National Library of Medicine: Empowering Minority Communities with Health Information

November 10, 2010
Winston-Salem State University
Winston-Salem, NC
THE NATIONAL LIBRARY OF MEDICINE: EMPOWERING MINORITY COMMUNITIES WITH HEALTH INFORMATION

A Specialized Training Course developed for the

United Negro College Fund Special Programs Corporation/
National Library of Medicine HBCU Access Project

Presented at the

Winston-Salem State University
Winston-Salem, NC
November 10, 2010
Preface

The National Library of Medicine: Empowering Minority Communities with Health Information training is designed specifically for the United Negro College Fund Special Programs Corporation National Library of Medicine HBCU eHealth ACCESS Project (UNCFSP/NLM-HBCU ACCESS Project) awardees to increase awareness and use of the National Library of Medicine (NLM) online health, environmental health, and toxicology resources and to assist grantees with their respective projects addressing health education and promotion and disease prevention on campus and in the surrounding communities. These resources provide invaluable tools to address the needs of HBCUs and community-based organizations that need the most accurate and up-to-date health and medical information, including health literacy, chronic and acute illnesses, health disparities, and environmental health issues.

The workbook provided contains a brief summary of each NLM resource covered in the class followed by search exercises using realistic scenarios and is designed to be used as a reference following the course. Additional resources selected for their quality and relevant content, are also included for your reference.

The UNCFSP/NLM-HBCU ACCESS Project training is sponsored by the National Library of Medicine and the United Negro College Fund Special Programs Corporation.


The National Library of Medicine (NLM), a part of the National Institutes of Health, is the world’s largest medical library with a mission to collect and disseminate trustworthy, reliable health information to health care professionals, researchers, patients, and the public.

http://www.uncfsp.org

The United Negro College Fund Special Programs Corporation (UNCFSP), through its programs and partnerships, serves as a gateway to opportunities that strengthen Minority Serving Institutions of higher education in the areas of research, workforce development, and infrastructure development.
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Agenda

9:00 a.m. Welcome and Introductions
9:10 Introduction
9:15 Finding Quality Health Information on the Internet
9:20 Medline/PubMed
10:15 MedlinePlus
10:50 Break
11:00 ClinicalTrials.gov
11:30 AIDSinfo
12:00 p.m. DIRLINE
12:15 More to Explore (instructor demonstrations)
12:30 LUNCH
1:30 Introduction to NLMs Environmental Health and Toxicology Resources  
(instructor demonstrations)
2:00 HSDB
2:30 Household Products Database
2:45 TRI/TOXMAP
3:05 Tox Town
3:35 The NLM Gateway
3:50 Questions/Post-Test
4:00 Class ends
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Introduction
Introduction

Purpose
The purpose of this training is to familiarize participants with reliable online health information from the National Library of Medicine (NLM) and other reputable resources that address disease prevention, health promotion, and wellness. Skills and knowledge acquired in this training will enable representatives of HBCUs and their communities to effectively train others on the utilization of NLMs resources. Training participants will become empowered about quality online health resources, and take a more active role addressing health disparities.

Objectives
After completing this course, participants will be able to:

- Identify and evaluate quality, accurate, and authoritative online resources pertaining to health disparities and related medical conditions.
- Demonstrate the ability to perform strategic search techniques to find disease prevention and wellness information.
- Apply the skills and knowledge obtained in training to their campus curricula and local communities.

Databases Covered in This Class
The following medical resources will be covered with time for hands-on practice:

- **MEDLINE/PubMed**—a bibliographic database that provides access to over 20 million references to journal articles published in 5,400 journals in the fields of medicine and the life sciences
- **MedlinePlus**—a consumer health information resource, including full-text documents on over 800 medical topics, information on drugs, a medical encyclopedia, medical dictionaries, and directories of libraries, hospitals, and health care professionals
- **ClinicalTrials.gov**—an online source that provides regularly updated information about federally and privately supported clinical research for a wide range of diseases and conditions, including locations and phone numbers for more details
- **AIDSinfo**—a Department of Health and Human Services Web site that provides the latest federally approved information on HIV/AIDS clinical research, treatment and prevention, and medical practice guidelines for consumers and health care providers in English and Spanish
- **DIRLINE**—an online directory of over 8,000 health-related organizations offering information and referral for many diseases and conditions
The following environmental health and toxicology resources will be covered with time for hands-on practice:

- **Hazardous Substances Data Bank (HSDB)**—comprehensive, peer-reviewed toxicological and environmental data for over 5,000 chemicals
- **Household Products Database**—human health effects information on over 10,000 brand-name consumer products
- **Toxics Release Inventory (TRI)**—information on annual environmental releases of over 600 toxic chemicals by U.S. facilities from the U.S. Environmental Protection Agency
- **TOXMAP**—geographic Information System that uses maps of the United States to help users visually explore data from the Environmental Protection Agency’s Toxics Release Inventory
- **Tox Town**—interactive guide to commonly encountered toxic substances and environmental health risks
- **NLM Gateway**—Web-based search interface that allows users to search simultaneously in multiple NLM retrieval systems, providing “one-stop searching” for many of NLMs information resources and databases

Additional online resources of special interest will be demonstrated.

- **Genetics Home Reference™**— Web site for consumer information about genetic conditions and the genes or chromosomes responsible for those conditions
- **Multi-Cultural Resources for Health Information**—selected links to multi-cultural Internet resources with a focus on addressing cultural and linguistic competency in health care
- **NIHSeniorHealth**—resources for older adults designed for maximum accessibility to aging-related health information
- **Women’s Health Resources**—selected links to Internet resources of special interest to women based on current research priorities
- **Special Populations: Emergency and Disaster Preparedness**—provides practical information on how special populations (i.e. disabled, seniors, hearing or visually impaired, children) can prepare for an emergency
- **NLMs Enviro-Health Links**—selected links to Internet resources on toxicology and environmental health issues of special interest
Finding Quality Health Information

Finding Quality Health Information on the Internet

The World Wide Web contains an abundance of free health information, available 24 hours per day. Finding health information online is easy, but how do we know that the information we find is reliable and trustworthy?

Evaluating Internet Resources

The National Library of Medicine (NLM) is a good place to start to find trustworthy, up-to-date health information. Beyond that, there are some important questions you can ask yourself to determine if a site is trustworthy. Briefly, the categories you should consider are the following:

- **Authority and Accuracy**
- **Coverage**
- **Currentness**
- **Objectivity**
- **Design Features**

“Savvy Health Surfing,” developed by the National Library of Medicine, contains a complete list of the questions that should be asked in each category. You will find this pull-out reference sheet in the back of this workbook.
Additional Resources

For further information, we recommend these additional resources:

- HON Code of Conduct for Medical and Health Web Sites
  www.hon.ch/HONcode

- Evaluating Internet Health Information: A Tutorial from the National Library of Medicine

- MedlinePlus—Evaluating Health Information

- National Network of Libraries of Medicine—Is this health information good for me?
  nnlm.gov/pnr/hip/criteria.html
  (en Español: nnlm.gov/pnr/hip/informacion.html)

- Quackwatch
  quackwatch.com
## Savvy Health Surfing Exercises

Review the following Web sites and determine if each is reliable according to the Savvy Health Surfing criteria discussed in class.

<table>
<thead>
<tr>
<th></th>
<th>Authority/Accuracy</th>
<th>Coverage</th>
<th>Currentness</th>
<th>Objectivity</th>
<th>Design</th>
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<td><a href="http://www.thinktwice.com">www.thinktwice.com</a></td>
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<td>tourette13.tripod.com/</td>
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<td>3.</td>
<td><a href="http://www.healthfree.com">www.healthfree.com</a></td>
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<td><a href="http://www.malepregnancy.com">www.malepregnancy.com</a></td>
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<td><a href="http://www.nwsids.org">www.nwsids.org</a></td>
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<td><a href="http://www.webmd.com">www.webmd.com</a></td>
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<td><a href="http://www.drclark.net">www.drclark.net</a></td>
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<td>12.</td>
<td><a href="http://www.aaemonline.org">www.aaemonline.org</a></td>
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<td>14.</td>
<td><a href="http://www.amaasportsmed.org">www.amaasportsmed.org</a></td>
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<td>15.</td>
<td><a href="http://www.bonetumor.org">www.bonetumor.org</a></td>
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<td>16.</td>
<td><a href="http://www.biausa.org">www.biausa.org</a></td>
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<td>17.</td>
<td>sparkaction.org</td>
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<td>18.</td>
<td><a href="http://www.curezone.com">www.curezone.com</a></td>
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MEDLINE/PubMed
MEDLINE/PubMed

PubMed is a database developed by the National Center for Biotechnology Information (NCBI) at the National Library of Medicine and is available free on the Web. PubMed provides access to MEDLINE, NLM's premier bibliographic database containing citations and author abstracts from over 5,400 biomedical journals published in the United States and in other countries. PubMed also provides access to citations for selected articles in life science journals not included in MEDLINE and additional relevant Web sites and links to molecular biology resources. The scope of MEDLINE includes such diverse topics as microbiology, delivery of health care, nutrition, pharmacology, and environmental health. The topics in MEDLINE include everything from anatomy, organisms, diseases, psychiatry, and psychology to the physical sciences.

PubMed Homepage

The PubMed homepage includes a NCBI Header, Search Bar, and Footer that are common to all PubMed pages. The NCBI Header includes a NCBI Resources pull-down menu categorized by topic, a How To menu, and the Sign In for My NCBI. The Search Bar has the database selection menu, and includes a link to Advanced search and Help. Additional Search bar selections, RSS, and Save search, display after running a PubMed search. Popular tools and resources are under PubMed Tools (e.g., the Single Citation Matcher, Clinical Queries, and Topic-Specific Queries) and
More Resources (e.g., MeSH Database, Journals Database, and Clinical Trials). The Footer includes links to many NCBI resources.

Searching PubMed

Enter your search term(s) into the search box and click the Search button for basic searching. To find an author, enter the author’s last name, then first and second initials (e.g., smith ja). Other search options include the following:

- To search for a journal, use the Journals Database—allows searching by topic, journal title/abbreviation, ISSN, or browsing by subject terms.
- To build a search strategy with MeSH terms, use the MeSH Database—NLMs controlled Medical Subject Heading (MeSH) vocabulary provides a consistent way to retrieve information that may use different terminology for the same concepts.
- To search for specific types of references, use either Clinical Queries or Topic-Specific Queries.

Limits

Refine and focus your search with the Limits option located above the search box. Checkboxes may be selected for Type of Article, Language, Subsets of journals or topics, Ages, Humans or Animals, Gender, and Dates. Restrict a search to items with links to full text, and make multiple choices within categories. A “Limits Activated” message will appear above the search results list. Limits remain in effect until removed.
Advanced Search

The Advanced Search link provides three options to refine and focus a search: Search Builder, Search History, and More Resources. Search Builder allows creation of a search using Boolean operators. Using the All Fields selection will run search terms through the Automatic Term Mapping process, or a specific field may be selected to apply to the term. Search History tracks search statements and numbers them as links. Clicking on the numbered link provides a menu allowing search statements to be combined into a new search with the AND, OR or NOT Boolean operators, or to be viewed, deleted, examined in detail, or saved in My NCBI. More Resources provides links to the MeSH and Journals databases, Single citation Matcher, Clinical Queries, and Topic-Specific Queries.

Search Results

Search results initially display in a summary format in the order they were entered in PubMed as last in, first out. By default, the system displays 20 citations per page. Search results include the following:

- Links to related articles for all citations—click the Related Citations link below the citation
- Links to free full text articles, if available,—click Free article below the citation
- Links to free full text journal articles at Web sites of participating publishers—click Free Full Text under Filter your results
• Links to other NLM resources for additional information—see on the right side of your Search Results page, Titles with your search terms, Free Full-text articles in PubMed Central, Find Related Data and other related information

To display the abstract for a journal article, click the title link. Some citations do not have abstracts and will include the note “No abstract available.”

My NCBI

My NCBI is an easy way to save and update searches on topics of continuing interest. You can choose filters that group your search results. Search updates will automatically be e-mailed to you if selected. To use My NCBI, you must first register and your browser will need to allow pop-ups from the NCBI Web page. Click My NCBI on the right side of the NCBI header.

Ordering Documents

NLM's Loansome Doc is an automated document ordering program that allows PubMed users to order the full text of an article from a participating library. Before an order can be placed, and before a user can register, all Loansome Doc users must first establish an agreement with a library that uses DOCLINE® (NLM's automated interlibrary loan request and referral system). Users who are unsure about which library to contact may obtain assistance from the Regional Medical Library (RML) in their area by calling 1-800-338-7657, Monday-Friday, 8:30 AM - 5:00 PM in all time zones.

To register with Loansome Doc go to https://docline.gov/loansome/login.cfm. During the online registration process, you will create a user account with your name, address, e-mail, and ordering preference.

