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LIBRARY HITS: THE LITERATURE REVIEW PROCESS

Isolde Harpur, Greg Sheaf, Margaret Rooney, Maeve Gallagher.
Definition of a literature review

Challenges

The difference between a literature review and a systematic review?

Constructing an effective search question / strategy

Identifying the data

Library supports
CHALLENGES

• Knowing how to start, (e.g. wide then narrow, or narrow then wide?)
• Knowing what to include / exclude
• Knowing when to stop literature searching
• Knowing how far to venture into the literature of associated domains
“A formal, reflective survey of the most significant and relevant works of published and peer-reviewed academic research on a particular topic, summarizing and discussing their findings and methodologies in order to reflect the current state of knowledge in the field and the key questions raised.”
**DIFFERENCE BETWEEN A SYSTEMATIC REVIEW AND A LITERATURE REVIEW**

**What’s In a Name?: The Difference Between a Systematic Review and a Literature Review and Why It Matters**

Lynn Kysh, MLIS • Information Services Librarian • University of Southern California, Norris Medical Library

Librarians expertly understand information needs and are able to connect questions to the appropriate publications. However, faculty, students, and clinicians often do not have as much practice in this set of skills. The common confusion between systematic reviews and literature reviews exemplifies this disconnect. True, both systematic reviews and literatures combat information overload in the health sciences by providing summaries of the literature published on a topic. However, they vary significantly in terms of goals, components, and value in research, publication, and evidence-based practice. Librarians can work against this disconnect by educating their library patrons of these key differences and thereby support research and evidence-based practice.

<table>
<thead>
<tr>
<th></th>
<th><strong>Systematic Review</strong></th>
<th><strong>Literature Review</strong></th>
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<tbody>
<tr>
<td><strong>Definition</strong></td>
<td>High-level overview of primary research on a focused question that identifies, selects, synthesizes, and appraises all high quality research evidence relevant to that question.</td>
<td>Qualitatively summarizes evidence on a topic using informal or subjective methods to collect and interpret studies.</td>
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<tr>
<td><strong>Goals</strong></td>
<td>Answer a focused clinical question</td>
<td>Provide summary or overview of topic</td>
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<td></td>
<td>Eliminate bias</td>
<td></td>
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<tr>
<td><strong>Question</strong></td>
<td>Clearly defined and answerable clinical question</td>
<td>Can be a general topic or a specific question</td>
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<td></td>
<td>Recommend using PICO as a guide</td>
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<tr>
<td><strong>Components</strong></td>
<td>Pre-specified eligibility criteria</td>
<td>Introduction</td>
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<td></td>
<td>Systematic search strategy</td>
<td>Methods</td>
</tr>
<tr>
<td></td>
<td>Assessment of the validity of findings</td>
<td>Discussion</td>
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<td>Interpretation and presentation of results</td>
<td>Conclusion</td>
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<td></td>
<td>Reference list</td>
<td>Reference list</td>
</tr>
<tr>
<td><strong>Number of Authors</strong></td>
<td>Three or more</td>
<td>One or more</td>
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<tr>
<td><strong>Timeline</strong></td>
<td>Months to years</td>
<td>Weeks to months</td>
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<td></td>
<td>Average eighteen months</td>
<td></td>
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<tr>
<td><strong>Requirements</strong></td>
<td>Thorough knowledge of topic</td>
<td>Understanding of topic</td>
</tr>
<tr>
<td></td>
<td>Perform searches of all relevant databases</td>
<td>Perform searches of one or more databases</td>
</tr>
<tr>
<td></td>
<td>Statistical analysis resources (for meta-analysis)</td>
<td></td>
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<tr>
<td><strong>Value</strong></td>
<td>Connects practicing clinicians to high quality evidence</td>
<td>Provides summary of literature on a topic</td>
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<td></td>
<td>Supports evidence-based practice</td>
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**PICO MODEL**

**Patient, Population or Problem**
What are the characteristics of the patient or population?
What is the condition or disease of interest?

