

Part 2: Systematic Review Teams, Roles, & Tasks

Team members and roles

From Cochrane (2.3.4.1)

- Essential teams have more than one person
- Ensures tasks can be completed by at least two people independently
- Team members
 - Topic expert
 - Systematic review methodology expert
 - Statistician
 - Healthcare consumers

Source: <http://handbook.cochrane.org/>

Team members and roles

From National Academies (2.1)

- Teams should be multidisciplinary to better break from preconceived opinions
- Specifically highlight librarians and information specialists
- Size depends on complexity of topic
- Team members
 - Topic expert
 - Systematic review methodology expert
 - Search expert
 - Statistician
 - Others as appropriate (stakeholders, key users)

Source: <https://www.nap.edu/read/13059/chapter/1>

Librarian roles

Sources of recommendations and best practices

- Cochrane Handbook
 - <http://handbook.cochrane.org/>
- National Academies
 - <https://www.nap.edu/read/13059/chapter/1>
- Campbell Methods Guide
 - https://www.campbellcollaboration.org/media/k2/attachments/1_Searching_for_studies.pdf
- PRISMA
 - <http://prisma-statement.org/>

Librarian roles

Common librarian tasks and responsibilities

Comprehensive search

- Supplemental searches
- Citation management
- Writing search methods
- Other considerations

Librarian roles

Common librarian tasks and responsibilities

- | | |
|---|--|
| <ul style="list-style-type: none">● Comprehensive search<ul style="list-style-type: none">● Supplemental searches● Citation management● Writing search methods● Other considerations | <ul style="list-style-type: none">● Balance comprehensiveness with precision<ul style="list-style-type: none">○ Focus on titles and abstracts, generally○ Use proximity operators● Start with sentinel articles<ul style="list-style-type: none">○ Term generation○ Test searches● Select appropriate databases● Use keywords and controlled terms● Use Boolean operators appropriately● Identify synonyms● Avoid filters whenever possible● Seek another set of eyes (PRESS) |
|---|--|

Note

- Make searches reproducible

Librarian roles

Common librarian tasks and responsibilities

- Comprehensive search
- Supplemental searches
- Citation management
- Writing search methods
- Other considerations

- Grey literature
 - Conference proceedings
 - Ongoing and unpublished clinical trials
 - Government reports
 - Dissertations
- Handsearching relevant journals
- Forward and backward citations
- Conversations with experts

Note

- Most citations should come from main database searches, usually

Librarian roles

Common librarian tasks and responsibilities

- | | |
|--|--|
| <ul style="list-style-type: none">● Comprehensive search● Supplemental searches● Citation management● Writing search methods● Other considerations | <ul style="list-style-type: none">● Endnote, RefWorks, Mendeley● Use to transfer results to eligibility screeners● Use program to eliminate duplicates |
|--|--|

Librarian roles

Common librarian tasks and responsibilities

- | | |
|--|--|
| <ul style="list-style-type: none">● Comprehensive search● Supplemental searches● Citation management● Writing search methods● Other considerations | <ul style="list-style-type: none">● Authorship or acknowledgement<ul style="list-style-type: none">○ Refer to ICMJE or journal requirements for authorship● See:<ul style="list-style-type: none">○ PRISMA○ National Academies (standard 5.1)○ Cochrane Handbook (section 6.6)○ Campbell methods guide on systematic reviews (chapter 8) |
|--|--|

Librarian roles

Common librarian tasks and responsibilities

- Comprehensive search
- Supplemental searches
- Citation management
- Writing search methods
- Other considerations

From Prospero

In protocol

- Describe intended search strategy
- Include databases and search terms if possible (mandatory for Campbell)

Systematic review of quality improvement initiatives in the intensive care setting

Gordon Sun, Jean Gaines, Rocco Perla, Mark MacEachern, Matthew Davis, William Shrank

Citation

Gordon Sun, Jean Gaines, Rocco Perla, Mark MacEachern, Matthew Davis, William Shrank. Systematic review of quality improvement initiatives in the intensive care setting. PROSPERO 2012:CRD42012003303 Available from http://www.crd.york.ac.uk/PROSPERO/display_record.asp?ID=CRD42012003303

Review question(s)

What are the most commonly tested quality improvement algorithms in the intensive care unit (ICU) setting?

What specific healthcare outcomes are being measured in ICU-related quality improvement initiatives?

Are healthcare institutions able to adequately assess whether an ICU-related quality improvement initiative has been successful or not?

Searches

We will search the following databases: Ovid MEDLINE, EMBASE, CINAHL, ABI/INFORM, and the Cochrane Central Register of Controlled Trials (CENTRAL) using appropriately selected keywords (e.g. six sigma, lean management) and MeSH terms (e.g. root cause analysis). There are no publication period limits. All articles must be English-language.

