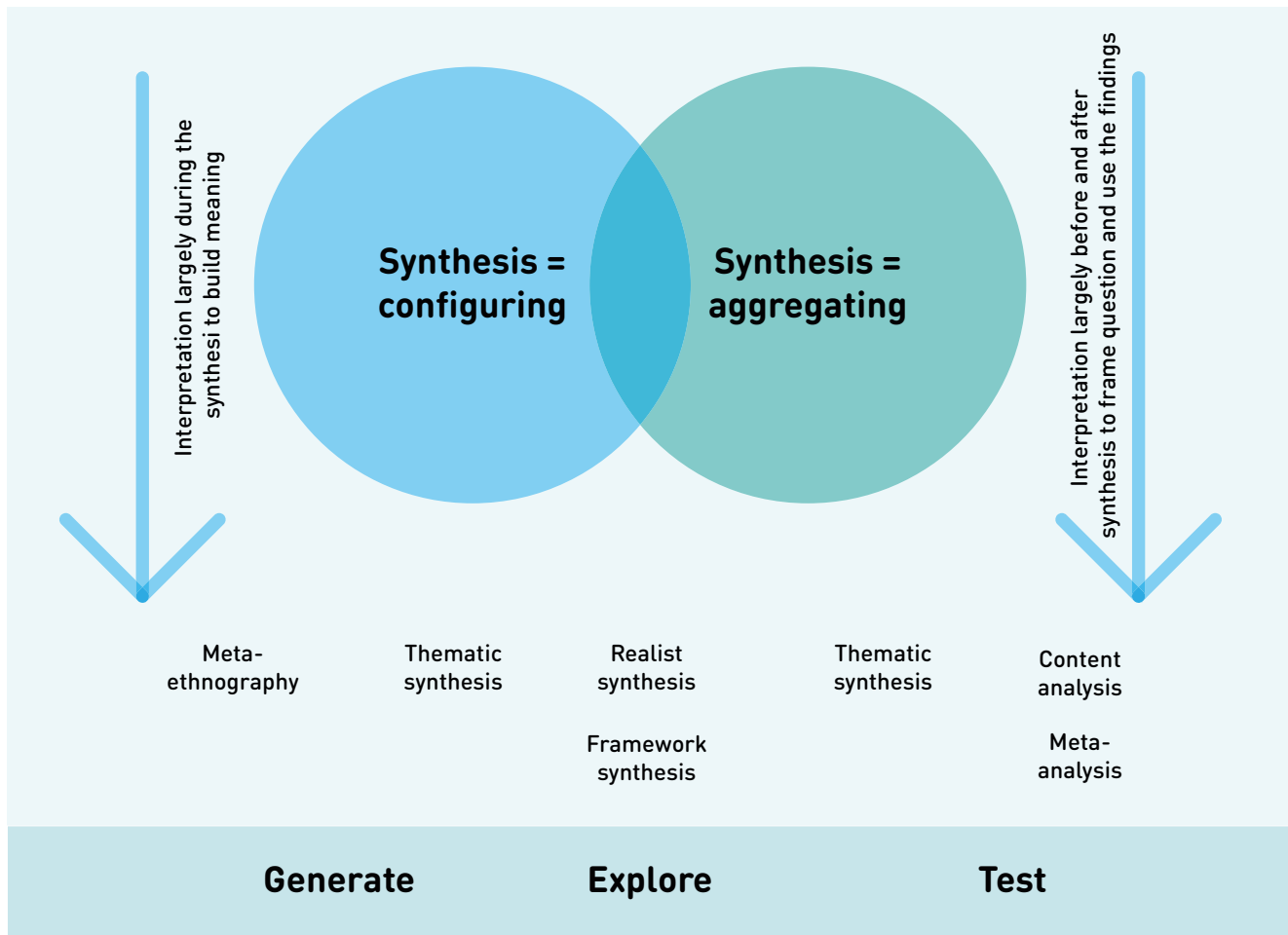
TABLE 6. EXAMPLES OF SYNTHESIS METHODS AND APPROACHES^{44,45}