**Intervention or Exposure**
What do you want to do with this patient (e.g. treat, diagnose, observe)?

**Comparison**
What is the alternative to the intervention (e.g. placebo, different drug, surgery)?

**Outcome**
What are the relevant outcomes (e.g. morbidity, death, complications)?
A meta-analysis uses a statistical approach to

- **combine the results** from **multiple studies** in an effort to increase traction (over individual studies)
- **improve estimates** of effect
  - to resolve uncertainty when reports diverge.
RESEARCH QUESTION EXAMPLES

Example 1:
What is the effect on the environment from global warming?

Example 2:
Why are social networking sites harmful?

Example 3:
How are online users experiencing or addressing privacy issues on such social networking sites as Twitter and Facebook?

Example 4:
How is glacial melting affecting penguins in Antarctica?
What is the effect of global warming on the environment?

So broad that it couldn’t be adequately answered in a book-length piece, let alone a standard college-level paper.
Why are social networking sites harmful?

- Doesn’t specify which social networking sites
- What kind of harm
- Assumes “harm” is proven and/or accepted

Exercise developed by Dr Derek Richards - Systematic Literature Reviews presentation, Student Learning Development, TCD
How are online users experiencing or addressing privacy issues on such social networking sites as Twitter and Facebook?

• Specifies sites (Twitter and Facebook)
• Type of harm (privacy issues)
• Who the issue is harming (users)

Exercise developed by Dr Derek Richards - Systematic Literature Reviews presentation, Student Learning Development, TCD
How is glacial melting affecting penguins in Antarctica?

• narrows down to a specific cause (glacial melting)
• a specific place (Antarctica)
• a specific group that is affected (penguins)
Prior to searching any resource, look at your topic and decide:

• **What are the primary keywords/phrases in my topic?**

Make a list of the primary keywords including the synonyms

• **What alternative keywords or synonyms represent each of these key topics?**

Use a thesaurus or ask advice
What **causes some children to be bullies?**

Decide on your keywords and search for one concept (not necessarily one word) at a time

Look at synonyms, e.g.:

Child*  **OR**  kid*  **OR**  minor*  **OR**  juvenile*

Cause*  **OR**  reason  **OR**  root  **OR**  source

Combine terms with **AND**
A Research Question should be:

- Specific
- Focused
- Clearly formulated
- Well defined (leaving no room for ambiguity)

Note: A well constructed question is central to an effective search strategy
IDENTIFYING THE DATA – LIBRARY RESOURCES

• Stella Search and other catalogues
• Quality assured databases
• Institutional Repositories
• “Grey literature” (internal documents, reports, conference proceedings)
• Theses
LIBRARY CATALOGUES

• Stella Search +
  • Classic Catalogue
  • Accessions Catalogue (1872-1964)
  • 1872 Catalogue Online (pre 1872)
  • MARLOC – 20,000 manuscripts & archives from 13 C
  • Digital Collections - books, maps, paintings, manuscripts & photographs
MORE ABOUT STELLA SEARCH

• Works like a search engine
• Includes printed and electronic resources
• Most relevant results can be retrieved and then refined
• Gives direct links to PDFs (where available)

Click on **Library Catalogue Only** to find titles of printed/electronic books and journals held in the Library

Tip: Do not rely on Stella Search for database searching as Stella Search does not index all our databases:
American Chemical Society: SciFinder (Chemical Abstracts)

American Mathematical Society: MathSciNet

Brepols Publisher: International Medieval Bibliography, Library of Latin Texts, etc. *

Elsevier: Compendex, EMBASE

Euromonitor: Euromonitor Passport

ProQuest: Dissertations, Archives, Newspapers, Periodical Databases, etc.

Thomson: BIOSIS Previews, Zoological Record

Westlaw

DATABASES NOT CURRENTLY IN STELLA SEARCH
Library subscribes to 350+ databases

Identify databases relevant to your subject area.

