

Evidence Synthesis Research Scoping review for Honours Projects

Professor Tivani P Mashamba-Thompson
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Make today matter



UNIVERSITEIT VAN PRETORIA
UNIVERSITY OF PRETORIA
YUNIBESITHI YA PRETORIA

Faculty of
Health Sciences

Fakulteit Gesondheidswetenskappe
Lefapha la Disaense tša Maphelo



Learning Outcomes

At the end of this session, you should be able to understand the following:

- Difference between scoping review method and other evidence synthesis research methods
- Scoping review framework
- Structure of a scoping review protocol

Rule for this Webinar

- Switch your cell phone off
- Ask a question at end of a slide
- Please feel free to ask questions
- Ask questions

Outline

- Defining scoping review
- Scoping review theories
- Steps involved in conducting a scoping review
- Structure of a scoping review protocol
- Identifying target journals for scoping review protocols

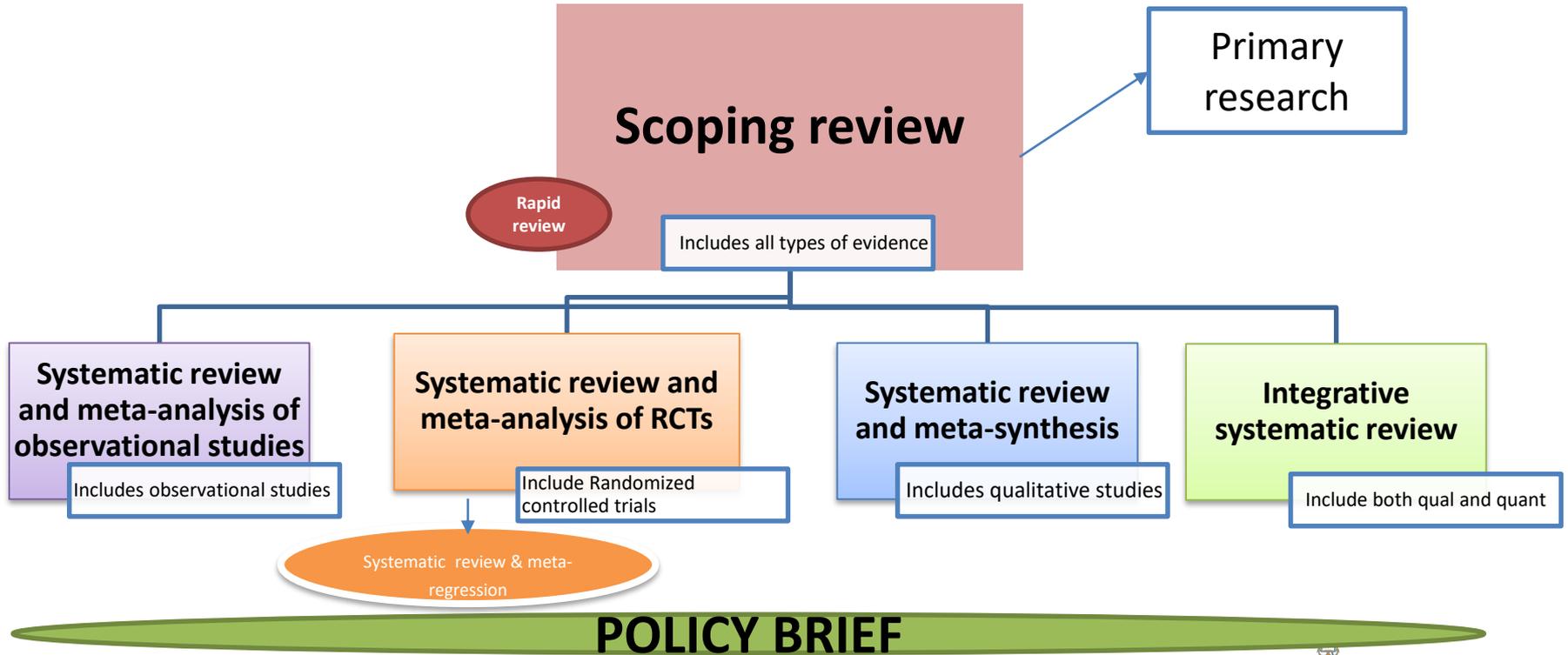


Defining Scoping Review

- A type of research synthesis that follow a systematic approach to **map** the literature
 - on a particular **topic or research area**
 - provide an opportunity
 - to identify key concepts
 - to identify knowledge gaps
 - to set the agenda for research
 - To identify types and sources of evidence to **inform practice, policymaking, and research**

Daudt, H. M., van Mossel, C., & Scott, S. J. (2013). Enhancing the scoping study methodology: a large, inter-professional team's experience with Arksey and O'Malley's framework. BMC medical research methodology, 13(1), 1-9.