Librarian roles

Common librarian tasks and responsibilities

- Comprehensive search
- Supplemental searches
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In abstract

- List all databases searched
- Note the dates of the last search for each database and the period searched
- Note any language or publication status restrictions
- List individuals or organizations contacted

Note

- Include what you can (i.e. within word restrictions)

Librarian roles

Common librarian tasks and responsibilities

- Comprehensive search
- Supplemental searches
- Citation management
- **Writing search methods**
- Other considerations

In methods

- List all that was mentioned in the abstract
- List grey literature sources
- List journals that were handsearched
- List supplemental strategies used

Librarian roles

Common librarian tasks and responsibilities

- Comprehensive search
- Supplemental searches
- Citation management
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In study flow diagram

- Number of unique records identified by the searches, including the supplemental searches
- Number of records excluded during screening
- Number of records retrieved in full text

Note

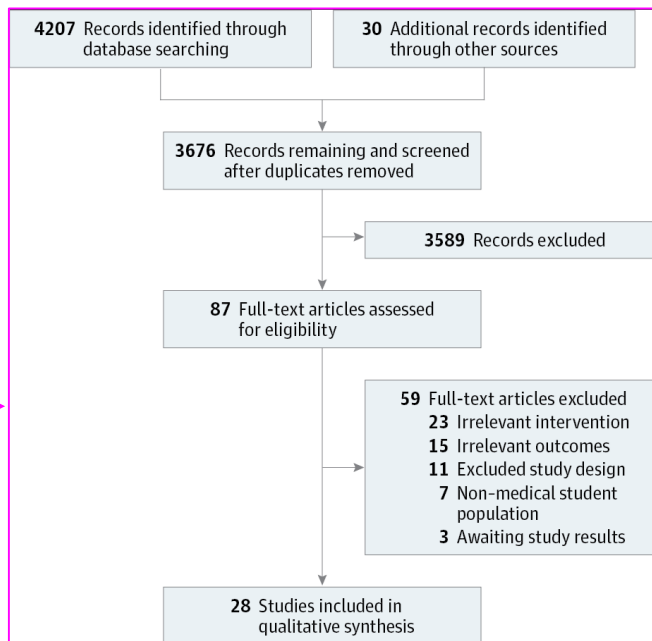
- Be sure the screeners are aware of the information they need to collect

Librarian roles

Common librarian tasks and responsibilities

- Comprehensive search
- Supplemental searches
- Citation management
- **Writing search methods**
- Other considerations

Source: PMC5240821



Librarian roles

Common librarian tasks and responsibilities

- Comprehensive search
- Supplemental searches
- Citation management
- Writing search methods
- Other considerations

In Appendix

- Full search strategies for each database to avoid interrupting the flow of the text of the review
- Copy and pasted exactly as run, so as to avoid transcription errors

Note

- Present the strategies in such a way that readers do not have to guess or make assumptions about any aspect of the search

Librarian roles

Common librarian tasks and responsibilities

- Comprehensive search
 - Supplemental searches
 - Citation management
 - Writing search methods
 - Other considerations
- Updating searches
 - Evaluating results
 - Sentinel articles
 - Test search components

<input type="checkbox"/>	# ▲	Searches	Results
<input type="checkbox"/>	1	▶ exp peri-implantitis/ or (periimplant* or peri-implant*).tw. or (implant* adj5 (inflamm* or infect* or diseas*)).tw.	16927
<input type="checkbox"/>	2	▶ exp dental cements/ or cementation/ or ((dent* or tooth or teeth or orthodontic*) adj3 (cement* or adhesive*)).tw. or ((cement* or screw*) adj3 retain* adj5 (implant* or crown* or restoration* or prothes* or reconstruct* or framework*)).tw.	31804
<input type="checkbox"/>	3	▶ (and/1-2) and english.la.	253
<input type="checkbox"/>	4	▶ ("26537368" or "25810850" or "23297703").ui.	3
<input type="checkbox"/>	5	▶ 4 not 3	0

Librarian roles

Common librarian tasks and responsibilities

- Comprehensive search
 - Supplemental searches
 - Citation management
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 - Other considerations
- Updating searches
 - Evaluating results
 - Sentinel articles
 - Test search components

▼ Search History (3)

<input type="checkbox"/>	# ▲	Searches	Results
<input type="checkbox"/>	1	▶ ((cancer adj3 screen*) and cost-effectiveness).tw.	1255
<input type="checkbox"/>	2	▶ ((cancer adj4 screen*) and cost-effectiveness).tw.	1324
<input type="checkbox"/>	3	▶ 2 not 1	69

Final notes

- Librarian involvement in systematic reviews improves methods
 - Koffel 2015, Rethlefsen 2015
- Keep thorough notes
 - Save searches, result numbers, etc.
- Prioritize transparency & reproducibility
- Read systematic reviews from target journals early in process
- Systematic review software
 - DistillerSR, Covidence, Rayyan



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Research: Librarian involvement in systematic reviews

Koffel JB. Use of recommended search strategies in systematic reviews and the impact of librarian involvement: a cross-sectional survey of recent authors. PLoS One. 2015 May 4;10(5):e0125931. PubMed Central PMCID: PMC4418838.

