Scoping the Literature
SPPH 516

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Learning goals

● Understand the meaning and importance of scoping the literature for a systematic review protocol or grant application
● Know how to identify published and in-progress systematic reviews
● Plan a scoping search using appropriate databases, subject headings and keywords
Systematic Review Process (Cochrane Handbook)

**Stage 1: Planning the Review**
- Step 1 – Forming a review panel
- Step 2 – Mapping the field of study
- Step 3 – Producing a review protocol

**Stage 2: Identifying and evaluating studies**
- Step 4 – Conducting a systematic search
- Step 5 – Evaluating studies

**Stage 3: Extracting and synthesizing data**
- Step 6 – Conducting data extraction
- Step 7 – Conducting data synthesis

**Stage 4: Reporting**
- Step 8 – Reporting the findings

**Stage 5: Utilizing the findings**
- Step 9 – Informing research
- Step 10 – Informing practice
**PRISMA 2009 Flow Diagram**

- Records identified through database searching
  \[ (n = x) \]
  \[ \text{Records after duplicates removed} \]
  \[ (n = y) \]
  \[ \text{Records screened} \]
  \[ (n = z) \]
  \[ \text{Full-text articles assessed for eligibility} \]
  \[ (n = a) \]
  \[ \text{Studies included in qualitative synthesis} \]
  \[ (n = b) \]
  \[ \text{Studies included in quantitative synthesis (meta-analysis)} \]
  \[ (n = c) \]
  \[ \text{Records excluded} \]
  \[ (n = d) \]
  \[ \text{Full-text articles excluded, with reasons} \]
  \[ (n = e) \]

Progression of Searching

- Protocol
  - Advanced Medline Search and Strategy

- Systematic Review
  - Comprehensive Literature in one database

- Preparation
  - Scoping searches for In process or Published Systematic Reviews
Scoping vs systematic searches

A scoping search is not the same as a Scoping REVIEW search!

Perform a scoping search to:

- See if a (recent, well-done) systematic review has already been done or is underway on your topic
- Assess the feasibility of a systematic review on your research question
  - Is there enough literature to synthesize?
  - Is there too much literature to be manageable, suggesting you may need to reframe your question or eligibility criteria?
Initial question:

Can cannabis or related drugs reduce symptoms of REM sleep behaviour disorder?
Developing a visualization of your search concepts can help you clarify your search terms, and clearly communicate core components of your search to your reader.

In this case, no comparator (C) or study design (S) are specified, so they are not part of the graphic.
Activity 1

Develop a PICOS for a topic that interests you (not the one you will use for your assignment!)

If you have trouble coming up with a topic, here are a few ideas:

1. Do socially assistive robots improve cognitive function and quality of life of people with dementia?

2. Can the ketogenic diet improve prognosis for patients with glioblastoma?

3. Does embolization with Onyx, compared with other embolic agents, result in fewer complications for patients with brain or spinal cord arteriovenous malformations?
Finding in-process reviews: Prospero

- [www.crd.york.ac.uk/PROSPERO/](www.crd.york.ac.uk/PROSPERO/)
- Registry for health-related systematic review protocols (does not include scoping reviews or other review methodologies)
- Includes Cochrane Library protocols
- Note date of protocols - some are never completed
Finding existing reviews: Epistemonikos

- [www.epistemonikos.org/](http://www.epistemonikos.org/)
- Includes systematic reviews drawn from 10 databases, as well as higher-level broad syntheses of evidence
- Also includes records for primary studies included in systematic reviews
- Some topics include an evidence matrix showing which primary studies are included in which systematic reviews

Image from: Cannabinoids for the treatment of schizophrenia (auto-generated matrix) ([www.epistemonikos.org/en/matrixes/5947e8f17aaac80633920656](http://www.epistemonikos.org/en/matrixes/5947e8f17aaac80633920656))
Finding existing reviews: PubMed/MEDLINE systematic review filter

- Adds terms to your search to limit to systematic reviews - note it may return some results which are not systematic reviews
- Accessible under “Subjects” in filters, and under “Clinical Queries” on PubMed homepage
- Terms included:

  www.nlm.nih.gov/bsd/pubmed_subsets/sysreviews_strategy.html

PICOS caveats

- It’s not necessary to search every aspect of the PICO. You might start with P and I, or I and O.
- Outcomes can be difficult to fully describe in a search strategy, and may be better addressed at the screening stage.
- For study design, there are pre-built search strategies called “filters” or “hedges” that can be used to limit by study design. In some cases, though, it may be better to address this at the screening stage instead.
Activity 2

Based on your PICOS, develop a scoping search using Prospero, Epistemonikos, and Pubmed for a topic that interests you (not the one you will use for your assignment!)

