

# Introduction to Qualitative Evidence Synthesis (QES) and analysis

Dr. Heather Ames

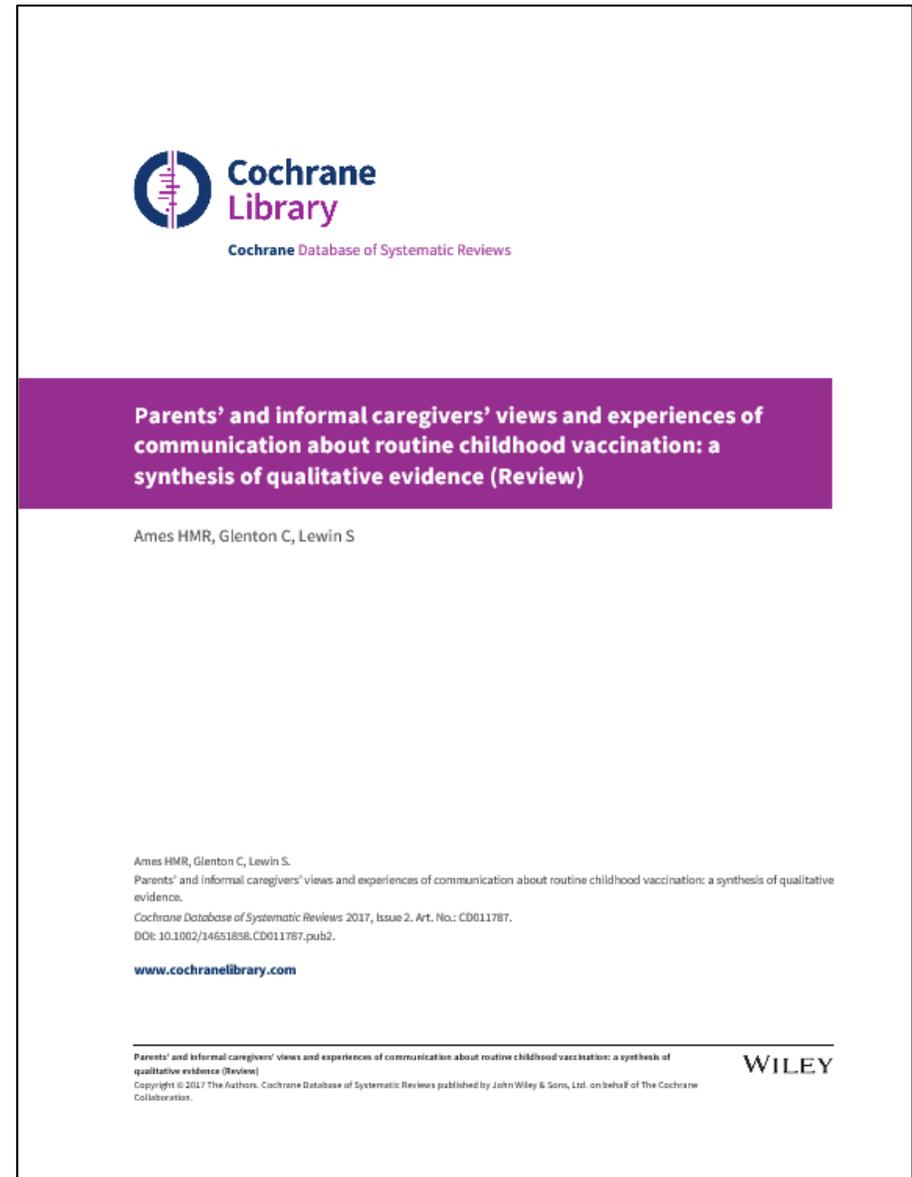
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# Introduction

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# What is a qualitative evidence synthesis (QES)?

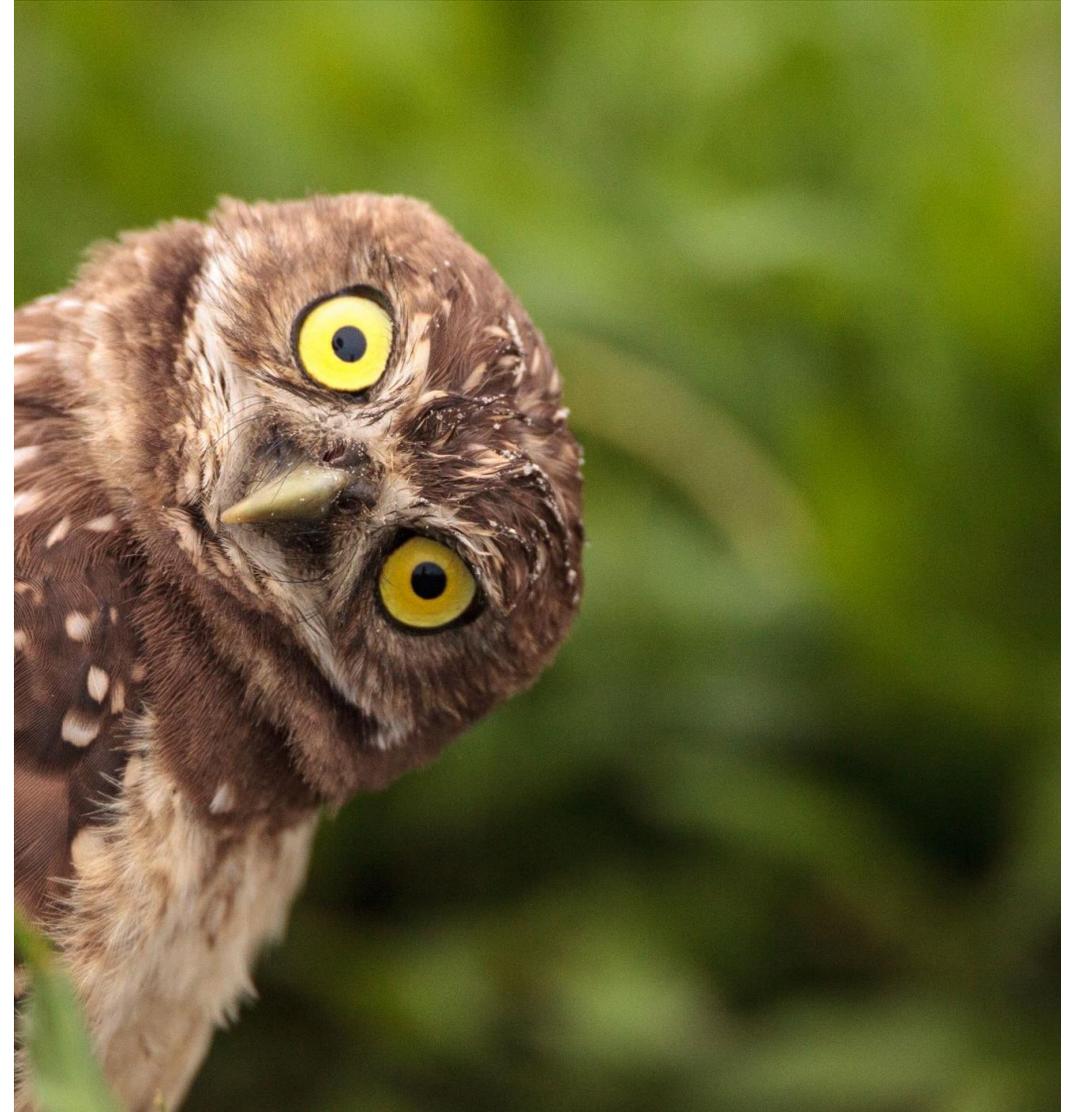
# Have you....