Rethlefsen ML, Farrell AM, Osterhaus Trzasko LC, Brigham TJ. Librarian co-authors correlated with higher quality reported search strategies in general internal medicine systematic reviews. J Clin Epidemiol. 2015 Jun;68(6):617-26. PubMed PMID: 25766056.

Rethlefsen ML, Murad MH, Livingston EH. Engaging medical librarians to improve the quality of review articles. JAMA. 2014 Sep 10;312(10):999-1000. PubMed PMID: 25203078.

Resources 101

[Documentation & Tutorials for Core and Common Subject Resources](#) (health focus)

[Systematic Review Database Cheat Sheet](#) (health focus)

[Subject & Niche Databases](#) (add & edit!)

Recommendations & Standards

PRISMA <http://www.prisma-statement.org/>

National Academies (IoM) (Healthcare and other sciences) <http://www.nationalacademies.org/hmd/Reports/2011/Finding-What-Works-in-Health-Care-Standards-for-Systematic-Reviews/Standards.aspx>

Cochrane Handbook (Healthcare) <http://handbook.cochrane.org/>

Campbell Collaboration (Social sciences) <http://www.campbellcollaboration.org/research-resources/writing-a-campbell-systematic-review.html>

Joanna Briggs (Nursing & allied health) <http://joannabriggs.org/sumari.html>

BEME (Medical education) <http://www.bemecollaboration.org/>

SCIE Systematic Review guidelines (Social work, social care) <http://www.scie.org.uk/publications/researchresources/rr01.pdf>

Protocols

PROSPERO - International prospective register of systematic reviews. Available at: <http://www.crd.york.ac.uk/PROSPERO/>

PRISMA-P protocol extension. Available at: <http://www.prisma-statement.org/Extensions/Protocols.aspx>

Arthritis Research UK Primary Care Centre. Systematic review protocol - outline/template. Available at: http://www.crd.york.ac.uk/PROSPEROFILES/3611_STRATEGY_20130031.pdf

Joanna Briggs Institute. Systematic Review Protocol Template. Available at: <http://joannabriggs.org/assets/docs/jbc/operations/prot-sr-bpis-tech-templates/JBI-SR-Protocol-Template.docx>

Silagy CA, Middleton P, Hopewell S. Publishing protocols of systematic reviews: Comparing what was done to what was planned. *Journal of the American Medical Association* 2002;287(21):2831-2834.

Books, Guides & Journals

Boland A, Gemma Cherry M, Dickson R. *Doing a systematic review: a student's guide*. Sage, 2013.

Bronson DE, Davis TS. *Finding and Evaluating Evidence: Systematic Reviews and Evidence-Based Practice*. Oxford ; New York: Oxford University Press; 2011.

"Cochrane Handbook for Systematic Reviews of Interventions." *Cochrane Collaboration*. Web. Available at:
<http://handbook.cochrane.org/>

Foster MJ, Jewell ST. *Assembling the Pieces of a Systematic Review: A Guide for Librarians* (Medical Library Association Books Series). Medical Library Association, Rowman & Littlefield Publishers; 2017.

Gough D, Oliver S, and Thomas J. *An introduction to systematic reviews*. Thousand Oaks, CA: Sage, 2012.

Petticrew M, Roberts H. *Systematic Reviews in the Social Sciences: A Practical Guide*. Malden, MA, Blackwell Publishing; 2006.

Torgerson, C. *Systematic Reviews*. New York, NY: Continuum, 2003.

Journal: Systematic Reviews – BMS <http://systematicreviewsjournal.biomedcentral.com/>

Online Resources

The Pieces of Systematic Review Webinar Series (National Network of Libraries of Medicine) – Margaret Foster

<http://nnlm.gov/scr/professional-development/systematic-review-series> (FREE)

Introduction to Systematic Review and Meta-Analysis Coursera (Johns Hopkins) www.coursera.org/learn/systematic-review

PRESS (Peer Review of Electronic Search Strategies)

http://www.cadth.ca/sites/default/files/pdf/CP0015_PRESS_Update_Report_2016.pdf

UT MD Anderson Systematic Reviews: Preparing to Search <http://mdanderson.libguides.com/systematicreviews>

Workshops for Librarians

Systematic Reviews: Opportunities for Librarians – University of Michigan <http://www.lib.umich.edu/systematic-reviews-workshop>
(hybrid online/in-person)

Systematic Review Workshop: The Nuts and Bolts for Librarians –University of Pittsburgh (in-person)
<http://www.hslls.pitt.edu/systematicreview/>

Identifying the Evidence for Systematic Reviews - Centre for Reviews & Dissemination, University of York
<http://www.york.ac.uk/crd/training-services/identifying-the-evidence/>

Searching and Beyond – University of Exeter Medical School
<http://medicine.exeter.ac.uk/esmi/workstreams/informationsscience/teaching/searchingandbeyond/>

Systematic Reviews for Librarians – Washington University in St. Louis (currently in pilot stage)

Tools & Tech

Systematic Review Software

- Distiller SR
- Covidence
- Rayyan

Citation Management Software

- Endnote
- Mendeley
- Refworks