Scoping and Systematic Reviews: Planning and Managing your Review

Grad Success Week

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Learning Outcomes

1. Describe the differences between scoping, systematic and narrative review methodologies.
2. Select the most appropriate review methodology for a project and research question.
3. Recall best practices for planning, organizing, and conducting scoping and systematic reviews.

What is knowledge/evidence synthesis?

Synthesis is: “the contextualization and integration of research findings of individual research studies within the larger body of knowledge on the topic. A synthesis **must be reproducible and transparent in its methods**, using quantitative and/or qualitative methods.”
(Canadian Institutes of Health Research: http://www.cihr-irsc.gc.ca/e/29418.html#4.1)

Traditional/Narrative

Systematic

Scoping

Mixed Methods

Rapid

Realist

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Basic Review Process

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Comparing Purpose and Process

Narrative Review

- Critical summary (interpretation and critique) of research on a broad topic or research area.
- Typically focuses on recent/current literature
- Seeks to deepen understanding of a topic.

Scoping Review

- Comprehensive overview of the literature on a focused research question, with broad parameters.
- Comprehensive search for all relevant literature
- Focuses on assessing and providing a comprehensive overview of the scope, size and strengths, gaps and research opportunities in a research base.

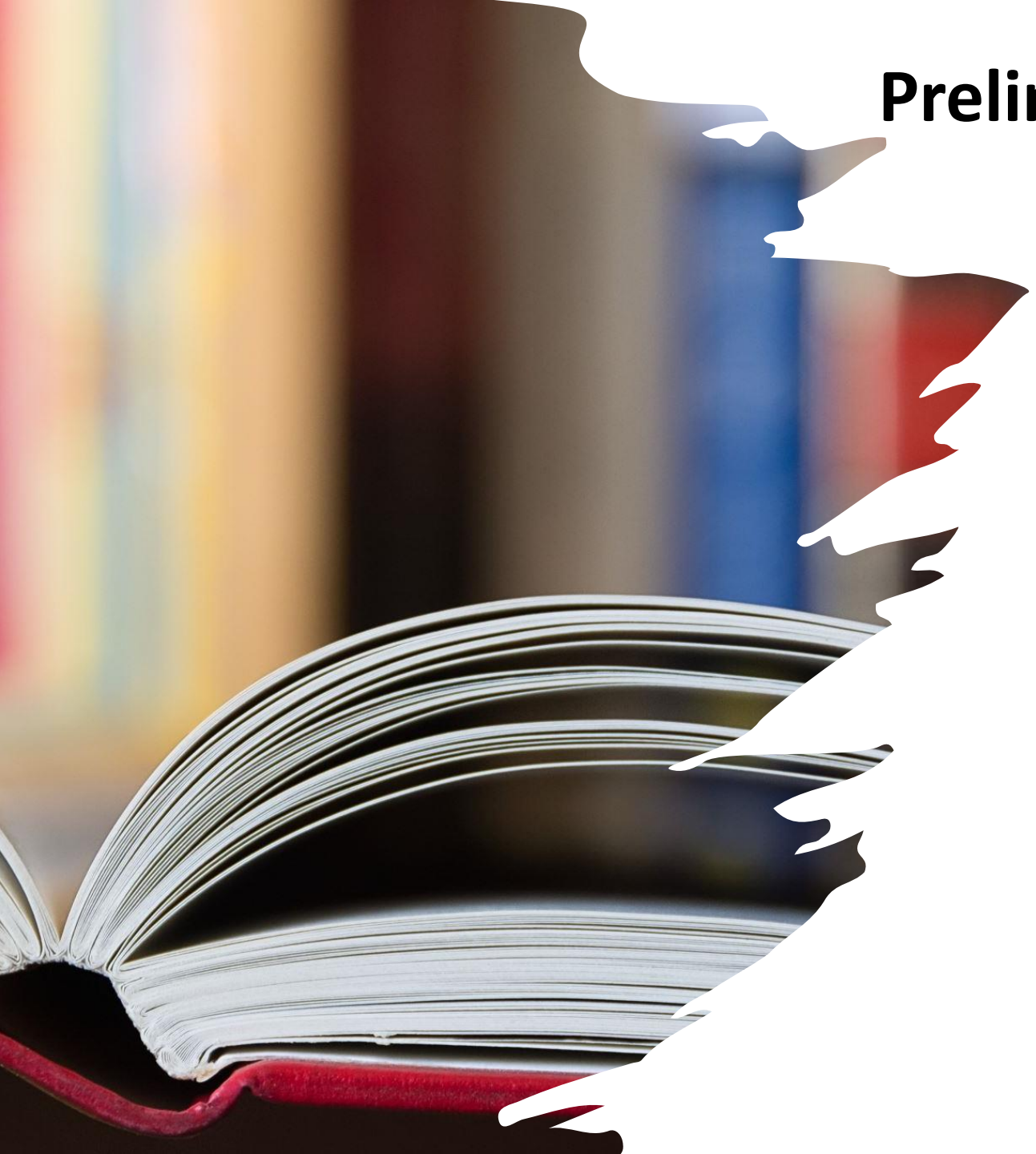
Systematic Review

- Comprehensive and critical review of the literature on a focused research question, with narrow parameters.
- Comprehensive search for all relevant literature. May include a meta-analysis.
- Generates a conclusion regarding the impact of a specific intervention, program, or association/exposure.

Planning a Review

1. Know your scope of work.
2. Complete a preliminary scan of the literature to identify sample papers.
3. Develop/refine your research questions.
4. Choose an appropriate review methodology.
5. Assemble your team.
6. Create a review plan/protocol.

