

Lecture 4 – Finding, describing and appraising studies for a mixed methods evidence synthesis

ESI Mixed methods evidence
synthesis

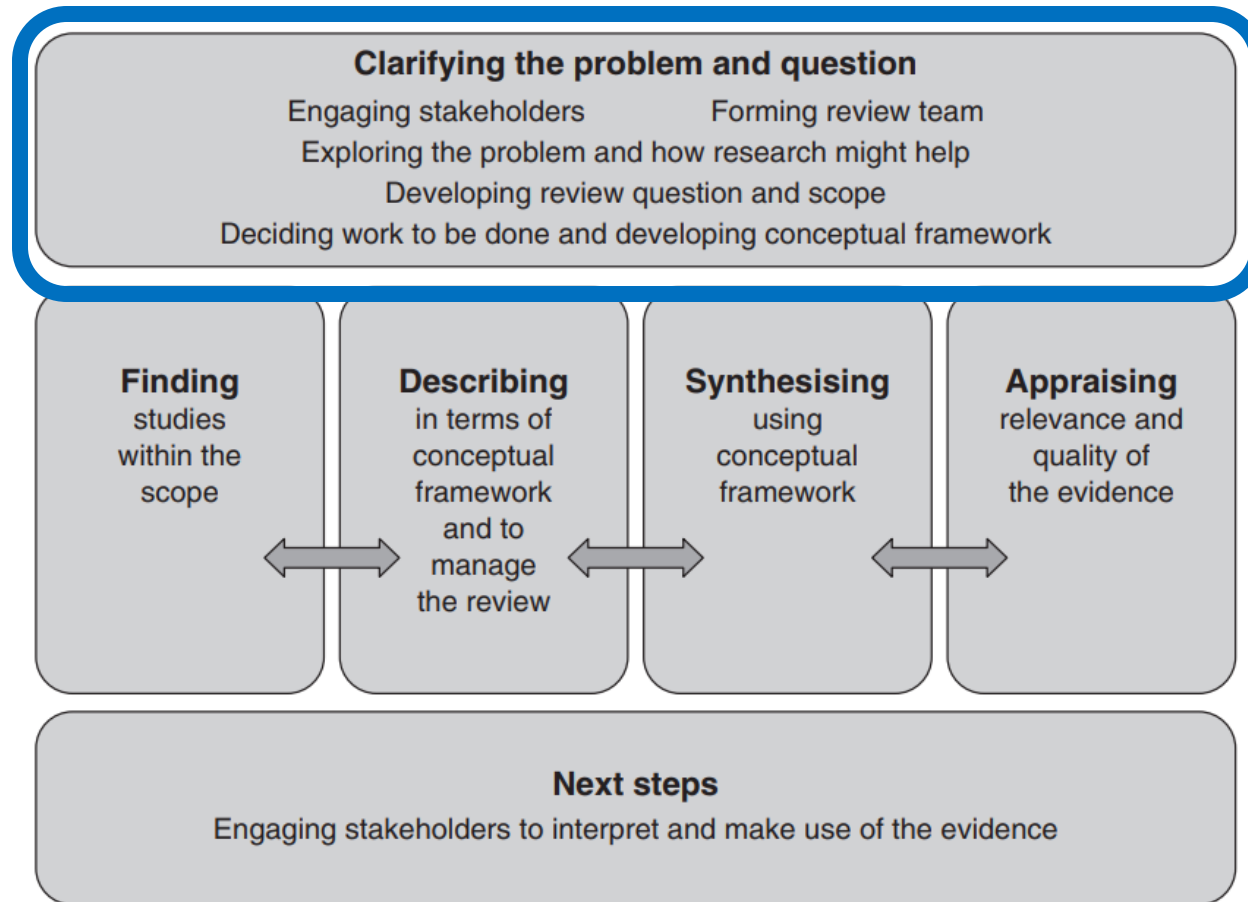
25th and 26th September
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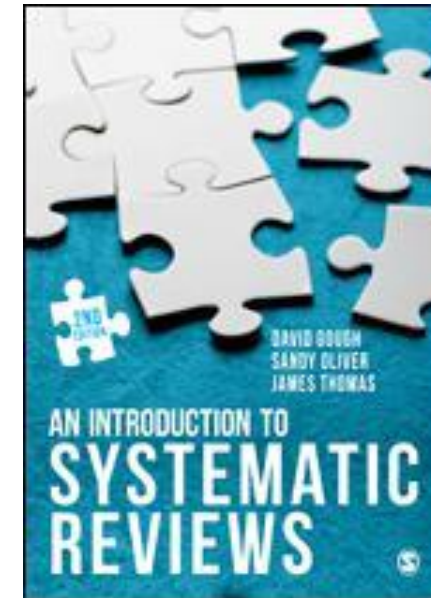
All stages of review impacted by inclusion of diverse study types

