Searching for the Best Evidence (Even under Limitations!)

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Introduction

OBJECTIVES
EBP & SEARCHING FOR BEST EVIDENCE
RESOURCES
Objectives

- Identify sources of external evidence, and understand their contribution to EBP
- Locate and use various resources & collections
- Discuss and mitigate limitations
- Demonstrate understanding of database structures and choose the right database(s) for a clinical & research questions
- Design a search strategy and participate in a database search for pertinent evidence
- Understand the purpose of strong secondary sources, such as reviews (narrative & systematic), meta-analysis and meta-synthesis
EBP & Searching for the Evidence

LINKED PARTNERSHIP
CLINICAL VS. RESEARCH
BACKGROUND VS. FOREGROUND
What is EBP?

- “The conscientious, explicit and judicious use of current best evidence in making decisions about the care of individual patients. The practice of evidence-based medicine requires the integration of individual clinical expertise with the best available external clinical evidence from systematic research and our patient's unique values and circumstances.”

- Centre for Evidence Based Medicine (CEBM), Toronto, CA
**Different Questions, Different Searches!**

<table>
<thead>
<tr>
<th>Clinical Questions</th>
<th>Research Questions</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Time sensitive</td>
<td>- Less time sensitive</td>
</tr>
<tr>
<td>- Directly apply to patient care</td>
<td>- Often involve teams</td>
</tr>
<tr>
<td>- Background / Foreground elements</td>
<td>- More intense &amp; inclusive searches</td>
</tr>
<tr>
<td>- Focus on quick evaluation</td>
<td>- May include comparative elements</td>
</tr>
</tbody>
</table>
Background vs. Foreground

Background Questions
- Basic Information about a Medical Topic
- You *think* you’re supposed to know!

Foreground Questions
- Directly involves a patient
- PICO(T) format
# Where do we search?

<table>
<thead>
<tr>
<th>Clinical Questions</th>
<th>Research Questions</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Background</td>
<td>• Specialized Databases</td>
</tr>
<tr>
<td>o Guidelines / Procedures</td>
<td>o MEDLINE (Ovid or PubMed)</td>
</tr>
<tr>
<td>o Clinical Tools</td>
<td>o CINAHL</td>
</tr>
<tr>
<td>o Textbooks</td>
<td>o PsycINFO</td>
</tr>
<tr>
<td>• Foreground</td>
<td>o EMBASE</td>
</tr>
<tr>
<td>o Clinical Tools</td>
<td>o Google Scholar</td>
</tr>
<tr>
<td>o Databases</td>
<td>• Other Resources</td>
</tr>
<tr>
<td></td>
<td>o Advanced Google Search</td>
</tr>
<tr>
<td></td>
<td>o Websites; Gray Literature</td>
</tr>
</tbody>
</table>
(Library) Resources

ACCESS
TYPES OF RESOURCES
GETTING HELP!
Accessing Resources

- Assess Available Tools
  - Libraries and/or Librarians
  - Affiliated Organizations or Researchers
  - HINARI
  - “Free” Web searches

- Organize & Share
  - Topic Guides
  - Bibliographies
  - Cloud-based Collections
  - “Favorites”
Types of Resources

- Databases (CINAHL, MEDLINE, EMBASE)
- Clinical Tools (DynaMed, Nursing Reference Center)
- eBooks (STAT!Ref, UCentral, MDConsult)
- Journal Articles
- Drug Reference Tools (Micromedex, Drug Information Portal)
- Reference Management Tools (RefWorks, Zotero)
- Procedures & Guidelines
- Patient Education
Get Help!

- Librarians & Information Professionals
- Colleagues & Collaborators
- Organizations
Searching Techniques

- Overall Process
- Searching Best Practices
- Clinical vs. Research
- Demonstration
- Beyond Traditional Databases
Searching: Overall Process

- Identify your **Question**
- Select the best **Resource(s)**
- Formulate your **Search Strategy**
- **Search**, using Best Practices
- **Save** your Results
- **Evaluate** & Refine your Search
- **Repeat!**
## Identify your Question

<table>
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<tr>
<th>Clinical Question</th>
<th>Research Question</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Background / Foreground</td>
<td>- Break into Concepts</td>
</tr>
<tr>
<td>- PICO(T)</td>
<td>- Brainstorm keywords</td>
</tr>
<tr>
<td>- Brainstorm keywords</td>
<td>- Gather from existent sources</td>
</tr>
<tr>
<td>- Weigh the importance of individual elements</td>
<td>- Ask colleagues / experts</td>
</tr>
</tbody>
</table>
Select the Best Resource(s)

- For Health-related Questions:
  - Databases (consider the focus of your question)
  - Secondary Resources (Reviews and Syntheses)

- Ask a Specialist!
  - Subject Librarians
  - Mentors & Instructors
  - Colleagues & Collaborators
Formulate your Search Strategy

**Boolean Search**
- **AND** = all terms included
- **OR** = rough synonyms, any are OK
- **NOT** = eliminate this term

**Discovery Search**
- Build terms list
- Determine relevancy
Search, using Best Practices

- Search **Concepts** Individually
- Use **Subject Terms** (MeSH, CINAHL headings)
- Check **Scope** Notes
- **Explode (if applicable)**
- Use **Subheadings** Appropriately
- Use AND, OR, and NOT to **Combine Searches**
- Include **Keywords** when Needed (“exact phrase”)
- **Truncate** Words (psych*) for Variant Endings
- Apply **Limits** Last (Language, Year, Publication Type)
### Save your Results

#### Within Databases
- MEDLINE, CINAHL, etc.
- Create individual or group accounts
- Save variations of searches
- Keep internal folders for individual results

#### Reference Managers
- RefWorks/Zotero
- Export references from databases
- Share with co-investigators
- Generate style-specific reference lists
Evaluate and Refine your Search

- Examine Results
- Identify the most applicable
  - Use these to find more search terms & resources
- Broaden your concepts to similar fields
  - Ex. Training Skilled Birth Attendants in Rural Areas
    - Rural Health Providers—too broad
    - Maternal Health Providers and/or Community Health Workers!
- Consult with Experts
- Refine your Search
- Think about other Sources
Sample Search Demonstration
Beyond Traditional Databases

GOOGLE
WEBSITES
GRAY LITERATURE
EBOOKS
MEDICAL APPS
Google?

- Use Google... but be smart.
  - Advanced Search
    - Limit to sites/domains (.gov, .edu, who.int)
  - Google Scholar

- Evaluate ALL Resources Skeptically

- Discover Gray Literature!
(Some) Credible Websites

**General Health**
- Evidence Aid Resources [http://www.evidenceaid.org/resources/](http://www.evidenceaid.org/resources/)

**Statistics**

**Guidelines**
Thank you!