Purpose	Course Assignment Research/Funding proposal Inform Future Research Inform a Practice or Policy Decision Funded Research
Research Question	
Timelines	How much time do you have to complete your review?
Resources	Number of people on your team? Does the team have the expertise needed to complete this study? Do you have the tools (e.g software) required to do this work?



Preliminary Scans of the Literature

- HOW:
  - Quick search of the literature in one or two databases (e.g Google Scholar)
- WHY:
  - Confirm if a prior review already exists
  - Identify disciplinary areas and scope of what has been published
  - Determine or confirm topics/questions that will be the focus of your review
  - Ensure there is enough/any literature
  - Identify terminology/language
  - Locate relevant seed/known articles

Finalize your Research Questions

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Choosing a Review Methodology

Methodologies – Informing your Choice

- Manuals/guidelines:
  - JBI Manual for Evidence Synthesis. JBI, 2020. Available from https://synthesismanual.jbi.global. https://doi.org/10.46658/JBIMES-20-01
  - Alexander, P. A. (2020). Methodological guidance paper: The art and science of quality systematic reviews. *Review of Educational Research*, *90*(1), 6-23.
  - Munn Z et al (2018). Systematic review or scoping review? Guidance for authors when choosing between a systematic or scoping review approach. BMC Medical Research Methodology. 19;18(1):143. https://doi.org/10.1186/s12874-018-0611-x

- Read previously published papers using these methodologies

Scope of Work

Review Methodology

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Recalling Purpose and Process

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Assemble your Team (Scoping and Systematic Reviews)

- Content experts
- Methodology experts
- Statistics expert (for a meta-analysis)
- Project Coordinator/Manager?

Average # is 5 authors

Borah, R., Brown, A. W., Capers, P. L., & Kaiser, K. A. (2017). Analysis of the time and workers needed to conduct systematic reviews of medical interventions using data from the PROSPERO registry. *BMJ open*, *7*(2), e012545.

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Create a Review Plan

WHAT QUESTION?