- Reviewers need to be abreast of methods appropriate for each type of evidence included
- Considerations for each study type need to be made when
 - Developing conceptual framework / RQ / IC
 - Searching for studies
 - Coding and describing studies
 - Appraising studies
- Putting together a review team
- Resources needed (time, funding, tools)
- Communicating findings

The common stages of a systematic review



Gough et al. (2017)
An introduction to systematic reviews. London Sage



Review questions and conceptual framework

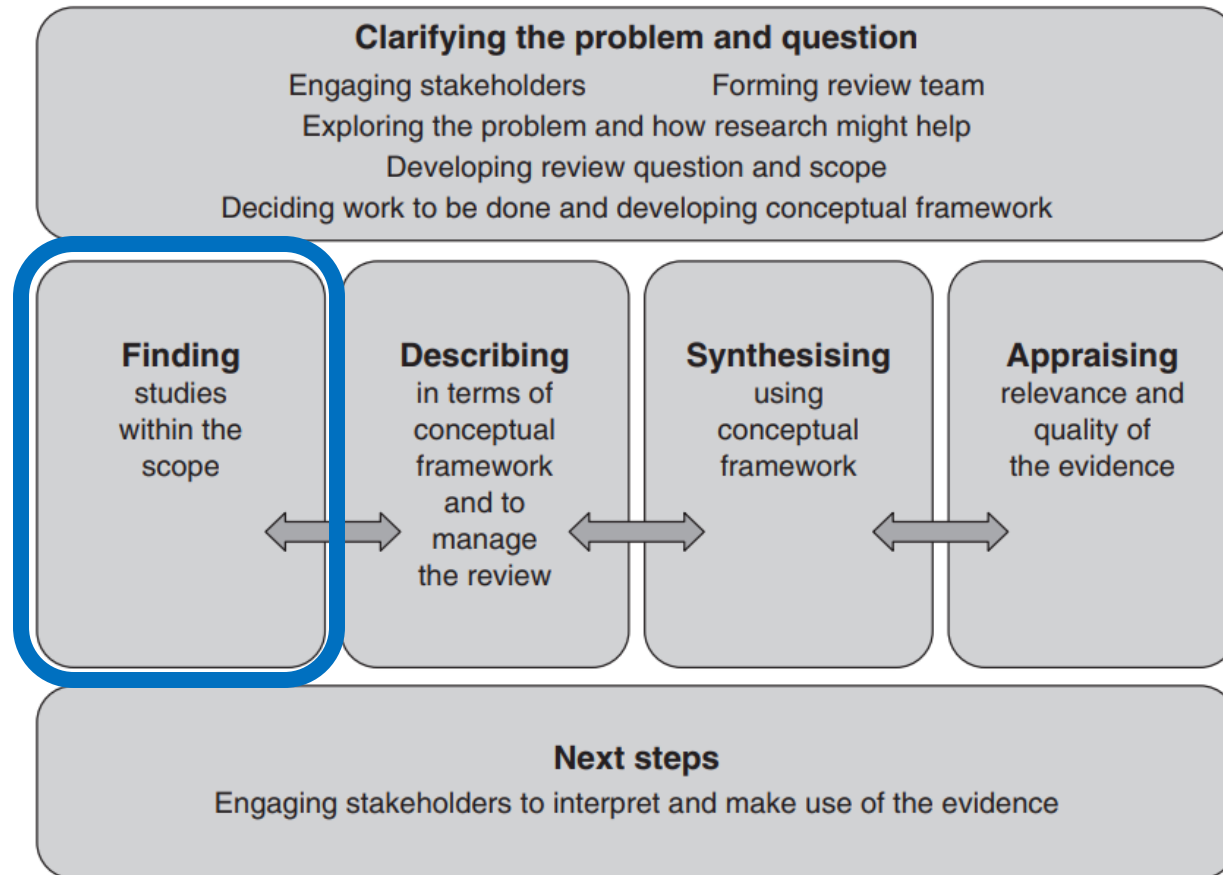
- Each concept in your RQ should be explicitly defined in your conceptual framework *and* each key concept should be reflected in your inclusion criteria
- Frameworks to help you identify key concepts in a review question
 - **PICO** - Population, Intervention, Comparison, Outcome – used for ‘what works’ questions
 - **SPIDER*** - Sample, Phenomenon of Interest, Design, Evaluation, Research type

