

Literature Review: From Process to Publication



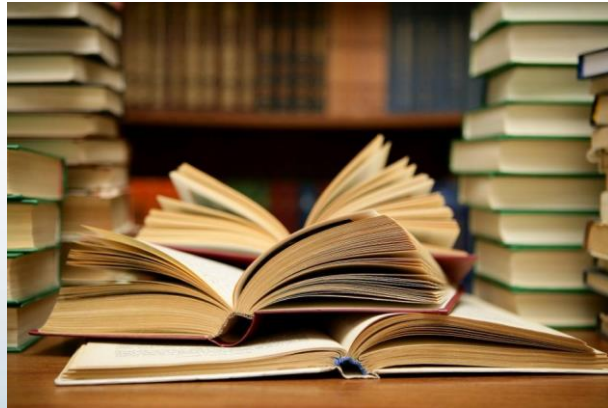
Nicklaus
Children's
Hospital

Research Institute

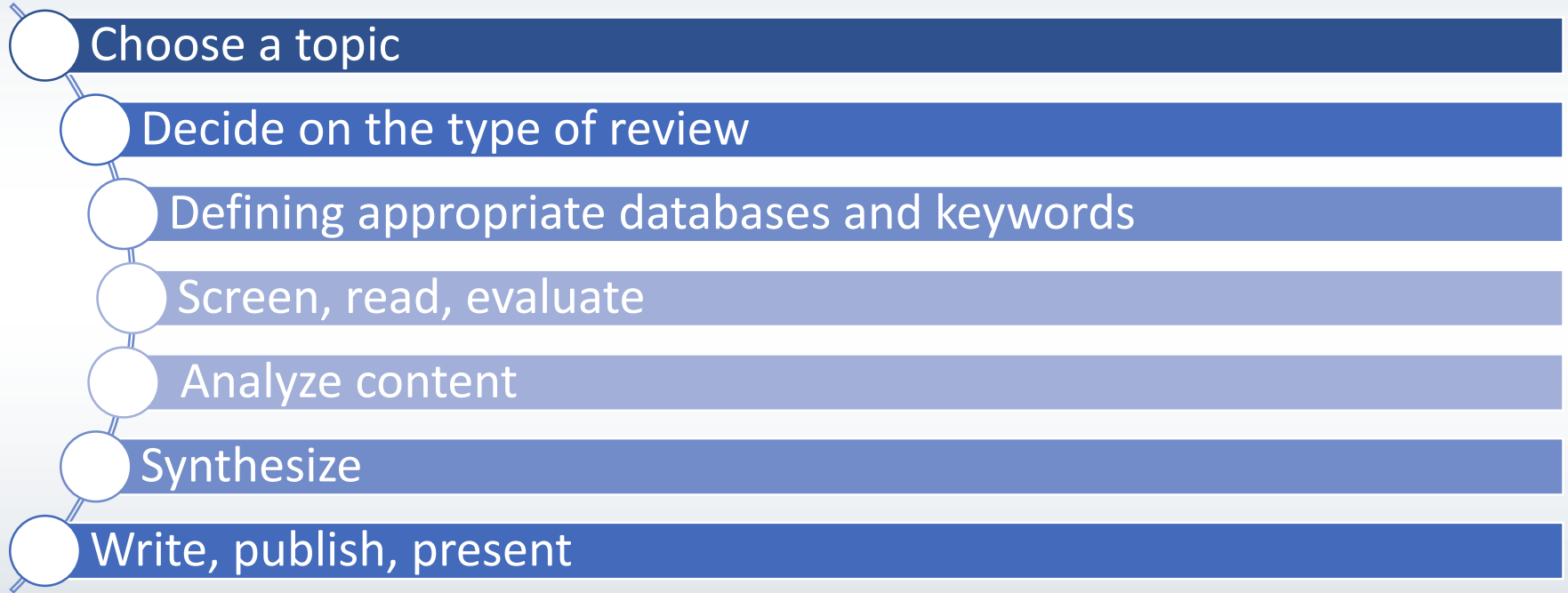
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What is a literature review?

