

## MEDLINEplus Goes Local with “NC Health Info”

*New Feature Lets North Carolinians Link  
to Health Resources in Their Neighborhood*

Since 1998, MEDLINEplus has provided the public with up-to-date, authoritative health information on a broad national scale. But NLM's consumer-friendly site took an exciting step in the grass-roots direction when it “went local” for citizens of North Carolina, Jan. 14th.

At a launch that day at the Pittsboro Memorial Library, a vast array of free health information was unveiled to North Carolinians with the linking of a new website, [www.nchealthinfo.org](http://www.nchealthinfo.org), to NLM's huge MEDLINEplus database. The confidential, advertising-free site puts professionally screened information, illustrations and answers to almost any medical question within reach of any Internet-linked computer. Pittsboro was chosen for the official booting up of the website

in order to emphasize the new Web resource's ability to reach people in every small town and rural community in the state. Of course, people who don't have a computer at home can still use the site at the nearest public library, without charge.

To find local services, MEDLINEplus users (<http://medlineplus.gov>) first select the “Go Local” link from any health topic, choose a North Carolina county or city, and then browse a list of Web links to services. Going the other way, NC Health Info users can find health information related to local services through links to MEDLINEplus.

“This is the first step toward bridging the gap between health information and local health services needed by patients and their families,” said NLM Director Dr. Donald A.B.

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NLM Director Dr. Donald Lindberg greets North Carolina State Health Director Dr. Leah Devlin, as NC State Sen. Joey Hackney looks on.

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# MEDLINEplus Goes Local

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Lindberg, who spoke at the launch. “The public can and should understand the nature of their illnesses and what should be done about them,” he added. He said that, although the information in MEDLINEplus is geared to consumers, it’s highly respected for its medical accuracy.

In fact, Dr. Lindberg continued, research conducted by NLM shows that 20-25 percent of the users of MEDLINEplus are doctors, “probably because not too many know the complete background on 577 diseases.”

The University of North Carolina at Chapel Hill (UNC-CH) Health Sciences Library and School of Information and Library Science created NC Health Info to address local health questions such as:

- Where does a support group for Alzheimer’s caregivers meet in Charlotte?
- Is it safe to eat the fish I catch in Pamlico Sound?
- Where can I get a rubella vaccination in Siler City?
- Is there an exercise class for breast cancer survivors in Asheville?

NC Health Info provides answers to these and other questions through links to websites from hospitals, physicians, nursing homes, support groups, health screening clinics and many other sources.

UNC staff have developed and tested methods to identify, select, and organize these health services websites. The experience gained and documentation created by the NC Health Info pilot will benefit future “Go Local” initiatives in creating successful websites to bring local health services information to MEDLINEplus users in other states.

“It shouldn’t surprise anyone that North Carolina is the first to show the rest of the country how this can work,” said U.S. Rep. David Price (D-4<sup>th</sup> District), pledging to recommend that his constituents bookmark this site for fast, easy access to quality health information.

Other speakers at the Jan. 14<sup>th</sup> launch included: North Carolina State Health Director Dr. Leah Devlin; State Rep. Joe Hackney (D, 23<sup>rd</sup> District); State Sen. Ellie Kinnaird (D, 16<sup>th</sup> District), Carol Jenkins, Director of the UNC Health Sciences Library; and Dr. Joanne Marshall, Dean of the UNC School of Information and Library Science.



**Carol Jenkins (l.), Director, Health Sciences Library, and Dr. Joanne Marshall, Dean, School of Information and Library Science, University of North Carolina, Chapel Hill, spoke at the Go Local launch.**

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# The Health Information Rx

*Sen. Tom Harkin, Former HHS Secretary Louis Sullivan Join NLM and American College of Physicians-American Society of Internal Medicine Foundation to Launch Patient Information Program*

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Doctors often prescribe medication after seeing a patient. But what if a doctor also wants to direct a patient to up-to-date, reliable, consumer-friendly information about a health concern? Under a pilot program recently launched in Georgia and Iowa, physicians throughout those states will be able to do just that.

NLM has teamed up with the American College of Physicians-American Society of Internal Medicine Foundation (ACP-ASIM Foundation) to create the “Health Information Rx (prescription) program. Now, internists will receive customized prescription pads that they can use to point patients to first-rate online health information in the Library’s MEDLINEplus database ([www.medlineplus.gov](http://www.medlineplus.gov)).

Kickoff events took place in Atlanta March 18th and Des Moines April 7th. Former HHS Secretary and President Emeritus of Morehouse School of Medicine Dr. Louis W. Sullivan spoke at the Atlanta event, along with Georgia Lieutenant Governor Mark Taylor. Special guests in Des Moines included U.S. Senator Tom Harkin (D-IA) and Whitney Addington, Chair of the ACP-ASIM Foundation.

Why do NLM and the ACP-ASIM Foundation consider this project so important?

“Physicians have always known that an informed patient who takes an active role is a ‘better’ patient,” said NLM Director Dr. Donald A.B. Lindberg, who appeared at the Georgia and Iowa launches. “We believe that both patients and their doctors will welcome this additional medical tool—good medical information—in their continuing efforts to provide good health care. Medical and public libraries will play an important role in the success of the ‘Information Rx’ project, just as they have with MEDLINEplus itself,” he added. “We look forward to working with the members of the National Network of Libraries of Medicine in this project.”

With contents culled from the NIH Institutes and other public and private health sites on the Internet, MEDLINEplus has information on more than 600 health topics. Under each, patients will find nuts-and-bolts information on symptoms, diagnosis and treatment, current news stories, research studies, clinical trials, helpful graphics and even interactive tutorials. There’s detailed but

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Dr. Donald A.B. Lindberg, MD, NLM Director (left), shown with Michael Kienzle, MD, Iowa Chapter of the ACP-ASIM, and Iowa Senator Tom Harkin. At the April 8th event in Des Moines, Sen. Harkin was the recipient of the first Information Rx in the state of Iowa.



The Atlanta launch of the “Health Information Rx” program featured Donald A.B. Lindberg, MD, NLM Director (left), Louis W. Sullivan, MD, former DHHS Secretary, Mark Taylor, Lt. Gov. of Georgia, Sara Walker, President, ACP-ASIM Board of Regents, and Joe Stubbs, MD, Governor, Georgia Chapter, ACP-ASIM.

# Papers of Nobel Laureate Linus Pauling Added to *Profiles in Science* Website

*Capitol Hill Reception Celebrates Life of Researcher, Peace Activist*

He was a high school dropout, a maverick who jumped disciplinary fences, and an activist who was attacked for his political beliefs. Yet he won two Nobel prizes and published more than 500 papers and 11 books. His name was Linus Carl Pauling (1901-1994) and he is probably one of the few scientists in this country who is also a household name.

Linus Pauling is the eighth scientist whose career has been chronicled on NLM's *Profiles in Science* website (<http://profiles.nlm.nih.gov/>). He remains the only person in history to win two unshared Nobel Prizes. "Linus Pauling revolutionized the study of chemistry and made crucial contributions to medical research," said Dr. Alexa McCray, Director of the Library's Lister Hill National Center for Biomedical Communications and the head of the Profiles project.

To celebrate the inclusion of Pauling's papers on the Profiles Web site, the Friends of the National Library of Medicine and the American Chemical Society hosted a reception in the Russell Senate Office Building on Tuesday, Feb. 11<sup>th</sup>. Dr. Linus Pauling, Jr., a retired psychiatrist and the scientist's oldest son, greeted guests, and U.S. Senator Ron Wyden (D-OR) extolled the Nobel Laureate for having "typically Oregonian" traits, such as curiosity, tenacity and independence.

NLM's *Profiles* online exhibit features correspondence, unpublished manuscripts, lecture notes, photographs, reprints, and transcripts from speeches documenting the life and career of Dr. Pauling. Visitors to the Pauling site can view, for example, his senior class oration at Oregon State Agricultural College, photographs of Pauling at work in his laboratory, and the petition that he and other scientists circulated that called for an end to nuclear testing.

The Library is collaborating with Oregon State University's Valley Library to digitize and make available over the Web this selection of the Pauling Papers for use by educators, researchers, students, and the public. The University is the repository for the Linus Pauling papers.

Pauling was a descendent of a Portland, Oregon pioneer family. He grew up in an impoverished household after the death of his father when Pauling was 9. His interest in science began at age 14, following a visit to a friend who had a toy chemistry set.

Pauling dropped out of high school at 16 and enrolled at Oregon Agricultural College (now Oregon State University), where he graduated as a chemical engineer in 1922. He set his sights on answering one of the most impor-



**Pauling family members, NLM Board of Regents members, former U.S. Surgeon General Dr. C. Everett Koop, NLM staff, and Friends of the NLM made for a lively gathering in the beautifully appointed Russell Building room.**

tant questions of chemistry: how did atoms bond together to form molecules?

Pauling chose a fledgling Pasadena school, the California Institute of Technology, or Caltech, to help get those answers, and he earned his PhD there in 1925.

After 15 months in Europe on a Guggenheim Fellowship and studying with European physicists, Pauling returned to Caltech as a young faculty member in 1927. He began to rebuild chemistry on a new foundation of quantum mechanics. This work was capped in 1939 with the publication of *The Nature of the Chemical Bond*, one of the most-cited texts in the history of science.

From the late 1920s to the 1930s, Pauling devised new ways of discovering the molecular structures of complex substances. His work focused on the antigen-antibody reaction and the structure of proteins and, in 1949, Pauling's team discovered the molecular basis of sickle-cell anemia. In the early 1950s, Pauling used his model-building approach to solve the large-scale structures of many proteins, such as hemoglobin, an enormous advance in molecular biology. He also proposed a model for the structure of DNA. In 1954, Pauling's many achievements were crowned with the awarding of the Nobel Prize in Chemistry.

