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Special Supplement
MLA '02 Abstracts

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Directing development (fund raising) and the collection (library resources): a diverse, cutting-edge library position

Carole Gall, development and collection management director, Ruth Lilly Medical Library, Indiana University School of Medicine–Indianapolis

During the last several years, my duties have evolved well beyond being a technical services librarian, to being head of the unit, to adding on interlibrary loan and special collections for a new title of director of collection management. Later on, I began a regular turn at the Reference Desk, which remains a tremendous experience for giving and gaining information. By obtaining several grants, I enabled the medical library to purchase books, the hardware for its first OVID system, electronic journals, and materials for collaborative library partners around the city. In addition to raising $750,000 in grants and leading the collaborative network, I got the experience and idea for doing even more. In 1999, the medical library was fortunate to attract a dynamic new director for the twenty-first century. One of her ideas was to begin our first-ever fund-raising program. The Indiana University (IU) School of Medicine had a philanthropic office, as did the Indiana University Purdue University Indiananpolis (IUPUI) campus, the IUPUI University Library, Indiana University, and the IU Foundation, but not the Medical Library, whose funding came from the dean of the School of Medicine. There was no way to fund a new position for development, so the new director matched my desire to broaden my skills with her goal of a fund-raising program. Before the accepting new responsibilities, I had to shepherd the medical library's interests through the transition from IU 's online catalog to a Web-based catalog. After reprioritizing, reorganizing, and being released from long-time duties, I was then free to set up and be a part of a collection management team. By then, the Sabbatical Review Committee had granted me a six-month sabbatical leave to study and draft a fund-raising plan for the medical library. Some other issues resulted from duty diversification, such as where to house an impressive development office in the library. If I remain located in the technical processing area, I will get absorbed in the daily problems there and not focus on my new responsibilities, which will be about 80% fund raising.

Bringing effective skills and technology together (BESTT)

Mary S. Edgerly, reference librarian, Lewis J. Ort Library, Frostburg State University, Frostburg, MD

Purpose: This paper will describe a recent graduate's experience in developing a project that incorporated new leadership roles for librarians with emerging technologies. The author graduated from an ALA-accredited master's program in December 1999.

Setting/Participants/Resources: Participants included rural and semi-rural health sciences librarians in six states. A one-day conference was simulcast using distance-education technology. Follow-up, hands-on training was provided in two states. Project partners included a community-based organization, a state university, and a state library association. Bringing Effective Skills and Technology Together (BESTT) was funded by a federal agency.

Brief Description: A diversity of duties was needed to complete this project, including grant writing, conference planning, Web publishing, familiarity with distance education, presentation skills, and project management. The project involved three primary activities. First, an all-day conference on emerging technologies and new roles for rural health librarians was developed. The conference was held at three locations via compressed video, with participants and speakers at each location. The second stage involved publication of a Website that included links to tools to help patrons evaluate health information, including critical thinking, best practices, evidence-based medicine, and clinical guidelines. Also available at the Website are the Webcast of the conference and guidelines for replicating a similar project in other areas. Finally, hands-on follow-up training was provided in six locations to introduce the Website and tools found thereon.

Results/Outcome: The conference was well attended by librarians in six states, and evaluations were highly positive. At the time of this writing, the project is ongoing, with the first hands-on training to begin later this month. The newly developed Website will continue to be upgraded throughout the funding cycle and after. Results on these later phases of the project will be reported at MLA '02.

Evaluation Method: A Logic Model was developed for this project. Evaluation methods included pre- and post-tests, evaluation forms, and a follow-up survey.

A grants consultant: meeting the funding information needs in an academic health sciences center

Martha L. Means, research consultant, Research Funding Service, Health Sciences Libraries, University of Washington–Seattle

Purpose: Describe a nontraditional librarian position designed to provide in-depth grant consultation and training to health sciences researchers.

Setting: The Research Funding Service (RFS) is a collaborative program of the academic health sciences library and the School of Medicine serving researchers in six health sciences schools in a large, public academic health sciences center in an urban area. RFS is located in the library. Researchers come from medicine, public health, nursing, dentistry, pharmacy, and social work.

Brief Description: RFS is a three-person program composed of a librarian, a consultant/editor, and the director, who is a working scientist. Key services provided to ensure researchers receive current and targeted information are: ninety-minute consultations with individual researchers by appointment, selection and maintenance of the grants funding toolkit of the library's Website, funding workshops, a monthly funding newsletter, and electronic dissemination of late-breaking funding information. The librarian provides in-depth funding reference for the library and participates in the librarian liaison program to departments and central Information Desk support to ensure a

seamless program. She ensures that library staff receive appropriate training in grants information resources and appropriate referrals.

Results/Outcome: This position allows the librarian to develop an area of specialization that enhances the library's ability to provide the kind of detailed, personalized funding information needed by researchers in major academic health sciences centers. The librarian's ability to provide information is enhanced, because she works directly with a working scientist, attends funding-related events, and interacts with funding-related offices in the university that librarians traditionally do not contact. She is also in a position to disseminate information about the library to scientists and university administrators.

Evaluation Method: Referrals by mentors of junior scientists and others, monthly statistics on Website, written class evaluations, positive anecdotal reports, repeat requests for presentations. A study is underway of grants success in junior faculty who have used the funding service and those who have not.

BI through your PC: the health sciences library's role in building and implementing an interdisciplinary online informatics course

Martin J. Brennan, assistant information services librarian, and **Norma Walters,** resident information services librarian, Library of the Health Sciences, University of Illinois–Chicago

Purpose: This paper will report on the ongoing effort to design and implement an online health informatics course for a large urban university.

Setting/Participants/Resources: The Library of the Health Sciences at the University of Illinois–Chicago (UIC) is a large, academic health sciences library in an urban setting. Information services librarians have worked in conjunction with other health sciences faculty for the last two years to design and deliver a fully online course in health informatics. The planning process, the pilot phase in fall of 2001, and the full implementation scheduled for spring of 2002 will be addressed.

Brief Description: Faculty from across the health sciences disciplines came together at UIC to begin the design of an online informatics course several years ago, and their efforts are finally coming to fruition. Librarians were on board through the entire planning process and have contributed greatly to the design and feel of the course, as well as contributing significant content. This paper will focus on the history of this process, with a particular focus on the library's role, and take a look at the overall success of the pilot and full implementation.

Results/Outcome: The fall 2001 pilot course—offered to nearly 100 students from the nursing, pharmacy, and medical schools—has been very well received, and is continuing. By the time of MLA '02, we will have further data on the full implementation phase.

Evaluation Method: The fall 2001 pilot course—offered to nearly 100 students from the nursing, pharmacy, and medical schools—will produce library-specific evaluation data, with the next phase's data to come later. Activity on the course sites is monitored to measure how long students spend viewing the material, and a detailed evaluation is performed by the students on a weekly basis. Additionally, health sciences faculty who participated in the group will be interviewed about their impressions of the library's role.

New roles: professional staff sharing between a hospital and an academic library

Melissa L. Just, AHIP, manager, Health Sciences Library, Childrens Hospital Los Angeles, Los Angeles, CA

Setting: Childrens Hospital Los Angeles (CHLA) is a 300-bed hospital and research institute affiliated witht the University of Southern California (USC). The hospital is located seven miles from the campus. All physicians and researchers who work at CHLA are USC faculty. The USC Norris Medical Library serves the students, faculty, and staff on the USC Health Sciences Campus including the onsite affiliated hospitals. CHLA is served by the Health Sciences Library.

Description: In the last five years, the hospital has outsourced many of its ancillary services including instructional imaging and information technology. When the librarian at the hospital resigned, she proposed a different type of outsourcing solution: outsource and staff-share with the university. Because many of the employees onsite at the hospital are university faculty, they qualify for many university electronic resources, discounted rates on inter- and intra-library borrowing, and other services at the academic medical library. However, because of the distance between the hospital and the campus, many of these benefits were underutilized by hospital affiliates. Conversely, the needs of the faculty at the hospital were not well represented to the academic library when considering new resources. Now in its third year, the shared position is outsourced to the university, and the librarian works half time in each location. This position improves service in a number of ways including
• The librarian is part of the reference/instruction team at the academic library and is always up to date on the available resources.
• The librarian can advertise and market those resources more effectively to the offsite faculty.
• The needs of the offsite faculty are represented when selecting new electronic resources.
• The libraries negotiated a closer relationship for interlibrary loan and resource sharing.
Outcome: This paper will describe the current relationship, future collaboration, and the benefits and drawbacks from both perspectives.

Contributed Paper and Invited Speaker Session

Diversity, Demographics, and Disparities in Accessing and Delivering Health Information and Health Care: Part I

**Chiropractic Libraries, Relevant Issues, Consumer and Patient Health Information, and Public Health/Health
Administration Sections and Complementary and Alternative Medicine, Mental Health, Osteopathic,
African American Medical Librarians Alliance, and Outreach SIGs**
Sunday, May 19, 2002, 4:00 p.m.–5:30 p.m.

Mental health parity and disparities among diverse populations

Fredrick Sandoval, member, Board of Directors, National Alliance for the Mentally Ill, Santa Fe, NM

CHAIN: Oklahoma's comprehensive HIV/AIDS information network

Shari Clifton, head, Reference and Instructional Services; **Robin Insalaco**, assistant professor/reference librarian; and **Roswitha Allin**, assistant professor/reference librarian; Robert M. Bird Health Sciences Library, University of Oklahoma Health Sciences Center–Oklahoma City

This paper will report on the development and implementation of a Website designed to serve as a single point of entry for individuals needing information about HIV/AIDS. This Website was designed to meet the need for a central, statewide resource that would allow those with HIV/AIDS, their families, and their health care providers the ability to quickly and easily access information relevant to HIV/AIDS. Key components of the site will be discussed including a comprehensive resource directory, online library, electronic reference desk, and a calendar of events. Presenters will address how the rural character of the state and other demographic variables impact the delivery of information. Planning a project of this magnitude; development, maintenance, and expansion of the Website; marketing and training concerns; and the collaborative work of project partners will also be discussed in this session.

PITTCat for the Consumer: designing a public access catalog for a specific user population

Deborah Silverman, assistant director for resource management, and **Malgorzata Fort, Ph.D.**, cataloging and database management librarian, Health Sciences Library System, University of Pittsburgh, Pittsburgh, PA; and **Tamar Smith,** systems developer, Information Services, Pittsburgh Mercy Health System, Pittsburgh, PA

Purpose: This paper discusses the development of PITTCat for the Consumer, an online public access catalog (OPAC) for the Health Sciences Library System's (HSLS's) consumer health collections, and the service and technological issues involved in creating an OPAC for a specialized audience.

Setting/Participants/Resources: HSLS serves the Schools of Medicine, Dental Medicine, Health and Rehabilitation Sciences, Nursing, Pharmacy, and Public Health; the University of Pittsburgh; and the hospitals of the UPMC Health System. Consumer health collections managed by HSLS include the Hopwood Library at UPMC Shadyside and the Patient Information Center at the University of Pittsburgh Cancer Institute. PITTCat is the OPAC for all University of Pittsburgh libraries.

Methodology: Endeavor's WebVoyáge software was used to develop an OPAC for access to the HSLS consumer health collections. Developers examined features and layout of the existing OPAC and identified problems they would pose to average consumers.

Brief Description: While PITTCat is effective for the professional and academic community, it is complex and cumbersome for the public looking for consumer health materials. PITTCat for the Consumer was launched in September 2001 to provide streamlined access to the HSLS consumer health collections. Using the same software as PITTCat and accessing the same bibliographic database (limited to specific collections), the specialized interface is more manageable for the untrained user. Some standard PITTCat features and collections not available to the general public were eliminated or supressed, and other features, such as QuickTopics, were developed specifically to aid inexperienced searchers.

Results/Outcome: Users of PITTCat for the Consumer find materials specific to their needs without complex searches necessary to maneuver in a very large academic database. Specialized search pages allow access to collection information without any knowledge of OPAC searching.

Discussion/Conclusion: Special needs and technological limitations must be weighed carefully when customizing general OPAC software for a specific audience, but it can be done if approached creatively. Evaluation is ongoing, and results will be incorporated into further development.

Multifocal medical information outreach: using a variety of approaches to provide tailored medical information and services to targeted user-groups

Jonathan Hartmann, AHIP, outreach librarian, Raymon H. Mulford Library, Medical College of Ohio–Toledo

Purpose: This paper will report on the use of a variety of means to provide tailored medical information outreach and outreach services to specific user-groups.

Setting/Participants/Resources: The Raymon H. Mulford Library, Medical College of Ohio, is a large, academic health sciences library in an urban setting. Within the last four years, the library has launched a number of outreach programs for health professionals and the public in Northwest Ohio.

Brief Description: The Raymon H. Mulford Library at the Medical College of Ohio provides outreach to Northwest Ohio through a variety of programs designed to meet the unique medical information needs of specific groups of patrons. Due to the differing capabilities and needs of each group of users, each program uses unique means to provide tailored services and information to each group. The Health Information Network for Northwest Ohio program employs a network library catalog to allow registered health professionals in the region to identify and borrow material from any of three network medical and hospital libraries. The Medical College of Ohio Area Health Education Center (AHEC) MedReach program utilizes onsite computers, an educational program in the medical applications of computers, and computer access accounts that allow preceptors and students to access restricted databases and full-text resources from remote locations. The AIDS Info-Access for Northwest Ohio program uses a Website to identify agencies and organizations that provide HIV/AIDS services in the region.

Results/Outcome: Twenty computers designed for medical information access have been installed at sites throughout Northwest Ohio; over 120 AHEC preceptors and students have MedReach access accounts; more than 200 health professionals have been trained to access electronic medical information; and three outreach program Websites have been created.

Evaluation Method: Usage of all of the outreach programs Websites is monitored, and site users can email comments and suggestions. All program educational sessions are evaluated by participants. Overall formal evaluation and informal feedback on the programs has been very positive.

Internet connectivity and health information access for underserved community-based organizations: the Houston AIDS Information Link provides a successful model

Stephanie Normann, administrator, Information Services, School of Public Health, University of Texas–Houston

The Houston AIDS Information Link (HAIL) is a voluntary consortium made up of culturally diverse treatment, service, and educational organizations organized to provide HIV positive individuals, health care workers, and the affected community with immediate access to HIV/AIDS and wellness information via the Internet. The consortium was formed in 1994 with funding from the National Library of Medicine's first AIDS Community Outreach Grants (RFQs). Five expansion/extension grants allowed the consortium to "formally" continue through November 2001, and now we expect to continue less formally holding quarterly rather than monthly meetings. Our Web page (www.HAILinfo.org) is kept current with both links to HIV/AIDS Internet information and member agency information. Communication is maintained with members through personal contact and email. This paper focuses on what benefits accrued to the community based organizations, what organizational factors helped HAIL accomplish its objectives, and what lessons can be shared with other library or information organizations working with community-based organizations to increase their success.

Invited Speaker Sessions

Delivering Genetics Information to Health-Care Consumers
Cancer Librarians, Veterinary Medical Library Sections, and Molecular Biology and Genomics SIG
SUNDAY, MAY 19, 2002, 4:00 P.M.–5:30 P.M.

Genetic information: transcription, translation, and replication

Angela Scheuerle, M.D., president, Teratology and Ethics Consulting, Dallas, TX

In general information about genetics falls into three categories: scientific/technical, patient-oriented, and anecdotal. This is not different from information available for any other topic, but genetics is also steeped in mystique, which complicates the picture. This phenomenon is compounded, because genetics is both subtle and complex. Some genetic concepts simply cannot be explained in a few sound bites or newspaper paragraphs. Scientific and technical genetic information is abundant and exciting. The Human Genome Project and its sequels are available in the public domain. Any individual using the Internet can look up a gene sequence, the biochemistry of a protein, the clinical manifestations of a particular mutation, or the labs that are testing for rare diseases. Many reliable databases are continuously updated and revised; it is not unusual to research a topic and find that the last update occurred within the previous week. There is also a solid core of excellent reference and text books. Information for the patients and general public takes a variety of forms. The most useful materials tend to be generated by parent and advocacy groups. These have the advantage of being thorough within a particular topic. Patient-oriented material on the Internet can be problematic. The professional organization Websites are very good. Unfortunately, there are a number of Websites from doctors that attempt to answer genetic questions or give genetic information, and their material is outdated or simply wrong. These sites can be dangerous to patients, because the aura of "a doctor's Website" may override a healthy skepticism about the information. Anecdotal information is simple and easy to understand and usually makes

some sort of point. Some balanced compilations of anecdotes are very good. Unfortunately, stories, particularly those on the Internet, tend to be from patients who feel cheated, uninformed, or otherwise mistreated. As with any other circumstance, those people who are coping well with their disease are not using media to vent their frustrations. The result is a more negative impression of a particular condition than may exist. Examples and a list of recommended resources will be presented at the talk.

DNA demystified: online resources in genetics and cancer genetics for consumers

Gail Y. Hendler, AHIP, information services librarian, Frederick L. Ehrman Library, New York University School of Medicine–New York,and **Kristine Alpi, AHIP**, information services librarian, Samuel J. Wood Library, Weill Medical College, Cornell University, New York, NY

The mapping of the human genome, and the ongoing publicity surrounding molecular genetics discoveries and their impact on human disease, brings a demand for publicly accessible information about the genetic tests and therapies available to diagnose and treat illness. Patients and providers can now predict the likelihood of colon and breast cancer via testing for BRCA and MSH and MLH genes. Cancer drugs such as Gleevec® make signal transduction inhibition a part of the vocabulary for cure. Doctors and nurses are likewise inundated with the genetics revolution's advances and hype and may also need help in sifting through the headlines to understand how to talk with their patients about relevant developments. As information tries to keep pace with innovation, outreach and education efforts are increasingly offered online. Websites such as GeneReviewsÔð and the Genetics of CancerÔð inform the general public, clinicians, and patients about genetics and cancer genetics, focusing on how molecular research translates into patient care. Librarians can play a major and proactive role by locating, selecting, and providing access to the information that will enable health care consumers better understand their options and thus make better informed and healthier choices. While the array of online resources to assist the health care consumer has expanded, *is what is currently available sufficient to meet the information need?* Issues of ethics, cultural competency, literacy, and numeracy pose substantial challenges to genetic counselors, health educators, health care providers, and librarians supporting people with concerns about their genetic health. Librarians can best demystify clinical genetics by identifying the information needs and filling the gap by finding and filtering the information patients and their health care providers need.

Dollars and Sense: Part I

Collection Development, Technical Services, Hospital Libraries, Consumer and Patient Health Information,
Public Services, and Federal Libraries Sections
SUNDAY, MAY 19, 2002, 4:00 P.M.–5:30 P.M.

A method out of the madness: OhioLINK'S collaborative response to the serials crisis

Tom Sanville, executive director, OhioLINK–Columbus

The current practices of journal acquisition are grounded in the legacy of a print-bound world in which each library is an island of access for its own patrons. With electronic desktop delivery to information, increased ease of access allows far greater information

use than previously possible. The extent of this additional use is still an open question, but, based upon the OhioLINK experience thus far, it appears that improved ease of access has demonstrated the high elasticity in information usage. Libraries and consortia must seek to enable this desirable outcome by adopting sustainable purchase models that provide for expanded journal access. The first forty-eight months of operation of the OhioLINK Electronic Journal Center (EJC) is an exemplary illustration of the dramatic benefits of expanded access for both university and medical libraries. Small and two-year colleges are also beneficiaries through first-time access to scholarly journals. With the continuation in eroding library collections that prove to be even more inadequate in an electronic information environment, libraries and consortia must take advantage of the opportunities illustrated by the EJC that fashion, through an evolutionary process, a sustainable economic model of information purchase that maximizes information use.

Dealing with At-Risk Employees

Leadership and Management Section and Mental Health SIG
SUNDAY, MAY 19, 2002, 4:00 P.M.–5:30 P.M.

Dealing with at-risk employees

Rita R. Handrich, Ph.D., president, RHandrichConsulting, Austin, TX

You are invited to attend a session at MLA '02 on dealing with at-risk employees sponsored by the Leadership and Management Section and the Mental Health SIG. This program will review how library managers and coworkers can learn skills to deal with at-risk employees. Persons considered to be at-risk include those with psychological problems, such as depression and anxiety; job stress and burnout (dealing with budget cuts, layoffs, job transfers, etc.); drug and alcohol abuse (themselves or their family members); and sudden chronic illness, like Parkinson's or cancer, etc. This program teaches how to identify personnel with problems and how to assist them.

2002 EMBASE/com Lecture: Contemporary Pharmaceutical Compounding

Pharmacy and Drug Information Section
SUNDAY, MAY 19, 2002, 4:00 P.M.–5:30 P.M.

Contemporary pharmaceutical compounding

Loyd V. Allen, Ph.D., R.Ph., editor-in-chief, *International Journal of Pharmaceutical Compounding,* Edmond, OK

The 2002 EMBASE/com Lecture will present the history, current status, regulatory, and future aspects of the preparation of individualized medications for patients. In the past, pharmacy was compounding! The practice gave way to industrialized, mass-produced pharmaceuticals, which still provide medications of the highest quality anywhere in the world. However, there are numerous reasons for the rapid increase in compounding pharmacy, and these will be discussed. Pharmacy compounding is governed by the Food and Drug Administration, the State Boards of Pharmacy, the U.S. Pharmacopeia, and numerous other governmental agencies, as will be outlined. One of the most exciting aspects of the presentation will be the future of compounding pharmacy and what it holds for all of us.

Roundtable Discussion Session

Digital Devices to Go Roundtable

Educational Media and Technologies and Public Health/Health Administration Sections and Internet SIG
SUNDAY, MAY 19, 2002, 4:00 P.M.–5:30 P.M.

Section Program II

Contributed Paper Sessions

Dollars and Sense: Part II

Consumer and Patient Health Information, Collection Development, Hospital Libraries,
Public Services, and Federal Libraries Sections
MONDAY, MAY 20, 2002, 10:30 A.M.–NOON

Doubling dollars, making sense: collaborating with a community cancer health coalition

Ann Duesing, UVa College at Wise outreach librarian; **Gabriel R. Rios,** assistant director, Information Services and Technology; and **Gretchen N. Arnold, AHIP**, associate director, Operations; Claude Moore Health Sciences Library, University of Virginia–Charlottesville

Purpose: This paper will discuss the collaboration of the outreach librarian with the community-based cancer coalition to obtain financial and community support to establish a cancer resource center in a nonclinical setting for cancer patients and families of the region.

Setting/Participants/Resources: One segment of the University of Virginia Health Sciences Library Outreach Program is based in rural Southwestern Virginia (SWVA). The SWVA outreach librarian began working with a community cancer coalition, Central Highlands Appalachia Leadership Initiative on Cancer (CHALIC), in 1998. Through this partnership a cancer information center is being developed. Several grants and one NN/LM subcontract have been obtained by the partners to purchase equipment, hire a program coordinator, and begin developing the volunteer network that will become the information providers for the center.

Brief Description: Cancer is the second leading cause of death in this rural area. To help combat this disease, CHALIC was formed in 1993. When the outreach librarian joined the coalition in 1998, efforts were focused on the need for cancer information resources. This paper describes the strategies used to establish a cancer information center through grants and an NN/LM subcontract, as well as fiscal and organizational support, locally and regionally.

Result/Conclusion: The result has been more than an expansion of outreach budget resources; it has provided a positive impact on community health, an opportunity to develop a partnership with community health leaders, and an immense increase in the outreach program visibility in the region.

Electronic health information for the public project: Western Maryland InfoHealth

Mary S. Edgerly, reference librarian, Lewis J. Ort Library, Frostburg State University, Frostburg, MD

Purpose: This paper will report on a project designed and implemented by a consortium to assess the public's health information needs and improve access to quality electronic health information in a specific region.

Setting/Participants/Resources: The project took place in a rural/semi-rural area with disparities in health care based on socioeconomic and geographic factors. A consortium of public, academic, and health science librarians developed and implemented the project.

Brief Description: The project's goals included assessing regional residents' health information needs using a print and online health information needs assessment; training librarians, health professionals, and service providers on accessing electronic health information to better serve clients; and developing and publishing a Website of locally available health resources.

Results/Outcome: By working together as a consortium, the librarians who developed and implemented this project were able to reach more people and provide more services than they could have working alone. Due to the geographic isolation of the service area and the paucity of local resources, the consortium approach was vital to developing and completing the project, which also received funding from a federal agency. Thirty-six librarians and twenty-one service providers received initial training on electronic health resources, and thirty-eight of these individuals also received follow-up training. As a direct result of the training, information requests at the region's Primary Access Library were increased. The project's Website links to health information and resources, including full-text resources, for three counties. The Website is a unique resource in the area. The Health Information Needs Assessment was completed by 128 persons. The results are not from a representative sample and are not statistically significant; however, they do provide data to help the librarians understand their audience and plan future activities.

Evaluation Method: The needs assessment explored the knowledge, skills, and attitudes of residents regarding electronic health information, and findings are reported in the contributed paper. Training participants completed evaluation tools, and a follow-up survey assessed the value of the trainings after time had passed. The Website includes a hit counter and feedback form.

Networking consumer health information in Arkansas: the ARCHIN experience

Mary L. Ryan, AHIP, library director, and **Susan C. Steelman,** coordinator, Outreach Services, UAMS Library, University of Arkansas for Medical Sciences–Little Rock

Purpose: This paper will report on the creation of a consumer health information network in Arkansas and the Website ARHealthLINK.

Setting/Participants/Resources: The University of Arkansas for Medical Sciences (UAMS) Library is the primary academic health sciences library in predominantly rural Arkansas. Within the last year, the library has been the driving force behind the creation of a statewide consumer health information (CHI) Website (www.arhealthlink.org), which went live in October 2000. A main feature of the site is the provision of Arkansas-specific health information.

Brief Description: Since 1998, the UAMS Library has spearheaded the cooperative effort to build the Arkansas Consumer Health Information Network (ARCHIN). Numerous public and academic libraries, health agencies, and groups have worked together to create a network of consumer health information providers in the state. Issues addressed include: the purpose of the project, the planning and development of the network and its task forces, and the funding and creation of the ARHealthLINK Website.

Results/Outcome: This ongoing project has created a relationship among CHI providers and librarians across Arkansas. The Website acts as a central source for authoritative national health resources and Arkansas-specific health information.

Evaluation Method: Evaluation methods include feedback forms, email comments, and statistical software for analyzing use of the ARHealthLINK site.

Information for healthy living: HealthyNJ—providing statewide consumer health using an integrated Web-based approach

Micki McIntyre, HealthyNJ librarian, Health Sciences Library at Stratford; **Judy S. Cohn**, acting university librarian, George F. Smith Library; **Janice K. Skica,** campus library director, Health Sciences Library at Stratford; and **Cathy Weglarz,** information management librarian, Robert Wood Johnson Library of the Health Sciences; University of Medicine and Dentistry of New Jersey–Newark

Purpose: Describe the development and implementation of an integrated statewide consumer health Website, HealthyNJ. Information outlines a strategic approach to delivering an easily navigable, objective Website for use by librarians and consumers throughout the state. Using a realistic scenario, the audience will experience the uniquely integrated features of HealthyNJ.

Setting/Participants/Resources: The University of Medicine and Dentistry of New Jersey (UMDNJ) is the state university of the health sciences and is the nation's largest of its kind. UMDNJ has a major goal relating to community impact and diversity. HealthyNJ is an application of community service delivered using Web technology. Outside funding partners and collaborators include the New Jersey State Library, the New Jersey Library Association, and Verizon-New Jersey.