WHY DO THIS REVIEW? (RATIONAL/ BENEFIT)

HOW WILL THE REVIEW BE COMPLETED (METHODS)

WHO WILL PARTICIPATE AND WHAT WILL THEY DO? (EXPERTISE AND TASKS)

WHEN SPECIFIC PROCESS STEPS BE COMPLETED (TIMELINES)

Elements of a Review Plan

1. Introduction:
   - Describe your topic and outline your **research question**(s)
2. Methods:
   - **Types of documents** (study designs) you will include (e.g articles, grey literature).
   - Where you will look for evidence (**databases and other information sources**).
   - **Concepts and terms** you will use to search databases for evidence.
   - Inclusion/exclusion criteria you will use to select studies to include in your synthesis.
   - What data (including outcomes or findings) you hope to extract from each study.
   - How you will select and analyze (qualitative, statistical) your studies.
   - What **software or other tools** will be used to facilitate review processes
   - How you will reduce bias (ensure review quality) in your review processes
   - Who (team members) will be involved in various stages of your review.
3. Timelines

Writing Protocols - Before You Start Your Research - LibGuides at Health Science Information Consortium of Toronto (utoronto.ca)

Searching Norms

Resource	Systematic Review	Scoping Review	Narrative Review
Databases (eg.CINAHL, ERIC, Medline)	Yes	Yes	Yes
Grey literature/preprints	Consider	Consider	Typically No
Reference list check	Yes	Consider	Consider
Cited references	Yes	Consider	Consider
Hand search journals	Consider	Not essential	Typically No
Contact with experts	Consider	Not essential	Typically No
Research in progress	Consider	Not essential	Typically No

Adapted from: Booth A, Sutton A, Papaioannou D. *Searching the literature* In: Systematic approaches to a successful literature review. London: Sage; 2016. p. 127-128.

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Tips for Selecting Databases

Consider database *coverage* ….

- Academic disciplines
- Types of documents (journals, grey literature)
- Publication dates, geographic
- Quality of indexing

Search *several* databases

- No database indexes all literature on a topic
- Overlap between databases is common