In the post-World War II period, and spurred by the pacifist activism of his wife Ava Helen, Pauling joined other scientists in expressing concerns about nuclear bomb testing. The U.S. government responded by putting him under FBI surveillance, canceling his research grants and

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## Pauling Papers Added to *Profiles in Science*

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**Dr. Linus Pauling, Jr., traveled all the way from Hawaii to attend the Capitol Hill event honoring his father.**

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refusing him a passport. Despite these pressures, Pauling continued to focus his attention on peace work. He and his wife gained worldwide fame by gathering the signatures of 11,000 scientists on a petition asking for an end to nuclear weapons testing, which they then presented to the United Nations.

On the day that the first nuclear test ban treaty went into effect, October 10, 1963, Pauling received the news that he was to be awarded the Nobel Peace Prize. Instead of warm public support, the scientist encountered widespread criticism. *Life* magazine, for example, called the prize “a weird insult from Norway,” and the head of Caltech offered weak congratulations. One week later, Pauling quit Caltech, leaving the school that had been his academic home for more than 40 years.

Between 1973 and 1994, Pauling’s research focused on a field he termed “orthomolecular medicine,” the concept that optimal health could result from ensuring the right molecules were present in the right amount in the body. He viewed Vitamin C as one of the most important of these molecules, oversaw a number of investigations into its effects on diseases, and encouraged the ingestion of daily amounts many times greater than the accepted minimum daily requirement. He conducted research in this field until his death from cancer in 1994, at age 93.

*Profiles in Science* was launched by NLM in September 1998. *Profiles* is a continuing project and the Library plans to announce each new scientist added to the site.



**Sen. Ron Wyden of Oregon stopped by to praise one of the state’s favorite sons, the late scientist and two-time Nobel Laureate Linus Pauling.**

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# Major MEDLINE Milestone

*12 Millionth Journal Citation Added to Flagship Database*

On March 7th, MEDLINE attained a major milestone when the 12 millionth journal citation was added to the database. The citation is:

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Foulder-Hughes LA, Cooke RW.  
Motor, cognitive, and behavioural disorders in children born very preterm. *Dev Med Child Neurol.* 2003 Feb;45(2):97-103.  
PMID: 12578235 [PubMed - indexed for MEDLINE]

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The article was indexed using NLM's Web-based Data Creation and Maintenance System (DCMS), implemented in late 2000. When the 10 millionth citation was indexed on July 10, 1999, NLM was still using the mainframe computer-based indexing system called AIMS (Automated Indexing and Management System) and PubMed was searched at the rate of 16 million searches per month and updated with MeSH-indexed MEDLINE citations once per week.

Approximately 30% of data entry came from electronic submissions, and NLM indexed a total of about 434,000 citations from 4,007 journals by the close of that fiscal year. MEDLINE was licensed by 57 organizations.

Today, PubMed is searched at a rate of more than 30 million searches per month and updated with MeSH-indexed citations 5 times per week. More than 65% of data entry comes from electronic submissions and NLM reached the all-time high of about 502,000 indexed citations from 4,538 journals at the close of fiscal year 2002.

MEDLINE is currently leased by about 170 organizations (the majority of which are mining the data for research purposes). What a difference a few years can make!

*Thanks to staff of NLM's online newsletter, The Technical Bulletin ([www.nlm.nih.gov/pubs/techbull/](http://www.nlm.nih.gov/pubs/techbull/)), for producing this article.*

Have you always wondered about the difference between MEDLINE and PubMed? There's an NLM fact sheet that can give you the straight scoop. View it online at

[www.nlm.nih.gov/pubs/factsheets/dif\\_med\\_pub.html](http://www.nlm.nih.gov/pubs/factsheets/dif_med_pub.html) or request a hard copy from NLM's Office of Communications and Public Liaison at 301-496-6308.

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## Health Information Rx

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easy-to-read information on thousands of over-the-counter and prescription drugs, too. And MEDLINEplus is also available in Spanish.

Why is it important that doctors steer their patients to MEDLINEplus? Can't they just suggest that they do a general Internet search?

"Unfortunately, some patients lack the knowledge needed to find good health care information online," commented Sen. Harkin. "Also, they might not be able to guard against marketing schemes disguised as websites."

According to recent research, six million Americans go online daily to search for information about health and disease. Additional findings show that nearly 70 percent of patients nationwide would pay serious attention to a website recommended by their physician.

"Used properly, the Internet can be just as helpful a healthcare tool as the biopsy, the x-ray and the electrocardiogram," observed former HHS Secretary Dr. Louis Sullivan, in Atlanta. "That is why I hope doctors in Iowa and Georgia will embrace the 'Health Information Rx' pro-

gram, directing patients eager for good consumer health information to the gold standard, MEDLINEplus. I think they'll find," he continued, "that, used in conjunction with their doctor's good care, information is the best medicine."

**MEDLINEplus.gov**  
THE WEB SITE YOUR DOCTOR PRESCRIBES

A free, comprehensive, authoritative, up-to-date health information web site from the world's largest medical library, the National Library of Medicine of the National Institutes of Health, with the support of the American College of Physicians/American Society of Internal Medicine Foundation.

**JOSEPH W. STUBBS, MD, FACP**  
**Information Rx**

- [www.nlm.nih.gov/medlineplus/cholesterol](http://www.nlm.nih.gov/medlineplus/cholesterol)
- [www.nlm.nih.gov/medlineplus/coronarydisease](http://www.nlm.nih.gov/medlineplus/coronarydisease)
- [www.nlm.nih.gov/medlineplus/highbloodpressure](http://www.nlm.nih.gov/medlineplus/highbloodpressure)
- [www.nlm.nih.gov/medlineplus/alzheimers](http://www.nlm.nih.gov/medlineplus/alzheimers)
- [www.nlm.nih.gov/medlineplus/colorectalancer](http://www.nlm.nih.gov/medlineplus/colorectalancer)
- [www.nlm.nih.gov/medlineplus/exerciseformen](http://www.nlm.nih.gov/medlineplus/exerciseformen)
- [www.nlm.nih.gov/medlineplus/diabetes](http://www.nlm.nih.gov/medlineplus/diabetes)
- [www.nlm.nih.gov/medlineplus/osteoporosis](http://www.nlm.nih.gov/medlineplus/osteoporosis)
- [www.nlm.nih.gov/medlineplus/exercise](http://www.nlm.nih.gov/medlineplus/exercise)
- [www.nlm.nih.gov/medlineplus/prostatecancer](http://www.nlm.nih.gov/medlineplus/prostatecancer)
- [www.nlm.nih.gov/medlineplus/breastcancer](http://www.nlm.nih.gov/medlineplus/breastcancer)
- [www.nlm.nih.gov/medlineplus/arteritis](http://www.nlm.nih.gov/medlineplus/arteritis)

[www.nlm.nih.gov/medlineplus/other](http://www.nlm.nih.gov/medlineplus/other) (please specify)

[www.nlm.nih.gov/medlineplus/druginformation](http://www.nlm.nih.gov/medlineplus/druginformation)

Was MEDLINEplus helpful? Tell us at: [www.foundation.aacponline.org/survey](http://www.foundation.aacponline.org/survey)

Health Information Rx prescription pad

# Getting the Scoop from the Institutes

*NLM's MEDLINEplus Website Counts on Input, Insights from NIH Advisors*

Have you ever wondered who helps compile the vast contents of NLM's popular and authoritative online health information resource, MEDLINEplus ([medlineplus.gov](http://medlineplus.gov))?

A stalwart and surprisingly small team of NLM staffers constitutes the in-house MEDLINEplus team that scrutinizes and posts that resource's holdings. Certainly, too, a group of talented medical librarians in locations across the country plays a key role in selecting the contents of MEDLINEplus.

But another key component is the MEDLINEplus Advisory Group, composed of representatives from almost every NIH Institute that produces information for the public. This group functions as a sort of "board of directors" and a creative wellspring to aid in the database's development.

MEDLINEplus, NLM's consumer-friendly web information service, was created in 1998 to provide up-to-date health information for the general public. This easy-to-use resource gleans the best of the Internet from NIH and other reliable organizations.

"We realized early on that a wealth of information was coming from NIH," explained Eve-Marie Lacroix, Chief of NLM's Public Services Division, which oversees MEDLINEplus. "Bob Mehnert, NLM's head of communications, reached out to communications directors at the various Institutes to solicit their input, and our Advisory Group was born."

The charter meeting of the MEDLINEplus Advisory Group took place October 1, 2000. Its members are Communications Directors, Assistant Directors and other senior communications staffers from the various Institutes.

"We also brought in Dennis Rodrigues to serve on the advisory board," Lacroix continued. "Dennis manages NIH's main website, and his presence has facilitated closer collaboration between the two sites."

In MEDLINEplus, each of the 600+ health topic pages links to the NIH Institute with primary responsibility for that topic, where appropriate—for example, the "Diabetes" page links to the National Institute of Diabetes and Digestive and Kidney Disease (NIDDK). Many of the topics feature general information or an overview of the topic from NIH at the top of the topic page. Other NIH information is organized by subtopic, such as diagnosis, research, treatment, etc. "Members of the advisory committee have been helpful in identifying the primary Institute," commented Eve-Marie Lacroix, "and in ensuring there is authoritative content for the health topic page."