Defining scoping review

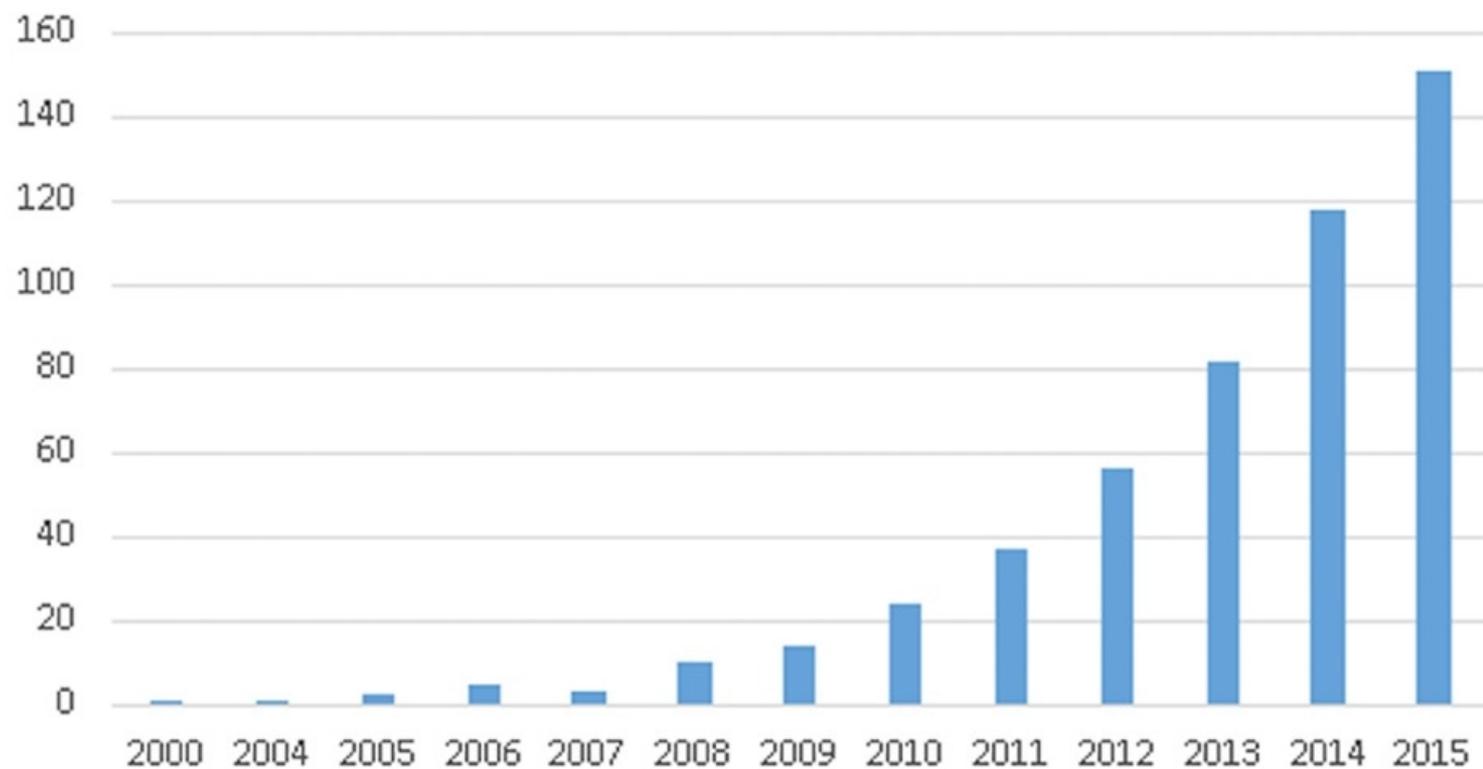


Defining Scoping Reviews (cont)

- Modern, transdisciplinary, multidisciplinary and under utilized research method in our context
- Type of research method that allows researchers to bring **together all relevant information on ONE specific research question.**
- Unlike systematic review, scoping review does not seek to determine effect or impact of interventions
- Generally include a methodical and comprehensive literature synthesis focused **on a well-formulated research question**
- The question should be refined using **PCC (Population Concept and context)** nomenclature
- PCC must be well defined *a priori* – **at protocol stage**