*Cooke, A., Smith, D., & Booth, A. (2012). Beyond PICO: The SPIDER tool for qualitative evidence synthesis. *Qualitative Health Research*, 22 (10), 1435 - 1443.)

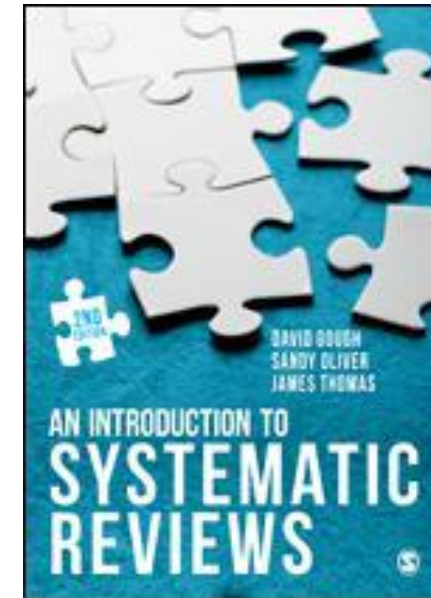
Which of the following dimensions may be important for your review question(s)?

- Topic: What is the topic / issue you are interested in? Is it a phenomenon of interest or an intervention?
- Population: What is the relevant population? Think age groups, relevant experience, health conditions etc.
- Outcomes: Outcome measures of an intervention? Or views / experiences?
- Geography: Is all international research relevant? Is your focus on low income or high income countries, or a specific region?
- Date: Is older research relevant? E.g. was there a change in the law relevant to your topic (e.g. purchase age for tobacco raised from 16 to 18 years in UK)?
- Study design: which study designs will have useful data?