Brief Description: According to a Pew Internet and American Life Project report, more than fifty-two million Americans visit the Web for health information. Librarians and the public must be discriminating in their appraisal of the health information found on the Web. It is especially important to critically evaluate information found in the health and medicine areas. HealthyNJ is a consumer health Website that offers links to critically reviewed health information on the Internet. HealthyNJ does not create original content but aggregates sites from around the world. The information is divided into four major categories: Diseases and Conditions, Health and Wellness, The Reference Desk, and Health in New Jersey. The site is integrated in many unique ways. A tour of the site illustrating how consumers may easily navigate from general descriptions, to recommended Web resources, to information specific to New Jersey residents, to chat rooms and news groups, culminating with preformatted PubMed searches run in real time, will be presented. Librarians created and maintain the HealthyNJ Website. The site has grown to include more than 140 topics. Spanish-language content has been recently incorporated. During the next six months, major roll-out activities are planned at public

libraries throughout New Jersey. The collaboration among statewide partners, public, association, and corporate provides not only funding support but insight and access to multitype libraries and their constituents throughout the state.

Library Digitization Projects
Educational Media and Technologies and History of Health Sciences Sections
MONDAY, MAY 20, 2002, 10:30 A.M.–NOON

Rediscovering yellow fever: the Philip S. Hench Walter Reed Yellow Fever Collection Digitization Project

Bart Ragon, Webmaster, Claude Moore Health Sciences Library, University of Virginia–Charlottesville

Purpose: This session will discuss the development of a database of archival materials documenting the work of Walter Reed, M.D., and his colleagues' efforts to eliminate yellow fever. By using extensible markup language (XML), this project not only provides access to a digital archive of the manuscripts via the Web, but also enhances searching and presentation of the resources.

Setting/Participants: The Philip S. Hench Walter Reed Yellow Fever Collection was created with funding from the Institute of Museum and Library Services. The completed project was the result of a collaborative team effort that included the Historical Collections Department's director and staff, the Electronic Text Center, as well as the library's chief cataloger, Webmaster, and systems administrator.

Brief Description: The Philip S. Hench Walter Reed Yellow Fever Collection opened in December 2001 and features a comprehensive database from Philip S. Hench's collection on Walter Reed and the members of the U.S. Army Yellow Fever Commission. The collection consists of manuscripts (most of which are handwritten), artifacts, and photographs. The project documents the discovery of the mosquito as the transmission vector for the yellow fever virus. The project is unique not only in that it presents the original materials in a searchable format, but also provides context for the primary documents through exhibit text.

Results: The project serves as a model for making archival and unique materials more widely available. In addition, the use of metadata enables researchers to tailor their searches and approach the digitized materials to best suit their personal interests and needs.

Evaluation: The project team worked closely with faculty members and selected researchers throughout the project to ensure scholarly needs were met. A detailed report was also submitted to the Institute of Museum and Library Services and is publicly available via the Internet.

Design and implementation of a Web-based library catalog: providing access to all

Leslie J. Duncan, program manager, Education and Research, and **Hendrikje Carriger,** librarian, National Limb Loss Information Center, Amputee Coalition of America, Knoxville, TN

Purpose: This paper will report on a model to merge the National Limb Loss Information Center (NLLIC) Virtual Library, a monographic collection, and a vertical file into one Web-based library catalog.

Setting/Participation/Resources: The NLLIC is a small special consumer health library in a small urban setting, serving a national disability community. Since its establishment in 1997, the information center has developed and continues to maintain three separate collections on limb loss–related materials: (1) a virtual library on its Website, which contains full text electronic articles and links to Websites; (2) a monographic and audiovisual library collection, which includes materials appropriate for staff researchers, limb loss consumers, and health care providers; and (3) a vertical file of articles from pertinent academic periodicals. Currently, only the virtual library is accessible to the public via the NLLIC Website.

Brief Description: The primary goal of the project is to merge the three collections into one large electronic, Web-based library catalog. Many nonprofit organizations maintain a library collection, but only for in-house use. This model is innovative in that it will provide free public access to the largest and most comprehensive collection of limb loss–related materials in the world. The primary audience is limb loss consumers, their families, and health care providers.

Results/Outcome: One of the primary goals of the National Limb Loss Information Center is to reach out and empower our constituency through education. This Web-based library catalog will extend our ability to reach out and empower.

Evaluation Method: Number and length of search sessions, user satisfaction, and quality of the catalog will be evaluated via the use of a hit counter and a comments feature on the Website.

Challenges in the digitization of a Yale School of Nursing historical collection

Kathleen Bauer, nursing librarian, and **Mona Panaitisor,** historical library assistant, Cushing/Whitney Medical Library, Yale School of Medicine, New Haven, CT

In 2001, the Cushing/Whitney Medical Library at Yale University and the Yale School of Nursing (YSN) began a project to digitize material about the history of YSN. Included in the project were print items and photos dating from the early 1900s. The project entailed several challenges, including forging working relationships among YSN faculty, computer support, and library staff members. In addition, archival standards had to be established, so that project members would digitize an item once only, at a sufficient level of quality, so that the digital copy would work for any future projects. Archival issues addressed were resolution-quality settings, file formats, and disc media. After archival standards had been set and the scanning work was done, a finding aid was put in place that linked the digital copy with the artifact. This system was designed so that users looking at physical items would know that digital copies of the artifacts existed and the location of the digital copies. Conversely, users who saw digital copies on the Web could find the physical items. A final part of this project has been the development of a Website based on Web-accessible copies of the archived files. The site is available at info.med.yale.edu/library/nursing/historical/welcome.new.html. Although this digitization project has entailed many challenges, the work involved will pay off in increased awareness of a special collection with unique historical items from the history of nursing in the United States. Along with increased awareness, a wider audience will be given access to the materials, at least in their electronic form.

The impact of digital collections: historical and contemporary collecting projects

Peggy Tahir, information services librarian; **Celia White**, digital librarian and project manager, Tobacco Control Archives; and **Valerie Wheat**, reference archivist; Paul and Lydia Kalmanovitz Library and Center for Knowledge Management, University of California–San Francisco

Purpose: This paper will report on the impact of the development of the History of the University of California–San Francisco (UCSF) Website, as well as the library's contemporary collecting projects and digital archives currently under development.

Setting/Participants/Resources: The Paul and Lydia Kalmanovitz Library and Center for Knowledge Management is a large, academic health sciences library in an urban setting. Within the last year, the library completed a Website on the history of UCSF. Besides this latest digitization effort, the library is known for spearheading a number of contemporary collecting digitization projects, the most notable being the Tobacco Control Archives.

Brief Description: The History of UCSF Website was a collaborative effort between the library and the History of Medicine Department on campus. Besides detailing important historical events on campus in a narrative form, numerous images from the library's Special Collections Department were digitized for this project. The paper will outline the development process and marketing efforts surrounding the Website. Digitization projects as potential sources of library funding will be highlighted, as well as trends and challenges. Current status of the Tobacco Control Archives digitization efforts will also be discussed, including significant grant monies recently acquired for a new Tobacco Education Center.

Results/Outcome: Digitization projects have had a positive outcome on the library's ability to obtain funding from extramural sources. Whether a contemporary collecting project such as the Tobacco Control Archives or a historical Website using materials from special collections, these efforts can have an impact on a library's ability to fund and promote its services.

Evaluation Method: Statistics on use of digital images from the History of UCSF Website will be collected, as well as statistical and anecdotal evidence of increased use of special collections reference services related to Website availability and marketing. Monies from donors and other extramural funding sources due to the library's digitized collections will be noted.

Contributed Paper and Invited Speaker Session

Diversity, Demographics, and Disparities in Accessing and Delivering Health Information and Health Care: Part II

Chiropractic Libraries, Relevant Issues, Consumer and Patient Health Information, and
Public Health/Health Administration Sections and Complementary and Alternative Medicine,
Mental Health, Osteopathic Libraries, African American Medical Librarians Alliance, and Outreach SIGs
MONDAY, MAY 20, 2002, 10:30 A.M.–NOON

HolisticKids.org: a collaborative project on integrative medicine Web-education for pediatric residents

Julia S. Whelan, senior outreach librarian, Treadwell Library, Massachusetts General Hospital–Boston, and **Lana Dvorkin, Pharm.D.**, assistant professor, Clinical Pharmacy, School of Pharmacy, Massachusetts College of Pharmacy and Health Sciences–Boston

Purpose: This paper discusses the planning, development, implementation, and evaluation of a Website designed to educate pediatric residents on integrative (conventional and alternative medicine) approaches to patient care. Other potential uses for this site will also be discussed.

Setting/Participants/Resources: This project came from a long-standing collaboration between the Center for Holistic Pediatric Education and Research (CHPER), Children's Hospital, and Massachusetts College of Pharmacy and Health Sciences (MCPHS), Boston. Participants included medical librarians, pharmacists, physicians, Web developers, and other health care practitioners.

Brief Description: The Website was developed as a part of a National Center for Complementary and Alternative Medicine (NCCAM)/National Insitutes of Health (NIH) Center for Integrative Pediatric Education grant. Major information areas of this complementary and alternative medicine (CAM) Website include: Overview of Therapies, Disease-Related Topics, Information and Education Resources, and Local Practitioners. The section on "Overview of Therapies" allows a novice to learn basic facts about diverse CAM modalities. Medical students and residents preparing for clinic conferences can use Disease-Related Topics. Tools provided in this section include updated PubMed searches, chapters from the *Holistic Pediatrician* textbook, slide presentations, and clinical summaries on most common pediatric conditions. Information and Education Resources allows users to expand their knowledge through local libraries, selected reputable Websites, various CAM educational programs, and consultation with a CAM information specialist. The last component of the site, Local Practitioners, offers visitors resources for finding a wide variety of CAM practitioners.

Results/Outcome: This ongoing project has attracted interest from local, national, and international constituents. New features have been added and the site is constantly updated. An application has been submitted for HON code approval.

Evaluation Method: Ongoing evaluation of the Website is being performed with the help of a Web-log analyzer software product. Focus groups for residents and medical students are being organized. Evaluative comments are received from the participants of the NCCAM grant on a continuing basis.

Web-based index to chiropractic literature

Margaret Butkovic, director, Library Services, C. C. Clemmer Health Sciences Library, Canadian Chiropractic College, Toronto

The Index to Chiropractic Literature (ICL) is a database of chiropractic citations created and maintained as a free resource to the chiropractic university or college community, the chiropractic profession, and the public at large (www.chiroindex.org). Fifteen librarians currently participate in its publication, indexing all chiropractic peer-reviewed journals cover-to-cover and other chiropractic journals topically. Commercial databases such as the Cumulative Nursing and Allied Health Literature (CINAHL), Manual Alternative and Natural Therapies (MANTIS), and Alt-Healthwatch also cover certain aspects of

chiropractic. Each database has its strenghts and weaknesses. Overall, however, they complement each other and provide a valuable core of information.

Hmong Health Information Promotion Project: Wausau, Wisconsin, and beyond

Margaret A. Allen, AHIP, library consultant; **Suzanne Matthew, Ph.D.**, executive director; **Diana Robertson,** library services coordinator; and **Mark Scully,** outreach librarian, Northern Wisconsin Area Health Education Center–Wausau; and **Jan Kraus,** library manager and patient education Website administrator, Joseph Smith Medical Library, Community Health Care/Wausau Hospital, Wausau, WI

Purpose: This paper will report on first year results of our two-year NLM-funded Hmong Health Information Promotion Project, which focuses on the health information needs of the Hmong in Wisconsin. The Hmong people are a new immigrant refugee group in Wisconsin and other states. The U.S. Hmong population is in transition from an agrarian society in Laos to life in 21st century America. As a group, they have limited English language skills and unique health information needs.

Setting/Participants/Resources: Local partners include: Northern Wisconsin Area Health Education Center, Community Health Care/Wausau Hospital, Marathon County Public Library, Marathon County Health Department, Marshfield Clinic; Neighbor's Place, University of Wisconsin (UW) Family Medicine clinics and health sciences programs, Wausau Area Hmong Mutual Assistance Association, and the Wisconsin Children's Service Society Northern Region/Hmong Mental Health Institute.

Brief Description: This project develops Hmong health information resources in several formats, including women's health conferences, health information videos, and bilingual electronic documents suitable for reproduction. It includes a health information literacy program for the area Hmong population, working with the public library and community service agencies to train Hmong youth and bilingual health workers to work as Internet/health information coaches with their families and others in the community. It also includes train-the-trainer education for local librarians and health educators, focused on the technical and cultural skills required to work with this population. Our HmongHealth Website is planned to provide online and CD-ROM access to these resources, as well as training materials and conference information.

Results/Outcome: The paper will feature the processes used to assess Hmong health information needs as a basis for the bilingual HmongHealth Website to be developed at www.hmonghealth.org. It will also feature other project activities, including health information literacy training, video productions, and planning for Hmong women's health conferences. Handouts will include publicity materials and a link for training materials on the Web.

Evaluation Method: The project will use Website usability focus group and online feedback, conference and workshop participant evaluations including follow-up surveys for health information literacy training.

Invited Speaker Sessions

AIDS in Africa and the Impact of Information

Consumer and Patient Health Information, Collection Development, Hospital Libraries, Public Services, and Federal Libraries Sections

Strategic role of libraries/librarians in HIV/AIDS awareness in South Africa

Kgaladi Kekana, health sciences librarian and team leader, Faculty of Sciences, Health and Agriculture, University of the North Library, Sovenga, Pietersburg, South Africa

The role of information dissemination in HIV/AIDS: the case for Kenya

Nancy Kamau, associate fellow, National Library of Medicine, Bethesda, MD

HIV/AIDS has become a serious problem in Kenya. In 1999, the government declared HIV/AIDS a national disaster due to its effect on all sectors of the society. The disease has also strained the family structure. Various groups have conducted education about the virus and its transmission, and, according to the Health and Demographic Survey of 1998, 98% of the population knew about the disease and its transmission. However, the level of infection to date does not reflect this knowledge. The government's acceptance of HIV/AIDS as a national disaster has challenged all institutions (government, private, and NGOs) to develop intensified prevention and care strategies. There are problems with the control and prevention measures in that the virus is mostly transmitted through heterosexual relationships. Sex is not openly discussed in Kenyan society, and it becomes very difficult for parents to instruct young people about their sexuality. The statistics show that young people at the ages of nineteen to twenty-five are the most affected, and women are the majority in this group. In addition, the churches are opposed to the use of condoms as a prevention measure. The government and other bodies are promoting the same perspective through their education campaigns. This situation confuses the public, especially the youth. The paper will discuss the information strategies that institutions are using in addressing the spread of the disease and its management. Some of these strategies are: repackaging of technical information for use by the general public, creation of resource centers that are used by a cross-section of the population, development of institutional Websites, and participation in drama, mass media, seminars, and workshops. The paper will propose possible additional strategies for strengthening the ongoing activities. Effective dissemination of information on HIV/AIDS is very important for the prevention, care, and management of the disease. With relevant information, individuals can make informed decisions about behavior change, testing and counseling, treatment options, ways to live positively, and ways to care for those who are infected.

Dimensions of Mentoring: A Family Portrait
Leadership and Management Section

Dimensions of mentoring: a family portrait

Shelley A. Bader, Ed.D., AHIP, associate vice president, Educational Resources, George Washington University Medical Center, Washington, DC

Shelley Bader, Ed.D., AHIP, the lead discussion participant in this "mentoring family," begins the session with definitions and a comparative analysis of mentoring and coaching. This framework is then extended to an examination of leadership and leadership development. This review is followed by a panel of distinguished library directors, who have all worked as part of the George Washington University Himmelfarb Library family. The panelists will each review mentoring and coaching from their own

individual experiences. Ample opportunity will be provided for an open disussion following the panelists' presentations.

Panelists: Anne M. Linton, AHIP, director, Himmelfarb Library, George Washington University Medical Center, Washington, DC; **Elaine Russo Martin**, director, NN/LM, New England Region (NER) and the Lamar Soutter Medical Library, University of Massachusetts Medical Center–Worchester; and **Laurie L. Thompson, AHIP**, director, Health Sciences Library, State University of New York Upstate Medical University–Syracuse

Almost all of us have benefited in one way or another by having someone mentor us. This mentoring may have been of a formal or informal nature; it may have been situational or constant. Our distinguished panel represents just one of many MLA "mentoring families." The family panel, lead by Shelley Bader, Ed.D., associate vice president, Educational Resources, Himmelfarb Library, George Washington University Medical Center, includes three prominent librarians Dr. Bader has mentored over the years. All three of these family members are now health science library directors. The other panelists are: Anne Linton, AHIP, director, Himmelfarb Library, George Washington University Medical Center; Elaine Russo Martin, AHIP, director, NN/LM NER and the Lamar Soutter Library, University of Massachusetts Medical School; and Laurie Thompson, AHIP, director, Health Sciences Library, SUNY Upstate Medical University. Hear how the panelists' mentoring relationships started and fostered and their impressions of how mentoring has helped them to achieve the positions they currently hold. Learn how they have mentored each other as peers also. Come share in the lively group discussion to follow the panel's presentations and give dimension to mentoring!

Electronic Records Management

Medical Informatics and History of the Health Sciences Sections
MONDAY, MAY 20, 2002, 10:30 A.M.–NOON

Electronic records management: overview

Randy Jones, coordinator, Archives and Records Management, The Annette and Irwin Eskind Biomedical Library, Vanderbilt University, Nashville, TN

Managing electronic records: a project framework

Laurie Fischer, senior consultant, Cohassett Associates, Chicago, IL

Laurie Fischer will first offer a brief description of the operational, legal, and technical challenges facing every organization when attempting to develop a management program for its electronic records. In light of those challenges, she will propose a checklist of activities that organizations should consider when planning to incorporate electronic records into their records management programs.

Implementing an electronic records program: lessons learned from the Indiana University electronic records project

Phil C. Bantin, director, Indiana University Archives, Library, Indiana University–Bloomington

This presentation will address: (1) What is a recordkeeping system and what types of functionality should it possess? How are recordkeeping systems different from other

types of data and information systems, such as transaction processing systems, and data warehouses and decision support systems? Recordkeeping systems differ from other types of information systems in significant ways. First, recordkeeping systems are designed to manage records; digital objects having their own unique characteristics and requirements. Secondly, recordkeeping systems must manage these records over their entire life cycle, which necessitates the creation of system requirements not often found in other information systems. Over the past five years, archivists and records managers have generated numerous lists of recordkeeping system requirements. While most lists differ in some of the specific requirements, they generally agree on the following basic categories of requirements: Systems must: (a) be compliant, (b) be accountable and reliable, (c) capture all records and essential metadata, (d) maintain secure and inviolate records, (e) ensure access to and use of records, and (f) include a disposition management plan that controls and monitors activities related to the disposal, retention, and preservation of records throughout their life cycle. The speaker will review each of these requirements in more detail. (2) What are some realistic and effective strategies for capturing record content and metadata? Automated systems present unique challenges in the identification and capture of records. Most archivists and records managers agree that the best and surest way to capture records and their metadata is in the context of an automated business process or workflow engine. The speaker will review the basic design of a automated record-capture system, using a model being discussed at Indiana University. (3) How does one implement retention schedules for electronic records? Most archivists and records managers agree that simply providing managers of automated systems with disposition schedules identifying the retention of records at the series level will not be an effective strategy. To be effective, retention information must be designed into the system and must become part of an automated process. The speaker will discuss strategies for achieving these goals.

Electronic records issues for public records

Richard Pearce-Moses, librarian, Arizona State Library and Archives–Tucson

The Value and Values of Libraries

Public Services and Consumer and Patient Health Information Sections
MONDAY, MAY 20, 2002, 10:30 A.M.–NOON

The value and values of libraries

Michael Gorman, dean, Library Services, Henry Madden Library, California State University–Fresno

Michael Gorman will speak on the eight core values that he advanced in his *Our Enduring Values* (ALA Books, 2000) and will relate them to libraries in an increasingly echnological age. He maintains that these values are applicable to all libraries—even those, such as medical libraries—that have embraced the most advanced aspects of technology.

Digital Archiving of Electronic Journals

Technical Services and Collection Development Sections
MONDAY, MAY 20, 2002, 10:30 A.M.–NOON

Digital archiving of electronic journals

Vicky Reich, director, LOCKSS Project, Stanford University Libraries and Academic Resources, Stanford, CA

The transitory nature of Web content is a fact of digital life that affects everyone. How can you find documents posted by publishers who are now defunct? How can you protect archived publications from hazards such as fires, floods, or human error? How can you ensure published materials will always be found by interested (and authorized) readers? Ensuring continuous access to online scientific journals and other Web documents is the focus of a unique collaboration between Sun Microsystems Laboratories and Stanford University Library. Lots of Copies Keep Stuff Safe (LOCKSS) provides a strategy for long-term preservation by systematically caching content in a self-correcting peer-to-peer network. Beta testing of the LOCKSS software will be complete summer 2002. The software shows promise. With resources to build a production system, we should be able to provide librarians with software that enables them to maintain high-integrity persistent caches of electronic journal content to which they have subscribed. Using a decentralized, peer-to-peer network of like holdings at other participating libraries, a production quality version of the LOCKSS system would allow libraries to retain indefinite access to subscribed journal issues, even if the publisher's online site goes down, even if the publisher goes out of business. This addresses one of the fundamental barriers to the acceptance of online journals on the part of libraries, namely, the issue of assuring long-term access to content. A demo of the user interface used by the beta test libraries and an interactive online world map showing the status of the sixty test caches at forty-six libraries worldwide is available lockss.stanford.edu.

Digital archiving of electronic journals

Edwin Sequeira, National Center for Biotechnology Information, National Library of Medicine, Bethesda, MD

This presentation will describe PubMed Central, NLM's digital archive of full-text journal literature.

Digital Archiving of electronic journals

Ian Bannerman, journal sales director, Blackwell Publishing, Oxford, United Kingdom

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Section Progam III

Contributed Paper Sessions

Electronic versus Print Resources

International Cooperation, Collection Development, and Hospital Libraries Sections and African American Medical Librarians Alliance and Internet SIGs
TUESDAY, MAY 21, 2002, 3:00 P.M.–4:30 P.M.

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The effects of online access to information on the usage of print-only journals

Karen R. Harker, Web developer, UT Southwestern Medical Center Library, The University of Texas Southwestern Medical Center–Dallas

Online access to journals is fast becoming the norm. In 1999, there were over 4,000 scholarly electronic journals available on the Internet. This has not gone unnoticed by the University of Texas, Southwestern Medical Center Library. In late 1998, there were thirty-five titles available online; in 2001, there were over 4,000, exceeding the number even available in 1999. Online titles do not, however, exactly duplicate the print collection. There is a small, but steady, number of titles to which online access is just not available. Reasons for this include the lack of any significant content online (one or two articles an issue), exorbitant expense for online access, severe or nonexistent institutional licenses, or lack of staff time to locate and secure licenses. As online access by clients becomes the norm, what effects are being felt by those titles that are not available online? Has there been an effect on their usage? This study will attempt to examine, from one collection of biomedical journals, any impact, including:
• change in usage of print-only journals, as measured by annual summaries of Journal Usage Surveys from 1995 through 2001 fiscal years
• change in "impact factor" for such journals from 1995 to 2000 (the latest year figures are available), compared with journals available online
The author hypothesizes that both factors of usage will have declined for print-only titles, whereas the online journals will have enjoyed greater usage. The results of this study will show the impact online access is having on the distribution of scientific information, which could be narrowing in scope.

The impact of the Web on reference

Linda J. Walton, associate director; **Kurt I. Munson,** head, User Services; **Stephanie Kerns,** head, Learning Resources Center; **Linda C. O'Dwyer,** education/reference librarian; **Cheryl Powell**, library assistant II; and **James Shedlock, AMLAS, AHIP**, director; Galter Health Sciences Library, Northwestern University, Chicago

Purpose: This paper will report the results of a year-long study designed to determine the types of reference questions asked and resources needed to answer these questions in an increasingly electronic environment. Specifically, what percentage of questions that would have traditionally been answered using a print resource are now answered via the Web.

Setting/Subjects: The setting for this project is an academic health sciences library in an urban setting. During the past few years, the library has aggressively developed an online library of resources and services. Library users include faculty, staff (research, administrative, and hospital), and students.

Methodology: A Microsoft Access database was created to record each reference question. The fields in the database included patron status, way the question was received, length of time to answer question, type of question, resources used, and successful or not resolution of the question. Every question received at the reference desk was entered into the database. The data was collected every other month for one year. Reports will be generated for analysis including number of questions, type of questions, and resources used.

Results/Outcome: At this point the library has collected three months of data. Preliminary results indicate that the majority of reference questions are answered using the Web and online resources.

Discussion/Conclusion: The results of this project will be used as a collection development tool for strengthening the library's online reference collection and reducing the size of the print reference collection. In addition, this project will identify the most heavily used resources, so that these can be prominently placed on our Website and improve access to library resources.

Accessing the most recent information: part II

helen-ann brown, information services librarian; **Kristine M. Alpi, AHIP,** information services librarian; **Daniel Cleary**, head, Information and Access Services; and **Mary Jo Dorsey**, information services librarian; Weill Cornell Medical Library, Weill Cornell Medical College, New York

Purpose: This paper continues investigation of which online resource offers access to the citation data of the most recent journal issue. The original study compared seven journals in four online resources. This study compares 131 journals in eight online resources.

Setting/Subjects: This study compares eight online resources for accessing the content of recent journal issues: electronic journals direct from the publisher, PubMed, Ovid PREMEDLINE, Journals@Ovid, Ovid EMBASE, CURRENT CONTENTS® connect™ MD Consult, and Ingenta. The first study sample compared seven journals of four varying frequencies. This study sample compares 131 journals of six varying frequencies. The 131 journals were selected from a common database of 215 journals available in all eight online resources. A random number generator program was used to select the monthly and bimonthly journals.

Methodology: In this longitudinal cohort study, thirty-four samples will be taken on Friday to Tuesday between September 2001 and May 2002.

Results: Access to information will be measured in two ways: (1) percentage of times the system had the most recent issue's citations and (2) number of issues behind the most recent issue. In the original study, electronic journals direct from the publisher offered access to the most recent information in both measures, being recent 95.5% of the time and almost never (0.03 of an issue) behind. Analysis by journal frequency showed fluctuation in the results for weekly journals in the original study. More weekly journals are sampled in this study to resolve this issue. Very preliminary data of the current study look similar to the results from the prior study.

Discussion/Conclusion: The need for up-to-the minute literature for research and patient care remains. Libraries need to find less costly ways to deliver timely information. Access to citations and abstracts from electronic journals may often be free. Electronic journal subscriptions vary in price but provide the timeliest information. With the need for timely information and limited funds, these findings may help librarians allocate scarce resources.

Delivering to the desktop: aggregators or aggravators, linkers or pointers?

Stephanie N. Allen, AHIP, electronic resources librarian, and **Rick A. Brewer, AHIP**, team leader, Circulation and Interlibrary Loan, Medical Center Library, University of Kentucky Medical Center–Lexington

In the three years since the authors' academic institution first began working with full-text electronic journals on a large scale, we have had to make many decisions regarding

the most effective methods for delivering full text to the desktop. Public services staff created a FileMakerPro database, which now contains records for about 12,000 unique titles from all subject areas. Included were journals with direct publisher or aggregator links and others taken from bibliographic databases that include full text, such as MD Consult, InfoTrac, Academic Universe, etc. The database is fully searchable on both the public and staff sides, although users can browse alphabetically if they wish. Licensing and password information is limited to the staff side. User reactions to the database will be presented. Difficulties encountered by public services staff in keeping the database current and accurate and issues related to possible online public access catalog (OPAC) entries will be reviewed. Although the database is a valuable resource on its own, the ultimate goal is to link users seamlessly to the full text directly from their bibliographic database searches. Linking services, such as SilverPlatter's SilverLinker and PubMed's LinkOut, as well as those on Cambridge Scientific Abstracts and other search services, could ultimately serve as the bridge from the database to the article, bypassing the OPAC or secondary database entirely. Past and future challenges will be explored.

A new model of library services: building through collaboration

Christina A. Woodward, librarian, Library and Information Services, London Regional Cancer Centre, London, ON, Canada

Purpose: This paper will discuss the process in which eight medical libraries, distributed across a wide geographical area, through consolidating and integrating their resources and their long term objectives, developed a new library model for improved delivery of information services.