From PubMed registered Loansome Doc users can access Loansome Doc by performing a search, clicking the check box to the left of the articles they want to order, and selecting Send to Order from the pull down menu.

Additional Resources

For further information, we recommend these additional resources:

• PubMed Help (an online Help book)
  ncbi.nlm.nih.gov/books/bv.fcgi?rid=helppubmed.chapter.pubmedhelp

• PubMed Quick Tour: Simple Subject Search

• PubMed Quick Tour: Search for an Author

• CAM (Complementary and Alternative Medicine) on PubMed
  nnlm.gov/training/consumer/cam/cam-pubmed.pdf

• Getting Started with LinkOut (National Network of Libraries of Medicine)
  nnlm.gov/training/linkout/
MEDLINE/PubMed Search Exercises

Search Example: Find articles on the relationship between pain management and racial disparities.

Suggested Solution:

► Go to pubmed.gov
► Type pain management racial disparities in the search box
► Click the Search button
► Review the citations retrieved
► Click the Clear button to the right of the search box to prepare for the next search

Exercise 1: Find articles that discuss diabetes disparity.

Suggested Solution:

<table>
<thead>
<tr>
<th>Type</th>
<th>diabetes disparity in the search box</th>
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<tbody>
<tr>
<td>Click</td>
<td>the Search button</td>
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<tr>
<td>Review</td>
<td>the citation(s) retrieved</td>
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<tr>
<td>Click</td>
<td>the Clear button to prepare for the next search</td>
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</tbody>
</table>
Exercise 2: Find articles on prostate cancer treatment in African Americans. Limit your search to the nursing journals.

Suggested Solution:
Type `prostate cancer treatment african americans` in the search box
Click Limits
Click “Nursing Journals” checkbox in Subsets under Journal Groups
Click the Search button and review the citation(s) retrieved
Click Remove to the right of Limits Activated: Nursing Journals and the Clear button to prepare for the next search

Exercise 3: Find articles published in the last year on cardiovascular disease and nutrition.

Suggested Solution:
Type `cardiovascular disease nutrition` in the search box
Click Limits
Select 1 year from the “Published in the Last:” pull-down bar under Dates
Click the Search button and review the citation(s) retrieved
Click Remove to the right of Limits Activated: published in the last 1 year and the Clear button to prepare for the next search

Exercise 4: Research published articles on the subject of genital herpes transmission and AIDS in adults. Next, e-mail an abstract to yourself in text form.

Suggested Solution:
Type `genital herpes transmission` in the search box
Click Limits
Click “AIDS” in the Subsets box under Topics
Click “All Adult: 19+ years” in the Ages box
Click the Search button
Click the box to the left of a record of your choice
Click E-mail from the “Send to” pull-down menu and Abstract (text) from the “Format” menu
Type your e-mail address in the e-mail box
Click the E-mail button
<table>
<thead>
<tr>
<th>Exercise 5: Find articles published in the last two years that focus on health literacy. Limit your search to citations that include free full-text articles.</th>
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<td><strong>Suggested Solution:</strong></td>
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<tr>
<td><strong>Review</strong></td>
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<tr>
<td><strong>Click</strong></td>
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<table>
<thead>
<tr>
<th>Exercise 6: Find articles in PubMed Central (PMC) that discuss obesity in African American children.</th>
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<td><strong>Suggested Solution:</strong></td>
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<td><strong>Type</strong></td>
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<tr>
<th>Suggested Solution #2:</th>
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<td><strong>Click</strong></td>
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<td><strong>Click</strong></td>
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</table>
Exercise 7: Set up a My NCBI user account and conduct a search for articles on hypertension prevention in African Americans. Next, save your search in My NCBI.

Suggested Solution:

Click **My NCBI** in the top right corner of the page

Click **Register for an account**

Follow the directions for setting up a User Name and Password

Clicking the “Keep me signed in” checkbox will create a permanent cookie so that My NCBI will be indefinitely available on your computer without signing in again.

Click **PubMed** in the list of databases at the top of the page

Type **hypertension prevention african american** in the search box

Click the **Search** button

Click **Save Search** at the top of the screen to the right of the search box

Click the **Save** button in the pop-up window

Follow the directions for setting up e-mail updates, then click the save button.
Saving and Printing Records in PubMed

The PubMed Send to Text function creates a text file of PubMed records, which you can save on your computer. The Send to button is available on screens with search results. You can save the entire results of a specific search or selected records. If you don’t select specific records before clicking on the Send to button, you will create a file on your computer that will contain the entire search results, up to a maximum of 10,000 items.

You can also save records collected from multiple searches by using the Send to Clipboard feature. The Clipboard holds a maximum of 500 items. When you save a file, your browser will prompt you to specify where this file should be placed on your computer, and also give you the opportunity to rename the file.

Saving Entire Search Results

- Use the Display pull-down menu to select a format.
- Click Send to File and your items will be saved in the Display format as plain text.
  
  The default for the File feature is to save the entire retrieval—up to 10,000 items—unless you specifically select citations. For example, if you use the Send to File selection on a screen displaying 1-20 items of 2,356, your saved file will contain all 2,356 citations.

Saving Selected Citations from a Single Search

- Use the Display pull-down menu to select a format.
- Click in the check boxes next to each citation you want to save. You can move to other pages within the search results to make additional selections.
- Click Send to File and your selected items will be saved in the Display format as plain text.

  Saving a large retrieval may take several minutes. To save citations in html format, use the Save as... function of your browser and change the file extension to html. This will save only the citations displayed on the screen, so you may wish to use the Show function and Send to Text to adjust your display as needed.

Clipboard

To place an item in the Clipboard, click on the check box to the left of the citation, select Clipboard from the Send to pull-down menu, and then click the Send to button. Once you have added a citation to the Clipboard, the record number color will change to green.
If you select **Clipboard** from the **Send to** menu without selecting citations using the check box, PubMed will add all (up to 500 citations) of your search results to the Clipboard. The Clipboard will be lost after one hour of inactivity on PubMed or any of the other Entrez databases.

PubMed uses cookies to add your selections to the clipboard. In order for you to use this feature your Web browser must be set to accept cookies.

Citations in the clipboard are represented by the search number #0, which may be used in Boolean search statements. For example, to limit the citations you have collected in the Clipboard to English language citations, use the following search:

```
#0 AND english [1a]
```

This does not affect or replace the Clipboard contents.

**E-mail**

To e-mail your results, click on specific citations and select **E-mail** from the **Send to** pull-down menu. You may e-mail up to 500 items. You may select the format, the sorting method, and HTML or text. In addition, you may enter a message that will be included with the PubMed search results in the e-mail message. The e-mail page reflects settings from the results page and can be modified.

After clicking the **E-mail** button, the system returns you to your results page and displays a message confirming that the e-mail message was sent. Your PubMed results will be sent from the NCBI automatic mail server, Sent by Entrez [nobody@ncbi.nlm.nih.gov] with a “Subject” of PubMed Search Results. Do not reply to this message. This is not a functioning customer service e-mail address.

If you choose HTML, your PubMed e-mail message displays as a PubMed results page and includes hyperlinks to Related Articles, LinkOut, and other PubMed features. The recipient’s e-mail program must be set for HTML view in order to properly view in HTML format.

**Order**

The **Order** function allows you to order the full-text copy of an article from a library in your area using the **Order Documents** feature of PubMed.

Prior to using this program, you must establish an agreement with a Loansome Doc participating library. During the registration process, you will have the opportunity to search for a Loansome Doc provider in your area (U.S. and International). Local fees may apply. To register, click **Order Documents** from the PubMed sidebar menu, then **Loansome Doc** under **Loansome Doc Options**, then **Sign up!** from the Loansome Doc screen.

Once you have registered with Loansome Doc, you can order documents by clicking the check box to the left of each citation for documents you want to order. When you have
finished marking your selections (you may move to other pages within your results), select Order from the Send to menu, and click the Send to button. You may also use the Clipboard to collect items from multiple searches before ordering.

For some journals the full-text of articles are available via a PubMed link to the publisher’s Web site. Publisher links for the full-text of the article are displayed on the Abstract or Citation display. You may also choose LinkOut from the Links pull-down menu to the right of each citation. LinkOut is a PubMed feature that links to outside sources for the full-text of the article, e.g., a publisher’s Web site, as well as other resources such as biological databases and sequencing centers. User registration, a subscription fee, or some other type of fee may be required to access the full-text of articles in some journals.

**Importing Citations into a Reference Manager Program**

To export citations into a reference management program such as EndNote, Reference Manager, and ProCite:

1. In your search results, use the citation check boxes to select citations. To export all the citations do not select any citations.

2. From Send to, select File.

3. Select MEDLINE from the Format menu and click Create File.

4. Import this saved file into your reference management program.

Questions regarding these commercial software packages should be directed to the respective companies.

**Print**

Use the print function of your Web browser to print all the information and citations displayed on your Web page. Before printing, consider using the Show (number of pages) Feature to increase the number of documents per page so that the total number of documents is displayed on one page (maximum: 500 per page). You can print only the citations from the displayed page.

You may also wish to display your citations as “Text” to strip the sidebar menu and toolbars prior to printing your results.

You may want to print selected items from one or more searches on a single page. You can do this by collecting them in PubMed’s Clipboard.
**MedlinePlus**

MedlinePlus is the National Library of Medicine’s answer to consumer friendly, authoritative health information. It contains health information especially written for consumers and patients by the National Institutes of Health and other trusted sources. MedlinePlus contains information on over 800 health topics, lists of hospitals and physicians, extensive information on prescription and non-prescription drugs, interactive tutorials on many health conditions, links to articles on the latest health news, health information in more than forty languages, and much more.

Features

Features offered by MedlinePlus include:

- Easy-to-read language
- Easy-to-navigate pages
• New links added daily
• No advertising or endorsements
• Spanish version: medlineplus.gov/spanish

Searching MedlinePlus

To search MedlinePlus, type a word or phrase into the search box. Your initial search results show matches from all of the MedlinePlus content areas. The default display for MedlinePlus searches is a comprehensive list of All Results. The links in the Refine by Type box represent sets of MedlinePlus content areas, known as collections. The collections help you narrow your search by displaying results exclusively from one collection. The Refine by Keyword box organizes your search results into groups based on the most frequent words in the top 200 results.

Browsing MedlinePlus

Health Topics can be browsed alphabetically, by body location and symptoms, disorders and conditions and demographic groups. Read about symptoms, causes, treatment and prevention for diseases, illnesses, health conditions and wellness issues. Drugs & Supplements can be browsed alphabetically by brand or generic names. Learn about your prescription drugs and over-the-counter medicines, including side effects, dosage, special precautions, and more. Browse dietary supplements and herbal remedies to learn about their effectiveness, usual dosage, and drug interactions. Videos and Cool Tools contains an alphabetical list of multimedia health resources, including calculators, quizzes, games, interactive tutorials, and anatomy and surgery videos.
Staying Connected

Mobile Version

Mobile MedlinePlus provides authoritative health information for mobile Internet users. It includes a subset of content from the full Web site. It includes summaries for more than 800 diseases, conditions and wellness topics as well as the latest health news, an illustrated medical encyclopedia, and information on prescription and over-the-counter medications. The mobile version is available at

m.medlineplus.gov

GET E-mail Updates

E-mail announcements contain links to new topics and sites on MedlinePlus along with other notices. You can sign up to receive general emails covering all health topics, or you can sign up to receive emails about specific topics.

Subscribe to RSS

Really Simple Syndication (RSS) provides notification when new content, press announcements and health news articles are published on MedlinePlus, without cluttering your inbox with e-mail messages.

Follow us on Twitter

Twitter provides MedlinePlus users with short, timely, and instantly updated health news and information. Join and follow at

twitter.com/medlineplus4you

Additional Resources

For further information, we recommend these additional resources:

- MedlinePlus Frequently Asked Questions

- Evaluating Internet Health Information: A Tutorial from the National Library of Medicine

- Guide to Healthy Web Surfing

- Information for Librarians and Trainers
  www.nlm.nih.gov/medlineplus/training/trainers.html
MEDLINE and MedlinePlus: What is the Difference?

MEDLINE is the National Library of Medicine’s (NLM) premier bibliographic database. This web-based research tool covers the fields of medicine, nursing, dentistry, veterinary medicine, the health care system, and the preclinical sciences. It contains over 20 million citations and abstracts. Most of the articles found in MEDLINE are very technical and written for health care professionals. MEDLINE is available free through NLMs PubMed search system.

While MEDLINE is a source of medical research literature for health professionals, MedlinePlus provides health information especially written for consumers and patients by the National Institutes of Health and other reliable sources. MedlinePlus provides information on over 800 health topics. Additionally, consumers can search for information in the online medical encyclopedia or medical dictionary, get information on prescription and over-the-counter medication, and obtain information on local physicians and dentists. MedlinePlus is not a database for references to journal articles.

