Exercise #1: Advanced MeSH Searching

Objective: Learn how to find appropriate MeSH terms by searching the MeSH Database. Use information in the MeSH record to narrow or broaden your search. Use the PubMed Search Builder to create a search with multiple MeSH terms and subheadings.

1. Go to the CDPH PubMed URL by clicking on Key Resources from:
   
   http://www.lib.berkeley.edu/PUBL/cdph/

2. Click the PubMed link (PubMed will open in a new window):

3. Under More Resources on the right, click MeSH Database.

4. In the MeSH search box, type hereditary diseases and click Search (or hit the Enter key).

   Note that the MeSH Database “translated” hereditary diseases to 3 possible MeSHs. The MeSH Database will translate commonly used words and phrases (called Entry Terms) into appropriate MeSH terms. The use and translation of Entry Terms ensures a relevant search without your having to use every possible synonym for your concept.

5. Click on Genetic Diseases, Inborn.

   Take a minute to scroll through the entire MeSH Database record for this term. Note the available Subheadings, the Entry Terms, the See Also term, and the very long MeSH Categories “Tree”
(hierarchy) with broader and narrower terms listed. If you were interested in a specific genetic disease or group of diseases, you would use one of the narrower terms.

6. Let’s find articles on psychological issues associated with inborn genetic diseases and prenatal genetic counseling. Which subheading would you select with the MeSH term inborn genetic diseases? [answer: psychology]

7. Place a check in the box to the left of this subheading. Then, go to the PubMed Search Builder box, and click Add to search builder. Leave the default AND in the drop-down menu.

   Why AND? Because we want to combine this MeSH with another MeSH in order to find citations addressing BOTH concepts.

8. Go back up to the MeSH search box, type prenatal genetic counseling and click Search.

   ➢ Note again the translation of your entry term to a MeSH term.

9. Scroll through the MeSH Database record for this term. If you wanted to find articles as far back in time as possible on this topic, what additional MeSHs might you need to search with?

   Hint! Look at the Year introduced (right under the definition) and scroll down to see the Previous Indexing. [Counseling & Eugenics]

10. For now, let’s focus on the more recent citations. Let’s also focus our search to find articles where this is a major concept: Find and check the box labeled, Restrict to MeSH Major Topic

11. Go to the PubMed Search Builder box and click on Add to search builder.

      ➢ If what you see does not match the box on the right, please raise your hand.

12. Click Search PubMed. You should have about 230 citations. Let me know if you have significantly more or less.

   *** End of Exercise 1 ***

Finished early?

1. Find a MeSH term for your own topic and apply a subheading.

2. Try to narrow your search results by:
   a. Using Filters (on the PubMed search results page, left side)
   b. Restricting your MeSH term Genetic diseases, inborn to MeSH Major Topic (check the box in MeSH Database before adding to search builder)
   c. Excluding the MeSH terms below the MeSH subject heading you chose (check the box in MeSH Database before adding to search builder)

3. Try to broaden your search results by:
   a. Using a broader MeSH term (for example: for Obesity a broader term is Overweight)
   b. Search obesity “OR”ed with a See Also: MeSH term (for example: Body Weight)
Exercise #2: Using Clinical Queries

Objective: Use the Clinical Queries categories to quickly find evidence-based medicine studies and systematic reviews. Note there are multiple ways to search for systematic reviews.

1. Return to the PubMed homepage by clicking on the PubMed logo at the top of the screen.
   - If you do not see this logo, scroll down to the bottom of the webpage and click on PubMed.


3. Note the 3 categories: Clinical Study Categories, Systematic Reviews, and Medical Genetics under which results will appear based on the category, scope, or topic criteria.

4. To find systematic reviews on HPV vaccine, type hpv vaccine in the Search box and click on Search.
   - Only the first 5 results in each category appear. To see an individual record, click on the article title.

5. Under Systematic Reviews after the 5 results, click on See all (#) to view all the systematic review results.

6. Review your results. Use filters (such as Language) to narrow your results, if desired. Click UCB PHL: CDPH Journals (top right) to see those articles available to CDPH via the Public Health Library’s Ovid subscription.

*** End of Exercise 2 ***

Finished early?

1. Click on the PubMed logo or scroll down to the bottom of the webpage and click on PubMed

2. Type hpv vaccine AND systematic[sb] in the Search box and click Search.
[sb] is a search field tag for subset. Using search field tags in the search box is a quick way to search.

3. **Compare your results** with Step 5 above.

<table>
<thead>
<tr>
<th><img src="image" alt="PubMed" /></th>
<th><strong>PubMed</strong></th>
<th>hpv vaccine AND systematic[sb]</th>
<th>Create RSS</th>
<th>Create alert</th>
<th>Advanced</th>
<th>Help</th>
</tr>
</thead>
</table>

4. Click on the **gray x** in the search box to clear the contents of the box.

5. Type **hpv vaccine** in the Search box and click **Search**.

6. In the left column under **Article types**, click on **Customize**.

7. Scroll down and click in the box next to **Systematic Reviews**.

8. Click on **Show**.

9. Under **Article types**, click on **Systematic Reviews**.

10. Compare your **results** with Step 3. It should be the same number.

   **TIP** You can search for systematic reviews in 3 different ways. All give you the same results.

11. At the top of the screen, clear your filters. There are 2 ways to do this.

   a. Above **Show additional filters**, click on **Clear all**

   ![Clear all](image)

   ![Show additional filters](image)

   Filters activated: **Systematic Reviews** **Clear all**

   b. Under **Search results**, click on **Clear all**

   ![Clear all](image)
Exercise #3: Using Topic-Specific Queries

Objective: Learn how to use pre-created PubMed topical searches with other MeSH terms to refine your topic.