The MEDLINEplus Advisory Group (clockwise from left): Robert Mehnert, NLM; Eve-Marie LaCroix, NLM; Dr. Marin Allen, National Institute on Deafness and Other Communication Disorders; Chris Thomsen, National Center for Complementary and Alternative Medicine; Jane Shure, National Institute on Aging; Dennis Rodrigues, Office of the Director, NIH; Kathy Kranzfelder, National Institute of Diabetes and Digestive and Kidney Diseases; Naomi Miller and Joyce Backus, MEDLINEplus Team, NLM; Joan Abell, National Institute of Mental Health; Kym Collins-Lee, National Eye Institute; Marian Emr, National Institute of Neurological Disorders and Stroke; and Terry Long, National Heart, Lung, and Blood Institute. Not pictured: John Burklow, Office of Communications and Public Liaison, NIH; Ray Fleming, National Institute of Arthritis and Musculoskeletal and Skin Diseases; William Grigg, National Institute of Environmental Health Sciences; John McGrath, National Institute of Child Health and Human Development; Claire McCullough, National Institute of Allergy and Infectious Diseases; Diane Miller, National Institute of Alcohol Abuse and Alcoholism; and Larry Thompson, National Human Genome Research Institute.

Institute representatives advised NLM regarding the creation of Spanish version of MEDLINEplus, launched in September of 2002. One example was their idea to create a special page on MEDLINEplus, <http://www.nlm.nih.gov/medlineplus/spanish/nihinstitutes.html>,

with descriptions of each Institute and with links to each Institute's home page in English.

At each advisory group meeting, members report on upcoming programs and events, especially new health information being created for the public. The MEDLINEplus team has created health topic pages in response to institute suggestions or new health information resources.

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# Health Care Progress for Idaho Tribes

*Nez Perce Members' NLM Training Will Mean Improved Consumer Health Information for Their Reservation*

## **GUEST EDITORIAL BY U.S. SENATOR MIKE CRAPO OF IDAHO**

The diversity of Idaho's terrain and the varied population density add significant challenges to providing quality health care for everyone. Some metropolitan areas have excellent health care resources, while other rural, less populated areas suffer. With five Native American reservations spread over the state, Idaho tribes face additional difficulties.

It has been demonstrated that Native Americans face increased risk of certain health problems. For example, Native Americans suffer disproportionately higher rates of diabetes, gastrointestinal disease, tuberculosis, breast cancer and heart disease. A National Library of Medicine (NLM) program is helping one Idaho tribe find solutions to these health challenges. The NLM Tribal Internship program helps medical professionals bridge cultural hurdles in health care. I was honored to recommend two Idahoans to participate in this program, which will provide better health care to people on tribal lands.

Idahoans Tina Bullock and Leland Pond joined other participants to spend a year studying with the National Library of Medicine in Bethesda, MD, and at the pair's Regional Medical Library (part of NLM's national network) in Seattle, WA. They both work for the Nimi'ipuu\* Health facility on the Nez Perce reservation—Tina as a computer specialist and Leland as the chief medical technologist.

They work with NLM staff to develop culturally specific programs to improve access to health care information and services. Ultimately, they will develop a health care information access program to be used only on their reservation. So far, they have trained in Bethesda and Seattle on using medical information systems. That training is already making a difference to those on the reservation. As Tina and Leland train others to use the NLM information system, more patients will be helped.

Tina is excited about the program and said, "We are the second tribe to work with the NLM internship and we are breaking ground for an excellent program. With a little work, our program will be a model that can bring better medicine to tribes throughout the country."

Technology plays a major role in the training, and a project using telemedicine holds promise for the Nez Perce interns. Telemedicine is an emerging technology using satellite and telephone technology to bring doctors and patients together over long distances. Through telemedi-



**In this photo taken in the Senate offices of Sen. Mike Crapo, he is joined by (from left) Cynthia Gaines and Gale Dutcher, NLM Specialized Information Services, and Leland Pond of the Nez Perce tribe and, on his left, Nez Perce member Tina Bullock and John Scott of the Center for Public Service Communication.**

cine, patients who live far away from hospitals and medical specialists can receive care that would otherwise be unavailable. For example, X-rays now taken on the reservation are couriered to a hospital for evaluation. This current process takes up to a week, resulting in delays for patients who are awaiting treatment.

The project that Leland and Tina have proposed would set up equipment that sends a digitized X-ray via the Internet or satellite to specialists for immediate analysis, reducing the amount of time and pain patients waiting for diagnoses now face.

Leland shared this insight: "In the winter, patients from Kamiah often travel icy roads to have X-rays. They often wait a week or more to be properly diagnosed and treated. With the proposed internship project, the time and travel a patient must endure can be reduced."

"The internship has provided help, resources, and information to put the Nez Perce Tribe on the cutting edge of rural health care," he concluded.

Telemedicine installations like this are an effective way to improve health care in rural areas. As a member of the Senate's Telehealth Steering Committee, I was pleased to introduce the Medicare Telehealth Validation Act of 2002, which would increase federal support for infrastructure and services reimbursements to rural areas. The bill improves telehealth provisions under Medicare and provides grants

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Historically Black Colleges and Universities (HBCUs) have a long tradition of educating the public in strategies for health promotion and disease prevention. Yet, they have not taken full advantage of the strengths and capabilities of emerging information and communication technology, especially the Internet. A recently released US Department of Commerce report, *A Nation Online*, revealed that by the end of 2001, half the total population of the United States (50.5%) had Internet access. Roughly a third of those online (35%) used the Internet to search for health information. But the study also found that 60% of African Americans had not used the Internet. The United Negro College Fund Special Programs Corporation (UNCFSP) believes HBCUs can play a critical role in helping to improve the health status of African Americans by serving as conduits for access and dissemination of online health and medical information.

Last year the National Library of Medicine and the UNCFSP launched a new project, the UNCFSP/NLM-HBCU ACCESS Project, to promote disease prevention and wellness at HBCUs through the use of the online health resources provided by NLM. The primary goal of the project is to increase the utilization of NLM's online resources on HBCU campuses and in the surrounding communities. The program is housed within UNCFSP's Health & Community Development Division with an overarching mission to help eliminate health disparities that disproportionately affect ethnic minority populations. Although



Members of the advisory board of the United Negro College Fund Special Programs Corporation HBCU/NLM Access Project: (seated, left to right) Gale Dutcher, SIS, NLM; Dr. Donald Lindberg, NLM Director; Darlene Saunders, UNCFSP; (standing, left to right) Dr. Melvin Spann, Advisory Board Chairman; Dr. James Webster, Tuskegee University; Rosalind Lett, Vanderbilt University; Rose Foster, Oak Ridge Associated Universities; Dr. William Bennett, UNCFSP, Hope Program; Cynthia Gaines, SIS, NLM; Dr. Robert Copeland, Howard University College of Medicine; Gladys Smiley-Bell, Hampton University; and Albert Hannans, UNCFSP.

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health disparities may be attributed to a number of factors, experts agree that increased access to health/medical information will help individuals in minority communities gain a much better understanding of wellness and preven-

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## Health Care Progress for Idaho Tribes

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to develop telehealth networks.

With the help of Tina, Leland and other medical professionals, telemedicine can be expanded on tribal lands, improving health care. While the internship program has just a foothold in Idaho, it is an invaluable improvement to health care available on the Nez Perce reservation. Improvements like this make a difference in the lives of people. I applaud the efforts of Tina, Leland and many Idahoans who give beyond what is required to improve the lives of Idahoans. Using technology, creativity and thoughtful cooperation, we can find on-the-ground solutions that bring high quality health care to people throughout Idaho.

*Thanks to Sen. Crapo, a Republican from Idaho, for contributing this article. A lifelong Idahoan, he served three terms in the U.S. House of Representatives before becoming a Senator in 1999.*

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\* "Nimi'ipuu" is how members of the tribe refer to themselves. The term translates as "real people" or "we the people." The name "Nez Perce" was given to the tribe by an interpreter with the 1805 Lewis and Clark expedition. The French Canadians interpreted the meaning as "pierced nose," even though this cultural practice was not common to the Nimi'ipuu.

(a new feature)

# TREASURES FROM THE COLLECTION

*The Islamic Medical Manuscript Collection*

On a November day in AD 1094, a scribe in Baghdad finished copying out a treatise on medicine from one of the era's great physicians, dead for some 170 years, but still venerated for his medical insights. Abu Bakr Muhammad ibn Zakariya' al-Razi, known later in Europe as Rhazes, was one of the towering figures of the time—what we would today call a polymath—gifted with encyclopedic knowledge, educated and erudite in many fields, a physician, philosopher, musician, and alchemist. The manuscript that the scribe worked on that day in 1094, *The Comprehensive Book on Medicine (Kitab al-Hawi fi al-tibb)*, is still in superb condition—full of beautifully wrought script that today makes it one of the cornerstones of the History of Medicine Division (HMD) collections. It is thought to be the third oldest Arabic medical manuscript in existence today, and is the oldest manuscript in the collections of the National Library of Medicine—a treasure trove of rare, unusual, and historic texts that have been collected in the History of Medicine Division.

The Arabic and Persian collection, which contains the Rhazes manuscript, is of particular significance not only because of its age but its breadth and depth. The collection that cataloger Anne C. Whitaker in the History of Medicine Division helps maintain contains 105 Arabic, 33 Persian, and 13 Turkish manuscripts—151 in all. (Several of the manuscripts contain multiple treatises, which brings the collection to a total of 351 individual medical treatises.) Many manuscripts from the collection were part of an NLM exhibition in 1994 celebrating the 900th anniversary of the Arabic Medical Manuscript.

Emilie Savage-Smith, the eminent Senior Research Associate from the Oriental Institute at the University of Oxford, wrote a wonderfully informative brochure “Islamic Culture and the Medical Arts” for the 900th anniversary exhibit. The NLM holdings that comprised the exhibit and the rest of the Arabic/Persian collection have grown since 1994—an evocative and captivating look into Islamic medicine and science during the Middle Ages.