Use this Decision Tree to choose the correct database:

<table>
<thead>
<tr>
<th>MEDLINE/PubMed</th>
<th>MedlinePlus</th>
</tr>
</thead>
<tbody>
<tr>
<td>Database</td>
<td>Directory</td>
</tr>
<tr>
<td>Journal citations</td>
<td>Health topics</td>
</tr>
<tr>
<td>Published medical literature</td>
<td>Multiple sources</td>
</tr>
<tr>
<td>Health professionals</td>
<td>Consumers and patients</td>
</tr>
<tr>
<td>Clinical terminology</td>
<td>Easy to understand language</td>
</tr>
<tr>
<td>Search only</td>
<td>Browse and search</td>
</tr>
</tbody>
</table>

Value added:
- Links to publishers
- Selected full text articles
- Selected consumer health journals
- Links to MedlinePlus
- Drug information
- Medical encyclopedia
- Links to other Web resources
- Links to MEDLINE searches
- Spanish version
- Surgery videos
- Multiple languages
**MedlinePlus Search Exercises**

**Search Example:** Using the search box, identify some of the complications associated with diabetes.

**Suggested Solution:**

- Go to medlineplus.gov
- Type diabetes complications in the search box
- Click the Go button
- Click a topic of interest to you
- Review the information retrieved
  
  If you selected a page on another Web site, close the pop-up window to return to MedlinePlus

- Click the Health Topics tab at the top of the page to prepare for the next search

**Exercise 1:** Using the search box, locate information on health literacy.

**Suggested Solution:**

<table>
<thead>
<tr>
<th>Type</th>
<th>health literacy in the search box</th>
</tr>
</thead>
<tbody>
<tr>
<td>Click</td>
<td>the Go button</td>
</tr>
<tr>
<td>Click</td>
<td>Health Literacy (National Library of Medicine)</td>
</tr>
<tr>
<td>Review</td>
<td>the information retrieved</td>
</tr>
</tbody>
</table>
Exercise 2: I heard that a skin condition called acanthosis nigricans can be associated with elevated insulin levels. What does it look like? Use the alphabetical search feature.

Suggested Solution:
- Click the **Health Topics** tab
- Click **S**
- Click **Skin Conditions** from the alphabetical list of topics
- Click **Specific Conditions** under **Learn More**
- Click **Acanthosis Nigricans** (Mayo Foundation for Medical Education and Research)
- Review the information retrieved and close the pop-up window

Exercise 3: Using the Health Topic demographics groups feature, locate information on breast cancer prevention and screening.

Suggested Solution:
- Click the **Health Topics** tab
- Click **Women** under **demographic groups**
- Click **Breast Cancer** from the alphabetical list of topics
- Click **Prevention/Screening** under **Basics**
- Click **Breast Cancer (PDQ): Prevention NIH** (National Cancer Institute)
- Click **Breast Cancer (PDQ): Screening NIH** (National Cancer Institute)
- Review the information retrieved to the left of the page
- Click **Breast Cancer (PDQ): Screening NIH** (National Cancer Institute)
- Review the information retrieved
- Note that this information is also available in Spanish.
- Close the pop-up window

Exercise 4: Find information about HIV/AIDS and children. Next, E-mail the page to yourself.

Suggested Solution:
- Click the **Health Topics** tab
- Click **A**
- Click **AIDS** from the alphabetical list
- Click **Children** under **For You**
Exercise 5: Are there any side effects that patients taking Acebutolol should know about?

Suggested Solution:
- Click the **Drugs & Supplements** tab
- Click **Acebutolol** in the alphabetical list
- Scroll to the section **What side effects can this medication cause?**
- Review the information retrieved

Exercise 6: According to a recent survey conducted by researchers in Cleveland, Ohio, people living with HIV/AIDS commonly use the following herbs: Echinacea, Ginseng, Ginko, St. Johns Wort, and Yohimbe. Can these supplements interfere with prescribed medications? What is the scientific evidence for use of these drugs?

Suggested Solution:
- Click the **Drugs & Supplements** tab
- Click **All herbs and supplements**
- Click **Echinacea** in the alphabetical list
- Scroll to the “Are there interactions with medications?” section and review the information retrieved
- Repeat these steps for: Ginseng American, Ginkgo, St. Johns Wort, and Yohimbe

Exercise 7: Using the Medical Encyclopedia, locate an image showing a normal and asthmatic bronchiole.

Suggested Solution:
- Click the **Home** link at the top left of the page.
- Click the **Medical Encyclopedia** link at the bottom of the home page
- Click **A** under **Browse by first letter of topic**
Click Asthma from the alphabetical list
Click Normal versus asthmatic bronchiole under Images
Review the information retrieved

Exercise 8: Locate an organization that focus on health disparities.

Suggested Solution:
Click the Home link
Click the Organizations link at the bottom of the page
Click topic under Organizations [next to: Also available arranged by topic]
Click H
Scroll to Health Disparities
Click National Center on Minority Health and Health Disparities
Review the information retrieved and close the pop-up window

Exercise 9: Find an interactive tutorial that teaches you how to evaluate health information on the Web.

Suggested Solution:
Click Videos & Cool Tools tab
Click Evaluating Health Information tab on the right of the page
Click the Start the tutorial tab and follow the onscreen instructions
At the end of the tutorial, close the pop-up window.

Exercise 10: Check your health knowledge by using the calculators and quizzes section.

Suggested Solution:
Click the Videos & Cool Tools tab
Click a topic of choice under the Calculators & Quizzes section and follow the onscreen instructions
Click: All calculators & quizzes to expand the alphabetical list.
Review the results and close the pop-up window

Exercise 11: Using the Health Topics Body Location/System feature, find the MedlinePlus Hypertension page and view the latest news. Next, view the Hypertension Interactive Tutorial.

Suggested Solution:
Click the Health Topics tab
Click Blood, Heart, and Circulation under Body Location/Systems
<table>
<thead>
<tr>
<th>Click</th>
<th>High Blood Pressure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Click</td>
<td>Latest News under Basics</td>
</tr>
<tr>
<td>Review</td>
<td>a news article of your choice and click the browser’s back button to return to the High Blood Pressure page</td>
</tr>
<tr>
<td>Click</td>
<td>Hypertension Interactive Tutorial under Start Here</td>
</tr>
<tr>
<td>Click</td>
<td>the Start Interactive Tutorial button</td>
</tr>
</tbody>
</table>

At the end of the tutorial, close the pop-up window.

**Exercise 12:** Locate health information on a topic of your choice.
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ClinicalTrials.gov

ClinicalTrials.gov provides regularly updated information about federally and privately supported clinical research in human volunteers, including the trial’s purpose, who may participate, locations where trials are held, contact information, and whether or not the trial is currently recruiting participants. The database currently contains information on over 97,000 trials with locations in 174 countries.

Searching ClinicalTrials.gov

Click Search for Clinical Trials on the home page to access the search page. The system defaults to the Basic Search screen (see below). Type your search term(s) in the search box provided and click the Search button.

Basic Search Screen

Click the Advanced Search tab, or the Advanced Search link below the search box, to search using more specific search criteria. For example, you can limit your search to disease or condition, outcome measures, sponsor, state or country of the trial, study type, age group of the participants, and much more. From the List Results screen, you can refine your search by adding more search terms, or click Display Options to select fields to display within your search results.
You may also browse ClinicalTrials.gov by condition (or disease), drug intervention, trial sponsor, and trial location.

**Additional Resources**

For further information, we recommend these additional resources:

- NLM Training: NLM Gateway and ClinicalTrials.gov  

- Prescription for Success: Consumer Health Information on the Internet  
  [nnlm.gov/training/consumer/prescription/](http://nnlm.gov/training/consumer/prescription/)

- NLMs Consumer Health Databases (National Network of Libraries of Medicine)  
  [nnlm.gov/training/consumer/nlm_databases/](http://nnlm.gov/training/consumer/nlm_databases/)

- ClinicalTrials.gov Background Information and Other Consumer Health Information  
  [clinicaltrials.gov/ct2/info](http://clinicaltrials.gov/ct2/info)
ClinicalTrials.gov Search Exercises

Search Example: Do any clinical trials focus on chronic conditions?

Suggested Solution:

- Go to clinicaltrials.gov
- Click Search for Clinical Trials
- Type chronic conditions in the search box
- Click the Search button
- Review record(s) of your choice
- Click Search in the header box to prepare for the next search

Exercise 1: Locate all open clinical trial studies that focus on health literacy. Display only the studies that are seeking volunteers.

Suggested Solution:

Click Search for Clinical Trials
Type health literacy in the search box
Click the Search tab
Click the link Hide studies that are not seeking new volunteers at the top left of the page
Review record(s) of your choice
Click Search in the header bar to prepare for the next search

Exercise 2: Do any clinical trials focus on stroke among African American seniors?

Suggested Solution:
Click the Advanced Search tab
Type african american in the Search Terms box
Type stroke in the Conditions box
Click the box next to Senior (66+) under Age Group
Click the Search button and review record(s) of your choice
Click Search in the header bar to prepare for the next search

Exercise 3: Have the effects of Atorvastatin, a statin, been studied as a treatment for asthma?

Suggested Solution:
Click the Advanced Search tab
Type asthma in the Conditions box
Type atorvastatin in the Interventions box
Click the Search button and review record(s) of your choice
Click Search in the header bar to prepare for the next search

Exercise 4: Find all clinical trials studying heart disease. Next, limit the results to minority women.

Suggested Solution:
Click the Advanced Search tab
Type heart disease in the Conditions box
Click the Search button
Click the Refine Search tab
Type minority women in the Search Terms box
Click the Search button and review record(s) of your choice
Click Home in the header bar to prepare for the next search
Exercise 5: What should people consider before participating in a Clinical Trial? Next, review the definition of a double-blind study.

Suggested Solution:
- Click [Understanding Clinical Trials](#) on the right side of the page under Resources
- Scroll to What should people consider before participating in a trial?
- Review the information
- Click [Glossary](#) at the top of the page
- Scroll to double-blind study and view the definition
- Click [Home](#) in the header bar to prepare for the next search

Exercise 6: View recently added clinical trial studies.

Suggested Solution:
- Click [What’s New](#) on the right side of the page
- Click [View studies first received in the] last 14 days
- Review record(s) of your choice
- Click [Search](#) in the header bar to prepare for the next search

Exercise 7: Using the Studies by Topic feature, find all clinical trials located in your state.

Suggested Solution #1:
- Click the [Studies by Topic](#) tab
- Click Alphabetic (A-Z) under Locations
- Click U (for United States)
- Click your state
- Review record(s) of your choice
- Click [Search](#) in the header bar to prepare for the next search

Suggested Solution #2:
- Click the [Results on Map](#) tab
- Click the United States on the map
- Click your state on the map or click the [studies](#) link for your state in the alphabetical list below the map
- Click [Search](#) in the header bar to prepare for the next search

Exercise 8: Locate a study of your choice.
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AIDSinfo
AIDSinfo

AIDSinfo is a Department of Health and Human Services Web site that provides the latest federally approved treatment guidelines for health care professionals as well as additional information on treatment, prevention and research for both health care providers and consumers. A comprehensive Spanish version (infoSIDA) is also available.

Organization and Features

AIDSinfo is organized around six main categories:

- **Guidelines**—federally approved HIV treatment and prevention guidelines for HIV infection and AIDS-related illnesses, including the prevention of HIV transmission from occupational exposure, mother-to-child transmission during pregnancy, and prevention and treatment of HIV-related opportunistic infections

- **Drugs**—records for FDA-approved and investigational HIV/AIDS-related drugs: Patient, Health Professional, and Spanish versions

- **Clinical Trials**—information on federally and privately funded clinical trials evaluating experimental drugs and other therapies for adults and children at all stages of HIV infection
• **Vaccines**—information on preventive and therapeutic HIV/AIDS vaccine research

• **Health Topics**—resources for both patients and health care providers on HIV/AIDS-related topics

Additional features offered under **More AIDSinfo** include:

• **RSS Feeds**—updates from the weekly AIDSinfo newsletter and the drug database

• **Publications**—print, electronic, and PDF versions of AIDSinfo publications (single copies of print publications are free)

• **At-a-Glance Newsletter Archives**—database of back issues of AIDSinfo’s electronic newsletter

• **Live Help**—confidential one-on-one assistance via the Internet from health information specialists

• **Homework Help**—resources and references for learning and writing papers about HIV and AIDS for school projects

• **HIV/AIDS Glossary**—definitions of HIV/AIDS-related terms in English and Spanish

• **PDA Tools**—treatment guidelines for Pocket PC (MS-Windows-based) and Palm PDAs

• **Translation Tool**—English and Spanish translations of HIV-related terms

**Searching AIDSinfo**

To search AIDSinfo, you can type your search term in the search box at the top of any AIDSinfo page or search directly for the type of information you want by clicking the appropriate navigation tab:

**AIDSinfo Drugs Database**

Search on drug name, drug class, or approval status, or search alphabetically.