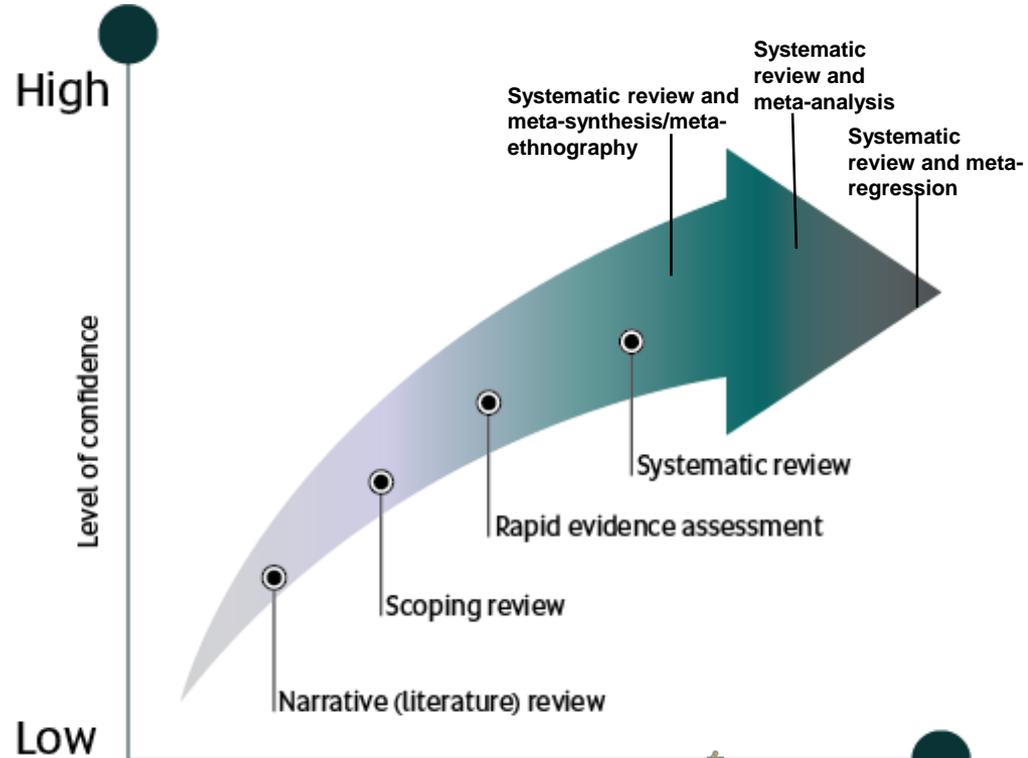


Count-Scoping Reviews (PubMed & CINAHL)



Level of Confidence - Scoping Review

- Reliability of the evidence to guide policy and practice
- Replicability of the study
- Level of trustworthiness of evidence



Why Conduct Scoping Reviews

- To determine:
 - the extent (that is, size)
 - range (variety)
 - nature (characteristics) of the evidence on a topic or question
 - the value of undertaking a systematic review
 - summarize findings from a body of knowledge that is heterogeneous in methods or discipline
 - identify gaps in the literature to aid the planning and commissioning of future research



Scoping Review Theories

- Arksey and O'Malley (2005) formulated framework
- Levac et al. (2010) advanced the method
- Joanna Briggs Institute Reviewer's Manual provided a guide for conducting scoping review
- Tricco developed a PRISMA ScR chart and checklist for reporting results
 - Increases transparency of methods
 - Allows readers to judge validity and reliability
 - Appropriateness of the search strategy



Arksey and O'Malley (2005) framework

- Stage 1: identifying the research question
 - Rationalizing the question and presenting in on PCC
- Stage 2: identifying relevant studies
 - Database search
- Stage 3: study selection
 - Title, abstract and full-article screening
- Stage 4: charting the data
 - Data extraction- use a tool with defined variables
- Stage 5: collating, summarizing and reporting the results
 - Characteristics of included studies in a table and thematic analysis
- Stage 6: framework optional stage: consultation exercise
 - You need to apply for ethics approval if you want to include this stage



Levac et al. (2010) advanced the method

- Recommendations include:
 - clarifying and linking the purpose and research question (**stage one**)
 - balancing feasibility with breadth and comprehensiveness of the scoping process
 - using an iterative team approach to selecting studies (stage three) and extracting data incorporating a numerical summary
 - qualitative thematic analysis
 - reporting results, and considering the implications of study findings to policy, practice, or research
- The purpose of undertaking a scoping study -- to identify gaps in the existing literature -- may **yield false conclusions about the nature and extent of those gaps** if the quality of the evidence is **not assessed**