- Carried out primary qualitative research?
- Carried out a systematic review of qualitative research?
- Used results from qualitative research in a decision making process or a research project?



# What is the aim of qualitative research?

- To *describe* the social world
- To *understand* people's underlying reasons, opinions, motivations
- To *explain* the social world by developing hypotheses, theories or models



# Common methods

- Focus group interviews
- Individual interviews
- (Participant) observations
- Document analysis



# What is a qualitative evidence synthesis?

Qualitative evidence synthesis, also known as qualitative systematic review, offers a vehicle for presenting patients' attitudes, beliefs and feelings as originally captured by individual qualitative research studies. By aggregating or integrating views from multiple studies, rather than a single study, the science of systematic reviews takes steps to protect against allowing findings from an isolated study to overly influence our understanding or even to lead us to omit important perspectives.

- Andrew Booth, Chapter 15- Qualitative evidence synthesis in Patient involvement in health technology assessment



# Methodological assessment of included primary qualitative studies

# State of the art



There is no consensus on the necessity, merit or appropriate approach to appraising the quality of qualitative research



Many QES authors feel that quality appraisal can assist readers in evaluating the credibility of conclusions and can allow decision makers to understand the transferability of the findings



There are over 100 recognised appraisal tools

(Majid 2018)

## RESEARCH ARTICLE

## Open Access



# Systematic mapping of existing tools to appraise methodological strengths and limitations of qualitative research: first stage in the development of the CAMELOT tool

Heather Menzies Munthe-Kaas<sup>1\*</sup>, Claire Glenton<sup>1</sup>, Andrew Booth<sup>2</sup>, Jane Noyes<sup>3</sup> and Simon Lewin<sup>1,4</sup>

### Abstract

**Background:** Qualitative evidence synthesis is increasingly used alongside reviews of effectiveness to inform guidelines and other decisions. To support this use, the GRADE-CERQual approach was developed to assess and communicate the confidence we have in findings from reviews of qualitative research. One component of this approach requires an appraisal of the methodological limitations of studies contributing data to a review finding. Diverse critical appraisal tools for qualitative research are currently being used. However, it is unclear which tool is most appropriate for informing a GRADE-CERQual assessment of confidence.

**Methodology:** We searched for tools that were explicitly intended for critically appraising the methodological quality of qualitative research. We searched the reference lists of existing methodological reviews for critical appraisal tools, and also conducted a systematic search in June 2016 for tools published in health science and social science databases. Two reviewers screened identified titles and abstracts, and then screened the full text of potentially relevant articles. One reviewer extracted data from each article and a second reviewer checked the extraction. We used a best-fit framework synthesis approach to code checklist criteria from each identified tool and to organise these into themes.

**Results:** We identified 102 critical appraisal tools: 71 tools had previously been included in methodological reviews, and 31 tools were identified from our systematic search. Almost half of the tools were published after 2010. Few authors described how their tool was developed, or why a new tool was needed. After coding all criteria, we developed a framework that included 22 themes. None of the tools included all 22 themes. Some themes were included in up to 95 of the tools.

**Conclusion:** It is problematic that researchers continue to develop new tools without adequately examining the many tools that already exist. Furthermore, the plethora of tools, old and new, indicates a lack of consensus regarding the best tool to use, and an absence of empirical evidence about the most important criteria for assessing the methodological limitations of qualitative research, including in the context of use with GRADE-CERQual.

**Keywords:** Methodological limitations, Qualitative research, Qualitative evidence synthesis, Systematic mapping, Framework synthesis

# Introduction to data synthesis for QES

# What steps have been taken before data synthesis

- Protocol
- Designing the search
- Screening and inclusion of relevant studies
- Data extraction
  - Mapping of relevant details for methodological assessment and data synthesis
  - Extraction of relevant text and other data (tables, figures, photos) from included articles
- Transparent and clearly reported

<https://capture.dropbox.com/EQGqU6yGIY5fF0EY>

**A move to more systematic and transparent approaches in qualitative evidence synthesis: update on a review of published papers**

**Karin Hannes**  
KU Leuven, Belgium

**Kirsten Macaitis**  
Flinders University, South Australia

#### Abstract

In 2007, the journal *Qualitative Research* published a review on qualitative evidence syntheses conducted between 1988 and 2004. It reported on the lack of explicit detail regarding methods for searching, appraisal and synthesis, and a lack of emerging consensus on these issues. We present an update of this review for the period 2005–8. Not only has the amount of published qualitative evidence syntheses doubled, but authors have also become more transparent about their searching and critical appraisal procedures. Nevertheless, for the synthesis component of the qualitative reviews, a black box remains between what people claim to use as a synthesis approach and what is actually done in practice. A detailed evaluation of how well authors master their chosen approach could provide important information for developers of particular methods, who seem to succeed in playing the game according to the rules. Clear methodological instructions need to be developed to assist others in applying these synthesis methods.

#### Keywords

qualitative evidence synthesis, systematic review

#### Background

In 2007, the journal *Qualitative Research* published a review from Dixon-Woods et al. (2007) on published reports of qualitative evidence syntheses (QES). The authors

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*Q*  
*R*  
Qualitative Research  
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# What do we mean by data synthesis?

- The process of moving from a focus on single studies to a focus on **cross-study analysis**. This requires identification of **patterns** across data, including contradictory findings and data that does not fit, often using an **iterative** cyclus of analysis that allows for ongoing refinement. It seeks to explain patterns of **similarity, contradictions and differences**.



(From The qualitative evidence synthesis workshop, Cochrane qualitative and implementation methods group, Edinburgh Colloquium 2018)

# Thinking through what type of synthesis strategy you will choose

- At the protocol stage:
  - Need to provide a description of how you will synthesize your data
- Decisions around synthesis depend on
  - Team experience
  - Topic of the synthesis
  - Descriptive or theoretical focus
  - Existing theories or frameworks on the topic of interest

## REVIEW

### Structured methodology review identified seven (RETREAT) criteria for selecting qualitative evidence synthesis approaches

Andrew Booth<sup>a,\*</sup>, Jane Noyes<sup>b</sup>, Kate Flemming<sup>c</sup>, Ansgar Gerhardus<sup>d</sup>, Philip Wahlster<sup>c,f</sup>, Gert Jan van der Wilt<sup>g</sup>, Kati Mozygemba<sup>d</sup>, Pietro Refolo<sup>h</sup>, Dario Sacchini<sup>b</sup>, Marcia Tummers<sup>g</sup>, Eva Rehfuess<sup>i</sup>

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## Abstract

**Objective:** To compare and contrast different methods of qualitative evidence synthesis (QES) against criteria identified from the literature and to map their attributes to inform selection of the most appropriate QES method to answer research questions addressed by qualitative research.

