Searching & Citing the Literature

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Today’s Class

• Asking the Right Questions
• Hierarchy of Evidence
• A Few Tips on Searching in PubMed
• EndNote
  • Exporting your references from PubMed & Ovid
  • Managing Results
  • Sharing Results
  • Output styles
  • Writing the paper
• Databases by Domain
How do you search for information?
A better way to search.
Start with a question.

QUESTION EVERYTHING

Why?
It is harder to ask the right questions than to find answers for the wrong questions.

- **Background questions** ask about general knowledge of a certain disorder, population or phenomenon. They are usually who, what, where, when, how, why. Background questions commonly have already been *answered* and those answers can be found in textbooks or similar resources. If the topic is emerging, a background question can be the basis for new research.

- **Examples:**
  - Which foods should be avoided in patients with diabetes? (*Textbook on Diabetes Management*)
  - What is the etiology of sensorineural hearing loss? (*Textbook on Audiology*)
  - What reasons do parents in NYC School District #2 cite for NOT vaccinating their children? (original research or report of research)
Hearing impairment in children: Etiology

Authors: Richard JH Smith, MD, Adrian Gool, MD, FRCSC
Section Editor: Glenn C Isaacson, MD, FAAP
Deputy Editor: Carrie Aronsky, MD, MPH

Good example of a resource to answer Background Questions
Foreground Questions

- **Foreground questions** ask for specific knowledge that will affect patient management, or a population intervention. These are often reported in journal articles but may also be the basis for original research.

- Examples:
  - Would an educational program for parents of school age children increase the number of school children accepting vaccinations?
  - Do children born prematurely have a higher rate of sensorineural hearing loss than children carried to term?
  - How effective are community health workers in supporting in a self-help diabetes management program for the Korean American community compared with programs run by nurses?
P.I.C.O. a tool that can define your question into its important elements

<table>
<thead>
<tr>
<th>P</th>
<th>Patient, Population, or Problem</th>
<th>How would I describe the population of interest?</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>Intervention, Item of Interest (Prognostic Factor, or Exposure)</td>
<td>Which main intervention, prognostic factor, or exposure am I considering?</td>
</tr>
<tr>
<td>C</td>
<td>Comparison of Intervention (if appropriate)</td>
<td>What is the main alternative to compare with the intervention?</td>
</tr>
<tr>
<td>O</td>
<td>Outcome you would like to measure or achieve</td>
<td>What can I hope to accomplish, measure, improve, or affect?</td>
</tr>
<tr>
<td>T</td>
<td>What Type of question are you asking?</td>
<td>Diagnosis, Etiology/Harm, Therapy, Prognosis, Prevention</td>
</tr>
<tr>
<td>S</td>
<td>Type of Study you want to find</td>
<td>What would be the best study design/methodology?</td>
</tr>
</tbody>
</table>
## PICO examples

<table>
<thead>
<tr>
<th>P</th>
<th>I</th>
<th>C</th>
<th>O</th>
</tr>
</thead>
<tbody>
<tr>
<td>Korean Americans participating in diabetes self-management program</td>
<td>Community Health Worker Support</td>
<td>Nurse support</td>
<td>Reduced A1C</td>
</tr>
<tr>
<td>Parents of school children in NYC School District 2.</td>
<td>Education on safety of vaccines</td>
<td>No Education</td>
<td>Increase in the number of school children accepting vaccination</td>
</tr>
<tr>
<td>Marijuana users</td>
<td>Focus on adverse health effects</td>
<td>?</td>
<td>?</td>
</tr>
</tbody>
</table>
Does medical marijuana help with epileptic seizures in children?

<table>
<thead>
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Does medical marijuana help with seizures in children who have epilepsy?

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<th>C</th>
<th>O</th>
</tr>
</thead>
<tbody>
<tr>
<td>Children with epilepsy</td>
<td>Medical marijuana</td>
<td>Other medications?</td>
<td>Epileptic seizures?</td>
</tr>
<tr>
<td>Doing nothing?</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Not all articles are created equal.
Not all articles are created equally – Hierarchy of Evidence

Popcorn Workers Lung:
- Review article 2007
- Case Series 2004
- Case Report 2002
- CDC Surveillance Report, 1999
What makes a Systematic Review so great?

• It’s a **Review** of articles on a topic that is **Systematic**

• Not a literature review because the researchers:
  – Have a **Hypothesis** – Research Question
  – Have a **Reproducible Methodology**
  – Have **Inclusion/Exclusion Criteria**
  – Intend to find **ALL** relevant studies
  – Assess the studies for **Validity**
  – **Synthesize** the studies’ characteristics and findings
Launching PubMed

Go to the Library home page (https://hsl.med.nyu.edu/) and enter your search term or just click the orange search button:

- Starting your search from the library web page takes you to a special URL that will display the Access through NYU HSL icon:
- Clicking on that icon will either take you the full text or to a form to request the full text be sent to you.
- You can also bookmark this URL to save time in the future.