Setting/Participants/Resources: Cancer Care Ontario (CCO) operates eight cancer treatment and research centres located in separate regions of the province. Each site maintains a research library, and until recently each functioned independent of the others. Collectively, they have built a significant corporate presence and improved the effectiveness of their resources. CCO is an agency of the Provincial Government of Ontario, Canada, and responsible for provincial long-term planning of the cancer care system. It sets direction and provides leadership in cancer surveillance, prevention, screening, research, treatment, and supportive care.

Brief Description: The intent of the new library model is to maximize use of existing technologies, consolidate the negotiating and buying power of individual budgets, rationalize collections, and integrate collection development and management where possible. This paper will highlight the critical success factors required for this complex project such as: focusing and organizing, fostering collaboration, building the case with a business proposal, aligning with knowledge-management strategies, and phasing in implementation.

Results/Outcome: Outcome is manifest in the newly created Virtual Library in use across all sites. While the project remains under development, significant savings already have been realized provincially, while the number and diversity of resources available across all sites have been expanded.

Evaluation Method: A generic survey developed to capture user satisfaction and feedback across all sites has been completed. These results are coupled with publisher-supplied

usage logs of electronic resources as well as anecdotal evidence. All indications are that the project is well received.

Knowledge Management

Medical Informatics, Medical Library Education, and Health Association Libraries Sections and
African American Medical Librarians Alliance SIG
TUESDAY, MAY 21, 2002, 3:00 P.M.–4:30 P.M.

Family Practice Inquiries Network: people building content for evidence-based practice

Deborah H. Ward, AHIP, director, J. Otto Lottes Health Sciences Library, University of Missouri–Columbia

Purpose: The Family Practice Inquiries Network Consortium (FPIN) began as a project of the Family Practice Research Center. It has evolved into a national, nonprofit consortium of family physicians, medical librarians, medical informatics professionals, and others committed to providing evidence-based content for point-of-care information delivery. Goals of the project are:
• to identify clinically relevant questions;
• to create structured literature reviews pertinent to each question;
• to author and edit clinical inquiries, published in recognized medical journals;
• to create a database of clinical inquiries;
• to create links with other evidence-based information producers;
• to create an information mastery curriculum that will build skills in the use of information to improve patient care; and
• to identify clinically relevant areas that require targeted research.

Setting: The setting is an academic health sciences center where family physicians, medical informatics specialists, and health sciences librarians collaborate with colleagues elsewhere in the United States.

Methodology: Librarians have been involved with the development of FPIN since January 2000. Working with this interdisciplinary project has required the librarian team to stretch its ability to envision, create, organize, plan, and adapt. The librarians have worked together to create processes that support the author community and are now building a larger community of librarians interested in supporting the FPIN Clinical Inquiries. The librarians developed evidence-based medicine structured searches to carry out a plan for standardized information delivery to the authors. They are working with the physicians on an information mastery curriculum. In addition, the librarian team has helped to create the overarching structure and processes of FPIN.

Results: The FPIN librarian community consists of clinical librarians in FPIN Consortium Founding Member institutions and elsewhere in the United States. Activities of the group continue to evolve.

Evaluation Method: Evaluations are collected from authors, editors, and librarians regarding communication and quality of the products.

Discussion/Conclusion: This paper will discuss FPIN goals, will share experiences of working as an interdisciplinary team to create a knowledge management tool, and will provide an update on current progress.

Information management for the administration and delivery of curriculum content

Betsy Kelly, associate director, and **Bob Engeszer,** manager, Applications Development and Programming, Becker Medical Library; and **Alison J. Whelan, M.D.**, dean, School of Medicine; Washington University, St. Louis, MO

Purpose: This paper will report on knowledge management in the undergraduate medical curriculum of a major medical school using Lotus Notes. Improved administrative oversight and access to information vertically and horizontally throughout the curriculum is emphasized.

Setting/Participants/Resources: The Medical Library and the Office of Medical Student Education (OMSE) have made use of physician educator, librarian, and programmer skills to develop a knowledge-management system.

Brief Description: The Medical Library and OMSE have been partners for more than five years in the development, management, and support of technologies to administer the curriculum and deliver materials to faculty, staff ,and students at the School of Medicine. In 1995, the school adopted Lotus Notes as the development platform to enable the collection and dissemination of disparate course materials throughout the first, second, and third years of the medical curriculum. The databases have provided the administration with a top-level view of the educational process and students with a consistent set of materials that include online schedules, clear course objectives, lecture handouts, images, reference materials, discussion databases, and more. Acces is both Web and Notes client enabled. The Curriculum Technology Group composed of staff from the OMSE and the library provides oversight for the design and programming of this information management initiative. The authors will discuss the cooperation and the resultant benefits of this partnership.

Results/Outcome: Improved access to information enables the administration to monitor course content throughout the curriculum, meet Liaison Committee on Medical Education (LCME) accreditation requirements, reward faculty for teaching activities, coordinate class schedules, and collect student course evaluations. Faculty make better use of teaching time as a result of access to the content of related lectures and classes. Course resources for students are consistent with clear objectives, well-formatted handouts, and essential study materials accessible through Notes clients and the Web.

Evaluation Method: Reported satisfaction with the systems comes from administrators, faculty, and students, as well as constant requests for new features and services.

Knowledge management tools: a library strategy to promote the sharing and reuse of information

Sandra L. Martin, Ed.D., coordinator, Education and Professional Development; **Nunzia B. Giuse, M.D., AHIP**, director; **Annette M. Williams,** assistant director, Library Knowledge Management; **John Clark,** health systems analyst programmer; and **Qinghua Kou,** health systems analyst programmer, The Annette and Irwin Eskind Biomedical Library, Vanderbilt University Medical Center, Nashville, TN

Purpose: This paper discusses implementation of knowledge management tools used as strategies demonstrating different approaches for optimizing information integration and reuse. The development of reusable tools reinforces the library as a central facilitator of information access and institutional knowledge leveraging.

Setting/Participants/Resources: Setting is a large academic medical library; the participants are medical center personnel and students; the resources are knowledge management tools.

Brief Description: The library is uniquely qualified to oversee the implementation of knowledge management strategies as an approach to leveraging on a variety of information sources, including human expertise, providing a framework for new initiatives in resource creation and reuse. This academic library is developing three knowledge management tools facilitating the sharing of information and knowledge. These tools, in the form of reusable "shells," allow authors to enter core data in a user-friendly format minimizing redundancy and overlap. To date, they include the Learning Module Shell, Directory Template, and the News Publishing Template. These tools permit implementation of a data dictionary, enabling the capture of knowledge in a "tagged" format, creating the potential for knowledge reuse. This paper focuses on the Learning Module Shell. Originally developed for a pathology course, it has extensive applicability as a tutorial creation tool, incorporating text, figures, and images into a learning-oriented format and utilizing quizzes, questions, and Web links to enhance the learner's understanding. This capability functions independently of content, facilitating use in a wide variety of settings. The tool was created with three levels of users in mind: those with basic computer skills, those who have experience using hypertext markup language (HTML) and JavaScript, and those with experience in programming languages. This flexible design allows both authors and developers to share their contribution and promotes constant refinement.

Results/Outcome: This ongoing project has attracted interest from medical school and nursing school course directors, deans of the Medical School, lab chiefs, librarians, and students.

Evaluation Methods: The library is currently introducing the twenty-four medical center course directors to the Learning Module Shell tool. The number of course directors who choose to use this as a means of teaching will determine the tool's success.

CDC's Digital Library model for delivering electronic public health information

Mamie J. Bell, AHIP, digital library technical information specialist, Information Center, Centers for Disease Control and Prevention, Atlanta

Purpose: The author will present a digital library model for delivery of full-text and full-image public health information via the Internet.

Setting/Participants/Resources: The Centers for Disease Control and Prevention (CDC) is recognized as the lead federal agency for protecting the health and safety of people nationally and globally, by providing credible information to enhance health decisions. This project explored issues involved in developing a model that would bring CDC information to the users' computer desktops.

Brief Description: Following an inventory of all CDC and ATSDR-authored publications, a digital library project was launched in spring of 2001 to develop a searchable database

of sample full-text and full-image resources. Steps taken in the planning phase included benchmarking other digital libraries, determining hardware and software needs, preparing an architecture design, developing criteria for resource selection, and contracting with a database designer, scan company, and medical cataloger. The implementation phase involved preparation and scanning of documents, loading and cataloging of the files, indexing and applying metadata, selecting a thesaurus, and designing the database and user interface.

Results/Outcome: The model serves as an example of an approach for document management in the context of CDC's larger Web redesign project.

Evaluation Method: Promotional material giving the Web address was distributed within CDC and to a small sample in the public health community for evaluating the content and usability of the Website. User feedback has provided modifications and refinements.

Lessons learnt from using "My Library" technology to create "Our Library"

Rea Devakos, reference librarian; **Heather Cunningham,** reference librarian; and **Sian Meikle,** digital services librarian, Information Technology Services; Gerstein Science Information Centre, University of Toronto, Toronto

Purpose: The task of quickly finding pertinent and high-quality information is increasingly daunting for both users and reference librarians. At the same time, there is an increasing disconnect between users' behavior (a quick search on Yahoo) versus the wealth of library resources. The reasons behind these increases are manifold but include time pressures, rising expectations, logarithmically increasing availability of information, and constant or declining budgets. Creating "desktop libraries" for specific user groups using "My Library" technology presents one way to bridging the disconnect. This presentation describes the lessons learnt from the creation of two very different "our libraries."

Setting/Participants/Resources: The setting is a large urban academic health sciences library. The library has a large collection of licensed electronic resources including more than 12,000 electronic journals and 400 databases. Two very different user groups were targeted: biology, including faculty, graduate, and undergraduate students in biology, botany, and zoology, and Health Policy, Measurement and Evaluation, a small graduate-only department, including health services research and clinical epidemiology.

Brief Description: Internally developed "My Library" technology was used to produce two targeted desktop libraries focusing on electronic resources. Standard reference sources and user input were used for design and resource selection. The biology Desktop Library was intertwined with a Web-based instructional module and an existing library assignment. The main teaching objective of the" Optimal Information Foraging" module is to demonstrate, through example and interactive exploration, successful searching and evaluation information strategies.

Results/Outcome: Two "Our Libraries" have been created in addition to a Web-based instructional module. The projects differed significantly in terms of user input, design process, and outcomes. Both have attracted widespread attention within the academic community and, more importantly, facilitated librarian-faculty collaboration.

Evaluation Method: A variety of formative evaluation methods have been used.

Medical Library Education Section
TUESDAY, MAY 21, 2002, 3:00 P.M.–4:30 P.M.

Communicating the value of library and information services in hospitals and academic health sciences centers: the development of a user survey template

Stephanie L. Harris, student, College of Information Studies, University of Maryland–College Park; **Keith W. Cogdill, Ph.D.**, outreach librarian, National Network Office, National Library of Medicine, Bethesda, MD; **Eileen G. Abels, Ph.D.**, associate professor, and **Lisl Zach**, executive director, Center for Information Policy, College of Information Studies, University of Maryland–College Park

Purpose: This paper reports the development of a user survey template. This template may be used to develop user surveys that capture qualitative and quantitative measures relating to the contributions made by library and information services (LIS) in hospitals and academic health sciences centers.

Methods: The development of the survey template entailed a three-stage process: (1) creation of a taxonomy of LIS contributions to organizational missions and goals of hospitals and academic health sciences centers, (2) compilation of existing tools for data collection in LIS settings, and (3) generation of the user survey template that supports the collection of data on LIS contributions outlined in the taxonomy. In previous phases of this research project, the taxonomy of LIS contributions was developed for the purpose of communicating LIS value in terms of fulfilling the missions and goals of the parent institutions. The taxonomy was developed based on a review of the literature and data collected from library directors and institutional administrators. Data collection included interviews, a focus group, and Web-based questionnaires. Within the taxonomy, LIS contributions are organized on the basis of institutional mission concepts and goals. A review of the literature revealed a number of existing tools for collecting data on LIS performance, including LibQUAL+, Association of Academic Health Sciences Libraries (AAHSL) statistics, and the Medical Library Association Benchmarking Initiative. These were reviewed to identify correspondences in how the measures identified in the taxonomy are expressed in other data collection instruments. Finally, the user survey template was generated with survey questions based on measures identified in the taxonomy. The template also identifies comparable questions from other existing tools for data collection in LIS settings.

Discussion/Conclusion: This research has resulted in a user survey template that allows libraries in hospitals and academic health sciences centers to create a user survey appropriate for a specific setting. The template gives the administering library flexibility in the selection of the LIS contributions that will be measured and possible question formats. The qualitative and quantitative data obtained from users may be used to communicate the value of LIS for the parent institution.

Shifting demographics, culture, and the AIDS/HIV information environment

Timothy P. Hogan, student, Graduate School of Library and Information Science, University of Illinois–Urbana-Champaign

Purpose: This paper will discuss the progression of a national, collaborative survey project aimed at generating a better understanding of information problems and use in the

AIDS/HIV patient community. Given the changing face of the AIDS/HIV epidemic, it will emphasize the assessment of demographic and cultural variables in the application of survey results to the patient community and propose one approach for doing so.

Setting/Participants/Resources: This project teams a master's student and faculty member from the Graduate School of Library and Information Science at the University of Illinois–Urbana-Champaign with several AIDS/HIV educators based throughout the United States.

Brief Description: Over the past several years, the AIDS/HIV epidemic in the United States has undergone dramatic demographic and cultural shifts. The epidemic is now prevalent in communities of color and among women, adolescents, and young adults. While the results of our survey project will provide further insights into the information behavior of AIDS/HIV patients (i.e., their information needs, sources used, barriers encountered, and knowledgebase), successful application of the results to specific AIDS/HIV community information services and educational programs requires a rigorous but localized analysis of the demographic and cultural shifts mentioned above. Our research project addresses the importance of understanding the larger demographic landscape as well as local cultural environments in the development of information services and systems for the AIDS/HIV community. Drawing on the experiences of our research team and the experiences of other community information service and educational providers, we demonstrate the value of applying participatory research approaches that involve members of the AIDS/HIV patient community as investigators in the various stages of the research process. At a time when information continues to be a critical resource in the lives of patients, participatory research approaches represent one way to analyze local cultural environments and, in turn, effectively respond to the larger demographic trends of the AIDS/HIV epidemic.

District of Columbia area librarians and bioterrorism

Emily I. Cooperider, master's of library science candidate, College of Information Studies, University of Maryland–College Park

Purpose/Research Question: This exploratory study addressed two research questions: What are the information needs of public library patrons regarding anthrax and other biological warfare agents; and how have public librarians responded to the information needs of patrons regarding anthrax and other biological warfare agents? No a priori hypothesis was tested.

Subjects: The subjects were public library patrons and librarians in the Washington, DC, metropolitan area.

Methodology: Data collection occurred in two Maryland suburban library systems, the District of Columbia Public Library, and two library systems in Northern Virginia. There were two phases of data collection. In the first phase, surveys were administered to 100 public library patrons in the targeted libraries to determine the following: the information needs of public library patrons regarding anthrax and other biological warfare agents, the resources they use to answer their information needs, and the resources they would like to have available. The surveys consisted of both Likert-scale questions and open-ended questions. Data was analyzed using descriptive statistics. Semi-structured interviews were then conducted with public librarians who provided health information. The

interviews focused on how public libraries responded to anthrax cases in the metropolitan Washington, DC, area. Types of programming, resources, and reference services were examined.

Results: The study identified various types of information needs in public library patrons. Also identified were various services and resources provided by public libraries in response to the anthrax cases in the Washington, DC, area.

Discussion/Conclusion: The study showed a variety of information needs and approaches to providing information about anthrax and other biological warfare agents to the public. Suggestions for additional services and resources were offered.

Navigating parenthood in an age of "miracle babies": fresh perspectives on information behaviors of parents in a neonatal intensive care unit

Michelle L. Helliwell, student, School of Library and Information Science, Dalhousie University, Halifax, NS , Canada

Settings/Subject: The setting was a level III neonatal intensive care unit in Halifax, Nova Scotia, studying parents (approximately 10), nurses (150), neonatologists (5), and residents/fellows (5).

Methodology: This was a two-phase study using surveys, journal keeping, and interviews for parent study group; focus group for parents (phase I); and surveys for nurses, neonatologists, and residents/fellows (phase II).

Results: This paper reports on part one of a two-phase study taking place over four months in the winter and early spring of 2002. The paper offers the status of current research and an analysis of initial findings. These findings are based on a ten-week study of information seeking and use by parents in the context of the neonatal intensive care unit. The current hypothesis of the study is that thus far information providers are only providing what information they deem important and in a manner they feel is helpful, instead of focusing on what the parents actually find to be helpful. The goal is to capture the total experience of the information dynamic from the parents' perspective and to gain better insight into which information sources were seen as helpful and which were seen as barriers and why, as well as understand where this information dynamic fits in with current information behaviour models. The second phase of the study will involve the creation of surveys directed at the information providers The surveys will have embedded in their answers the values of information identified by parents. The results will hopefully identify any gaps in the perception of value of information needs.

Rationale: Previous studies within various disciplines have identified information needs and communication issues as a perceived problem for parents, but there has been little movement toward a solution. Library and information science (LIS) research has some valuable insight to apply to this problem but has yet been an unused resource by nursing and medical researchers, or by others interested in these issues. A synthesis of research from LIS and other disciplines and new, focused studies, such as the present one, will aid in moving toward some workable solutions to these problems.

A study of the relationship between low literacy and knowledge of and anticipated uptake of genetic screening

Sharon K. Martin, Psy.D., student, Library and Information Science, University of Kentucky–Lexington

This study examines the relationship between literacy level and awareness of and willingness to participate in genetic screening for cancer. Genetic screening and testing add new dimensions to health care, which may cause an even greater divide between those who have low literacy and those who have average or above average literacy levels. Research shows a link between low literacy and impaired health care in many ways: failure to practice good health habits, to seek and adhere to treatment, and to give truly informed consent are some examples. Medical care has become increasingly more complex, and compels patients to participate in decisions related to their own care. Low literacy impedes people from full participation, however. Research also shows that early detection and treatment of cancer reduces morbidity and morality rates. Emerging technologies and research in the area of cancer genetics hold even greater promise for presymptomatic screening and individualized treatment. Whether or not patients who suffer from low literacy will be able or willing to seek out information related to their own genetic predisposition to cancer, however, has not been adequately studied. Moreover, while professionals are beginning to realize these literacy issues, few determine the literacy of individual patients or institutional populations.

Methods: A study of a convenience sample of distressed, underserved, and low-literate counties of Kentucky's Appalachian region was conducted. This population suffers a greater share of the cancer burden than most of the country and state and has lower literacy and general socioeconomic status averages than the rest of the nation and state. A brief health questionnaire was administered, along with the Test of Functional Adult Literacy (TOFHLA-S), to compare literacy level with attitudes and expressed willingness to seek genetic screening. Results will be presented after all data is collected and analyzed, and the implications of the study will be discussed.

Contributed Paper and Invited Speaker Session

Participating in the Genome Age: Present Research on Pharmacogenetics

Pharmacy and Drug Information, Cancer Librarians, and Veterinary Medical Libraries Sections and
Molecular Biology and Genomics SIG
TUESDAY, MAY 21, 2002, 3:00 P.M.–4:30 P.M.

Pharmacogenomics: future and current research on the interaction of the Human Genome Project and pharmacology

Corinne Aragaki, Ph.D., assistant professor, Epidemiology, School of Public Health, University of Texas–Dallas

Pharmacogenomics is an interdisciplinary field studying genetic susceptibility to differing drugs. As an update of pharmacogenetics, pharmacogenomics promises to incorporate post-genomic data to provide: (1) individualized, targeted, and more effective and safe medications; (2) quicker and more accurate drug design; and (3) appropriate disease risk assessment and directed therapeutics. In this presentation, differing study designs postulated for pharmacogenomics methods are shown and appropriate library resources are discussed. Current research on gene-environment risk assessment is presented.

Librarian-faculty collaborations in pharmacogenetics: new vistas in drug therapy and scholarly communication

David J. Owen, Ph.D., education coordinator, Basic Sciences, Paul and Lydia Kalmanovitz Library and Center for Knowledge Management, University of California–San Francisco

Information generated by the Human Genome Project (HGP) will usher in a new era of molecular medicine, with precise new approaches to the diagnosis, treatment, and prevention of disease. Fields such as pharmacogenetics, where knowledge of human genetic diversity is linked to a broader understanding of variation in human drug response, are being transformed by the vast quantities of genetic data now being generated. This is likely to have a profound effect on drug design and drug therapy. In related developments, the explosive development of information technology is not only accelerating the rate at which information is being produced but is offering an unprecedented diversity of channels and media for scholarly and scientific communication. Many librarians are already playing active roles in the bioinformatics community, by promoting awareness of molecular biology resources and teaching users how to retrieve information from databases. Others are using traditional and newly acquired skills to help organize information or carry out complex data analysis. This presentation will discuss a collaborative project between librarians and faculty at the University of California–San Francisco to develop a new Web-based tool to facilitate the distribution and exchange of research information for pharmacogenetics. This nascent "virtual journal" is designed to promote research and collaboration in this interdisciplinary area.

Research collections in pharmacogenetics and pharmacogenomics

Claudia Lascar, AHIP, assistant professor/ reference librarian, and **Philip Barnett, Ph.D.**, associate professor/reference librarian, Science-Engineering Library, City College of City University of New York–New York

Recent advances in pharmacogenetics and pharmacogenomics challenge librarians to update their collections to fit the expanding needs of practitioners and researchers in this growing and important medical discipline. Analysis of subject coverage reveals the indexing and abstracting services most needed in this discipline, while citation analysis reveals this field's most relevant journals. With these findings, librarians who need to support this area can optimize their often limited acquisition budgets.

New perspectives and challenges of genetics information seeking

James E. Andrews, Ph. D., assistant professor; **J. David Johnson, Ph. D.,** dean; and **Suzie Allard,** graduate student; College of Communications and Information Studies, University of Kentucky–Lexington

Rapid advances in genetics research and treatment are likely to pose significant information-seeking challenges to individuals, particularly as the burden for finding information relevant to one's own health increases. Given the significant shortage of qualified genetic counselors, the likelihood of people getting the information they need at key points in the care continuum becomes more difficult. The general public is interested in heredity-related health issues, and research results suggest there will be significant demands for genetic testing and related information. Genetic testing is a special context

of information seeking, because it affects not only individuals, but also their families or biological networks. Additionally, personal genetic information is highly individualized information that could encourage preventive behaviors (such as increased screening or improvements in diet), early detection, or individualized treatment. However, there are concerns over the public's general lack of understanding of basic genetic issues, the risks associated with testing, and the various motivations, barriers, and dysfunctional responses to obtaining personal genetic information. Exacerbating these concerns are the pervading issues related to the ethical, legal, and social implications of genetic information, detection, and treatment. This paper discusses the complex informational dimensions related to personal genetic information and proposes to answer the challenges with a broad strategy that does not rely on perishable content, but instead helps people gain life-long skills to find and assess cancer genetic information on their own. The foundation of the strategy is the empirically tested Comprehensive Model of Information Seeking, and the goal is to design and implement intervention strategies that information professionals can use to help coach people toward being more self-efficacious information seekers. Medical librarians (as well as other information professionals not directly working in health care environments, such as public librarians) will undoubtedly need to play a critical role in understanding and affecting genetic information seeking as demand for genetic information increases.

Invited Speaker Sessions

Non-Book Historical Collections at the National Library of Medicine

History of the Health Sciences Section
TUESDAY, MAY 21, 2002, 3:00 P.M.–4:30 P.M.

Images unplugged: a photo archivist's most excellent adventure

Jan Lazarus, collection manager, Prints and Photographs Program, National Library of Medicine, Bethesda, MD

The Prints and Photographs Collection of the National Library of Medicine originated with the acquisition of 6,000 medical portraits in 1879. It has grown from that original collection accessible only through an onsite card catalog to over 60,000 images accessible through the Web. From 1988 to 1995, new technology facilitated a slow transition from the card catalog to an online catalog. In 2001, new images were added to the Prints and Photographs Collection Website, Images from the History of Medicine. The process for adding new images was developed by examining the needs of visual researchers and blending those needs with current technology. The goal was to find the most efficient way of bringing image and researcher together. The photo archivist's adventure begins with a newly acquired image. The new acquisition begins the journey to the Web by being logged in and assigned an accession number. Each image is archivally stabilized, photographed, and shelved. Next the image is cataloged. This is probably the most challenging part of the adventure. When cataloging an image, attention is focused on what information the visual researcher needs. Although subject access is the main concern for researchers, there are several other MARC fields of particular interest to the visual researcher. Finally, once an item has been cataloged and the record entered into the database, a scanned, watermarked image is attached to the electronic catalog record. The record and attached image are immediately available through the public database. Computer and Internet technologies have forever changed the course of visual research.

Even though technology and information have advanced the cataloging and mounting of images on the Web, limitations still exist. Future technology may expedite the journey of images from the archive to the Web.

Fun and frolic with fascinating films

Nancy C. Dosch, Ph.D., collection manager, Historical Audiovisuals Program, History of Medicine Division, National Library of Medicine, Bethesda, MD

Archival films are the bane of librarians. Audiovisuals are not only non-book materials; they are non-print materials. Historical films generate the additional problem of being rare. This presentation will offer some solace and guidance to librarians presented with an opportunity to add historical films to their collections. The first question librarians need to ask is "how does this film promote the mission of the library?" The answer to this question will determine not only what they collect, but also how much they collect. In most libraries, space is restricted; therefore, librarians need to be selective in the films they acquire. Moving image archivists have a general rule (not always followed) to collect only what they can process. In addition to being appealing, films are also fragile. If films cannot be processed in a reasonable time, they deteriorate to the point of being unusable. Once librarians have accepted films for their collections, what do they do? Processing moving images involves a workflow similar to that of books with some subtle but distinct differences. The log-in procedures are the same, but the film catalog record is different. The presentation will provide some examples of easy-to-use film cataloging templates to enter the record. When control is established, the film should be copied. The presentation will suggest a range of copies needed depending on their purposes. After copies are made, the original should be placed in permanent storage; the characteristics of which will also be discussed. Films have fascinating features that can further the frolic of the folks who find them fun.

Is there an anarchist in the house? Archival principles and practices for the non-archivist

John Rees, associate archivist, Archives and Modern Manuscripts Program, History of Medicine Division, National Library of Medicine, Bethesda, MD

The session will explore a variety of issues faced by librarians with archival duties in their organizations and will discuss some techniques and strategies for coping with them. Some issues include developing a collection scope and policy, intellectual and physical control, preservation, processing collections, and customer service and public relations.

Eureka! Look what I've got! Gathering and promoting special collections

Paul Theerman, head, Non-Book Collections, History of Medicine Division, National Library of Medicine, Bethesda, MD

The strategies for developing and promoting non-book special collections are quite different from those for general collections or even rare books. This presentation will look at typical strategies for developing non-book collections, which do not include buying from publishers! Much special collection material—manuscripts, prints, photographs, and films—is donated rather than purchased. Relations with donors need to be initiated, developed, nurtured, and eventually brought to fruition. While there are some guidelines about how the donation will obligate both parties, many of the details—such

as processing priority, access rights, copyright, and privacy rights—need to be understood, negotiated, and agreed to. Finally, developing relationships with specialized collectors is also good, not only as a way of getting them interested in an institution as a possible repository, but also for the guidance they give in developing collections. The flip side of collection development is collection promotion, and they work hand-in-glove: the better known a collection is, the more that others would like to donate to it, if they like what they see. Promoting the collections to researchers, besides affording an opportunity for the materials to be used, also helps in development, as researchers can be good sources of information for building the collection. Promotion can take a number of different tacks, including brochures, exhibits, Web promotion, promotional events, opportunities for people to volunteer to work with the collections, and talks at meetings. The talk will end with a short presentation on professional resources for dealing with non-book special collections

Hospital Library Benchmarking—A Tool for Library Improvement
Hospital Libraries Section
TUESDAY, MAY 21, 2002, 3:00 P.M.–4:30 P.M.