**Study Design and Setting:** Electronic databases, citation searching, and a study register were used to identify studies reporting QES methods. Attributes compiled from 26 methodological papers (2001–2014) were used as a framework for data extraction. Data were extracted into summary tables by one reviewer and then considered within the author team.

**Results:** We identified seven considerations determining choice of methods from the methodological literature, encapsulated within the mnemonic Review question—Epistemology—Time/Timescale—Resources—Expertise—Audience and purpose—Type of data. We mapped 15 different published QES methods against these seven criteria. The final framework focuses on stand-alone QES methods but may also hold potential when integrating quantitative and qualitative data.

**Conclusion:** These findings offer a contemporary perspective as a conceptual basis for future empirical investigation of the advantages and disadvantages of different methods of QES. It is hoped that this will inform appropriate selection of QES approaches. © 2018 Elsevier Inc. All rights reserved.

**Keywords:** Systematic review; Qualitative evidence synthesis; Qualitative research; Review methods

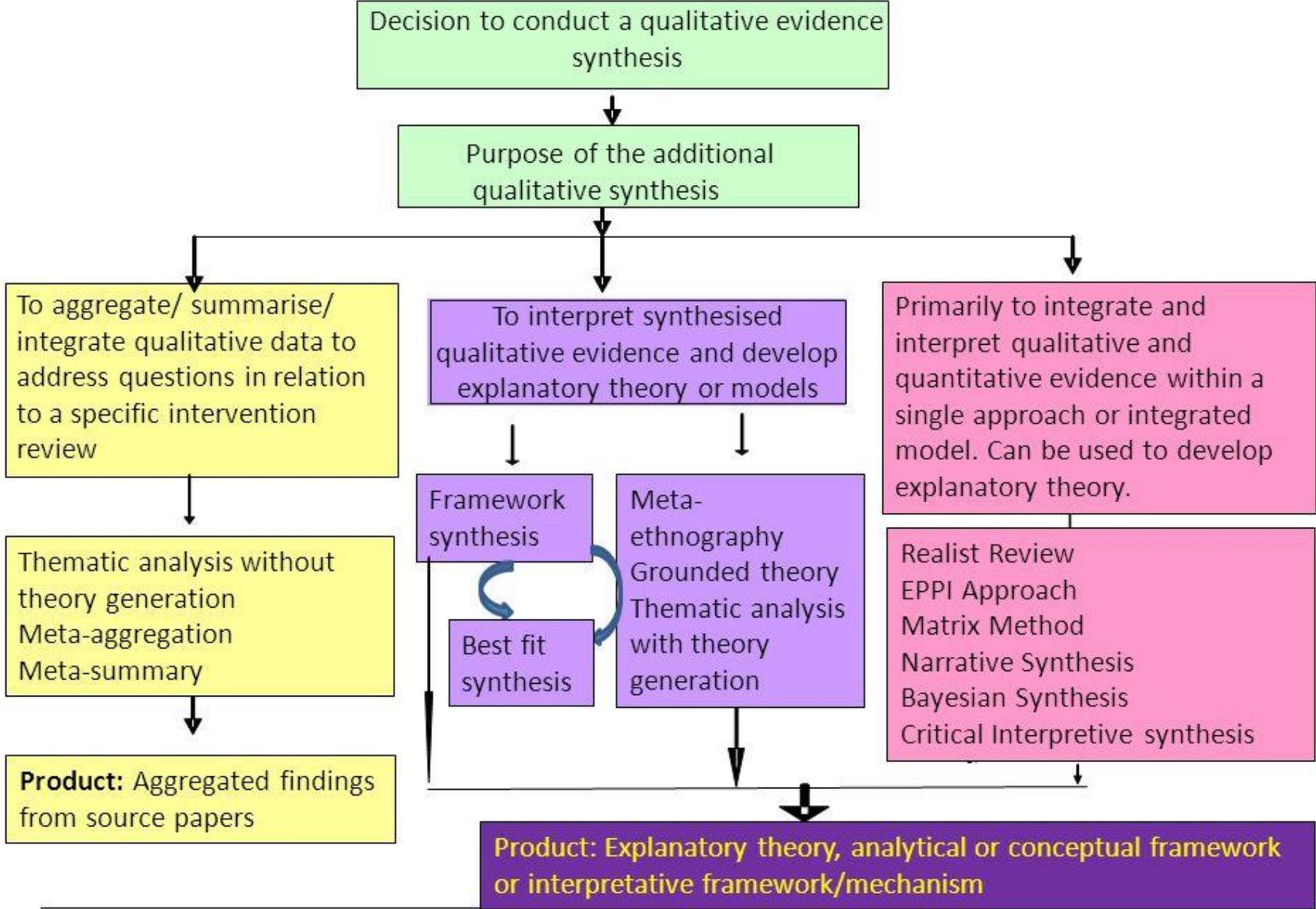
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We aimed to develop a framework of criteria to help reviewers, and those commissioning reviews, to choose an appropriate method for conducting a qualitative evidence

synthesis (QES). Our objectives were to systematically identify factors documented by review methodologists as influencing choice of synthesis method; to evaluate existing published QES methods against the resultant criteria; and to compare and contrast different QES methods by which to answer research questions using findings from qualitative

# Choice of Synthesis (Adapted from Noyes & Lewin, 2011)

Noyes J & Lewin S. Chapter 6: Supplemental Guidance on Selecting a Method of Qualitative Evidence Synthesis, and Integrating Qualitative Evidence with Cochrane Intervention Reviews. In: Noyes J, Booth A, Hannes K, Harden A, Harris J, Lewin S, Lockwood C (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. Available from URL <http://cqrng.cochrane.org/supplemental-handbook-guidance>



# RETREAT criteria for selecting QES approaches

Presentation of a published article by Booth et al.

# Part of the INTEGRATE- HTA project



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#### 1. Introduction

We aimed to develop a framework of criteria to help reviewers, and those commissioning reviews, to choose an appropriate method for conducting a qualitative evidence

synthesis (QES). Our objectives were to systematically identify factors documented by review methodologists as influencing choice of synthesis method; to evaluate existing published QES methods against the resultant criteria; and to compare and contrast different QES methods by which to answer research questions using findings from qualitative studies. This work was conducted as part of the European Union (EU)-funded INTEGRATE-HTA project, and an extensive report of this work component is available from

Conflict of interest: The authors have no competing interests to declare.  
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# Objective

## Study design

- Compare and contrast different methods of qualitative evidence synthesis (QES) against criteria identified from the literature
- Map their attributes to inform selection of the most appropriate QES method
- Electronic databases, citation searching, and a study register were used to identify studies reporting QES methods.
- Attributes compiled from 26 methodological papers (2001-2014) were used as a framework for data extraction.

R

Review Question

E

Epistemology

T

Time/Time scale

R

Resources

E

Expertise

A

Audience and purpose

T

Type of data

# Review Question

- A clear and detailed specification of the research question(s) to be addressed by the review
- When selecting a QES method, a review team should consider the following:
  - To what extent is our review question already fixed (an “anchor”) or likely to be emergent (a “compass”)?
  - Is our review planned as a stand-alone project or is it intended to be compatible with, or even integrated within, an effectiveness review?