**AIDSinfo Clinical Trials Database**

Search on words, conditions, drugs, or locations, or browse by trial category.
Staying Connected

**Mobile Version**

AIDSinfo offers a mobile site that allows users to access its resources and information for phones and other mobile devices.

m.aidsinfo.nih.gov

**Follow us on Twitter**

Twitter provides AIDSinfo users with short, timely, and instantly updated health news and information on HIV/AIDS treatment, prevention, and research.

twitter.com/aidsinfo/

**GET E-mail Updates**

AIDSinfo’s weekly e-newsletter, At-a-Glance, provides notice of Web site updates, HIV/AIDS news, and treatment guideline updates.

aidsinfo.nih.gov/Other/subscribe.aspx

**Subscribe to RSS**

AIDSinfo offers information from the AIDSinfo weekly newsletter and Drug Database through RSS feeds.

aidsinfo.nih.gov/Other/rss.aspx

**Additional Resources**

For further information, we recommend these additional resources:

- **AIDSinfo Brochure**
  aidsinfo.nih.gov/contentfiles/ai_brochure.pdf

- **AIDSinfo Workbook**
  nnlm.gov/training/consumer/nlm_databases/chdatabases_aids.doc

- **AIDSinfo Glossary**
  aidsinfo.nih.gov/ContentFiles/GlossaryHIV-relatedTerms_FifthEdition_en.pdf

- **AIDSinfo Glossary Spanish version (Glosario del VIH/SIDA)**
  aidsinfo.nih.gov/ContentFiles/SpanishGlossary_sp.pdf

- **infoSIDA (Spanish AIDSinfo Web site)**
  aidsinfo.nih.gov/infoSIDA/
AIDSinfo Search Exercises

Search Example: Locate the latest guidance on HIV testing, counseling, and referral.

Suggested Solution:

- Go to aidsinfo.nih.gov
- Click GUIDELINES

- Click Revised Guidelines for Counseling, Testing, and Referral under Testing in the menu bar to the left

- Click the link HTML Version (1 KB) to open and review the document
Search Exercises: Guidelines Category

Exercise 1: Locate guidelines for the use of antiretroviral therapy for the treatment of HIV-1 infected pregnant women. Compare the current guidelines to the guidelines from 2008.

Suggested Solution:

- Click Guidelines tab
- Click Perinatal Guidelines under Maternal-Child Transmission in the menu bar to the left
- Click PDF Version (1.2 MB)
- Review the document and close the pop-up window
- Click Previous Versions under Archives in the menu bar to the left
- Scroll to the Perinatal Guidelines section of the page
- Click the PDF link for “Tuesday, July 08, 2008”
- Review the document and close the pop-up window

Exercise 2: Review the most recent Guidelines News topic. Next, subscribe to the AIDSinfo Listserv (optional).

Suggested Solution:

- Click the Guidelines tab
- Click the first topic in the Guidelines News box at the top right of the page
- Review the information and close the pop-up window or click the browser’s back button to return to the Clinical Guidelines Portal
Exercise 3: Perform a Guidelines search of your choice. Return to the AIDSinfo home page by clicking the AIDSinfo logo in the top left corner of the page.

Search Exercises: Drug Category

Exercise 4: What class of HIV/AIDS drug is FTC? Are there any other names for it? Compare the patient version of the record to the health professional version.

Suggested Solution:

| Click | the Drugs tab at the top of the page |
| Type | FTC in the “Drug Name” search box under Search the Drug Database |
| Click | the Search button |
| Click | FTC (Emtriva) under FDA-approved Drugs |
| Review | The page defaults to the Patient Version |
| Click | Health Professional Version and review the information |
| Review | Note the difference in the detail of information given in the health professional version versus that given in the patient version. |

Exercise 5: Should tenofovir DF be taken with food? Use the alphabetical search feature.

Suggested Solution:

| Click | the Drugs tab |
| Click | T under Alphabetical Search |
| Click | Tenofovir disoproxil fumarate |
| Click | Health Professional Version |
| Scroll to | Detailed Information is provided only in the health professional version. |
| Scroll to | the Drug and Food Interactions section and review the information |
Exercise 6: The FDA recently approved *Intelence*, a non-nucleoside reverse transcriptase inhibitor (NNRTI). What are the most common side effects associated with *Intelence*?

Suggested Solution:

Click the **Drugs** tab
Select **Non-nucleoside Reverse Transcriptase Inhibitors** from the **Drug Class** drop down menu
Select **FDA-approved** from the **Drug Approved** drop down menu
Type **Intelence** in the **Drug Name** search box
Click the **Search** button
Review the information in the **Possible Side Effects** section

Search Exercises: Clinical Trials Category

Exercise 7: Are there any studies investigating kidney complications of HIV/AIDS?

Suggested Solution:

Click the **Clinical Trials** tab
Type **kidney disease** in the search box
Click the **Search** button
Review a study or studies of your choice and close the ClinicalTrials.gov window

Exercise 8: Using the quick search feature, find all HIV/AIDS trials focused on older adults.

Suggested Solution:

Click the **Clinical Trials** tab
Click the **Quick Search** tab
Click **Specific Populations**
Click **Older Adults**
Review a study or studies of your choice and close the ClinicalTrials.gov window
Exercise 9: Are there any interventional studies focusing on the new drug Kaletra for children?

Suggested Solution:

- Click the Clinical Trials tab
- Click the Advanced Search tab
- Type Kaletra in the Search Term box
- Select Interventional Studies from the drop-down menu under Study Type
- Click Child (birth-17) under Age Group
- Click the Search button
- Review a study or studies of your choice
DIRLINE

dirline.nlm.nih.gov
DIRLINE

DIRLINE is the National Library of Medicine’s online database containing location and descriptive information about a wide variety of information resources including organizations, research resources, projects, and databases concerned with health and biomedicine. This information may not be readily available in bibliographic databases. Each record may contain information on the publications, holdings, and services provided.

DIRLINE contains over 8,500 records and focuses primarily on health and biomedicine, although it provides limited coverage of some other special interests. Topics include HIV/AIDS, maternal and child health, most diseases and conditions including genetic and other rare diseases, health services research, and technology assessment. The information resources fall into many categories, including:

- Federal, state, and local government agencies
- Information and referral centers
- Professional societies
- Self-help groups and voluntary associations
• Academic and research institutions and their programs
• Information systems and research facilities

Searching DIRLINE

Search DIRLINE using subject words (such as the name of a disease or condition, or the name or location of a resource). Keep the search simple to maximize retrieval. Refine your search by including Medical Subject Headings (MeSH®). MeSH consists of sets of specific terms developed by the NLM to enhance searching.

Click A-Z List of Health Organizations on the home page to browse for a health organization:

Additional Resources

For further information, we recommend these additional resources:

• DIRLINE Fact Sheet

• Prescription for Success: Consumer Health Information on the Internet (National Network of Libraries of Medicine)
  www.nnlm.gov/training/consumer/prescription

• Medical Subject Headings (MeSH)
  nlm.nih.gov/mesh/meshhome.html
DIRLINE Search Exercises

Search Example: Find health information resources that are located in your state.

Suggested Solution:

- Go to dirline.nlm.nih.gov
- Type your state name in the search box (example: north carolina)
- Click the Search button

- Review record(s) of your choice
- Click the New Search button on the left of the page to prepare for the next search

Exercise 1: Find records for organizations that provide information on health promotion.

Suggested Solution:

Type **health promotion** in the search box

Be sure to space after each search term. Remember—Boolean operators do not work in DIRLINE.

Click the Search button

Review record(s) of your choice

Click the New Search button on the left of the page to prepare for the next search
Exercise 2: Find records for the various Centers for Disease Control and Prevention (CDC) HIV/AIDS programs. Save the records that are of interest to you.

Suggested Solution:

Type **cdc hiv aids** in the search box
Click the **Search** button
Click the checkbox to the left of record(s) of your choice
Click the **Save Checked Items** button on the left
Click the **Display Saved Items** button to review the record(s)
Click the **New Search** button on the left to prepare for the next search

Exercise 3: Find diabetes-related organizations. Next, limit the search to organizations with services for the hearing impaired.

Suggested Solution:

Type **diabetes** in the search box
Click the **Search** button
Review record(s) of your choice
Click the **Modify Search** button on the left of the page
Click the checkbox for **Only organizations with services for the hearing impaired** under **“Select records containing:”**
Click the **Search** button
Review record(s) of your choice
Click the **New Search** button on the left to prepare for the next search

Exercise 4: Use the Browse Index feature to identify the number of organizations that offer information on environmental health. Sort the records in descending order.

Suggested Solution:

Click the **Browse the Index** button
Type **environmental** in the search box
Click the **Search** button
Click the checkbox for the index term(s) of your choice
Click the **Select** button above the table
Click the **Sort** button on the left
Click **Descending** and then the **Sort** button
Review record(s) of your choice
More Health Information Resources
Genetics Home Reference™

Genetics Home Reference is the National Library of Medicine’s Web site for consumer information about genetic conditions and the genes or chromosomes responsible for those conditions. Content on the site is reviewed annually by experts in human genetics. Expert reviewers perform a comprehensive review of each condition, gene, gene family, and chromosome summary before it is posted to the site, and with each substantial revision thereafter.

Organization and Features

Links on the left side of the page provide access to a list of information recently added to the site (What’s New), information on Newborn Screening, and additional information (In the Spotlight) including Learning Activities to help users learn about human genetics. Other information is provided in the following categories:

- **Genetic Conditions**: Genetic summaries of over 550 health conditions, diseases, and syndromes
- **Genes**: Summaries of over 750 genes, health effects of genetic differences, and gene families
- **Chromosomes**: Chromosomes, mitochondrial DNA, and associated health conditions
- **Handbook**: Information about mutations, inheritance, genetic counseling, genetic testing, genomic research, and more
- **Glossary**: Medical and genetics definitions
- **Resources**: Links to PubMed, MedlinePlus, and other genetic information/organizations

Disclaimer: The resources on this Web site should not be used as a substitute for professional medical care or advice. For information about a personal genetic disease, syndrome, or condition, users should consult with a qualified health care professional.
Multi-Cultural Resources for Health Information

Multi-Cultural Resources for Health Information provides selected links to multi-cultural Internet resources with a focus on addressing cultural and linguistic competency in health care.


Multi-Cultural Resources for Health Information includes links to information in the following areas:

- Cultural Competency
- Dictionaries, Glossaries, and Online Translation Tools
- Health Literacy
- Health Resources in Multiple Languages
- Interpreting in Health Care
- Law, Policy, and Standards
- Limited English Proficiency
- Multicultural Research
- Organizations and Portals
- Refugee Health Portals
- Additional Resources

For further information, we recommend these additional resources:

NIHSeniorHealth

NIHSeniorHealth is a Web site for older adults designed for maximum accessibility to aging-related health information. The site was developed by the National Institute on Aging and the National Library of Medicine, both part of the National Institutes of Health (NIH).

Senior-friendly features of NIHSeniorHealth include:

- Short, easy-to-read segments of information
- Simple navigation
- Special buttons at the top of the page to:
  - Increase text size
  - Change color contrast
  - Turn on “Speech” to have the text read (requires the Flash Plugin or Adobe Macromedia Flash Player)

Additional Resources

For further information, we recommend these additional resources:

- Help Page: nihseniorhealth.gov/accentHelp.html
Women's Health Resources

Women’s Health Resources was created in partnership between the National Library of Medicine Office of Outreach and Special Populations and the National Institutes of Health Office of Research on Women’s Health (ORWH). The purpose of the site is to present topics pertaining to women’s health collected by NLM information products to support the mission of the ORWH to promote research in the field.

sis.nlm.nih.gov/outreach/whrhome.html

Organization and Features

The Women’s Health Resources home page is organized into six areas: Health Topics, News & Events, Highlights, Featured Topic, NIH Priorities, and Funding. An A to Z Index is available for easy searching.

Additional Resources

For further information, we recommend these additional resources:

- Office of Research on Women’s Health
  orwh.od.nih.gov/

- Women’s Health Initiative
  www.nhlbi.nih.gov/whi/index.html
Introduction to the NLM Environmental Health and Toxicology Resources

tox.nlm.nih.gov
The NLM Environmental Health and Toxicology Portal

The NLM's Environmental Health and Toxicology Portal provides a starting point for seeking reliable information on toxicology, hazardous chemicals, environmental health, and toxic releases.

sis.nlm.nih.gov/enviro.html

Browse the easily navigable site by topic or audience. Explore related resources using the A to Z Index of Resources. The Other Professional Resources include database descriptions, fact sheets, a list of NLM databases and electronic resources. You can also search all TOXNET databases from this page.

