

Free MEDLINE® Brings Changes to NLM

This issue of 3 *Sources* highlights technology, and features many exciting developments taking place this summer. You'll find a re-print of the memorandum from Dr. Donald Lindberg, director of the the National Library of Medicine (NLM), announcing free Web-based MEDLINE via Internet Grateful Med and PubMed, as well as a copy of the official press release.

Michael Boer and Linda Milgrom of NN/ LM's Pacific Northwest Region discuss their impressions of PubMed, NLM's most recent MEDLINE interface, while Margaret Richwine and Allan Barclay of Indiana University examine some implications for searchers in regards to the glut of MEDLINE interfaces currently available.

Leslie Behm and Michael

Simmons of Michigan State University report on their experiences training hospital librarians on using the Internet and creating web pages. You'll also find information on using telnet programs to connect to Docline, and an article pointing to help on how to present the Internet to hospital administrators. Finally, check out the back page for the GMR calendar and new NLM customer service number! ♦

Memo to NN/LM Members from Dr. Lindberg

On June 26, 1997, the National Library of Medicine will hold a press conference on Capitol Hill, Washington, D.C. to announce free Web-based MEDLINE accessible through PubMed and Internet Grateful Med. On page 3 is the Press Release for the press conference which you are encouraged to share with your users and other colleagues on June 26th. PubMed is an experimental search system that provides free access to MEDLINE in a single search.

The search features include:

- Sets of related articles pre-computed for each article in MEDLINE;

- Choice of search interfaces from simple keywords to advanced Boolean expressions;
- Searching by MeSH index terms (main topics and sub-headings) and field restrictions;
- Links to publishers' Web sites for full text-journals. Initially 24 journals are available, some by subscription only;
- Clinical query form with search filters for diagnosis, therapy and prognosis;
- Links to molecular biology database of DNA/protein sequences and 3-D structure data.

Internet Grateful Med provides free access to MEDLINE, as well as AIDSLINE® and HealthSTAR®.

The features include:

- Use of the full range of Medical Subject Headings (MeSH) and the UMLS Metathesaurus;
- Ability to limit searches by language, publication type, age groups, etc., using pull down menus;
- Loansome Doc™ document delivery service.

Currently, searching Internet Grateful Med requires a valid User ID and password; however, users will not be billed.

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The Internet Really Isn't Free

(or how net opinions can change administrators' minds)

Recently, a librarian emailed the GMR asking for help with her hospital administrators, who were considering eliminating library space because "you can get everything you need from the Internet." We referred her to an opinion article by ACRL President William Miller at: <http://www.ala.org/news/miller.html>. Here's what she had to say:

"I printed out the article and gave it to the physicians and administrators at the meeting this morning. They are so funny! Two weeks ago when I met with the administrator [and] he said to have the residents get everything from the Internet - this morning he told the other committee members that you can't get everything from the Internet,

contrary to what most people believe. By the end of the meeting, they were all experts on information resources on the Internet!"

Cathy Perley, chair of the GMR Regional Advisory Council Technology Awareness Committee recently informed us of another interesting opinion at

<http://webreview.com/97/07/04/imho/>.

Dale Dougherty, Publisher of Web Review, says "I have worked with journalists and librarians in developing content for the Internet, and I reached the conclusion that librarians really get it."

If you discover similar items about the net that you'd like to share with your fellow GMR librarians, drop us a line at gmr-info@uic.edu ♦

Memo to NN/LM Members from Dr. Lindberg

(continued from page 1)

A new version to be released in July will include free access to several additional databases (AIDSDRUGS, AIDSTRIALS, DIRLINE®, HISTLINE®, HSRPROJ, OLDMEDLINE and SDILINE) and will no longer require a User ID.*

Free MEDLINE is limited to Web-based searching via the Internet because of great savings to NLM in telecommunications and software costs. Thus, access to all NLM non-Web-based systems will continue to be billed (i.e., direct command language searching of ELHILL; TOXNET; PDQ; and the DOS, Macintosh and Windows versions of Grateful Med whether access is by direct dial, FTS2000, or the Internet). The Press Release and hot links to IGM and PubMed will be available on

the NLM home page immediately following the press conference.