# Epistemology

- The assumptions on the nature of knowledge that underpin the synthesis method and the extent to which these permit the review team to achieve their purpose
- When selecting a QES method, a review team should consider the following:
  - To what extent do we wish to acknowledge the different underpinning philosophies of included studies, and to operationalize these differences, within our final review product?
  - Where does our review team position itself with regard to an idealist-realist continuum?
  - What is the intended role of theory within our planned review and will we ignore, acknowledge, generate, explore, or test theory within our review?



## Time/ Timeframe

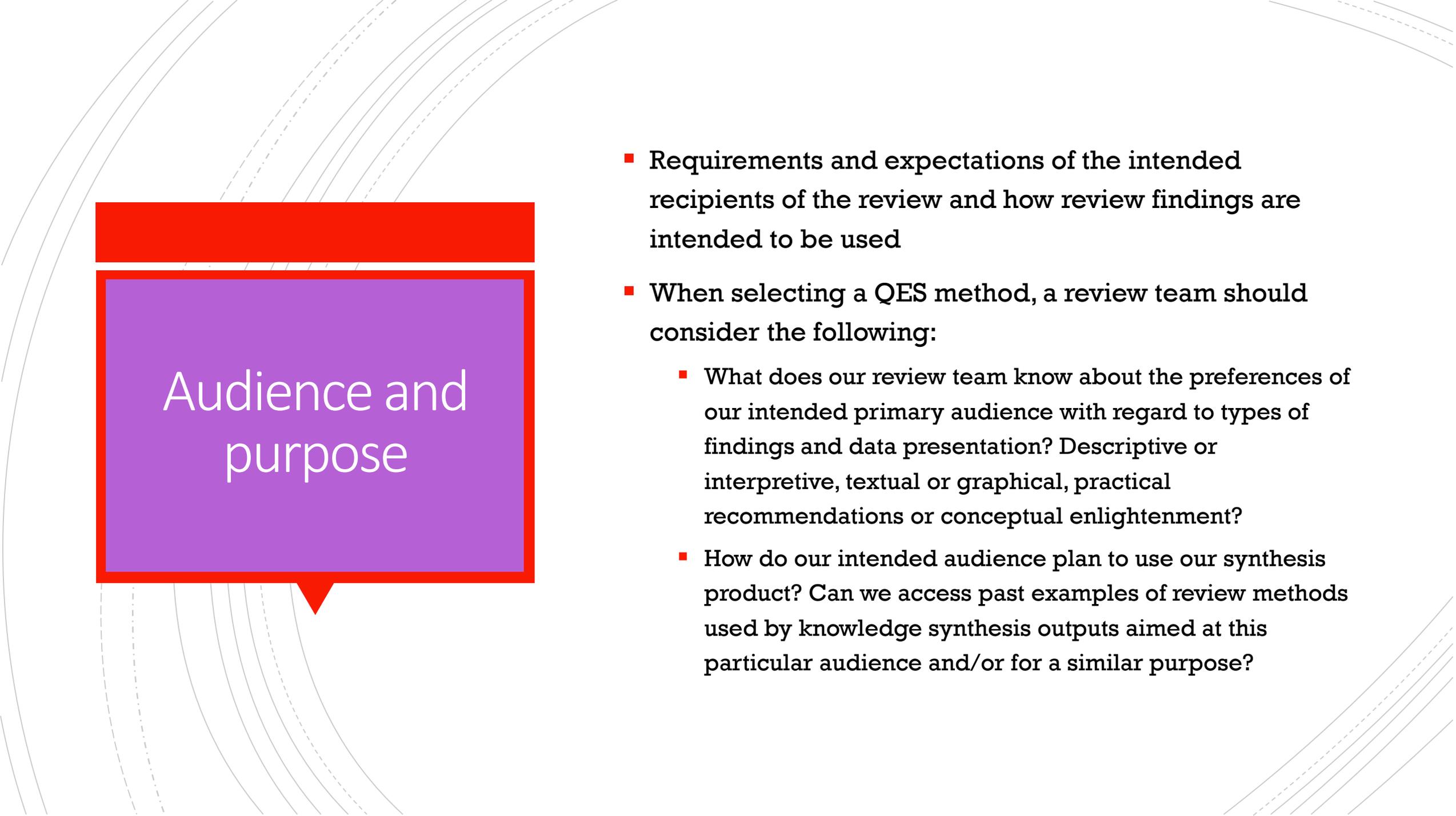
- **Logistic constraints regarding the expected completion date of the synthesis and the cumulative amount of effort required to deliver the review**
- **When selecting a QES method, a review team should consider the following:**
  - **Will our review seek to generate knowledge de novo or to use existing knowledge resources (categories, classifications, frameworks or models) as a vehicle for accelerating the review process?**
  - **Is our intention to aim for comprehensive coverage of all studies that meet our eligibility criteria or to accelerate the review process through purposive sampling?**
  - **Overall, will our review strategy privilege breadth of scope or depth of interpretation?**

# Resources

- Financial and physical support and infrastructure required to deliver the review
- When selecting a QES method, a review team should consider the following:
  - To what extent is our review predominantly a literature-based project and to what extent must we factor wider involvement and collaboration into our funding plans?
  - Do the methods to which our team is gravitating rely heavily upon proprietary software or enabling technologies or could we develop generic in-house solutions (e.g., based on use of spreadsheets, GoogleForms, etc)?

# Expertise

- Knowledge and skill domains required by the review team and the wider network supporting the review
- When selecting a QES method, a review team should consider the following:
  - To what extent do we already possess necessary skills and expertise within our core team?
  - What patterns of expert input will our preferred QES method require during the life span of the review project; anticipable or ad hoc, intensive, or periodic?