Additional Resources

For further information, we recommend these additional resources:

- Getting the Most from SIS’s Environmental Health and Toxicology Resources
  sis.nlm.nih.gov/getthemostfromsis.html
- NLMs Environmental Health and Toxicology Resources Quick Tour
  sis.nlm.nih.gov/enviro/captivate/tehipoverview.htm
- Publications and Reference Materials
  sis.nlm.nih.gov/enviro/enviropubs.html
Staying Connected

Join the Toxicology and Environmental Health Listserv

Keep informed about new and noteworthy environmental health and toxicology resources, services and outreach activities from the National Library of Medicine’s (NLM) Division of Specialized Information Services (SIS).
sis.nlm.nih.gov/enviro/envirolistserv.html

Subscribe to RSS

Really Simple Syndication (RSS) provides notification when new content and press announcements are published in NLMs environmental health and toxicology portal.
sis.nlm.nih.gov/rss/sisnewsfeed.rss

Follow us on Twitter

Twitter provides NLMs environmental health and toxicology portal users with short, timely, and instantly updated news and information.
twitter.com/NLM_SIS
Drugs and Dietary Supplements Suite

The Dietary Supplements Labels Database contains information from the labels of over 4,000 brands of dietary supplements in the marketplace, including online stores and practitioners, and provides direct links to pertinent health information, fact sheets, research findings and on-going clinical studies at the National Institutes of Health (NIH).

dietarysupplements.nlm.nih.gov

Features include a glossary, Warnings and Recalls from the U.S. Food and Drug Administration, and links to other NLM databases such as MedlinePlus and PubMed for further information including that on the characteristics of ingredients and the results of research pertaining to them.
NLMs **Drug Information Portal** provides current information on over 17,000 selected drugs from their entry into clinical trials through entry into the market place. Information includes consumer health, clinical trials, AIDS-related drug information, MeSH® pharmacological actions, PubMed biomedical literature.

![Drug Information Portal](image)

**druginfo.nlm.nih.gov**

Resources include summaries tailored to various audiences, NLM search systems useful in searching for a drug, NLM research resources, resources organized by drug audience and class, and other NIH and government resources such as FDA and CDC. Resources are shown as links at the top of the page.
Pillbox BETA combines pictures of tablets and capsules with FDA-approved appearance information (imprint, shape, color, etc.) to enable users to visually search for and identify an unknown solid dosage medication. This system is primarily for emergency physicians, first responders, Poison Control Center staff, and concerned citizens.

pillbox.nlm.nih.gov

Once a solid dosage form has been identified, additional information is provided, including brand/generic name, ingredients, the National File identification number, and links to other NLM drug information resources.
Enviro-Health Links

Enviro-Health Links, available from the NLM Environmental Health and Toxicology Portal, is a list of links to Internet resources on toxicology and environmental health issues of recent special interest. All resources are evaluated and selected according to specific criteria. From the Environmental Health and Toxicology Portal, click the Enviro-Health Links tab to the left of the page.


Links to information of special interest include:

- Arsenic and Human Health
- Biological Warfare
- California Wildfires
- Chemical Warfare
- Dietary Supplements
- Health Effects from the Collapse of the World Trade Center
- Environmental Justice Internet Guide
- Hurricanes: Links to information about preparedness, recovery, and environmental health
- Hurricanes Katrina, Rita, and Wilma: Impact on environmental health
- Indoor Air Pollution
- Keeping the Artist Safe: Hazards of Arts and Crafts Materials
- Lead and Human Health
- Mercury and Human Health
- Outdoor Air Pollution
- Pesticide Exposure
- Special Populations: Emergency and Disaster Preparedness
- Tornadoes
- Toxicogenomics
- West Nile Virus: Pesticides Used for Mosquito Control
Special Populations: Emergency and Disaster Preparedness

The Special Populations: Emergency and Disaster Preparedness page on NLMs Web site offers emergency and disaster preparedness information specifically for the disabled, seniors, hearing and visually impaired, and other population groups that might need additional assistance in the event of an emergency.

sis.nlm.nih.gov/outreach/specialpopulationsanddisasters.html

The page includes links to information for these populations that includes guidance for organizations and governments and employers, foreign language materials, lessons learned from prior disasters, and saved searches in MedlinePlus and PubMed.

Additional Resources

For further information, we recommend these additional resources:

- NLM Disaster Information Management Research Center: sis.nlm.nih.gov/dimrc.html
What Is TOXNET?

The NLM TOXicology Data NETwork (TOXNET) is a free, Web-based system of databases on toxicology, environmental health, hazardous chemicals, toxic releases, chemical nomenclatures, and specialty areas such as occupational health and consumer products. Information includes specific chemicals, mixtures, and products; unknown chemicals; and special toxic effects of chemicals in humans and/or animals.

toxnet.nlm.nih.gov

Click the information icon ( ) to the right of each database in the Select Database column for a description of the database, a link to the fact sheet, and a sample record.

The TOXNET Databases

The TOXNET databases can be grouped in the following categories:

- **Chemical Information:** ChemIDplus
- **Toxicology Data (one record per chemical):** HSDB, IRIS, CCRIS, GENE-TOX, ITER, and LactMed (can also search any combination of these files with the Multi-Database feature)
- **Toxicology Literature (bibliographic references):** TOXLINE and DART
- **Toxic Releases:** TRI and TOXMAP
- **Specialty Databases:** Haz-Map, Household Products Database, Tox Town
- **Additional Resource:** Carcinogenic Potency Database (CPDB)
Basic Searching in TOXNET

From the TOXNET home page, you can search all TOXNET databases simultaneously. Your results will be displayed as links to the databases in which your search term(s) were found—and the number of records in each—under the headings: References from the Biomedical Literature (TOXLINE and DART) and Chemical, Toxicological, and Environmental Health (all others).

Entering search term(s)

You may enter any combination of words, chemical names, and numbers, including Chemical Abstracts Service (CAS) registry numbers. Common “stop words” such as “a,” “an,” “and,” “for,” “the,” and “it” will not be searched. When searching for terms other than chemicals, the system automatically searches for singular and plural forms of the term(s) entered.

Synonym searching

By default the system will search for the exact name, synonyms, and CAS number as derived from ChemIDplus. Select “No” to search only for the exact chemical term or CAS Registry Number entered. In LactMed, the CAS number refers to the parent compound (i.e., not the salt form).

Truncation

The asterisk (*) is the right-handed truncation symbol for any number of characters.

Phrase searching

Search phrases with quotation marks.

Boolean searching

Use the logical operators “AND,” “OR,” and “NOT” to limit a search of two or more terms to specific criteria. In searches with combinations of these operators, “AND” takes precedence, followed by
“NOT” and then “OR.” This default precedence may be overridden with the use of parentheses, which may also be nested (i.e., parentheses within parentheses). Examples:

- Pulmonary AND edema—retrieves all records with the two words appearing together
- Liver OR kidney—retrieves all records containing either of these words (or both of them)
- Carcinoma NOT squamous—retrieves records from which one or more terms have been excluded

**Browsing in TOXNET**

The **Browse Index** feature provides a scannable index of all terms beginning with the search term you entered and the number of records for each term. In the Toxicology Data databases, selectable items indexed are **All Words, CAS Registry Number, and Chemical Name**. In the Toxicology Literature databases, selectable items indexed are **All Words, MeSH Headings/Keywords, Authors, and CAS Registry Number**.

**Search Results (Example: HSDB)**

Buttons on the left of the search results screen allow you to:

- **Save Checked Items** in a set for displaying, sorting, and downloading
- **Sort** the entire search results or items saved in a set
- **View Details** of the search—a summary of your search strategy with synonyms added
- **View a History** of your searches, numbered sequentially with number of records retrieved for viewing earlier search result sets or combining sets for further searching
- **Download** all search results or items save in a set in brief, full, abstract, or tagged format
- **Modify Search**: Make changes to the most recent search
- **Return to the Basic Search** screen in the same database to conduct a new search
- **Browse Index**: Browse all words, CAS Registry Number, chemical name, and, in bibliographic databases, MeSH headings/keywords and authors
Record Screen (Example: HSDB)

Navigation buttons at the top of the record screen allow you to perform additional actions:

- Go to the **Next Item** in the search results
- Go back to the **Search Results** screen
- Display links to **Other Files** (NLM databases) containing information on the substance (Links go directly to other TOXNET files.)
- Perform a new search in the same database with **Limits** applied (Select a specific field or category of fields to narrow your search.)
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HSDB

Hazardous Substances Data Bank (HSDB) - Comprehensive, peer-reviewed toxicology data for about 5,000 chemicals.
HSDB (Hazardous Substances Data Bank) is a comprehensive toxicology data file on NLMs TOXNET system. It contains data on over 5,000 chemicals, organized into individual records—the average record is approximately 25 printed pages. Content is peer-reviewed by a Scientific Review Panel, a committee of experts in the major subject areas within the data bank’s scope. HSDB is enhanced with information on human exposure, industrial hygiene, emergency handling procedures, environmental fate, regulatory requirements, and related areas.

Searching HSDB

Search HSDB by chemical or other name, chemical name fragment, Chemical Abstracts Service (CAS) Registry Number, and/or subject terms (basic searching). By default, the system searches for synonyms and CAS numbers of chemicals.

Use truncation (*), Boolean operators (AND, OR, NOT), phrase searching, nested parentheses, limits, and index browsing to refine your search results.

Click the Limits button on the home page to search:

- Exact words, singular & plural forms, or word variants
- All the words, any of the words, or as a phrase
- In specific fields or categories of fields (see “HSDB Limits Search Fields” in this section)
Click the **Browse the Index** button on the home page to search a list of index terms related to the search term entered and the number of records containing that term. Select the record(s) you want to view by clicking the appropriate box in the “Check to Select” column and clicking the **Select** button. Scan the index above or below the original display by clicking the **Up** or **Down** button.

**Search Results**

Your initial retrieval is displayed as a list of substance names in blue and their CAS Registry Numbers. Substances are listed in **relevancy ranked order**. Relevancy ranking is based on the number of individual search terms occurring in a document, the number of times each search term occurs in a document, the rarity of the search terms within the database, and the nearness of search terms to each other. Records containing combinations of search terms tend to be ranked higher than records with isolated occurrences of search terms.

When searching for a chemical, the initial matching chemical record (primary record) may be followed by additional chemical records that contain the chemical name or search term you entered.
Click a substance name on the search results screen to retrieve the record for that substance. The Record screen is organized into three sections:

1. Navigation buttons at the top of the screen allow you to link to Other Files (NLM databases), modify your search (Modify Search), Download, return to the Basic Search screen, and more.

2. A Table of Contents in the left frame allows you to choose categories and fields for display.

3. Chemical data is shown in the right frame. Your search term(s) appear in red.

Record Screen

If you click the primary record, the system displays the Human Health Effects. If you click a different chemical record, or if your search was for a term other than a chemical, the system will display the sections of the record best matching your query terms (Best Sections), those where the chemical search term appears with greatest frequency.

Additional Resources

For further information, we recommend these additional resources:

- HSDB Skill Kit

- HSDB Animated Tutorial
HSDB Limits Search Fields

The Limits feature allows you to specify a particular field or category of fields to search. By default, the system will search all fields in all categories. To see all fields within a specific category, click the “+” beside that category.