The benchmarking network—learning from our experience to plan for the future

Debra C. Rand, AHIP, library director, Health Sciences Library, Long Island Jewish Medical Center, New Hyde Park, NY

The benchmarking network—overview of the numbers

Rosalind F. Dudden, AHIP, health sciences librarian, Tucker Memorial Library, National Jewish Medical and Research Center, Denver, CO

Kaiser Permanente libraries and the benchmarking network

Lynn Van Houten, AHIP, manager, Library Services, Medical Library, Kaiser Permanente Medical Center Vallejo, Vallejo, CA

The benchmarking network and large hospital libraries

Janet Cowen, AHIP, director, Library Services, Library, Maine Medical Center–Portland

The benchmarking network and small hospital libraries

Linné Girouard, AHIP, hospital librarian, The Methodist Hospital Library, The Methodist Hospital, Houston, TX

Data about the activities and size of hospital libraries has been difficult, time consuming, and expensive to gather. Current data is nonexistent. In the absence of national or regional comparative data, some hospital librarians have had a hard time justifying needed increases in staff or materials budget, or just in justifying their existence. The Benchmarking Network was started to find a solution to this problem of lack of data. The Benchmarking Network has been in development since 1998. A basic data set was devised, and a Web-based data-gathering tool was written. In 2001, a beta test was conducted with seventy-three libraries participating. The active involvement of many MLA members and the MLA headquarters staff has gotten this program to where it is today. Modeled on the data-gathering efforts of the Association of Academic Health Sciences Libraries (AASHL) over the past twenty-five years, this program is planned to be an annual data-gathering effort. Options are under consideration for expanding the

network to all MLA members who do not submit data to the AAHSL database. In this panel presentation, Debra Rand, chair of the Benchmarking Implementation Task Force, will present an overview of the activity so far and give some hints about the future of the project. Janet Cowen will discuss how using the Benchmarking Network data has helped her larger library present itself to the administration. Linné Girouard will present a case study of a smaller hospital and its potential use of the data. Lynn Van Houten will describe the participation of twenty-five Kaiser libraries in the Benchmarking Network and how they will utilize the data to evaluate resources and staffing. Rosalind Dudden will present the aggregate statistics for the 2001 Benchmarking Network year. She will demonstrate the use of the MLA Website and the use of the data using benchmarking partners. The availability of data for use by MLA members for routine benchmarking and performance improvement activities and for emergency justification projects will be discussed.

Roundtable Discussion Session

Technical Services, Collections, and Public Services Special Topics Roundtable

Technical Services, Collection Development, and Public Services Sections
TUESDAY, MAY 21, 2002, 3:00 P.M.–4:00 P.M.

E-journals with library budget shortfalls

Marianne Burke, AHIP, library director, Library, University of Vermont–Burlington

Disappearing content: a continuing problem with electronic resources

Catherine Reiter, AHIP, head, Resource Services Department, Denison Memorial Library, University of Colorado Health Sciences Center–Denver

XML prospects in the library

Dick R. Miller, head, Technical Services and Systems, Lane Medical Library, Stanford Medical Center, Redwood City, CA

What's new with SERHOLD? New issues in an electronic world

Deena Acton, systems librarian, Serials Records, National Library of Medicine, Bethesda, MD

Section Program IV

Contributed Paper Sessions

The Role of the Librarian in Evidence-Based Medicine and Practice

Dental Libraries Section
WEDNESDAY, MAY 22, 2002, 9:00 A.M.–10:30 A.M.

When less is more: a practical approach to searching for evidence-based answers

Karen K. Grandage, AHIP, educational services coordinator, Health Sciences Library, University of Virginia Health System–Charlottesville

The information needs of practicing clinicians are distinct from the needs of students, researchers, or nonclinical personnel. Clinicians seek information to stay current with new relevant medical developments and to find answers to patient-specific questions. The volume of available information makes the clinician's task of rapidly identifying high-quality studies a daunting one. New tools evaluate the rigor and relevance of information and summarize it in the form of synthesized clinical answers. These sources have the opposite focus of many other information tools in that they strive to provide *less* information rather than more. With the development of these sources of validated and refined information, a new searching approach is needed to locate clinical information in which speed is the benchmark. The existing medical literature, including these new refinement tools, can be conceptualized as a pyramid, with the most useful information, based on validity and relevance, placed at the apex. Use of this hierarchy allows searchers to drill down through progressive layers until they find their answers. Librarians can play a significant role in evaluating the ever-increasing variety of these synthesized resources, placing them into the searching hierarchy, and training clinicians to search from the top down. This paper will describe one librarian's experience in building a searching hierarchy and the challenges of training clinicians, residents, and medical students at the University of Virginia Health System to move beyond MEDLINE and focus their searches on the highest-quality information where *less* can be more.

Beyond MEDLINE: exploring resources in evidence-based dentistry

Leah Krevit, director, Information Resources and Technology, Dental Branch, University of Texas Health Science Center–Houston

The University of Texas–Houston Dental Branch was awarded a Texas Department of Health financial assistance grant in July 2000. The purpose of the grant was to develop a strategy suitable for adaptation and use throughout Texas that would address disparities in oral health and particularly benefit disadvantaged Texas children. One of the specific activities of the grant involved the preparation of an Evidence-based Systematic Reviews and Clinical Guidelines resource package for use in strategies selection, through reference to Web-based sites and to published systematic reviews of randomized clinical trials. This paper examines the role of the library in assisting clinical research faculty in using traditional bibliographic databases and new Internet resources with balanced critical judgment and skill.

A librarian/clinician collaboration for developing an evidence-based medicine curriculum for pediatric interns

Andrea Hodgson, child health librarian, Department of Pediatrics and Child Health, University of Manitoba–Winnipeg, Canada; **Ellen Crumley,** child health research librarian, Department of Pediatrics, University of Alberta–Edmonton, Canada; **Kent Stobart, M.D., FRCPC**, assistant professor, Department of Pediatrics and Child Health, University of Manitoba–Winnipeg, Canada

Two librarians and a clinician instituted a comprehensive postgraduate evidence-based medicine (EBM) curriculum for the four-year pediatrics program at the University of Manitoba (UofM) to educate medical residents how to think critically about their approach to clinical problem solving. The curriculum addressed the five steps of EBM and fulfilled the competency objectives defined by the Royal College of Physicians and

Surgeons of Canada (RCPSC). The curriculum was designed on the Users' Guides to the Medical Literature. While the educational initiative began 1997, the librarian collaboration began in 2000, and the results were reported to the RCPSC in September 2001. In the first year of the collaboration, the librarians taught the well-built clinical question (WBCQ) and searching techniques and strategies and worked with the clinician during critical appraisal sessions for the five "core" EBM domains: therapy/prevention, diagnostic tests, harm/etiology, prognosis, and systematic reviews. Based upon the WBCQ's resulting from clinical cases, medical librarians taught basic searching techniques primarily using PubMed/MEDLINE and the Cochrane Library as resources. The second year incorporated critical appraisal of complex medical literature including clinical practice guidelines and economic analysis. The librarians taught intermediate searching skills and result refinement and introduced a variety of medical information resources such as the Internet and Web of Science. The curriculum's impact on resident performance and retention was measured in a biannual Objective Structured Clinical Examination (OSCE) station. One station focused on the WBCQ and literature searching skills; the other focused on critical appraisal skills. These OSCE stations are also to be tested on pediatric resident at the University of Alberta. Inherent in EBM is the connection between finding and synthesizing quality information, and using this information to provide high-quality care to patients. This curriculum emphasizes that the medical librarian is a necessary component of health care delivery and continuing medical education. Future directions include further refinement of the curriculum, testing in other universities across Canada and integration of EBM into pediatric subspecialty rotations.

Evidence-based medicine: reaching out to twenty-first century decision makers

Andrea B. Markinson, DPM, assistant director, Educational Services, and **Eleanor Z. Wallace, MD**, professor, Medical Research Library of Brooklyn, State University of New York Downstate–Brooklyn

Purpose: This paper will explain how libraries can take an active role to implement an existing evidence-based medicine (EBM) training program to additional departments and programs in an academic medical center.

Setting/Participants/Resources: The authors currently train internal medicine residents and first-year medical students in EBM. With the success of this program, one health sciences librarian and one physician, both with expertise in the teaching of EBM, are reaching out to key decision makers in an effort to expand training to their departments or programs. Presentations utilize laptop computer, LCD projector, and library Website including a specifically designed EBM resource page.

Brief Description: This paper will examine the following topics: marketing to key decision makers and students, customizing the existing training program to suit the needs of the different programs, collecting EBM resources (print and electronic), and creating an EBM tutorial and EBM resources Web page. The library maintains an active role in teaching each program and attempts to co-teach with a faculty member from that program. Our success stems in large part because we teach EBM skills in a hands-on environment and give assignments that are directly relevant to the specific department or program.

Don't Put It Here: Dealing with Unwanted Library Content and Responsibilities

Pharmaceutical sales reps in the hospital library? FDA regulations suggest that you say no

Rya H. Ben-Shir, AHIP, manager, Takeda Pharmaceuticals North America, Inc., Lincolnshire, IL

Ever wonder why pharmaceutical sales representatives do not use their own companies' extensive medical libraries and show up demanding services at your hospital library? Most pharmaceutical libraries are not permitted to serve their field sales representatives, due to the concern about *off label promotion.* This presentation discusses a recent poll of pharmaceutical librarians on this issue and the FDA regulations that apply. A pharmaceutical librarian who had been a hospital librarian for twenty years tells all.

Dust or diamonds? Appraising a history of medicine collection

Barbara A. Epstein, AHIP, associate director; **Deborah L. Silverman,** assistant director, Resource Management; and **Malgorzata Fort, Ph.D.**, cataloging and database management librarian; Health Sciences Library System, University of Pittsburgh, Pittsburgh, PA

Purpose: The challenge of securing and valuing primary historical materials can render such collections unattractive to libraries. This paper reports on an appraisal project for older and rare books in the History of Medicine Collection of the Falk Library of the Health Sciences.

Setting/Participants/Resources: The History of Medicine collection includes approximately 4,000 volumes. The collection features rare books on medicine, psychiatry, and public health. Many, but not all, are included in the library's online catalog and in OCLC. Library staff, however, had little information about which books in its collection were the most valuable or rare and which needed to be secured and preserved more carefully.

Brief Description: Following a university audit of library operations, it was recommended that the library undertake an appraisal of its Rare Book Collection. The purpose of the appraisal was to review the adequacy of current insurance coverage and security measures and to facilitate recovery in the event of losses sustained to the collection. Steps in the appraisal process included conceptualizing the scope and methodology of the project, identification of a qualified consultant to conduct the appraisal, specification of deliverables, data evaluation and collection, and planning for needed upgrades in preservation measures and security procedures.

Results/Outcome: Knowing the value of volumes in its Rare Book Collection allows the library to promote and safeguard the collection effectively. Plans are to review and strengthen security and preservation measures where needed. Identifying specialized and rare materials in its own catalog and in OCLC promotes use of the collection to the history-of-medicine research community worldwide.

Evaluation Method: Evaluation measures include a review of whether the project met its goal of identifying the most valuable and uncommon volumes in the Rare Book Collection and assigning a value to the collection as a whole.

Stepping up to the plate: creating a new service with archival collections in a hospital setting

Douglas L. Varner, library manager, Health Sciences Library, California Pacific Medical Center–San Francisco, and **Peggy Tahir,** information services librarian, Paul and Lydia Kalmanovitz Library and Center for Knowledge Management, University of California–San Francisco

Purpose: This paper will report on a large hospital library's acquiring of a number of archival collections and the challenges and opportunities it posed to organize and provide access to these collections. Library staff have developed a new service line providing institutional historic research and continue to develop Web-based delivery of archival information to a broad-based user population.

Setting/Participants/Resources: California Pacific Medical Center (CPMC) is a multicampus hospital, with three campuses located in the city of San Francisco. The Health Sciences Library on the Pacific Campus is a large facility that supports an additional hospital library and two other small resource centers located on other campuses or in other buildings on the Pacific Campus. The library also serves the University of the Pacific (UOP) School of Dentistry, which is located across the street from the facility.

Brief Description: Several years ago, the CPMC Library was presented with a large amount of archival materials in an unorganized and unpreserved state. Collections included archives from three hospitals; collections of papers, photographs, instruments, and ephemera; and a large archival collection from a national society of anesthesiologists. Library staff learned principles of archival preservation and organization, networked with archival experts, joined professional archival associations, secured funding for archival organization and preservation from a variety of sources, and recruited staff with archival competency to complete the organization and preservation process. Currently, library staff are converting print finding aids to Web-readable formats.

Results/Outcome: Library staff have gained significant knowledge in access, organization, and preservation of historical of materials in a variety of formats. In addition, we gained experience developing and marketing a new service line. We have also been able to use Web-based technologies to promote and provide access to the library's archival collections.

Evaluation Method: Statistics are compiled on utilization of the archival research service. Anecdotally, we have found that these collections are used by patrons of our medical center as well as from visiting scholars from other parts of the United States and Europe. We are also conducting an analysis of Website use for pages providing gateways to the archival collections.

PDAs and Pocket PCs: Uses and Issues

Hospital Libraries, Nursing and Allied Health Resources, Veterinary Medical Library, Health Association Libraries, Collection Development, and Medical Informatics Sections

WEDNESDAY, MAY 22, 2002, 9:00 A.M.–10:30 A.M.

Affecting clinical and research decision making by leveraging on Pocket PC emerging technologies

Taneya Y. Koonce, co-coordinator, Information and Education Services; **Annette Williams,** co-coordinator, Library Knowledge Management; **Qinghua Kou,** health systems analyst programmer; **Dario Giuse, Dr.Ing.**, associate director, Informatics Center; **Frances Lynch, AHIP**, associate director; and **Nunzia B. Giuse, M.D., AHIP**, director; Eskind Biomedical Library, Vanderbilt University Medical Center, Nashville, TN

Purpose: Information specialists must proactively respond to changes in health care and informatics. As the usage of handheld computing technology rapidly increases, libraries must align their missions to the medical center enterprise. The authors will report on librarians' Pocket PC handheld computer use to facilitate clinicians' and researchers' increased knowledge through "just in time" interventions.

Setting/Participants/Resources: The setting is at large academic medical center library with medical center personnel and electronic resources.

Brief Description: Librarians must optimally align themselves with the overall business strategy of the enterprise, establishing their place as a central, vital part of the medical center. Providing timely access to digital information to support patient care, research, and teaching solidifies the librarian's role as an active partner in clinical and research endeavors. To leverage upon the medical center's expanding wireless connectivity, in fall 2001, the library purchased two Pocket PC devices to investigate librarians' delivery of "just in time" support to clinical and research teams. Configured with wireless capabilities, our Pocket PC's mobility maximizes connectivity to digital library resources. Additionally, the Pocket PC's computing power allows storage of digital medical texts in their entirety. However, to leverage on this computing potential, Website design must accommodate Pocket PC screen dimensions. The library will explore customizing its digital library interface and in-house authored evidence-based site to facilitate handheld use by medical center professionals for decision-making.

Results/Outcome: To accommodate emerging technologies vital to the medical center's functioning, the library will adapt the primary means by which medical center personnel access digital information: the digital library interface. Additionally, the library can promote evidence-based medicine practices by rendering its evidence-based site Pocket PC-compatible.

Evaluation Method: An established infrastructure exists for capturing and fulfilling clinical and research teams' information requests via our librarians' partnership roles in the medical center. Our goal is to evaluate the impact that wireless technology has on our ability to satisfy queries onsite at the point of need. We will analyze the percentage of queries answered at the clinical or research site using the redesigned platform-independent library Websites via the Pocket PC compared to requests completed at the library.

Building relationships through personal digital assistants (PDAs) without crossing wires

Elizabeth LaRue, head, Reference, and head, Educational Services, Augustus C. Long Health Sciences Library, Columbia University, New York

Purpose: This paper will share experiences using personal digital assistants (PDAs) for outreach and education to faculty, schools, hospital departments, and the student body at Columbia University.

Setting/Participants/Resources: The setting is at the New York Presbyterian Hospital and Columbia University, Health Sciences Campus. The Health Sciences Library, the School of Nursing, and the Department of Surgery are using PDAs. Palm OS and Windows CE operating systems are used.

Brief Description: While many health sciences libraries are using PDAs to serve their clientele, few are using the wireless technology with PDAs. This paper will discuss how we have put the Internet in our hand and made the library catalog mobile. Finding books and journals no longer requires individuals to sit down at a computer; they can search card catalogs while walking the stacks. The author will discuss the ways the Health Sciences Library has increased visibility on campus through PDAs, the trials of providing docking stations in the library, the incorporation of PDAs into classes, and the needed changes to the library's Website so it can be read on a PDA. Through the acquisition of PDAs in the Health Sciences Library, the librarians were able to find a new means of outreach. Our interests and support of PDAs expanded our role with the School of Nursing and fostered a new relationship with the Department of Surgery. Deciding to be Palm OS or Windows CE has also played a role in developing our relationships with students and faculty.

Results/Outcome: This ongoing, growing project has permitted us to gain new relationships with the School of Nursing, the Department of Surgery, and technologically advanced students. It has also caused unneeded technological stress to the librarians.

Evaluation Method: Our evaluation is noted by the number of participants in our newly developed PDA course and our new contacts with faculty at the university.

Demystifying personal digital assistants (PDAs): promoting handheld technology in hospital and academic settings

Russell Smith, librarian, Norris Medical Library, and **Pamela Corley, AHIP**, information specialist, Norris Medical Library, University of Southern California–Los Angeles

Purpose: This paper details activities conducted to promote and support handheld technology, providing a framework for other libraries to pursue similar goals.

Setting/Participants/Resources: The library discussed in this paper is a large, academic health sciences library in an urban setting. Over the past year, the library helped to create a personal digital assistant (PDA) Users' Interest Group, consisting of medical school administrators, faculty, and students, as well as library staff. This group served as a springboard for the development of a PDA resources Website on the library's Web page.

Brief Description: This paper describes the efforts of our library to respond to the recent explosion of interest in PDAs to support the information needs of our user population. The first step in this process was to become proficient in the use of these devices. Once this was accomplished, the librarians then shared this knowledge through Web resources, informatics seminars, and workshops. This generated greater interest in the medical community with the result that librarians were invited to give on-the-road demos to various departments of affiliated hospitals. The library also sponsored a PDA Fair, which

featured vendor demonstrations and educational workshops. Three major manufacturers of handheld devices participated in this fair, as well as marketers of software and peripherals.

Results/Outcome: The library continues to offer workshops on basic and medical applications for handheld computers. The PDA Fair was well attended by members of the health sciences campus community. Plans for future events are in progress.

Evaluation Method: Students who attend library workshops are asked to complete an evaluation form at the end of the class. The library is also conducting surveys of first-year medical students to track their usage of handheld devices. Activity on the library's Website is monitored on a monthly basis. The library has received positive feedback from the campus community concerning the PDA Fair.

Document Delivery in the 21st Century: Different Formats, Innovative Methods

International Cooperation and History of the Health Sciences Sections
WEDNESDAY, MAY 22, 2002, 9:00 A.M.–10:30 A.M.

MLA's Sister Library Initiative: focus on basic services

Janet Fisher, AHIP, library director, Development and Outreach, and professor, James H. Quillen College of Medicine Library, East Tennessee State University–Johnson City

MLA's International Cooperation Section has developed a pilot project, the Sister Library Initiative (SLI). Initially, the program offered two libraries from outside the United States or Canada the status of "MLA Sister Library" for a period of time. The goal of the pilot project is to assess the feasibility and effectiveness of offering direct assistance to these libraries for a relatively short period of two years. Though the needs of each library are expected to be different, the SLI's focus is on enhancing basic services to improve the libraries' abilities to serve their users. The two libraries that were selected in 1999 are: (1) The Medical Research Library of Latvia and (2) The Medical Library of the Holberton Hospital, St. John's, Antigua. This paper will describe the assistance that MLA members and their libraries in the United States and Canada have given to each of the first sister libraries. One of the major areas of continuing assistance is a free interlibrary loan (ILL) program. In Latvia, this ILL assistance supplements that given by libraries in Sweden. In Antigua, assistance began with obtaining the hardware and software to facilitate ILL. The ILL system was set up with assistance from the National Library of Medicine using the DOCLINE system and Ariel. Using DOCLINE, sister libraries can make use of the routing capabilities of the system to request and receive articles through ILL. In addition, librarians donated materials to the libraries and obtained contributions from commercial vendors to the assist the sister libraries. The paper will describe problems encountered and solved and lessons learned in the first two years of the project. The paper will end with specific examples of how the program has improved health care to some citizens.

GRATISNET—from paper to the Web: Australia's document delivery network for medical and health libraries

Rolf H Schafer, AALIA, chief librarian, Walter McGrath Library, St Vincents Hospital Sydney, Darlinghurst NSW, Australia, and **Sue Grimes, AALIA**, library manager, Wentworth Area Health Service Library, Nepean Hospital, Penrith NSW, Australia

GRATISNET is a closed network of medical and health-related libraries spread across all states and territories of Australia. This network has evolved over the last two decades, beginning in 1982 at a meeting of ten hospital librarians in New South Wales. The impetus for the formation of this reciprocal document delivery network was the imposition of an increase in interlibrary loan charges by the Australian Advisory Council on Bibliographical Services (AACOBS) and the anticipated budgetary impact. The development of GRATISNET revolves around the willingness of members to provide a reciprocal interlibrary loan/document delivery service, while abiding by a code of conduct that has been developed to provide for consistency of service across the network. The backbone of the service is a union catalog, which has evolved with the network. The format and production of the union list over the past two decades reflects the changes in the resources at hand and the emerging information technologies available to the profession. The union list was first available as a state-based paper printout, moved through microfiche to a DOS-based database, and most recently became available via the Internet. A unique feature of GRATISNET is the ranking of member libraries within states and between states to spread the request for articles as evenly as possible between members. The success of ranking and its effectiveness has meant that smaller libraries can contribute to the network, as the document delivery load is spread more equitably, and that net lenders are used as a last resort to minimize the demand on their collections. This paper will highlight the philosophy, growth, administration, and library vendor sponsorship of GRATISNET. The successful continuation and viability of this network over two decades demonstrates how a group of medical and health libraries can with goodwill, hard work, commitment, cooperation, and organization develop a network that significantly improves the service level that they can offer to their clients.

From desktop to desktop: document delivery services at the National Institutes of Health Library

Rosalie H. Stroman, chief, Information Delivery Services Section, and **Benjamin Hope**, head, Systems Office, National Institutes of Health Library, National Institutes of Health, Bethesda, MD

Purpose: This paper will describe the experience of the National Institutes of Health (NIH) Library in electronically delivering documents requested by NIH scientists located across the country.

Setting/Participants/Resources: NIH is one of the largest medical research centers in the world with a staff of over 22,000, of whom 6,000 are specialists or physicians. The library views itself as a focal point for the exchange of biomedical information vital to the support of research activities conducted at NIH. The library is also a virtual entry point into an integrated system where NIH investigators find organized databases linked with collections for information gathering, real-time electronic request capabilities, digital consultation with library staff, and instruction modules for electronic resources. Essential to providing real-time electronic request capabilities for users is the ability to deliver copies of requested documents electronically. Document delivery, rated by the NIH investigators as a highly valued service, has met this challenge by acquiring a current off-the shelf product known as Relais to send copies of documents by email as PDF file attachments and provide Web delivery. Loansome Doc requests from NIH scientists were the first group of requests processed through this system. The adaptability

of Relais to interface with other systems and its compliance with the ISO 10160 and 10161 document delivery standards also allows the library to integrate the document delivery functions of Web of Science, Ovid, and Innopac into the Relais system using a variety of input methods and transfer mediums. Additionally, a Web-based entry form can be used to enter citation information, which is verified against standard online catalogs and subsequently transferred to the Relais workflow.

Results/Outcome: The effective integration of document delivery functions of different systems along with the Web-based entry provides a seamless method for all requests from NIH scientists to enter into one workflow for staff processing, ensuring the timely delivery of information needed to support NIH research activities.

Evaluation Method: The library is conducting a survey to measure user satisfaction. Many favorable comments about the timeliness of the service and satisfaction with electronic ordering and delivery methods have been received.

Document delivery on island time: Prospero visits the Caribbean

Pam White, information services librarian, Lyman Maynard Stowe Library, University of Connecticut Health Center–Farmington

Purpose: This paper will describe the process of setting up interlibary loan services for a medical school library in the Caribbean. The library's experiences using Prospero to receive documents will be recounted.

Setting: Saba University School of Medicine is a small medical school in the Netherlands Antilles. The school recently built a new library and has been working to expand library services.

Brief Description: Processing interlibrary loan requests in a timely manner can be a challenge for small libraries in remote locations. Possibilities for expediting access to medical information for a developing medical school will be explored. Prospero, a free software tool for receiving documents, may help poorly funded libraries make headway in their efforts to improve access to information.

Delivering articles to users worldwide—PubMed, Loansome Doc, and DOCLINE

Eve-Marie Lacroix, chief, Public Services Division, and **Martha R. Fishel,** deputy chief, Public Services Division, National Library of Medicine, Bethesda, MD

Purpose: This paper will describe the National Library of Medicine (NLM's) efforts to develop partnerships and practical methods to ensure that libraries and end users worldwide can obtain articles they have identified using PubMed.

Participants/Resources: The availability of PubMed/MEDLINE free of charge for searching worldwide has resulted in a concomitant global demand for full-text articles. NLM has recently begun to expand the DOCLINE network to include selected national medical libraries and other major medical libraries that are willing to provide service outside their organizations to PubMed users in their country or region. In addition, PubMed now facilitates links from PubMed to document delivery providers outside the United States.

Outcome: These programs are in their early stages but have already yielded tangible results. The partnerships are truly global, including libraries in countries on every continent. These libraries provided more than 50,000 documents in 2001 to requesters in

their regions. NLM serves as a resource for material these libraries cannot supply from regional collections.

Discussion: There is a growing demand for document delivery worldwide, and meeting the demand has presented numerous challenges. Communication is more difficult with many languages and time zones; the Internet is not equally reliable across the globe, therefore electronic transmission is not foolproof; training and other technical support is not readily available in many areas. Though it may take longer to extend these programs worldwide, they are proving valuable in ensuring that health professionals can obtain needed articles.

Contributed Paper and Invited Speaker Sessions

Eyes on the Competition!

Corporate Information Services, Hospital Libraries, and Pharmacy and Drug Information Sections
WEDNESDAY, MAY 22, 2002, 9:00 A.M.–10:30 A.M.

Competitive intelligence in the academic environment

Sarah McCord, electronic resources librarian and liaison, College of Pharmacy, Library, Washington State University–Pullman

Competitive intelligence (CI), broadly defined, means knowing what the competition is up to and applying this knowledge to increase capital, decrease costs, and improve management effectiveness. Intelligence differs from information or data in that it has been subjected to analysis. Institutions of higher education compete with each other for grants, prestige, and high-quality students and faculty. There is also competition internally for budget dollars, space, and equipment. In the academic environment, "increasing capital" can be thought of in a variety of ways, including increases in grant support, enrollment of targeted student populations, or faculty satisfaction and retention. The art of competitive intelligence involves five major steps: formulation of a question, collection and storage of data, analysis and interpretation of data, dissemination of the results (intelligence), and evaluation of the effectiveness of the process. Sources must be evaluated for authority, using familiar criteria such as accuracy, content, completeness, currency, reliability, understandability, and relevance. Primary sources of competitive intelligence include institutional Websites and print publications, conference speakers, patent holders, former employees of other institutions, technical recruiters, reporters, and even Internet news group and discussion list participants. Secondary sources include review articles, publicly available records, database searches, job postings, and Websites for professional organizations and conferences. When working in an academic or nonprofit context, it is particularly important to be mindful of electronic resource licensing requirements. There are many practical ways to implement competitive intelligence methods in the library. Approaching current activities (reference services, collection development, negotiating with vendors, reading professional literature) with a new competitive awareness can teach you about your own environment, as well as the environment at other institutions. Other places to begin include visiting the Websites of peer institutions, including a business card and executive summary with literature searches, and making appointments with the development director and continuing education coordinator for your institution. Perhaps the most useful (and most enjoyable)

CI strategy is networking with other professionals, including people from outside the library world.

