Scope
PubMed® is a database of biomedical research literature that provides bibliographic information such as MEDLINE®, as well as the following:

- Out-of-scope citations from general science and chemistry journals whose life science articles are indexed for MEDLINE®
- Citations that precede the date a journal was selected for MEDLINE indexing
- Citations from additional life science journals that submit full-text content to PubMed Central (PMC) and receive a qualitative review by NLM
- Abstracts of certain book entries from NCBI Bookshelf

Currently, PubMed contains close to 30 million entries. A subset of these records have links to free full-text articles through PMC and/or publishers. This handout highlights key features of the PubMed web interface.

Access
The common way to access PubMed is through the homepage at https://www.ncbi.nlm.nih.gov/pubmed/ (A) using a web browser. An enhanced mobile version is also available at https://www.ncbi.nlm.nih.gov/m/pubmed/ (B). In the homepage, searches can be performed using the query box and search button (C). The “Advanced” (D) page provides additional functions to construct complex queries using the query constructor or search history. The direct link to the “Advanced” page is https://www.ncbi.nlm.nih.gov/pubmed/advanced.

The PubMed homepage provides links to PubMed help documents (E, F), and access to specialized search tools, such as “Batch Citation Matcher” and “Clinical Queries” under the “PubMed Tools” section (G). Access to trending articles and author comments on citations (H, I) are also available.

The “Resources” pull-down menu and the standard footer (J) provide convenient way to navigate to other NCBI resources. The “Support Center” (K) links to a web form for users to ask questions, report issues, or send feedback to NLM.
Searching PubMed

Typing query terms in the search box, the autocomplete function responds by providing a list of suggested terms related to those entered (A). Clicking an entry from the suggested list brings it into the search box and runs the search, while continued typing ignores the suggestion. Clicking “Turn off” at the bottom (B) turns off this feature. Clicking the “Search” button executes a search with the entered term.

Search Summary

PubMed displays search results in the summary format. The display format, sorting order, and the total number of retrieved records are given at the top (C). The “Facet” display (D) replaces the old Limits page and makes filtering of search results by various criteria a click away. Links to tools and results relevant to the query can be found in the right column. The “Results by year” (E) charts the retrieved records according to their year of publication, thus providing a quick way to gauge the intensity of studies in the field. Mousing over a year displays the year and number of publications; clicking a year narrows the retrieved set to that select year. The “PMC images search for …” (F) displays representative images from full-text records pertaining to the query terms. Records with title words containing the query terms are listed in the “Titles with your search terms” section (G). The “Format” and “Sort by” (H) link to popups through which settings can be adjusted. For number of record displayed, use the “Per Page” link at the bottom (not shown). The “Send to” dialog box (I) allows the saving of retrieved records through the “File” radio button, or delivery via email in a selected format and sort order through the “Email” radio button (J).
Filtering Search Results

A set of PubMed search results can be filtered using criteria given in the left-hand column. The example (A) is a filtered display showing only those with free full-text articles. The timeline chart under “Results by year” can also be used to filter a set records by their publication date - clicking a bar reduces the set to records from that selected year (B). Check the “Search details” section (not shown) in the right column to see the exact queries PubMed uses to arrive at the filtered set.

Displaying PubMed Records

Clicking the title of a PubMed record shown in the summary format displays its abstract. In the example shown below, links to full text (if available) are given as icons at the upper right-hand corner (C). Relevant content from other NCBI databases are given in the right-hand column (not shown). Citation information is placed at the top of the abstract (D), while its PubMed ID (PMID) and cognate PMCID are placed under the abstract (E). Images from the full text, given as thumbnails, link to the full display in PMC (F). Two sections below the image strip are closed by default. When opened, “Publication Types” (G) displays the publication type, indexed MeSH terms, substances described in the record, and grants funding the research, while “LinkOut” (H) displays the full-text providers and other relevant resources.
Printing the Abstract of a PubMed Record

PubMed can print well-formatted PubMed records directly through the Print function of web browsers. For PubMed records displayed in ‘Abstract’ format, the printout will have items in the Discovery column removed. An example is shown to the right. For simplicity, it does not show the expanded “MeSH Terms, Substances” sections included in such a print out.

The Advanced Search Builder

The “Advanced” page provides a query builder function for users to construct complex queries. It provides access to indexing fields (A) and terms indexed under them (through the “Show index list” link, B). Selecting a term automatically enters it into the query box (C). Custom query terms, such as search history numbers, can be manually entered in the query box after clicking the “Edit” (D) link. The example (E) combines searches #4 and #5 from the History. Clicking the “Add to history” link (F) examines the number of records retrieved and adds an entry in the search history without leaving the page. Clicking the number (G) under the “Items found” column retrieves those records and displays them in summary format.

Saving and Automating Searches

You can automate PubMed searches you want to on a regular base by taking advantage of the “Create Alert” functions (H), which saves and automatically performs these searches and alerts you of the search results. You will need to login to your My NCBI account to do so. See PubMed Help for details: http://bit.ly/ncbi-factsheet-0009