Masterclass:
Conducting Systematic Reviews
& Critical Literature Reviews

SUMMARY

Wednesday 25 September 2024
1pm - 2pm, via Zoom

Dr Ben Bowers QN, Community Nursing Research Consultant, The QNI, ben.bowers@qni.org.uk, @Ben_Bowers_ and Co-Chair, Shelley McLetchie, Senior Lecturer in Nursing Education and Head of Department at King's College, London

- Welcome to everyone - this forum (900 members-strong) is for nurses who are undertaking or considering carrying out research in the community and those keen to be more research aware. It aims to strengthen the capacity of community-based nursing research through peer support, mentorship, and supporting personal development and research opportunities. We offer monthly newsletters about research and research activities, webinars, masterclasses.
- We have a private Facebook group, join it here:
  https://www.facebook.com/groups/qnicommunitynursingresearchforum
- This is the 5th masterclass of 2024. The next one will be on 5 November and will be on 'Conducting Service Evaluations.' To sign up and/or find out more, go to:
  https://qni.org.uk/nursing-in-the-community/community-nursing-research-forum/
  or scan the QR code below:

Shelley McLetchie

Conducting Systematic Reviews and Critical Literature Reviews

Dr Diane Bunn, Associate Professor of Nursing Research, University of East Anglia

My background

- My background is in Adult Nursing - I'm particularly interested in hydration care for older residents of care homes

What are reviews

- Reviews bring together literature on a given topic, to provide a comprehensive overview to inform policy and practice
- Over 2 million articles published - this is a fact from 1994 so is in fact 30 years out of date- it's impossible for a clinician to keep up to date
- There are many different types of reviews for different purposes
- There are wide variations in the degree of process and rigour

Terminology

- Terminology can be confusing - terms are often used interchangeably
- I've worked in rheumatology, where arthritis is an umbrella term, in rheumatology however you want to know what arthritis people are referring to.
- It's the same with reviews, it's an interchangeable way in which things are talked about.
- You may have done a critical literature review as part of your degree to be a nurse. So as you know, it starts with a research question.

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- You'll have been asked to start with a proposal and an outline: that's a critical literature review.

Narrative Literature Review

- A Narrative Literature Review, sometimes called a literature review, provides the background, it's the introduction section.
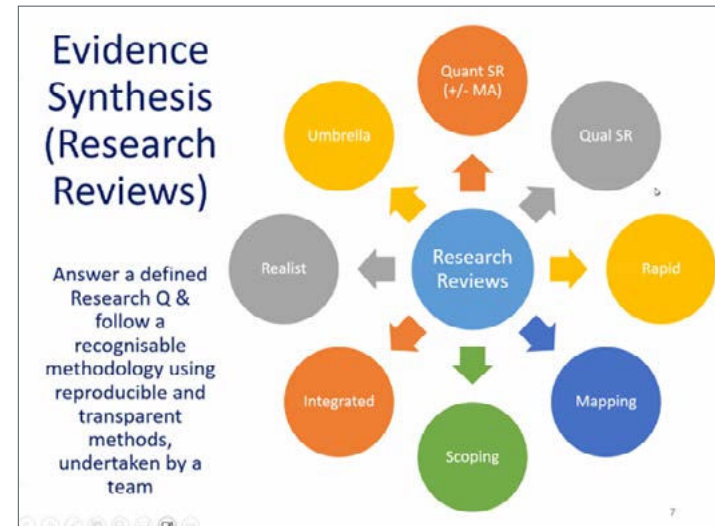
Systematic Review

- The Systematic Review starts with a research question, that's the critical difference. It addresses a specific tightly worded research question to provide evidence in a specific area.

Scoping Review

- A Scoping Review answers a much broader question for eg: we did a scoping review of policies and guidelines about dehydration in care homes.

Research reviews

- You can have quantitative where you're looking at numbers, with or without a meta analysis. You can qualitative, or a mixture of both.
- Rapid reviews are done very quickly. No good definition of rapid reviews, loads of them done during Covid, you dumb down on some of the methods.
- What's key is that everyone follows a very well defined question, a recognised methodology, that the methods are transparent and undertaken by at least 2 people.