How retail pharmacists utilize competitive intelligence and drug information

Jean Siebert, learning services/coordinator information services librarian, Health Sciences Library, West Virginia University–Morgantown

This presentation will describe the current environment of retail, chain, or community pharmacies and discuss access issues, attitudes, and utilization of competitive intelligence and online drug information. Working conditions and other trends in these pharmacies have adversely impacted pharmacists' abilities to access resources and utilization of electronic information. This presentation will describe results of recent pharmacy literature on these topics. It will present results of a local survey of retail pharmacists in a university community with a school of pharmacy. Recommendations for future changes that can improve the utilization of these valuable tools will be discussed.

Not rocket science: competitive intelligence in a contract research center

Jan Schueller, manager, Library and Information Services, Batelle Seattle Research Center, Seattle, WA

About a year ago, one of our administrators surprised me by complimenting me on the nice job of "competitive intelligence" I had done providing information on a potential client, a foreign corporation, and on several technical organizations and corporate entities considered likely competitors for the foreign company's business. As far as I was concerned, I had simply done what I have been doing for years in various parts of the academic or corporate research world: using easily available public information to pull together a coordinated package of descriptive information on companies, research centers, academic schools and colleges, consulting organizations, and individuals in these institutions. These "packages" have been used to inform marketing opportunities, to identify potential clients, and to research likely competitors; yes, the research world is full of competitors! And because I have never worked in aerospace, it was not rocket science! I had always seen competitive intelligence (CI) as a highly technical process undertaken in "The Big Business World" to develop market analyses and compile detailed financial and business information on competing corporations. With this new, broader, definition I could also see the process applies to profiling potential or assigned collaborators and subcontractors, as well as to biographical and professional sketches of program administrators and proposal reviewers. So it still was not rocket science! In fact, it comprises many of the basic tools in the librarian's repertoire. This presentation will discuss practical CI techniques for researching four groups of players encountered in the activities of a research organization: clients, potential and actual; competitors; collaborators or subcontractors; and agency personnel and review board members. Commonalities of approach and relationship to standard library research techniques will be emphasized, because the same entity may be competitor, collaborator, or even client at any given time. The techniques will include use of standard business directories and databases, especially full-text databases, Web-based searches and analysis of institutional Websites, online literature searches: MEDLINE and beyond, and other relevant techniques.

More to Life than MLA: Outreach to Other Professional Associations

Public Health/Health Administration and Nursing and Allied Health Resources Sections

WEDNESDAY, MAY 22, 2002, 9:00 A.M.–10:30 A.M.

Client and librarian partnerships during sixty years

Winifred Sewell, D.Sc., AHIP, consultant, Cabin John, MD

A personal history of sixty years of medical librarianship is provided. Beginning with the manufacture of penicillin, the author supplies anecdotes of her interactions with clients up to the advent of genomics. The stories explain the motivation for providing stipends for attendance of librarians or other information specialists at the national meetings of their clients.

From service to partnership: lessons learned at the American Public Health Association (APHA)

Laura Larsson, NLM informatics fellow, Oregon Health and Sciences University–Portland, and clinical faculty, Health Services Information Center, University of Washington–Seattle

Reaching out to their communities of practice in their libraries is an activity librarians are especially good at. Outreach consists of more than in-library contact, however. It involves going to their users' work places and seeing how they find, organize, and use information and through attending their meetings. In this session, we will discuss one innovative effort to encourage librarians to work as colleagues with public health practitioners. The method used was to grant cash stipends to interested public health librarians to enable them attend the the American Public Health Association (APHA) annual meeting. This talk will describe the stipend and its effects on the librarians who participated and on APHA. It will discuss what librarians, including the speaker, are doing in their outreach efforts with communities of practice and will describe lessons learned and the benefits of working with different user groups.

Experiences teaching continuing education (CE) for other professional organizations

Jan Glover, AHIP, education coordinator, Cushing/Whitney Medical Library, Yale University, New Haven, CT, and **Kathryn W. Nesbit, AHIP**, coordinator, Education Services, Edward G. Miner Library, University of Rochester Medical Center, Rochester, NY

Librarians have a great deal to offer to continuing education (CE) programs of other organizations. The repertoire of skills and classes that we offer to our own constituents can be repackaged and marketed to other organizations. Several of our classes were combined to create a six-hour class "Research to Presentation," which has been offered at the American College of Surgeons Clinical Congress for several years. Modified versions have been offered at local medical association meetings. Discussion includes strategies and tips for planning to offer CE classes to other professional organizations.

Delivering Internet health resources to an underserved health care profession: school nurses

Amy L. Gregg, reference librarian; and **Jody A. Wozar,** reference librarian, Health Sciences Library System, University of Pittsburgh, Pittsburgh, PA

Purpose: This paper reports on the unique information needs of school nurses. To meet their needs, the authors developed a course that focused on locating reliable and high-quality medical information resources on the Internet.

Setting/Participants/Resources: The Health Sciences Library System (HSLS) at the University of Pittsburgh formed a partnership with the Pennsylvania Association of School Nurses and Practitioners (PASNAP). Through this partnership, a hands-on course was offered at their annual conference.

Brief Description: As one component of the Health Information for the Public Project, a subcontract from the National Library of Medicine and the National Network of Libraries of Medicine, HSLS collaborated with PASNAP. This collaboration resulted in HSLS librarians offering a course, "Access to Electronic Health Information for School Nurses," at PASNAP's annual conference. This paper discusses the school nurse population, their information needs as a profession, and the development of the course curriculum.

Results/Outcome: This course provided participants with the skills to be able to effectively utilize the Internet to locate quality medical information.

Evaluation Method: A course evaluation and impact survey were used to assess the effect of the instruction.

Invited Speaker Sessions

Dealing with Tough Questions

Consumer and Patient Health Information, Cancer Librarians, Nursing and Allied Health Resources,
Veterinary Medical, and Federal Libraries Sections and Mental Health SIG
WEDNESDAY, MAY 22, 2002, 9:00 A.M.–10:30 A.M.

Dealing with tough questions

Gail M. Rink, MSW, Hospice of Santa Barbara, Santa Barbara, CA

Death and grief are certain to happen to all of us! Yet, both *certainties* are met with fear, avoidance, and pretense. Talking about dying is often seen as fatalistic or superstitious. Sharing the sorrow of grief is received as depressing, maudlin, or self-indulgent. At best, it is awkward to communicate with someone else about dying, death, and grief. And so, many people seek solace and information from the *written*, rather than the *spoken* word. This workshop will examine possible dialogues that medical librarians can have when someone asks sensitive questions. Participants should come prepared to examine their own attitudes toward dying, death, and grief. Effective dialoging requires familiarity with the topic and comfort talking about it.

Health Care for the Transgendered Community

Relevant Issues Section and Lesbian, Gay, Bisexual, and Transgendered Health Sciences Librarians SIG
WEDNESDAY, MAY 22, 2002, 9:00 A.M.–10:30 A.M.

Health care for the transgendered community

Charles Moser, Ph.D., M.D., professor, Sexology, Institute for Advanced Study of Human Sexuality, asnd private practitioner, San Francisco, CA

Transgendered individuals include transvestites, those with an androgynous presentation, those whose gender is not constant, those who mix different aspects of male and female identity or presentation, individuals who deny they have any gender, preoperative transsexuals, and postoperative transsexuals. This entire class of patients has unusual problems accessing health care; these problems are different from other minorities and even other sexual minorities. This presentation will highlight not only the problems, but also strategies for both patient and physician to access appropriate health care. The techniques described are useful for other health care deprived groups as well. Ample time for questions will be provided.

Reflective Practice: Qualitative Research—Tales from Recovering Positivists
Research Section
WEDNESDAY, MAY 22, 2002, 9:00 A.M.–10:30 A.M.

Qualitative methods and evaluation

Keith W. Cogdill, Ph.D., outreach librarian, National Network Office, National Library of Medicine, Bethesda, MD

Research in the round: observations in context

Michelynn McKnight, AHIP, head librarian, Health Sciences Library, Norman Regional Hospital, Norman, OK

Tales of recovering positivists

P. Zoë Stavri, Ph.D., assistant professor, Division of Medical Informatics and Outcomes Research, Oregon Health and Science University–Portland

Poster Sessions: Sunday
SUNDAY, MAY 19, 2002, 3:00 P.M.–4:00 P.M.

1

Watching our users: using screen-capturing software to streamline usability testing

Bonnie O'Connor, Internet services coordinator; **Catherine Rhodes**, instructional services librarian; **Lynda Howell**, information technology librarian; **Wayne Loftus**, reference/microcomputer services librarian; **Tom Raymond**, Web specialist; **Jayson Felty**, programmer; and **Daniel Garcia**, library assistant; Briscoe Library, The University of Texas Health Science Center–San Antonio

Setting/Participants/Resources: The university library, one of the largest academic health sciences center libraries in the United States, serves faculty, staff, and students of the health science center; consumers; and health care professionals throughout South Texas. The existing home page was designed in late 1997 and was due for a major redesign to bring it up to date and improve accessibility. Formal usability testing was an important part of the creation of our new home page, replacing the current one in July 2001.

Brief Description: As part of a major redesign of the library's homepage, the Web Team conducted formal usability testing with students, faculty, and staff. Lacking the

equipment for traditional video recording, and to avoid the distraction—and possible influence—of having observers in the room during tests, we chose to use screen-capturing software to record the test sessions. We developed a list of items we wanted testers to search for on our site and recorded their attempts. The resulting screen capture movies gave us a complete and accurate record of each session and could be easily shared among team members for review and analysis.

Results/Outcome: Using screen-capturing software enabled us to quickly and easily identify problems and to compare different users' approaches to the assigned tasks, without having to deal with video recording or rely on observers' notes and memory. For each question, reviewers of the movies used a printed form to record the number of clicks or keystrokes users took to find the items, as well as any recorded comments users made or other actions users took. From these forms and with easy reference back to the movies we had recorded, we were able to identify items and areas in the new design that tended to confuse users.

Evaluation Method: We collected feedback from users and team members through comment sections on the evaluation forms and email. In general, team members have been pleased by their abilities to repeat sections of the sessions as needed, while users have commented that they would have felt a lot more self-conscious during the testing with an observer or video camera in the room.

2

Website management: new administrative and technical resources to support content management

Jody Wozar, reference librarian; **Nancy Tannery,** assistant director, Information Services; **Philip Bergen,** information architecture librarian; and **Paul Worona,** assistant director, Systems; Health Sciences Library System, University of Pittsburgh, Pittsburgh, PA

Setting/Participants/Resources: The Health Sciences Library System, University of Pittsburgh is a large, academic health sciences library in an urban setting. The library's Website provides information resources to the six schools of the health sciences and the hospitals of the UPMC Health System.

Purpose: The paper will report on the health sciences library's efforts to develop Website management procedures, not only to support the growth of electronic resources but to facilitate the integration of these resources with the educational, research, and clinical missions of the health sciences.

Brief Description: In February 2000, the health sciences library initiated an effort to redesign the library's Website to accommodate the growth of electronic resources. As we began this effort, we realized that any changes would require a new administrative and technical infrastructure to support the long-term maintenance of the site. To that end, we assembled a cross-departmental management team to ensure all domain knowledge is reflected in the Website. This team is comprised of a Website manager and editor from reference, an information architect from technical services, and a technical lead from systems. The technical infrastructure of the Website was developed with the active participation of all team members and was designed specifically to meet the objectives of the management team. This includes a Web-based content-management system to

automate maintenance, a Web-based WYSIWYG editor to allow content developers to easily add and update materials, and a set of tools used to integrate electronic resources into Web pages. Ultimately, we would like to use these tools to allow individuals and departments outside the library to easily incorporate library resources into their Web pages.

Results/Outcome: This process produced an effective management structure, simplified methods for content development, and powerful tools to integrate electronic resources into Website content.

Evaluation Method: Evaluation involved an iterative cycle of development and user testing. We conducted one-on-one interviews with content developers as the system was being developed. Once a prototype was completed, we presented the new Website and management system to the university's Health Sciences Information Resources (HSIR) Committee for peer review.

3

Gathering customer input prior to home page redesign: an ontological study

Katherine Alexander, AHIP, education librarian; **Karen Harker,** Web developer; **Mori Lou Higa-Moore, AHIP**, chief futurist and strategist; **Shelley McKibbon,** research and clinical information librarian; **Helen Mayo,** research and clinical information librarian; and **Laura Wilder, AHIP**, research and clinical information librarian; Library, University of Texas Southwestern Medical Center–Dallas

In the summer of 2001, the library's Content Team, which addresses the selection of content for the library's Website, studied how clients organize and describe information. Specifically, we wanted to identify which library resources and services were considered to be most important by our clients, how clients would organize the library's electronic resources and services, and what terminology clients would use to describe their groupings. The results will be used in the redesign of the library's home page. This poster presents our library's experience in planning and conducting this study, which involved a multilevel card sort. We will report on the process we developed to guide us through this study, from setting our initial goals to analyzing the data. We will present our card-sort methodology as well as the participant-selection process, which involved the use of our client contact database and other unique approaches to encouraging participation by self-selected volunteers. We will share our detailed working procedures, such as the development of a shared calendar to manage scheduling and a participant database to track responses. Finally, we will present our analysis methods for the gathered data and identify the resources necessary to complete this type of study successfully.

4

Building the HealthSmart Library

Steven Hunt, head, Information Systems; **James Shedlock, AHIP**, director; **Linda J. Walton,** associate director; **Brian Lauer,** knowledge management librarian, Galter Health Sciences Library; **Jon Handler, M.D.**, associate professor; and **Michael Gillam, M.D.**, assistant clinical professor, Emergency Medicine Division, Department of Medicine; Northwestern University Medical School, Chicago, IL

Introduction: The foundation for building the HealthSmart Library (HSL) rests upon many concepts that include Web personalization (My Library), current awareness, quality filtering, information delivery to the point of need, and so on. Some of these concepts, like current awareness, have been library services for decades. The availability of new technologies provides library staff with the opportunity to build tools for users that are "smart" in their delivery of information to the point of need. This poster describes the effort to date in building the HSL.

Features: My Library versus the HealthSmart Library: Users have a choice in building their personal HSL. Users will select their own resources (traditional My Library) or they can choose to take advantage of quality filtering of resources and have resources sent to their HSL based on their user profile.

Current Awareness: To be truly "smart," the HSL should deliver information before the user needs it. Again, through the clever use of profiles, literature (citations and full text) will be sent to the user via email alerts when it becomes available and before they realize their need to search for it.

Metasearch Engine: This innovative tool makes it faster for users to identify where the literature is located within the library's local collection of resources. The metasearch engine is designed to aid discovery and maximizes the local investment in information resources. The HealthSmart database: HSL user scan create their own personal databases of key citations, articles, and Websites. By locating the databases within the HSL, users always know where they are and can continually add to them as well as share them with others.

Progress to Date: The HSL will offer demonstrations of the tools mentioned above.

Conclusion: Library staff and faculty are collaborating to build tools that aim to bring information closer to the user and to their place of need. The "smarter" library will be one that delivers information before users need it! A major goal of the HSL is to measure whether these tools actually make a difference to busy clinicians.

5

Usability testing of a health sciences library Website

Linda C. O'Dwyer, reference librarian; **Stephanie C. Kerns,** head, Learning Resources Center; **Linda J. Walton,** associate director; **Kurt I. Munson,** head, User Services; and **Cheryl Powell**, library assistant; Galter Health Sciences Library, Northwestern University, Chicago, IL

Purpose: This poster will illustrate one health sciences library's approach to conducting a usability study of its Website.

Setting/Participants/Resources: The library is a medium-sized, academic health sciences library serving a varied patron base that includes students, faculty, staff, and residents. The library's current Website structure and design has been available since 1998. While the library has done limited user testing among its own staff members, there has been no constructive effort to date to analyze the library Website in a systematic manner and from the patrons' point of view. Recent changes to the library's online services, which include interlibrary loan and proxy access, have increased the importance of the library Website's functionality.

Brief Description: The library's Assessment Task Force was given the task of creating a usability testing strategy. A two-pronged approach will be used: a usability survey will be administered via the Web page and email lists to identify problem areas and generate a user testing pool; and formal user testing with members of the medical school community will be conducted, with a particular concentration on users with little or no experience of using the library Website.

Results/Outcome: The results of this ongoing testing will be used to redesign the library Website. The goal is to have a user-friendly Website that can be easily navigated no matter how familiar the user is with it.

Evaluation Method: Using two moderators, we will conduct sessions with one user at a time. In the session we will record where the user goes with the mouse using capture software. We will also record verbal and nonverbal communication. Users will be given an opportunity to discuss the Website in general on completion of the test.

6

Strategic approach to Web evaluation at the National Library of Medicine

Frederick B. Wood, DBA, computer scientist, and **Elliot R. Siegel, Ph.D.**, associate director, Health Information Programs Development, Office of Health Information Programs Development, National Library of Medicine, Bethesda, MD

Purpose: The purpose is to plan and implement a comprehensive strategy for evaluation of major Websites operated by the National Library of Medicine (NLM).

Setting: Over the last two years, NLM reviewed and tested a broad range of Web evaluation methods and metrics, with the overall intent of better understanding NLM's Web users as a basis for further improving NLM's Web-based health information services.

Methodology: NLM used a systems science framework (with input, process, and output variables) for developing the strategic evaluation approach. The specific methods tested included: online random survey of users, syndicated nationwide telephone survey, Web log data comparisons, comparative Website analyses, Internet audience measurement, and Internet connectivity performance tests.

Results: All methods selected were successfully tested but with varying strengths, limitations, and value added. Taken as a whole, the evaluative results provided a much-improved understanding of NLM's customer base in the Web environment.

Discussion: Web evaluation is a dynamic field, and further improvements are certain. NLM's prototype strategic approach is likely to be applicable to institutions and organizations with a major Web presence in the health information arena.

7

To tell the truth: a proposed validation method for health claims on the Web

Michael A. Veronin, R.Ph., Ph.D., research associate, and **Roland Patry, R.Ph., Dr.P.H.**, professor, Pharmacy Practice, School of Pharmacy, Texas Tech University Health Sciences Center–Amarillo

Purpose: The purpose is to propose a validation method for health claims on the Web that may be extended to other types of medical information.

Setting/Participants/Resources: The Web is a significant source of health information, but information may be inaccurate, misleading, and unsupported by scientific evidence. A reliable method to determine validity of health claims is needed.

Brief Description: How do we know if a health claim on a Website is valid? The proposed validation method answers this question involving a four‐step, evidence‐based approach. (1) Establish Data Sources: Initially, perform a comprehensive search for health claims on Websites utilizing multiple search engines employing scientific and common search terms. To obtain similar health claims addressed in scientific studies, perform a corresponding search of the scientific literature. (2) Determine Relevancy: The next step is to narrow the scope of collected information. To eliminate irrelevant Websites, apply predetermined inclusion criteria and, for scientific studies, include established methodological designs. (3) Perform Data Extraction: Create two defined data sets comprised of health claims from Websites and claims from scientific studies. Formulate a scientific standard against which Website claims can be compared. To determine the quality of scientific studies, assess their contents with quality‐assessment rating instruments. (4) Conduct Data Synthesis: Compare claims on Websites to scientific studies assessed for quality. Disparity of Website claims to the scientific standard yields assessment of validity.

Results/Outcome: The validation method was effectively tested. From December 1998 to May 1999, health claims for the herb opuntia were identified from Websites using nine search engines. A corresponding search was conducted of the scientific literature. Searches retrieved 184 Websites with 98 health claims and 51 research studies. Only 34% of claims were addressed in the scientific literature, and evidence was conflicting or contradictory. For human studies, none met the criteria for high quality as determined by quality‐assessment instruments. Further evaluation studies are underway.

Conclusions: Individuals should exercise caution in accepting health claims found on the Web unsupported by scientific evidence. The proposed method provides assurance towards determination of validity.

8

Moving to the electronic library

Susan Starr, Ph.D., associate university librarian, Biomedical Library; **Craig Haynes, AHIP**, director, Medical Center Library; and **Anne S. Prussing,** assistant director, Collections and Operations, Biomedical Library; University of California–San Diego, La Jolla, CA

In common with health sciences libraries across the country, our large academic biomedical library is considering whether to retain print versions of journals it now receives in electronic format. This question is of particular importance for us, because we maintain a substantial duplicate journal collection at a branch medical center library, located approximately ten miles away. Many of the core titles duplicated in print at the medical center library are now also available in electronic form. To better manage our journal expenditures, we embarked on a project to cancel the medical center's print copy of these so-called "triplicate" titles. The poster will document the procedures we used to determine which titles to cancel, the collection development policies we developed to guide us in this and future cancellation projects, and the ways faculty and clinicians

reacted to the changing nature of the medical center library. Our experiences and lessons learned can serve as one model for managing the transition from print to electronic in hospital and academic libraries. We plan to use this methodology as we face additional future print cancellations while moving toward an increasingly electronic library.

9

Role of Family Practice Inquiries Network (FPIN) community librarians in clinical inquiries answers

Susan Meadows, medical librarian III and adjunct assistant professor, Department of Family and Community Medicine, University of Missouri–Columbia, and **Joan Nashelsky,** librarian, Library, Foote Hospital, Jackson, MI

This project highlights the librarian role in the Family Practice Inquiries Network (FPIN), a national, nonprofit consortium of family physicians, medical librarians, and other clinical consultants dedicated to providing the best available evidence at the point of care. FPIN answers respond to important clinical questions and are published in the *Journal of Family Practice* as "Clinical Inquiries-From the Family Practice Inquiries Network." FPIN's Clinical Inquiries have been published in the *Journal of Family Practice* since January 2001. Clinical questions are selected by the FPIN editors. A call goes out over the FPIN librarians' email discussion list for a volunteer to perform an evidence-based search of the literature for the question's author. The FPIN librarian communicates with the author throughout the process to refine the search strategy and performs searches against a core set of ten databases and other evidence-based resources. The librarian sorts and edits the completed searches to facilitate the author's review of the literature and forwards the results to the author. The results and search strategies are also forwarded to the managing editor, who is responsible for archiving the strategy for future updates to the question. The published answer includes a credit to the librarian. FPIN has generated a great deal of interest among primary care practitioners and has, from its inception, highlighted the value of the medical librarian in the information-seeking process. Goals for the FPIN librarians include national level recognition; roles in FPIN's planned information mastery curriculum; establishment of a credentialing program for librarians involved in teaching evidence-based medicine (EBM); development of continuing education courses for librarians in EBM, information mastery, and information science; and participation in research projects stemming from FPIN activities.

10

Teaching evidence-based medicine (EBM) teachers: a team approach

Josephine Dorsch, AHIP, health sciences librarian, Library of the Health Sciences-Peoria; **Susan Jacobson, AHIP**, assistant university librarian, Health Sciences; **Robert Mrtek, Ph.D.**, professor, Department of Medical Education; **Leslie Sandlow, M.D.**, senior associate dean, Department of Medical Education; and **Carol Scherrer, AHIP**, information services librarian, Library of the Health Sciences; University of Illinois–Chicago

For the past three years, the University of Illinois–Chicago has presented a one-week course on "Introduction to Evidence-Based Healthcare." Cosponsored by the Department of Medical Education and the Library of the Health Sciences, the course is cotaught by library faculty and by faculty in the Department of Medical Education. The goal of the

course is to introduce concepts, methods, and tools of evidence-based medicine (EBM) to graduate-level students and practicing EBM preceptors who teach EBM principles and practice. Course content focuses on the two EBM process related tasks: locating appropriate literature and critical appraisal of the evidence. Emphasis is placed on how to evaluate learner performance outcomes in each EBM task area. Topics covered include the patient, intervention, comparative intervention, outcome (PICO)–structured clinical question; effective searching of clinical queries; critical appraisal of published studies; quality filtering; the role of the information provider; and evaluation of resources (e.g., Cochrane Database, EBM Reviews, ACP Journal Club). The class is oriented toward the teaching career needs of both health care providers and health information professionals. The course is interactive, hands-on, and collaborative. It includes discussion, readings, real-time computer searching of the medical literature, and exercises in critical appraisal of the evidence. Active participation is required. As new concepts are introduced, course participants practice new skills with case-based problem solving. An interesting innovation is the strategic decision to have all active hands-on work completed by dyads consisting of a health care provider and a librarian. Working in interdisciplinary teams has provided an opportunity to introduce basic concepts and tools of EBM in a manner that is useful both for the practice of EBM and for teaching it to others. Added benefits of this approach are a mutual appreciation for each other's knowledge and respect for the unique contributions each perspective brings to the full EBM process.

11

Taking the mystery out of teaching evidence-based medicine

Andrea B. Markinson, DPM, assistant director, Educational Services, Medical Research Library of Brooklyn; **Eleanor Z. Wallace, M.D.**, faculty, Department of Medicine; **Violet Evans,** hea, Technical Services, Medical Research Library of Brooklyn; and **Bharathi Subramanian,** reference librarian, Medical Research Library of Brooklyn; State University of New York Downstate–Brooklyn

Purpose: This poster will illustrate the step-by-step process of teaching of evidence-based medicine (EBM).

Setting/Participants/Resources: Health sciences librarians and physician with expertise in EBM provide hands-on training in a computer laboratory equipped with twelve state-of-the-art, Internet-accessed workstations.

Brief Description: Training in EBM is conducted in two phases. The first phase typically involves four two-hour sessions. Students begin with an introduction to EBM. They are taught what resources are available to them, how to focus a clinical question on therapy, how to search efficiently, how to find an appropriate study that will answer that question, and finally how to critically appraise that study. The second phase begins with a brief review of first-phase skills and continues with how to focus a clinical question in diagnosis. Students are then taught how to search for diagnosis studies and how to critically appraise those studies. This phase also includes the critical appraisal of systematic reviews and meta-analyses and touches on harm and prognosis studies.

Results/Outcome: With the success and popularity of EBM at our institution, plans are currently underway to market the benefits of this training to other programs internally.

Evaluation Method: In-serve exams on this topic are given on an ongoing basis.

12

Humanism: the visible librarian

Amrita J. Burdick, AHIP, clinical medical librarian, Health Sciences Library, University of Missouri–Kansas City

Background: Codes of ethics of the Medical Library Association and of the American Library Association follow the model of the quantitative scientific observer. They encourage the librarian to provide information for all, to respect privacy, to work without prejudice, and not to allow personal views to interfere with provision of client information. Librarians are invisible and relatively silent information tools.

Purpose: In contrast to this silent role and in the context of recent official Joint Commission on Accreditation of Healthcare Organizations (JCAHO) and Association of American Medical Colleges (AAMC) statements supporting multicultural issues and human values, this poster views medical librarianship as a humanistic process. Case studies documenting clinical, educational, and publishing activities illustrate the role of medical librarians as participant observers and humanists.