Galen, the great Greek medical writer of the 2nd century, and Hippocrates both influenced medieval Islamic medicine. Galen's blend of philosophy, medicine, and spirituality was of particular appeal to early practitioners of Islamic medicine, who assimilated his teachings into their own. The 9th through the 12th centuries are generally thought of as the golden age for Islamic medicine as Latin translations of the manuscripts spread Islamic medicine throughout the world.



*Miftab al-bikmah (The Key of Wisdom)* by Mu'ayyad al-Din Abu Isma'il al-Husayn ibn 'Ali al-Tughra'i (d. 1121/515) (MS A 65, fol. 81b)

Even as Islamic medicine emerged as a science and practice of its own, the craft of the handwritten book or manuscript, including calligraphy, illumination, illustration, and binding reached a zenith in the Arabic world. Emilie Savage-Smith points out that almost all Islamic books were produced on paper, which was in good supply in the Middle East by the 9th century. Printing on a large scale, however, came later to the Islamic cultures, generally not until the 19th century. Handwritten treatises continued to play an important part in Islamic medicine right up to the 19th century, and since printing was so rare, physicians had to hire a scribe or hand copy the manuscript themselves to actually have a copy of a book.

## Who wrote these early medical manuscripts?

Since medicine was an important part of Islamic culture, Islamic physicians began developing their own medical literature early on. They explored and synthesized theories about the practice of medicine, mixing in large doses of philosophy, natural science, mathematics, astrology, alchemy, and religion. The Islamic medical encyclopedias were essentially summaries of current medical knowledge, much of it translated from the Greek (Galen and Hippocrates being great favorites) into systematic Islamic texts.

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Sometimes, according to Emilie Savage-Smith, clerics rather than physicians wrote medical manuscripts, apparently in an attempt to counter the influence of Greek medicine spread by Galen throughout the region. Often called *Prophetic Medicine*, these treatises show up mostly in the 13th to 15th centuries.

The great plagues that periodically swept through the Islamic world in this time period produced another type of medical literature called plague tracts. Islamic plague tracts from that period provided explanation for the pestilence, some history of plagues, and some medical advice and remedies.

Perhaps the greatest physician and practitioner of Islamic medicine during the Middle Ages was Rhazes. Born in the Persian city of Rayy, near present-day Tehran, Rhazes was an intellectual giant, one of those historical figures whose force and personality reverberate through the ages. Before he died in the year A.D. 925 in the same city where he was born, Rhazes had revolutionized Islamic medicine. He founded and headed hospitals in Rayy and Baghdad, and served as physician at the Samanid court in Central Asia. His medical textbook *The Book of Medicine for Mansur* (*Kitab al-Mansuri fi al-tibb*) was produced for the Samanid ruler of Rayy, and he wrote extensively on a variety of subjects. So wide were his interests that today we credit him with making some of the early discoveries about smallpox. His habit of careful observation led him to distinguish smallpox from measles for the first time in medical history, an accomplishment noted by the World Health Organization (WHO) in 1970, which praised the originality and accuracy of his writings on smallpox and measles. His essay on infectious diseases was the first scientific treatise on the subject, according to the WHO citation. The Encyclopedia of Islam calls Rhazes the indisputable authority of medicine up to the 17th century.

*The Comprehensive Book on Medicine*, or the *Hawi* as it is often called, is a notebook or journal that Rhazes kept over many years, full of his medical notations on diseases, therapies and treatments, as well as clinical cases that he wished to describe. The notebooks are arranged under headings for different diseases. After the death of Rhazes, his assistants and students culled and collected his files—volumes of notes, readings, observations, and case histories into the *Hawi*, which today provides a glimpse into the life and work of a great medieval physician. The copy at the NLM is the oldest copy of the manuscript, though it is actually a partial manuscript containing only the section on gastrointestinal complaints.



*'Aja'ib al-makbluqat wa-gbara'ib al-mawjudat* (*Marvels of Things Created and Miraculous Aspects of Things Existing*) by Zakariya' ibn Muhammad al-Qazwini (6th-7th century AD) (NLM MS P 2, fol 167b)

Emilie Savage-Smith notes that the *Hawi* remains one of the world's important medical texts because it gives us, some 900 years later, insights into Greek, Indian, and early Arabic medical writing. Rhazes credited all sources, and while much of the medical writing that he refers to is now lost, his commentary still provides a glimpse into the medical world of the time.

In 980, some 55 years after the passing of Rhazes, 'Abu Ali al-Husayn ibn 'Abd Allah ibn Sina, (known to Europeans as Avicenna) was born in the town of Bukhara in Central Asia. Avicenna went on to become one of the best known of the Islamic physicians. He traveled widely, wrote prolifically, and completed 270 different treatises before his death in 1037. Like Rhazes, Avicenna was a multi-talented intellectual. As a medical practitioner, according to Emilie Savage-Smith, he was compared to the eminent Greek, Galen, but he was also a philosopher of Islam—and is still considered one of the greats in that field.

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## *In Profile: Anne Whitaker*

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Anne Whitaker

Cataloger for the History of Medicine Division  
Specialty: The Arabic and Persian Collections

A member of the History of Medicine Division (HMD) since she joined the National Library of Medicine (NLM) in November, 1990, Anne Whitaker's background in Arabic language studies makes her the unofficial contact person for those seeking information about the library's famous and valuable Islamic medical manuscripts collection.

Anne graduated from Georgetown University in 1968 with a B.S. from the School of Languages and Linguistics and a major in Arabic. She went on to receive a M.L.S. from the College of Library and Information Sciences at the University of Maryland in 1979. Prior to joining the NLM in 1990, she worked on special collections in the Acquisitions Department at the Folger Shakespeare Library and cataloging for the Dibner Library at the Smithsonian.

In 1994, when the HMD put together its exhibition celebrating 900 years of Islamic medicine, Anne assisted Dr. Emilie Savage-Smith, the prominent Senior Research Associate from the Oriental Institute at the University of Oxford. Dr. Savage-Smith, a world-renowned authority on Arabic medical manuscripts, was curator of the exhibition and wrote the brochure "Islamic Culture and the Medical Arts" that accompanied the exhibition.

Anne has continued her work on the Islamic medical manuscripts and is now helping add material to the NLM website that displays the collection. She is also currently cataloging the 19th and early 20th century collection of printed Arabic medical books in the HMD collection.

**Q: Tell us a bit about the effort to catalog the Islamic medical collection online?**

We've completed about two-thirds of the online catalog with some really lovely graphic images and database descriptions of the manuscripts and their significance. It's been about a 3-year effort.

**Q: Emilie-Savage-Smith has obviously helped a lot in presenting this material to the public. Anybody else?**

Dr. Philip M. Teigen, Deputy Chief of HMD, coordinated the Library's earlier exhibit and a symposium on Islamic medical manuscripts. He was very committed to making the treasures of our Islamic Medicine collection more widely available to the general public and recognized that a website would be the best way to reach the largest number of people.



Anne Whitaker peruses the Rhazes manuscript in NLM's Incunabula Room.

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**Q: How do the website and the online catalog work?**

The online catalog starts with an essay on each of the manuscripts and then has links to a glossary of terms, illustrations, and biographical material. We also have some quality graphic images for most of the manuscripts.

**Q: What kind of material do you have on the website?**

The material now on the website covers translations from some really early manuscripts, medical encyclopedias, and medical poetry. We also have medical monographs on therapy, diets, and health. The final phase will include pharmaceuticals, alchemy, and natural history. We're aiming for that to be completed in 2003.

**Q: Why is this collection important today?**

Much of our medical history and medical vocabulary comes from the Arabic. Most of the European medical manuscripts in the Middle Ages were based on Islamic medical practice. If you're interested in the history of medicine, this is a great place to start.

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## TREASURES FROM THE COLLECTION

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His manuscript, *The Canon on Medicine* (*Kitab al-Qanun fi al-tibb*), is a massive compendium of facts and observations. The copy in the NLM holdings is a 15th-century manuscript that scribes copied from an earlier work. It is notable for the illuminated headings that open each of its five books. Emilie Savage-Smith offers a good summary of the manuscript on the Islamic Medical Manuscripts web page at the NLM. In it, she notes: “This massive general medical encyclopedia was composed over a lengthy period of time as its author moved westward from Gurgan in northern Iran, where it was begun, to Rayy near modern Teheran and then to Hamadan even further southwest, where it was completed.” The great size of the encyclopedia and its title Qanun, meaning canon or codes of law, helped contribute to the authoritative nature of the work.

The Canon of Medicine, translated into Latin and read avidly by Europeans in the 12th century, continued to evoke interest late into the 15th century as various new translations appeared. Emilie Savage-Smith states that between 1500 and 1674 some sixty editions of part or all of the *Canon* appeared in Europe. Because of its great length, few complete manuscript copies of *The Canon on Medicine* exist today. The NLM copy is thought to be one of only five complete Arabic copies, and the oldest of the five.

The acquisition of most of the Islamic medical manuscripts now in the NLM collections, including the *Hawi*



*Kitab al-Qanun fi al-tibb* (*The Canon on Medicine*) by ‘Abu Ali al-Husayn ibn ‘Abd Allah ibn Sina, known to Europeans as Avicenna (d. 1037/428 H) (MS A 53, fol. 368b)

and the *Canon of Medicine* manuscripts, are linked closely with the life and times of Abraham S. Yahuda (1877-1951). Yahuda, an Orientalist, bibliophile, and Professor of Semitics, traveled extensively and amassed a large and important collection of rare books and manuscripts both before and after he arrived in the United States during the 1940s.

A noted Egyptian Scholar, Yahuda was an interesting, somewhat mysterious, figure in his own right. He gained a measure of fame in the mid-20th century when he challenged Freud’s controversial work, *Moses and Monotheism* and supposedly tried to get Freud to withdraw the work. Though Yahuda was a scholar and Freud’s neighbor in London, he failed to persuade the great psychotherapist to withdraw the controversial book, Freud’s last.

