

Methods to synthesise qualitative evidence alongside a Cochrane intervention review

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Overview

- Background to the synthesis of qualitative research
- Choosing an appropriate qualitative synthesis method
- Approaches to qualitative evidence synthesis
- Some examples
- Methodological challenges
- Conclusions

Approaches to synthesizing qualitative research

Integrative

- Aim: to aggregate or summarise data
- Concepts need to be clearly defined in advance
- Phenomena need to be comparable, to allow pooling
- Example: quantitative meta-analysis, meta-aggregation

Interpretive

- Aim: to develop concepts or theories that integrate themes described in the primary studies
- Involve induction and interpretation
- Themes from the primary studies may be synthesized into a broader explanatory framework or new theory
- Concepts emerge through the synthesis process
- Example: meta-ethnography

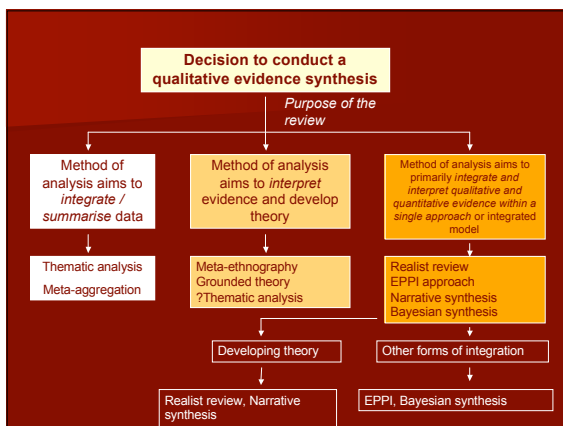
Sources: Noblit and Hare 1988; Dixon-Woods et al. 2005

Methods to synthesise qualitative evidence alongside a Cochrane intervention review

- Wide range of qualitative synthesis approaches
- Few examples of any of these approaches used alongside Cochrane reviews
- How does one choose an appropriate qualitative synthesis method?

Choosing an appropriate qualitative evidence synthesis method (1)

- Consider the purpose of the review:
 - the method needs to be appropriate to the purpose or aim of the qualitative evidence synthesis
- Examples:
 - The synthesis aims to develop new theory to complement a Cochrane review approaches → meta-ethnography
 - The synthesis aims to help define a Cochrane review question by summarising consumer views → meta-aggregation



Choosing an appropriate qualitative evidence synthesis method (2)

- Consider the type of qualitative data available
- Examples:
 - Descriptive qualitative studies ('thin description'): select synthesis methods suited to integration
 - Qualitative process evaluations conducted alongside trials
 - In-depth qualitative studies ('thick description'): select synthesis methods suited to interpretation
 - Both qualitative and quantitative data: select synthesis methods that can accommodate these

Choosing an appropriate qualitative evidence synthesis method (3)

- Consider whether a preliminary model or theory exists that might inform understanding of the topic
- Examples:
 - Refinement of an existing model: select an approach such as realist review
 - Development of a new model or theory: select an approach such as grounded theory

Approaches to qualitative evidence synthesis

	Meta-ethnography	Grounded theory	Thematic analysis approaches	Meta-aggregation
Synthesis approach	Interpretive	Interpretive	Interpretive / integrative	Integrative
Application alongside Cochrane reviews	Questions directly related to or complementing CR	Questions directly related to or complementing CR	Refining review question; understanding of effects; questions directly related to or complementing CR	Refining review question; understanding of effects; questions directly related to or complementing CR
Examples	Munro 2007; Glenton 2007	Kearney 2001	Noyes 2006; Roen 2006	Briggs 2007

Examples of qualitative evidence synthesis: meta-ethnography

- **Aim:** to understand the factors seen by patients, carers and health workers that contribute to tuberculosis medication adherence
- **Sources of evidence:** published qualitative studies of experiences of TB treatment, identified through systematic searching
- **Synthesis process:**
 - Identified themes from included studies
 - Compared the themes in one article with the themes in others
 - Developed broader concepts that captured similar themes from different papers
 - Constructed an overarching framework that attempted to link these concepts together

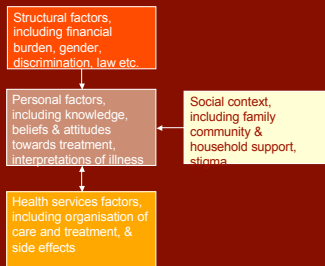
Interpretation rather than integration

Systematic approach, inclusive

Findings of several studies combined to provide conceptual development

Sources: Munro et al. 2007; Munro et al 2008

Model of factors influencing adherence to TB treatment



Source: Munro et al. 2007

Table 1. Barriers to treatment completion as derived from a systematic review of qualitative literature and mapped onto interventions to promote adherence

Interventions*	Barriers to treatment completion, ranking of importance of intervention† and mechanism of action		
	Health systems‡	Social and family‡	Personal‡
Staff training	+++	+	-
Cash reimbursement	+++	++	-
Delivery of DOT by health worker	+++	-	-
Delivery of DOT by community health worker or family member	+++	++	+
Provide peer support	-	+++	-
Health education provided by doctor	+++	-	+++
Health education provided by a nurse	+++	-	+++
Impose sanctions	-	-	++
Take defaulter action (actions taken by health workers when patients do not attend for treatment)	-	-	+++
Use prompts to encourage attendance for treatment	-	-	+++
Use contracts to encourage adherence to treatment	-	-	+++