https://library.ucalgary.ca/az.php

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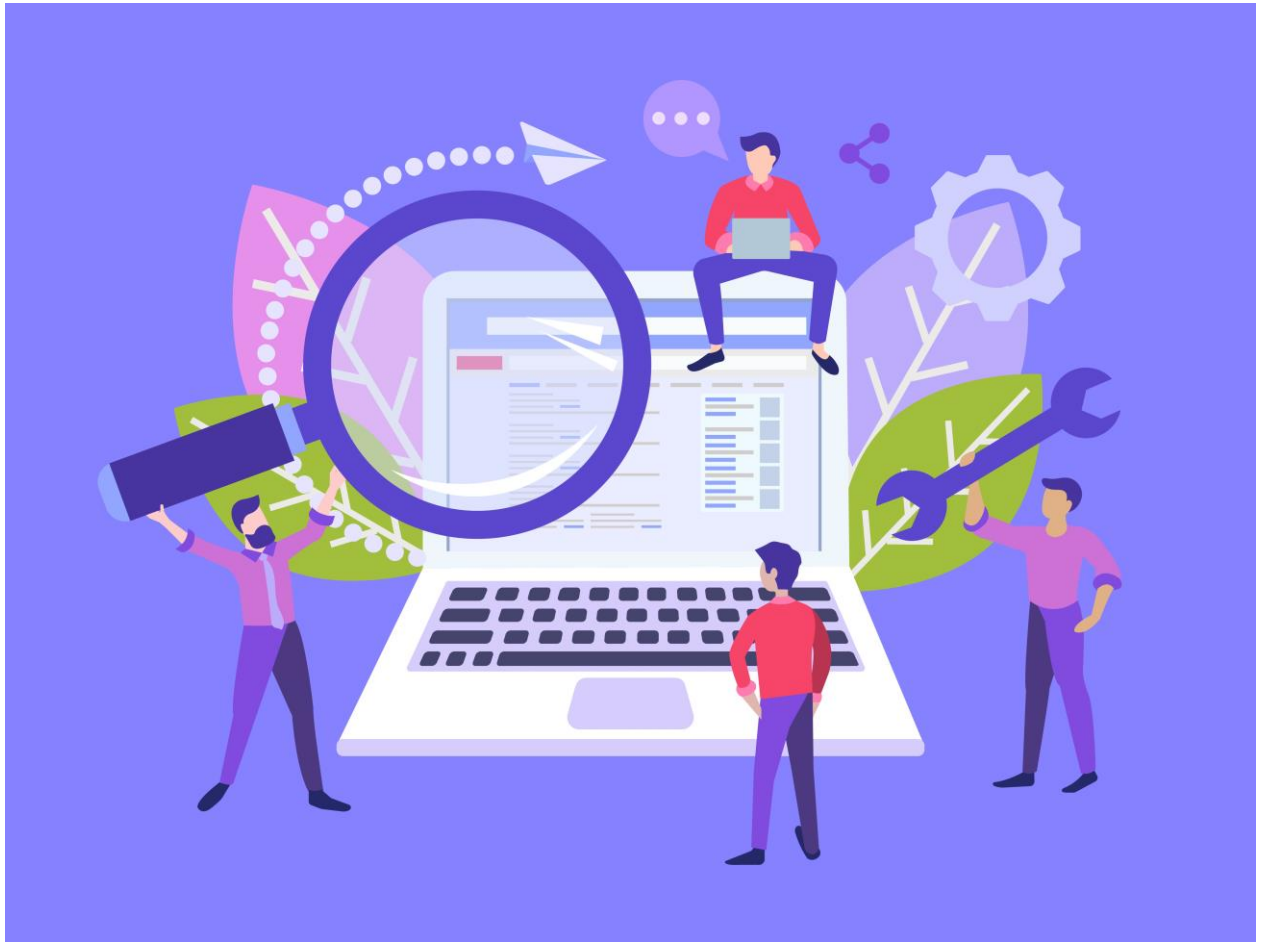
Tools

- Computers/Laptops
- Access to databases and other sources of evidence
- Screening, Data Analysis and Citation Management Software (e.g. Covidence, Nvivo, Stata, Zotero/EndNote)



Organization and Documentation

Organizing/Documenting Review Processes

- Record process changes in your planning/protocol document.
- Save your search strategy in each database.
  - Create an account
  - Label the search with database name, date, and version
- Keep detailed records of all database and other searches.
  - Databases searched and date of each search.
  - Exact search strategy (Word document), including any limits applied (e.g., language or year of publication).
  - Number of results in each database.
- Ensure you are aware of/adhere to reporting guidelines/recommendations for your review methodology.

Reporting Guidelines for Reviews

equator network

Enhancing the QUAlity and Transparency Of health Research

EQUATOR resources in German | Portuguese | Spanish

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Your one-stop-shop for writing and publishing high-impact health research

find reporting guidelines | improve your writing | join our courses | run your own training course | enhance your peer review | implement guidelines

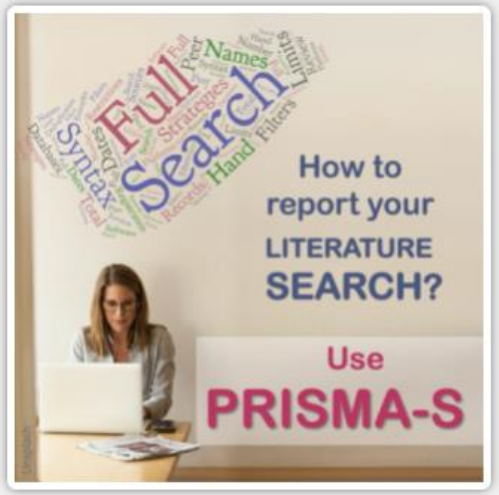
Library for health research reporting

The Library contains a comprehensive searchable database of reporting guidelines and also links to other resources relevant to research reporting.