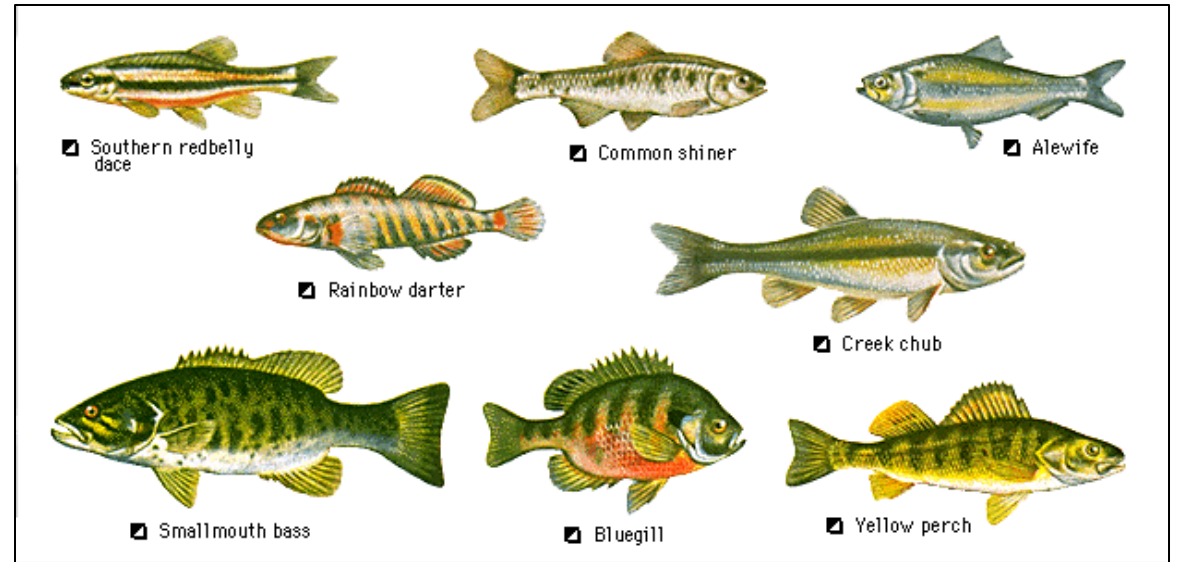
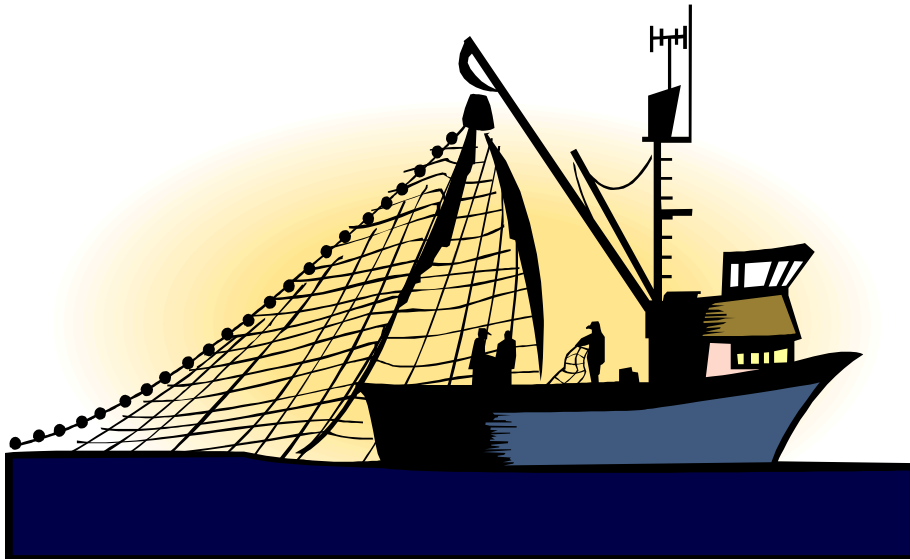
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Trawling for all information or fishing for a variety?



Trawling for everything



Fishing for variety

Find studies that test theory

Find studies that generate theory

Search at start of review

Search at the start but can be throughout review

Find as many relevant studies as possible to minimise bias when aggregating

Find enough studies to identify diversity in perspectives/experience

Searches are planned in detail in protocol


Initial searches planned, later searches might 'evolve'