## Audience and purpose

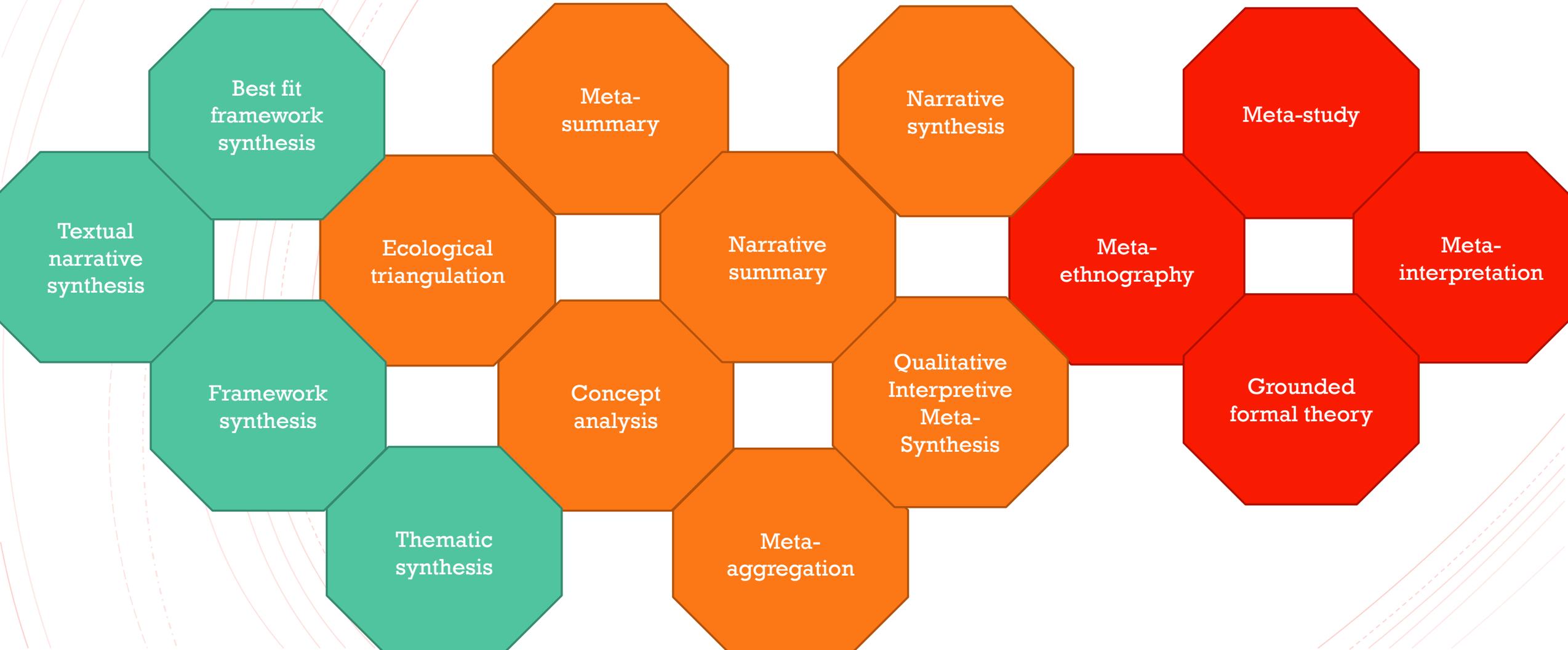
- Requirements and expectations of the intended recipients of the review and how review findings are intended to be used
- When selecting a QES method, a review team should consider the following:
  - What does our review team know about the preferences of our intended primary audience with regard to types of findings and data presentation? Descriptive or interpretive, textual or graphical, practical recommendations or conceptual enlightenment?
  - How do our intended audience plan to use our synthesis product? Can we access past examples of review methods used by knowledge synthesis outputs aimed at this particular audience and/or for a similar purpose?

## Type(s) of data

- The richness, thickness, type (quantitative/qualitative), quality, and quantity of data available to address the review question.
- When selecting a QES method, a review team should consider the following:
  - How conceptually “rich” are included studies likely to be?
  - How contextually “thick” are included studies likely to be?
  - How many studies will we analyze, and what is their “typical” methodological quality?

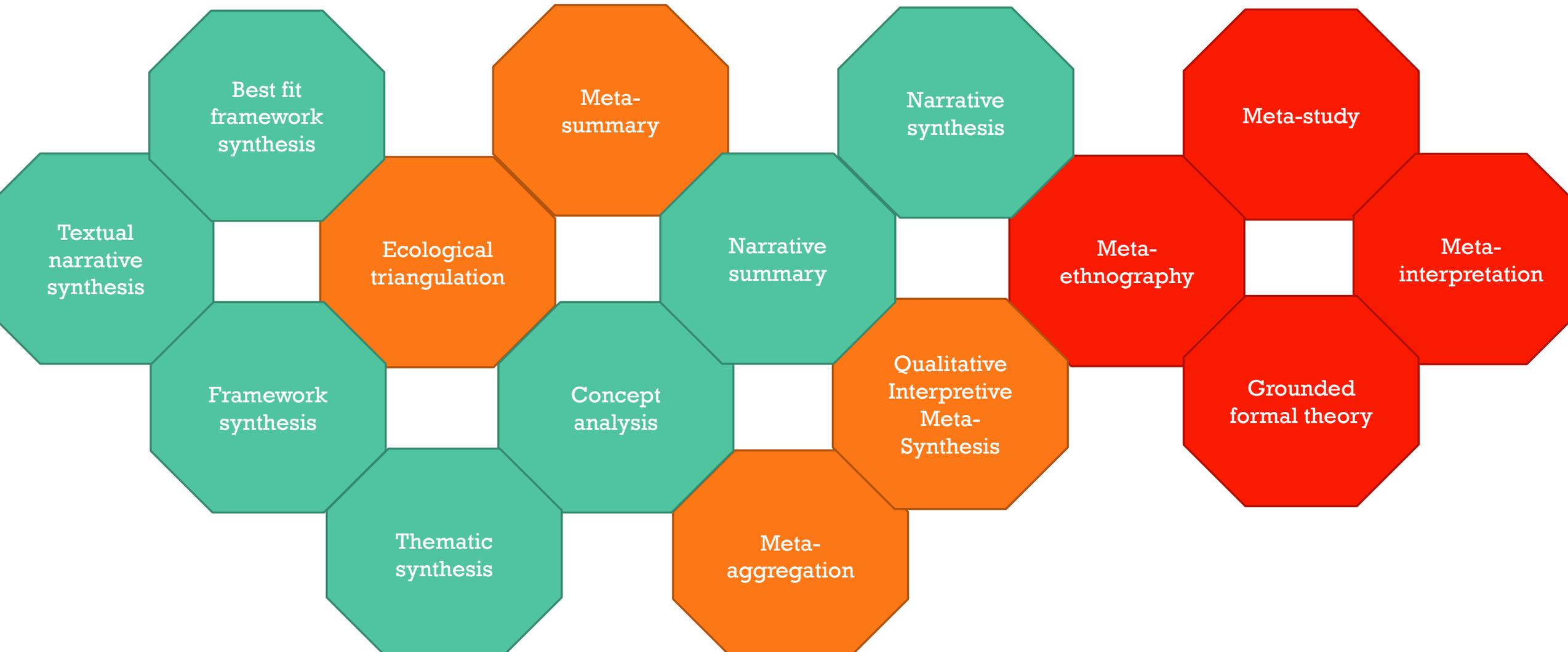
# Time use

The authors then map these criteria against 15 known QES analysis methods (supplementary document 2)



# Expertise

The authors then map these criteria against 15 known QES analysis methods (supplementary document 2)



# Illustrative use of RETREAT framework within an actual review scenario

## Scenario

A team of academic nurses are working within an internal university research group to develop practical guidance for young patients who experience pain.

To better support adolescents to relate to their pain such that it does not lead to chronic or persistent pain, they have identified a need for more knowledge about adolescents, own thoughts and experience according to pain experience.

The objective of this systematic review is to identify and synthesize the best available evidence from qualitative primary studies on how adolescents and young adults (AYA) experience living with everyday pain.

Studies are likely to be “thin” in detail although relatively plentiful

## RETREAT criteria

**Review question:** Descriptive question- What are the experiences of adolescents and young adults living with everyday pain?

**Epistemology:** Pragmatism used to develop “lines of action.”

**Time/timeframe:** One year according to standard systematic review timeframe

**Resources:** Externally funded project with a team of at least two reviewers with information support

**Expertise:** Generic qualitative research skills. Access to an information specialist for search process.

**Audience and purpose:** Target audiences are academics and health professionals from across the health disciplines, including nurses, doctors, allied health professionals, managers, administrators, and decision makers in health care.