Evidence Synthesis (Research Reviews)

Answer a defined Research Q & follow a recognisable methodology using reproducible and transparent methods, undertaken by a team

Quant SR (+/- MA), Qual SR, Rapid, Mapping, Scoping, Integrated, Realist, Umbrella, Research Reviews

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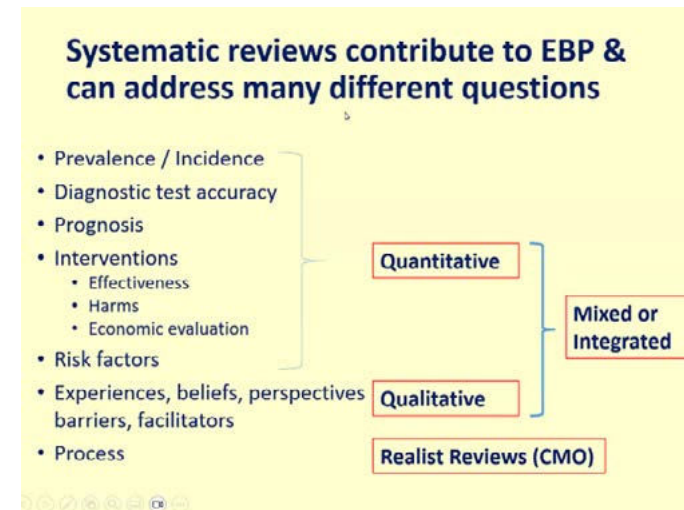**Why do we need reviews in health & social care?**

- Evidence based practice is the integration of research evidence with clinical expertise and patient values
- It adds to our research base: it adds to the patients' voice.
- Mulrow, 1994, see article in full here: https://pubmed.ncbi.nlm.nih.gov/8086953/

Hierarchy of Evidence

- A taxonomy that organises clinical research based on study designs and possible risk of bias
- Systematic reviews always sits at the top, they're always the best
- Systematic reviews became popular from about 1990s onwards as their value in supporting evidence-based healthcare was recognised
- Used by NICE and other policy boards

Limitations of Systematic Reviews - word of warning:

- Publication bias
- Poor quality of underlying evidence
- Complex and time consuming
- Clinical relevance
- Rapidly out of date

Systematic reviews contribute to EBP & can address many different questions

- Prevalence / Incidence
- Diagnostic test accuracy
- Prognosis
- Interventions
  - Effectiveness
  - Harms
  - Economic evaluation
- Risk factors
- Experiences, beliefs, perspectives, barriers, facilitators
- Process

Quantitative

Qualitative

Mixed or Integrated

Realist Reviews (CMO)

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Difference between Audit, Service Evaluation and Research/Quality Improvement

- Service evaluation: what are we actually doing? (locally)
- Audit: What should we be doing? (locally)
- Research: How do we know what to do to make things better? (widely)
- All this creates evidence which leads to service improvement (local initiatives) - SIP methodology tell us how we can make things better in our clinical area

Evidence synthesis and how to get started

- Cochrane (https://www.cochrane.org/) and JBI (https://jbi.global/) collaboration both recognised internationally, both develop methodologies for systematic reviews

Key steps

1. Focussed review question
2. Define the terms
3. Comprehensive search
4. Selection of studies using clear and reproducible eligibility criteria
5. Analysis: data extraction
   Analysis: assessing risk of bias & quality assessment
7. Synthesis of findings
8. Interpretation of results and reporting

- Word of warning: they take time! You need to allow for time, they don't happen overnight.

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Gather your team

- Who are the experts you need? You may want a librarian for example, a clinician etc
- It should be at least 2 people - I would be concerned if a SR had only one author..systematic reviews are team events
- Get to know your topic areas - look at reviews in your area, don't reinvent the wheel
- Involve PPI (public & patients) in systematic reviews (see CNRF resource here: https://qni.org.uk/nursing-in-the-community/community-nursing-research-forum/ppie-resources/
- PPI makes research more relevant to the people it's trying to help
- It improves communication and helps define what is acceptable to participants and perhaps improve their research experience
- Repository
- It's good practice to register in a repository - you can go to Prospero (https://www.crd.york.ac.uk/prospero/) to register your protocols there - good for transparency. A lot of work goes into these - its like following a recipe.

