

SYSTEMATIC REVIEWS

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Objectives

- To define a systematic review
- To emphasise the MSL's role in systematic review support
- To outline the 7 stages in doing a systematic review
- To outline the steps when reviewing literature/data for the systematic review
- To identify key literature resources to support systematic reviews

Definition

A systematic review

is a scholarly summary of evidence to support a research question, using reliable, objective, thorough and reproducible research practices and sources.

- Begins with a question
- Transparent process: uses explicit methods to identify, select, appraise and synthesize results from similar but separate studies.
- Therefore a replicable process
- Has specific protocols
- Makes sense of information overload and different types of data available *(More data more confidence)*
- Size can vary from 10 to 100 pages.

Know the Difference

- Literature Review: you identify/summarise trends, arguments in your topic as identified by other authors.
- Scoping Review: focus is on collating the body of literature on a topic.
- Systematic Review: specific to evidence-based research disciplines; focus begins with a research question, clearly defined search criteria, assessing validity of findings and reporting

Why conduct a systematic review?

- The gold standard in evidence synthesis.
- Systematic reviews answer research questions
- Strongly influence important decisions such as patient care and resource allocation
- “Because the lecturer....” 😊

7 Stages of Doing a Systematic Review

1. Establish the research team

- Identify the content and methods experts on your team.
- Develop the process of gathering stakeholder input.
- Formulate research question
- Minimise bias and conflicts of interest

2. Develop the protocols

- Outline steps to be used for the review

3. Data collection (start of the review process)

- Locate/collate the studies
- Screen the results

4. Abstract the data

- Appraise the risk of bias in the individual studies

5. Synthesize findings

- Asses the overall body of evidence

6. Write report

- Summarise everything done so far
- Can be updated later

7. Update: update your systematic review based on the same protocol that you have started.

The MSL's supporting role

#3 Data collection

Translate a research question or statement into an expert search strategy

- Provide assistance with formulating searches
- Advise on appropriate search filters
- Provide assistance with hands-on searching
- Guide the documentation of the search process

Direct researcher to information sources

Identify key databases for conducting systematic literature search

Link to document delivery service

Search the topic for other systematic reviews and grey literature

Provided assistance with citation management using End Note

#3 Data Collection

Clearly establish the research question.

It determines the search strategy, inclusion criteria, and data that you extract from the selected studies,
so it should be clearly defined
at the start of the review process.

#3 Data Collection

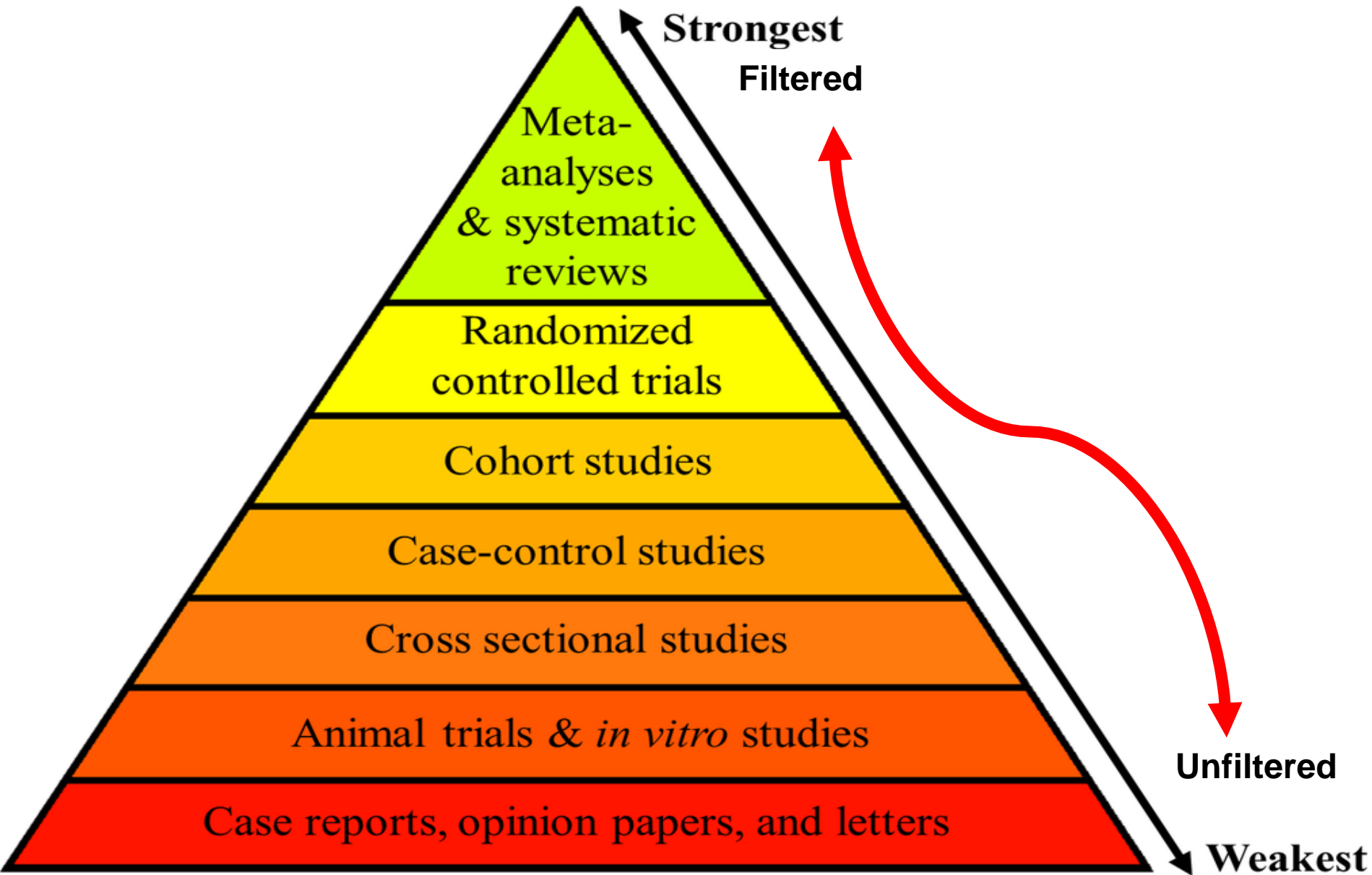
- Develop your research question into a PICO (problem/patient, intervention, comparison, outcome) format (which best-suits the systematic review methodology)
- Find examples of systematic reviews
- Plan your research protocol
- Develop key terms and phrases to start finding your evidence
- Select and search databases
- Keep track of your searches
- Analyze: screen the studies and assess for quality
- Extract the data
- Manage your results
- Interpret and present the results.