Case Report: While I provide traditional information services, referencing ethics or law as well as clinical topics, I also participate in discussion of social questions forming a part of patient care. For example, I was on a team considering sending an elderly cancer patient who required intensive nursing care to a hospice and discusses obtaining family support for this move. When I noted that the patient spoke no English and that nursing care might be difficult for those who did not understand the patient's language, the team decided that home care might be a better option for this particular patient. This was my response to JCAHO goals of "responding to the psychological, social, emotional, spiritual, and cultural concerns of the patient and the family." I also support humanism within the educational process. During a discussion of brain death at bedside with a new faculty member, a comatose patient became very restless and agitated. Because I work with many faculty members, I was able to tell the faculty member that other faculty members often leave the room to discuss these issues. I also participate in committees on multicultural education and pain management. My poetry in the medical school's humanities magazine has encouraged students to write their own stories of the transition to becoming a physician and to see how cultural views shape our views of others.

13

Point-of-care reference service in a pediatric clinic

Nancy E. Harger, AHIP, information literacy librarian, Lamar Soutter Library, University of Massachusetts Medical School–Worcester

Purpose: This poster will chronicle the development of the Pediatric-Family Resource Library as a collaborative effort between an academic medical library, a hospital library, and the department of pediatrics. The primary goal is to provide more information at the point of care about the child's condition or illness, current treatment options, and the effects of the condition or illness on the child, family, and school.

Setting: The resource library is located in an outpatient pediatric service with primary care and multispecialty clinics. The center had over 43,500 patient visits in the year 2000. The library is staffed with three librarians and two parent workers.

Brief Description: The library is located in an attractive room next to a busy waiting area. The specially trained parent workers and librarians provide a reference service and materials—books, pamphlets, audiovisuals—that can be checked out by the families.

Results: Health care providers will demonstrate that the availability of the resource materials has had an impact on their practice by providing needed information to their patients. Families will demonstrate that the information they obtained enabled them to better care for their children's needs.

Evaluation method: We will survey both the families and the health care providers.

14

Three different methods to practice clinical librarianship

helen-ann brown, information services librarian; **Mary Jo Dorsey**, information services librarian; and **Kristine M. Alpi, AHIP,** information services librarian; Samuel J. Wood Library/C. V. Starr Biomedical Information Center, Weill Cornell Medical College of Cornell University, New York, NY

Clinical medical librarians (CML) have delivered information quickly to answer direct information requests and perceived information needs of all members of the health care team for thirty years. More recently, CMLs also introduce information-seeking skills in an evidence-based way. At Weill Cornell Medical College of Cornell University, clinical librarianship has been practiced for more than fifteen years and 739 questions have been answered. This poster demonstrates the three different methods currently being practiced by the Samuel J. Wood Library. The first method is attending morning report. One librarian attends morning report twice a week, and another attends once a week. A networked computer is available to answer questions in real time. At one point during their rotation, instead of morning report, residents attend an evidence-based medicine (EBM) searching workshop especially designed for them. The second method of practicing CML is attending a departmental conference. Once each week, another librarian attends tumor board, a gynecologic oncology pathology conference. Along with the clinical care presentation and pathology report, the librarian is called upon to review the literature. The.Obstetrics and Gynecology Department pays a quarterly fee for clinical librarianship and document delivery services. The third method is to be a regularly scheduled part of a weekly educational conference. An librarian has already made one presentation of available electronic information resources at the weekly Department of Pediatrics noon conference. These three methods of CML practice are continuously developing as new relationships are identified with clinical programs in the institution. The librarians and health care teams agree taking information expertise into the patient care setting contributes to improved health care.

15

The Oklahoma health connection: a partnership approach to connecting people with health information

Shari Clifton, head, Reference and Instructional Services; **Robin Insalaco**, reference librarian; and **Roswitha Allin**, reference librarian; Robert M. Bird Health Sciences Library, University of Oklahoma Health Sciences Center–Oklahoma City

This paper will report on a pilot project designed to enhance access to electronic health information through a number of public libraries in the state. The partners in this project utilized a multifaceted approach including construction of a Website, online exercises, and extensive training to facilitate delivery of electronic health information to Oklahomans. Staff members at the participating public libraries were the primary targets during the project period, the idea being that access to the Website and training resources would make it easier for them to lead their clientele to timely, authoritative health information resources. Many of the public libraries were able to stretch limited resources and staff with the knowledge gained through participation in this project. In addition to reporting on the approaches used in this project, presenters will also discuss the successes, failures, and future directions for the project.

16

MEDLINE selective dissemination of information (SDI) services: how do they compare?

Mary Shultz, assistant health sciences librarian, Library of the Health Sciences-Urbana, University of Illinois–Chicago, and **Sandra De Groote,** health sciences librarian, Taylor Library, University of Western Ontario–London, Canada

Purpose: To describe, evaluate, and compare selected selective dissemination of information (SDI) services for MEDLINE.

Resources: The following SDI services were selected for this study: PubMed Cubby, Biomail, JADE, PubCrawler, OVID, and ScienceDirect. OVID and ScienceDirect search MEDLINE through their own licensed copies of the database, while the other services utilize PubMed to search MEDLINE.

Methodology: Identical searches were established in each of the selected SDI services and were run on a weekly basis over a period of two months. The results of the searches were analyzed to establish the efficiency and accuracy of each SDI provider. Other aspects evaluated included: ease of use, frequency of results, ability to use Medical Subject Headings (MeSH), ability to access and edit existing search strategies, ability to download citations into a bibliographic management program, and amount of fields displayed in each record.

Results: The results of this study demonstrated that not all SDI services perform in similar manners. The most important difference observed was that the retrieval rate and citations varied between services even when identical search strategies were used. Other notable differences among the SDI services were: the varying levels of intuitiveness, differing capabilities for expanding search and retrieval, and currency of results.

Discussion/Conclusion: SDI service involves the automation of search strategies and the distribution of the results to patrons. This can be a valuable service for health care professionals, researchers, faculty, and students involved in medical research. Often these individuals have a specialized field or narrowly defined research topic that they focus on over lengthy periods of time (months and even years). When SDI searches can be effectively established, users are provided the most current information possible with the smallest amount of effort. Currently, there are many venues available for MEDLINE SDI searches. This study indicates that some services may be more effective than others. The

results of this study are also useful when selecting or recommending SDI services to patrons.

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Impact of articles reporting research on the value of medical library services to clinical care

Pamela J. Sherwill-Navarro, AHIP, College of Nursing librarian, Health Science Center Library, University of Florida–Gainesville, and **Addajane L. Wallace, AHIP**, medical librarian, Medical Library, Halifax Medical Center, Daytona, FL

Objectives: This study evaluates the impact of specific articles reporting research providing evidence of the value of health sciences library services (including MEDLINE) as an element of quality health care.

Data Sources/Selection: Articles were selected from a MEDLINE search performed May 2001, using simple Medical Subject Headings (MeSH) terms for the utilization of library services, the quality of health care, decision making, and treatment outcome or hospital costs. Four articles met the selection criteria: English, reported research, related to clinical care, and published before 1995.

Data Extraction: ISI Web of Science was used to determine publications that cited these four articles; analysis was performed using ProCite and Excel databases.

Results: One or more of the articles were cited in a total of 154 publications. They were cited more often than the average articles published in the same year journal and exhibiting long average half-lives, being cited almost every year since publication. The 146 publications written in English:
• written by libraians, 43%; written by physicians, 38%; coauthored by librarians and physicians, 12%
• published in medial journals, 54%; *Bulletin of the Medical Library Association,* 31%; general information science journals, 13%; health administration journals, 2%
• reporting research, 54%; giving instruction about the Internet or using the literature, 25%; about the importance of health sciences library services, 21%. Research articles were authored almost equally by librarians and physicians.
These four articles contributed to the experimental design in 34% of the ressearch publications; results were compared in 11%.

Conclusions: Does writing on the value of medical library services make an impact? Does any one read them? Should we continue to write them? The answer to all of those questions is an unequivocal *yes,* based upon this study.

18

What's the score? Evaluating student's MEDLINE searches

Kathryn W. Nesbit, AHIP, coordinator, Education Services, Edward G. Miner Library, University of Rochester Medical Center, Rochester, NY; **Jan Glover, AHIP**, education coordinator, Cushing/Whitney Medical Library, Yale School of Medicine, New Haven, CT; **Michele Shipley,** coordinator, Electronic Resources, Edward G. Miner Library; and **Robert G. Holloway, M.D.**, associate professor, Neurology and Community and Preventive Medicine, School of Medicine and Dentistry; University of Rochester, Rochester, NY

Purpose: The project will define effective MEDLINE search tactics and develop a mechanism to evaluate a student's ability to search MEDLINE.

Methodology: Based on previous search assignments and a literature review, twelve tactics were identified for effective MEDLINE strategies. To validate these tactics' merit, a survey was mailed to U.S. medical schools' education librarians. To rank student searches, each tactic was assigned a point value based on importance toward constructing an appropriate search. For consistency, coding instructions and instrument were written, two librarians coded each strategy; disagreements were resolved by consensus. After varied teaching interventions, three medical student groups searched the same question on Ovid MEDLINE. After attending several MEDLINE classes and completing a homework assignment, 100 first-year students searched the question during a mid-term. After additional training and homework, ninety-seven second-year students completed it during a comprehensive exam. Without recent reinforcement, forty-six third-year students searched it during their medicine clerkship.

Results: U.S. education librarians agreed with the tactics' importance with minor exceptions. The students' ability to complete tactics by the first-year, second-year, and third-year students were respectively: tried searching all concepts (83%, 77%, 41%), used all appropriate Medical Subject Headings (MeSH) (95%, 84%, 76%), used specific subheadings (62%, 51%, 48%), exploded appropriately (70%, 44%, 4.3%), limited by age (91%, 87%, 39%), and used Boolean operators correctly (96%, 97%, 91%). To verify the inter-rater reliability of the evaluators, four librarians were given the coding instructions. Then each graded the same 25 strategies. Of 300 items, the librarians averaged 23 (7.58%) disagreements with the master answer. The weighted Kappa scores among the librarians ranged from 0.726 to 1.0 except for two tactics, which had scores of 0.555 and 0.144 respectively.

Discussion/Conclusion: The coding instrument and scoring mechanism allowed librarians to evaluate students' searching skills. Based on inter-rater reliability, coding instructions were clarified, and one tactic was dropped from the next generation of the instrument. The coding/scoring instrument was modified for a different search questions. Librarians used the overall scoring results to focus their training and feedback tips. This instrument is useful for attempts to quantify student searching abilities for grading purposes.

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Interactive visualization for resource co-location

Gerry Benoit, Ph.D., assistant professor, and **James Andrews, Ph.D.**, assistant professor, College of Communications and Information Studies, University of Kentucky–Lexington

Given the volume of globally networked and heterogeneous resources, health information professionals may have problems finding sources relevant to a particular need and can easily overlook sources of interest to but outside the initial query. Interactive visualization of the relationships within the retrieval set is one way to deal with issues of volume, conceptual associations, and data views. This paper outlines the use of an Internet-based interactive visualization retrieval application for medical librarians to assist them in understanding the relationships among and in locating information resources based on term and document property co-occurrence and demonstrates how this

model can be used for the information professional to deal with information overload. In this project, end-users select document collection "properties of interest" and search terms to build more robust queries (term/property pairs). The pairs are used to search MEDLINE records and to generate a screen of interactive nodes. Position and distance of nodes suggest degrees of similarity to the query. Through interactive controls, users adjust weights to create dynamic data views and control set membership that are more meaningful to them. The primary objective of this project is to develop a means of giving users a view of the data that is not otherwise possible and perhaps expose unanticipated relationships.

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Hard hats and journal stacks: managing a library renovation project

Kathryn Hoffman, AHIP, executive director; **Judy Willis, AHIP**, assistant director, Public Services; and **Wes Browning,** assistant director, Information Systems; Research Medical Library, M. D. Anderson Cancer Center, University of Texas–Houston

Purpose: This poster will address the planning process, methodology, objectives, implementation, challenges, and results of building renovation project. "Cautionary Tales" and a future expansion project will also be highlighted.

Setting/Participants/Resources: The Research Medical Library occupies 18,000 square feet in the research wing of the University of Texas M. D. Anderson Cancer Center. As with most libraries built prior to the technological age, the interior space and furnishings cried out for a facelift to improve functionality and electronic access.

Brief Description: The library embarked on a major renovation project that was carried out in three phases. Phase one addressed the need for a Technology Training Room. In phase two, new carpet, new paint, a new lighting system, and state-of-the-art public computer workstations were installed. Phase three focused on refurbishing the library's journal stacks area, which included new staff office space and new client study tables or carrels. The project also provided an opportunity to review, evaluate, inventory, and weed the collections. Challenges that were addressed include: asbestos abatement, construction phasing, library closures, client awareness during each phase, collaboration with a multifaceted team, and identification of funding sources.

Results/Outcome: The Research Medical Library provides knowledge-based information resources, services, and educational programs that fully embrace the rapidly evolving digital information world. Renovation of the physical facility has better equipped the library to accomplish this mission. While the library houses a growing permanent collection of archives, journals, and monographs, it is also a place where services and staff expertise are emphasized, where electronic instruction is readily available and where the physical layout facilitates both individual and collaborative research

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Renovating a library for the twenty-first century

William E. Maina, AHIP, special projects librarian, Library, Universxity of Texas Southwestern Medical Center–Dallas

The UT Southwestern Medical Center Library occupies a building completed in 1974. By the mid-1990s, many aspects of the facility were obsolete. In 1998, renovation funding

was received, to be allocated over four years. The planning team wanted renovated spaces that would accommodate changes in information technology and medical education well into the twenty-first century. The planning principles adopted may be useful to other libraries preparing to renovate. These principles, summarized as follows, will be illustrated in the poster photographs:

• assume that functions and operations will evolve in the future and plan for flexibility when designing spaces and choosing furniture
• create group study rooms for collaborative learning among students
• create office spaces that promote collaborative work habits (the library is strongly team-oriented), while giving staff options for privacy
• make major client destinations more easily visible from the library entrance
• make power and network connections widely available in staff and public areas
• create a classroom suitable for a variety of teaching situations
• use freestanding furniture—not panels or panel-based furniture—to enclose staff workstations, thereby minimizing cost and manimizing flexibility.

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Building and renovating health sciences libraries: lessons learned

Nancy Utterback, J.D., deputy director, Kornhauser Health Sciences Library, University of Louisville, Louisville, KY

Purpose: Health sciences libraries that will undergo building or remodeling projects can learn many lessons from others libraries that have already gone through the process.

Description: Health sciences libraries in the United States and Canada that had recent renovation, remodeling, or building projects were identified. A survey was sent to these libraries to benefit from their experience and to help others just starting out on this type of facilities project. Questions included the impact of electronic journals and books on planning for stacks space, consultants used, and things that went right (and wrong) with the overall project. Site visits were made to several of the libraries to photograph the projects and talk to project directors and others on the staff regarding their projects. Results of the survey and photographs of the site visits will be displayed.

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Capturing electronic resource use with common gateway interface (cgi) "click throughs"

Betsy Kelly, associate director; **Simon Igielnik, Ph.D.**, director, Information Systems; and **Pat Gunn,** assistant director, Library Contracts; Becker Medical Library, Washington University, St. Louis, MO

Purpose: This paper will report on the use of common gateway interface (cgi) programs to capture electronic resources use through the library's Web-based E-catalog. We compare our statistics with those reported by vendors and discuss the technical implementation and management and the implications for subscriptions and licensing.

Setting/Participants/Resources: The library has developed a unique system for monitoring electronic journal usage. Authorized users of the library's electronic journals access them directly from its E-Catalog Web pages. The system records use before users are transferred to the journal Website.

Brief Description: Electronic resource usage data is captured through the E-catalog and manipulated to present use by title, by source, and by comparison of multiple sources for a title. The system has been in place for approximately two years. Records entered in the library's serials database form the basis of the electronic journal records in the E-Catalog. The records include uniform resource locatore (URL) links for the online sources of the journals, login and password information after user-authentication, electronic holdings, and access restrictions and instructions. Users can identify the titles of the electronic journals the library provides by searching on title-keyword or by browsing Web pages that include title or subject lists of the more than 1,400 resources. When users click on a URL link for an electronic journal, the system directs the request to a cgi on the library's Website, where the use is recorded, and then forwards the connection to the selected Website. The process takes about ten seconds and works with most browsers and platforms.

Results/Outcome: We have compared our data with that reported by electronic journal vendors and find a significant difference in recorded usage. Vendors appear to be underreporting use. Our system enables us to evaluate use by day, time, and originating IP and destination IP. Understanding that the data we collect is only a portion of the total access activity, we project totals and compare them to vendor reports.

Evaluation Method: Spreadsheet analyses of data collected

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Drinking from the firehose: managing institutional data

David R. Baca, assistant director, Planning and Administration, and **Martha A. Bedard, AHIP**, associate dean and director, Medical Sciences Library, Texas A&M University–College Station

Purpose: This paper will describe the Texas A&M University Medical Sciences Library (MSL) data management plan.

Setting/Participants/Resources: The MSL serves the faculty, staff, and students of the Texas A&M University Health Science Center and the Texas Veterinary Medical Center. The MSL has developed a data collection and reporting system using MS Access and Excel.

Brief Description: The MSL has external and internal accountability to several accrediting agencies, associations, and peer institutions. These organizations require data and information reporting in various formats and schema. The MSL has developed processes and tools for managing data collection, input, and reporting. This paper will describe these processes and tools.

Results/Outcomes: The MSL now has a more efficient and streamlined process of collecting and reporting data for numerous surveys. Data needed annually for a variety of reporting and planning purposes is anticipated and collected centrally. As new reporting requirements are added, the data management system is easily revised and expanded.

Evaluation Method: The system is checked for accuracy and effectiveness as each new survey is distributed and completed.

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Capturing the big D$: dollars and data

Beverly Murphy, AHIP, assistant director, Marketing and Publications; **Richard A. Peterson, AHIP**, deputy director; **Sarah Wardell**, assistant director, Information Technology Services; and **Patricia L. Thibodeau, AHIP**, associate dean, Library Services; Duke University Medical Center Library, Duke University Medical Center, Durham, NC

During these tight fiscal times, many institutions are challenging the dollars in library budgets. As a result, libraries are faced with generating data that support current and future funding. Unfortunately, new electronic services and easier authentication systems have made it more difficult for academic health centers to track use of resources. Gates counts, disparate electronic resource figures, and circulation statistics do not reflect the use of electronic resources, which have become a large portion of today's library budget and services. When the library was asked to justify its funding from the hospital, it was faced with the need to quickly generate data that reflected who was using the resources and for what purpose. The library decided to use Web survey technology to reach its clientele and compile results. The next critical step was the design of the survey instrument, because questions had to produce the relevant data: who, why, what, and when. The survey also had to be brief enough that patrons would take the time to complete it. By clever marketing, the library generated an overwhelming response rate of more than 2,600 replies in less than two weeks. The survey generated data that supported the library's argument that the hospital's current level of funding should be retained. The poster describes the survey process, the ways the library generated its strong response rate, and the actual survey results.

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Marketing a health sciences library's education program

Stephanie C. Kerns, head, Learning Resources Center; **Linda C. O'Dwyer,** reference librarian; and **Kurt I. Munson, MSLIS**, head, User Services; Galter Health Sciences Library, Northwestern University, Chicago, IL

Purpose: This poster will illustrate one health sciences library's approach to marketing its expanding education program.

Setting/Participants/Resources: The setting is a medium-sized academic health sciences library, serving a varied patron base that includes students, faculty, staff, and residents. In the fall of 2000, the library decided to expand and develop its education program in an effort to offer a wider variety of classes and to reach a greater number of patrons.

Brief Description: Various development and marketing strategies were employed. The library began a collaboration with an affiliated hospital, thus allowing for an increase in teaching resources, class offerings, and patron base. Current classes offered at the library were evaluated and new topics were covered. To market the new collaboration and classes, changes were made to the library Website, so that a schedule of classes is displayed prominently on the home page. Other marketing included monthly email notices to library patrons, paper flyers throughout the library and campus buildings, and notices on the hospital intranet and in the hospital newsletter. We hope to use other sources such as the university's electronic calendar system and library representation at class or morning reports throughout campus.

Results/Outcome: In a one-year period, classes were increased from an average of 4.58 sessions per month to 7.08 (an increase of 55%), while class attendance rose dramatically from 13.33 participants to 26.83 per month (an increase of 102%).

Evaluation Method: Using database software, library staff retained monthly statistics on class attendance and noted any trends. Class participants were given feedback forms, which informed library staff of how patrons were hearing about library-sponsored classes, what time of day was best for classes in the library, and what topics they would like to see covered in the future.

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The exciting give-away: using CD-ROMs as a promotional tool

Brett S. Powers, health sciences librarian, and **Bette S. Sydelko, AHIP**, head, Reference and Instruction Services, Fordham Health Sciences Library, Wright State University, Dayton, OH

Goal: The goal of this project was to develop a give-way item designed to promote our library's services and resources and to provide useful information to the recipient. Pens, mouse-pads, and sticky notes are all common items to give away as promotions to new students, staff, faculty, or other clients. We wanted to give away something more unique that would be of lasting value to the target audience.

History: Our library exhibited at an annual conference for a state-level association of surgeons. Wanting to provide an interesting give-away, we produced a CD-ROM that contained a Website designed specifically for the conference attendees. It was received so well, that we developed a second CD-ROM to give to our new, first-year medical students on their orientation day.

Method: The reference librarians selected Websites relevant for each targeted audience. A reference librarian created the overall Website structure and made the appropriate links. Linked Websites represented a variety of sources, including our library, our university, other universities, nonprofit organizations, and even commercial companies (MD Consult etc.) The CD-ROMs were then burned, given a customized label, and put in a paper jacket for distribution.

Benefits:
-Recipients were interested in the CD-ROM. Both the surgeons at the conference and the first-year medical students were very eager to try it out.
-It is not something we have to constantly update. Since it is on a CD-ROM, the Website is a static document. We addressed the issue of currency with an explanation that the CD-ROM had an expiration date and that it was merely a starting point.
-These items were relatively inexpensive to produce. CD-ROMs are actually cheaper to produce than floppy disks, and they are much flashier.

Conclusion: Creating a targeted Website and putting it on a CD-ROM as a give-away is a good way to generate interest in a topic and your library.

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The evolution of a library newsletter

Rebecca A. Abromitis, reference librarian, Western Psychiatric Institute and Clinic Library, and **Barbara A. Epstein, AHIP**, associate director, Falk Library of the Health Sciences, Health Sciences Library System, University of Pittsburgh, Pittsburgh, PA

In the realm of public relations, libraries have access to a variety of tools for communicating with patrons. One of the most widely used library marketing tools is the newsletter. For the benefit of patrons, a newsletter can be used to publicize new programs, products, and events; to highlight accomplishments; and to establish or raise the library's profile. From a library staff viewpoint, the newsletter can provide an opportunity for creativity through writing, project management, and product design. In large library systems, it can be useful for increasing staff awareness of the myriad activities within the organization, while helping to make staff feel more a part of a team effort. In addition, back issues provide historical perspective and a concrete record of library activities. Although a newsletter offers these returns, the decision to initiate such a publication requires forethought and planning. The benefits must be balanced against the knowledge that producing a high-quality ongoing newsletter is a labor-intensive operation, requiring financial resources and a commitment to publish on a regular basis. This poster describes the evolution of the *HSLS Update,* the University of Pittsburgh Health Sciences Library System newsletter. The *HSLS Update* pilot issue was a modest four-page photocopy format in 1996. It has since evolved into a ten-to-twelve-page illustrated publication produced by offset printing six times a year, with a circulation of nearly 4,500. The "spirit of experimentation" associated with creating a newsletter is illustrated, as well as a checklist of steps required to produce a regularly published newsletter. This poster can serve as a potential model for any library considering a newsletter program as part of a well-planned public relations effort.

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Nurses for Knowledge Campaign: $30,000 in six weeks!

Catherine M. Boss, AHIP, coordinator, Library Services, and **Darlene Robertelli**, librarian, Booker Health Sciences Library, Jersey Shore Medical Center, Meridian Health System, Neptune, NJ

Building a new hospital library in today's managed care market—complete with its decreasing revenues, increasing technology demands, and increasing labor costs—is a difficult task. Funding for our library construction project to consolidate the medical library and the former school of nursing library, we knew, was not available from hospital monies and would have to come from private sources. After an extensive fund-raising efforts tapped local trust funds, physicians, and other sources fell short of a full endowment, a campaign was initiated to reach out to an unlikely source: the nursing staff. The Nurses for Knowledge Campaign was an intensive six-week effort that focused on the close relationship our nurses have had with the library, a place they knew had the information needed to provide cutting-edge patient care and to augment their learning experience. The campaign proved successful with over $30,000 raised in this short period of time. The poster will illustrate the planning, implementation, and evaluation tenets of the campaign and will provide ideas on how a similar campaign might raise monies for other libraries.

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Rx for hypolibraryism

Jane E. Walczak, clinical services librarian, and **Julie C. Gores,** resource sharing/copyright librarian, Medical College of Wisconsin Libraries, Medical College of Wisconsin–Milwaukee

Hypolibraryism is a condition resulting from insufficient exposure to library resources and services. Prevalent in health care professionals, this condition is chronic unless managed by proper doses of library promotion and marketing. This poster session describes how the Medical College of Wisconsin Libraries recognizes the symptoms, diagnoses the condition, and determines a course of treatment for this previously unreported ailment. The prognosis and outlook for health professionals at the Medical College of Wisconsin is favorable.

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Teaching information mastery: the informatics rotation

Gale G. Hannigan, Ph.D.,AHIP, director, Informatics for Medical Education, Medical Sciences Library and College of Medicine, Texas A&M University and Health Science Center–College Station, and **Suma Pokala, M.D.**, assistant professor, College of Medicine and Department of Internal Medicine, Texas A&M University and Department of Veterans Affairs Central Texas Health Care System–Temple

Purpose: Medical students need to acquire skills to practice evidence-based medicine (EBM) and support lifelong learning. The informatics rotation is intended to promote development of these skills, specifically in asking and answering patient care questions using evidence-based medicine techniques and critically reviewing current clinical research.

Setting/Participants/Resources: Third-year medical students complete an informatics rotation during their internal medicine clerkship outpatient rotation. The two graded activities are: completing educational prescriptions and presenting an article review. Throughout the rotation, students are given guidance and feedback from both a clinician and an information specialist.

Brief Description: The educational prescription activity uses the format recommended in the EBM literature for asking and answering patient care questions. Students base their questions on experience in the outpatient medicine clinics. For the critical review, students select a current report of clinical research and evaluate study design, validity, results, and application to local practice, using EBM resources and techniques. They develop a PowerPoint presentation that includes a teaching point (e.g., intention to treat, confidence intervals) and formally present their critiques to fellow students and faculty.

Results/Outcome: After one year as a required, but not graded, activity, performance on the informatics rotation now accounts for 20% of the outpatient rotation grade. Students typically get high scores on both activities, indicating that they understand and can perform these skills. Some modifications were made in scheduling and evaluation, based on experience.

Evaluation Methods: Postrotation evaluations were used to gather feedback during the first year. During the second (current) year, students complete pre- and postrotation questionnaires in which they rate confidence in performing certain tasks before the

rotation and degree of improvement afterwards. Faculty grade students on their educational prescriptions and presentations according to predetermined guidelines.

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Moo...ving through MEDLINE: corraling user preferences for Web training

Karen K. Grandage, AHIP, educational services coordinator; **Andrea S. Horne,** Learning Resources Center coordinator; and **Kelly K. Near,** outreach librarian; Claude Moore Health Sciences Library, University of Virginia–Charlottesville

Purpose: This poster will illustrate our endeavors to create MEDLINE Web tutorials using three different technologies. It will include a comparison of user preferences for each format.

Setting/Participants/Resources: The setting is an academic health sciences library.

