LITERATURE REVIEWS

ROBIN PARKER & MELISSA HELWIG OF DALHOUSIE LIBRARIES – WK KELLOGG HEALTH SCIENCES LIBRARY
GOALS

- Increase knowledge on types of Literature Reviews
- Identify general steps in a Literature Review Process
- Able to start a search
- Decrease panic in the Literature Review Process
THE BENEFITS?

- Exposure to current research in your field
- Understanding of various research processes
- Ability to evaluate those processes
- Familiarity with the style of forms of academic and professional writing

(St. Mary’s)
TYPES OF LITERATURE REVIEWS

CAN YOU NAME A FEW?
TYPES OF LITERATURE REVIEWS

- Critical review
- Literature review
- Mapping review/systematic map
- Meta-analysis
- Overview
- Qualitative systematic review/Qualitative evidence synthesis
- Rapid review
- Scoping Review
- Systematic Review
- Realist Synthesis

See: Grant & Booth (2009)
LITERATURE REVIEW

- Generic Term:
  - Published Materials that examine recent or current literature.
  - Generally cover a wide range of subjects at various levels of completeness and comprehensiveness
  - May or may not include research findings

- Non-systematic summary of the research often a subjective overview on a topic. A general term for all attempts to obtain and synthesize the results and conclusions of two or more publications on a given topic.

- Can be similar to a narrative review.

Grant & Booth (2009)

Dartmouth College – Supporting Clinical Care
A research literature review is a systematic, explicit and reproducible method for identifying, evaluating, and synthesizing the existing body of completed and recorded work produced by research, scholars, and practitioners.

Fink, A. (2005 & 2010)
WHAT IS A LITERATURE REVIEW?

“Reviews of previous literature in a thesis or research paper are not summaries of every article you have read, but rather an exposition of the existing knowledge and reasoning which led you to believe that what you did was worth doing in the way that you did it, written so as to convince the reader of these things.

Writing about the literature is not just part of “what you have to do”, it is a valuable way to learn the literature, to get it “off the page and into your head”. And that is essential if you are to be able to think critically about your field.”

(DR Rowland)
GENERAL STEPS IN A LITERATURE REVIEW
WHOOPS! THE STEPS ARE OUT OF ORDER

- Synthesizing the results
- Selecting your sources
- Running your search
- Applying practical screening criteria
- Choosing search terms
- Selecting research questions
- Applying methodological screening criteria
STEPS IN THE RESEARCH LITERATURE REVIEW

1. Selecting research questions
2. Selecting your sources
3. Choosing search terms
4. Running your search
5. Applying practical screening criteria
6. Applying methodological screening criteria
7. Synthesizing the results
RESEARCH QUESTION

WHY?
Ask for general knowledge about a condition, an event, a thing

Have two essential components

- A question root (Who, What, When, How, Why) and a verb
- A disorder, test, treatment, event, timeline, amount
Examples of background questions

- What causes SARS?
- Which type of battery is needed for solar panels?
- What is the C-51 bill?
- When did Newfoundland become a Canadian province?
BACKGROUND ANSWERS

- Textbooks
- Handbooks
- Trusted Websites
- Databases*
- See Library or Library Subject Guides for suggestions
A good research question ...

- can be answered by collecting and analyzing data
- assumes the possibility of different outcomes or opinions
- is not too broad and not too narrow (more to follow on this)
- is clear
- is a single question
- is built on sound assumptions

(St Mary's)
You’re applying for a grant to support your research on **Pick a topic of your choice.**

Think of a question related to this topic.
RESEARCH QUESTION

My Example: You’re applying for a grant to support your research on management of patients with atrial fibrillation.

Broad Question

- What is the prevalence of atrial fibrillation?

Narrow Question

- What costs are associated with hospitalization for atrial fibrillation?

Very Narrow Question

- What strategies have been utilized in Nova Scotia to reduce length of stay for patients with atrial fibrillation?

Featherstone (2011)
Is your question

- Broad?
- Narrow?
- Or Very Narrow?

Think about your question and how it would look in terms of: Broad, Narrow and Very Narrow.

Next Step:
Once you have a Broad, Narrow and Very Narrow question on your topic, turn to your neighbour and share your questions.
How questions influence search results

Featherstone (2011)
SELECTING YOUR SOURCES
SELECTING YOUR SOURCES

- Online public bibliographic databases (PubMed)
- Commercial bibliographic databases (Medline OR Compendex)
- Specialized bibliographic databases (PsycINFO OR Environmental Science and Pollution Management)
- Manual or “hand searches” of reference lists
- “Grey literature”
- Web reports
- Expert opinions
WHERE TO SEARCH

- Bibliographic Databases
  - See Dalhousie Subject Guides: http://dal.ca.libguides.com/index.php
  - Or the Database search function on the library homepage
- “Grey Literature” Or Unpublished Literature
  - Associations, Organizations & Government
    - WHO, Health Canada, etc.
    - Dissertations & Theses, Conference Proceedings, Web search engines
CHOOSING SEARCH TERMS
SELECTING YOUR SEARCH TERMS

1. Select your database
2. Break your question into concepts
3. Identify subject headings for each concept
4. Identify text words for each concept

Tips:
- Use a “target article” to help identify search terms
- Use a worksheet to keep track of your terms
Example: Does hydration decrease incidence of delirium at the end of life?