Numerical data from published and unpublished sources

Qualitative data from published and unpublished sources

All searches reported, transparent methods

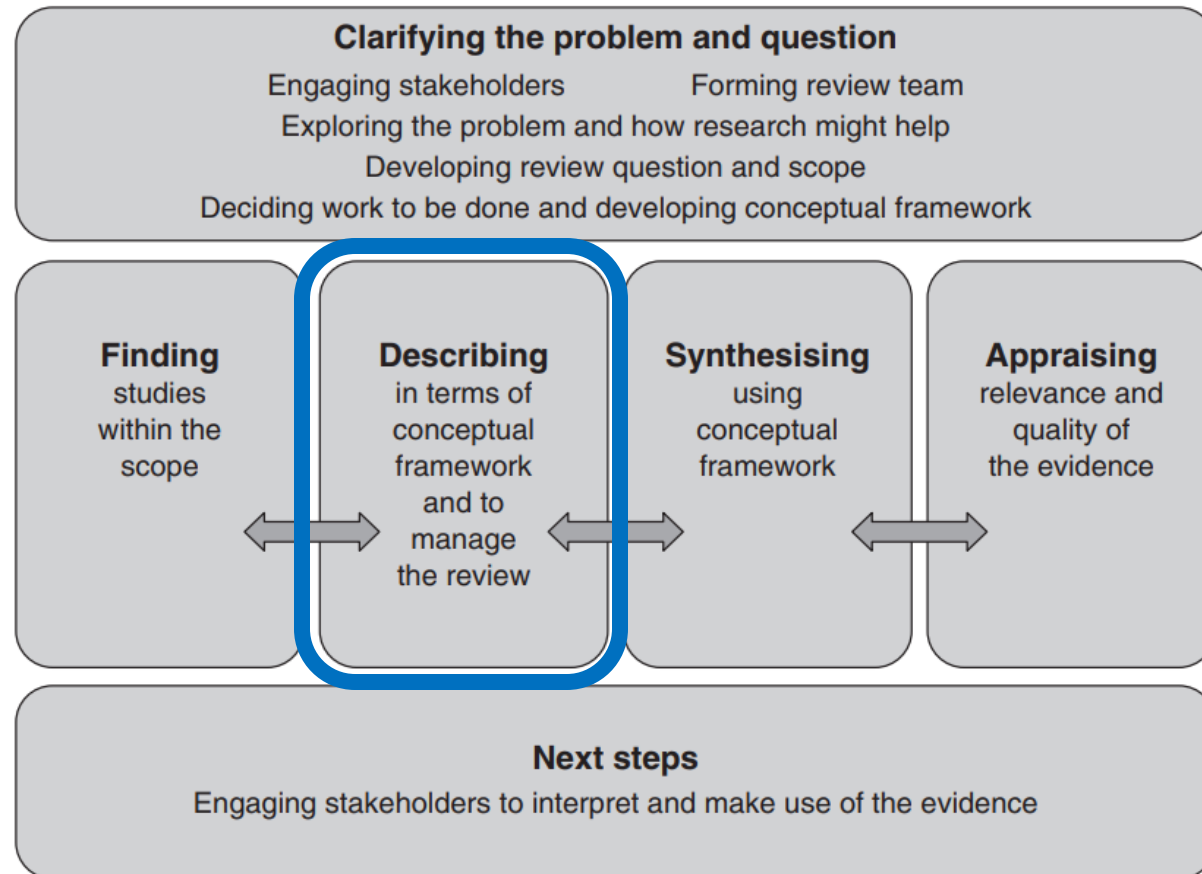
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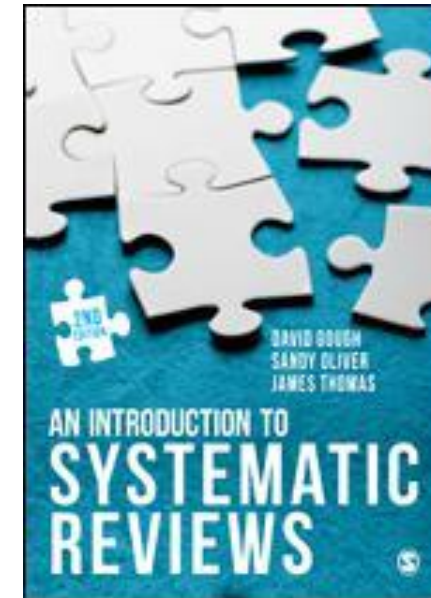
Further info
on searching
for qualitative
research in:

- Stansfield C, Clowes M, Booth A, Thomas J. Chapter 5. Searching and identifying studies. Draft version (August 2023) for inclusion in: Noyes J, Harden A, editor(s). CochraneCampbell Handbook for Qualitative Evidence Synthesis, Version 1. London: C

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Coding for describing studies

- What is coding in SR? = systematic application of words / phrases / markers which represent key features of included studies
- Helps to:-
 - **Describe research landscape** - summarise / make sense of / classify extent of body of literature - e.g. *topic focus, country, study design etc.*
 - **Prepare studies for analysis** – ‘data extraction’ to enable critical appraisal and synthesis – e.g. *data collection methods, data analysis methods, study findings – either qual or quant.*
 - **Keep track of studies in review process** – e.g. *is study included?, has the full report been retrieved?, who screened it?, who extracted data?*