Brief Description: Librarians have long realized the crucial role they play in information education at their institutions. The proliferation of electronic resources and new health-related databases has created a need for almost continual end-user training and support. At our academic medical library, we have a long tradition of classroom-based education, utilizing formats such as large group lectures and hands-on training for both curriculum-based and open enrollment courses. We recognized the need for instructional materials to be available outside the classroom, at any time, to serve the various information needs of busy health professionals and students. Advances in Web technology such as Flash, streaming audio and video, and frames enabled us to consider using these methodologies in the delivery of instruction. They included: (1) a full, interactive tutorial created in Web frames, with instructions to execute in a "live" version of the database; (2) a full tutorial consisting of streaming video and audio of an instructor interspersed with screen shots of the database; and (3) short, animated screen capture illustrations of commonly performed database tasks such as refining a search and printing.

Results/Outcome: We hope that the results from this study will be useful in directing our future efforts in Web-based instruction.

Evaluation Method: We plan to evaluate learner preferences for Web-based formats of instructional content delivery.

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Teaching the teaching residents

Ellen M. Justice, medical librarian, and **Sharon Easterby-Gannett**, medical librarian, Christiana Hospital Library, Christiana Care Health System, Newark, DE

Purpose: This poster presentation describes how medical librarians are training third-year residents to search for information needed to teach their colleagues about clinical topics that arise during medical morning report and other clinical interactions.

Brief Description: Each third-year internal medicine resident is required to serve as teaching resident for a four-week block. The teaching residents present information to their colleagues that answers clinical questions that arise throughout the block. The residents meet with medical librarians to learn about searching techniques in such databases as OVID MEDLINE, MICROMEDEX, and MDConsult. The librarians offer guidance on the following: selecting databases, finding full-text articles and chapters,

requesting interlibrary loan, and identifying useful textbooks or Websites. The librarians also attend medical morning report two days per week and meet with the teaching resident on those days to discuss search strategies.

Evaluation Methods: Preassessment and postassessment is done using a Likert scale questionnaire to ascertain the residents' perceptions of their searching skills. A search problem is also given at the beginning of the block to determine a baseline for the resident's searching skills in OVID MEDLINE. At the end of the block, another search is given to see if new skills are being applied. One-on-one interactions with a medical librarian give the residents personalized instructions and give the librarian a chance to see how residents are progressing in using the searching techniques.

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Faculty and student perceptions on the effectiveness of online course modules: are modules a hindrance or help?

Clista Clanton, library intern, The Annette and Irwin Eskind Biomedical Library, Vanderbilt University Medical Center, Nashville, TN

The Education Services department at the Health Sciences Library at the University of North Carolina–Chapel Hill currently develops online course modules in collaboration with the School of Pharmacy. These modules serve as a pilot for online instructional technology use by the library. The modules, assigned to first-year pharmacy students, ask a variety of questions designed to provide information-seeking and skills development using MEDLINE, International Pharmaceutical Abstracts, INFOTRAC, the library's online catalog, and various Websites. Following a fifty-minute demonstration lecture early in the fall semester by library staff, the students are assigned modules three separate times throughout the school year to complete for credit. An evaluation of the perceptions of the class instructor and the first-year pharmacy students toward online modules used by the Health Sciences Library for instruction was conducted using the methods of an interview with the instructor and an online survey of the students. Of the 109 students who submitted modules by the due date, eighty-one also submitted surveys, for a return rate of 74%. Of these students, 86% preferred using the online modules as opposed to a comparable written assignment. Reasons cited for preferring the online modules included the convenience, shorter completion time for assignment, ease of use, and option of completing the modules on their own time from anywhere that has Internet access. Students who preferred written assignments (14%) as opposed to the online modules cited access problems and uncomfortability using computers as some reasons influencing their choice. Other information collected included the amount of time it took to complete the modules, the students' beliefs of whether or not the modules helped them in learning how to search MEDLINE and IPA, and a rating of the difficulty level of the modules.

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Integration of information literacy into a revised medical curriculum

Janis F. Brown, AHIP, associate director, Educational Resources; **Janet L. Nelson,** head, Reference Section; and **Terri Ottosen, AHIP**, information specialist; Norris Medical Library, University of Southern California–Los Angeles

Purpose: This presentation describes the library's collaboration with the medical school to integrate an information literacy component into the school's new case-based curriculum.

Setting/Participants/Resources: The medical school at our institution recently implemented a new case-based curriculum for the basic sciences years designed to enhance lifelong learning, independent study skills, and problem-solving skills. As the medical school began the process of revising the curriculum, librarians became members of several of the curriculum revision committees. As a result, the library is more actively involved in the students' education, and the medical school has placed a greater emphasis on the integration of information skills into the curriculum.

Brief Description: The medical school's newly revised basic sciences curriculum requires students to participate in an extensive information literacy component including (1) an information skills workshop, (2) an "Introduction to Clinical Medicine" session in which librarians go on rounds with students and their faculty mentor tying information needs to patient encounters, (3) a year-long literature search project involving librarian evaluation of three search assignments, and (4) an evidence-based medicine resources workshop. In addition, librarians identify appropriate articles for students to critically appraise to ensure their exposure to a variety of research study designs. Librarians also provide resources to assist students researching issues related to clinical cases. To encourage the faculty mentors to serve as good models of information users, librarians offer brief training sessions on information resources during monthly "Introduction to Clinical Medicine" faculty meetings.

Results/Outcome: The faculty and the librarians are very enthusiastic about the curriculum, and initial indicators suggest that students have increased their use of information resources related to the curriculum. Other health sciences schools are expressing interest in similar curricular involvement by the library.

Evaluation Method: Impact of the new curriculum on students' information-seeking behavior will be determined by a survey and by use statistics of various resources.

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I ready, IAIMS, I fires: a demand-side approach to Integrated Advanced Information Management Systems (IAIMS) planning

Judith L. Wulff, Archimedes project manager, and **Elizabeth M. Smigielski**, coordinator, Library Marketing, Kornhauser Health Sciences Library, University of Louisville, Louisville, KY

Purpose: This presentation describes demand-side approaches to Integrated Advanced Information Management Systems (IAIMS) planning and results after two years.

Setting/Participants/Resources: The setting is an academic medical center where the university and affiliated health care organizations are separate, competing enterprises and used phase 1 IAIMS funding to determine community needs and priorities for information management and long-term planning.

Brief Description: How does IAIMS happen in a community of health care professionals operating under a variety of sometimes cooperating, usually competing corporate umbrellas? How are partnerships and collaborations built across professional and

institutional boundaries? How are plans made when there is no single "top" to send edicts "down?" To answer these questions, we facilitated creation of a community of health professionals and a Web space where the community could articulate its needs for health information resources. To supplement planning by institutional support groups like the entities' information technology units, libraries, and the university's Health Informatics Group, this medical center has explored the "demand" side (bottom up) of health information resources rather than the "supply" side (top down). This planning has been less about information technology and more about people and organizational issues and about building new relationships, collaboration, and community. Marketing and promotional activities played a substantial role in this process.

Results/Outcome: The Archimedes Community, a regional people network for health information resources has been built. This functional, virtual community includes a supporting organization that facilitates communication, nurtures community components, and promotes and evaluates its activities. Spinoffs from the community include plans for building a Web-based research commons, a concept for a school of health information sciences, a health data system, increased access to knowledge resources, and significant organizational changes at the university.

Evaluation Method: Web traffic statistics, surveys, creation of special interest groups, and attendance at community meetings are quantitative measures for recognition of and participation in the virtual community. Validity of the information gained from the demand-side planning process is evidenced by top-down adoption of projects among all entities and innovative organizational changes at the university.

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Should I still be called a librarian?

Brenda L. Seago, AHIP, director, Computer Based Instruction Lab, Virginia Commonwealth University–Richmond

Purpose: This paper will report on how library staff in the School of Medicine works with faculty content experts, the instructional development team, and medical school administration to create curriculum content for the medical students.

Setting/Subjects: The Computer Based Instructional Lab (CBIL) in the School of Medicine serves almost 700 medical students. The lab provides forty-four computer workstations in CBIL, fourteen in team teaching rooms throughout Medical College of Virginia (MCV) Hospitals and eight in the medical student lounge.

Description: The librarian is responsible for integrating technology into the medical school curriculum. The librarian works with faculty content experts, the Curriculum Office staff, and instructional designers and applications developers to produce computer-based instructional materials, strategies, and systems.

Results/Outcome: Yearly CD-ROMs are pressed and distributed to medical students, containing programs developed with faculty in the School of Medicine. A computer testing program was developed to prepare students for computerized national board examinations, and the librarian tested the template that was developed and was responsible for the administration. The testing program has been licensed for distribution by a company in California that markets professional learning systems.

Discussion/Conclusion: The librarian plays a vital, although nontraditional role, collaborating with other medical education professionals to develop and deliver curriculum content to medical students.

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Delivery of Web-based instruction using Blackboard: a collaborative project

Patricia G. Hinegardner, AHIP, information specialist; **Virginia L. Stone**, information specialist; **Mary A. Williams**, information specialist; and **Brad D. Gerhart**, IT support specialist, Health Sciences and Human Services Library, University of Maryland–Baltimore

Purpose: This electronic poster will show how Blackboard was used to deliver a Web-based tutorial, "Introduction to Writing a Research Paper."

Setting/Participants/Resources: The Health Sciences and Human Services Library of the University of Maryland is a large, academic library serving the schools of pharmacy, dentistry, medicine, nursing, and social work. Faculty of the library and the School of Pharmacy's Drug Information Service developed a Web-based tutorial, "Introduction to Writing a Research Paper." A consultant from the university's Writing Center reviewed the final product and provided feedback and suggestions. The tutorial is being delivered through Blackboard, a course management software package that is used campuswide.

Brief Description: The tutorial is an enhancement of a previously developed lecture and Web presentation on clinical writing given to third-year pharmacy students in the "Population-Based Medical Information Analysis" course. In this revision, instructors enriched the original tutorial with additional content. Exercises to assess student understanding of concepts were also included. DreamWeaver and Soundforge were used to prepare the material for the Web and to add audio voice-overs.

Results/Outcome: By offering the tutorial on Blackboard, faculty members are able to organize efficiently the various components of the module, track the number of student accesses, and examine individual performance on the exercises. Students benefit from the practice exercises that provide immediate online feedback and from the convenience of listening to the lecture anytime, anywhere. They can also review individual components of the tutorial when needed, such as when preparing a draft of a term paper. The module has been made available to the entire campus community for independent student use.

Evaluation Method: The tutorial is being evaluated using Blackboard's tracking features, student assignments, and a user survey. The content and design will be reviewed on an ongoing basis.

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When video becomes the teacher's tool

Patricia S. Vaughn, education librarian, and **Andrea S. Horne**, LRC coordinator, Claude Moore Health Sciences Library, University of Virginia Health System–Charlottesville

Purpose: The purpose is to illustrate how librarians should modify their teaching style when teaching in front of a camera.

Setting/Participants/Resources: The setting is an academic health sciences library and a university teaching resource center.

Brief Description: A project to adapt a two-hour MEDLINE class into a Web-based course provided an opportunity to explore the use of tools such as streaming video as a time-saving alternative to classroom instruction. We discovered that teaching in front of a camera presents new challenges for librarian instructors. We sought the help of education professionals to provide expert advice on teaching methodologies for videotaped instruction. We were able to apply their teaching advice in the development of our streaming video project. This partnership was especially useful as we attempted to reach beyond the real-time boundaries of the classroom walls.

Results/Outcome: Librarians are taught to modify their teaching style to accommodate a different teaching medium (i.e., video).

Evaluation Method: Librarians were given a baseline evaluation by educational professionals, and, upon completion of their program, a subsequent evaluation was given.

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Investing in our future: library roles in educating and training health information professionals

Margaret E. Moore, AMPH, director, Planning, and **Carol G. Jenkins, AHIP**, director, Health Sciences Library, University of North Carolina–Chapel Hill

Purpose: The purpose is to explore how libraries are currently investing in the future through partnerships for educating and training health information professionals and to suggest how librarians might build on these efforts in the future. This paper will compare market research findings and five-year outcomes regarding library employer roles.

Methodology: An expert panel who participated in original research funded by NLM from 1992 to 1995 was interviewed. Job ads for health information professionals during 2001 and 2002 were examined. Literature published since 1997 was reviewed. Case studies of selected libraries were taken.

Discussion/Conclusions: This study is viewed in the context of the current MLA president's focus on investing in our future—as individuals, as organizations, and as a professional association. Libraries provide natural experiential learning sites for students, new professionals, and mid-career librarians. These professionals-in-training bring fresh perspectives to long-standing challenges. Some libraries host fellows, interns, and graduate student assistants, taking advantage of the National Library of Medicine training programs and other external funding opportunities or allocating operating funds. Library staff development programs enable libraries to demonstrate our value in our organizations and beyond. Libraries must continuously scan our changing environment, find innovative means of leveraging limited resources, and continue to collaborate with schools, professional associations, and national agencies to ensure a good return on our investment.

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Comparing the self-described searching knowledge of first-year medical and dental students before and after a MEDLINE class

Janna C. Lawrence, AHIP, reference and instructional services coordinator, and **Linda S. Levy, AHIP**, database services coordinator, Briscoe Library, University of Texas Health Science Center–San Antonio

Purpose: Compare the self-described search skills of first-year medical and dental students before taking a required MEDLINE search class with the results of their evaluation of the same search skills after taking the class.

Setting/Subjects: The subjects were first-year medical students (194) and first-year dental students (83).

Methodology: A pretest and posttest were administered.

Results: To examine actual search knowledge and skills, a pretest/posttest was developed and administered to all first-year medical and dental students attending a required class on MEDLINE searching. The test asked students about their knowledge of features such as Medical Subject Headings (MeSH), subheadings, focusing, and Boolean operators. When asked to quantify their search skills, students recognized that their actual knowledge was limited. For example, only about 19% of the total number of 277 students completing the pretest indicated that they knew how to use MeSH. Also, even among those students who believed they already possessed particular skills, most indicated in the posttest that they had learned more during the class.

Discussion/Conclusion: During several years of teaching a required MEDLINE class, we have noted that many students claim to already know how to search MEDLINE. Our observation, however, has been that most students learn additional skills and enhance the skills they already possess. Use of the pretest and posttest with the students verified what we had observed and verified the anecdotal comments of the students and faculty members responsible for the program.

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A guide to working smarter: introducing the Internet to Florida's health professionals

Linda C. Butson, AHIP, assistant director, Outreach Services, and **Nancy Schaefer,** reference librarian, Health Science Center Libraries, University of Florida–Gainesville; **Deborah Hynes,** AHEC program librarian, Area Health Education Center Program, University of South Florida–Tampa; and **Sharon Schmidt,** learning resources coordinator, Central Florida Area Health Education Center (AHEC)–Apopka

Safety-net provider organizations throughout Florida lack training in the effective use of the Internet for their clinical activities and education. The authors of this poster, three AHEC librarians and a university reference librarian, produced *The Internet: A Guide to Working Smarter* this past year to fill that void. The manual's purpose is to provide health professionals, who lack time and access to training, a resource for understanding how and where to use the Internet to answer clinical questions, support their decision making, and assist in patient and consumer education. This forty-one-page manual provides:

• basic information about personal computer systems, how they work, how they are used, and purchasing recommendations;
• instruction on methods of access, use of Web browsers and search engines, Internet service providers, menu and toolbar elements, and bookmarks;

• information and instructive exercises in the efficient use of various search tools including subject directories, search engines, and power searching techniques such as Boolean logic, nesting, and truncation for more effective computer searches; and criteria for evaluating Websites; an introduction to email and discussion lists and basic instruction on email etiquette;

• an annotated directory to selected Websites on thirty health-related categories focused on primary care and public health; and

• recommendations for additional resources including prominent databases, electronic textbooks, print selection lists, and online computer glossaries.

Distribution of the manual began in September 2001 through the Florida AHEC Network's local AHEC centers to county public health departments and community medical health centers. The manual is also being used in training health professionals serving in rural and under-served communities. It can also be utilized as a self-study guide for individuals.

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Instruction as marketing—marketing as instruction

Judy Consales, deputy director, and **Joan R. Kaplowitz**, interim head, Reference, Louise M. Darling Biomedical Library, University of California–Los Angeles

If you build it, will they come? The best resources in the world are useless if your users do not know they exist. This year the University of California–Los Angeles (UCLA) Louise M. Darling Biomedical Library began a Start@Biomed campaign. Our goal was to encourage our users to start all their library research at our home page. Because many of our resources have access restrictions, if users do not start at our home page they may not get full access to all the features available. In addition, our Website features a Learn section that includes a variety of online tutorials covering our major databases and a series of Subject Guides for the major disciplines served by the library. Visitors to the Learn page can also find out about our database demonstrations and can set up individual consultation sessions with librarians. The key feature of our campaign was the design of t-shirts in our campus colors with the phrase "Start@Biomed' and the uniform resource locator (URL) for our home page. All staff members and student employees were supplied with shirts and were encouraged to wear them especially on days when we had major new student orientations planned. We held our first "Start@Biomed' day to coincide with the School of Medicine's class of 2005's first visit to our library. We used the shirts to kick off our orientation session, which began with a "guided tour" of our Website and ended with an active learning exercise during which students critiqued one of seven important biomedical resources. The informal atmosphere created by the t-shirts and the participatory nature of the session made for a very positive experience for the students. We have also revised all our print handouts to include the "Start@Biomed' slogan at the top. Pens, pencils, and bookmarks all with the slogan and URL round out our arsenal of outreach efforts. The "Start@Biomed' campaign has not only increased the visibility of both our staff and our Web page, it has served as a team building device for all who work in the library.

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Mentoring the next generation of health sciences librarians: putting students in touch with practitioners

Gale G. Hannigan, Ph.D., AHIP, adjunct faculty, School of Library and Information Sciences, Texas A&M Medical Sciences Library and College of Medicine–College Station

Purpose: A common complaint about professional education is the lack of contact with future coworkers and employers. This poster describes mentoring activities incorporated into an introductory health sciences information management course.

Setting/Participants/Resources: The University of North Texas School of Library and Information Sciences' (UNT SLIS) graduate course in health sciences information management is often the first course taken by students interested in health sciences librarianship. During the fall 2001 semester, eight students were enrolled. The course format is a combination of class sessions and WebCT activities.

Brief Description: To give students a sense of what it is like to be a health sciences librarian and what career opportunities might be available, three practitioners were asked to post information using the WebCT discussion function. These professionals provided brief descriptions of their career paths, descriptions of current jobs, and career advice. Students were assigned to post comments or questions. Another mentoring activity was the management roundtable. Each student submitted questions for library managers. The questions were categorized and used as the basis for a two-hour roundtable discussion during class. Four library directors participated. Also, all guest lecturers were asked to introduce themselves by describing their career paths to illustrate to students that people come to librarianship in many interesting ways.

Results/Outcome: Ten mentors participated during the course. The online discussion continued for two weeks and resulted in thirty-five questions and comments between students and practitioners and among practitioners. Categories of thirty questions for the management roundtable included: budgeting, marketing, accreditation, personnel, planning, and services.

Evaluation Methods: Number and type of questions, patterns of interaction, and verbal or written comments from students and mentors were used to assess the value of these activities.

45

Developing and implementing a comprehensive information management training program for an emergent doctoral nursing program

John J. Orriola, head, Education Services, Hinks and Elaine Shimberg Health Sciences Library, University of South Florida–Tampa

The education department at the Shimberg Health Sciences Library has been able to observe and assist informally in the information skills training of the new doctoral nursing program at the University of South Florida College of Nursing, In the fall of 2001, we stepped forward to offer impressions and suggestions resulting from this experience The opportunity to share these impressions blossomed into a coordinated project to develop and implement an integrated, student-centered, comprehensive information-management training program into the doctoral program. The program is to

be operational for fall '02. This presentation will be a case report of our progress, development, problems, and solutions. The project will benefit from the inhouse expertise of the instructional designer/librarian, other librarians, and members of the College of Nursing doctoral curriculum committee. We will utilize instructional systems design concepts to develop the instructional program. The product of our work will be a modular, turnkey package that can be adapted for information management training throughout the Health Sciences Center.

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Incorporating problem-based learning and informatics principles into a history of medicine elective

Elizabeth Connor, AHIP, library director, Anne Ross Library and Learning Resource Center, Ross University School of Medicine, Portsmouth, Dominica

This poster will outline and illustrate the incorporation of problem-based learning and informatics principles into the development of a history of medicine elective. Medical students enrolled in this course are expected to identify, understand, and evaluate significant questions, issues, and trends in the history of medicine. The course focuses on ideas, definitive moments, discoveries, world events, personalities, and places from ancient times through the twentieth century. Specific lectures include "Early Civilizations," "Eastern Medicine," "Middle Ages," "Centers of Excellence," "Arabic Medicine, "The Renaissance," "The Scientific Revolution," "Indigenous Cultures," "Early American Medicine," "Rise of Alternative Medicine," "Epidemiology & Public Health," and "American Medical Education." The librarian instructor presents a brief overview of each topic followed by a seminar discussion based on assigned readings. Course assignments include writing learning issues based on weekly readings, selecting an essay topic, developing an effective search strategy, running a literature search, critically reading and evaluating journal articles and other sources, and writing a three-to-five page essay (with cited references) that develops an argument based on historical interpretation. The author will present examples of course materials including lecture notes, handouts, assigned readings, and student-generated learning issues and discuss interactions with students related to choosing topics, selecting resources, developing search strategies, writing outlines, formatting bibliographic citations, and developing cogent arguments.

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Criss-cross: matrix management in a health sciences library

Virginia F. Bender, collection development coordinator/IS librarian; **Sally Brown,** reference coordinator/IS librarian; **Terrance M. Burton,** director; and **Jean L. Siebert, AHIP**, learning services coordinator/IS librarian; Health Sciences Library, West Virginia University–Morgantown

Health sciences libraries are being asked to do more with fewer staff members. Matrix management is a management technique that implements decision making by coworkers at the same level of the organization. It encourages flexibility and idea sharing. This management structure can rapidly develop new projects and make quicker decisions with existing staff. The poster describes the circumstances of implementation in an academic health sciences center library, presents before and after organizational charts, illustrates

the success of matrix management in this environment, demonstrates how the coordinators work together, shows how the model accommodates new librarians who are not coordinators, and describes potential modifications for the future, including job rotation and development of an additional coordinator. Benefits of matrix management include job enrichment, increased staffing, quicker response to patrons needs, opportunities to implement new programs, and development of team skills. It provides opportunities to develop managerial competencies, engage in participatory management, and obtain increased job satisfaction. Challenges include role conflict, role ambiguity, goal setting and priorities in a group, and incorporation of new librarians into matrix management. Advantages to administration include reallocation of time to administrative functions, facilitation of participatory management, and development of leadership skills among librarians. Administrative challenges include trust, comfort with delegation of responsibilities, and decreased information about current projects.

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"GW Medicine at the Millennium:" fundraising through art

Shelley A. Bader, Ed.D., AHIP, associate vice president, Educational Resources, Himmelfarb Health Sciences Library, George Washington University Medical Center, Washington, DC

The George Washington University (GW) School of Medicine class of 2000, to reflect its place as the graduating class of the turn of the millennium, presented its class gift to the health sciences library of a commission of a work of art for the library entrance portico. The library contacted locally based, nationally known artist and printmaker Joseph Craig English about the project. The artist suggested we consider combining this effort with a fundraising program for educational and nonprofit organizations through the design and sale of limited edition serigraphs. For fundraising, in addition to two prints for the library, the commission contract included a discounted price schedule based on the total number of serigraphs ordered from a preprint promotion of the artwork. Proceeds from the sale were slated to help fund electronic resources for students as a supplementary gift from the class of 2000. The library contracted for a signed limited edition serigraph celebrating the traditions of education, clinical practice, and research at GW's Foggy Bottom campus. The serigraph may be ordered unframed or framed and for a modest fee the artist's studio will handle packing and shipping. Library administration worked with the artist to refine the concepts for "GW Medicine at the Millennium." The artist's preliminary color sketch served as the centerpiece of a campaign through the alumni magazine. This was supplemented by direct mailings including colored postcards of the sketch to alumni and faculty who are known art collectors or who expressed an interest in the art offering. The campaign focused on this unique opportunity to acquire a limited edition print and, in the process, make a contribution to the library's Gift Fund. Promotional materials inform potential subscribers they will receive a letter indicating the amount of the purchase price that is a donation after the edition is closed. This initial foray into commissioned artwork for fundraising has sparked the interest of the School of Public Health & Health Services for another commission.

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Enhancing your medical library's budget with fee-based revenues

Joelene M. Swearingen, CMA, CCM, manager, Financial Operations, Bernard Becker Medical Library, Washington University, St. Louis, MO

Purpose: This poster will give an overview of how we recover costs and supplement our budget with fee-based revenues.

Setting/Participants/Resources: The setting is a large medical library supporting teaching, research, and patient care at a private institution.

Brief Description: With today's ever-tightening budgets, medical libraries are forced to look for nontraditional sources of revenue. How much can a medical library supplement its budget with fee-based revenues? What services should a library charge for? What percentage of the cost of each service can be recovered through fees? Our experience has been that our collection is our greatest asset. We spent $1.8 million on our collection during Fiscal Year 2001. With this investment, we were able to generate $540,000 in revenue by lending via interlibrary loan, by allowing photocopies for personal use and by charging faculty and staff for time used on Ovid Online. In addition, we charge fees for many other value-added services such as reference searches, computer instruction, audiovisual services, satellite library staffing, and outsourcing our proprietary catalog system. How has this helped us? What does it do to our customers and how they perceive the library and use it in their work? This poster will explore what we have been able to accomplish with these additional revenues, how we have introduced them to our customers, and how the revenues have changed over the past five years. Although it is an administrative burden to implement fee-based services, we believe the benefits are worth the effort. We will review some of the customer information we gather and other benefits we gain by charging for some services.

Results/Outcome: This analysis has resulted in a clear presentation of what percentage of the cost of services we currently recover with customer fees. In addition, we understand more about the customers who use our services and their needs.

Evaluation Method: We are able to analyze the income and expense components of our library services through information the business office tracks on a monthly basis.

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Show me the money: the reality of library costs

M. J. Tooey, AHIP, deputy director; **Rich Behles**, historical librarian and preservation officer; **Brad Gerhart**, IT support specialist; **Beth Jacoby**, head, Collection Development; **Alexa Mayo**, assistant director, Information and Instructional Services; **Jane Murray**, assistant director, Resources Management; **James D. Prince**, circulation librarian; **Paula Raimondo, AHIP**, information specialist; and **Frieda O. Weise**, director; Health Sciences and Human Services Library, University of Maryland–Baltimore

Purpose: This poster will report on a multimedia presentation illustrating, for our users, the rising costs of library resources, using real-world comparisons.

Setting/Participants/Resources: The Health Sciences and Human Services Library of the University of Maryland–Baltimore is an academic health sciences library in an urban setting. Committee participation came from all areas of the library.

Brief Description: It is no secret that libraries have struggled with annual increases in subscription costs of print-based journals, joined now by increases in license fees and other associated costs for electronic resources. Traditional sources of funding fail to keep pace in support of these escalating expenses. The idea of comparing library resource costs with real-world goods in an exhibit intrigued us. We used a variety of media to demonstrate these comparisons. Scanned copies of journal covers lay side-by-side with ads for such desirables as world cruises, luxurious sport cars, and refrigerator/freezers. This offered an interesting perspective on the nature of many "must-have" titles. Individual cost factoids decorated study tables and restroom stalls, reminding the public about discrepancies between rising costs and dwindling available funds and dispelling the misconception that "tuition covers it." Selected examples graced the screen of our Web page. A common theme throughout was that when we buy these expensive items, we do so every year, at progressively higher costs each time. This poster affords a glimpse of our presentation and a look at some of the interesting comparisons.

Results/Outcome: Our users became more aware of the constant struggle of libraries to stay abreast of cost increases; moreover, the project drew the attention of many other libraries nationwide, inspiring a number to mount similar projects.

Evaluation Method: Anecdotally, user comments and inquiries indicated that our target audience was reached.

Poster Sessions: Monday
MONDAY, MAY 20, 2002, 3:00 P.M.–4:00 P.M.