Expanded Categories (All Fields)

- **Substance Identification**
  - Chemical Names
  - CAS Registry Number

- **Human Health Effects**
  - Toxicity Summary
  - Evidence for Carcinogenicity
  - Human Toxicity Excerpts
  - Human Toxicity Values
  - Skin, Eye and Respiratory Irritations
  - Drug Warnings
  - Medical Surveillance]
  - Populations at Special Risk
  - Probable Routes of Human Exposure
  - Body Burden
  - Average Daily Intake
  - Minimum Fatal Dose Level

- **Emergency Medical Treatment**
  - Emergency Medical Treatment
  - Antidote and Emergency Treatment

- **Animal Toxicity Studies**
  - Toxicity Summary
  - Evidence for Carcinogenicity
  - Non-Human Toxicity Excerpts
  - Ecotoxicity Excerpts
  - National Toxicology Program Studies
  - Non-Human Toxicity Values
  - Ecotoxicity Values
  - Ongoing Test Status
  - TSCA Test Submissions

- **Metabolism/Pharmacokinetics**
  - Metabolism/Metabolites
  - Absorption, Distribution & Excretion
Biological Half-Life
Mechanism of Action
Interactions
Pharmacology
Therapeutic Uses
Drug Warnings
Interactions
Drug Idiosyncrasies
Drug Tolerance
Minimum Fatal Dose Level
Maximum Drug Dose
Bionessity

Environmental Fate & Exposure
Environmental Fate/Exposure Summary
Probably Routes of Human Exposure
Body Burden
Average Daily Intake
Natural Pollution Sources
Artificial Pollution Sources
Environmental Fate
Environmental Biodegradation
Environmental Abiotic Degradation
Environmental Bioconcentration
Soil Adsorption/Mobility
Volatileization from Water/Soil
Environmental Water Concentrations
Effluent Concentrations
Sediment/Soil Concentrations
Atmospheric Concentrations
Food Survey Values
Plant Concentrations
Fish/Seafood Concentrations
Animal Concentrations
Milk Concentrations
Other Environmental Concentrations

Environmental Standards & Regulations
FIFRA Requirements
Acceptable Daily Intakes
TSCA Requirements

CERCLA Reportable Quantities
RCRA Requirements
Atmospheric Standards
Clean Water Act Requirements
Federal Drinking Water Standards
Federal Drinking Water Guidelines
State Drinking Water Standards
State Drinking Water Guidelines
Soil Standards
FDA Requirements
Allowable Tolerances

Chemical/Physical Properties
Molecular Formula
Molecular Weight
Color/Form
Odor
Taste
Boiling Point
Melting Point
Corrosivity
Critical Temperature & Pressure
Density/Specific Gravity
Dissociation Constants
Heat of Combustion
Heat of Vaporization
Octanol/Water Partition Coefficient
pH
Solubilities
Spectral Properties
Surface Tension
Vapor Density
Vapor Pressure
Relative Evaporation Rate
Viscosity
Other Chemical/Physical Properties

Chemical Safety & Handling
Hazards Summary
DOT Emergency Guidelines
Odor Threshold
**HSDB Search Exercises**

**Search Example:** What are the human health effects of *bisphenol A* residue in plastic bottles?

**Suggested Solution:**

- Go to toxnet.nlm.nih.gov
- Click HSDB in the Select Database column
- Type *bisphenol a* in the search box
- Click the Search button

- Click BISPHENOL A

- Review Human Health Effects information in the right frame
Click the **Basic Search** button at the top of the page to prepare for the next search.

**Exercise 1:** What chemicals are welders potentially exposed to?

**Suggested Solution:**
- Type **welders** in the search box
- Click the **Search** button
- Review record(s) of your choice
- Click the **Basic Search** button at the top of the page to prepare for the next search

**Exercise 2:** What human health effects are associated with the recent BP crude oil spill in the gulf coast? What cleanup methods are recommended for the oil?

**Suggested Solution:**
- Type **crude oil** in the search box
- Click the **Search** button
- Click **Crude Oil**
- Click **Human Health Effects** in the Table of Contents frame on the left
- Review the information in the right frame
- Click **Cleanup Methods** under **Chemical Safety & Handling** in the Table of Contents frame
- Review the information in the right frame
- Click the **Basic Search** button at the top of the page to prepare for the next search

**Exercise 3:** Using limits, find chemical warfare agents that have a record in HSDB. Limit your search to major uses under Manufacturing/Use Information.

**Suggested Solution:**
- Click the **Limits** button at the bottom of the search box
- Type **chemical warfare** in the search box
- Select “exact words” and “the phrase” below the search box
- Click the plus (⊕) icon to expand the Manufacturing/Use Information field
Click to check the box next to Major Uses

Click the **Search** button

Examine the use field text. Results may contain chemicals used against chemical warfare agent exposure.

Review a record of your choice
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Household Products Database

Household Products Database (HPD) contains links for over 10,000 consumer brands of household products to health effects from Material Safety Data Sheets (MSDS) provided by the manufacturers.

HPD is designed to help answer the following typical questions:

- What are the chemical ingredients and their percentage in specific brands?
- Which products contain specific chemical ingredients?
- Who manufactures a specific brand? How do I contact this manufacturer?
- What are the acute and chronic effects of chemical ingredients in a specific brand?

Searching Household Products Database

The HPD is divided into four categories: Products, Manufacturers, Ingredients, and Health Effects. Navigate to a category by clicking the appropriate tab at the top of the page.
Search by using the Quick Search box on the home page or by selecting the Advanced Search link for a more detailed search. Clicking the Health Effects tab will bring up the Advanced Search screen with the Health Effects category selected for searching.

Browse by product category or alphabetically by product names, types of products, manufacturers, or ingredients (see left sidebar).

**Additional Resources**

For further information, we recommend these additional resources:

**MSDS Information Resources**

- SIRI MSDS Archive
  [hazard.com/msds](hazard.com/msds)
- MSDSprovider: Free Access to Manufacturer-Direct MSDSs
  [www.msdsprovider.com](www.msdsprovider.com)

**Government Information Resources**

- OSHA’s MSDS Regulation – Hazard Communication 1910.1200
- Read the Label First! Campaign (EPA)
  [www.epa.gov/pesticides/label](www.epa.gov/pesticides/label)
- Household Hazardous Waste (EPA)
  [www.epa.gov/epawaste/conserve/materials/hhw.htm](www.epa.gov/epawaste/conserve/materials/hhw.htm)

**From the National Library of Medicine**

- TOXNET—databases in toxicology and environmental health
- Tox Town—an interactive guide to commonly encountered toxic substances
  [toxtown.nlm.nih.gov](toxtown.nlm.nih.gov)

**Product Recalls**

- Product Safety and Recall Lists
Household Products Database Search Exercises

Search Example: How can I find information about specific brands of teeth whiteners, including their manufacturing information, ingredients, and health effects?

Suggested Solution:

- Go to hp.nlm.nih.gov
  - Click Personal Care

  - Click Oral Hygiene in the Personal Care column

  - Click teeth whitener in the Type column

  - Click the Product Name of your choice and review the product information

- Click the Home tab to prepare for the next search
Exercise 1: Using Quick Search locate products containing *panthenol*.

Suggested Solution:
- **Type** `panthenol` in the Quick Search box
- **Click** the **Go** button
- **Click** `Panthenol` on the **search results page**
- **Review** the information under “Products that contain this ingredient”

Exercise 2: What household products are associated with asthma?

Suggested Solution:
- **Click** the **Health Effects** tab
- **Type** `asthma` in the search box
  - By default, the search will be conducted in all product categories.
- **Select** `Inside the Home` from the **All Product Categories** pull-down menu
- **Click** the **Search** button and view the list of products
- **Click** a product of your choice and review the information under **Health Effects**

Exercise 3: What ant killers contain *diazinon*?

Suggested Solution:
- **Click** the **Ingredients** tab
- **Click** `D`
- **Click** `diazinon` and view the list of products

Exercise 4: Conduct a search on a topic of your choice.
TRI and TOXMAP
Toxics Release Inventory

The Toxics Release Inventory (TRI) is a publicly available resource of the U.S. Environmental Protection Agency containing detailed information on approximately 650 chemicals and chemical categories which over 23,000 U.S. industrial and federal facilities manage through disposal or other releases, recycling, energy recovery, or treatment. This inventory was established under the Emergency Planning and Community Right to Know Act of 1986 (EPCRA) and was expanded by the Pollution Prevention Act of 1990. Since 1987, TRI’s reporting data covers air, water, land, and underground injection releases as well as transfers to waste sites.

Searching TRI

Search TRI by chemical or other name, chemical name fragment, Chemical Abstracts Service (CAS) Registry Number, and/or subject terms. By default, the system adds synonyms and CAS numbers to chemical searches. Use truncation (*), Boolean operators (AND, OR, NOT), nested parentheses, and limits to refine your search results.

TRI currently contains data from 1987 through 2008. By default the system will search the most current year. You can also limit your search with the following criteria:

- Facility Name
- Facility Location
  - Select State, City/State, County/State, or Zip
• TRI Reporting Form Type
  ▪ Ability to search for either Form R or Form A or both

• Standard Industrial Classification Code or North American Industry Classification System Code
  ▪ Separate multiple entries with commas

• Weight in pounds (Greater Than)

• Type of release (air, water, land, underground injection, disposal, and production-related waste)

With the Browse the Index feature, the system returns a list of index terms related to the search term entered and the number of records containing that term. Select one or more index terms and click the Select button for the search results. Scan the index above or below the original display by clicking the Up or Down button.

**TRI Search Results**

Your initial retrieval is displayed in relevancy ranked order as a list of abbreviated records with facility name in blue and hot-linked, chemical name, and city and state where the facility is located. Relevancy ranking is based on the number of individual search terms occurring in a document, the number of times each search term occurs in a document, the rarity of the search terms within the database, and the nearness of search terms to each other. Records containing combinations of search terms tend to be ranked higher than records with isolated occurrences of search terms.

The Record screen is organized into three sections:

1. Navigation buttons at the top of the screen allow you to link to Other Files (NLM databases), Modify Search, Download, return to the Basic Search screen, and more.

2. A Table of Contents in the left frame allows you to choose categories and fields for display.

3. Data is shown in the right frame—Click the Map it with TOXMAP button to visually explore on-site releases in TOXMAP

**Additional Resources**

For further information, we recommend these additional resources:

• TRI Fact Sheet
  nlm.nih.gov/pubs/factsheets/trifs.html
TOXMAP is a Geographic Information System (GIS) that uses maps of the United States to help users visually explore data from the Environmental Protection Agency’s Toxics Release Inventory (TRI) and Superfund programs. TOXMAP helps users create nationwide, regional, or local area maps showing where TRI chemicals are released on-site into the air, water, and ground. Maps can also show locations of Superfund sites on the National Priorities List (NPL). The NPL guides the federal government in determining which sites should be investigated. It is updated on a regular basis.

Map Features

TOXMAP offers several ways to create maps: using the tabs and sub-tabs along the top of the page, the Quick Search box on the home page, and the Map Controls below each created map. TOXMAP can create several types of maps:

- TRI Facilities
- TRI Chemical Releases
- TRI Chemical Trends
- Superfund Maps
- Combination (Combo) Maps
- Search (Advanced)
TOXMAP also overlays map data such as:

- U.S. Census Data—1990 and 2000 demographics (population, ethnicity, age, gender ratio)
- Income Data—per capita personal income
- Health Data—mortality data for cancer and various causes
- Reference Data—cities, roads, hospitals, federal land, and urban areas

DISCLAIMER: The co-occurrence of a substance and a particular health problem does not by itself imply an effect on human health by that substance.

**Searching and Creating Maps in TOXMAP**

TOXMAP’s **Quick Search** feature on the home page allows you to search TRI and Superfund data by chemical and to zoom the resulting map to a specific city, state, or zip code. More advanced search options are available by clicking the **More search options...** link or by selecting the **Search** tab at the top of the page.

The Search page allows users to search a chemical CAS/RN, TRI facility name/ID, release year ranges, release medium, release amount, Superfund NPL site name/ID/status, and Hazard Ranking System (HRS) score. You can also select specific geographic regions. Release color coding is calibrated only for releases in that region rather than for the entire nation.
Additional Resources

For further information, we recommend these additional resources:

- TOXMAP Tour
  toxmap.nlm.nih.gov/toxmap/tour/index.html

- TOXMAP Fact Sheet

- Online Tutorial: TOXMAP Basics
  toxmap.nlm.nih.gov/toxmap/tour/misc/ToxmapBasics.html

Staying Connected

TRI/TOXMAP Search Exercises

Search Example: Was any benzene released to the environment in North Carolina in 2008? Map the releases in TOXMAP.

Suggested Solution:

- Go to toxnet.nlm.nih.gov
- Click TRI in the Select Database column
- Type benzene in the Chemical Name or CAS Registry Number search box
  - TRI2008 is selected by default
- Type NC in the Facility Location search box
  - State is selected by default
- Click the Search button
- Click the Map it with TOXMAP button
- Select NC from the ZOOM TO pull-down menu to the left of the map
- View the map
The exercises in this section have been designed to be searched in sequence, beginning with a basic search in TRI and moving to TOXMAP.

**Exercise 1:** How many pounds of *methanol* were released to the environment in your state in 2008?

**Suggested Solution:**
- **Type** *methanol* in the Chemical Name or CAS Registry Number search box.
- **Type** *your state* in the Facility Location search box.
- **Click** the Search button.
- **Click** the Calculate Totals button at the left of the page.
- **Review** the results.
- **Click** the Modify Search button at the left of the page to prepare for the next search.

This returns you to the TRI search screen with all the information you entered retained.

**Exercise 2:** Did any facilities in your state release more than 100 pounds of *methanol* to the air in 2008? Review the first record. Next, map the releases in TOXMAP and review the summary of releases for the first 10 facilities.