1. Return to the PubMed homepage by clicking on the PubMed logo at the top of the screen.
2. Under the PubMed Tools, click on Topic-Specific Queries.
3. Scroll through the page for a minute or two to see the various Topic-Specific Queries available.
   
   You can also get to Clinical Queries from this webpage.
4. Scroll down to Subjects, click Health Disparities (about half-way down the page).

   ➢ This will take you to the MEDLINE/PubMed Search and Health Disparities & Minority Health Information Resources webpage, which includes links to information on minority health, relevant associations and foundations, research centers, and more.

5. Click MEDLINE/PubMed health disparities search.

   ➢ This will run a search in PubMed for citations relevant to health disparities. We now will narrow this search to a more specific topic.

6. Click on the gray x in the PubMed search box to clear the contents of the box.
7. Click on the PubMed drop down menu and select MeSH.
8. Type H1N1 in the Search box and click Search.
9. Click on Influenza A Virus, H1N1 Subtype to open the full MeSH record.
10. To the far right of the screen under Related information, click the PubMed link.
This runs a PubMed search on this term. Searching PubMed from the MeSH Database like this only works if no subheadings are chosen.

11. Click on Advanced below the PubMed Search box. Scroll down a bit to History.
   - Note the search you just ran, as well as the Health Disparities search, which consists of a very long string of terms ORed together.

12. Under the Add to builder column, click on Add to the left of the Influenza A Virus search query, and then click on Add to the left of the very long Health Disparities search query.

13. Scroll up a little bit and you should see the Builder box with:

14. Click Search
   - How many results did you get? (Should be about 104).

*** End of Exercise 3 ***

Finished early?

1. Try searching your own topic with the Health Disparities search.

2. To narrow this search (i.e., get less results), you can try one of these strategies:
   - Click on some filters from the left sidebar (e.g., Article types, Publication dates) OR click on Show additional filters to see more options (e.g., Language, Ages,)
   - At the end of the search string for Influenza A Virus, H1N1 Subtype and health disparities, type AND United States[mh]. Then click Search.

Geographic locations can be MeSH terms.
Exercise #4: Alternative PubMed Interfaces

Objective: To explore an alternative interface to the PubMed database in order to facilitate seeing new patterns or insights on your search results.


2. In the Start remining PubMed for: search box, type diacetyl toxicity and click Start PubReMiner

3. You will see a pink box appear; wait until it disappears…

4. Under the Mesh column are the MeSH terms and subheadings appearing in all the articles found, listed in order of appearance. (Anything with a slash / in front of it is a subheading)
   - Are there any MeSH terms here you were not aware of, that you can use to create new searches in PubMed?
   - Also notice the top journals, authors, etc., that appear in the search results.
   - This can be used as a tool to find out: Who are the authors publishing on topics I am interested in? Which journals publish the most articles on these topics?

5. In the Mesh column, check the boxes next to Humans and Occupational Exposure.

6. Click Search with Manual Adjustment under the search box to refine your search with these terms.

7. Click Goto PubMed with query above the search box to transfer this search to PubMed.

8. Note: PubMed sometimes makes a suggestion of another search, you may have wanted instead.
   - Here you can also refine your search, as desired.

*** End of Exercise 4 ***
Exercise 5: Journals in NCBI Databases

Objective: See if a journal is indexed in PubMed and find all the articles in the journal from PubMed. Utilize the electronic link in the journal record to see if the publisher provides free full-text.


2. Under the More Resources column, click on Journals in NCBI Databases.

3. Type adolescent health in the query box and click Search.

![PubMed search results]

- Notice that a Filter is automatically placed on your results.
- Note some journals say Currently indexed for MEDLINE in their description.

4. To limit your results to journals with articles indexed with MeSH, click on Currently indexed for MEDLINE AND unclick Referenced in the NCBI DBs. You should now see:

![PubMed search results filtered]

5. Scroll down and click on The Journal of adolescent health ...

6. To the far right of the screen under Related Information, click on PubMed.
This runs a PubMed search on this journal. The results you get are all of the articles in PubMed that are in this journal. You should get over **4800 results**.

7. Click your browser’s back button once to get back to the journal record.

8. Notice (6th line down in the record) that this tile **Continues**: another title (meaning, this journal was previously known as *Journal of adolescent health care*).

9. Scroll down a bit more and notice the URL next to **Electronic Links**:

10. Click on the URL. A new window should open to the publisher’s website for this journal.

11. Scroll down the page to view the contents for the **Volume 59, Issue 4** (October 2016) issue. See if you are able to view any of the articles.

   - This particular journal does not offer many articles freely; there are only three articles in this issue you can read without a subscription. If you wanted any other articles, you would need to **request them from the Public Health Library**.

   ![TIP]

   Occasionally, but not always, it is possible to get full text directly from the publisher.