



## *Fact Sheet*

## *A Wealth of Health Resources Online*

### **www.nih.gov — The Source for Evidence-Based, Reliable Health Information**

The National Institutes of Health (NIH) is a vast repository of valuable health information. Using innovative information technologies, the NIH offers fast and convenient access to scientific knowledge and expertise for researchers, clinicians, and especially patients.

The NIH website ([www.nih.gov](http://www.nih.gov)) provides comprehensive and current data on almost all diseases — their signs and symptoms, prognoses, and evidence-based approaches to treatment and prevention. Over a billion hits to the NIH web sites are recorded each year.

### *Resources*

#### **ClinicalTrials.gov — for Patients, Families, Researchers, Clinicians, and other Health Care Providers**

The ClinicalTrials.gov site <http://clinicaltrials.gov/> provides up-to-date information on federally and privately sponsored clinical studies for a wide range of diseases and conditions. Users can search for clinical trials by disease, location, treatment and other parameters. ClinicalTrials.gov receives over 12 million page views per month and approximately 31,000 visitors each day. The site contains a list of over 36,000 clinical studies sponsored by the NIH, other federal agencies, and private industry, conducted in the U.S. and over 130 other countries.

The NIH, through its National Library of Medicine (NLM), developed the ClinicalTrials.gov site in collaboration with the Food and Drug Administration (FDA), as a result of the FDA Modernization Act of 1997.

#### **MedlinePlus.gov — for Patients, and Families, Researchers, Teachers, and Students**

The NLM MedlinePlus website allows one-stop-shopping for health information. Entering any disease or condition of interest into the MedlinePlus search engine returns a listing of a wide variety of health resources and reliable information from the NIH, other government agencies, and health-related organizations. MedlinePlus also has extensive information about drugs, an illustrated medical encyclopedia, interactive patient tutorials, and the latest health news. In 2006 alone, more than 100 million users viewed 849 million pages.

The NLM also houses several other sites that are tailored to specific needs of various consumer and patient groups. The Genetics Home Reference page (<http://ghr.nlm.nih.gov>), for example, provides an introduction to genes and genetics, and practical information on genetic disorders and inherited conditions.

The NLM has numerous databases on toxicology, including the Household Products Database (<http://hpd.nlm.nih.gov>), which provides information on the health effects of chemicals contained in thousands of common household products, and Tox Town (<http://toxnet.nlm.nih.gov>), a consumer- and child-friendly interactive guide to commonly encountered toxic substances.

#### **Office of Science Education — for Teachers, Students, and the Public**

The Office of Science Education (OSE) was established in 1991 to coordinate science education activities at the NIH, and develop and sponsor science education programs. These programs serve elementary, secondary and college students, teachers, and the public. The OSE develops curriculum supplements and other educational materials related to medicine and research through collaborations with scientific experts at the NIH. The office also establishes national model programs in science education, such as the Mini-Med School and Science in the Cinema. Information on these and other OSE developed educational resources promoting science education can be viewed at <http://science.education.nih.gov/>.

#### **NCBI's GenBank and other Genomic Resources — for Researchers**

Established in 1988 as a national resource for molecular biology information, the NLM's National Center for Biotechnology Information (NCBI) builds databases and tools to archive and analyze the massive amounts of genome research data that are being generated by scientists around the world. Among the NCBI's 40-plus databases is GenBank (<http://www.ncbi.nlm.nih.gov/Genbank>), an annotated collection of all publicly available DNA sequences, including those generated by the Human Genome Project. NCBI's website (<http://www.ncbi.nih.gov>) facilitates the process of research and discovery by linking records and terms to related information across NCBI databases.

In addition to DNA sequences, NCBI's integrated suite of resources includes RNA and protein sequences, flu sequence data, single nucleotide polymorphisms (areas of the genome that have been found to vary among humans), protein structure data, chromosomal aberrations in cancer, genes and gene expression, and more. Virtually all biomedical research labs in academia and industry have benefited from these fundamental tools for scientific exploration.

### **dbGaP — Connecting Clinical and Genetic Data for Researchers and Clinicians**

NCBI's newest database, dbGaP (database of Genotype and Phenotype), brings together in one central location genetic data on study subjects with phenotypic data (observable traits, such as blood pressure measurements, weight, disease status, etc.). Connecting these data provides a framework for researchers to investigate the genetic causes of disease and builds upon the results of large-scale clinical studies and the Human Genome Project. dbGaP was launched in December 2006 with results from an age-related macular degeneration study and a Parkinsonism study; several additional studies will be added over the coming year. The database also is the repository for NIH genome wide association studies, such as the Genetic Association Information Network and the Genes and Environment Initiative.