Yahuda acquired the NLM’s *Hawi* in An Najaf in Iraq, where it had been in the possession of the same family for six centuries. Its great age makes the *Hawi* manuscript a treasure. As noted on the NLM website, “on the title page there is an owner’s note, mostly obliterated, in which the last two numerals of a date are readable as “34”, with the preceding numeral possibly being an 8; if this is a correct reading, then the year 834 would equal 1430-31. The owner’s name is not legible.” (The Muslim calendar does not correspond directly to the Christian calendar. The Muslim calendar date of 834 would be nearly equivalent to the Christian calendar date of AD 1430.)

Yahuda was also involved in compiling a collection of Newton’s theological papers, which contained most of the finest examples of Newton’s theological work, and early treatises, composed when Newton was still in his 30s and 40s. These are not part of the NLM collection.

One of Yahuda’s great passions was Islamic manuscripts, which he collected with vigor and discernment during his career. The Army Medical Library purchased the Yahuda medical manuscripts in 1940 using, in part, money from a bequest of Dr. William F. Edgar. Edgar, a physician, traveled in 1849 by wagon train over the Oregon Trail to California where he found wealth and prosperity, some of which he left to the Army Library Museum.

The purchase of the Arabic manuscripts by Librarian Harold W. Jones, a Colonel of the U.S. Army Medical Corps, was considered rather daring at the time. Jones supposedly hesitated when Yahuda sent him several packing cases filled with the Arabic manuscripts. Were they too exotic for the Army Medical Library, Jones wondered? But he went ahead and bought first one lot and then a second lot of the manuscripts—total purchase: 130 documents for \$7,500. (Some accounts report 63 volumes for \$4,000. This

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may be the purchase price for only the first lot.) Librarian Jones was so worried about spending too much money on the Arabic collection that he spread payments over several fiscal years.

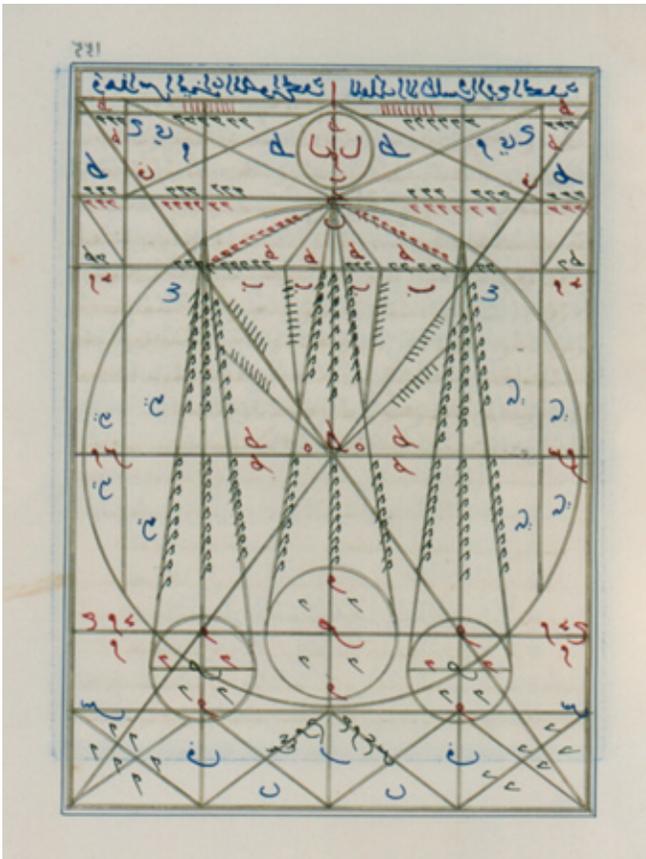
Today, the NLM holds one of the most significant collections of Islamic medical manuscripts in the world. Since those original purchases, the NLM has added to the collection with acquisitions from various sources.

While the *Harwi* and *The Canon on Medicine* are two of the most precious manuscripts in the NLM collections, there are many Arabic/Persian medical manuscripts that qualify as uncommon treasures. Dating from the 11th to the 19th century, and produced in countries ranging from North Africa to India, the NLM collection features manuscripts by other giants of the age, as well as highly skilled calligraphers. Translations and treatises display the great variety and intellectual depths of the Islamic medical world with subjects ranging from ophthalmology, anatomy, drugs, medicinal plants, and alchemy. The illustrations are

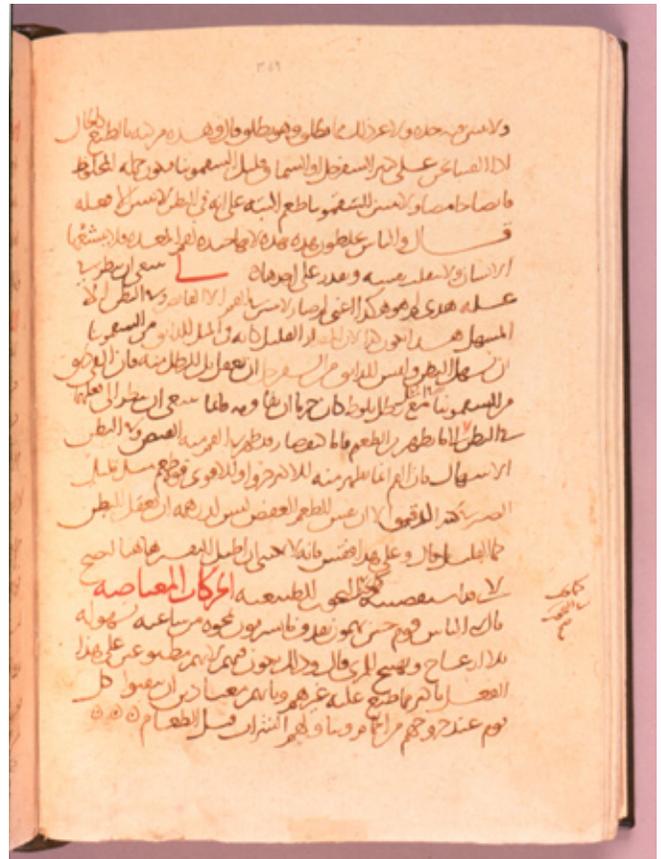
almost always striking and sometimes unique—oftentimes focusing on medical subjects, but at other times fanciful or mythological.

Zakariya ibn Muhammad al-Qazwini’s *Marvels of Things Created and Miraculous Aspects of Things Existing* (*Aja’ib al-Makbluqat wa Gbara’ib al-Maujudat*), usually called *The Wonders of Creation*, is a 13th-century work full of descriptions of celestial and sublunar phenomena. In it, al-Qazwini divides the Earth into three types of matter—plant, mineral, and animal. The unknown illustrator plays off al-Qazwini’s propensity for imaginary animals and plants as subjects for his lavish illustrations. Emilie Savage-Smith writes, “al-Qazwini collected his material from written sources and reproduced it relatively uncritically, so that distorted travelers’ tales and echoes of ancient mythology are found alongside much genuinely factual information. For instance, al-Qazwini has sections on the strange malformed races of humans with no head and faces on their chest or with various numbers of limbs, a catalogue familiar to any

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*Kitab al-Burhan fi asrar ‘ilm al-mizan (The Book of the Proof Regarding the Secrets of the Science of the Balance)* by ‘Izz al-Din Aydamir al-Jaldaki (d. 1342/743) (MS A 7, vol. 1, fol. 155b)



*Kitab al-Hawi fi al-tibb (The Comprehensive Book on Medicine)* by Abu Bakr Muhammad ibn Zakariya’ al-Razi (d. ca 925/313 H) (MS A 17, fol. 130b)

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tive strategies, medical conditions, and treatment options. The project is funded through the Office of Outreach and Special Populations, Specialized Information Services (SIS) Division, NLM.

UNCFSP has structured a four-tiered strategy consisting of the following components:

- Establishment of an advisory committee to assist in program planning;
- Organizing an orientation workshop to introduce the program to HBCU faculty and staff;
- Awarding grants to HBCUs that successfully compete to craft and implement projects which help to enhance the utilization of NLM online resources on their campuses and in the surrounding communities; and
- Technical assistance, including workshops for grantees, and conducting site visits to provide them with specialized assistance in implementing their projects.

Recently four HBCUs received one-year grants to implement eHealth projects. Their projects involve activities associated with research, curriculum development, training, and information dissemination.

- The Albany State University (Albany, GA) initiative is being coordinated by the Health Careers Opportunity Program (HCOP), which is housed in the Department of Natural Sciences. The grant will be used to promote health awareness. Students, faculty, staff and community residents will be trained to retrieve information about health disparities from the NLM databases. The databases will also be used as a resource for the development of instructional modules to introduce nursing students to minority health issues and engage them in service learning activities.
- Bluefield State College (Bluefield, WV) will use its grant in a similar way. In addition to training students, faculty and others to use the databases, the Department of Associate Degree Nursing will make use of the NLM's online resources to enhance its curriculum and improve the community outreach skills of nursing students. The students will use the NLM databases to prepare patient and community education presentations that promote the use of online resources to improve health.
- The Howard University (Washington, DC) School of Pharmacy is collaborating with two community pharmacies to foster awareness and increase the utilization of NLM databases. A computer terminal will be set up

at each site, and customers will be recruited on a volunteer basis to participate in the program. Pharmacy residents and students will be trained to provide one-on-one medication counseling and train participants to navigate the NLM databases. A monthly newsletter will also be published and mailed out to participants.