Diverse evidence and creation of coding frameworks

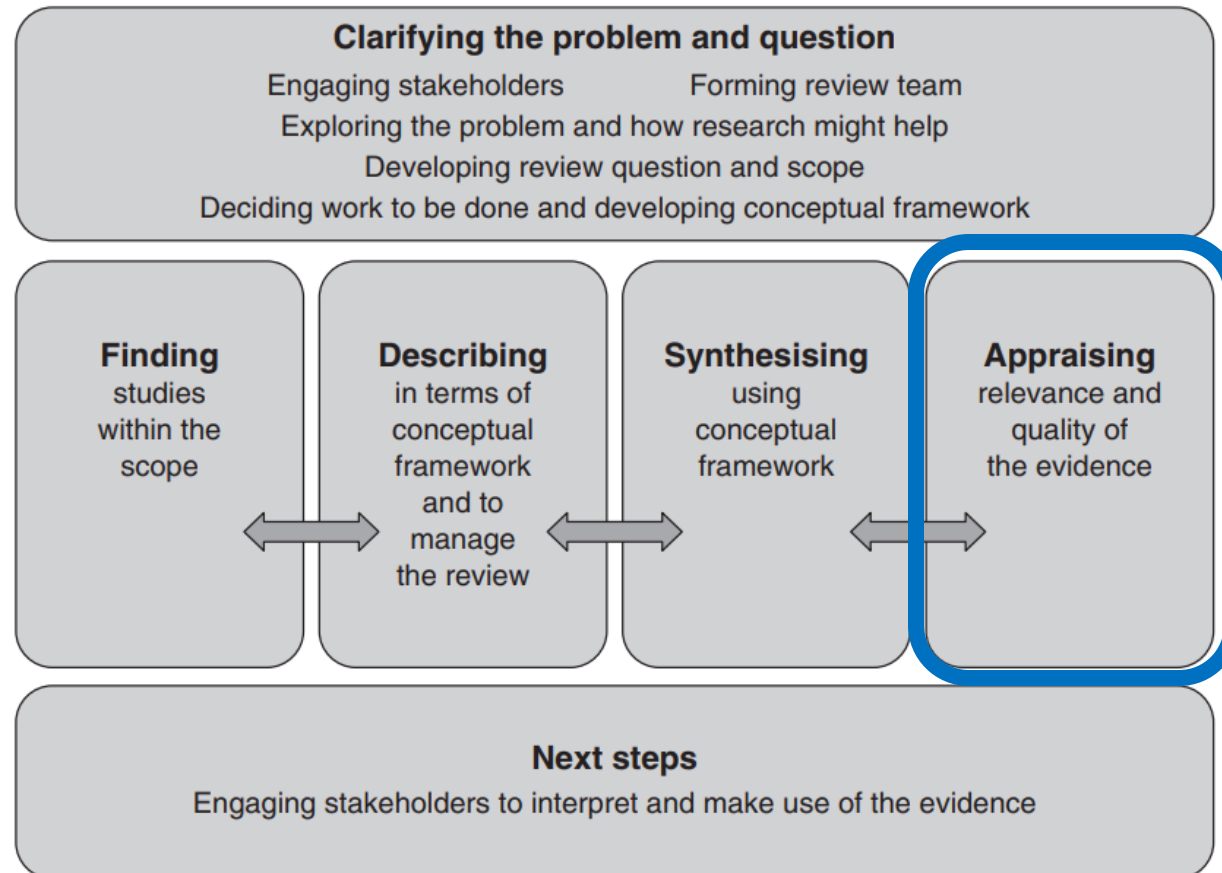
When concepts are secure

- Can create clear **categorical coding** frameworks that can be **prepared in advance**

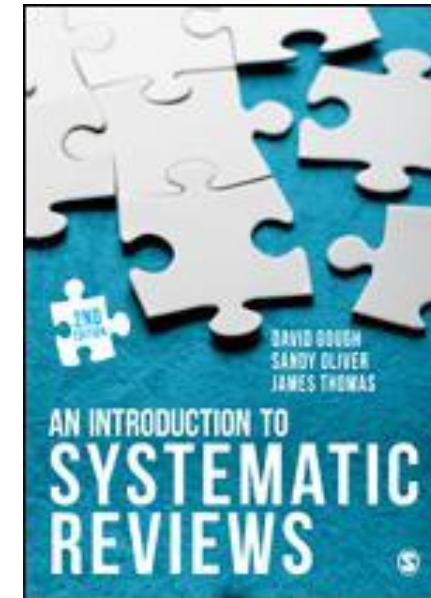
Concept emergent

- Limiting coding to **pre-specified categories undesirable**
- **Open coding** frameworks **enable knowledge and understanding to emerge** from the data
- Open coding = much greater level of work – organic iterative process – coding/analysis integrated