- An objective, concise and critical examination of published research from scholarly sources on a specific topic
- Typically required as part of grant and research proposals
- Can become a publication itself



General Process



Types of Lit Reviews

	Scoping Review	Systematic Review
Purpose:	Summarize literature on topic, identify themes and gaps in knowledge	Aid in decision making and determining best practice, support evidence-based practices
Research question:	Often broad	Specific, focused, objective
Inclusion/exclusion:	Can be developed <i>ad hoc</i>	Defined at outset with narrow parameters
Search strategy:	Not necessarily explicitly stated	Comprehensive, systematic, reproducible queries
Synthesis:	Typically qualitative overview	Quantitative, meta-analysis

Indexed, Peer-Reviewed Databases

Database & Website	Description	What's included
PubMed https://pubmed.ncbi.nlm.nih.gov/	<ul style="list-style-type: none">• National Library of Medicine's premier bibliographic database• Free search engine• Contains over 21 million citations for biomedical literature from MEDLINE, life science journals and online books	<ul style="list-style-type: none">• Academic journals covering fields of medicine, nursing, dentistry, veterinary medicine, preclinical science• International in scope
Embase https://embase.com/	<ul style="list-style-type: none">• European database of biomedical and pharmacological literature• Contains over 20 million citations• Maintained by Elsevier and can be accessed by subscribed users only	<ul style="list-style-type: none">• Active, peer-reviewed journals• Broad international scope
Cochrane Reviews https://www.cochranelibrary.com/cdsr/reviews/	<ul style="list-style-type: none">• Leading database for extensive systematic literature reviews containing meta-analysis• Offers free access to abstracts and some full length articles; however, most full text reviews require a subscription or pay-per-view access	<ul style="list-style-type: none">• Topics including medications, surgery, technology, education• Includes protocols and editorials

Indexed, Peer-Reviewed Databases Con't

Database & Website	Description	What's included
Cochrane Central Register of Controlled Trials https://www.cochranelibrary.com/central	<ul style="list-style-type: none">• Collection of databases in medicine and other healthcare specialties• Uses a search interface called OVID	<ul style="list-style-type: none">• Focuses on reports of randomized or controlled research articles
Scopus https://www.scopus.com/	<ul style="list-style-type: none">• Largest abstract and citation database of peer-reviewed literature and quality web sources• Maintained by Elsevier and can be accessed only by subscribed users only	<ul style="list-style-type: none">• Contains conference papers in addition to scientific journals and books• International in scope
Web of Science https://www.webofknowledge.com/	<ul style="list-style-type: none">• Covers over 12,000 of the highest impact journals worldwide, including Open Access journals and over 150,000 conference proceedings	<ul style="list-style-type: none">• Coverage in the sciences, social sciences, arts, and humanities, with coverage to 1900

Subject-Specific Databases

Database & Website	Description	What's included
PsychINFO https://psycnet.apa.org/search	<ul style="list-style-type: none">Over 4.5 million abstracts of peer-reviewed literature in the behavioral and social sciences	<ul style="list-style-type: none">Includes conference papers, book chapters, psychological tests, scales and measurement tools
AOSpine https://www.aospine.org/	<ul style="list-style-type: none">Comprehensive database providing evidence on treatment of spine problems that is organized effectively and graded according to evidence classMaintained by AOSpine International, requires a paid membership for access	<ul style="list-style-type: none">Summaries of recently published research articles on topics including spine therapies, prognosis and diagnosis
CINAHL https://www.ebscohost.com/nursing/products/cinahl-databases/cinahl-plus	<ul style="list-style-type: none">Comprehensive journal index to nursing and allied health literature	<ul style="list-style-type: none">Includes books, nursing dissertations, conference proceedings, practice standards and book chapters

Gray literature

- Refers to information that is not formally published by commercial publishers or peer-reviewed journals, including reports, white papers, conference proceedings, etc.
- Examples:
 - Professional association websites
 - Google Scholar
 - AHRQ (Agency for Healthcare Research and Quality): <https://www.ahrq.gov/>
 - NCG (National Clearinghouse Guidelines): <https://www.guideline.gov/>
 - WHO (World Health Organization): <https://www.who.int/en/>

