

Systematic, scoping & evidence syntheses: Getting started

Searching for studies

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Housekeeping

- 🕒 The presentation will be recorded and shared with participants
- 🔇 Keep your microphone on mute until the question breaks
- 💬 Post questions and comments in the chat function



Evidence syntheses

As described in the pre-workshop material the methods covered in today's session apply across a broad range of evidence reviews, including, but not limited to:

- Systematic Reviews
- Scoping Reviews
- Rapid Reviews



Plan for today

Key aspects of the search process

- Formulating a question
- Scoping searches
- Registering a protocol
- Developing multi-database search strategies
- Preparing a plan for grey literature
- Managing results
- Documenting the search



NOT in the Plan for today

Additional aspects of the review process

- Screening records
- Data extraction
- Risk of Bias assessment
- Results synthesis
- Writing up and publication strategy



Formulating a question

The question you ask will influence how you conduct the review:

- Search terms used and databases searched
- Inclusion/exclusion criteria selected for screening studies
- Fields included in the data extraction form
- Choice of quality appraisal tool
- Methods used to synthesise the findings



Formulating a question: Frameworks

- **PICO** = Population, intervention, control, outcome
- **PECO** = Population, exposure, control, outcome
- **PIRT** = Population, index test, reference test, target condition
- **PCC** = Population, Concept, Context
- **SPIDER** = Sample, phenomenon of interest, design, evaluation, research type



Formulating a question: PICO

How do delayed antibiotic prescriptions for respiratory infections affect patient & service outcomes compared to immediate /no prescription?

- **P** = Respiratory infections
- **I** = Delayed antibiotic prescription
- **C** = Immediate or no prescription
- **O** = symptom resolution, side effects, hospitalisations, costs...



Formulating a question: PCC

What are the barriers and facilitators to implementing delayed antibiotic prescription to patients with respiratory infections attending primary care?

- P=Patients with RTI
- C= Barriers/facilitators to implementing delayed antibiotic prescriptions
- C= Primary care



Formulating a question: SPiDER

What are the barriers and facilitators to implementing delayed antibiotic prescription to patients with respiratory infections attending primary care?



- S=Patients with RTI presenting to primary care
- Pi=Delayed antibiotic prescription
- D=Interviews, focus groups
- E=Barriers/Facilitators
- R=Qualitative, mixed methods

Scoping search

Simple searches of key database(s)

- Double-check there aren't any existing reviews on the question
- Estimate the breadth of the topic
- Identify a small group (5-10) key papers
- Mine those papers for potential search terms



Writing & registering a protocol

After scoping the literature, start a protocol

- Helps to further clarify the question
- Identifies what you need to do at each stage of the process
- Makes the review easier to publish

Look at our Libguide for information on where to register your protocol



Developing the search: Method

- Identify the key elements of the question
- Brainstorm keywords
- Find subject headings
- Apply search filters [Hedges] for study type (if appropriate)
- Combine the search strings
- Weigh up whether to apply limits to your search...**bias**



Medline (OvidSP)

<input type="checkbox"/>	# ▲	Searches	Results
<input type="checkbox"/>	1	exp Respiratory Tract Infections/	664518
<input type="checkbox"/>	2	(respiratory infection* or respiratory tract infection* or common cold or tonsillitis or pharyngitis or sore throat or strep throat).mp.	110702
<input type="checkbox"/>	3	1 or 2	701784
<input type="checkbox"/>	4	exp Anti-Bacterial Agents/	845528
<input type="checkbox"/>	5	(antibiotic* or anti-biotic*).ti.	127206
<input type="checkbox"/>	6	4 or 5	870622
<input type="checkbox"/>	7	(delay* adj15 prescri*).mp.	1817
<input type="checkbox"/>	8	3 and 6 and 7	167

Medline (OvidSP)

<input type="checkbox"/>	# ▲	Searches		Results
<input type="checkbox"/>	1	exp Respiratory Tract Infections/	Subject heading search (MeSH)	664518
<input type="checkbox"/>	2	(respiratory infection* or respiratory tract infection pharyngitis or sore throat or strep throat).mp.	Includes title, abstract & author keyword search	110702
<input type="checkbox"/>	3	1 or 2	Combined search for RTI	701784
<input type="checkbox"/>	4	exp Anti-Bacterial Agents/	Subject heading search (MeSH)	845528
<input type="checkbox"/>	5	(antibiotic* or anti-biotic*).ti.	Title search	127206
<input type="checkbox"/>	6	4 or 5	Combined search for antibiotics	870622
<input type="checkbox"/>	7	(delay* adj15 prescri*).mp.	Proximity search (15 words)	1817
<input type="checkbox"/>	8	3 and 6 and 7	Final search	167

Editing & finalising the search

- Test the search
 - Does it capture key papers?
 - Are there too many irrelevant papers?
- Share your search strategy with colleagues or a librarian
 - Ask for comments on coverage, relevance, accuracy...
- Review & finalise – iterative process



Multi-database searching: process

- Choose which databases to search
- Adapt the search for each database
- Manage results – export and deduplicate records
- Document the search – ready for writing up your methods



Choosing databases

- **ASSIA** – social care & social work
- **CAB Abstracts** – agriculture, environment & nutrition
- **Cochrane Library** – systematic reviews & trials
- **CINAHL** – nursing & allied health
- **Embase** – health & medicine
- **Global Health** – population health
- **Medline** – health & medicine
- **PEDRO** – physiotherapy
- **PsycINFO** – psychiatry & psychology
- **Science Citation Index** – science
- **Scopus** - multidisciplinary

[Database A-Z list](#) via SOLO



Grey literature: What is it?

Research not commercially published

- Conference abstracts
- Theses
- Study protocols
- Preprints
- Official documents – reports, statistics, case studies...
- Organisational reports



Grey literature: How to find it?