Please direct current and new users to the NLM Web home page to search free MEDLINE and to obtain updated and additional information about NLM databases and information services. Each member of the National Network of Libraries of Medicine plays a vital role in making health information accessible throughout the country. The Library's announcement of free MEDLINE is only one step toward bringing quality health information to those Americans who search the Web.

Your efforts to inform users about available information resources, to educate them about the effective use of the

various search engines, and to assist them in obtaining copies of the articles containing the information they seek, are critical to ensuring that every citizen has access to the best and most up-to-date health information. We at NLM look forward to working with you to provide the very best and most useful information products and services.

Donald A.B. Lindberg, M.D.

* *Editors note: At press time, the IGM interface included access to the following databases: MEDLINE, AIDSLINE, AIDSDRUGS, AIDSTRIALS, DIRLINE, HealthSTAR, HISTLINE, HSRPROJ, OLDMEDLINE, PREMEDLINE, and SDILINE. A UserID and password are not needed to search IGM.*

Vice President Gore Launches Free Access to MEDLINE on the Web

Consumers and Health Professionals Worldwide to Have Fingertip Access to Cutting-Edge Research (Bethesda, MD — June 26, 1997)

The National Library of Medicine, a part of the National Institutes of Health, will today launch a new service to provide all Americans free access to MEDLINE — the world's most extensive collection of published medical information — over the World Wide Web. Prior to this announcement, users have had to register and pay to search MEDLINE and other NLM databases. This free service will be demonstrated by Vice President Albert Gore at a press briefing to be hosted by Senator Tom Harkin (D-IA) on Thursday, June 26, 1997 at 10:30 a.m. in Room 192 of the Dirksen Senate Office Building, United States Senate.

In announcing the new free service, Health and Human Services Secretary Donna Shalala said, "American citizens now have at their fingertips both the scientific information gathered by the National Library of Medicine, as represented in MEDLINE, and the extensive consumer health information in healthfinder™, <<http://www.healthfinder.gov>> the service for the public that we announced in April. We are committed to using the new technology, including the World Wide Web and the Internet, to provide health information to the public."

"The National Library of Medicine's debut of free Web-based searching could not be more timely," said NLM Director Donald A.B. Lindberg, M.D. "The health care delivery landscape is changing. Citizens are increasingly turning to the Web as a source of information to improve their daily lives,

including their health. So, it is vital that they, and the health professionals who serve them, have access to the most current and credible medical information."

"Medical breakthroughs are happening so rapidly that I believe health care professionals and consumers alike should be able to tap into the most recent medical information," added pioneering heart surgeon Michael E. DeBakey, M.D., chair of NLM's Board of Regents. "Such information is often the critical link in reaching the correct diagnosis, resulting in lives saved, unnecessary treatment avoided, and hospitalization reduced. Even with all our modern advances in health care, I still consider good information to be the best medicine."

Dr. DeBakey emphasized this same point this past spring in testimony before a Capitol Hill appropriations subcommittee. Harold Varmus, M.D., Director of the National Institutes of Health, applauded free access and observed it would have the additional benefit of improving the nation's scientific literacy. "The press briefing will demonstrate how the public, including high school and college science classes, will be able to search through MEDLINE and the Human Gene Map, another one of NLM's Web-based databases, and learn about inherited diseases that are located on our chromosomes — in terms that the public can understand. No longer will the public be left in the dark as this fascinating and historic human genome research process unfolds."

"The medical library community is pleased that this vast treasure trove of medical knowledge will be opened up to the general public," said Rachael K. Anderson, President of the Medical Library Association. "Patients and their families are regularly turning to health sciences librarians to find reliable health information. Free MEDLINE means that we can now provide consumers with better access to the quality information they need, and librarians can help them to tap into the full power of this authoritative source."