Methodology for QES	Approach	Description
Meta-ethnography	Configurative	<ul style="list-style-type: none"> -Translate concepts from one study into another to develop overarching concepts -Can explore contradictions between studies -The concepts can be used to build a picture of the whole -Used to develop theories
Grounded theory	Configurative	<ul style="list-style-type: none"> -Inductive in approach -Data extraction happens at the same time as analysis -Constant comparison that allows theory to emerge from the data
Thematic synthesis	Configurative or aggregative	<ul style="list-style-type: none"> -Free coding to develop descriptive themes -Further interpretation develops analytical themes
Narrative synthesis	Aggregative	<ul style="list-style-type: none"> -Can be used to synthesize evidence from qualitative, quantitative and other study designs. Enhances transparency of study context, characteristics, and heterogeneity between studies. -Can include structured summaries
Framework synthesis	Configurative or aggregative	<ul style="list-style-type: none"> -Deductive in nature -Framework selected a priori provides a structure for organizing and analysing the data -New themes can be added as they emerge from the data
Critical interpretive synthesis	Configurative or aggregative	Concurrent iteration of the research questions. Develop a critique, generate themes. New theoretical conceptualization – synthetic construct

Fig. 1 suggests that methodological approaches lie on a continuum from configurative approaches that seek to build meaning during synthesis, to aggregative approaches that begin from predefined concepts and seek to further interpret the findings based on these concepts. Whereas configurative approaches seek to generate theory, aggregative approaches

seek to test theory. However, a degree of overlap in synthesis methods exists where aggregative approaches are combined with interpretation to explore theory as part of the synthesis process.

FIG. 1. REPRESENTATION OF SYNTHESIS METHODS AND THEIR APPROACHES



Note: Adapted from Thomas J, Harden A, Newman M. Synthesis: combining results systematically and appropriately. In: Gough

D, Oliver S, Thomas J, editors. An introduction to systematic reviews. London: Sage Publications; 2012:179–227.

5.2 ASSESSING CONFIDENCE IN THE FINDINGS GENERATED FROM THE SYNTHESIS

The GRADE-CERQual approach^{13,15} was developed to assess how much confidence one can place in the findings of a QES. GRADE-CERQual aims to enhance transparency and consistency of the judgements made about the evidence and is now widely adopted by various organizations that use QES for informing decisions.⁵ GRADE-CERQual takes forward the Grading of Recommendations Assessment, Development and Evaluation (GRADE) method in the context of qualitative evidence. Although the GRADE-CERQual approach recognizes that dissemination bias can

influence the confidence in the review finding, the present criteria do not assess dissemination bias because of a lack of empirical evidence of its role in qualitative research. The instrument contains four components for assessing the confidence in synthesis findings.

- **Methodological limitations:** determining the concerns around study design or conduct of the primary studies. For this assessment, methodological limitations are defined as the “extent to which there are concerns about the design or conduct of the primary studies that contributed evidence to an individual review finding”. Methodological limitations that have a clear/direct impact on the review finding would make us less confident in that finding.
- **Relevance:** determining the applicability of the data from the primary studies in context of the review question. For this assessment, relevance is defined as “the extent to which the body of data from the primary studies supporting a review finding is applicable to the context specified in the review question” and therefore anchors the data within the context of the review setting of interest.
- **Coherence:** determining the fit and coherence of the different primary studies and the overall review finding. For this assessment, coherence determines “how clear and cogent the fit is between the data from the primary studies and a review finding that synthesizes that data”.
- **Adequacy:** determining the richness and quantity of the data supporting the review finding. For this assessment, adequacy of data is defined as “an overall determination of the degree of richness as well as the quantity of data supporting a review finding”.

Each of the four criteria are applied to the finding before an overall assessment of confidence is made. Table 6 presents an example of a finding taken from a QES focusing on parents and caregivers’ views and expectations about communication for routine vaccination.³⁸ The finding was assessed as having moderate confidence based on the GRADE-CERQual criteria.