- The Lyman Beecher Brooks Library at Norfolk State University (Norfolk, VA) is partnering with two other HBCUs (Elizabeth City State University and Hampton University) to increase campus and community awareness and utilization of NLM's online resources. The project will involve conducting "train the trainer" sessions at each of the three institutions. The trainers will then be responsible for presenting a series of lectures, workshops and seminars to increase community awareness of how the NLM's online resources can be used to improve the health status of African Americans. Potential users will also be trained to access health information from the NLM databases.

During the course of the year the faculty and staff managing each project are provided with more in-depth training in the use of electronic information resources. In addition, these institutions are given technical assistance in project management, report writing and grant writing. At the end of the project period the faculty and staff involved should be well positioned to compete for other sources of funding in addition to understanding the role of health information and information technology. The year will culminate in a conference that will enable these four institutions to share their projects and outcomes with additional HBCUs. This culminating conference will also serve as the beginning of a new opportunity for HBCUs to receive technical assistance and training from NLM and UNCFSP.

Information technology is transforming the health sector into a system where people can take control of their health status. HBCUs are well-positioned and logical entities in the African American community to promote the use of information technology for improving health.

*Thanks to Albert Hannans, Program Manager, UNCFSP/NLM-HBCU ACCESS Project, and Cynthia Gaines, NLM Project Liaison, for contributing this article.*

For more information on eHEALTH@HBCUs, please consult the project's website ([www.uncfsp.org/nlm](http://www.uncfsp.org/nlm)) or Project Liaison Cynthia Gaines (301-496-4669, [gainesc@mail.nlm.nih.gov](mailto:gainesc@mail.nlm.nih.gov)).

# Electronic Health Information for the Public

*NLM Funds 37 Projects in 25 States and the District of Columbia*

NLM has announced the funding of 37 electronic health information projects across the country, effective March 1, 2003. The total funding amount exceeds \$1.4 million.

Detailed information about each project can be viewed online at [www.nlm.nih.gov/news/ehealth4public.html](http://www.nlm.nih.gov/news/ehealth4public.html).

## **Alaska**

- State of Alaska Department of Health and Social Services, Division of Public Health, Juneau, AK

## **Arizona**

- Good Samaritan Regional Medical Center, Phoenix

## **California**

- San Diego State University
- California State University, Henry Madden Library, Fresno

## **Colorado**

- Denver Public Library
- Poudre Valley Health System, Fort Collins

## **District of Columbia**

- Public Health Foundation

## **Florida**

- University of South Florida, School of Library and Information Science, Tampa

## **Hawaii**

- Hawaii Medical Library, Honolulu

## **Idaho**

- Kootenai Medical Center Library, Coeur d'Alene

## **Illinois**

- OSF Saint Francis Medical Center, Library & Resource Center, Peoria

## **Kansas**

- University of Kansas School of Medicine, Wichita

## **Louisiana**

- Baton Rouge General Medical Center

## **Maryland**

- Western Maryland AHEC, Cumberland

## **Massachusetts**

- Massachusetts General Hospital, Treadwell Library, Boston
- University of Massachusetts Medical School, The Lamar Soutter Library, Worcester
- World Education, Inc., Boston

## **Missouri**

- J. Otto Lottes Health Sciences Library, University of Missouri-Columbia

## **Nebraska**

- ICON Library Consortium, Omaha

## **New Jersey**

- University of Medicine and Dentistry of New Jersey (UMDNJ), University Libraries, Newark

## **New York**

- New York University School of Medicine, Frederick L. Ehrman Medical Library, New York City
- Tompkins County Public Library, Ithaca
- Crandall Public Library, Glens Falls
- Rochester Regional Library Council, Fairport

## **North Carolina**

- Mountain Area Health Education Center, Asheville

## **Ohio**

- Children's Hospital Medical Center of Akron

## **Pennsylvania**

- University of Pittsburgh Health Sciences Library System
- Carnegie Library of Pittsburgh
- Geisinger Health System, Community Health Resource Library, Danville

## **Tennessee**

- University of Tennessee Health Science Center, Health Sciences Library and Biocommunications Center, Memphis

## **Texas**

- Texas Woman's University, Houston

## **Utah**

- University of Utah, Spencer S. Eccles Health Sciences Library, Salt Lake City

## **Virginia**

- Edward-Via-Virginia College of Osteopathic Medicine, Blacksburg
- University of Virginia Health System, Claude Moore Health Sciences Library, Charlottesville

## **Washington**

- Public Health-Seattle-King County Health Education Materials Program, Seattle
- Children's Hospital and Regional Medical Center, Center for Children with Special Needs, Seattle

## **Wisconsin**

- St. Michael Hospital Library, Milwaukee

# Recent Regents

## *Prominent Professionals Lend Talents to NLM's Board*

NLM NEWSLINE would like to catch you up on the most recent classes of distinguished individuals to join the Library's Board of Regents.

The NLM Board of Regents was established in 1956 by the same Act that created the National Library of Medicine. It serves as the advisory body to the Secretary, HHS; Assistant Secretary for Health; Director, NIH; and the Director, NLM, on all important aspects of policy regarding the Library and is the final review body for NLM's extramural grant program. The Board meets three times a year, in February, May and September.

Herewith, a listing of the most recent additions to the NLM Board of Regents.

- **Ernest L. Carter, Jr., MD, PhD**, is Director of the Telehealth Sciences and Advanced Technology Center at Howard University, Washington, DC. Dr. Carter is a health care and engineering professional with over 20 years' experience in the practice and management of pediatric medicine and 12 years of teaching. He has also worked for a dozen years implementing biomedical and electrical engineering programs. Dr. Carter is currently focused on the implementation of telemedical, distance learning and medical informatics systems. He earned his BA at Harvard, his MD at Harvard Medical School, and his MS and PhD (both in bioengineering) at the University of Pennsylvania. (Term ends 8/30/06.)
- **Wallace Conerly, Sr., MD**, is Dean of the School of Medicine and Vice Chancellor for Health Affairs at the University of Mississippi in Jackson. He is also a Professor of Medicine at the University and an attending physician at University hospitals and clinics. Dr. Conerly's term as Dean will end June 30th. Since he took the helm in 1994, he has attracted record grant funding to the School of Medicine, sharpened the focus on research and led the effort for greater outreach to the community and to minorities. To honor his distinguished service, the University will name its new critical care tower the Wallace Conerly Hospital for Critical Care. He earned his BS at Millsaps College in Jackson and his MD at the Tulane University School of Medicine in New Orleans, LA. (Term ends 8/3/06.)



Posing in the elegant History of Medicine Reading Room are the five newest Board of Regents members and the two outgoing members, current Board chair Alison Bunting and member Dr. Joseph Newhouse. Bunting is retired Interim University Librarian, Young Research Library, University of California, Los Angeles. (Board member 1999-2002 and chair 2002-2003.) Newhouse is John D. MacArthur Professor of Health Policy and Management, Harvard University. (Board member 1999-2003.) Left to right: Dr. A. Wallace Conerly, Dr. Ernest Carter, Dr. Thomas Detre, Dr. Newhouse, Dr. William Stead, Ms. Alison Bunting and Dr. Richard Dean.

- **Richard Henry Dean, MD**, is Senior Vice President for Health Affairs at the Wake Forest University School of Medicine, Winston-Salem, NC, and Director of the Wake Forest University Baptist Medical Center. A well-known vascular surgeon, Dr. Dean served as Professor and Head of the Division of Surgical Sciences at Wake Forest before assuming his current post at the school. He has published widely and held numerous visiting professorships around the world. Dr. Dean earned his BA from the Virginia Military Institute and his MD from the Medical College of Virginia in Richmond. He received his postdoctoral training at Vanderbilt University Hospital in Nashville, TN and Northwestern University Hospital in Chicago, IL.
- **Thomas Detre, MD**, is Executive Vice President for International and Academic Programs and Distinguished Service Professor for Health Sciences at the University of Pittsburgh, in Pennsylvania. Prior to that, he held the post of Senior Vice Chancellor for Health Sciences at the University (1984-98). A native of Hungary, Dr. Detre completed his medical

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reader of Mandeville. But although described as a book on the wonders of the world, the work does not simply select the wondrous, but presents the fabulous and mythical in the context of a systematic catalogue of nature.” The NLM has four copies of the work, one of which is complete and probably copied in the 18th century.

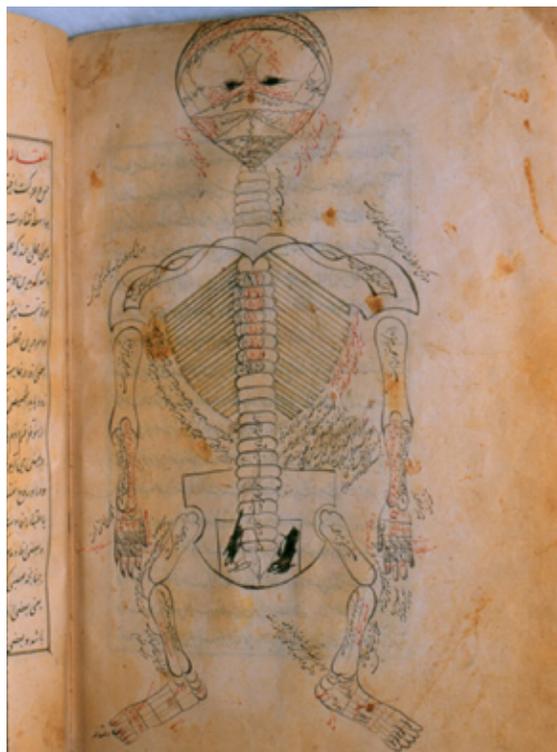
A writer with a particular interest in geography and the cosmos, Al-Qazwini was born in Qazvin, Iran in 1203. He is thought to have died in Baghdad around 1283. He gained considerable renown with his two encyclopedic works: the *Wonders of Creation* and a *Geography (Atbar Al-bilad)* that describes in alphabetical order the cities, countries, and geographical features of the region. (*The Geography* is not in the NLM collection.)

