Evidence or Facts?
Many clinical questions are background in nature and these questions do not necessarily demand evidence. Ex: dosage of a drug, typical symptoms of a condition. For background questions, consult a reliable textbook, procedure manual, drug information resource, or colleague. Consult Hardin Library subject guides or the Infohawk + catalog for resources.

When Evidence is Needed
Try structuring the question using PICO (P=patient, problem, population; I= intervention; C=comparison; O= outcome). PICO works best for intervention types of questions but can be adapted. An example: In patients with central lines (P), does the use of antibiotic coated catheters (I) compared with standard catheters (C) have an impact on central line associated infection rates (O)?

**Step 1: Define a clinical question using PICO**

<table>
<thead>
<tr>
<th>P</th>
<th>patient, problem, or population</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>intervention</td>
</tr>
<tr>
<td>C</td>
<td>comparison</td>
</tr>
<tr>
<td>O</td>
<td>outcome</td>
</tr>
</tbody>
</table>

**Step 2: Consult High Quality Secondary Sources**
For topics with suspected evidence support, try the following resources licensed by the University of Iowa Libraries.

DynaMed Plus: Contains disease and drug evidence summaries displayed in a format that is easy to read, and a straightforward evidence grading scheme. Available for download to mobile devices at no cost to UI affiliated individuals. [http://purl.lib.uiowa.edu/ebsco/dynamed](http://purl.lib.uiowa.edu/ebsco/dynamed)

UptoDate: Contains over 8000 topic syntheses with summaries of evidence and best practice recommendations. Available for download to mobile devices at no cost to UI affiliated individuals: [http://www.lib.uiowa.edu/hardin/uptodate.html](http://www.lib.uiowa.edu/hardin/uptodate.html)

Cochrane Library: Contains the Cochrane Database of Systematic Reviews, which is regarded as the most consistent source of high quality systematic literature reviews. [http://purl.lib.uiowa.edu/updateusa/clib](http://purl.lib.uiowa.edu/updateusa/clib)

Natural Medicines: Contains evidence summaries for complimentary and alternative medicine topics. [http://purl.lib.uiowa.edu/naturalstandard](http://purl.lib.uiowa.edu/naturalstandard)

Essential Evidence Plus (formerly called InfoPOEMS): Includes over 13,000 conditions, diseases, and procedures with recommendations based on evidence grading scheme. [http://purl.lib.uiowa.edu/EsEvAHFS](http://purl.lib.uiowa.edu/EsEvAHFS)

Step 3: Developing a List of Terms
Generating a list of synonyms and related terms is important to do before, and throughout the search process. List 2-4 concepts and 2-3 synonyms for each concept

<table>
<thead>
<tr>
<th>Key Concepts</th>
</tr>
</thead>
<tbody>
<tr>
<td>to be connected with AND</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Synonyms</th>
</tr>
</thead>
<tbody>
<tr>
<td>to be connected with OR</td>
</tr>
</tbody>
</table>

Step 4: Search the health sciences databases

**Keyword Searching and Subject Searching:** There are two types of searching, keyword and subject searching. Keyword searching is what most people use. Subject searching is a search by concept and is possible because databases are organized by a subject vocabulary (ex: MeSH, CINAHL headings). A subject search can take more time initially and takes some practice. However, subject searching often yields different results than a keyword search. It can also be used to narrow a broad set of results to those that are actually “about” the concepts of interest.

**Tips for Keyword Searching**

- *Use synonyms* – Keyword searching will only try to find articles with the exact word that you put in the search box. There may be other ways to describe what you want. For example, instead of searching for high blood pressure, try high blood pressure or hypertension or hbp or etc.
• **Truncate** – This can be a powerful search strategy. In a lot of databases, the symbol is “*.” For example, diagnos* will bring up articles with diagnosis, diagnosing, diagnostic, diagnostics, etc.

• **Spelling** – A lot of health sciences literature is published in Europe. Try using British spelling alternatives. For instance, pediatrics or paediatrics.

• **Use fields** – One way to limit results to more relevant items is to look for keywords in the abstract or title of an article.

**Tips for Subject Searching**

• Look for the option in the resource you are searching. For example, MeSH in PubMed or “Suggest Subject Terms” in CINAHL.

• If unable to locate, try a related term. You might also try searching for your term in the title of articles and then take a look at the subject terms (a.k.a. headings) assigned.

**Connecting Terms**

Using AND, OR and NOT operators allow control over how terms are interpreted. These allow a search to broaden or narrow depending on the term used.

- **Using AND** will retrieve fewer results (ex. heart attacks AND aspirin)
- **OR** will retrieve more results (ex. heart attack OR myocardial infarction)
- **NOT** will exclude unwanted terms (ex. substance abuse NOT cigarettes).

**Ordering terms using parentheses**

Similar to a math problem, you can use parentheses to help the databases understand how to combine terms and in which order. For example, take a look at the following search strategy:

*(central line OR central venous catheter) AND (antibiotic OR antimicrobial OR antibacterial) AND (infection OR CLABSI)*

Ordering the terms in this way means that all retrieved results must have one term from each set of parentheses in the record.
Finding Full Text

1. To see if full text is available, use the UI Link button:

2. If no full text is available, contact us at Hardin or use our interlibrary loan service
   http://www.lib.uiowa.edu/hardin/illa

Remember to Ask for Help: You have access to professional librarians who are happy provide assistance and instruction about searching for information.
Contact the reference desk:
lib-hardin@uiowa.edu
319-335-9151