- Hand-searching conference reports & journals
- Searching trial registers
- Searching preprint archives & research repositories
- Overton & Policy Commons
- Web searching
- Contacting authors, experts & organisations



Additional search methods: Snowballing

Have you missed anything relevant?

- Citation searching
 - Backward
 - Forward
 - PubMed, Web of Science, Scopus, Google Scholar, Citation Chaser...
- Related article searching
 - PubMed, Web of Science, Scopus, Google Scholar...



Managing your results

- Reference management software is essential
 - Endnote, Refworks, Zotero...
- De-duplicating results
- Screening
- Locating & storing PDFs
- Writing up your review



Managing your review: process

- A gold standard systematic review is conducted by a team:
 - Double screening
 - Double data extraction
 - Double quality assessment
- You can use a combination of reference management, ExCel, Word...
- Review management software makes this easier



Managing your review: software

- Things to consider:
 - Ease of use
 - Cost - Free, one off payment, subscription...
 - Compatibility with other software & devices
 - User support
- Examples of software:
 - Covidence, EPPI-Reviewer, Rayyan



Documenting your search – PRISMA-S

You need to record:

- Databases searched
- Search terms used
- Date of last search
- Additional search methods used
- Total number of references retrieved
- Number of duplicates excluded
- Number of references excluded at Title/Abstract and Full-text stage
- Final number included in analysis



Document your search - summary

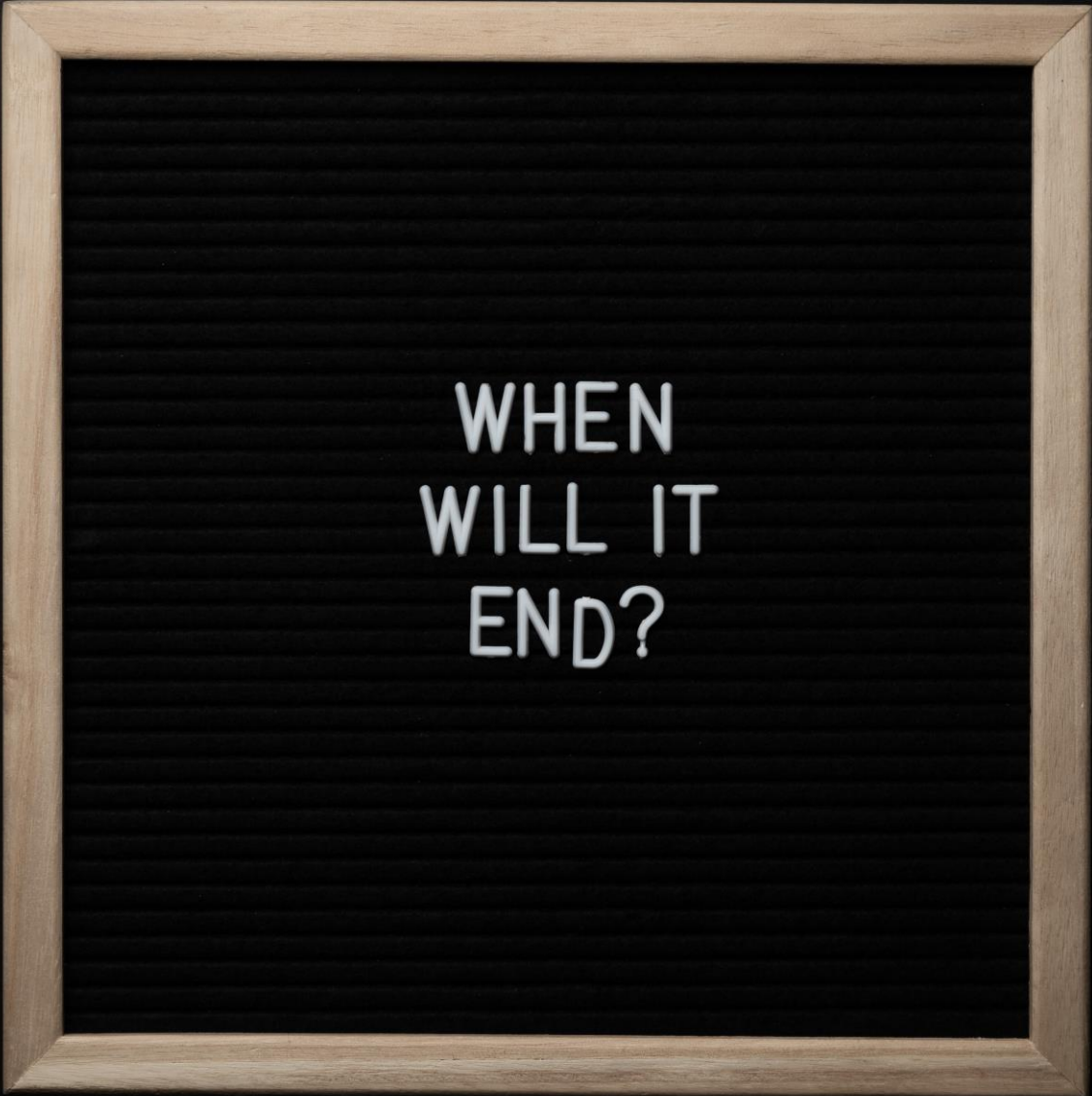
- Include a summary of the search methods in the body of your review
- Include the numbers in a flow chart
- Include a full copy of the exact search strategies for all databases in an appendix



Additional support

- Attend further searching and advanced systematic review [iSkills workshops](#)
- Look at our [Libguide](#) for guidance on data extraction, Risk of Bias and synthesis...
- Contact your [outreach librarian](#) for 1-2-1 support





WHEN
WILL IT
END?