If you have trouble coming up with a topic, here are a few ideas:

1. Do socially assistive robots improve cognitive function and quality of life of people with dementia?

2. Can the ketogenic diet improve prognosis for patients with glioblastoma?

3. Does embolization with Onyx, compared with other embolic agents, result in fewer complications for patients with brain or spinal cord arteriovenous malformations?
PubMed and Ovid Medline: what’s the difference?

- PubMed includes the Medline database (~5600 journals) plus additional articles.
- Articles in Medline have MeSH terms and other data added to them by subject experts to make searching easier.
- Ovid Medline includes all of PubMed, with a one day delay (not just Medline). It also has helpful search tools PubMed doesn’t have.
- Opinions vary about whether value is added by searching both databases. One study found that limited searching in PubMed did find unique relevant results.²

When searching with **MeSH**, you find articles tagged by an expert with that term. MeSH strengths:

- Finds relevant articles, no matter the exact words used
- Can also find narrower, related ideas (with “explode”)
- Subheadings can help focus your search

When searching by **keyword** (aka .mp, .tw, .ti,ab) you find an exact match for those characters in the selected fields (not the full text of the article). Keyword strengths:

- It takes a few months or more for MeSH terms to be added to articles – find newest articles with keywords
- Some ideas have no matching MeSH term, so a keyword is the best way to find them

**For a comprehensive search, use both MeSH and keywords. Combine the MeSH and keyword for the same idea with OR.**
Start by entering one PICO concept at a time. Ensure that you’re on the Advanced Search screen, and that the “Map Term to Subject Heading” box is checked.
On the next screen, Ovid Medline suggests some MeSH terms. There are two useful things you can do on this screen:

- click the “i” button at far right to see the **scope note**
- click on the link for the MeSH term to view the **Tree**
The scope note for a MeSH term provides the year the term started being used to index articles, and sometimes points to related MeSH terms you may want to add to your search. The “used for” section can be useful for getting ideas for the keyword portion of your search.
The **Tree** (found by clicking on the link for a MeSH term) shows you related MeSH terms. Narrower, broader, and related MeSH terms might be worth adding to your search.

**Explode** which lets you search for the narrower terms of a MeSH term all at once (this happens automatically in PubMed).

**Focus** limits your search to articles with your term as a major point - best avoided for any systematic review search.
After selecting a MeSH term, the next screen will ask if you want to limit to a subheading. For systematic reviews, it’s usually best to avoid using subheadings.
You’ll want to ensure that at least a few studies exist that meet your draft eligibility criteria.

If you’re finding a very large number of results, try adding more elements of your PICO or study design terms (“successive fractions” approach from Booth 2008 reading); or limit by date.
How many results is too many?

- Budget for an average time of 30 seconds per result for the title and abstract stage of screening.¹
- Findings from a recent study of 195 reviews²:

Activity 3

Use your PICOS to develop a search in Ovid MEDLINE for a topic that interests you (not the one you will use for your assignment!)

If you have trouble coming up with a topic, here are a few ideas:

1. Do socially assistive robots improve cognitive function and quality of life of people with dementia?

2. Can the ketogenic diet improve prognosis for patients with glioblastoma?

3. Does embolization with Onyx, compared with other embolic agents, result in fewer complications for patients with brain or spinal cord arteriovenous malformations?
Make an Account

• Sign in
• Create one now
• Create user name and password NOT CWL
• SAVE Tip include date in title yyyymmdd
Next steps

Where else to search?
Check out the library Guide on Systematic Reviews
Finding Studies
• Other databases
• Grey literature
Writing your methods section
• CRD’s Guidance for Undertaking Reviews in Health Care.
  Appendix 3