Systematic Review Tools

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Session Outline

- Systematic Review Overview
- Tools for each steps of the systematic review process
Objectives

By the end of this session, you will be able to:

• Identify three systematic review tools
• Access two (freely available or from UNMC) tools to use with your systematic review
What is a Systematic Review?

"attempts to collate all empirical evidence that fits pre-specified eligibility criteria in order to answer a specific research question"

Characteristics of Systematic Review

- Clearly stated set of objectives
- Explicit, reproducible methodology
- Attempts to identify all studies that meets eligibility criteria
- Assessment on validity of findings of included studies
- Systematic presentation and synthesis of characteristics of findings of included studies

Question Frameworks

• PICO (Patient, Intervention, Comparison, Outcome)
• SPIDER (Sample, Phenomenon of Interest, Design, Evaluation, Research type)
• SPICE (Setting, Perspective, Intervention, Comparison, Evaluation)
• ECLIPSE (Expectation, Client group, Location, Impact, Professionals, Service)

https://guides.mclibrary.duke.edu/sysreview/question
In school-aged children, what is the effect of at-school dental clinic visits on a reduction of dental caries compared with no at-school dental clinic visits?

https://unmc.libguides.com/ebm/ask
Previously known as "What Review is Right for You?"

This tool is designed to provide guidance and supporting material to reviewers on methods for the conduct and reporting of knowledge synthesis.

Select the type of review:

Quantitative  Qualitative

https://whatreviewisrightforyou.knowledgetranslation.net/
Equator Network

https://www.equator-network.org/
Protocols
Why create a Protocol?

- 1st thing your team completes
  - "Blueprint" of your systematic review
  - Describes rationale, hypothesis, and planned methods for review
  - Prepared before beginning systematic review
  - Protocols made publicly and registered
PRISMA

- Rationale and objectives
- Eligibility criteria
- Information sources
- Draft on a search strategy
- Data management
- Outcomes and prioritization
- Data synthesis

https://www.equator-network.org/reporting-guidelines/prisma/
Systematic Review Registries

- **Prospero**
  - International prospective register of systematic reviews
  - Review protocol recorded and maintained
  - Reviews available on open access database
  - Transparency in review process
- **Open Science Framework** (use the pre-registration template)
Registering a review is easy. Please read the guidance notes for registering a **systematic review of human studies** or a **systematic review of animal studies relevant to human health**, then just follow the five step process below.

**Step 1**  Check the **inclusion criteria** to make sure that your review is eligible for inclusion in PROSPERO

**Step 2**  Ensure that your review protocol is in its (near) final form and that no major changes are anticipated at this stage - e.g. if your protocol will be peer reviewed it will usually be sensible to wait until this is complete before registering.

**Step 3**  Search PROSPERO to ensure that your review has not already been registered by another member of your team

**Step 4**  Search PROSPERO to ensure that you are not unnecessarily duplicating a review that is being done by another team or has been registered previously

**Step 5**  Start registering your review

Register a systematic review of health research studies ([study participants are people](#))

Register a systematic review of animal research studies (**study subjects are animals**) that is of direct relevance to human health
United States health inequities in disaster health planning and response

Sara Donovan, Abigail Lowe, David Brett-Major, Claire Figi, Danielle Westmark, Shelly Schwedhelm, James Lawler, Nellie Darling

To enable PROSPERO to focus on COVID-19 submissions, this registration record has undergone basic automated checks for eligibility and is published exactly as submitted. PROSPERO has never provided peer review, and usual checking by the PROSPERO team does not endorse content. Therefore, automatically published records should be treated as any other PROSPERO registration. Further detail is provided here.

Citation

Review question
The objective of this study is to identify and elaborate on health equity issues in disaster preparedness and response through systematic review of literature.

We will examine how health inequities in disasters have been highlighted, extents to which the disaster exacerbated such health inequity, and reported strategies adopted to prevent or mitigate impact from the disaster through pursuing improved health equity.

Searches
Search strategies will be designed and conducted by an experienced systematic review librarian. Studies will be identified via the following databases: MEDLINE, Embase, Cochrane Library, CINAHL, and Scopus. The search will include controlled vocabulary terms and free text words related to disasters and health inequities, incorporating MESH terms. The search will be limited to articles published in English from 2007 to 2022 and limited to the United States. If the full text of a study that may meet inclusion criteria is unavailable, the corresponding author will be contacted. Bibliographies of relevant articles will be reviewed to identify relevant articles not returned by the search.
Open Science Framework

You are submitting to OSF Registries. Click here to learn more about other hosted registries.

STEP 1

Do you have content for registration in an existing OSF project?

YES  NO

STEP 2

Which type of registration would you like to create? *

OSF Preregistration

Create draft
Searching
Systematic Review Toolkit

http://systematicreviewtools.com/
Systematic Review LibGuide

Resources & Tools for conducting an exhaustive literature search

https://unmc.libguides.com/systematicreview
Peer Review of Electronic Search Strategies

PRESS

- Evidence-based checklist
  - Boolean/Proximity operators
  - Appropriate subject headings/keywords
  - Database limiters
- Methods section of paper
- Quality and comprehensiveness of search
Screening Tools
Screening Tools

- Streamlines systematic reviews
- Import citations
- Screen titles/abstracts
- Upload references
- Screen full text
- Data extraction
- Risk of bias
- Export

https://unmc.libguides.com/systematicreview/tools
Covidence

Better systematic review management

Reviewers  Organizations
Review Summary

- **Import references**
  - 3 total duplicates removed

- **Title and abstract screening**
  - 6 irrelevant
  - 1037 studies to screen
  - 9 done
  - 0 conflicts
  - 13 one vote
  - 1024 no votes
  - KIARA, you can still screen 1037
  - Continue
  - You've screened 0 studies so far

- **Full text review**
  - 0 excluded
  - 3 studies to screen

- **Extraction**
  - 0 extracted
  - 0 studies to extract
Rayyan

- Up to 3 active reviews
- Unlimited reviewers
- De-duplication
- Filtration facets
- Mobile app
- Standard support
Infective endocarditis of a left atrial appendage closure device: a case report and literature review

Authors: Al-Terki, H.; Mügge, A.; Gotzmann, M.;
Other SR project management tools

DistillerSR

PICO Portal

CADIMA
Citation Tools
Citation Managers


Zotero Research Guide: https://unmc.libguides.com/zotero

- Create Folders to Organize Key Articles/Findings
- Removes duplicates
- Use the note field to keep track of research notes
- Allows for highlighting and marking attached PDF’s
- Export citations to Microsoft Excel
- Create work cited bibliographies