

Narrative Synthesis

An introduction to tools and process

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Guidance on the conduct of narrative synthesis in systematic reviews An ESRC Funded Initiative

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Structure of the presentation

- What is narrative synthesis (NS)
- Why do we need guidance?
- What is the guidance about?
- The guidance; methods and structure
- Applying the guidance

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- ◇ *What is narrative synthesis (NS)*
- **Why do we need guidance?**
- **What is the guidance about?**
- **The development of the guidance**
- **Application of the guidance**

What is Narrative Synthesis ?

- **Widely used & recommended in guidelines on SR**
- **No consensus on what 'it' is or how trustworthiness is established.**
- **So how do we define it?**

"An approach to the synthesis of evidence relevant to a wide range of questions including but not restricted to effectiveness [that] relies primarily on the use of words and text to summarise and explain – to 'tell the story' – of the findings of multiple studies. NS can involve the manipulation of statistical data".

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Why do we need guidance?

- **Increasingly:**
 - people want trustworthy evidence
 - ask questions that need diverse evidence
- **Synthesising diverse evidence is challenging.**
- **Specialist synthesis methods are well developed but not appropriate for diverse evidence.**
- **Narrative synthesis is appropriate for use with diverse evidence but not well developed**

Why do we need guidance?

- **No authoritative body of knowledge or reliable and rigorous testing of NS.**
- **As a result:**
 - There is great variability in the practice of NS
 - The methods used in reviews using NS are not transparent
 - Reproducibility of results of these reviews is an issue
- **Guidance could help to address some problems**
- **But no guidance in methodological literature**

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What is the guidance about?

- **Advice on the conduct of NS in the context of:**
 - systematic reviews of *research* evidence
 - Particular focus on *effectiveness* and *implementation*
- **Descriptions of *specific tools & techniques* that can be used in the synthesis**
- **The product – at a minimum – is a summary of knowledge related to a specific review question**

Where does the NS process 'fit'?

Elements in a systematic review:

- **Focus review & map the evidence**
- **Specify the review question**
- **Targeted search for relevant evidence**
- **Select studies to include in review**
- **Assess study quality and extract data**
- ◊ *Synthesise findings from included studies*
- **Report the results and disseminate**

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How we developed the guidance

- **Multidisciplinary team**
- **Use of expert review panel**
- **Reviewed methodological literature**

How we developed the guidance

- **Search of literature involved three elements:**
 - Traditional database search
 - Search of internet sites
 - Knowledge of team members
- **Process generated 1,309 items**
- **Reviewed abstracts and full texts**
 - 69 items judged to have some relevance
 - None focused specifically on NS

We concluded that

- **Prescriptive guidance – a cook book on the conduct of NS - is not feasible**
- **The specific approach in an NS will depend on:**
 - **Types of research included (e.g. only quantitative, only qualitative, mixed data)**
 - **Study characteristics (design, participants, outcomes etc.)**

How we developed the guidance

- ◇ **Stage 1: Reading the literature to:**
 - Inform design of a framework for the conduct of NS
 - Identify tools and techniques relevant to the NS process

- ◇ **Stage 2: developed draft guidance including**
 - a proposed framework for NS
 - examples of use of tools & techniques during synthesis process

- ◇ **Stage 3: Applied guidance to two ‘demonstration’ reviews**
 - One on effectiveness the other implementation
 - To provide practical examples of the use of the guidance.

- ◇ **Stage 4: revised guidance on the basis of:**
 - comments from expert reviews and
 - experience of ‘demonstration reviews’.

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Example review used:

Arai L, Britten N Popay J et al (forthcoming) Testing methodological developments in the conduct of narrative synthesis: a demonstration review of research on the implementation of smoke alarm interventions

The Narrative Synthesis Framework

- **Developing a theory of change**
- **Developing a preliminary synthesis**
- **Exploring relationships in the data**
- **Assessing robustness of synthesis product**

Not stages – NS an iterative process!

1: Developing a theory of change

- Inform decisions about the review question
- Contribute to the interpretation of findings
- Assess the applicability of findings
 - No specific guidance re method

Questions

- How might smoke alarms save lives?
- How might thinking through this at the start of the review process impact on the review process or outcome?

2. Preliminary synthesis

- Organise findings to provide an initial description of patterns across the included studies
 - Textual descriptions
 - Tabulation
 - Grouping and clustering
 - Thematic analysis
 - Constructing a common rubric
 - Content analysis
 - Vote counting
 - illustrated in handout

Questions

- What are the benefits of the techniques for the review process, or the reviewer?
- Do any issues come to mind about good practice?
- Are there similarities to qualitative analysis processes?

Tools for preliminary synthesis

	Benefit for the review/er?
Textual description	
Tabulation	
Grouping	
Thematic analysis	

Tools for preliminary synthesis

	Benefit for the reviewer?
Textual description	Sensitises reviewers to the content of each study, highlights and extracts main features, but maintains study as a whole and in context
Tabulation	Allows comparison of main features across whole dataset, reduces volume
Grouping	Takes into consideration major patterns in potential influencing factors e.g. context, intervention type
Thematic analysis	Consistent analysis of content across studies. Identifies the range of factors, and the main/common themes.

3. Exploring relationships

- Relationships between study results and the key aspects of the study population, intervention and context
- Relationships between the findings across different studies
 - Exploring study heterogeneity
 - Moderator variables and subgroup analyses
 - Case descriptions
 - Translation
 - Investigator/methodological triangulation
 - Conceptual triangulation
 - Ideas webbing/conceptual mapping
 - Used in the demonstration synthesis, but not illustrated here

Questions

- What might be the advantages of working with graphical methods of representation for text-based data?
- What might be the limitations of textual, tabular and graphical methods for working with data?

Impact of tools on synthesis

TOOLS	Advantage	Limitation?
Textual descriptions	Maintains integrity of case, narrative flow, detail	
Tabulation	Good for structured comparison across cases and grouping	
Graphical methods		

Impact of tools on synthesis

TOOLS	Advantage?	Limitation?
Textual descriptions	Maintains integrity of case, narrative flow, detail	Difficult to select, highlight, compare.
Tabulation	Good for structured comparison across cases and grouping	Problems of reduction and loss of context/detail
Graphical methods	Good for identifying patterns, viewing the relationship of parts to whole, and for cross-linking	Care needed with isolation of concepts from their context and strength of evidence

4. Exploring robustness

- To assess the strength of evidence for drawing conclusions about the results of synthesis and their generalisability
 - Best Evidence Synthesis
 - Weight of Evidence Synthesis
 - Use of validity assessment
 - Checking with authors of primary studies
 - Critical reflection

Who is it aimed at?

- **Aims to be accessible to wide range of people**
- **Users won't need to be expert reviewers**
- **But need reasonable level of research experience – not novices!**

Next steps

- Disseminating the guidance through:
 - Journal articles
 - Making it available for others to use
 - Working with others to translate it
- Hope to revise guidance on basis of the others experience

Thanks for joining us

For more information or copy of guidance:

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