Define the terms

- You need to make sure everyone knows you're talking about the same thing. For eg for older people, is that over 60 years old? 70 years old? Be very clear. If you don't use all the terms, you won't find all the literature!

Focussed Review question

1. Deciding on the research question is an essential element of all research (including research reviews).
2. It directs the research review, as the researcher seeks to answer it
3. Research starts with uncertainty & the lack of certainty leads to the question development (Ellis, 2016)
4. What type of question are you asking?
   - E.g.: Diagnosis, Aetiology, Therapy, Nursing/Medical Care, Prognosis, Prevention
4. Use a structured approach (eg. PICO, PICOS, PICOT, PEO, SPIDER) to ensure a clear and succinct question.

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Searching

- Search in Cochrane Database of reviews, Prospero, General Databases (eg Medline, EMBASE, CINAHL, in specific databases such as Medicines Complete, PEDRO, ERIC, BNI etc, grey literature, citation searches.
- The aim of the search is to find papers which focus your issue/question
- A huge issue in my research: in the English world, 'drinking' was associated with hydration for me, but others understood 'alcohol'.
- Developing your research is an iterative process.
- There is no such thing as a perfect search - depends on the databases and how they catalogue their papers: you're aiming for the best balance you can, it's trial and error and it can take weeks to develop, depending on the complexity of the review.

What is data extraction and why do you need it?

- If a paper meets your eligibility criteria, you need to read it carefully to look for the data that you need to answer your research question
- You are only looking for the data that addresses your research question - you should be doing this with another team member
- You'll be using data extraction forms - as with eligibility forms you'll need to design your own for your review

Assessing the risk of bias

- This is a crucial part - bias is not the same as quality in study conduct or quality of reporting

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- Even a well conducted study can be at risk of bias
- Not all methodological flaws are relevant to bias
- Funding source may not affect quality of study, but may be a source of bias (think of baby milk)

Synthesis

- Synthesise findings and present using a well-described method: quantitative review: narrative and/or meta analysis; qualitative review: meta synthesis, meta aggregation, meta ethnography, thematic
- Following synthesis you assess quality of synthesis, what is GRADE (Grading of Recommendations, Assessment, Development and Evaluation) (www.gradeworkinggroup.org)

Discussion

- interprets and describes the significance of your findings
- Take a critical stance towards your approach
- Provide recommendations for practice and policy
- Provide future direction

Reporting and Dissemination

- Select the appropriate journal and publish!
- Report your findings following Reporting Guidelines, see ENTREQ or PRISMA
- Think about who else needs to know about this? Clinicians on the ground for example?

Quality scales, Risk of Bias, checklists

- many scales available (some not supported by empirical evidence)
- no single approach is appropriate for all
- depends on the type of review you are doing
- you need to know about study designs to select the appropriate scale
- different scales, different conclusions
- may include criteria not related to bias
- numerical weighting not justified, as difficult for readers to interpret the score
- Choose or devise a scale appropriate for your review

(i) Cochrane Training Slides on Risk of Bias: https://pdfs.semanticscholar.org/b2e5/4b74b82ab219236c8a595be2e0f7eb9836e1.pdf
(ii) Joanna Briggs Institute: http://joannabriggs.org/ [accessed 18/09/2024]
(iii) CASP: https://casp-uk.net/casp-tools-checklists/ [accessed 18/09/2024]

Thank you to all delegates who attended the Masterclass.

The next masterclasses:

- 4 November - Conducting service evaluations

To join the forum or book your free place on a masterclass, scan the QR code
or go to www.qni.org.uk/news-and-events/events/

As a Community Nursing Research Forum member we'd be very grateful if you could take our short survey.

Take part in our survey

Join our private Facebook group:
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The Queen's Nursing Institute

Thank you to all delegates who attended today's meeting.
FEEDBACK:

Amazing presentation, thank you so very much Diane :)

Thank you this has been very interesting.

My first session with you, I've really enjoyed it, thank you :)

This was really helpful and informative, thanks Diane

Thank you for a very informative session.

Amazing session, thank you all