TABLE 7. AN EXAMPLE OF A FINDING ASSESSED BY APPLYING THE GRADE-CERQUAL APPROACH

Finding: Parents liked to receive vaccination information in good time before each appointment, including all follow-up appointments, in order to reflect on the content and prepare questions³⁸	
GRADE-CERQual assessment	
Methodological limitation	Moderate concerns regarding methodological limitations due to poor reporting from some studies on context, sampling and data collection
Coherence	No or very minor concerns regarding coherence
Relevance	Minor concerns regarding relevance due to limited geographical spread and focus on measles–mumps–rubella (MMR)
Adequacy	Minor concerns regarding adequacy due to the thinness of the data. There was a reasonable depth of data related to the finding
Overall assessment	
Moderate confidence	Due to moderate concerns about methodological limitations and minor concerns regarding relevance and adequacy
Setting	<p>UK (four studies): One study focusing on MMR vaccine, sample of parents who had and had not vaccinated; one study focusing on MMR and 5-in-1 vaccines, sample of parents of children 4–5 years old; one study focusing on MMR and tetanus–diphtheria–pertussis/polio (tDap/IPV) booster, sample of parents with preschool children; one study focusing on MMR vaccine, sample of mothers planning to accept, decline or postpone the first dose</p> <p>USA (two studies): one study among African-American mothers with concerns about vaccine safety but whose children were fully immunized; unspecified vaccine; one study among parents who were on time, late or missing vaccinations of children aged 12–36 months; unspecified vaccines</p> <p>Kazakhstan and Uzbekistan (one study): among mothers and grandmothers; unspecified vaccine</p> <p>Canada (one study): among pregnant or postpartum mothers with children aged 3–11 months; Expanded Programme on Immunization (EPI) vaccines</p>

6. HOW TO REPORT THE SYNTHESIS OF QUALITATIVE RESEARCH

There has been a gradual improvement in QES reporting in recent years. Reporting standards have been strongly influenced by the work of the EQUATOR (Enhancing the QUALity and Transparency Of health Research) network, that seeks to improve reporting of all health research, including QES.

One of the standards for reporting of qualitative syntheses is the Enhancing Transparency in Reporting the synthesis of Qualitative research (ENTREQ). This offers a generic approach to reporting QES for review authors, although it falls short of the consensus processes now used to develop similar standards. The ENTREQ statement covers the reporting of literature searches, study selection, quality appraisal and synthesis of findings. When QES are well reported, transparency is enhanced, readers can make judgements about the trustworthiness of the findings and the findings become more useable.

Other reporting standards that address specific steps in the QES process or particular methodologies are detailed below:

- eMERGe for reporting of meta-ethnographies includes methods used to translate meaning from one study to another;
- RAMESES for realist syntheses and meta-narrative reviews include reporting of decisions made on reasons why particular data were extracted;
- STARLITE is used for reporting the literature search component of any QES.

7. RESOURCES FOR QES

7.1 ADDITIONAL REFERENCES

Cochrane Handbook

Noyes J, Booth A, Cargo M, Flemming K, Harden A, Harris J, et al. Chapter 21: Qualitative evidence. In: Higgins JPT, Thomas J, Chandler J, Cumpston M, Li T, Page MJ, et al., editors. Cochrane handbook for systematic reviews of interventions, version 6.0 (updated July 2019). In: Cochrane Training [website]. 2019 (www.training.cochrane.org/handbook, accessed 18 June 2020).

Journal of Clinical Epidemiology (2017)

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7.2 SERIES ON THE USE OF QES IN DEVELOPING CLINICAL AND HEALTH SYSTEMS GUIDELINES

- Downe S, Finlayson KW, Lawrie TA, Lewin SA, Glenton C, Rosenbaum S, et al. Qualitative evidence synthesis (QES) for guidelines: Paper 1 – using qualitative evidence synthesis to inform guideline scope and develop qualitative findings statements. *Health Res Policy Syst.* 2019;17(1):76. doi: 10.1186/s12961-019-0467-5.
- Lewin S, Glenton C, Lawrie TA, Downe S, Finlayson KW, Rosenbaum S, et al. Qualitative evidence synthesis (QES) for guidelines: Paper 2 – using qualitative evidence synthesis findings to inform evidence-to-decision frameworks and recommendations. *Health Res Policy Syst.* 2019;17(1):75. doi: 10.1186/s12961-019-0468-4.
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7.3. OTHER RESOURCES FOR HEALTH POLICY AND SYSTEMS

- Langlois EV, Daniels K, Akl EA, editors. Evidence synthesis for health policy and systems: a methods guide. Geneva: World Health Organization; 2018.