<table>
<thead>
<tr>
<th>Concept #1</th>
<th>Concept #2</th>
<th>Concept #3</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>exp Fluid Therapy</strong></td>
<td>Delirium/</td>
<td><strong>exp Terminal Care/</strong></td>
</tr>
<tr>
<td>OR</td>
<td></td>
<td>Palliative Care/</td>
</tr>
<tr>
<td>OR</td>
<td></td>
<td>exp Terminally Ill/</td>
</tr>
<tr>
<td>OR</td>
<td></td>
<td></td>
</tr>
<tr>
<td>OR</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

---

**WHAT CONCEPTS ARE IN YOUR QUESTION?**
Most databases have operators that can assist in the search process

See Help menu in database for Proximity searching or Wildcards
“Quotes”: ensures the exact words are found “potato peel”

Near + #: ensures the words are near each other regardless of order – potato Near/3 peel* OR potato N3 peel*

Within OR ADJ
Expand words or replace letters in words

Often are indicated by a * or ?

Example: Dress* = dress, dresses, dressing, dressed, etc

Example: woman OR women = wom?n
## PUBMED OPERATORS

<table>
<thead>
<tr>
<th>Operator</th>
<th>Command</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>*</td>
<td>Find Alternative endings to this word</td>
<td>Mimic* will retrieve words such as mimic, mimics, mimicing</td>
</tr>
<tr>
<td>&quot; &quot;</td>
<td>Two words together</td>
<td>“pressure point”</td>
</tr>
<tr>
<td>[tw]</td>
<td>Search specific fields: Title, Abstract, MeSH, Other terms, Chemical Names of Substances, Secondary source identifier like GenBank, Personal Name as subject</td>
<td>Potato [tw] AND peel [tw] AND dressing [tw]</td>
</tr>
</tbody>
</table>
# Compendex on Engineering Village Operators

<table>
<thead>
<tr>
<th>Operator</th>
<th>Command</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>$</td>
<td>Search for various forms of a word</td>
<td>$management returns: manage, managed, manager, managers, managing, management</td>
</tr>
<tr>
<td>*</td>
<td>Used to replace 0 to X numbers of characters anywhere in a word</td>
<td>Manage*</td>
</tr>
<tr>
<td>NEAR/#</td>
<td>Search for terms within 0 to x terms of one another in any order</td>
<td>Laser NEAR/4 diode</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Laser Near/4 diode wn TI</td>
</tr>
<tr>
<td>ONEAR/#</td>
<td>Search for terms within 0 to x terms of one another and searched in the order entered</td>
<td>Laser ONEAR/4 diode</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Laser ONEAR/4 diode wn AB</td>
</tr>
</tbody>
</table>
RUNNING YOUR SEARCH
RUNNING YOUR SEARCH

- Start with your first concept
  - Search for the subject headings first
  - Then search text words
  - Combine these synonymous searches with OR using your search history
- Repeat for your second, third, and subsequent concepts
- Finally, combine large search results set with AND
Running your search(es)

Concept 1
- Search #1 =
- Search #2 =
- Search #3 =
- Search #4 =

Search #5 = #1 OR #2 OR #3 OR #4

Concept 2
- Search #6 =
- Search #7 =
- Search #8 =
- Search #9 =

Search #10 = #6 OR #7 OR #8 OR #9

Search #11 = #5 AND #10

Results

Featherstone (2011)
SCREENING
Two kinds: practical and methodological

- Use practical screening to identify a broad range of potentially useful studies
- Use methodological screening to identify the best available studies
PRACTICAL SCREENING

- Date of Publication
  - Only studies between 2001-2005
- Participants or Subjects
  - Only adults 80 plus
- Publication Language (?)
- Research Design
  - Only clinical trials
Some questions to ask:

- Is the study’s research design internally & externally valid?
- Are the data sources used in the study reliable & valid?
- Are the analytic methods appropriate?
- Are the results meaningful in practical & statistical terms?

Critical Appraisal Worksheets

Fink, A. (2005 & 2010)
WORKING WITH YOUR RESULTS

- Save or export search results into a citation manager (Refworks, Endnote, etc.)
- Remove duplicates
- Remove inappropriate studies by applying methodological screens
MOVING TO ANOTHER SOURCE

- Retain as much of your original strategy as possible
- Recognize that subject headings will be different (or non-existent)
- Keep track of your search terms using new worksheets

Tips: Final search strategy copy and past into your worksheet.
HAND-SEARCHING AND FINAL STEPS

- Locate the reference lists for selected articles*
- Identify new articles that have cited your articles*
- Identify key journals and “hand search” their issues
- Test your search strategy by checking to see if a few “target articles” appear in the results

*use web of science or scopus
SYNTHESIZING THE RESULTS

- Use your results to....
  - Describe current knowledge about your research topic
  - Support the need for and significance of new research
  - Explain research findings
  - Describe the quality of a body of research*

*Fink, A. (2005 and 2010)
SOURCES TO HELP WITH WRITING – JUST A FEW

- Dalhousie Writing Centre:
  http://www.dal.ca/campus_life/student_services/academic-support/writing-and-study-skills.html

- Reviewing the Literature: A Short Guide for Research Students.
QUESTIONS? COMMENTS?

THANK YOU!
RESOURCES TO HELP

- Search worksheet – See Research Boot camp Materials
- Dalhousie Libraries – See locations and services or contact the librarian on your subject guide
  - [http://libraries.dal.ca/locations_services.html](http://libraries.dal.ca/locations_services.html)
  - Just a few of our services: help with database searching, citation management tools like refworks, etc, and general questions
Dartmouth College. Supporting Clinical Care Handout on Review Types.


REFERENCES