**Suggested Solution:**
- **Click** 100 lbs from the Greater Than pull-down menu at the bottom of the limits section.
- **Select** Total On-Site Air Release from the for pull-down menu.
Click the **Search** button
Click the first facility in the list of facility/substance names
Click **Total Air Release** in the Table of Contents under **On-site Releases of Chemical**
Review the information in the right frame
Click the **Search Results** button in the header frame at the top of the page
Click the **Map it with TOXMAP** button ( )
Select **your state** from the **ZOOM TO** pull-down menu to the left of the map
Click **TRI on-site release details** to the right of the map below **Map Details**
View the map and scroll down to review a summary of the releases for each facility

**Exercise 3:** Link to NLMs Hazardous Substances Data Bank (HSDB) to explore the human health effects of *methanol*.

**Suggested Solution:**
Click **Human Health Effects** at the top left of the page in the NLM searches list under **Information about this Chemical**
This takes you directly to the **Human Health Effects** section of the methanol record in HSDB.
Review the information in the right frame and then close the HSDB window

**Exercise 4:** Use the 2000 U.S. Census data to overlay detailed demographic information about populations of Black or African American groups within the search area.

**Suggested Solution:**
Click **U.S. Census Data** under **Map Other Data**, to the left of the map
Select **“One Race: Black or African American”** under **2000 Race**
Click the **Submit** button at the bottom of the page
Click the **show values** link below the map to the right of **“Legend”**
Review the displayed information
Click the NLM logo in the top left corner of the page to prepare for the next session
Tox Town

toxtown.nlm.nih.gov
Tox Town

Tox Town provides an introduction to toxic chemicals and environmental health risks that may be encountered in everyday life, in everyday places. Tox Town allows visitors to tour a Town, City, Farm, Port, or US-Mexico Border community to identify common environmental hazards. It is a companion to the extensive information in the TOXNET collection of databases that are typically used by toxicologists and health professionals.

Tox Town is highly interactive, with graphics, animation, and sound to add interest to learning about connections between chemicals, the environment, and the public's health. It is recommended for high school and college students, educators, and the concerned public. This is an excellent resource for health educators who are asked to find easy-to-understand information about environmental toxins in their community.

The Tox Town Web site is designed to give you information on:

- Non-technical descriptions of chemicals
- Links to selected, authoritative chemical information on the Internet
- How the environment can impact human health
- Internet resources on environmental health topics
**Tox Town Search Exercises**

Search Example: Search the Town and find general information about molds.

Suggested Solution:

1. Go to toxtown.nlm.nih.gov
2. Click Town
3. Click Homes below the town scene
4. Click Molds from the list of Web Links from MedlinePlus to the right of the illustrations
Exercise 1: What are some of the health effects associated with farm workers who plant and harvest crops?

Suggested Solution:
Click **Farm**
Roll your mouse over the field and click when **Crop Fields** appears
Click **Farm Health and Safety** from the list of **Web Links from MedlinePlus** to the right of the illustration
Review the information and close the pop-up window
Click **Home** in the top left corner to prepare for the next search

Exercise 2: What are some of the concerns associated with wildfires along the U.S.-Mexico Border?

Suggested Solution:
Click **US-Mexico Border**
Roll your mouse over the mountain to the left and click when **Wildfires** appears
Click **Why are wildfires a concern?** to the right of the illustration
Review the information and close the pop-up window
Exercise 3: Utilizing the alphabetic index, find information on crude oil.

Suggested Solution:

- Click **A-Z Index**
- Click **Crude Oil** under **Oil Spill**
- Review the information
- Click the NLM logo to prepare for the next search
NLM Gateway
NLM Gateway

NLM Gateway is a Web-based system that lets users search simultaneously in multiple retrieval systems at the National Library of Medicine, including PubMed and MedlinePlus. The Gateway also provides a search interface for meeting abstracts.

gateway.nlm.nih.gov

Searching NLM Gateway

For a quick search, type your search term or phrase into the search box on the home page. Gateway processes search terms through a spell checker and offers suggested corrections.

To apply search limits and settings for results, downloading, and display, click Limits/Settings on the home page. Type your search term(s) into the search box and apply limits. Available search limits are English Only, Subsets, and Publication dates.
The list of collections that Gateway searches is arranged in three categories.

- **Bibliographic Resources** include MEDLINE/PubMed, Meeting Abstracts Developmental and Reproductive Toxicology (DART®), TOXLINE® subset, NLM Catalog, and the Bookshelf

- **Consumer Health Resources** include MedlinePlus, ClinicalTrials.gov, DIRLINE, Genetics Home Reference, and Household Products Database

- **Other NLM Resources** include Health Services Research Project (HSRProj,) Hazardous Substances Data Bank (HSDB®), Chemical Carcinogenesis Research Information System (CCRIS), Genetic Toxicology Data Bank (GENE-TOX), Integrated Risk Information System (IRIS), International Toxicity Estimates for Risk (ITER), Online Mendelian Inheritance in Man, and Profiles in Science

**Search Results**

When the search is completed, NLM Gateway displays a Results Summary page with the number of records found in each of the databases, listed by category. To explore the results category, click the desired database link.

**My Locker**

“My Locker” is a permanent place to store selected search items for printing, downloading, or ordering. A maximum of 500 items may be stored in the Locker. You must register and create a user ID and password to use the Locker. Registration is free.

**Additional Resources**

For further information, we recommend these additional resources:

- NLM Gateway Brochure
  nnlm.gov/training/resources/gwtri.pdf

- NLM Gateway Training Manual
NLM Gateway Search Exercises

Search Example: Locate information on cardiovascular disease.

Suggested Solution:

- Go to gateway.nlm.nih.gov
- Type cardiovascular disease in the search box
- Click the Search button
- Review record(s) of your choice and close pop-up window
- Click Home at the top of the page to prepare for the next search

Exercise 1: Is there any evidence that the flu vaccine can cause an increase in viral loads?
Limit the search to the AIDS subset. Review the MEDLINE/PubMed and ClinicalTrials.gov records.

Suggested Solution:

<table>
<thead>
<tr>
<th>Type</th>
<th>flu vaccine viral loads in the search box</th>
</tr>
</thead>
<tbody>
<tr>
<td>Click</td>
<td>the Limits/Settings link at the top left of the page</td>
</tr>
<tr>
<td>Select</td>
<td>AIDS from the subset pull-down menu and click “Apply”</td>
</tr>
<tr>
<td>Click</td>
<td>the Search button</td>
</tr>
<tr>
<td>Click</td>
<td>MEDLINE/PubMed – journal citations, abstracts under Bibliographic Resources</td>
</tr>
<tr>
<td>Review</td>
<td>citation(s) of your choice</td>
</tr>
<tr>
<td>Click</td>
<td>the Results to the left of the page to return to the results summary page</td>
</tr>
</tbody>
</table>
Click ClinicalTrials.gov under Consumer Health Resources
Review record(s) of your choice and close the pop-up window or click the browser's back button
Click the checkbox next to Limits: AIDS
Click the Clear button next to the search bar to prepare for the next search

Exercise 2: Can exposure to secondhand smoke cause respiratory diseases? Review record(s) of your choice in MEDLINE/PubMed and Health Services Research Projects.

Suggested Solution:
Type secondhand smoke AND respiratory in the search box
Click the Search button
Click MEDLINE/PubMed under Bibliographic Resources
MEDLINE/PubMed results are from the medical literature
Review record(s) of your choice
Click HSRProj in the left sidebar under Other Resources
Review record(s) of your choice
Click Home at the top of the page and click the clear button to prepare for the next search

Exercise 3: I need to find information on hospice care. Limit the search to the Bioethics subset.

Suggested Solution:
Type hospice care in the search box
Click the Search button
Click Limits/Settings at the top of the page
Select Bioethics from the subset pull-down menu
Click Apply
Click the Search button
Review record(s) of your choice
Additional Resources
Selected Internet Resources in Health

Agency for Healthcare Research and Quality
ahrr.gov
—Although this Web site is primarily for health care professionals, it also contains a section on consumer health. Other topics include Clinical Information, Funding Opportunities, Research Findings, Specific Populations, Public Health Preparedness, Data & Surveys, and Quality and Patient Safety.

American Health Information Management Association (AHIMA)
myphr.com
—Provides resources on how to access and understand your medical records.

American Medical Association
ama-assn.org
—Information for physicians, doctor and hospital finders, the Journal of the American Medical Association, and health and fitness information.

BioMed Central
biomedcentral.com/browse/journals
—Free access to a wide variety of over 100 journals and other services. The Quick Search feature allows searching of not only BioMed Central, but also PubMed and PubMed Central.

CDC Diseases and Conditions
cdc.gov/DiseasesConditions
—An index of illnesses, conditions, concerns, and programs from the Center for Disease Control and Prevention. Includes links to relevant publications, news and events, and related CDC organizations.

CDC Environmental Health
cdc.gov/environmental
—Inform the general public about environmental health. Topics include food safety, extreme cold, hydrocarbons, lead poisoning, mold, and carbon monoxide. Under Featured Items see links for upcoming events and recently released reports on environmental health topics. From the Centers for Disease Control and Prevention.

Center for Drug Evaluation and Research
www.fda.gov/cder
—This site includes information about prescription and over-the-counter drugs, drug safety, and links to major drug information pages. From the U.S. Food and Drug Administration.
ClinicalTrials.gov
clinicaltrials.gov
—Developed by the National Institutes of Health through its National Library of Medicine to provide patients, family members, and members of the public current information about clinical research studies. It is updated regularly.

CNN Health
cnn.com/HEALTH
—Health links to Cable News Network news stories regarding health concerns.

Directory of Open Access Journals
www.doaj.org
—Provides access to free, full text, quality controlled scientific and scholarly journals. Journals may be browsed by title or subject, and many are searchable at article level.

Doctor’s Guide
docguide.com
—A comprehensive source of links to medical information of interest to physicians, as well as information and resources a doctor may want to recommend to patients. Includes news stories, a list of webcasts and continuing medical education (CME) opportunities, Case Studies, and the Congress Resource Center, a database of meetings with links to relevant travel planning information.

U.S. Food and Drug Administration
www.fda.gov
—Provides links to FDA resources, including research information on food, drugs, biologics, cosmetics, medical devices, tobacco, and toxicology.

Health Care Language Services Implementation Guide
hclsig.thinkculturalhealth.org
Guide to help health care organizations implement effective language access services to meet the needs of their patients with limited English proficiency.

Health Disparities/CDC
cdc.gov/omhd/Topic/HealthDisparities.html
—Links to extensive information on health disparities organized on the home page by Topics, Quick Links, Key Resources, Programs and Campaigns, and more.

Health Disparities: A Selected Bibliography
cdc.gov/nccdphp/publications/healthdisparities/
**Health Hotlines**

—A National Library of Medicine online database of health-related organizations operating toll-free telephone services.

**Health Literacy**
[hrsa.gov/publichealth/healthliteracy](http://hrsa.gov/publichealth/healthliteracy)

—The U.S. Department of Health and Human Services, Health Resources and Services Administration, offer this free online training for health providers titled *Unified Health Communication (UHC): Addressing Health Literacy, Cultural Competency, and Limited English Proficiency*.

**Healthfinder**
[healthfinder.gov](http://healthfinder.gov)

—A Web site of the U.S. government’s links to dependable consumer health information.

**Healthy People 2010**
[healthypeople.gov](http://healthypeople.gov)

—A health initiative for the nation coordinated by the Office of Disease Prevention and Health Promotion of the U.S. Department of Health and Human Services. The overarching goals of Healthy People 2010 are to increase quality and years of healthy life and to eliminate health disparities. It is designed to be used by people on many levels—personal, community, state, and national—to improve health.

**Healthy People 2010 Information Access Project**
[phpartners.org/hp](http://phpartners.org/hp)

—A Web resource developed by the National Library of Medicine with assistance from subject experts and public health librarians. The site provides “pre-formulated” PubMed searches for selected Healthy People 2010 focus areas to make current information and evidence-based strategies related to the HP2010 objectives easier to find. Also provides links to relevant full-text resources on NLMs Web site. This site is a pilot project funded by the National Library of Medicine with assistance from the Public Health Foundation and the National Network of Libraries of Medicine. Feedback is requested for project expansion to all HP2010 focus areas.

**Healthy Schools Healthy Youth**
[cdc.gov/healthyyouth/](http://cdc.gov/healthyyouth/)

—The Centers for Disease Control and Prevention’s Division of Adolescent and School Health Web site provides tools and resources to promote school health.

**Medical Library Association (MLA): Deciphering Medspeak**
[mlanet.org/resources/medspeak.index](http://mlanet.org/resources/medspeak.index)

—A resource created by MLA which translates common medical terms to help consumers make informed health decisions.
Medical Matrix
medmatrix.org/reg/register.asp

—A physician peer-reviewed list with useful topical and specialty categorizations. It contains good links to MEDLINE, CME, and online publications. Registration is required.

MedicineNet
medicinenet.com

—A network of physician educators dedicated to providing up-to-date, quality medical information for the public. Links from this site include subject areas such as “Hot News!,” “Diseases & Treatments,” “Pharmacy Drugs,” “Ask The Experts,” “Medical Dictionary,” and “First Aid Information.”