7.4 TRAINING WEBINARS ON QES DEVELOPED BY COCHRANE AND THE GLOBAL EVIDENCE SYNTHESIS INITIATIVE (GESI)

<https://training.cochrane.org/resource/undertaking-qualitative-evidence-synthesis-support-decision-making-cochrane-context>

Part 1: Qualitative research and how it fits into systematic reviews

Part 2: How to choose a method for qualitative evidence synthesis

Part 3: Framework synthesis, thematic synthesis, meta-ethnography

Part 4: Confidence in qualitative evidence and reporting a qualitative evidence synthesis

7.5 OTHER RESOURCES FOR CONDUCTING A QES

Healthcare Improvement Scotland. A guide to conducting rapid qualitative evidence synthesis for health technology assessment. NHS Scotland; October 2019 (<https://htai.org/wp-content/uploads/2019/11/Rapid-qualitative-evidence-synthesis-guide.pdf>, accessed 18 June 2020).

Lockwood C, Porrit K, Munn Z, Rittenmeyer L, Salmond S, Bjerrum M, et al. Chapter 2: Systematic reviews of qualitative evidence. In: Aromataris E, Munn Z, editors. Joanna Briggs Institute reviewer's manual. The Joanna Briggs Institute; 2017 (<https://reviewersmanual.joannabriggs.org/>, accessed 18 June 2020).

Pearson A, Robertson-Malt S, Rittenmeyer L. Synthesizing qualitative evidence: The Joanna Briggs Institute. Adelaide, Australia: Lippincott Williams & Wilkins; 2011 (<https://pdfs.semanticscholar.org/09fb/430abcf98e21ac9540f77f92a96609d433ad.pdf>, accessed 18 June 2020).

SBU. Evaluation and synthesis of studies using qualitative methods of analysis. Stockholm: Swedish Agency for Health Technology Assessment and Assessment of Social Services (SBU); 2016 (https://www.sbu.se/globalassets/ebm/metodbok/sbuhandbook_qualitativemethodsofanalysis.pdf, accessed 18 June 2020).

8. APPENDICES

8.1 THE COMMON FEATURES OF STANDARDIZED DATA EXTRACTION FORMS USED IN QES

Data extraction field	Information extracted
Context and participants	Detailed information is extracted on the study setting, participants, intervention delivered, etc. This may aid later interpretation and synthesis by helping to retain the context in which the data are embedded. For example, it may be important to know whether a particular issue emerged from data collection with nurses or doctors or whether there was variation in views across settings, such as respondents interviewed in care homes and those interviewed at home. If the context is lost during the synthesis process, the findings of the primary studies may be misinterpreted. To avoid this, referral back to the original papers may be used alongside extracted data during the analysis process.
Study design and methods used	This includes the methodological approach taken by the study; the specific data collection and analysis methods utilized; and any theoretical models used to interpret or contextualize the findings. The data extraction approach, and therefore the data extraction template, may need to be flexible so as to accommodate data collected within different qualitative methodologies (ethnography, phenomenology, etc.) and using different methods (interview, focus groups, observations, document analysis, etc.).
Findings	This covers the key themes or concepts identified in the primary studies. In extracting these findings, some review authors attempt to distinguish between first- and second-order interpretations.*
Quality of the study	Different approaches to appraising study quality have been used, as discussed in section 4 of this document.