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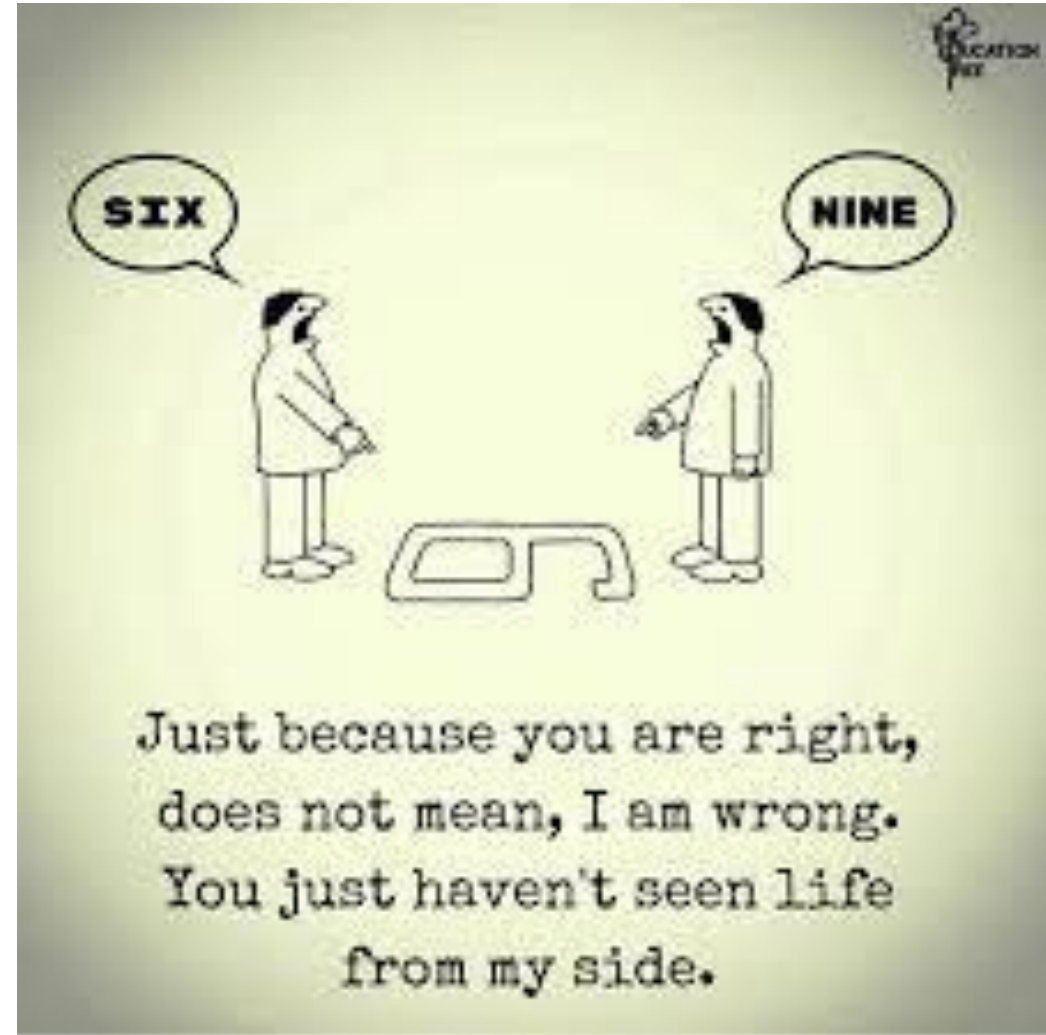