MedlinePlus
medlineplus.gov

—A consumer health Web site from the National Library of Medicine, providing health professionals and consumers a wealth of authoritative, up-to-date medical information on over 800 diseases and medical conditions. Resources include lists of hospitals and physicians, a medical encyclopedia, a medical dictionary, extensive information on prescription and non-prescription drugs, health information from the media, and links to thousands of clinical trials. MedlinePlus is updated daily. Available in English and Spanish.

Medscape®
medscape.com

—Medscape, from WebMD®, offers medical specialists, primary care physicians, and other health professionals integrated medical information and education tools. Key features include “physician-optimized” MEDLINE, CME activities, conference coverage, daily professional medical news in your specialty, and the Internet’s first primary-source medical journal, Medscape General Medicine. A one-time, free registration allows Medscape to automatically deliver you to the specialty page (which you can change at any time) that best fits your profile.

My Family Health Portrait
familyhistory.hhs.gov

—A tool from the U.S. Surgeon General that allows users to create a family tree (drawing) and personalized family health history report from any computer with an Internet connection and an up-to-date browser. Focus is on six common diseases: heart disease, stroke, diabetes, colon cancer, breast cancer, and ovarian cancer. Other conditions that are of particular interest to the family can also be included. The drawing and the report can be printed and shared with family members and personal physicians. Also available in Spanish.

National Library of Medicine
nlm.nih.gov

—The National Library of Medicine (NLM), on the campus of the National Institutes of Health in Bethesda, Maryland, is the world’s largest medical library. The library collects materials and provides information and research services in all areas of biomedicine and health care.
National Library of Medicine Free Biomedical Literature Resources
nlm.nih.gov/docline/freehealthlit.html
—This National Library of Medicine Web site offers links to a number of free biomedical literature resources, including PubMed, NCBI Bookshelf, the Public Library of Science, BioMed Central, and the Directory of Open Access Journals.

National Medical Association
nmanet.org
—Focuses primarily on health issues related to African Americans and medically underserved populations. Links include Continuing Medical Education (CME), Journal of the National Medical Association (JNMA), and Health Policy.

National Women’s Health Information Center
womenshealth.gov
—This site offers information on more than 800 health topics specifically for women and staffs a call center. Includes information on special populations and information in Spanish. From the U.S. Department of Health and Human Services Office on Women’s Health.

NIH Health Information
health.nih.gov
—From the National Institutes of Health. Includes quick links to Child & Teen Health, Men’s Health, Minority Health, Seniors’ Health, Women’s Health, and Wellness & Lifestyle.

NursingNet
nursingnet.org
—Provides a forum for medical professionals and students to obtain and disseminate information about nursing and medically related subjects.

Office of Disease Prevention and Health Promotion, U.S. Department of Health and Human Services
health.gov/communication/literacy
—Provides consumers and patients with tools for improving health literacy and links to U.S. government Web sites for related resources.

Office of Minority Health, U.S. Department of Health and Human Services
omhrc.gov
—Serves as a national resource and referral service on minority health issues for health professionals, consumers, grantseekers, students, and the media. Online resources include publications, funding announcements, and links to federal/state/local government agencies, educational institutions, non-profit/national advocacy/private organizations, and minority group health sites.
Partners in Information Access for the Public Health Workforce
[pphpartners.org](http://phpartners.org)

— A collaboration of U.S. government agencies, public health organizations, and health science libraries. The site provides links to health resources in the areas of Health Promotion and Education, Literature and Guidelines, Health Data Tools and Statistics, Grants and Funding, Education and Training, Legislation, Conferences and Meetings, Finding People, Discussion and E-mail Lists, and Jobs and Careers.

Public Health Information and Data Tutorial
[pphpartners.org/tutorial](http://phpartners.org/tutorial)

— This tutorial from Partners in Information Access for the Public Health Workforce provides instruction on issues related to information access and management. Clear connections are established to recognized competencies in public health, and examples are included which represent much of the diversity inherent in the practice of public health. Content contributors and authors represent city, county, state, and federal agencies.

National Clearinghouse for Alcohol and Drug Information
[store.samhsa.gov/home](http://store.samhsa.gov/home)

— Current and comprehensive information about substance abuse prevention and addiction treatment from the Substance Abuse and Mental Health Services Administration (SAMHSA).

Public Library of Science
[plos.org/journals](http://plos.org/journals)

— Provides free online access to original published reports of ideas, discoveries, and research results in the life sciences and medicine. The journals are searchable online and also available in print.

PubMed
[pubmed.gov](http://pubmed.gov)

— One of the National Library of Medicine’s free search services. It provides access to over 20 million citations in MEDLINE and about HIV/AIDS, with links to participating online journals.

Rural Assistance Center State Resources
[raconline.org/states](http://raconline.org/states)

— The Rural Assistance Center (RAC) is a health and human services information portal established by the U.S. Department of Health and Human Services’ Rural Initiative. Its objective is to provide rural communities and stakeholders access to the full range of programs, funding, and research available to them to enable them to provide quality health and human services to rural residents.

Virtual Hospital
[uuihealthcare.com/vh](http://uuihealthcare.com/vh)

— After 13 years of service, on January 1, 2006, Virtual Hospital and Virtual Children’s Hospital® ceased operations due to a lack of funding. However, the patient information is now available on the
University of Iowa’s UI Health Care.com Web site. The information is prepared and reviewed by health professionals.

**WebMD**
[webmd.com](http://webmd.com)

—Provides a wide range of online health information for health care professionals and consumers. WebMD Health® includes consumer health information, health and wellness news, support communities, and interactive health management tools. Medscape® from WebMD provides clinical information and educational tools for health care professionals, including online continuing education, online coverage of medical conferences, access to over 100 medical journals, and daily medical news.

**WholeHealthMD**
[wholehealthmd.com](http://wholehealthmd.com)

—A complementary and alternative medicine Web site that is dedicated to providing the best in integrative health and wellness solutions. All material has been reviewed and developed by board-certified doctors. The Healing Center section of the site provides overviews on a wide range of conditions. Other sections include Healing Kitchen, Expert Opinions, Reference Library, News and Perspectives, and Supplements.
Selected Internet Resources in HIV/AIDS

AIDS.GOV
aids.gov

AIDS.ORG
aids.org

AIDS Action Committee of Massachusetts
aac.org

AIDS Education Global Information System (AEGIS)
www.aegis.org

AIDS History Project
library.ucsf.edu/collections/archives/manuscripts/aids

AIDS Images Library
aids-images.ch

AIDS Information and Controversy 1985–1995
aidsinfobbs.org

AIDS InfoNet
aidsinonet.org

AIDS Project Los Angeles
apla.org

AIDS Resource List
specialweb.com/aids

AIDS Treatment Data Network
atdn.org

AIDS Treatment News
thebody.com/content/art31573.html

AIDSinfo
aidsinfo.nih.gov

aidsinfonyc.org
aidsinfonyc.org

Aidsmap
aidsmap.com
All the Virology on the WWW
virology.net/garryfavweb.html

The Alternative Medicine Homepage
pitt.edu/~cbw/altm.html

American Foundation for AIDS Research (amfAR) Global Link
amfar.org/globallink

American Red Cross
redcross.org

Australian Federation of AIDS Organisations
afao.org.au

The Body
thebody.com

California AIDS Clearinghouse
lagaycenter.org

Canadian AIDS Treatment Information Exchange
catie.ca/eng

Canadian HIV Trials Network
www.hivnet.ubc.ca/e/home/

Center for AIDS Prevention Studies
caps.ucsf.edu

Centers for Disease Control and Prevention (CDC) HIV/AIDS
cdc.gov/hiv

Center for Mental Health Research on AIDS (CMHRA)
nimh.nih.gov/about/organization/dahbr/center-for-mental-health-research-on-aids/

Critical Path AIDS Project
critpath.org

GMHC on the Web Gay Men’s Health Crisis
gmhc.org

Healthfinder.gov
healthfinder.gov
Health Resources and Services Administration (HRSA) HIV/AIDS Program: Caring for the Underserved

hab.hrsa.gov

Health Services/Technology Assessment Text (HSTAT)
ncbi.nlm.nih.gov/books/bv.fcgi?rid=hstat

HIV Databases
hiv.lanl.gov/

HIV InSite
hivinsite.ucsf.edu

HIV/AIDS Surveillance (U.S. Census Bureau)
www.census.gov/ ipc/www/hivaidsn.html

HIV/AIDS Vaccines
www.niaid.nih.gov

HIVandHepatitis.com
hivandhepatitis.com

HIVdent (dental information)
www.hivdent.org

HIVpositive.com
hivpositive.com

How to Find Reliable HIV/AIDS Treatment Information on the Internet

International AIDS Society
www.iasociety.org

International Association of Physicians in AIDS Care
iapac.org

Johns Hopkins HIV Guide
www.hopkins-aids.edu

Joint United Nations Programme on HIV/AIDS
unaid.org

MedlinePlus AIDS
medlineplus.gov/aids
Medscape HIV/AIDS
medscape.com/hiv

National AIDS Treatment Advocacy Project (NATAP)
natap.org

National Clearinghouse for Alcohol and Drug Information
ncadi.samhsa.gov

National HIV/AIDS Clinicians’ Consultation Center (NCCC)
nccc.ucsf.edu

National Institute of Allergy and Infectious Diseases (NIAID)
www.niaid.nih.gov

National Institutes of Health (NIH) Office of AIDS Research (OAR)
www.oar.nih.gov

National Library of Medicine HIV/AIDS Portal
sis.nlm.nih.gov/hiv.html

National Minority AIDS Council
nmac.org

National Prevention Information Network
cdcnpin.org

New York Academy of Medicine, HIV/AIDS Information Outreach Program
aidsnyc.org

NIAID Division of Acquired Immunodeficiency Syndrome
www.niaid.nih.gov/about/organization/daids/

Partners in Information Access for the Public Health Workforce—HIV
phppartners.org/hp/hiv.html

Positive.org
positive.org/Home

Project Inform
projinf.org

PubMed
pubmed.gov

PubMed Training Manual (NLM)
nlm.nih.gov/pubs/web_based.html
PubMed Tutorial (NLM)
nlm.nih.gov/bsd/disted/pubmedtutorial/

Rural Center for AIDS/STD Prevention
indiana.edu/~aids

San Francisco AIDS Foundation
sfaf.org

Social Security Administration
ssa.gov

The TB/HIV Research Laboratory at Brown University
research.brown.edu/research/labs.php

U.S. Department of Health and Human Services
aids.gov

U.S. Food and Drug Administration, HIV and AIDS
www.fda.gov/ForConsumers

World Health Organization, Tuberculosis
who.int/tb/en/

Yahoo AIDS/HIV Resources
dir.yahoo.com/health/diseases_and_conditions/aids_hiv
Savvy Health Surfing
Questions to Ask About Health-related Web Sites

Authority and Accuracy
- Who is the author or source?
- Can you verify their credentials?
- Do they represent a recognized organization or is it a personal page?
- Is affiliation information provided?
- Does the Web site have an advisory board?
- Can the information be verified through links to the sources?
- If the site offers advice, do qualified health professionals provide it?
- Is contact information provided?

Coverage
- Who is the intended audience for this site?
- What is the purpose of the site?
- Does the site promote or advocate a viewpoint?
- Is the depth of coverage on the site reasonable?
- Is the information primary or secondary?
- If appropriate, are there links to additional information?

Currentness
- When was the site created?
- When was the site last updated?
- When was the data or information collected?
- Are the links kept up to date?

Objectivity
- Is the purpose of the site clearly stated?
- Is the information presented objectively?
- Is any sponsorship clearly acknowledged?

Design Features
- Is the site well-organized and user-friendly?
- Is the site easy to navigate?
- Is the graphic layout of the site pleasing? Is it clear and uncluttered?
- Are there any features that increase or decrease usability? Do you need additional viewers or plug-ins?
- Is there an internal search engine on the site?
- Are there customizable options?
- Can you ask questions or provide feedback?
- Is the site accessible to individuals with disabilities?
Contacting the National Library of Medicine for Database Assistance

Toll-free: 888-FIND-NLM (346-3656)
E-mail: custserv@nlm.nih.gov
TOXNET E-mail: tehip@teh.nlm.nih.gov

Online Resources

|-------------------------|---------------------------------------------------------------------------------------------------|

See also Help and FAQ links on each database home page.

The National Network of Libraries of Medicine

Toll-free number for all Regional Medical Libraries: 800-338-7657
Web site: http://nnlm.gov

Instructors

<table>
<thead>
<tr>
<th>LaFrancis McMurray</th>
<th>Wilma Templin-Branner</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oak Ridge Institute for Science and Education</td>
<td>Oak Ridge Institute for Science and Education</td>
</tr>
<tr>
<td><a href="mailto:lafrancis.mcmurray@orise.orau.gov">lafrancis.mcmurray@orise.orau.gov</a></td>
<td><a href="mailto:wilma.templin@orise.orau.gov">wilma.templin@orise.orau.gov</a></td>
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</tbody>
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