**Type(s) of data:** Any qualitative studies regardless of their philosophical perspectives, methodologies, or methods. In the absence of research studies, other texts such as opinion articles and reports will be considered

# Choice of method

- Meta-aggregation
- Justification of choice: This descriptive QES does not seek to contribute to existing theory. It explicitly seeks to inform recommendations for current practice. Available data are relatively thin, derived from practice-based case studies in professional journals, and are unlikely to sustain an interpretative approach.

# My personal experiences

- Previous experience with thematic, material and framework synthesis from primary qualitative research
- In QES:
  1. Constant comparison thematic synthesis
  2. Framework synthesis (SURE Framework)
  3. Framework synthesis followed by a thematic synthesis of the framework findings
  4. Best fit framework synthesis

# Thematic synthesis

Slides based on slides from The qualitative evidence synthesis workshop, Cochrane qualitative and implementation methods group, Edinburgh Colloquium 2018

# Thematic synthesis

- Grew out of analysis methods for primary qualitative research
- Developed for QES between 1999 and 2004
- Can be used with thick or thin findings
- Can use qualitative software to support the process

## Methods for the thematic synthesis of qualitative research in systematic reviews

James Thomas\*† and Angela Harden†

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### Abstract

**Background:** There is a growing recognition of the value of synthesising qualitative research in the evidence base in order to facilitate effective and appropriate health care. In response to this, methods for undertaking these syntheses are currently being developed. Thematic analysis is a method that is often used to analyse data in primary qualitative research. This paper reports on the use of this type of analysis in systematic reviews to bring together and integrate the findings of multiple qualitative studies.

**Methods:** We describe thematic synthesis, outline several steps for its conduct and illustrate the process and outcome of this approach using a completed review of health promotion research. Thematic synthesis has three stages: the coding of text 'line-by-line'; the development of 'descriptive themes'; and the generation of 'analytical themes'. While the development of descriptive themes remains 'close' to the primary studies, the analytical themes represent a stage of interpretation whereby the reviewers 'go beyond' the primary studies and generate new interpretive constructs, explanations or hypotheses. The use of computer software can facilitate this method of synthesis; detailed guidance is given on how this can be achieved.

**Results:** We used thematic synthesis to combine the studies of children's views and identified key themes to explore in the intervention studies. Most interventions were based in school and often combined learning about health benefits with 'hands-on' experience. The studies of children's views suggested that fruit and vegetables should be treated in different ways, and that messages should not focus on health warnings. Interventions that were in line with these suggestions tended to be more effective. Thematic synthesis enabled us to stay 'close' to the results of the primary studies, synthesising them in a transparent way, and facilitating the explicit production of new concepts and hypotheses.

**Conclusion:** We compare thematic synthesis to other methods for the synthesis of qualitative research, discussing issues of context and rigour. Thematic synthesis is presented as a tried and tested method that preserves an explicit and transparent link between conclusions and the text of primary studies; as such it preserves principles that have traditionally been important to systematic reviewing.

# Thematic synthesis

- Structures the identification and development of themes
- Descriptive and analytical themes
- Can also be used with other methods such as meta-ethnography

# Three overarching steps

- Coding findings
- Developing descriptive themes
- Generating analytical themes

# Data extraction

- What data am I going to analyze and will they help me to understand my research question?
- Read through the included articles and extract any data that is relevant to your review objective
  - First and second order constructs
  - Remember these can also be found in the discussion and conclusion sections
- I have done this step for you

# Data exploration

- Re read your extracted data
  - Get to know your data in depth
  - Start to recognize patterns or themes that occur in your data
  - Start to code the extracted data
- Coding
    - Usually consists of identifying chunks or segments in your textual data and giving each of these a label (code). Coding is the analysis strategy that many researchers use to help them locate key themes, patterns, ideas and concepts within their data.

# Constant comparison or general thematic analysis?

## Constant comparison

- Identify the article that comes closest to your review objective
- Code this article first
- Use the codes from the first article to code the second
- If new codes appear in the second return to the first to double check
- Proceed with the third article etc

## General thematic analysis

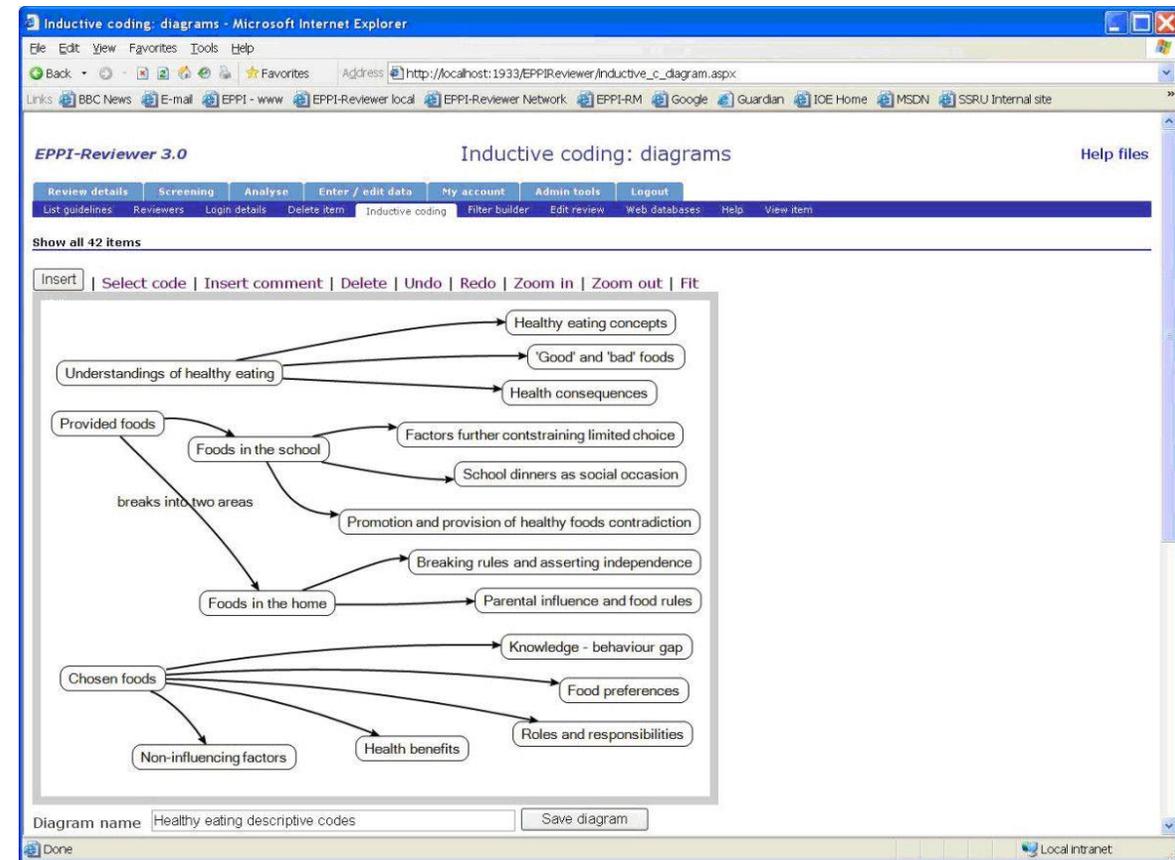
- Start with any article or you may want to read all extracted data and make notes to develop your first codes
- No particular order and not constantly referring back to a specific article for comparison