Steps of Search Process

1. Identify key concepts in your research questions
2. Determine appropriate databases and keywords
 - Brainstorm related terms for concepts including those that are broader, narrower and similar
3. Refine search parameters and combinations
4. Identify pertinent Medical Subject Heading (MeSH) terms relevant to each database
5. Refine search parameters again
6. Search and filter

Example – Step #1: Identifying Key Concepts

- Area of interest:
 - Understanding the current consent process in pediatric translational research
 - Intention is to develop a new research protocol that addresses gaps and tests potential improvements (e.g. more personalized experience)
- Key concepts:
 - Major issues, debates and problems regarding the involvement of children/adolescents/young adults in the consent process for translational research
 - Empirical studies evaluating the process and/or improvements

First inclination - Google has the answer to everything....

A screenshot of a Google search interface. The search bar at the top contains the text "consent process in pediatric translational research". To the right of the search bar are icons for clearing the search (X), voice search (microphone), and image search (camera). Below the search bar is a horizontal menu with links for "All", "Images", "News", "Videos", "Maps", and "More". To the right of these links are "Settings" and "Tools". Below the menu, a red rectangular box highlights the text "About 8,560,000 results (0.42 seconds)". Below this box, the search results are displayed. The first result is titled "Scholarly articles for **consent process in pediatric translational research**". Below the title are three snippets of text: "Translational research in **pediatrics**: tissue sampling ... - Brisson - Cited by 63", "Translational research in **pediatrics** III: bronchoalveolar ... - Radhakrishnan - Cited by 24", and "Translational research in **pediatrics** IV: solid tissue ... - Gillio-Meina - Cited by 7". Below these snippets is a breadcrumb trail: "georgiactsa.org › news-and-events › news › discovery ▾". The next line is the title "Improving Quality of Informed Consent Process - Georgia CTSA". The final line is a snippet of text: "Our study objective was to develop a patient-centered informed **consent** and ... in two phases on an actively-recruiting study at a **pediatric** diabetes clinic. ... the National Institutes of Health's Clinical and **Translational Science** Awards, shares a ...".

consent process in pediatric translational research

Search

All Images News Videos Maps More Settings Tools

About 8,560,000 results (0.42 seconds)

Scholarly articles for **consent process in pediatric translational research**

Translational research in **pediatrics**: tissue sampling ... - Brisson - Cited by 63

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georgiactsa.org › news-and-events › news › discovery ▾

Improving Quality of Informed Consent Process - Georgia CTSA

Our study objective was to develop a patient-centered informed **consent** and ... in two phases on an actively-recruiting study at a **pediatric** diabetes clinic. ... the National Institutes of Health's Clinical and **Translational Science** Awards, shares a ...



WWW.PHDCOMICS.COM

Example – Step #2: Determining Databases & Keywords

Databases:

- PubMed
- Scopus
- PsychINFO

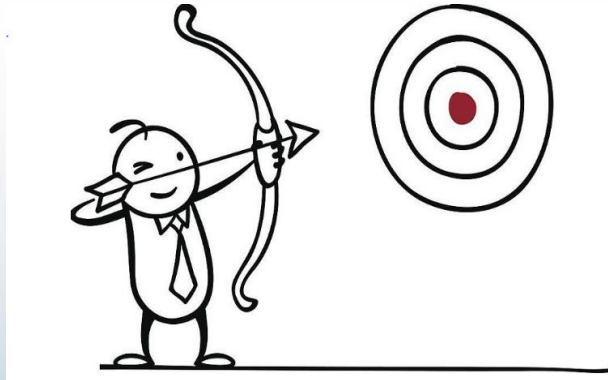
Keywords by variable/domain:

- Consent – informed consent, assent
- Translational research – biobanks, biorepositories, tissue banks, genomics
- Pediatrics – children, adolescents, minors, young adults

Step #3: Refining Search Parameters

Tools at hand:

- **Truncations (*)**: search variations on a word stem
- **Quotation marks**: keep terms together and in order
- **Parenthesis**: allows you to combine concepts
- **Boolean Operators**: AND, OR, NOT