To demonstrate the value this new service will have for consumers and health professionals, the press briefing will bring together a sampling of Americans whose stories are compelling examples of how access to MEDLINE and other sources of medical information from the Library positively touched their lives. Among those who will provide written or oral statements are:

- A Pennsylvania book editor who went online to learn about non-Hodgkin's lymphoma and to find a clinical trial for her daughter, a University of Iowa student, who was diagnosed with the disease;
- A Maryland pharmacist who had six miscarriages before she consulted MEDLINE, found a treatment, and carried a baby successfully to term;
- A Connecticut librarian who searched MEDLINE for a doctor who was concerned about hospitals performing mastectomies on an out-patient basis for insurance

purposes. Her search resulted in a reversal of such insurance policies;

- A New York police officer who searched MEDLINE to recover important information for three relatives with cancer — his wife, father-in-law, and aunt. He now trains other officers in the use of MEDLINE;
- A Virginia couple whose 6-month search of medical literature resulted in treatment for their son's rare inherited disease — a search that became immortalized in the movie "Lorenzo's Oil";
- A District of Columbia director of an AIDS advocacy group that uses AIDSLINE, an NLM database that is already free to the public;
- Other individuals, from throughout the United States, will be available for comment by contacting the NLM.

NLM's address is:

<<http://www.nlm.nih.gov>>.

On June 26, this site will display free MEDLINE. Press will also be invited to view a demonstration of "PubMed" — a new free NLM online service that will allow the public to establish direct web links between MEDLINE abstracts and the publishers of the full-text articles. This new service is the result of a collaboration between the NLM and major science publishers such as the New England Journal of Medicine, Science, Journal of Biological Chemistry, and The Proceedings of the National Academy of Sciences.

PubMed: Initial Impressions

by Linda Milgrom and Michael Boer, NN/LM Pacific Northwest Region

Note: Originally published in Supplement, Summer 1997 — Vol. 28, Number 3, the newsletter of the NN/LM Pacific Northwest Region

The National Library of Medicine's new search system, PubMed <http://www.ncbi.nlm.nih.gov/PubMed/>, gives us a new search, display, and delivery features previously unavailable. Along with IGM, PubMed is now accessible without charge worldwide. PubMed also has extensive online help and documentation — click on "overview" or "help." This new system does not look or feel like Elhill, Grateful

Searching

There are at least three ways to begin a search in PubMed: basic, advanced, and clinical queries. Your most obvious option is to use the search box on the PubMed homepage (basic search). You enter words or phrases, press the return key (or click on "search"), and PubMed displays search results in brief form. Clicking on an author's name takes you to a full record. You may use your browser's navigation capabilities to return to the brief display, print, or move elsewhere. Although this "basic" search seems intended for simple queries, the documentation explains how to use it with truncations, qualifiers, even complex Boolean searching.

Clicking on Advanced Search takes you to a slightly more complex input screen. Here you can more easily limit the term(s) you enter (e.g., MeSH, textword, author, UI). You also have a detailed "neighbor" capability (PubMed calls this "list terms mode"). If you change the mode default from "automatic" to "list terms," PubMed will perform the equivalent of an Elhill "neighbor" command. From the resulting display, you can select one or more terms to search. PubMed displays the number of citations retrieved in "current query." Click to "retrieve" (in brief form) all citations which match your search strategy. You can choose to limit by publication date and/or set the number of citations per page before you click "retrieve." You can also choose to narrow your search by using "add term to query." The other option on this page is to "modify current query" which allows you to use other Boolean operators, although using the current version of this form is somewhat confusing.

The third way to enter your search is to click on Clinical Queries. Building on work by Haynes and others at McMaster University, this approach to PubMed uses stored

search strategies (filters) to locate studies which focus on therapy, diagnosis, etiology, or prognosis of clinical conditions. You will want to read the background information and review the fascinating "table for clinical queries using research methodology filters." This is a very interesting application of the work on evidence-based medicine and filtering.

Some of the most powerful features of PubMed appear after you get an initial retrieval, regardless of the input form you've used. PubMed has precomputed sets of related articles for each article in the database. The relationships are based on statistical properties of words used in the title, abstract, and MeSH headings. Your initial search strategy does not need to be overly detailed, since you will have the opportunity to select the "best" article(s) from your retrieval set and link to logical neighbors.