# Data reduction

- This process goes hand in hand with data exploration. As a researcher you will shift between these two steps continuously
- Look through the first codes, themes and patterns identified in data exploration and create memos explaining their meaning
- Begin coding your data using these themes
- If new themes appear return to the extracted data to explore them

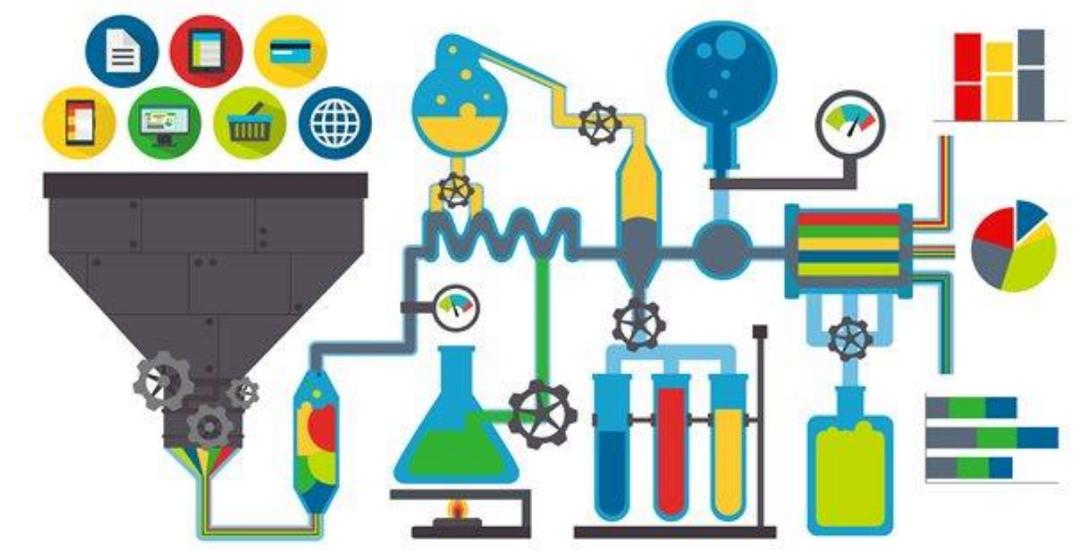
# Descriptive themes

- Stay close to the findings of the original studies
  - Describing participant preferences, feelings or experiences of an intervention or illness
- To do this can use
  - Literal codes: where the words appear in the text itself
  - Focused codes: Allows for the building and clarifying of concepts. In focused coding, a researcher examines all of the data in a category, compares each piece of data with the others and builds a clear working definition of the concept, which is then named



# Analytical themes

- Go beyond descriptive findings to generate new understanding



# Framework synthesis

Slides based on slides from The qualitative evidence synthesis workshop, Cochrane qualitative and implementation methods group, Edinburgh Colloquium 2018

<b>Framework Analysis (Ritchie and Spencer, 1994)</b>	<b>Framework Synthesis (Oliver et al. 2008)</b>	<b>Best Fit Framework Synthesis (Booth and Carroll, 2011)</b>
<p>Construction of thematic categories into which data can be coded (Ritchie and Spencer, 1994)</p>	<p>Allows themes identified a priori to be specified as coding categories from the start</p>	<p>Formally separates deductive (coding) phase from inductive theme generation.</p>
<p>Five steps:</p> <ol style="list-style-type: none"> <li>1. Familiarisation</li> <li>2. Framework identification</li> <li>3. Indexing</li> <li>4. Charting</li> <li>5. Mapping and interpretation</li> </ol>	<p>Framework may come from:</p> <ol style="list-style-type: none"> <li>1. Background literature</li> <li>2. Researcher experience</li> <li>3. Stakeholder consultation</li> </ol>	<p>Framework systematically identified from the literature</p> <p>«Good enough» framework that explains more than 50% of the data</p>



OPEN ACCESS

# When framework synthesis is a good fit

- Research with a specific question
  - A limited time frame
  - Issues that can be identified a priori
  - Allows you to see what is generalisable across studies and settings
  - Fulfills theory testing and theory generation as framework is adjusted
- (Booth and Carroll 2015)

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## How to build up the actionable knowledge base: the role of 'best fit' framework synthesis for studies of improvement in healthcare

Andrew Booth, Christopher Carroll

### ABSTRACT

Increasing recognition of the role and value of theory in improvement work in healthcare offers the prospect of capitalising upon, and consolidating, actionable lessons from synthesis of improvement projects and initiatives. We propose that informed use of theory can (i) provide a mechanism by which to collect and organise data from a body of improvement work, (ii) offer a framework for analysis and identification of lessons learnt and (iii) facilitate an evaluation of the feasibility, effectiveness and acceptability of improvement programmes. Improvement practitioners can benefit from using an underpinning external structure as a lens by which to examine the specific achievements of their own projects alongside comparable initiatives led by others. We demonstrate the utility of a method known as 'best fit framework synthesis' (BFFS) in offering a ubiquitous and versatile means by which to collect, analyse and evaluate improvement work in healthcare. First reported in 2011, BFFS represents a pragmatic, flexible approach to integrating theory with findings from practice. A deductive phase, where a review team seeks to accommodate a substantial part of the data, is followed by an inductive phase, in which the team explores data not accommodated by the framework. We explore the potential for BFFS within improvement work by drawing upon the evidence synthesis methodology literature and practical examples of improvement work reported in *BMJ Quality and Safety* (2011–2015). We suggest four variants of BFFS that may have particular value in synthesising a body of improvement work. We conclude that BFFS, alongside other approaches that seek to optimise the contribution of theory to improvement work, represents one important enabling mechanism by which to establish the rigour and scientific credentials of the emerging discipline of 'improvement science'.

### BACKGROUND

In the quest to build an actionable knowledge base,<sup>1</sup> improvement practitioners need to be able to move away from the specific characteristics of their own projects towards an understanding of generalisable factors that influence the implementation and impact of improvement interventions. Insights from theory may help complete such a transition, particularly in helping practitioners understand what works for whom under what circumstances. One method for achieving such insights is the 'best fit' framework synthesis (BFFS).<sup>2 3</sup>

BFFS is an innovative methodology, having received 45 citations (April 2015) since we first described the approach in 2011. We first devised the best fit framework approach as a pragmatic methodology for research synthesis. Research synthesis, the science of systematic reviews, is one route by which improvement work in healthcare may flourish. Synthesis is the process of combining or 'pooling' relevant evidence from multiple similar studies in order to develop more robust, generalisable conclusions than are possible from the findings of a single study. Experience from several fields suggests that research synthesis stimulates the demand for good quality reporting of initiatives, programmes and policies.<sup>4</sup> Evidence synthesis offers an opportunity to demonstrate repeatability, a prerequisite if improvement practitioners are to learn from the experience of others.<sup>5</sup>