Example – Step #3: Refining Search Parameters

Domain	Keywords	Refined Search Terms	Includes
Consent	consent assent	“informed consent” assent	informed consent (as one idea)
Translational research	biobanks genomics	biobank* biorepositor* tissue banks genomics	biobank, biobanks, biobanking biorepository, biorepositories
Pediatrics	children adolescents minors young adults pediatrics	child* adolescen* minor* pediatr* paediatr* young adult	child, children adolescent, adolescents, adolescence minor, minors pediatric, pediatrics paediatric, paediatrics

Example – Step #4: MeSH Terms

NCBI MeSH database

1. Enter all your keywords and related terms to see if MeSH indexing exists
2. Expand the logic trees and assess
3. Determine if you should stick with a broader category, focus on a narrower terms or scrap the term all together

Example:

- Genome: <https://www.ncbi.nlm.nih.gov/mesh/?term=genome>
- Genomics: <https://www.ncbi.nlm.nih.gov/mesh/68023281>

Ah-ha moment!

It's not worth using genom* in search strategy

Non-MeSH vs. MeSH: What's the big deal?

PubMed.gov

("informed consent" OR assent) AND (biobank* OR biorepositor* OR genom



Search

[Advanced](#) [Create alert](#) [Create RSS](#)



Filters



Timeline

2,467 results

PubMed.gov

("informed consent"[MeSH Terms] OR assent) AND (biobank* OR biorepositc



Search

[Advanced](#) [Create alert](#) [Create RSS](#)



Filters



Timeline

Sorted by: Best match

Display options

Save

Email

Send to

978 results

Example – Step #5: Refine Search Parameters Again

> J Empir Res Hum Res Ethics. 2018 Oct;13(4):391-401. doi: 10.1177/1556264618782231.
Epub 2018 Jun 14.

Biobanking in the Pediatric Critical Care Setting: Adolescent/Young Adult Perspectives

Erin D Paquette ^{1 2}, Sabrina F Derrington ^{1 2}, Avani Shukla ², Neha Sinha ³, Sarah Oswald ¹, Lauren Sorce ², Kelly N Michelson ^{1 2}

Affiliations + expand

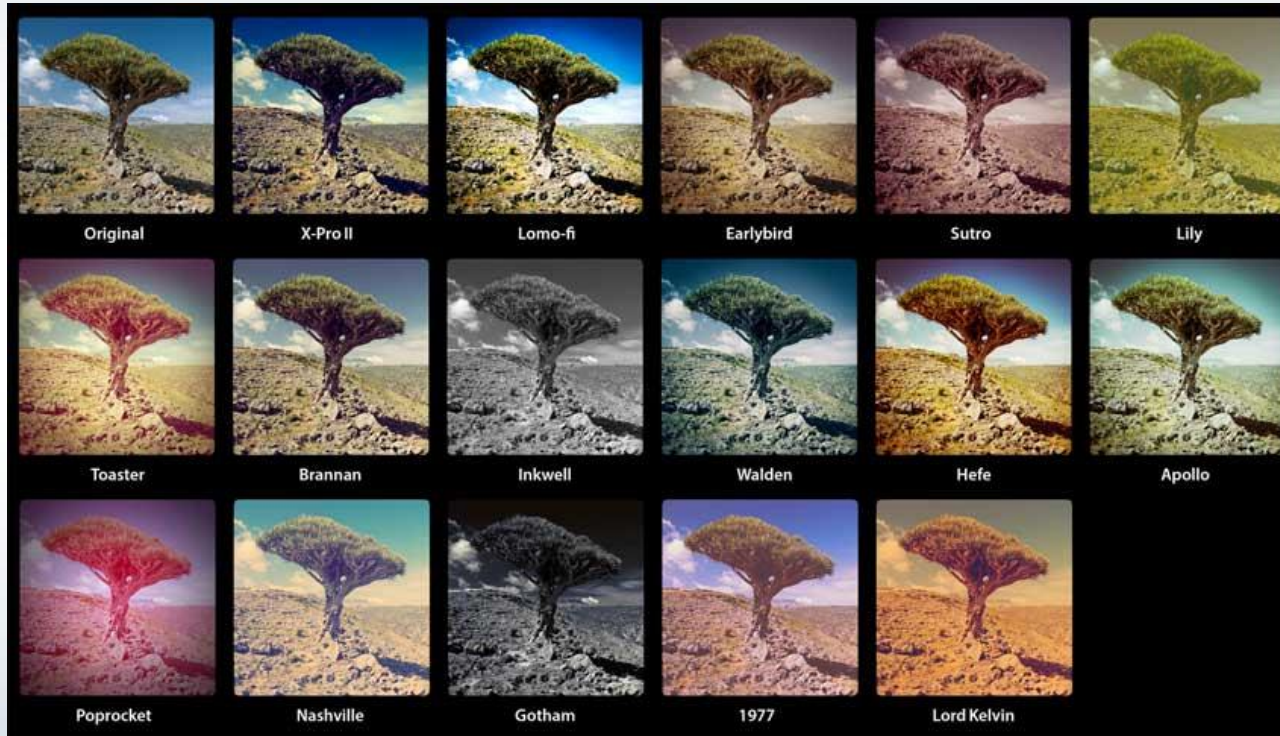
PMID: 29900801 PMCID: PMC6146019 DOI: 10.1177/1556264618782231