Tricco PRISMA ScR Chart and Checklist

- **PRISMA-ScR** chart can help with reporting screening results
- **PRISMA-ScR** can be accessed online
- **PRISMA-ScR** checklist was developed following published guidance from the EQUATOR (Enhancing the QUALity and Transparency Of health Research) Network.
- **PRISMA-ScR checklist** helps readers develop a greater understanding of relevant terminology, core concepts, and key items to report for scoping reviews

Title Registration for Scoping Reviews

- Register your scoping review in Open Source Framework (OSF) registries
 - Do this after completing the protocol
- Do this for transparency
- To solicit collaboration
- To save to title
- Can't be registered on PROSPERO

Article Screening

- A process of selecting articles that are clearly not related to your topic
- Determine whether the articles are relevant the research question.
- Steps:
 - Screening of the title and abstracts of articles
 - Retrieve articles included following article screening
 - Screening of retrieved full articles
- Screening must be guided by the study inclusion/exclusion criteria
- It is highly recommended that **two independent reviewers** screen all studies
- At abstract stage reviewer should resolve areas of disagreement by consensus
- At full article screening stage reviewers must invite an additional reviewer to screen the disputed articles, **preferably the study PI**
- Electronic tools are required for screening, don't attempt doing this manually
 - Covidence
 - Ray.an
 - **Google form**



Creating a Google Form

- Go to Google Drive
- Open a Google form
- Give the for a title
- First question should always be author and date
- Use your inclusion exclusion to create questions for your screening form
 - First screening question should be study setting, followed by population and the rest
 - Answer to screening questions should be Yes/No
 - Avoid using maybe

Quality Appraisal

- Quality appraisal is about making judgment of the evidence retrieved
 - at least two reviewers independently involved in the appraisal process using the mixed methods appraisal tool (MMAT). Two at tool piloting stage.
- Requires experience or training in research methodologies.
 - developed to provide a quality appraisal tool for quantitative, qualitative and mixed methods studies included in evidence in evidence synthesis studies
 - It cannot be used for non-empirical papers such as review and theoretical papers
 - allows the appraisal of most common types of study methodologies and designs
 - the tool is presented as a well structured spreadsheet
 - **specific designs such as economic and diagnostic accuracy studies cannot be assessed with the MMAT**

Data Extraction

- Develop a data extraction tool – Use Google form
- Variable are determined by the research question
- In general -extract the following variables:
 - Author (surname of first author) and year of publication
 - Study setting
 - Geographic setting
 - Study population
 - %male
 - %female
 - Average age of participants
 - Study design
 - Aim of the study
 - Main findings
 - Conclusion



Requirement for ethical approval

- If this is done to answer a honours degree project research question then you are likely to need ethical approval
- Please double check with your Faculty ethics committee



Reading List

- **Arksey and O'Malley (2005) framework**

Arksey, H., & O'Malley, L. (2005). Scoping studies: towards a methodological framework. *International journal of social research methodology*, 8(1), 19-32.

- **Levac et al. 2010 advanced the method**

Levac, D., Colquhoun, H., & O'Brien, K. K. (2010). Scoping studies: advancing the methodology. *Implementation science*, 5(1), 1-9.

- **Joanna Briggs Institute Reviewer's Manual provided a guide for conducting scoping review**

Peters MD, Godfrey CM, Khalil H, McInerney P, Parker D, Soares CB. Guidance for conducting systematic scoping reviews. *Int J Evid Based Healthc*. 2015;13(3):141–6.

- **Tricco et al developed a PRISMA-ScR chart and checklist for reporting results**

Tricco, A. C., Lillie, E., Zarin, W., O'Brien, K. K., Colquhoun, H., Levac, D., ... & Straus, S. E. (2018). PRISMA extension for scoping reviews (PRISMA-ScR): checklist and explanation. *Annals of internal medicine*, 169(7), 467-473.

Khalil, H., Peters, M. D., Tricco, A. C., Pollock, D., Alexander, L., McInerney, P., ... & Munn, Z. (2021). Conducting high quality scoping reviews- challenges and solutions. *Journal of clinical epidemiology*, 130, 156-160.

- **Example of scoping review protocol**

Tricco, A. C., Zarin, W., Lillie, E., Pham, B., & Straus, S. E. (2017). Utility of social media and crowd-sourced data for pharmacovigilance: a scoping review protocol. *BMJ open*, 7(1), e013474.

- **OSF register webinar**

<https://www.youtube.com/watch?v=EnKkGO3OM9c>

- **Mixed methods quality appraisal tool**

Hong, Q. N., Pluye, P., Fàbregues, S., Bartlett, G., Boardman, F., Cargo, M., ... & Vedel, I. (2018). Mixed methods appraisal tool (MMAT), version 2018. Registration of copyright, 1148552, 10.