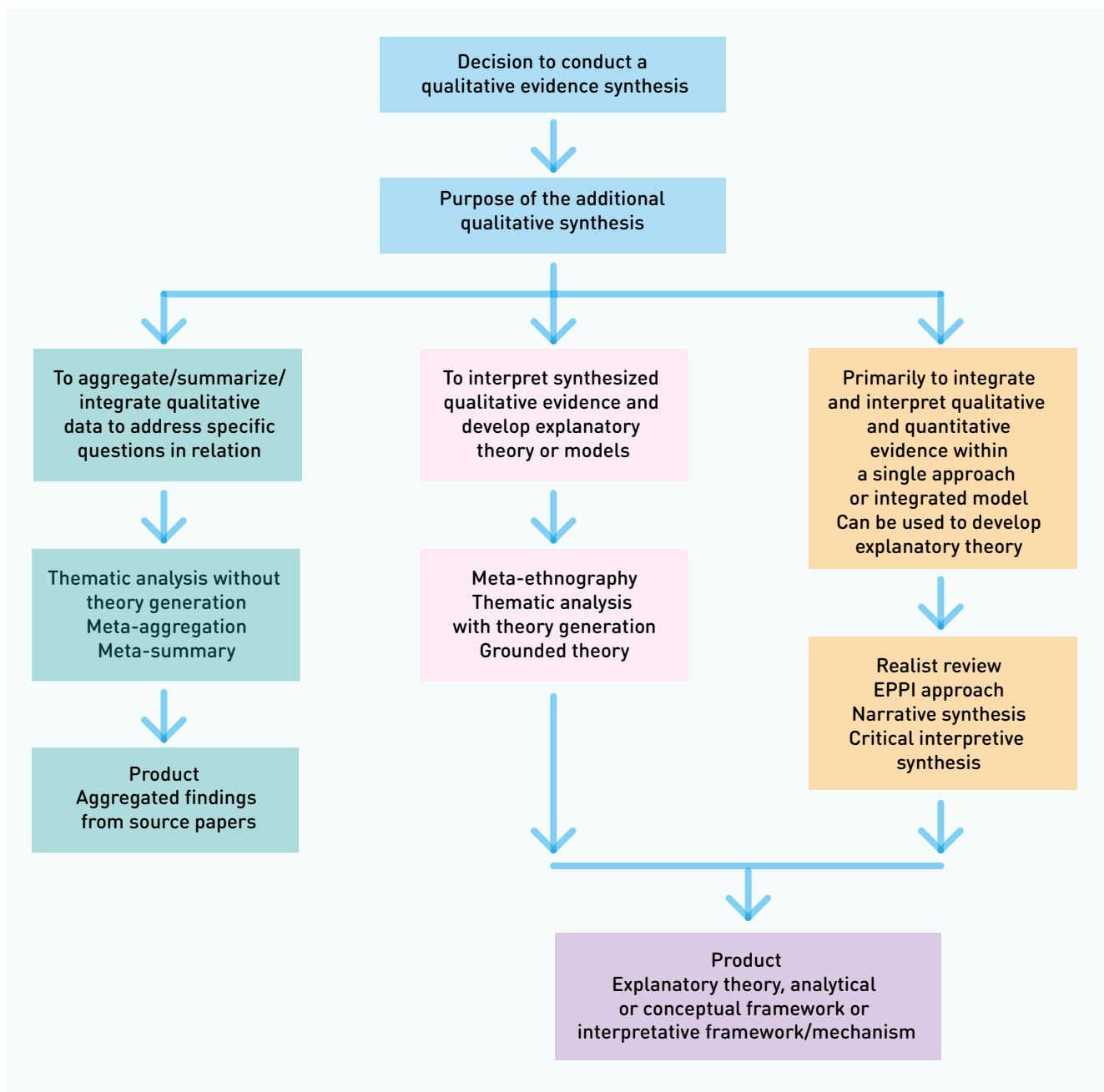
* *First-order interpretations or primary themes are those that reflect participants' understanding, as reported in the included studies (usually found in the results section of an article). Second-order interpretations are the interpretations of participants' understanding made by the authors of these studies (and usually*

found in the discussion and conclusion section of an article). Third-order interpretations arise out of the synthesis of both first- and second-order interpretations into a new model or theory about a phenomenon.

Notes: 1. Adapted from Table 1 in Noyes J, Lewin S. Chapter 5: Extracting qualitative evidence. In: Noyes J, Booth A, Hannes K, Harden A, Harris J, Lewin S, et al., editors. Supplementary guidance for inclusion of qualitative research in Cochrane systematic reviews of interventions. Version 1 (updated August 2011). Cochrane Collaboration Qualitative Methods Group; 2011.

2. Authors can choose to extract their data in many different ways. One form could be used to extract the study characteristics, while other forms or tools could be used to extract findings and the quality assessment. QES findings may be extracted separately, because there is so much more text in the individual study than in a quantitative study. Also, data from different individual studies are likely to be combined, i.e. data from across studies related to a particular theme or predefined category, may be grouped in one place (such as in a Word document, or using analysis software). This may also apply to data for the quality assessment.

8.2 DECISION TREE TO IDENTIFY WHICH METHOD OF SYNTHESIS TO USE



EPPI: Evidence for Policy and Practice Information
 Note: Source Fig. 1 in Noyes J, Lewin S. Chapter 5: Extracting qualitative evidence. In: Noyes J, Booth A, Hannes K, Harden A, Harris J, Lewin S, et al., editors. *Supplementary guidance for*

inclusion of qualitative research in Cochrane systematic reviews of interventions. Version 1 (updated August 2011). Cochrane Collaboration Qualitative Methods Group; 2011.

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