Can use the terms from relevant
articles to refine your own search

MeSH terms

- > Adolescent
- > Adult
- > Attitude*
- > Biological Specimen Banks / ethics*
- > Biomedical Research / ethics*
- > Child
- > Comprehension
- > Critical Care*
- > Cross-Sectional Studies
- > Decision Making
- > Ethics, Research
- > Female
- > Humans
- > Informed Consent By Minors
- > Informed Consent*

Step #6: Searching & Filtering



Example – Step #6: Searching & Filtering

- Informed consent & translational research: [978](#)

("informed consent"[MeSH Terms] OR assent) AND (biobank* OR biorepositor* OR genomics[MeSH Terms] OR tissue bank[MeSH Terms])

- Informed consent & translational research & pediatrics: [216](#)

("informed consent"[MeSH Terms] OR assent) AND (biobank* OR biorepositor* OR genomics[MeSH Terms] OR tissue bank[MeSH Terms]) AND (child* OR adolescen* OR minor OR pediatri* OR paediatric* OR young adult)

- Filters: publication date, language, text availability, article type, etc.

Screening

The quality of a lit review relies heavily on the scope and quality of studies/articles included

1. Screen Titles & Abstracts

- Focus on reasons to exclude (e.g. irrelevant, article type, etc.)

2. Screen Full Text

- Remove studies or other materials that do not meet your inclusion criteria

***Keep track of the number excluded at each level. At the full-text screening level, it is also common to keep track of your reasons for excluding each paper**

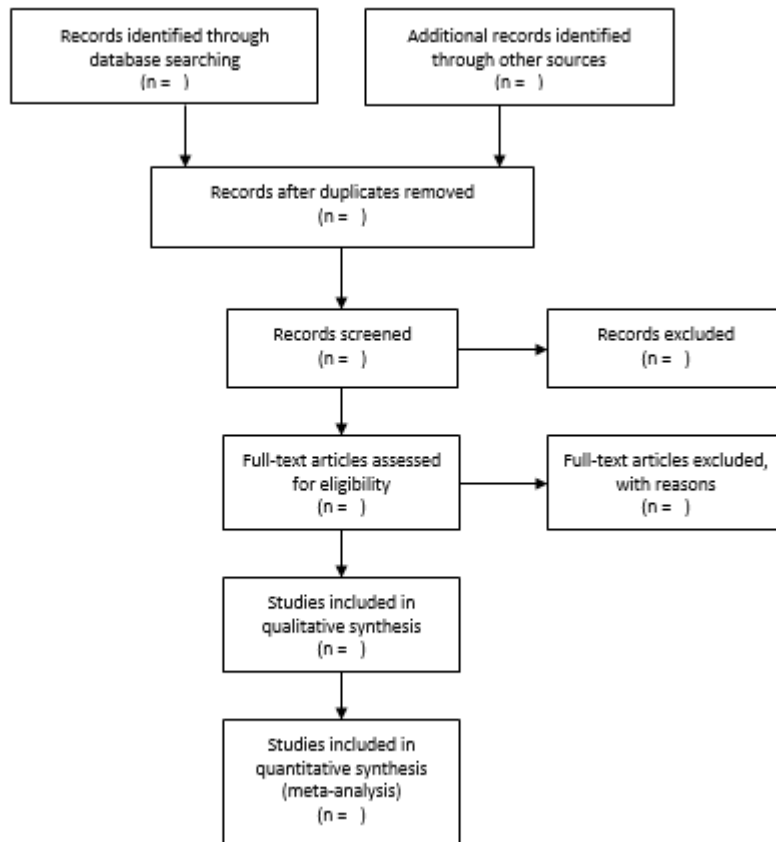
Putting it all together....