Creating a My NCBI Account

In the Upper Right corner of the PubMed Home page click Sign in to My NCBI:

Create a new account or use an existing Google or other 3rd party account.

A My NCBI account will allow you to:

- Save searches & create automatic e-mail alerts
- Retain recent activity of searches & records for 6 months
- Set up My Bibliography & NIH public access policy compliance
- And much more…
Keep track of your own publications

Search PubMed

Save searches to re-run on your own or send automatic updates.

Create and share collections of citations

Create custom limits

Return to your previous PubMed activity.
Even though MeSH is powerful it is still important to think about synonyms by concept these will be your search terms

<table>
<thead>
<tr>
<th>Medical Marijuana</th>
<th></th>
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<tbody>
<tr>
<td>Epileptic Seizures</td>
<td></td>
</tr>
<tr>
<td>Children</td>
<td></td>
</tr>
</tbody>
</table>
Make a working list (or at least think about) of synonyms by concept these will be your search terms

<table>
<thead>
<tr>
<th>Concept</th>
<th>Synonyms</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cannabis</td>
<td>Medical Marijuana, Cannabis, Cannabinoids</td>
</tr>
<tr>
<td>Epileptic Seizures</td>
<td>Epileptic seizures, Epilepsy, Seizure Disorder</td>
</tr>
<tr>
<td>Children</td>
<td>Children, Child, Adolescents</td>
</tr>
</tbody>
</table>
By clicking on the term **Advanced** under the PubMed Search box, you are taken to the **Advanced Search Builder** screen.

This screen can be very helpful in keeping track of your searches, and combing your search terms using AND/OR.

If you want to find articles that match **any** of your search concepts, use **OR** -- e.g. `electronic cigarettes OR e-cigarettes OR vaping`.

If you want to find articles that match **each** concept, use **AND** -- e.g. `popcorn AND lung disease`.

PubMed also allows you to “nest” searches e.g. `(electronic cigarettes OR e-cigarettes OR vaping) AND (teens OR adolescents)`.
Boolean Logic

Wine
OR
Cheese

Wine
AND
Cheese
Once you have a really good search, you may want to save it to run later or to automatically e-mail you new citations that match the search as they are entered into PubMed.

To save a search, click on the search number and select save in MyNCBI. You will be prompted to name the search and whether you want e-mail updates.
Using EndNote
Citing Your Studies in your paper

• Citation Managers allow you to bring records from different sources into one tool
  – Remove Duplicates citations from searches in multiple databases
  – Share Citations with Colleagues
  – Attach PDF’s
  – Format your paper

• Common products include EndNote, Mendeley, RefWorks
EndNote – Getting Started – Set Up

• In EndNote, go to **EndNote X9 --&gt; Preferences --&gt; Find Full Text**
• Enter the "OpenURL Path" as [http://sfx.med.nyu.edu/sfxlcl3](http://sfx.med.nyu.edu/sfxlcl3)
• Enter the "Authenticate with" as [http://ezproxy.med.nyu.edu](http://ezproxy.med.nyu.edu)
• Click "Apply"
• When you select EndNote records and choose "Find Full Text", you will initially be prompted to login with your NYU NetID and password, and then (within this pop-up window) you'll be redirected to the NYU Libraries site. You can click "Continue" in the bottom right corner of this pop-up window to allow EndNote to look for fulltext.
EndNote Library (Libraries)

- You will be prompted to create a Library to start, which is a personal (locally saved) database of downloaded, saved references.
- Creating a Library for each project or paper will make it difficult to find and reuse references from earlier projects and combine them into bibliographies for new projects.
- You can use groups feature, to organize references within a single Library.
- One can store an unlimited number of references in a single Library on the desktop version.
Inserting Citations into EndNote

NEVER! (well almost never.)

Start with a blank entry form.
Exporting citations from PubMed.

PubMed does not include functionality that will let you format citations in your paper. To export citations pull up the collection where you have stored all of your citations. Under the Send to dropdown menu select **Citation manager**. You will be prompted to set the number to send. Clicking **Create File** will create a file that you can import into your citation matter using the PubMed filter.
At the top of the list of results select Export. A window will pop up. For Export to select Endnote. Then decide what fields you want to export. It is a good idea to include the abstract.

When you click on Export Citations Endnote should open and the citations will export.
Looking to cite a book? Search the Library of Congress.

Search Databases like PubMed or Web of Science through EndNote. This can be good if you are presented with a pile of articles & abstracts that you want to enter.

Each article in PubMed has a unique Identifier or PMID. Searching on this number can be a quick reliable way to enter a citation.
Importing into EndNote

Under the **File Menu** select **Import**.

Under **Import Options** you need to tell EndNote what type of file you are importing. If you don’t see PubMed on the list select **Other Filters**, then find PubMed and Select **Choose**.
Adding Full Text

Under the References select Find Full Text.