DOT, directly-observed treatment.
 * Interventions identified from Clinical Evidence.
 † Barriers identified in unpublised systematic review of the qualitative literature on patients' experiences of adherence to tuberculosis treatment.
 ‡ Main targets to be addressed: † † † = priority target identified; † † = possible target identified; † = issues that are generally not target identified; - = barriers associated with health systems may exclude lack of access to a health facility, availability of service, length of waiting times, condition of clinic, length of treatment or relationship between patient and patient.
 † † † Barriers associated with social and family characteristics may include the sex of the patient, poverty and the financial burden of treatment, the influence of peers, the influence of family and community members and social stigma.
 † † † Barriers associated with personal characteristics may include a lack of motivation; lack of knowledge about the requirements of treatment; the patient's perceptions of disease; the patient's beliefs, attitudes and expectations of illness; and other personal characteristics.

Cochrane review: To evaluate the effects of incentives in patients receiving treatment for active tuberculosis, or prevention of disease

Key issues for meta-ethnography in the context of Cochrane reviews

- Careful consideration is needed of whether this is the most suitable synthesis approach
- Best suited to questions requiring interpretive rather than aggregative synthesis
- Is the approach feasible where a synthesis needs to include a large number of studies?

Examples of qualitative evidence synthesis: meta-aggregation (1)

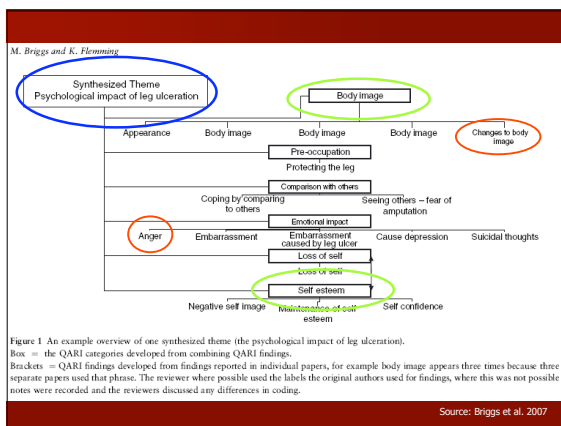
- **Aim:** to synthesize all published qualitative research studies exploring patients' experiences of living with a leg ulcer
- **Sources of evidence:** published qualitative studies of experiences of living with a leg ulcer, identified through systematic searching
- **Synthesis process:**
 - Themes and concepts from each included study were extracted
 - These were translated into findings, illustrated by a direct data extract
 - Findings grouped into categories
 - Categories then combined to create synthesized themes

More integrative than interpretive

Systematic approach, inclusive

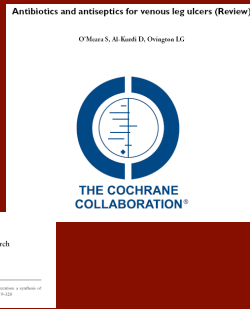
Findings of several studies combined to generate broad themes

Source: Briggs et al. 2007



Examples of qualitative evidence synthesis: meta-aggregation (2)

- Large number of Cochrane reviews on interventions to treat leg ulcers
- No reviews address interventions to provide psychological support to patients
- The qualitative evidence synthesis could contribute by defining review topics that address issues of high relevance to people living with leg ulcers



Methodological challenges for qualitative evidence synthesis

- What constitutes 'evidence' within qualitative studies?
- The proliferation of new synthesis approaches
- Capturing context and maintaining the integrity of the primary study findings within the synthesis
- Which approaches to synthesis are best suited to particular review questions?

	Using evidence from qualitative research to help define and refine a Cochrane review question	Synthesising evidence from qualitative research identified whilst looking for evidence of effectiveness	Seeking out evidence from qualitative studies to address questions directly related to the effectiveness review	Synthesising qualitative evidence within a stand-alone qualitative review to address questions other than effectiveness
Potential usefulness of meta-ethnography	Useful, particularly syntheses of views studies	Unlikely to be useful: -Retrieved studies may not lend themselves to meta-e -Too resource intensive, compared with other approaches	Could be useful, e.g. to explore variations in findings across different settings and groups found in the Cochrane review	Useful
Published examples	Pound (medicine taking)	?	? Pound (medicine taking)	Several: Munro (TB), Glenton (GPs and guidelines), Pound (medicine taking)

Methodological challenges for qualitative evidence synthesis

- What constitutes 'evidence' within qualitative studies?
- The proliferation of new synthesis approaches
- Capturing context and maintaining the integrity of the primary study findings within the synthesis
- Which approaches to synthesis are best suited to particular review questions?
- Combining the findings of quantitative reviews of effects with those of qualitative reviews - which methodological approaches best facilitate this process?

Key messages on qualitative evidence synthesis

- In choosing a synthesis method, consider how this approach might enhance the Cochrane review
- The synthesis method needs to be 'fit for purpose'
- Qualitative evidence synthesis may serve more than one function alongside Cochrane reviews
- Different synthesis approaches have somewhat different underlying philosophical assumptions

Conclusions

- Methods for qualitative evidence synthesis are still evolving
- There are many different approaches and the boundaries between them are blurred
- The choice of synthesis method depends on:
 - The review question or purpose
 - The evidence identified
 - Whether there is an existing, accepted theoretical model for the phenomenon of interest
- Qualitative evidence syntheses tend to take a more iterative approach to the review process
