

11-30 Methodological Challenges

Focusing, searching, data extraction and quality assessment

Methodological Challenges

- **Whether it should start with a focused question**
- **Whether it requires comprehensive literature searches**
- **Whether literature searches can be iterative (rather than “big bang”)**
- **Whether it requires critical appraisal/ quality assessment [hurdle/moderator]**
- **Whether it requires use of critical appraisal checklists**

Should it start with focused question? - Issues

- Qualitative Evidence Synthesis may be means for discovering/scoping review question
- Prematurely focusing question may exclude valuable insights
- Adaptation of theoretical frameworks from relevant literatures for problem formulation of particular relevance for topics with literature in its infancy (or where there is predominant model)
- Otherwise may be more helpful to use literature search process to develop framework (cp Grounded theory)

Should it start with focused question? – Holding Position

- Where qualitative evidence synthesis designed to complement Cochrane Effectiveness Review may be added value in “synchronising” review question (even more if studies are common to both)
- Otherwise may be helpful to “explore scope” before focusing more tightly (see following comments on iterative searches)
- Possible role for “logic model”/framework

Does it require comprehensive literature searches? - Issues

- Model of comprehensive searches based on quantitative (aggregative) model
- Data (theoretical) saturation may apply to findings/themes - subsequent redundancy of data extraction/synthesis
- Concerns from quantitative community re: possible bias

Does it require comprehensive literature searches? - Holding Position

- Sampling method must be appropriate to purpose of review
- May be more appropriate to be comprehensive when (a) conducting qual and quan components simultaneously (e.g. HTA projects) and (b) not using study design filters
- Current Cochrane position does not allow for comprehensive searches (use either included data from RCTs or sibling process evaluations)
- Stand-alone reviews should sample from different disciplines/traditions – actively search for disconfirming case

Can literature searches be iterative (rather than “big bang”)? - Issues

- Concerns about “scope creep”
- More difficult to document methods explicitly
- More we learn about SR methods more we recognise that reproducible searching is a myth
 - Different questions, search strategies, selection of abstracts, inclusion criteria, selection of articles, methods of synthesis, level of analysis, implications.....and on, and on, and on!
- [All searches “iterative” to certain degree – refinement of subject and free-text terms]
- [Poorer initial search better alternative (iterative) approaches look]

Greenhalgh, 2005

Protocol driven:	150 (30)
Electronic database search*	126 (25)
Hand search (32 journals)	24 (5)
"Snowballing":	252 (51)
Reference tracking	218 (44)
Citation tracking	34 (7)
Personal knowledge:	119 (24)
Sources known to research team	85 (17)
Social networks of research team	29 (6)
Serendipitous	5 (1)
Total in final report	495

Can literature searches be iterative (rather than “big bang”)? – Holding Position

- Initial search may define key elements of heterogeneity - could be used to establish inclusion criteria to minimise heterogeneity and direct subsequent searches
- Could perform “big bang” searches after scoping phase has been concluded
- Related to issue regarding comprehensive searches

Does it require critical appraisal/ quality assessment? – Issues

- Is quality assessment appropriate to qualitative research, at all?
- How is quality assessment to be used?
 - To exclude?
 - To moderate?
 - To explore?
- Reluctance to exclude paper on basis of reporting quality alone as it may still be relevant to synthesis (Rigour versus relevance)

Does it require critical appraisal/ quality assessment? – Holding Position

- Quality assessment process is journey, not end in itself
- Provides structure for making holistic judgement of value of an individual study
- Studies not usually excluded on basis of quality
- Scoring of studies should be resisted

Illustrative Example (Malpass et al, 2009)

- “We evaluated each paper based on the approach of Dixon-Woods et al (2007). A paper was evaluated as **KP** (a ‘key paper’ that is conceptually rich and could potentially make an important contribution to the synthesis); **SAT** (a satisfactory paper); **?** (when the reviewer is unsure of its relevance or value to the synthesis); **IRR** (if the paper is irrelevant to the synthesis); or **FF** (a paper that is ‘fatally flawed’ methodologically).”
- “We used the critical appraisal process **not to exclude** papers prior to the synthesis but **to ‘test’ the contributions of the papers at a later stage.** In particular, we were interested to see whether the synthesis findings remained the same if only ‘Key Papers’ were included”.

Does it requires use of critical appraisal checklists? – Issues

- Checklists play important role in conferring “respectability” on qualitative research and in convincing potential sceptics of thoroughness
- Little empirical data on relationship between data item and study quality
- Confusion of reporting and study quality
- Checklists may privilege certain preconceptions of what is qualitative research (e.g. presence of theory, particular designs)
- More extensive checklists not necessarily more rigorous but more time-consuming
- Many adapt existing checklists – impact on rigour?

Does it requires use of critical appraisal checklists? – Holding Position

- No one checklist is endorsed
- Pragmatism favoured over theoretical considerations (e.g. CASP in attendancy)
- Must be mechanism for exploring individual studies – checklist as good a means as any
- Checklist may be required to establish “credibility” within quantitative community
- “Stand alone” reviews may not use formal appraisal tool (but do require mechanism for testing likely validity)

Illustrative Example (Malpass et al, 2009)

- “In light of the controversy in the literature regarding critical appraisal of qualitative research, we piloted three different critical appraisal tools. These were: a modified version of the CASP checklist as used in previous qualitative syntheses; a Quality Framework produced from a synthesis of 29 appraisal tools; and a more iterative guide to quality developed by Mays and Pope (2000)”.
- Three members of the research team used all three tools on three papers to be included in the synthesis. We felt the Quality Framework was lengthy, unwieldy and many of the questions were more relevant for other types of evaluations. While we valued the flexibility of the iterative guide, the CASP checklist made us consider aspects of a paper's content that the iterative guide did not. We therefore chose to use the modified version of the CASP”.

References - 1

- Barbour, RS (2000) Checklists for improving rigour in qualitative research: a case of the tail wagging the dog?, *Journal of Evaluation in Clinical Practice* **9** (2): 179–186.
- Dixon-Woods M, Sutton A, Shaw R, Miller T, Smith J, Young B, Bonas S, Booth A, Jones D. Appraising qualitative research for inclusion in systematic reviews: a quantitative and qualitative comparison of three methods, *Journal of Health Service Research Policy* **12** (1) (2007): 42–47.
- Eakin, J & Mykhalovskiy, E (2003). Reframing the evaluation of qualitative research: Reflections on a review of assessment guidelines in the health sciences. *Journal of Evaluation in Clinical Practice*, **9**(2), 187-194.

References - 2

- Greenhalgh T, Peacock R. Effectiveness and efficiency of search methods in systematic reviews of complex evidence: audit of primary sources. *BMJ*. 2005; 331(7524):1064-5.
- Malpass A, Shaw A, Sharp D, Walter F, Feder G, Ridd M, Kessler D (2009), 'Medication career' or 'Moral career'? The two sides of managing antidepressants: A meta-ethnography of patients' experience of antidepressants, *Social Science & Medicine*, 68, (1): 154-168.