PubMed provides many other links. As its name implies, NLM is working with publishers in this endeavor. When possible, PubMed provides links to the Web sites of publishers so that users can retrieve the full documents. Obviously, licensing agreements will be important, but we can expect the number of participating publishers will grow. Collaboration with publishers will speed the input process.

PubMed is an outgrowth of the Entrez retrieval system developed by the National Center for Biotechnology Information (NCBI) at NLM. Originally the system was used for sequence and structural records in molecular biology. Searching for related DNA or protein sequences is fundamental to scientists in these fields. You can use PubMed to search GenBank, genome, or structural databases directly or you may link to sequence data from the bibliographic records retrieved in your PubMed search.

ic Northwest Region. Reproduced here by the permission of the authors.

a powerful new interface to Medline. With links to “related articles” and publishers’ Web sites, PubMed offers search, refine-
. Our users are hearing about it, and we will all need some experience with PubMed to respond to their questions. There is
ul Med, or commercial engines.

Linking to PubMed

Any PubMed query can be captured as a URL (i.e., “uniform resource locator” or Web address) and embedded as a link into pages on the Web. Links like these might have a variety of uses: A new way to deliver citation lists to patrons: create a link for your patron on a private Web page (which could even be password-protected).

Compose a dynamic SDI. Use PubMed to increase awareness of what MEDLINE has to offer.

We have found two reliable ways to capture PubMed search URLs. Once you enter a search in the initial, basic, PubMed search form

<<http://www.ncbi.nlm.nih.gov/PubMed/>>, the report PubMed produces will contain a usable URL in your Web browser’s location toolbar. With most browsers, you can click on this address to select it, then use your computer’s copy and paste commands to embed it into a Web page or an e-mail message. These URLs are quite long and therefore somewhat cumbersome.

Another way to get a usable URL is to find one really good article on your topic, then select “See Related Articles.” This will produce a report with the selected article listed first. Your location toolbar will display a URL which consists of the PubMed commands for this query. Here is what a typical one looks like.

<http://www.ncbi.nlm.nih.gov/htbin-post/Entrez/query?db=m&form=6&uid=9091660&dopt=m&dispmax=20>

To make this address slightly more manageable, you can safely chop off the **&dispmax=20**, which is a default setting anyway. What’s left is three key attributes joined together with the **&** symbol.

db=m tells PubMed to use the MEDLINE database.

uid=9091660 specifies the identifier for the selected article.

dopt=m tells PubMed to display the precomputed related articles for the selected article.

If you think your patron can handle a long URL, you can simply send the URL. Or, if you know your patron’s e-mail system can display HTML, you might embed the URL in HTML first, like this:

Your MEDLINE citations

To make it almost fool-proof, you could embed the HTML code in a Web page with a simpler URL and then point your patron to that location. If this search is one that the patron may want to repeat in the future, suggest that it be added to the patron’s bookmark list.

If your initial PubMed search requires refinement, you’ll notice that sequential retrievals do not display a useable URL. To work around this, copy your final search string back into the initial, basic PubMed search form (which you can jump to by clicking on the PubMed button in the blue bar at the top of the citation report). Grab the URL from the first results page and use it in the same manner described above.

For more information on linking to PubMed, see:

<http://www.ncbi.nlm.nih.gov/PubMed/linking.html>

We are all learning together to use PubMed, uncovering new capabilities and applications. Developers are very interested in feedback, and web-based design should make modifications to the system fairly straightforward. Let’s share what we discover.

Are all MEDLINEs alike?

by Margaret Richwine and Allan Barclay, Indiana University

Note: This article presented to network members by suggestion of the Regional Advisory Council (RAC) Technology Awareness Committee

MEDLINE is produced by the National Library of Medicine (NLM). As an agency of the federal government, NLM makes the tapes with MEDLINE data available for purchase. Purchasers of the tapes then vend MEDLINE with special options to attract users. The vendors agree to maintain the integrity of the information but can use the tapes in any way they choose.