Identification

Screening

Eligibility

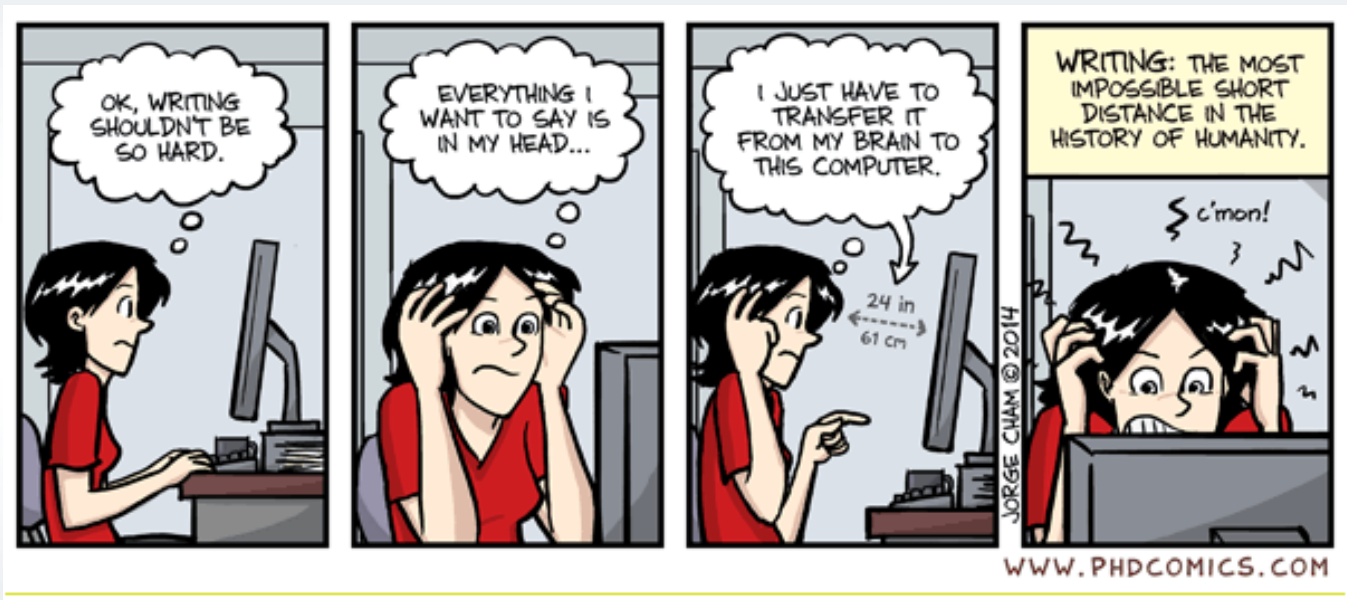
Included



Qualities of Good Literature Reviews

- Preferred Reporting in Systematic Reviews and Meta-Analysis (PRISMA)
 - Evidence-based minimum set of items for reporting in systematic reviews and meta-analyses
 - Broken down by section
 - Adherence often preferred by high impact journals
- Itemized checklist available at: <http://www.prisma-statement.org/>

Now get to writing!



Questions?