EndNote will match your citation to the holdings of institution based on the fulltext URL you added during set up, and store the Fulltext PDF in your Library.

EndNote does not always find full text, even when NYU has a subscription, so it is best to double check.

You can also manually add the PDF by going to the individual Reference and clicking on the paperclip icon.
Finding those PDF’s later

• When EndNote creates a library it also creates a file directory to accompany. The top folder will be automatically called `nameofyour library.Data` (e.g. `My Endnote Library.Data`).

• There is a sub folder called `PDF`, that stores all the Attached PDF’s.

• To pull all of them out easily, run a search for `.pdf`

• The file names closely correspond to the citation so they will be easy to identify.
Organizing your citations

• Once you Create an EndNote Library, there are a variety of things you can

• Groups - Groups make it easy to break a large library into subsets for later viewing. A group simply points to a subset of references that already exist in the library. A single reference can exist in multiple groups.

• Smart Groups - Smart Groups use search criteria to dynamically update groups as existing references are edited or new references are added to the library. To create a Smart Group, go to the Groups menu, choose Create Smart Group and enter desired criteria.

• Share your EndNote Library - A library can be shared with up to 14 other EndNote users, with read/write access to the entire library.
Citing References and Creating Bibliographies in Microsoft Word

- For PC Users only – Endnote is compatible with PowerPoint
- The MS Word add-in automatically install when EndNote is installed. EndNote features should be visible in Microsoft Word as a tab in the commands ribbon (Windows) or as a toolbar (Mac).
Troubleshooting: Missing Cite While you Write

- Close word
- Open Endnote, Under the EndNote X9 menu select Customizer
- Check the box next to Cite while you Write, then click Next at the following screen click on Next again.
- Then open word to see if the Current EndNote Tool appears.
Inserting Citations into your paper

Clicking on Insert Citation on the EndNote Toolbar in Word will open up a search in your EndNote Library. Check all the citations you want to include and click Insert.
Changing the format of your Bibliography

At anytime you can use the drop down menu in the EndNote toolbar to apply a new format to your paper’s bibliography. If you don’t see the format you need listed, go back to Select Another Style.
Output Styles

There are thousands of formatting styles available in EndNote. Be sure that you have the one you needed in your list. To add a style select Open Style Manager.
EndNote Web

- EndNote Web provides access to your reference library from any computer with an Internet connection. You can share EndNote references with other EndNote Web users, and you can sync references across multiple computers and devices.

- EndNote web can only support one Library. Each library you synch will overwrite the previous.

- To sync your EndNote Software with EndNote Web, just click on the sync icon.
More Help with Endnote

• Information on using EndNote, with links to resources.
  http://clarivate.libguides.com/endnote_training/users/enx9

• EndNote YouTube channel -
  https://www.youtube.com/user/EndNoteTraining

• Additional Training opportunities from EndNote
  http://clarivate.libguides.com/endnote_training/calendar
Take Home Points

• If you aren’t using PubMed’s *My NCBI* – it would probably be worthwhile.

• When you have a question break it down into *concepts*, then think of multiple *terms* to describe your *concepts* when searching.

• Take a look at the *Search Details* to see what PubMed does with your search terms.

• Keep your *AND*’s & *OR*’s straight.

• Learn how to use a *Citation Manager* like *EndNote*

• When you are in a pinch *consult with a librarian* on your search strategy or deciding what other databases to search.
THANK - YOU

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More Databases
Beyond PubMed: Other Domains

- **PyscInfo**: Psychology and the psychological aspects of related disciplines, such as medicine, psychiatry, nursing, sociology, education, pharmacology, anthropology

- **CINAHL**: Nursing and allied health database, includes literature not in PubMed

- **Embase**: Covers non-US publications not in PubMed. Stronger than PubMed for pharma esp. pipeline rugs

- **BIOSIS**: Biology, life sciences
Beyond PubMed:

• The Cochrane Library:
  – Cochrane Central Register Of Controlled Trials: 40% of the info on trials is not in PubMed
  – The Cochrane Database of Systematic Reviews – also indexed in PubMed

• UpToDate, Micromedex, Access Medicine – Primarily clinical information databases. Good for background questions or overview of a drug, disease or condition. Includes some clinical information written for patients.
Beyond PubMed: Citation Databases

- Indexes articles based on the articles they cite & by which are cited
- A lot of the same content as PubMed, the advantage here is the different approach to getting at it
  - **Web of Science** (deeper coverage) and **Scopus** (wider subject area) – Pretty comparable
  - **Google Scholar** – Weak coverage of Medical citations particularly when they are older. Free and Easy though
Beyond PubMed:

• Grey Literature
  – "That which is produced on all levels of government, academics, business and industry in print and electronic formats, but which is not controlled by commercial publishers."

• Conference Proceedings: The only real way to do this is by hand. You are only going to end up with an abstract, which may not provide sufficient details and data to meet your inclusion criteria

• Hand Searching and Citation String Searches

• Unpublished Studies – mixed bag