NLM also provides online public access to MEDLINE through its MEDLARS® system. Grateful Med® is the software created by NLM for accessing its MEDLARS databases. Grateful Med software includes DOS, Mac, and Windows versions. World Wide Web access to MEDLARS databases is called

Internet Grateful Med; it can be reached at <http://igm.nlm.nih.gov>. Another way to access MEDLINE on the web is via PubMed, a new NLM service which allows somewhat more flexible and sophisticated searching than Internet Grateful Med, as well as links to some full text articles available on the web. It currently only allows access to MEDLINE (Internet Grateful Med provides access to other NLM databases as well). PubMed can be reached at <http://www.ncbi.nlm.nih.gov/PubMed>. Internet Grateful Med and PubMed are both provided at no charge as of June 26, 1997.

Since the early 1970's vendors have been purchasing the MEDLINE tapes and by using sophisticated search engines, marketed their version of MEDLINE to

libraries and trained online searchers. Technological advancements in the past few years have made it possible to expand the market to the actual users of the MEDLINE data. In order to attract potential customers to their products and services, entrepreneurs are now inviting MEDLINE users to search their version of MEDLINE at no cost.

These versions of MEDLINE may have search engines that are very limited in power and in what elements of the MEDLINE data can be searched; may have a search screen that is not user friendly; may be only a subset of the journals or years offered by the full MEDLINE tapes; or display the citations retrieved from the search in a random order or in an order based on machine logic that is supposed to

display the most relevant first.

Does it make any difference which MEDLINE I use?

The purpose of your MEDLINE search determines the answer to this question. If you are seeking a few relevant articles on a biomedical topic that has many articles written about it; have the time to filter a large set of citations; and can successfully negotiate the search input screens; then the MEDLINE vendor makes very little difference. However, searches on specialized topics; topics that have many citations that you have no time to sort; topics that are not currently being researched; and comprehensive searches will require sophisticated search strategies and engines that are not available on some versions of MEDLINE. ♦

Internet Training: The MSU Experience

by Leslie Behm and Michael Simmons, Michigan State University

With funding obtained through a GMR Internet Training Award, Leslie M. Behm and Michael Simmons of Michigan State University (MSU) traveled to Marquette, Traverse City, Grand Rapids, and Port Huron, Michigan to provide Internet and Web design training to hospital librarians.

Although it is clear that university-based librarians often take the Web for granted, a number of institutions do not have that level of Internet access. While some are just getting connected, others are not connected at all. Thirty-seven individuals attended "Basics of the World Wide Web: Using Netscape," available on the web at <http://www.lib.msu.edu/simmons11/webclass/>. It covers basic concepts such as connection; navigation; browsers; FTP, plugins; helper applications, and more.

Thirty-three individuals attended the "Web Page Design and

HTML Editors" courses, available at <http://www.lib.msu.edu/behm/mhsla/> including MSU county extension agents working with health-related issues and the hospital librarians. The county extension agents recognize that the Internet offers them an effective means of communication. Some of the hospital librarians are taking the initiative in Web design at their institutions. The interaction between the two groups was beneficial.

In addition to providing course materials on the Web, we encouraged the participants to contact us if they needed any more assistance. Getting out and visiting various places around the state allowed us to network and also provided a reality check. As university-based libraries, we tend to forget that smaller institutions, especially in more rural areas, are still struggling with modems, 386 or 486 processors, and many still use Windows 3.11. ♦

DOCLINE, the Internet, and Telenet

All libraries should plan to start using the Internet to access to DOCLINE in 1997. To use DOCLINE over the Internet, a telnet client is needed. Telnet clients are software programs that allow you to use remote computers as if they were on your desk.

There are many different telnet clients and each may have slightly different features. These clients are available as freeware, as shareware, and as commercial products from computer stores and vendors. Several of these programs have been tested with DOCLINE. AnzioWin, NetTerm, and SmartTerm420 require minimal configurations and provide a number of features that are especially helpful when telnetting to DOCLINE. Keep in mind that these clients were tested on a limited number of possible platforms. If you

need help to download, install, or configure them, please contact each program's manufacturer.