The prism of scientific evidence

- the highest level of evidence possible--systematic reviews or meta-analysis when searching for evidence-based information.
- Systematic reviews, meta-analysis, and critically-appraised topics/articles are all "filtered" via evaluation processes:
- *"Unfiltered" information has not been critically appraised*

<https://paperpile.com/g/systematic-literature-review/>

Hierarchy of Scientific Evidence



The prism of scientific evidence

- Fewer studies are available as you ascend the pyramid
- it's important to recognize that **high levels of evidence may not exist for your clinical question**. In that case, you'll need to move down the pyramid if your search for resources at the top of the pyramid is unsuccessful.

Simple Tips for Students

LITERATURE REVIEW

- State the electronic and print resources used to compile the literature review
- State the range of databases used, indicating [a] biomedical databases and/or [b] multidisciplinary databases
- Indicate any hand-searching methods used
- Document all keyword and phrases used when searching across databases
- Discuss your search strategies in some more detail e.g. Boolean operators AND , OR, NOT to connect key terms and phrases
- Document all /any web pages in the public domain used to locate other references
- State total number of citations retrieved.
- State total number of citations relevant and selected.
- When analysing the database resources, indicate the resource types that were selected and why e.g. journal article, newspaper article, review, cohort study etc.

INFORMATION RESOURCES

Looking for examples of systematic reviews?

- Systematic reviews published in journals
- Evidence-based health database:
[COCHRANE VHL](#)
- Evidence-based health database containing systematic reviews, evidence summaries, and best practice information sheets. :
[Joanna Briggs Institute EBP Database & Tools](#) (not UWI-subscribed)

The Cochrane Library

- The Cochrane Library is the main product
- of the Cochrane collaboration
- It is the single best place to find independent, high quality evidence for health care decision making.

Websites

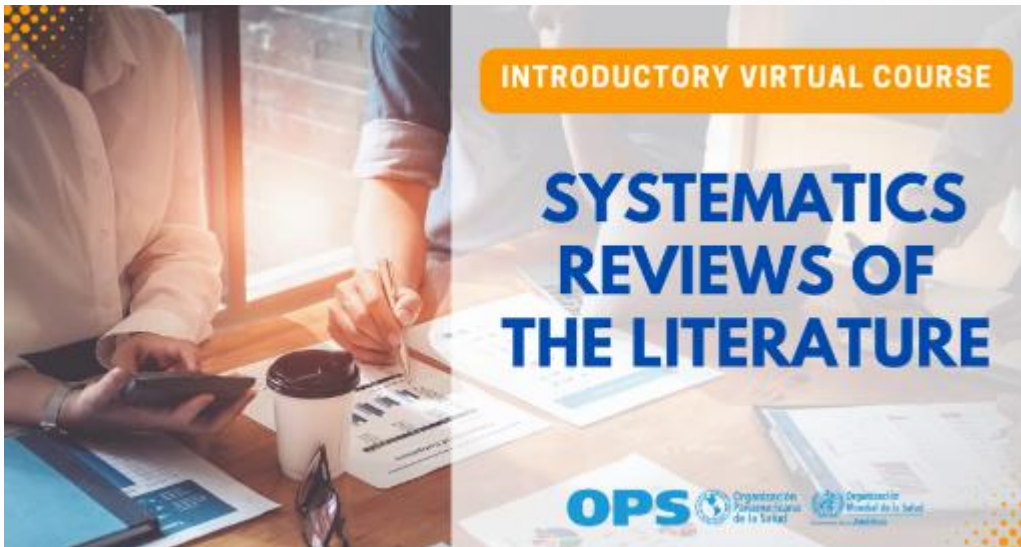
- [Cochrane Homepage page](#)
- [Caribbean Cochrane](#)
- [Joanna Briggs Institute](#)
- [EPPI-Centre : Methods for Conducting Systematic Reviews](#)
- [TRIP Database](#)

Online Guide

EVIDENCE-BASED MEDICINE: USEFUL RESOURCES

<https://libguides.uwi.edu/EBMUsefulresources>

Self-study systematic review course



- [Introductory virtual course Systematics Reviews of the literature | Virtual Campus for Public Health \(VCPH/PAHO\)](#)

Toolkit

Systematic Review Workbook

- A detailed guide and template for developing, conducting, & reporting reviews

SR Toolbox

- A comprehensive list of systematic review tools. You can select a tool based on the part of the systematic review you are working on, the cost, discipline, or the underlying approach.

References Used

- <https://uowlibrary.h5p.com/content/1291587426285400629#h5pbookid=1291587426285400629&chapter=h5p-interactive-book-chapter-1ba040d5-bbba-446a-a5cf-3db45b298fc5§ion=h5p-interactive-book-section-ce7ad6d7-7af4-4a63-af41-b11517944c53&headerNumber=2>
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Thank you for your time
and attention!