### **PubMed/MEDLINE — for Researchers, Clinicians, and the Public**

PubMed is the foundation of NLM's effort to disseminate scientific information to clinicians and researchers, streamline the flow of knowledge from bench to bedside, and accelerate the rate of discovery in the nation's labs and research facilities. PubMed searches MEDLINE, a database of some 16 million journal articles in biomedicine from the 1950s to the present. By the beginning of 2007, over 5,200 journals had been indexed in MEDLINE. Through this portal, searchers can easily find abstracts, authors, and links to full publications for almost any biomedical research finding from the past five decades. In 2006, almost one billion online searches were conducted through PubMed. The service is increasingly being used by the general public, as it takes a more active role in researching health issues. With over 600,000 abstracts being added to MEDLINE each year, the NIH constantly strives to improve access to this information and to advance the process of scientific discovery as new technologies and data arise.

### **PubMed Central (and NIH's Public Access Policy) — for the Public, Researchers and NIH**

PubMed Central (PMC) is an online archive of life sciences journal literature. This NCBI database provides free access to the full text of nearly a million articles from more than 300 journals. PMC also is the repository for articles submitted under the NIH's "Public Access Policy" (<http://publicaccess.nih.gov/>). This voluntary policy, implemented in May 2005, strongly encourages all investigators to make their NIH-funded, published research available to the public through PMC within 12 months of journal publication. The Policy benefits: (1) authors and researchers, by providing higher visibility to their research (2) the public, by enhancing their access to research, and (3) the NIH, which will be able to better track its research portfolio and monitor its scientific productivity.

### **GeneTests — Genetic Testing Information for the Public and Healthcare Providers**

The aim of GeneTests is to promote the appropriate use of genetic services in patient care and personal decision making. To this end, GeneTests provides current, authoritative information on genetic testing and its use in diagnosis, management, and genetic counseling ([www.genetests.org](http://www.genetests.org)). The database contains almost 400 detailed gene reviews that include references to clinical testing for more than 1000 diseases in laboratories at some 600 clinics. Educational materials offered on the GeneTests website, including a glossary of over 225 medical genetics terms, are intended to help the public and healthcare providers to better understand genetic counseling and testing. Supported by the NLM, GeneTests is linked from the Entrez Gene and OMIM databases, integrating GeneTests with key NCBI molecular biology resources.

RESOURCE	DESCRIPTION	URL
<b>Cancer Genome Anatomy Project</b>	Gene expression information for normal, precancerous, and cancerous cells	<a href="http://cgap.nci.nih.gov/">http://cgap.nci.nih.gov/</a>
<b>ClinicalTrials.gov</b>	Listing of clinical studies that can be searched by disease, location, and whether they are recruiting subjects.	<a href="http://clinicaltrials.gov/">http://clinicaltrials.gov/</a>
<b>dbGaP</b>	A database of genome wide association studies and other genotype and phenotype data	<a href="http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?db=gap">www.ncbi.nlm.nih.gov/entrez/query.fcgi?db=gap</a>
<b>GenBank</b>	An annotated collection of all publicly available DNA sequences.	<a href="http://www.ncbi.nlm.nih.gov/Genbank/GenbankSearch.htm">http://www.ncbi.nlm.nih.gov/Genbank/GenbankSearch.htm</a>

RESOURCE	DESCRIPTION	URL
<b>GeneTests</b>	A medical genetics information resource for patients, healthcare providers, and researchers.	<a href="http://www.genetests.org">www.genetests.org</a>
<b>MedlinePlus</b>	Health information for patients, families and health care providers.	<a href="http://medlineplus.gov/">http://medlineplus.gov/</a>
<b>National Center for Biotechnology Information</b>	Research databases and analysis tools for molecular biology	<a href="http://www.ncbi.nih.gov">www.ncbi.nih.gov</a>
<b>NIH Homepage</b>	Gateway to all of the sites in this chart, plus information about the NIH mission, Institutes, grant opportunities, news, and Director's initiatives.	<a href="http://www.nih.gov">www.nih.gov</a>
<b>Online Mendelian Inheritance in Man</b>	A catalog of human genetic disorders and genes.	<a href="http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?db=OMIM">http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?db=OMIM</a>
<b>Office of Science Education</b>	Science education programs and materials for elementary, secondary, college students, teachers, and the public.	<a href="http://science.education.nih.gov/">http://science.education.nih.gov/</a>
<b>PubMed Central</b>	Digital archive of full-text articles from biomedical and life sciences journals.	<a href="http://www.pubmedcentral.gov">www.pubmedcentral.gov</a>
<b>PubMed/MEDLINE</b>	Database of abstracts from thousands of biomedical journals.	<a href="http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?DB=pubmed">http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?DB=pubmed</a>
<b>TOXNET</b>	Network of databases on toxicology, hazardous chemicals, and environmental health.	<a href="http://toxnet.nlm.nih.gov/">http://toxnet.nlm.nih.gov/</a>