If you know of any other clients that work well with DOCLINE, please send a message to the National Library of Medicine <ill@nlm.nih.gov>.

There are tip sheets describing these programs at <<http://www.nlm.nih.gov/psd/cas/docline/doc-telnet.html>>.

If you do not have net access and would like print copies of the tip sheets, call your GMR state contact librarian at 800-338-7657.

Telemedicine Conference Scheduled in Indiana

by Margaret Richwine

Indiana University and Historic Hoosier Hills are cosponsoring a one day introduction to telemedicine on November 8, 1997 at the public library in North Vernon, Indiana. For further information or to register for the conference, call Historic Hoosier Hills at 812-689-6456 or Peggy Richwine, Indiana University, at 317-274-2292.

Historic Hoosier Hills is an organization dedicated to the development of southeastern Indiana. The telemedicine

conference is a component of the "televillage" project that strives to remove the inequities of this rural area through the use of telecommunications and computers to improve health care and increase education opportunities.

The project is partially funded by the National Library of Medicine under a Technology Awareness award with the Greater Midwest Region.

NN/LM GMR Union List of Serials Available

The *NN/LM GMR Union List of Serials (1997)* is now available on microfiche for \$5.00 per copy. For ordering information, please contact the GMR Administrative Secretary at <gmr-info@uic.edu> or 800-338-7657.

Custom SERHOLD union lists are also available in electronic and paper formats from the NN/LM Pacific Northwest Region. See <<http://www.nnlm.nlm.nih.gov/pnr/serhold/products.html>> or call your State Contact Librarian for more information. Please note that custom SERHOLD union list orders must be processed through the GMR office.

It's That Time Again...

If you use OCLC serials holdings data to create and update SERHOLD holdings data for DOCLINE, you must make sure that your records are correct in OCLC before October 1, 1997. If you don't do your own OCLC imputting, make sure you contact the agency that handles your records in plenty of time to meet this deadline. If you have questions, ask your GMR state contact librarian at <gmr-info@uic.edu> or 800-338-7657.

Important Dates...

<http://www.nlm.nlm.nih.gov/gmr/calendar>

September 10-12, 1997

Michigan Health
Sciences Libraries
Association
24th Annual Education
Conference
Dearborn, MI

September 27-30, 1997

Midwest Chapter,
Medical Library
Association
(MC/MLA) Annual
meeting
Des Moines, IA

October 8-10, 1997

Iowa Library Association
Fall meeting
Sioux City, IA

October 13-16, 1997

American College of
Surgeons
Chicago, IL

November 4-9, 1997

American Medical
Womens Association
Chicago, IL

November 9-13, 1997

American Public Health
Association
Indianapolis, IN

May 22-27, 1998

Medical Library
Association,
Annual Meeting
Philadelphia, PA

September 1998

Midwest Chapter,
Medical Library
Association
(MC/MLA)

Annual Meeting
Lexington, KY

*(Joint meeting with Southern
Chapter/MLA)*

September 1999

Midwest Chapter,
Medical Library
Association
(MC/MLA)
Annual Meeting

Grand Rapids, MI

** To inquire about the Online
Training Center classes, call
800/338-7657 and choose
2 from the menu.*

New NLM Toll Free Customer Service Number

The first phase of NLM's customer service system initiative has been completed: a new toll-free number and simplified phone tree became available on May 15. NLM is now providing customers with one number to call, 1-888-FINDNLM (1-888-346-3656).

International callers may dial 301-594-5983 to reach NLM. The phone tree has been streamlined to 4 menu choices. Calls are being answered by a variety of NLM librarians and technical information specialists from MEDLARS Management and the Reference Section.

Previously NLM had several different 800 numbers (toll-free) for customers to use depending upon which area of the library the customer needed to reach. The old 800 numbers will be phased out over the next few months and are already mapped to the new simplified automatic call distribution system.

3 Sources

UIC

The University of Illinois
at Chicago

NN/LM GMR
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Chicago, IL 60612-7223

Non-Profit Org.
U.S. Postage
PAID
Chicago, Illinois
Permit No. 4860

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