Did you attend any research bootcamp sessions last week or another year?

Core Skills, Part 1 (Getting Started and Lit Review/Searching)

Core Skills, Part 2 (Writing Lit Review and RefWorks)

Other research bootcamp session

No, this is my first session
<table>
<thead>
<tr>
<th>Response</th>
<th>Description</th>
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<tbody>
<tr>
<td>Yes, I love PubMed and use it all the time!</td>
<td></td>
</tr>
<tr>
<td>Yes, and I’ve used it a little</td>
<td></td>
</tr>
<tr>
<td>Yes, and I sort of hate it</td>
<td></td>
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<tr>
<td>Maybe… it sort of rings a bell</td>
<td></td>
</tr>
<tr>
<td>Nope</td>
<td></td>
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</tbody>
</table>
Overview

- Introduction to Health Sciences information resources
- PubMed Demos
- PubMed Exercises
**EBHC Cycle**

Applies to finding information for research and practice

- **Formulate clinical/health question**
- **Search for the evidence**
- **Appraise the evidence**
- **Incorporate best evidence into decision-making**
- **Evaluate the process**

Involves:
- Patient preferences
- Clinician experience

Applies to finding information for research and practice.
The LD$_{50}$ of toxicity data is 2 kilograms per kilogram.
6S Model – Clinical vs Research

- Start here for clinical questions!
- Using evidence in clinical practice

- Synopses of studies
- Syntheses
- Summaries
- Systems

- Single Studies
- Synopses of Syntheses
- Start here to support research!
6S Model - Research

- Single Studies
- Synopses of studies
- Syntheses
- Synopses of Syntheses
- Summaries
- Systems
Formulating Questions

- In Health Sciences, foreground questions are framed by a PICO, PICOT, PIOx.
- Other frameworks may be used for different types of questions or scenarios.
How familiar are you with PICO?
Formulating Questions

- In Health Sciences, foreground questions are framed by a PICO, PICOT, PIOx.

- P = population/patient/problem
- I = intervention/exposure/prognostic factor/diagnostic test...
- C = comparison, if appropriate (placebo/gold standard/no Tx)
- O = outcomes (clinically relevant, patient-oriented)

For more see:
http://libcasts.library.dal.ca/Kellogg/EBP/Module%201_Clinical%20Question/
General situation:
You have an elderly post-op general surgery patient at high risk of developing DVT. He has expressed his discomfort with wearing anti-embolitic stockings and tells you he wants proof that “those horrible socks” actually work. The current patient education handout doesn’t have any hard numbers supporting the prophylactic use of mechanical methods for DVT.

You decide to find some evidence that might help future patients understand the benefit of anti-embolitic stockings/sequential compression devices versus no prophylaxis in preventing deep vein thrombosis.

Scenario credit: Karla Van Kessel
How would you describe the P (patient) in this scenario?

“post op high risk DVT elderly”
What is the intervention (I) for this question?

- deep vein thrombosis (DVT)
- anti-embolitic stockings (compression socks)
- no prophylaxis
What are the outcome(s) of interest?

- Patient comfort
- Decreased incidence of DVT
- Ease of use
- Post-operative complications
Searching from PICO

- Not always best to search all or even most concepts
- What are the most important pieces?
- What will help you determine if the resulting evidence addresses your question?
**Exercise – search concepts**

- How effective is terbinafine in the treatment of fungal toe nail infections (onychomycosis)?

  - P = onychomycosis in adults
  - I = oral terbinafine
  - C = None
  - O = cure, time to resolution, recurrence rate
  - Study type?
• Chocolate AND peanut:

• Chocolate OR peanut:

• Chocolate NOT peanut:

Boolean refresher!
Which search will find all of the primary colours together?

- red OR blue
  OR yellow

- red AND blue
  AND yellow

- (red OR blue
  OR yellow)
  AND colours
Which search will find any of the primary colours?