Databases are listed by subject and name on library website
Controlled vocabulary (standardised)

VS

Keyword searching (informal)

- Controlled vocabulary (where available) retrieves all items indexed under a particular topic
- Can miss out on most recent articles if subject terms have not yet been assigned
- Keyword searching can lead to a lot of irrelevant results
Subject headings and thesauri are examples of controlled vocabulary.

In PubMed, **MeSH** – Medical Subject Headings

In CINAHL, **CINAHL Headings**

In PsycINFO, **PsycINFO Descriptors**

In ERIC, **ERIC Descriptors**

However:

Not all databases have controlled vocabulary (e.g. JSTOR and Web of Science) Check in help section.
MeSH (Medical Subject Headings) is the NLM controlled vocabulary thesaurus used for indexing articles for PubMed.

For example, when searching for German Measles it recommends you use the term Rubella.
The popular database JSTOR does not have controlled vocabulary so you need to depend on good searching skills to get the best results. Below is what JSTOR advises:

How can I search JSTOR?

There are many detailed searching tips available in our Tutorials section, from how to use quotations to search exact phrases to searching plural terms efficiently. We recommend you take a look at our advanced search documentation for some ideas.
• Searches for well-defined terms – medical conditions, for instance – generally have a standardised index term, and established synonyms

• Searches for “softer” terms are harder, many variations

people’s experiences of...

view OR views OR viewpoint OR viewpoints OR perception OR perceptions OR perceive OR attitude OR attitudes OR belief OR beliefs
These three Boolean operators allow you to combine terms to narrow or broaden your search

**AND**

**OR**

**NOT (use with caution)**
AND - narrows (combines)
OR - broadens (either/or) – OR gives you more...
BOOLEAN OPERATORS

NOT - narrows (excludes)
TIPS TO NARROW A SEARCH

• Use the operator **AND**:  
  • back pain **AND** treatment

• **Phrase searching** - usually by putting your phrase in quotation marks you can search a phrase in order you type it e.g. “working mothers”

**Limit by**

• Language

• Date

• Type of publication etc.
TIPS TO BROADEN A SEARCH

• Use the operator **OR** to combine synonyms, variant spellings etc.:
  • Teenager or adolescent

**Truncate** your search term:

• therap* = therapy; therapies; therapeutic; therapeutics
Use a reference management software package to import your results from across multiple databases.

Endnote is on Library website but you are not obliged to use this product.
IDENTIFYING THE DATA – OTHER RESOURCES

- Institutional repositories
- Wikipedia
- Google
- Other libraries
- Scholars working in the area
INSTITUTIONAL REPOSITORIES

• Forms a permanent record of all digital output from an institution
• Enables a university to compile a complete record of its intellectual effort
• Fulfils a university’s mission to engender, encourage and disseminate scholarly work
• Marketing tool for a university
Céad Míle Fáilte...

TARA is an open access repository, which means that the full text of the work deposited here is freely accessible to the world via the web. Access is restricted only in unavoidable instances, for example where publisher copyright restrictions prevail. However over 90% of scholarly publishers worldwide now allow some version of the documents they publish to be made available in a repository such as this.
RIAN, the Irish word for path, is your route to Open Access Irish research publications.
• Useful for some disciplines as a starting point
• double check any references you find
• Both are good to get you started
• Google Scholar is useful for finding a reference you are sure of

BUT CONSIDER:
• No-one outside Google really knows how Google assigns relevancy
• Don’t release list of material indexed.
• Some publishers don’t allow it to index e.g. American Chemical Society.
Inter-Library Loans

ALCID Card, (Postgraduates)

Letters of Introduction(Undergraduate and diploma postgraduates.)
LIBRARY SUPPORTS

• Subject Librarian
• Duty Librarian
• Library website
• Library HITS (and other Library training events)
• EndNote
SUMMARY OF KEY POINTS

• Definition of a literature review
• Challenges
• The difference between a literature review and a systematic review?
• Constructing an effective search strategy
• Identifying the data
• Library supports
Thank You!