Learning objectives

- Know key differences between literature reviews, systematic reviews, and scoping reviews
- Describe the steps of a systematic or scoping review
- Be aware of guidelines for writing a systematic or scoping review
- Explain why it is important to identify the main concepts of your topic
- Identify the main concepts in your topic and apply them to a framework of your choice
- Know where to search for published reviews and reviews in progress on your topic
- Describe where you can register your own review protocol
Systematic review definition

"A systematic review attempts to identify, appraise and synthesize all the empirical evidence that meets pre-specified eligibility criteria to answer a given research question.

Researchers conducting Systematic Reviews use explicit methods aimed at minimizing bias, in order to produce more reliable findings that can be used to inform decision making."

From the Cochrane Handbook for Systematic Reviews of Interventions: handbook.cochrane.org
Scoping review definition

**Scoping reviews** map the literature on a research question. They often have a broader research question than systematic reviews, and usually do not appraise the quality of included studies.

Conducting a scoping review uses many of the same methods as a systematic review, such as a comprehensive, replicable search and a systematic screening process.
## Systematic and literature review comparison

More details at: [https://guides.library.ubc.ca/SystematicReviews/types](https://guides.library.ubc.ca/SystematicReviews/types)

<table>
<thead>
<tr>
<th></th>
<th>Systematic Review</th>
<th>Literature Review</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Purpose</strong></td>
<td>To find the answer to a specific research question</td>
<td>Need not answer a question, e.g. synthesis of theories</td>
</tr>
<tr>
<td><strong>Methodology</strong></td>
<td>As prescribed precisely by PRISMA*</td>
<td>Varies by discipline and topic</td>
</tr>
<tr>
<td><strong>Criteria for evidence</strong></td>
<td>Pre-defined and confirmed by 2+ raters</td>
<td>May not be explicitly defined</td>
</tr>
<tr>
<td><strong>Type of publications retrieved from search</strong></td>
<td>Primary research</td>
<td>Varies, may draw on all types of research and primary sources</td>
</tr>
<tr>
<td><strong>Database(s) search terms and strategies</strong></td>
<td>Explicit search, documentation required</td>
<td>Explicit search, documentation not generally required</td>
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</table>
Other synthesis methods

A systematic review might include a *meta-analysis*, which pools and analyzes data from included studies. Some meta-analyses do not include a systematic review of literature.

There are many other *types of reviews*, such as:

- Realist reviews
- Rapid reviews
- Integrative reviews

*Optional*: if you’d like to learn more about types of reviews, please see:

Steps of a systematic or scoping review
(adapted from Cochrane Handbook)

Stage 1: Plan the Review
1. Form a review team
2. Do exploratory searches and develop research question
3. Write and register a protocol

Stage 2: Identify and evaluate studies
4. Conduct a systematic search
5. Screen studies

Stage 3: Extract and synthesize data

Stage 4: Report findings
Why register your protocol?

Reasons include:

- Avoid duplication of effort
- Increase transparency
- Reduce bias
- Raise awareness of your work pre-publication

Registering a protocol

Journals increasingly expect protocol registration. You can register in:

- PROSPERO: systematic reviews in health only. No scoping reviews; long delay in registration; potential to be declined.
- Open Science Framework: immediate registration possible. Any topic or review type.

Several journals also publish protocols.
PRISMA reporting requirements

Checklists from PRISMA have been adopted as best practices for reporting by many journals:

- **PRISMA-P** for protocols
- **PRISMA** for systematic reviews
- **PRISMA-ScR** for scoping reviews

Most journals also expect your search and screening process to be described visually in a **PRISMA flow diagram**.
Other guidelines for performing a review

Guidelines for systematic and scoping reviews include:

• **Cochrane Handbook** (health systematic reviews)
• **Campbell Collaboration** (social sciences systematic reviews)
• **Joanna Briggs Institute** (health scoping and systematic reviews)
• **Collaboration for Environmental Evidence** (systematic reviews and maps)

Optional: to see more guidelines, see the Further Reading section of our guide: guides.library.ubc.ca/SystematicReviews/readings
Search demonstration
Conceptual frameworks help...

By giving you a set of boxes (defined boundaries) to divide your concepts into

Common frameworks: PICO or PCC

SPICE, PESICO, SPIDER, ECLIPSE, etc.

Different frameworks work well with different types of research or fields of study
Identifying major concepts of your topic

Separating out the major components of your topic of interest will help you to:

- Clarify and develop your research question
- Prepare for your initial search by brainstorming for relevant keywords and synonyms

This is a preliminary stage and your defined research question may change as a result of your initial search
Among P, does I (versus C) affect O?
Not all questions fit into a neat framework. Whatever your research question is, it’s important to identify its 2 or 3 main concepts to guide your database search.

It is perfectly acceptable to use: Concept 1, Concept 2, and Concept 3 as your starting framework.

Example Question: Could the current pandemic situation be expected to cause PTSD in doctors?
Your search topic: Could the current pandemic situation be expected to cause PTSD in doctors?

<table>
<thead>
<tr>
<th>Concept One</th>
<th>Doctors</th>
<th>OR</th>
<th>Physician(s)</th>
<th>OR</th>
<th>Clinician(s)</th>
</tr>
</thead>
</table>

AND

<table>
<thead>
<tr>
<th>Concept Two</th>
<th>COVID-19</th>
<th>OR</th>
<th>PANDEMICS (MeSH 2011)</th>
<th>OR</th>
<th>Novel coronavirus</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>DISEASE OUTBREAKS (MeSH 1966-2010)</td>
<td></td>
<td>Epidemic</td>
</tr>
</tbody>
</table>

AND

<table>
<thead>
<tr>
<th>Concept Three</th>
<th>post-traumatic stress disorder</th>
<th>OR</th>
<th>PSYCHOLOGICAL TRAUMA (MeSH 2016)</th>
<th>OR</th>
<th>PTSD (also: posttraumatic stress disorder(s), post traumatic stress disorder(s), emotional trauma, moral injur(-y or -ies))</th>
</tr>
</thead>
</table>
Boolean operators are useful for combining subject headings and keywords. For example:

- Doctors **OR** physicians finds articles that include either or both concepts
- Doctors **AND** COVID-19 finds articles with both these concepts

**NOT** is another operator which will find one concept while excluding another. Use with caution because you may exclude relevant articles this way.
Searching for existing reviews and protocols

- If someone else has published a recent, well-conducted review on your topic, or has a review underway, you might consider refining your question.
- If you find a review on a topic similar to yours, it may be useful to look through their search strategy and included studies.
- If you find a protocol similar to yours, you might reach out to the team to collaborate.
Writing Your Methods Section

Writing a clear methods section will help other researchers understand and reproduce your search.

Resources that will help you write your methods section:

- [https://www.york.ac.uk/crd/guidance/](https://www.york.ac.uk/crd/guidance/) (Appendix 3)
- [https://www.cadth.ca/resources/finding-evidence/press](https://www.cadth.ca/resources/finding-evidence/press)
Part 2 of the Systematic Review Workshop

We have really only brushed the surface of all of the things you might want to know, tools you can use, and places to search. Part 2 of this workshop will be shaped by your responses to our survey. Content options include:

• Searching other databases and grey literature searching (other sources)
• How to document and create a reproducible review (Covidence, citation managers, Excel, PRISMA variations)
• Overview of the systematic or scoping review process

Hope to see you there!