- red OR blue OR yellow
- red AND blue AND yellow
- (red OR blue OR yellow) NOT colours
- (red AND blue AND yellow) OR colours
Example – search concepts

- How effective is terbinafine in the treatment of fungal toe nail infections (onychomycosis)?
  - P = onychomycosis in adults
  - I = oral terbinafine
  - C = None
  - O = cure, time to resolution, recurrence rate
  - Study type?
Demo – getting started and myNCBI
Exercise – Tasks #1
What colour did you choose for highlighting?
Quick intro to searching PubMed
Search details: MeSH and free text terms

Query Translation:

Result:
246

Stopword(s) Ignored:
and

Translations:
<table>
<thead>
<tr>
<th>term</th>
<th>translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>data mining</td>
<td>&quot;data mining&quot;[MeSH Terms] OR (&quot;data&quot;[All Fields] AND &quot;mining&quot;[All Fields]) OR &quot;data mining&quot;[All Fields]</td>
</tr>
<tr>
<td>electronic health records</td>
<td>&quot;electronic health records&quot;[MeSH Terms] OR (&quot;electronic&quot;[All Fields] AND &quot;health&quot;[All Fields] AND &quot;records&quot;[All Fields]) OR &quot;electronic health records&quot;[All Fields]</td>
</tr>
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</table>
Search details, cont’d
Exercise – Tasks #2, Part 1
The MeSH description for Guideline [Publication Type] indicates that this MeSH heading is good for finding Clinical Practice Guidelines.

True

False
Exercise – Tasks #2, Part 2
Name a broader and a narrower MeSH term for Drug Combination

When poll is active, respond at PollEv.com/kellogglibra530 or Text KELLOGGLIBRA530 to 37607 once to join.
Exercise – Tasks #2, Part 3
What are some entry terms in the record for the MeSH term related to breast cancer?
What is the way that you prefer to find MeSH terms for your topic?

A. Use the basic search box and change the drop down to MeSH

B. Go directly to the MeSH database from the PubMed homepage

C. Search with keywords in the basic search box and then check the Search Details box to see what MeSH terms were automatically mapped

D. Use the Advanced search page and change the Builder option to MeSH then use the predictive text option to identify appropriate entry terms
Which Clinical Queries options will get you to papers that are highly likely to be RCTs?

- Prognosis/Broad
- Therapy/Broad
- Therapy/Narrow
- Etiology/Narrow
Paste in the title of a systematic review found using Clinical Queries for the scenario in Task #3, Part 1.
Demo – Other subjects, filters, Advanced search builder
Where should you click to find pre-set searches on topics such as health disparities, AIDS, Cancer, etc.?
Exercise – Task #3, Part 2
You want to find articles on lymphoma in sheep. Use the Veterinary subset and paste in your search.
Demo – Exporting, exemplar papers, other features
What is the publication type of the article titled "Probiotics for the Treatment of Atopic Dermatitis in Children: A Systematic Review and Meta-Analysis of Randomized Controlled Trials"?

<table>
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<tr>
<td>Randomized Controlled Trial</td>
</tr>
<tr>
<td>Review</td>
</tr>
<tr>
<td>Meta-Analysis</td>
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</tbody>
</table>
What MeSH terms are assigned to this paper that are relevant to the concepts you identified in Task #3, Part 1?
Exercise – Task #4, B
Any comments or questions about finding retracted publications?
Questions?

Need to Review? Watch this short video on PubMed Searching

Contact:

Kellogg Health Sciences Library: Kellogg@dal.ca
See LibGuides for Health Sciences Librarians!

Robin Parker: robin.parker@dal.ca
PubMed example

• Why do cold medications have warnings for pregnant women?

• Cold medications and pregnancy
What are some reasons to find and use MeSH terms to search on your research topic?

A. To retrieve relevant results regardless of authors' use of variant spelling and vocabulary
B. To find the most recent evidence on the topic
C. To filter to particular publication types
D. To focus your search results on articles that have the topic as a main idea
Why might you want to search with free text words as well as MeSH terms?
"In otherwise healthy adult patients, does the treatment of acute rhinosinusitis with antibiotics compared to no intervention result in faster resolution of symptoms?"

- Population - Adults with clinical diagnosis of sinusitis
- Intervention - Antibiotic therapy
- Control - Conservative RX
- Outcome - Faster resolution of symptoms
Example

- In high risk post-op patients at risk of developing DVT do compression stockings vs. no intervention reduce the incidence of DVT?