- Search for reporting guidelines
- Not sure which reporting guideline to use?
- Reporting guidelines under development
- Visit the library for more resources

Reporting guidelines for main study types

Randomised trials	CONSORT	Extensions
Observational studies	STROBE	Extensions
Systematic reviews	PRISMA	Extensions
Study protocols	SPIRIT	PRISMA-P
Diagnostic/prognostic studies	STARD	TRIPOD
Case reports	CARE	Extensions
Clinical practice guidelines	AGREE	RIGHT
Qualitative research	SRQR	COREQ
Animal pre-clinical studies	ARRIVE	



The EQUATOR Network | Enhancing the QUAlity and Transparency Of Health Research (equator-network.org)

PRISMA 2020 Reporting Guidelines

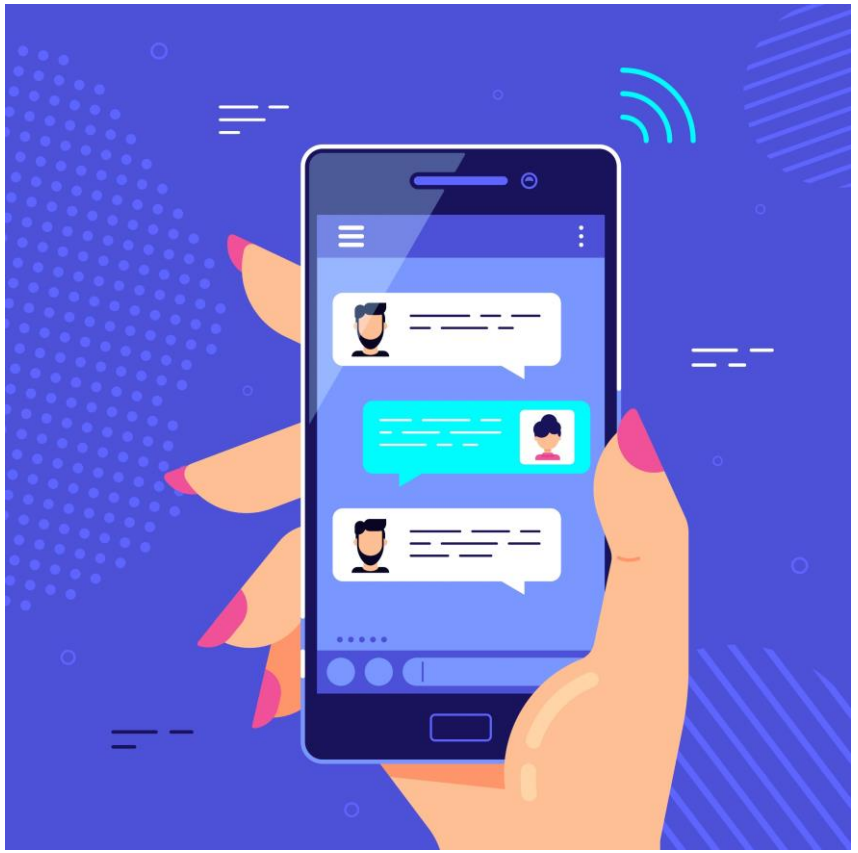
- PRISMA Statement (Systematic Reviews)
  - PRISMA (prisma-statement.org)
- PRISMA Statement (Scoping Reviews)
  - PRISMA (prisma-statement.org)
- PRISMA/P extension for Protocols
  - PRISMA (prisma-statement.org)

Getting Help

Web-Based Research Guides

- Literature Reviews: a Research Guide
- Systematic Reviews Workshop Series - companion guide
- Systematic Reviews in the Health Sciences

Ask Questions – Online Chat



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Book a Meeting with a Librarian

https://library.ucalgary.ca/consultation

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Questions?

References

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