Another rarity in the NLM collection is *A Commentary on the Hippocratic Treatise On the Nature of Man (Sharh Kitab Tabl'at al-insan li-Buqrat)*, an early Islamic medical manuscript that contains a seldom found “ijazah”, or certification, that the student has read and mastered the treatise. The commentary On the Nature of Man is by Ibn al-Nafils, one of the historic figures in Islamic medicine, credited with being the first to correctly describe the lesser pulmonary circulation of blood in humans, centuries before Europeans understood the concept. (The description of the circulatory system is in another work by Ibn al-Nafis, his commentary on the *Canon of Medicine* by Avicenna.)

Ibn al-Nafis was a Syrian physician who worked most of his life in Cairo where he rose to “Chief of Physicians” before his death in 1288. He was an authority on theology, law, logic and religion, and a prolific writer of medical texts. His commentary copied by his student is the only recorded copy of this work. It contains a signed statement by Ibn al-Nafis certifying that the student successfully mastered the treatise. According to the colophon, the NLM copy dates from November 1269. The Army Medical Library purchased the volume in 1941 from Abraham Yahuda, who apparently acquired it in 1933 from the private library of Ahmad ‘Ubayd in Damascus.

Still another treasure in the NLM collection is a manuscript from 1488 that contains the earliest dated Islamic anatomical illustrations of the entire human body. These appear in a Persian treatise composed by Mansur ibn Muhammad ibn Ahmad ibn Yusuf ibn Ilyas, the *Anatomy of the Human Body (Tasbrib-i badan-i insan)*, usually called simply *Mansur’s Anatomy*. The NLM has two copies of this work by al-Mansur, who came from a Persian family of scholars and physicians and worked in the city of Shiraz.

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*Tasbrib-i badan-i insan (The Anatomy of the Human Body)* by Mansur ibn Muhammad ibn Ahmad ibn Yusuf ibn Ilyas (fl. ca. 1390) (MS P 18, fol. 12b)

## Pat on the Back

NLM’s National Center for Biotechnology Information (NCBI) has received a Readers’ Choice Award from *The Scientist*. Readers of that esteemed publication cited NCBI’s as the “Most Informative or Best-Designed Web Site.” As the article observed, “No wonder; the NCBI logs nearly 25 million hits per day, representing 240,000 discrete user sessions...Summarizing the NCBI’s success, director David

Lipman says the Center has tried to focus on those areas where it can make the most impact...But ultimately, he says the NCBI benefits most from the people who staff it. “We have been able to recruit and retain exceptionally talented people who seem to like what they’re doing.” NCBI’s home page is [www.ncbi.nlm.nih.gov](http://www.ncbi.nlm.nih.gov). The article in *The Scientist* appears on page 47 of the December 9, 2002 issue.

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*Mansur's Anatomy*, as described by Emilie Savage-Smith, contains “an introduction followed by five chapters on the five ‘systems’ of the body: bones, nerves, muscles, veins, and arteries—each illustrated with a full-page diagram. A concluding chapter on compound organs, such as the heart and brain, and on the formation of the fetus, was illustrated with a diagram showing a pregnant woman.”

Of the two copies at the NLM, a copy signed by a scribe named Hasan ibn Ahmad working in Isfahan is dated December 1488. The second NLM copy is undated and unsigned, but the paper, ink, and script suggest a late 15th or very early 16th-century origin in Iran.

These and other classic works in the Islamic medical collection link back to librarian Harold W. Jones, who took a chance in 1940 when he authorized the beginning of the collection that is now one of the great treasures at the National Library of Medicine.

Note: Most of the NLM Islamic manuscripts are described and illustrated online at “Islamic Medical Manuscripts at the National Library of Medicine” at [www.nlm.nih.gov/hmd/arabic](http://www.nlm.nih.gov/hmd/arabic).

*Thanks to Thomas Conuel, a freelance writer under contract to the Office of Communications and Public Liaison, for submitting this article.*

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## MEDLINEplus Advisory Group

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“Financial Assistance” and “Assistive Devices” are two recent additions.

In addition, the Institutes’ representatives can e-mail the MEDLINEplus team at any time if they want one of their programs or new health information resources featured on the MEDLINEplus homepage. They can use this mechanism to let NLM’s MEDLINEplus team know that they have just published a new document for the public on their site, so that MEDLINEplus can quickly link it to the appropriate health topic.

The Institutes are collaborating with NLM and the National Institute on Aging (NIA) on a separate project, NIHSeniorHealth.gov, a special website for seniors, too, which is slated for launch this fall. This site will feature information from several of the Institutes.

And what has the experience been like for members of the MEDLINEplus advisory group?

Kym Collins-Lee, Public Inquiries Manager/Website Manager with the National Eye Institute, can’t hide her enthusiasm.

“We love MEDLINEplus,” she says. “It really helps those of us who work in public affairs, to be able to direct people to it, for drug information and other resources.”

“I don’t know so much that we help with the development of MEDLINEplus,” Collins-Lee continues. “Instead, I think it’s been rewarding to learn about how MEDLINEplus was created and is maintained. There have been some great strategies developed, for consumer health, and many of us with the Institutes have learned from those.”

MEDLINEplus usage has been growing rapidly, doubling in the past year to a rate of more than 200 million page views per year. In addition to “Health Topics,” the main features of MEDLINEplus are consumer-friendly information about thousands of prescription and over-the-counter drugs, an illustrated medical encyclopedia and medical dictionaries, directories of hospitals and health professionals, a daily health news feed from the major print media, 150 interactive and simply presented tutorials (with audio and video) about diseases and medical procedures. Recently, *Consumer Reports* hailed MEDLINEplus as “the best place to find health information on the Web.”

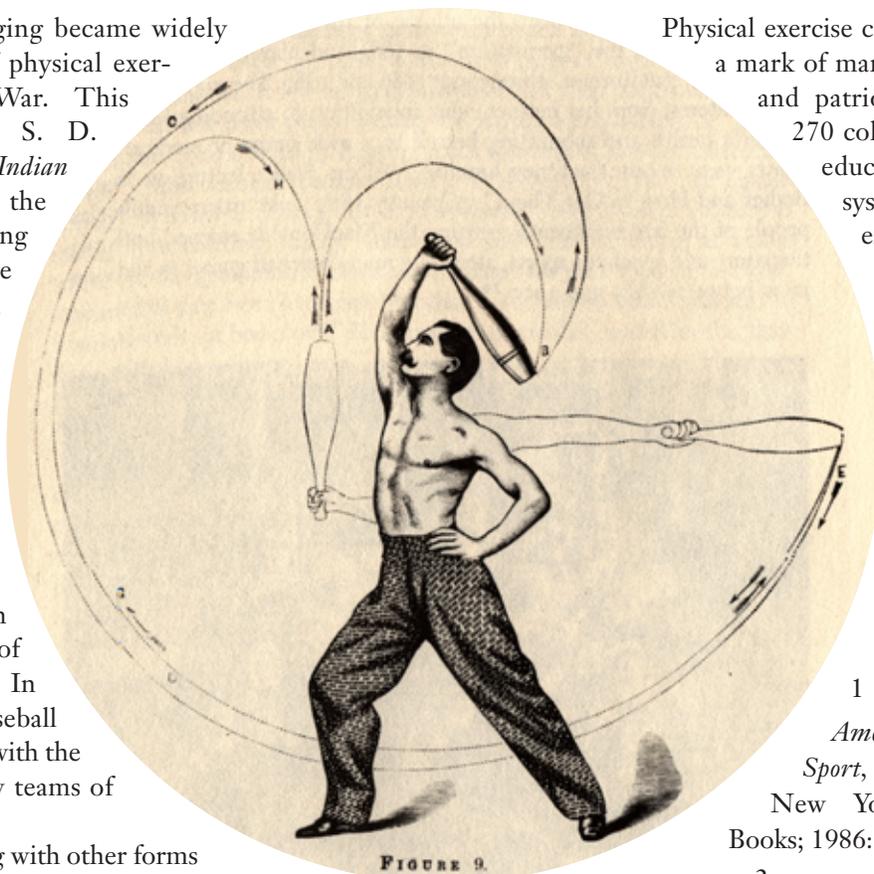
## The Indian Club Exercise

Indian club swinging became widely popular as a form of physical exercise after the Civil War. This image comes from S. D. Kehoe's book *The Indian Club Exercise* (1866); the practice of club swinging was said to produce the ideal, lean male body, exercising both mind and body. Indian clubs were so named because the soldiers of the British army in India had adopted and adapted a native exercise and brought it back to England in the middle decades of the 19<sup>th</sup> century.<sup>1</sup> In the United States, baseball teams soon practiced with the clubs, as did the crew teams of Harvard and Yale.

Indian clubs, along with other forms of rhythmic gymnastic exercises, were associated with "muscular Christianity," a social gospel that affirmed the importance of physical fitness for mental and moral improvement. Proper physical exercise built bodily strength and, with it, character and righteousness—shaping young men for God's work, and for the nation's.<sup>2</sup>

Gymnastic exercises—ideally, ones that exercised all the muscles in a balanced fashion and combined all ranges of motion—were said to counteract the dangerous tendencies toward nervous exhaustion, moral dissipation, and spiritual decadence associated with modern life in the big cities. Moses Coit Tyler, who would become the first professor of history in the United States, explained (in the words of the fictional Judge Fairplay of Brawnville): "It is truly a man's moral duty to have a good digestion, and sweet breath, and strong arms, and stalwart legs, and an erect bearing, as it is to read his Bible, or say his prayers, or love his neighbor as himself."<sup>3</sup>

In 1861, Amherst College was the first to introduce physical culture and gymnastics—including exercises with Indian clubs—as a required subject at the collegiate level.<sup>4</sup>



Physical exercise came to be regarded as a mark of manliness and a religious and patriotic duty. By 1901, 270 colleges offered physical education, 300 city school systems required physical exercises, 500 Young Men's Christian Association (YMCA) gymnasiums had 80,000 members, and more than 100 gymnasiums were associated with athletic clubs, military bases, and other institutions.