Assessing 'risk of bias' in reviews evaluating intervention effectiveness

Cochrane –
“domain-
based tool”
– for
assessing
execution of
RCTs

Type of bias	Description	Relevant domains in the Cochrane ‘Risk of bias’ tool
Selection bias	Systematic differences between baseline characteristics of the groups that are compared	<ul style="list-style-type: none">• Sequence generation• Allocation concealment
Performance bias	Systematic differences between groups in the care that is provided, or in exposure to factors other than the interventions of interest	<ul style="list-style-type: none">• Blinding of participants and personnel• Other potential threats to validity
Detection bias	Systematic differences between groups in how outcomes are determined	<ul style="list-style-type: none">• Blinding of outcome assessment• Other potential threats to validity
Attrition bias	Systematic differences between groups in withdrawals from a study	<ul style="list-style-type: none">• Incomplete outcome data
Reporting bias	Systematic differences between reported and unreported findings	<ul style="list-style-type: none">• Selective outcome reporting (see also Chapter 10)

Should we appraise the 'quality' of qualitative research?



Useful paper! Ruth Garside (2014) Should we appraise the quality of qualitative research reports for systematic reviews, and if so, how?, *Innovation: The European Journal of Social Science Research*, 27:1, 67-79,

Quality assessment for qualitative research- the debate!

Critiques of appraisal ...

Imposes positivist approach on interpretive research

Non-standardised, flexible nature of qual research makes appraisal difficult

Some aspects of quality difficult to measure, e.g. strength of interpretation

Difficult to construct quality criteria appropriate for all forms of qualitative data collection and methods

But appraisal can make clear ...

Whether study accessed and reported a range of viewpoints

Extent to which the perspectives of the researchers themselves are accounted for

Whether process of analysis is thorough and explicit

How well interpretation is grounded in the data

Examples of quality
assessment criteria
focussing on
technical aspects –
CASP (Critical
Appraisal Skills
Programme)

1. Are the research aims of the study clearly stated?
2. Is a qualitative method appropriate?
3. Was the research design appropriate to address the aims of the research?
4. Was the recruitment strategy appropriate to the aims of the research?
5. Were the data collected in a way that addressed the research issue?
6. Has the relationship between researcher and participants been adequately considered?
7. Have ethical issues been taken into consideration?
8. Was the data analysis sufficiently rigorous?
9. Is there a clear statement of findings?
10. How valuable is the research?

Examples of quality assessment criteria – focus on *interpretive* aspects

- A focus on theoretical and epistemological, rather than technical, markers of quality
- Aims to assess the extent to which the research emphasises the interpretations of those being researched (lay meanings)
- Some key issues:
 - Is there evidence of the tailoring of the research design to the social context of the research?
 - Does the sampling approach produce data to understand the context and processes in which respondents are located?
 - Is a ‘thick’ description provided that allows the reader to understand and interpret the context, intentions and meanings of what is being researched?
 - How has theory been used to build explanations?

Further reading

- Munthe-Kaas H, Booth A, Noyes J. Chapter 7. Assessing methodological strengths and limitations of qualitative studies. Draft version (April 2024) for inclusion in: Noyes J, Harden A, editor(s). Cochrane-Campbell Handbook for Qualitative Evidence Synthesis, Version 1. London: Cochrane
- [geschapter7metv0290424 \(cochrane.org\)](https://www.cochrane.org/geschapter7metv0290424)

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**Activity 4 – Developing
implications for interventions
from a thematic synthesis**

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Activity 4 – Developing implications for interventions from thematic synthesis

Aims

- To experience moving from thematic synthesis themes to implications for interventions
- You will use these implications to integrate the qualitative evidence with effectiveness evidence in subsequent workshop activities.

Activity 4 – Developing implications for interventions from thematic synthesis

Instructions (with suggested timings)

- In small groups: use your thematic synthesis findings and see if you can determine any implications for interventions
- Using the Padlet posts from Activity 1 (link and QR below) what do the identified barriers and facilitators of vaccination uptake suggest will be important intervention components (~40 mins):
- Whole group discussion: In the last part of this activity you will have an opportunity to elaborate on your post and reflect on your experience of moving from qualitative evidence to implications for interventions (~20 mins).
- Padlet link: bit.ly/3BcCpaP, padlet QR code:

