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Conducting a Systematic Review: Searching & Screening the Literature

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Lorie Kloda, MLIS, PhD candidate
McGill Life Sciences Library

Overview

1. What makes a review systematic?
2. Steps in conducting a SR
3. Finding existing SRs
4. The search for literature
5. Managing the references
6. Record keeping
7. Finding resources in the Life Sciences Library

	Systematic Review	Nonsystematic Review
Question	<ul style="list-style-type: none"> • Usually narrow question 	<ul style="list-style-type: none"> • Usually broad question
Search Strategy	<ul style="list-style-type: none"> • Explicitly stated • May be performed in duplicate 	<ul style="list-style-type: none"> • Not stated
Study Identification	<ul style="list-style-type: none"> • Criteria explicitly stated • May be performed in duplicate 	<ul style="list-style-type: none"> • Not stated
Methods	<ul style="list-style-type: none"> • Methods & outcomes of interest explicitly stated • May include study quality assessment, sensitivity analyses 	<ul style="list-style-type: none"> • Not stated
Presentation of Results	<ul style="list-style-type: none"> • Typically by study characteristics so that equivalent components are compared 	<ul style="list-style-type: none"> • Typically by study
Conclusions	<ul style="list-style-type: none"> • Typically confined to what the data could infer 	<ul style="list-style-type: none"> • May include personal approaches, opinions not supported by data

Steps in a systematic review

1. Define the clinical question (PICO)
2. Identify all relevant literature (published and unpublished)
3. Select studies for inclusion
4. Assess the quality of each study
5. Synthesize the findings (meta-analysis or meta-synthesis, if possible)
6. Interpret the findings and present an unbiased summary

Sources for finding systematic reviews

- **Cochrane Library**
 - Cochrane Database of Systematic Reviews (includes Methodology Reviews)
 - Database of Abstracts of Reviews of Effects (DARE)
 - Other databases of original studies (clinical trials, methods, economic evaluations, health technology assessments)
- **MEDLINE**
- **Other health databases**
 - CINAHL
 - EMBASE
 - PsycINFO

Comprehensive Lit Search

(1) Define research question

Inclusion/exclusion criteria for eligibility

- Methodology/methods
- Limitations by age group, language of publication, date of publication, etc.

Comprehensive Lit Search

(2) Selection of sources

- Databases (to search)
- Journals, conference proceedings (“hand-search”) & grey literature
- Identify known papers (citation searching, snowball searching)
- Identify known researchers (to contact)

Comprehensive Lit Search

(3) Develop Search Strategies

- **Hedges** (validated search strategies for increased retrieval and accuracy)
- Subject headings (e.g., MeSH)
- Subheadings
- Keyword or textword
- Limits (Children, infants, adolescents)
- Subsets (e.g., Cancer)

Managing References

Citation Software (Reference Manager or EndNote)

- Exporting from databases (filters)
- Removes duplicates
- Search for full-text articles online
- Annotations
- Citation in manuscript

Systematic Review Software (EPPI-Reviewer)

Record Keeping

PRISMA Statement for Reporting SRs:

- Databases with dates of coverage, date last searched, platform/provider
- Who developed and conducted the search
- Supplementary methods: hand searches, citation searches, snowball searches, contacting known researchers
- Full electronic search strategy for at least one database, such that it can be repeated
- Use of hedges or any peer reviewed search strategies
- Additional limitations