### REFERENCES

- <sup>1</sup> Green H. *Fit for America: Health, Fitness, Sport, and American Society*. New York, NY: Pantheon Books; 1986:191
- <sup>2</sup> Wharton JC. *Crusaders for Fitness: The History of American Health Reformers*. Princeton, NJ: Princeton University Press; 1982:271.
- <sup>3</sup> Tyler MC. *The Brawnville Papers*. Boston, MA: Files, Osgood; 1869: 163. Cited by Whorton JC. *Crusaders for Fitness: The History of American Health Reformers*. Princeton, NJ: Princeton University Press; 1982:281.
- <sup>4</sup> Allen N. Physical culture in Amherst College. *Am J Public Health*. 2003;93:720-2.

*By Elizabeth Fee, Chief of NLM's History of Medicine Division (HMD), and Theodore M. Brown of the Departments of History and of Community and Preventive Medicine at the University of Rochester, NY. Illustration is from the Prints and Photographs Collection, HMD, NLM. Column reprinted with permission from the American Journal of Public Health.*

# Products & Publications

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The Library's annual report, *National Library of Medicine Programs and Services*, Fiscal Year 2003, is now available. This 87-page compendium chronicles developments in each of the NLM divisions and includes information about the proposed new Library building, which is pictured on

the cover. The report is available free of charge to any interested parties. Please e-mail your name and postal address to [publicinfo@nlm.nih.gov](mailto:publicinfo@nlm.nih.gov) or call the NLM Office of Communications and Public Liaison at 301-496-6308 to place your order.

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# NAMES IN THE NEWS

RECOGNIZING  
AND HONORING  
THE NLM COMMUNITY

**Dr. David J. Lipman**, the first and only director of NLM's National Center for Biotechnology Information (NCBI), has been named a member of the National Academy of Sciences, a private organization of scientists and engineers dedicated to the furtherance of science and its use for the general welfare. Election to membership in the Academy is considered one of the highest honors that can be accorded a U.S. scientist or engineer. Since coming to NCBI in 1989, Dr. Lipman has been a creative, driving and stabilizing force within the organization and has become a recognized leader in defining the emerging scientific fields of bioinformatics and comparative genomics. The databases and analysis tools created by NCBI under his leadership are often cited as the international standard for generating new knowledge. A native of Rochester, NY, Dr. Lipman earned his BA from Brown University (1976) and his MD from the State University of New York at Buffalo (1980). After completing his internal medicine internship at the University of Arizona at Tucson in 1981, Dr. Lipman joined the National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK) at NIH as a Medical Staff Fellow in the Mathematical Research Branch. He has served as a member of the US Public Health Service Commissioned Corps since 1984.

**Patricia Tuohy**, head of NLM's Exhibition Program, received a coveted National Institutes of Health Plain Language Award at an April 23<sup>rd</sup> ceremony on the NIH campus. The Exhibition Program brochure, *The Once and Future Web: Worlds Woven by the Telegraph and Internet*, created for an NLM exhibition of the same name (2001-2002), placed seventh out of nearly 300 nominations. The awards committee characterized the brochure thus: "This appealing, creative brochure accompanies an exhibit at the National Library of Medicine. In impressively clear narrative, it conveys the effect that technology has on our lives. It both provides a brief overview of and is used to attract visitors to the exhibit." Asked for comment, Tuohy noted, "The best exhibitions tell interesting stories about intriguing ideas. *The Once and Future Web*, an exhibition about the transforming power of telecommunication technology, had a compelling and contemporary theme that touched many visitors. The NLM Exhibition Program had a talented and creative team working on that project and we all participated in every aspect of the development of the exhibition. I believe the NIH Plain Language Award recognizes the efforts of everyone involved."

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## Recent Regents

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*continued from page 17*

education at the University of Rome. He then came to the U.S. and received his postgraduate training in psychiatry at New York's Mt. Sinai Hospital and Yale University. (Term ends 8/3/05.)

- **William W. Stead, MD**, is Professor of Medicine, Professor of Biomedical Informatics, Director of the Informatics Center and Associate Vice Chancellor for Health Affairs at Vanderbilt University, Nashville, TN. In these capacities, he is responsible for both the Medical Center's working operation and decision support systems, the Medical Center Library and an

interdisciplinary faculty unit engaging in biomedical informatics research and training. Dr. Stead was Editor-in-Chief of the *Journal of the American Medical Informatics Association* from its inception in 1993 until 2002. He received his BA and MD from Duke University, Durham, NC, where he also served residencies in Internal Medicine and Nephrology. (Term ends 8/3/05.)

The following references cite works that discuss the products and services of the NLM. If you know of other appropriate citations for this column, please send reprints or references to Melanie Modlin, Editor, *NLM NEWSLINE*, Office of Communications and Public Liaison, NLM, Bethesda, MD 20894, or e-mail to: [mm354i@nih.gov](mailto:mm354i@nih.gov). (NOTE: Some of the articles listed may be outside the scope of the NLM collection and therefore not available from the Library on interlibrary loan.)

Akella AB. On making science freely available. *Science*. 2003 Feb 28;299(5611):1314.

Antani S, Long LR, Thoma GR, Lee DJ. Evaluation of shape indexing methods for content-based retrieval of x-ray images. *Proc SPIE*. 2003;5021:405-16.

Ben Abdelaziz A, Harrabi I, Aouf S, Gaha R, Ghannem H. [Typology of Tunisian medical research indexed in Medline from 1965 to 1999]. *Tunis Med*. 2002 Sep;80(9):548-55. French.

Birch DW, Eady A, Robertson D, De Pauw S, Tandan V. Users' guide to the surgical literature: how to perform a literature search. *Can J Surg*. 2003 Apr;46(2):136-41.

Dai G, Yang KH, Li QH. [Bibliometric analysis on tissue engineering research literatures]. *Zhongguo Xiu Fu Chong Jian Wai Ke Za Zhi*. 2000 Sep;14(5):308-10. Chinese.

Dijkers MP. Searching the literature for information on traumatic spinal cord injury: the usefulness of abstracts. *Spinal Cord*. 2003 Feb;41(2):76-84.

Djulgovic B, Coleman R, Stahel R, Singh D, Lyman G. Evidence-based oncology in cancer treatment reviews. *Cancer Treat Rev*. 2003 Feb;29(1):45-50.

Fernandez E, Garcia AM. Accuracy of referencing of Spanish names in Medline. *Lancet*. 2003 Jan 25;361(9354):351-2.

Ford G, Thoma GR. Ground truth data for document image analysis. In: *SDIUT '03*. Proceedings of the 2003 Symposium on Document Image Understanding; 2003 Apr 9-11; Greenbelt, MD. College Park (MD): University of Maryland, Institute for Advanced Computer Studies; 2003. p. 199-205.

Glover J. Searching for the evidence using PubMed. *Med Ref Serv Q*. 2002 Winter;21(4):57-65.

Hauser SE, Sabir TF, Thoma GR. OCR correction using historical relationships from verified text in biomedical citations. In: *SDIUT '03*. Proceedings of the 2003 Symposium on Document Image Understanding; 2003 Apr 9-11; Greenbelt, MD. College Park (MD): University of Maryland, Institute for Advanced Computer Studies; 2003. p. 171-7.

Hauser SE, Schlaifer J, Sabir TF, Demner-Fushman D, Thoma GR. Correcting OCR text by association with historic datasets. *Proc SPIE*. 2003;5010:84-93.

Heath Web site could serve as national model. *iHealthBeat* [Internet]. 2003 Jan 17:[5 paragraphs]. Available from: <http://www.ihealthbeat.org/members/basecontent.asp?contentid=24432> Subscription required.

Hebert RS, Smith CG, Wright SM. Minimal prevalence of authorship misrepresentation among internal medicine residency applicants: do previous estimates of "misrepresentation" represent insufficient case finding? *Ann Intern Med*. 2003 Mar 4;138(5):390-2.

Kim J, Le DX, Thoma GR. Automated labeling of bibliographic data extracted from biomedical online journals. *Proc SPIE*. 2003;5010:47-56.

Larkin M. New internet brings medicine up to speed. *Lancet*. 2003 Mar 8;361(9360):844-5.

Mao S, Rosenfeld A, Kanungo T. Document structure analysis algorithms: a literature survey. *Proc SPIE*. 2003;5010:197-207.

Pelliniemi LJ. New tools for market analysis in databases of medical research reports. In: *Global HealthCare* [Internet]. 2nd ed. London: World Markets Research Centre; 2002. p. 31-2, 34. Available from: <http://www.wmrc.com/businessbriefing/pdf/healthcare2002/book/pelliniemi.pdf>

Perkel JM. The Scientist readers' choice awards: stand and be counted. *The Scientist*. 2002 Dec 9:45-7. Most informative or best-designed Web site; p. 47.

Shamp J. N.C. opens national window to free health information. *The Herald-Sun* (Durham, NC). 2003 Jan 14:[2 p.].

Solagberu BA. Literature search in medical publications. *West Afr J Med*. 2002 Oct-Dec;21(4):329-31.

Stewart MG, Kuppersmith RB, Moore AS. Searching the medical literature on the Internet. *Otolaryngol Clin North Am*. 2002 Dec;35(6):1163-74, v-vi.

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