Framework synthesis derives its main operating principles from framework analysis of primary data.<sup>6</sup> Framework analysis was developed by two qualitative researchers, Ritchie and Spencer, in 1994<sup>7</sup> and offers a qualitative method suited for

# Steps in a «Best Fit» approach (Booth and Carroll)

**Step 1-** Define review question

**Step 2-**

A) Systematically identify relevant primary research studies

B) Identify relevant (Best Fit) publications of frameworks and conceptual models/theories

**Step 3-** Extract data on study characteristics from included studies and conduct study quality appraisal

**Step 4-** Code evidence from included studies into a priori framework identified in step 2

**Step 5-** Create new themes by performing secondary thematic analysis on any evidence that cannot be coded into the a priori framework

# Steps in a «Best Fit» approach cont'd.

**Step 6-** Produce a new framework composed of a priori and new themes supported by the evidence

**Step 7-** Revisit evidence to explore relationships between themes or concepts in order to create a model

## BMJ Open Facilitators and barriers to the effective implementation of the individual maternal near-miss case reviews in low/middle-income countries: a systematic review of qualitative studies

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### ABSTRACT

**Background** The maternal near-miss cases review (NMCR), a type of clinical audit, proved to be effective in improving quality of care and decreasing maternal mortality in low/middle-income countries (LMICs). However, challenges in its implementation have been described.

**Objectives** Synthesising the evidence on facilitators and barriers to the effective implementation of NMCR in LMICs.

**Design** Systematic review of qualitative studies.

**Data sources** MEDLINE, LILACS, Global Health Library, SCI-EXPANDED, SSCI, Cochrane library and Embase were searched in December 2017.

**Eligibility criteria for selecting studies** Qualitative studies exploring facilitators and/or barriers of implementing NMCR in LMIC were included.

**Data extraction and synthesis** Two independent reviewers extracted data, performed thematic analysis and assessed risk of bias.

**Results** Out of 25 361 papers retrieved, 9 studies from Benin, Brazil, Burkina Faso, Cote D'Ivoire, Ghana, Malawi, Morocco, Tanzania, Uganda could be included in the review. The most frequently reported barriers to NMCR implementation were the following: absence of national guidelines and local protocols; insufficient training on how to perform the audit; lack of leadership, coordination, monitoring and supervision; lack of resources and work overload; fear of blame and punishment; poor knowledge of evidenced-based medicine; hierarchical differences among staff and poor understating of the benefits of the NMCR. Major facilitators to NMCR implementation included: good leadership and coordination; training of all key staff; a good cultural environment; clear staff's perception on the benefits of conducting audit; patient empowerment and the availability of external support.

**Conclusions** In planning the NMCR implementation in LMICs, policy-makers should consider actions to prevent and mitigate common challenges to successful NMCR implementation. Future studies should aim at documenting facilitators and barriers to NMCR outside the African Region.

### Strengths and limitations of this study

- This review fills a gap in evidence synthesis by systematically reporting scientific literature on facilitators and barriers to effective implementation of near-miss cases review (NMCR) in low/middle-income countries (LMICs).
- Findings of this review are limited by the paucity of existing scientific reports: although the NMCR approach has been used in many countries (such as in Europe, Central Asia, South East Asia, Latin America and the Caribbean), there has been relatively few formal studies exploring facilitators and barriers to effective NMCR implementation.
- Despite the above-described limitation, this review retrieved an appreciable number of good-quality studies from the African Region and provides a list of recommendations relevant for both researchers and policy-makers for facilitating effective NMCR implementation in LMICs.

### BACKGROUND

Ensuring adequate quality of healthcare is a primary objective of the WHO Global Strategy for Women's, Children's and Adolescents' Health 2016–2030.<sup>1</sup> Quality in healthcare is recognised as essential for the health and well-being of the population and as a basic aspect of human rights.<sup>2,3</sup>

Among different approaches aiming at improving quality of care in maternity services, the maternal near-miss cases review (NMCR) approach was promoted by WHO and partners since 2004 within the strategy Beyond the Numbers.<sup>4</sup> A maternal near-miss case is defined as a woman who nearly died but survived a complication that occurred during pregnancy, childbirth or within 6 weeks after pregnancy.<sup>5</sup> The facility-based individual NMCR cycle is defined as a type of criterion-based audit seeking to improve maternal and perinatal healthcare and

# Reporting thematic synthesis

- Clear and transparent reporting is essential!

## CORRESPONDENCE

## Open Access

### Enhancing transparency in reporting the synthesis of qualitative research: ENTREQ

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#### Abstract

**Background:** The syntheses of multiple qualitative studies can pull together data across different contexts, generate new theoretical or conceptual models, identify research gaps, and provide evidence for the development, implementation and evaluation of health interventions. This study aims to develop a framework for reporting the synthesis of qualitative health research.

**Methods:** We conducted a comprehensive search for guidance and reviews relevant to the synthesis of qualitative research, methodology papers, and published syntheses of qualitative health research in MEDLINE, Embase, CINAHL and relevant organisational websites to May 2011. Initial items were generated inductively from guides to synthesising qualitative health research. The preliminary checklist was piloted against forty published syntheses of qualitative research, purposively selected to capture a range of year of publication, methods and methodologies, and health topics. We removed items that were duplicated, impractical to assess, and rephrased items for clarity.

**Results:** The Enhancing transparency in reporting the synthesis of qualitative research (ENTREQ) statement consists of 21 items grouped into five main domains: introduction, methods and methodology, literature search and selection, appraisal, and synthesis of findings.

**Conclusions:** The ENTREQ statement can help researchers to report the stages most commonly associated with the synthesis of qualitative health research: searching and selecting qualitative research, quality appraisal, and methods for synthesising qualitative findings. The synthesis of qualitative research is an expanding and evolving methodological area and we would value feedback from all stakeholders for the continued development and extension of the ENTREQ statement.

**Keywords:** Thematic synthesis, Standards, Qualitative health research, Reporting

#### Background

Methods to synthesise qualitative research began with the recognition that providing evidence-based healthcare and health policy requires a range of evidence beyond that provided by the 'rationalist' model of systematic reviewing of quantitative research [1]. Qualitative research aims to provide an in-depth understanding into human behaviour, emotion, attitudes and experiences. The synthesis of findings from multiple qualitative studies can provide a range and depth of meanings,

experiences, and perspectives of participants across health-care contexts. Syntheses of qualitative research can pull together data across different contexts, generate new theoretical or conceptual models, identify research gaps, inform the development of primary studies, and provide evidence for the development, implementation and evaluation of health interventions [2-9]. The synthesis, or "bringing together" of the findings of primary qualitative studies is emerging as an important source of evidence for healthcare and policy [10]. Many aspects of the methods for synthesising qualitative research are in the early stages of development.

The number of published syntheses of qualitative health research is increasing (Figure 1). There are a wide range of qualitative synthesis methods with many common features, but also key differences [1]. The

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# Questions or comments?

- [Heather.ames@fhi.no](mailto:Heather.ames@fhi.no)
- Cochrane qualitative and implementation methods group
- Cochrane EPOC QES template
- Key papers referenced in this presentation
- For your first synthesis keep it simple!