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Dimensions of opening a community health education center

Jean P. Shipman, AHIP, director; **Patricia A. Hammond, AHIP**, community health education center librarian; **Barbara A. Wright, AHIP**, information resources librarian; and **Greg Pendergast,** assistant to the Tompkins-McCaw Library director; Tompkins-McCaw Library for the Health Sciences, Virginia Commonwealth University–Richmond

Purpose: When does 2,200 square feet give you more than just space? When you enter into a partnership to provide the public with consumer health information with your affiliated hospital, its auxiliary, and volunteers. This partnership enabled an academic health sciences library to improve its relationship with its medical center and auxiliary. Viewers of this electronic poster will gain insight into what should be considered when planning a center for the general public that enhances consumers' knowledge of their own health.

Methodology: A case study will be presented.

Results: This poster will provide the background on how a community health education center was developed from concept to grand opening. It will include facility and operational cost information; details on the center's design, staffing, and operational team plans; publicity measures taken; lessons learned; and benefits gained. The poster will also discuss collection management issues associated with selecting a print and electronic

collection that addresses the needs of a diverse user group with varying literacy levels, ages, and languages.

Conclusion: This illustrated partnership offers a large metropolitan area's citizens equal access to health information. It serves as a model for other health sciences libraries.

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The twenty-four languages project: providing global access to multilingual consumer health information

Elizabeth Workman, affiliate librarian, Hope Fox Eccles Clinical Library, University of Utah–Salt Lake City

Purpose: The purpose is to provide global access to health education brochures in multiple languages.

Subject/Participants/Resources: A health sciences library partnered with a state health department to complete the project. The health department provided the hardcopy documents. Library staff digitized the documents, posted them on the Internet, and created a Website where online visitors could access the documents and similar Websites. Participants obtained a grant from the Institute of Museum and Library Services, which provided 100% of the funding. These funds provided equipment, software, promotional materials, and staff compensation needed to complete the project. The project's final goal is to act as a clearing house for agencies worldwide who wish to provide online access to their materials. Agencies may submit their documents to the project staff, who will prepare them for online access and post them to the Website.

Methodology: A Website was created as an access point for the brochures. Staff scanned the materials and prepared portable document format (PDF) documents. These documents were uploaded to a server and linked to the Website. Additional enhancements, such as links to similar resources, were added to the Website. The Website is promoted through press releases, online announcements, presentations, and distribution of posters, bookmarks, and brochures to libraries, civic organizations, and governmental agencies.

Evaluation Method: The project director evaluates its success through Website statistics and feedback. Feedback is obtained during promotional visits and presentations and through solicited email, telephone, and postal responses.

Results: So far, evaluation results have been good. Feedback has been received primarily via email and telephone. These comments are consistively positive. More evaluation is needed to determine the project's success.

Conclusion: This resource furnishes health information to diverse and underserved populations. Health care providers, private and governmental organizations, and libraries can inform their clientele about this resource. Individuals who do not have Internet access in their homes may find it through libraries and other community resources. More needs to be done in serving a global population who do not have online access or other means to needed health information.

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A collaborative, statewide consumer health Website, HealthyNJ: information for healthy living

Judith S. Cohn, acting university librarian, Universities Libraries; **Micki McIntyre,** HealthyNJ librarian, Health Sciences Library at Stratford; **Janice K. Skica,** campus library director, Health Sciences Library at Stratford; and **Cathy Weglarz,** information management librarian, Robert Wood Johnson Library of the Health Sciences; University of Medicine and Dentistry of New Jersey–Newark

Purpose: The purpose is to describe the development and implementation of an integrated statewide consumer health Website, HealthyNJ. The poster illustrates the growth and development of the site and acknowledges partners in the state, association, and private sector. Outreach and promotional activities will be illustrated as well as statistics that chronicle the growth in utilization, links, and access by public and school libraries throughout New Jersey.

Setting/Participants/Resources: The University of Medicine and Dentistry of New Jersey (UMDNJ) is the state's university of the health sciences and is the nation's largest. UMDNJ has a major goal relating to community impact and diversity. HealthyNJ is an application of community service delivered using Web technology. Multiyear funding to maintain and further develop the site has been provided by the New Jersey State Library, the New Jersey Library Association, and Verizon-New Jersey, as well as the UMDNJ. A goal of this partnership is to ensure that every New Jersey citizen has access to this important health information resource through their public libraries, homes, and schools.

Brief Description: According to a report issued by the Pew Internet & American Life Project, more than fifty-two million Americans visit the Web for health information. Librarians and the public must be discriminating in their appraisal of the health information found on the Web. HealthyNJ is a consumer health Website that offers links to critically reviewed health information on the Internet. HealthyNJ does not create original content but aggregates sites from around the world. The information is divided into four major categories: Diseases and Conditions, Health and Wellness, The Reference Desk, and Health in New Jersey. Health information is a priority topic that draws the public to their local libraries to search the Web. This is particularly critical for those who cannot afford computers. Keeping the most current medical information on library shelves is a costly undertaking beyond the reach of many New Jersey public libraries. HealthyNJ has grown to include over 140 topics. Spanish-language content has been recently incorporated. During the next six months, major roll-out activities are planned at public libraries throughout New Jersey.

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Technology and publicity of ARHealthLINK: a look behind the scenes

Susan C. Steelman, coordinator, Outreach Services; **Mary L. Ryan, AHIP**, library director; and **Amanda Saar, AHIP**, special projects librarian; UAMS Library, University of Arkansas for Medical Sciences–Little Rock

Purpose: This poster will provide an inside look at the technology used to create and maintain ARHealthLINK and the publicity avenues utilized.

Setting/Participants/Resources: The University of Arkansas for Medical Sciences (UAMS) Library is the primary academic health sciences library in predominantly rural Arkansas. Within the last year, the library has been the driving force behind the creation of a statewide consumer health information (CHI) Website (www.arhealthlink.org),

which went live in October 2000. A main feature of the site is the provision of Arkansas-specific health information.

Brief Description: Since 1998, the UAMS Library has spearheaded the cooperative effort to build the Arkansas Consumer Health Information Network (ARCHIN). Numerous public and academic libraries, health agencies, and groups have worked together to create a network of consumer health information providers in the state. The largest undertaking of ARCHIN has been the creation of a Website providing national health resources and state-specific health information, contacts, calendar of health-related events, and more.

Results/Outcome: This resulting Website is a tremendous cooperative achievement that will continue to grow. Only time will tell the impact it will have on the health of Arkansans.

Evaluation Method: Evaluation methods include feedback and participation forms and statistical software for analyzing use of the ARHealthLINK site.

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Increasing public awareness of quality health information on the Internet: does it make a difference?

Mary B. Blackwelder, AHIP, director, Libraries; **Karen Hanus,** user education/reference librarian; **Linda LeMahieu,** Web services librarian; and **Rita Sieracki,** reference librarian; Medical College of Wisconsin Libraries, Medical College of Wisconsin–Milwaukee

Patients and consumers are searching the Internet for health care information. The Web is helping patients and consumers make important medical decisions, according to a November 2000 survey from the Pew Internet & American Life Project (www.pewinternet.org). The Medical College of Wisconsin Library and the Wauwatosa Public Library offered classes entitled "Introduction to Finding Health Information on the Web." Classes were free and open to all. Taught by librarians, these sessions were intended to show the basics of finding quality consumer health information on the Internet and introduce attendees to several consumer health information sites. To date, nineteen classes, six lectures or demonstrations, and thirteen hands-on sessions have been conducted. There were 156 public and consumer attendees. Within three months following each class, a follow-up survey was sent to each attendee who agreed to participate. One hundred eight attendees agreed to participate in the follow-up survey. Of these, seventy-seven (71%) have been returned. The surveys were an attempt to see how the class affected the attendees' ability to search for health information on the Internet and to document the personal benefits attendees believe they gained from the classes. The follow-up surveys ask participants:
• Have you accessed health information from the Internet since the class?
• If yes, did taking the class assist you in getting this information?
• Did you use any of the information you found to help make a health care decision or discuss a health care issue with your health care provider?
This poster session will focus on the results of the seventy-seven follow-up surveys that were returned and provide a brief overview of the offered classes. The poster will also highlight anecdotal descriptions from the participants of how information they found on the Internet helped in their health care or health decision-making process.

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MEDLINE*plus* **goes local: building a local connection for consumer health information**

Peggy F. Hull, librarian; **Diana McDuffee**, AHEC network director; and **Christie Silbajoris**, project coordinator; Health Sciences Library, University of North Carolina–Chapel Hill

Purpose: The National Library of Medicine has developed MEDLINE*plus,* a comprehensive consumer health Website. Many state-level organization have undertaken the development of consumer health Websites for their constituencies. Because MEDLINE*plus* has created the authoritative disease-specific Websites, what can local projects offer that is value added? The National Library of Medicine (NLM) has provided funding for partnership with a health sciences university group to develop a Web database linked to MEDLINE*plus.* The linked databases will provide the capability of searching the health topics and local resources at the same time. This project is creating a model that can be replicated in other states that will lead to wider access to local health information through MEDLINE*plus.*

Participants/Resources: Academic, hospital, and public librarians partner with MEDLINE*plus* staff.

Brief Description: MEDLINE*plus* user surveys show that most consumers use health Websites to locate disease-specific information, but the secondary use is to locate local resources to aid in management or treatment. Local resources include: services of local county health departments, hospitals, clinics, and health care providers; alternative medicine providers; local advocacy and patient organizations; senior centers; substance abuse programs; and resources for environmental issues like air and water quality testing. Environmental health, mental health, and community health are embraced in this inclusive approach to health concerns. This project is collecting, evaluating, and managing these resources to link them to MEDLINE*plus.* The project methodology is described, including the information architecture (SQL and Cold Fusion), interface development, data-collection and quality-control procedures, thesaurus and metadata issues, search functionality, and mechanisms for maintenance. Project staff are working in partnership with NLM to ensure semantic interoperability, synchronized linking, and continuously coordinated updating.

Results/Discussion: The planning stages of this project have resulted in increased awareness and use of MEDLINE*plus* in the public library setting. A network of local contacts for suggesting sites for inclusion has been developed. Selecting health topics to align with the state's health priorities will be discussed along with a demonstration of the interface linking MEDLINE*plus* and local resources.

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A usability study of the official Website of the Consumer and Patient Health Information Section (CAPHIS) of the Medical Library Association (MLA): a report

Feili Tu, Ph.D., assistant professor, School of Library and Information Science, San Jose State University, San Jose, CA

The Consumer and Patient Health Information Section (CAPHIS) of the Medical Library Association (MLA) first launched its Website in 1996. The CAPHIS Executive Committee under the leadership of the past chair decided to redesign it, and the new CAPHIS Website was debuted on May 1, 2000. To assess the usability and effectiveness of the CAPHIS Website, the chair invited the School of Library and Information Science, San Jose State University, to conduct a research project. Two graduate research assistants and the fall 2001 Libr220-01 "Medical Libraries & Reference" class taught by the principal investigator are assisting in creating the research protocol and handling the procedures. This project is designed to study the usability, readability, and ease of use features of the Website and each individual page. An investigation of the experience of professionals and lay persons is built in to the research protocol, because the target audience of the CAPHIS Website consists of both of these groups. Both quantitative and qualitative research approaches will be applied in this study. Data collection methods include a survey, interviews, a readability study, and a focus group study. The expected timetable will be the fall semester of 2001 (August 27–December 11, 2001). The results will reveal strengths and weaknesses of the CAPHIS Website regarding usability and will provide suggestions for improvements.

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Consumer health electronic journal clubs: a model for multiple simultaneous journal clubs

Jana C. Allcock, AHIP, consumer health outreach coordinator, and **Cynthia Phyillaier, RN,** information specialist and liason, School of Nursing, Health Sciences and Human Services Library, University of Maryland–Baltimore; and **Robin L. Meckley, AHIP**, instructional resources librarian, Scientific Library, National Cancer Institute at Frederick, Frederick, MD

Purpose: This paper will report on the creation and simultaneous execution of four electronic journal clubs formed to discuss consumer health topics.

Setting/Participants/Resources: Forty interested people from one region formed four electronic journal clubs to read and discuss eight journal articles related to consumer health.

Brief Description: The consumer health outreach coordinator announced via an email discussion list the possible formation of a consumer health electronic journal club. An overwhelming response of more than forty interested participants necessitated the division of the group into four separate journal clubs, with four separate conveners. The outreach coordinator oversaw the creation of list management for each club, so members could easily post monthly comments. Each convener facilitated her individual journal club. The journal clubs began in January 2001 and continued through June 2001.

Results/Outcome: Eight journal articles were discussed during the six month period. Each participant was required to post two email comments per month to successfully be credited for that month. Each participant could miss only one month out of the six to successfully complete the entire project. Twenty-five of the forty participants successfully completed the electronic journal club, for a success rate of 62.5%.

Evaluation Method: The convener for each journal club was required to maintain accurate records, including tallies of list postings. Records were recorded on MLA journal club

forms. At the close of the journal club, each participant was asked to complete a journal club evaluation form and submit it to the convener. Many of those participating submitted the required paperwork to MLA to acquire the continuing education points that go towards Academy of Health Information Professionals membership.

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Mini-med school meets the library: leveraging medical librarian expertise to improve Internet consumer health information literacy

Guillaume Van Moorsel, assistant director, Education, HSC Library; co-director, Center for Healthcare Informatics Education; and clinical assistant professor, Health Policy and Management, Health Sciences Center Library; **Peter Williams, J.D., Ph.D.,** vice dean, Academic Affairs, School of Medicine; and **Barbara Katz,** executive administrator, Health Sciences Center, University Hospital and Medical Center and Health Sciences Center, State University of New York–Stony Brook

Popular for engaging public interest in medical science and promoting health awareness, mini-med school (MMS) programs also afford important if largely unrealized opportunities to improve the health information literacy of attendees. With a growing population using the Internet to make health decisions, venues for improving Internet consumer health information (CHI) literacy may be found in the MMS platform. National survey results reveal the desire of MMS programs to include CHI, and successful programs at State University of New York–Stony Brook and elsewhere demonstrate the potential for program directors to collaborate with affiliated health sciences libraries to integrate CHI instruction into their MMS curricula. This paper profiles the CHI component of Stony Brook's MMS program, along with demographic details and exit survey results of program attendees. Resources and recommendations for CHI planning and development will be offered to program attendees. Results from this project will be published in an upcoming issue of *Medical Reference Services Quarterly.*

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CARE FOR U: a consumer Web evaluation tool

Ruth M. Smith, outreach services coordinator, Edward E. Brickell Medical Sciences Library, Eastern Virginia Medical School–Norfolk

The ability of consumers to navigate through the ocean of health Websites has gained importance with the phenomenal growth of the Internet. Who better to teach consumers Website rating skills than medical librarians? With an estimated three million Websites being added to the Internet daily and with approximately fifty-two million American adults using the Web to locate health information, providing patrons with assesment skills becomes a necessity. The purpose of this traditional poster is to introduce CARE FOR U. This mnemonic device equips consumers with a Website rating tool. The objective of this poster session is to provide librarians with a user-friendly Website evaluation tool they can share with their patrons.

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Meeting user expectations for electronic reserves

Julia Shaw-Kokot, AHIP, education services coordinator; **Lee Haney**, reserves manager; and **Carol Payne**, information associate, Web Services; Health Sciences Library, University of North Carolina–Chapel Hill

Electronic Reserves (e-reserves), or links to full-text readings and audio and video recordings, have become a vital part of library services in the age of online learning. While the term "reserves" has been largely associated with academic institution, the electronic age has brought the need to incorporate these materials into instructional modules, tutorial, and other Web-based resources as well as course Web pages. These instructional methods are used for distance, continuing, self-paced, and traditional education. User expectations are as varied as the settings in which they are used. Accessing and responding to the expectations make for a successful service. This poster will look at factors that contribute to the assessments and possible responses. The first factor is determining the users. Faculty, instructors, clinicians, instructional designers, teaching assistants, and other creators are initiating users. End users include students, organization members, and others linking to the provided materials. Another factor is determining how the materials will be used. These could be a stand-alone resource such as a module or course page or a link to a library maintained list. One of the biggest factors is how the materials can be used and how to comply with copyright laws. It is also important to determine how end users will access the resources. Slow connections, authentication aspects, and other logistical aspects must be kept in mind. Can libraries meet all the expectations? Probably not, but libraries need to be flexible and innovative in responding to user expectations. Responses include formatting materials, assuring copyright compliance, providing alternatives when permission is not granted, and proving user support. A successful ereserves service that is designed to meet user expectations will result in many positive gains for libraries.

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Creating digital collections: the original research of Gregory Pincus, Sc.D.

Mary E. Piorun, AHIP, systems librarian, and **Barbara Ingrassia**, assistant director, Access Services, The Lamar Soutter Library, University of Massachusetts Medical School–Worcester

Purpose: This electronic poster will report on the process of digitizing a special collection, from obtaining funding and deciding what to scan, to options for scanning and making the collection available for faculty and student use.

Setting/Participants/Resources: The Lamar Soutter Library at the University of Massachusetts is a mid-size, academic health sciences library. The library holds a small collection of original research in genetics and reproductive studies carried out by Gregory Pincus, Sc.D., in the mid-twentieth century. The Library Systems Department and Technical Services Department worked together to obtain funding to digitize the special collection.

Brief Description: The library received funding that would allow archival material to be scanned using an outside vendor. After interviewing a number of state contractors, the library realized it would need to write a request for proposal (RFP) and bid the work to handle the unique materials. At the same time, the library partnered with two other libraries in the state university system to obtain university funding that would pay salaries

for a graphic editor and cataloger to process the digitized collection. In deciding how to store the images for search and retrieval, the library looked at other imaging projects already in progress in the university and chose to use the same software, Cumulus. This poster will cover the issues of defining the scope of the project, obtaining funding, choosing scanning options and formats, deciding whether to enhance images or not or to use watermarking options, dealing with cataloging and indexing issues, and evaluating the options for presenting a digital collection to the public.

Results/Outcome: Six hundred slides have been scanned, enhanced, watermarked, cataloged, and indexed. By using Cumulus software, the collection was made available for faculty and student use.

Evaluation Method: Comments from faculty and students were gathered to determine if digitizing special collections is worth the cost and effort associated such projects.

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Development of a digital picture gallery for the history of medicine

Barbara Halbrook, associate director, Access Services; **Ed Walter,** collection development librarian; and **Simon Igielnik, PhD**, manager, Information Systems; Bernard Becker Medical Library, Washington University School of Medicine, St. Louis

Purpose: This poster will report on the development of a digital "picture gallery" for the history of medicine to improve access to a variety of images now relatively unknown and inaccessible in rare books, archival collection, and photograph collections. In addition, the gallery publicizes the library and its collections, expands our digital initiatives, and provides experience with digital imaging processes and requirements for future digital archiving and preservation initiatives.

Setting/Participants/Resources: The Bernard Becker Medical Library supports the information needs of clinicians, researchers, and educators working in a private university and an associated private teaching hospital. Its Archives and Rare Books Department has major collections in ophthalmology, neurology, history of obstetrics, and the general history of medicine. In addition to personnel at Washington University, the Archives and Rare Books Department serves researchers throughout the world.

Brief Description: The initial gallery includes some 1,000 images that are unique or special resources of interest to the university and the scholarly community. They include engravings, drawings, woodcuts, and other genera from rare books in the public domain, particularly from anatomical atlases and herbals; portraits of famous historical figures; paintings and drawings representing art and medicine; and photographs of the medical school and medical center. The images are cataloged in MARC format and indexed so that they can be searched by image type, individual title, or subject group through the library's electronic catalog and separately through the library's home Web page. Images are presented in JPEG format as thumbnails, 4" x 6" with bibliographic description, and 7" x 9" for printing or downloading. Actual size and high-resolution images must be requested via email or phone contact with library staff.

Results/Outcomes: The Digital Picture Gallery is a work in progress. Although there is increased interest in Archives and Rare Books Department, it is too early to determine if this is a result of the gallery.

Discussion/Conclusion: Although the project is not complete, we now have initial data on staff effort and equipment needs for digital preservation of archival materials. The permanence of the digital format and the effort to maintain it are still unknown.

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High school students in the health sciences library

Linda M. Hartman, reference librarian, and **Ammon S. Ripple,** document delivery librarian and reference services coordinator, Falk Library of the Health Sciences, University of Pittsburgh, Pittsburgh, PA

The future of the medical profession is here! Each summer 110 high school students partake in the Governor's School for Health Care. During their stay, the students attend classes, shadow medical professionals, and write a research paper. Upon returning home, they work on a community service project. The health sciences library supports the students' research activities. On their first day, the students attend a library orientation consisting of a library tour, familiarization with the Library of Congress classification system, and a scavenger hunt designed to assist the students in finding materials in the library. Library handouts are distributed. Hands-on sessions of how to search PubMed, MEDLINE*plus,* and the online catalog are also part of the orientation. A specially created Website directs students to resources useful while on campus and upon returning home. For many, the university library and campus in general is much larger than at their high school. For some, this may be the first time away from home. The orientation is designed to help them feel more comfortable in this new setting and to give them essential information skills. Future plans consist of training the dormitory counselors about the library and its services, matching a counselor with a librarian to allow for consistent training and contact, and holding Ask-a-Librarian sessions. Participating in this program is a challenge for a health sciences library, because the patrons are high school students. Behavioral issues do arise, so pointers on acting professionally are useful. Our success is due to the involvement of the entire reference staff of twelve librarians as well as the computer lab staff during the orientation and the ensuing weeks of reference and technical support. Communicating with the office coordinating the Governor's School throughout the year allows for a better understanding of the students' needs and responsibilities and ways the library can best support them. This poster outlines the steps taken to provide a quality experience for all parties. These activities can be mirrored in any type of library setting.

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Branching out on a T1 network: from Webster Parish to the state

Dennis A. Pernotto, Ph.D., head, IAIMS/Program Evaluation, LSUHSC Health Sciences Library; **James P. Craig, Ph.D.**, director/professor, LSUHSC Health Sciences Library; **Kay M. Gammill,** User Education, LSUHSC Health Sciences Library; **Dixie Jones, AHIP**, head, Reference, LSUHSC Health Sciences Library; **Michael M. Watson, M.D.,** Systems, LSUHSC Health Sciences Library; and **Charles L. Milne**, network manager, Medical Communications, Louisiana State University Health Sciences Center–Shreveport

A collaborative effort led by the library at Louisiana State University Health Sciences Center–Shreveport (LSUHSC-S) demonstrates how a health sciences library (HSL) can

more effectively extend access to its collections by creatively maximizing the capabilities of existing T1 line technology. This project extends access of electronic health information (EHI) to all health care personnel and public librarians. By using an existing T1network, 89% of the librarians in all twenty-nine parishes of northern Louisiana are able to receive training on National Library of Medicine (NLM) searching techniques within thirty-five miles of their facilities. This project allows the library to share information resources with local and remote rural sites serving heavily concentrated minority populations in Louisiana by employing the use of advanced technological applications. This project specifically provides assistance to the health professionals who serve the economically deprived and marginally literate in rural parishes of the lower Mississippi delta project of the National Network of Libraries of Medicine program of NLM and makes health information directly available to those patients and clients in other underserved areas of northern Louisiana. Building on a demonstration project (Access to Electronic Health Information for the Public) that was funded for Webster parish, this comprehensive effort employs the multi-departmental resources of LSUHSC-S to deliver health information to a similarly constituted population statewide. Specifically this project:
• provides Internet connections using existing T1 lines to reach hubs at five health institutions statewide
• assists health care professionals, public library personnel, and the general public to receive training to search NLM databases
• enables health care professionals, public library personnel, and the general public to gather EHI directly from NLM databases
• extends fee-for-service document delivery to health care personnel and clients at public libraries
• builds on the success of a previous EHI grant (N01:LM-6-3525)
• establishes and tests a statewide model

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Woman to Woman: a community health information outreach project

Jeffrey T. Huber, Ph.D., associate professor, School of Library and Information Studies, Texas Woman's University–Houston

The overall goal of this outreach initiative is to facilitate information access at select community-based women's health agencies. Specific objectives include creating a local health information network, training women's health agency staff to use electronic information resources, providing consumer health information support to clients at these facilities, and increasing awareness of National Library of Medicine products and services. Funded by the National Library of Medicine, the Woman to Woman project is a collaborative effort involving Texas Woman's University, the Houston Academy of Medicine-Texas Medical Center Library, and four community-based women's health agencies: Houston Area Women's Center, The Rose, El Centro de Corazon, and Lesbian Health Initiative. Houston Area Women's Center provides shelter and support services to survivors of sexual assault and family violence. The Rose is a primary referral facility for community-based breast health programs. El Centro de Corazon focuses on women's health needs among the Hispanic community located in the second ward area of Houston. The Lesbian Health Initiative is devoted to furthering the mental and physical well-being

of lesbians and their family members. To achieve project objectives, Internet-connected workstations were placed at each participating women's health agency. A project Web page was developed to facilitate information access and training. Training sessions were conducted for agency staff on site. Agency staff in turn are training their clients as appropriate. Agency staff training sessions include pre- and post-evaluation.

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Facilitating access to the National Library of Medicine's computerized information resources for health care professionals in underserved areas of Western New York

Jennifer A. Byrnes, informatics librarian, Hospital Library Services Program, Western New York Library Resources Council–Buffalo; **Diane G. Schwartz, AHIP**, director, Libraries, A. H. Aaron Medical Library, Kaleida Health System, Buffalo, NY; and **Tracy A. Kulick, AHIP**, coordinator, Hospital Library Services Program, Western New York Library Resources Council–Buffalo

Purpose: The goal of the project is to ensure that all health care professionals have access to the biomedical information they need to provide quality care to their patients and practice evidence-based health care. Computer resources were provided onsite in clinical practice units (CPUs) to enable health care professionals to access medical information via PubMed and the Web. Health care professionals were taught how to access quality, cost-effective information that is user friendly and will result in improved patient care. Prior to the project, access to health information resources was unavailable to these providers.

Setting/Participants/Resources: The project was implemented in fourteen CPUs throughout Western New York. CPUs were selected based upon the Health Professional Shortage Area federal designation. All care providers—including physicians, nurses, nurse practitioners, physician assistants, and social workers—participated in the project. Funding for the project was secured through a National Library of Medicine Information Access Grant.

Brief Description: Selected CPUs received a computer, printer, and fax machine and were provided dial up Internet service or were networked to their affiliated hospital system. The project coordinator provided training on how to search PubMed as a tool for evidence-based medicine (EBM), in addition to searching the Web for information to support clinical decision making, patient education materials, and continuing medical education, as well as networking with other providers.

Results/Outcome: Data collection and analysis are ongoing. Preliminary evaluation data indicate that participants believe they are better equipped to practice EBM and are able to access information immediately at the point of care. Final evaluation data will be available in time for the presentation.

Evaluation Method: Prior to the training, participants completed a pretest evaluating their knowledge of the Internet, MEDLINE, and EBM. Posttests were completed immediately after the training session and at three months.

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Information needs of public health nurses in Pima County, Arizona

Patricia A. Auflick, access services librarian, and **Mary L. Riordan, AHIP**, information services librarian, Arizona Health Sciences Library, University of Arizona–Tucson

Purpose: The poster describes a project to build the information infrastructure and train public health nurses to find pertinent information on the Internet.

Setting/subjects: The target audience is the public health nurses and staff working at six community health sites in Pima County, Arizona.

Methodology: Semi-structured interviews followed by monthly training sessions were used.

Results: Public health nurses and staff in six community health offices were interviewed to determine their information needs and the ways they go about finding information that could be used on the job. Onsite workshops were conducted to address the identified information needs. Membership in the Arizona Health Information Network (AZHIN) provided a desktop library of resources to enhace the collection building activities of each office. Membership was not limited to just the nurses but included all Pima County Health Department employees, expanding the service base for the project. Follow-up semistructured interviews were conducted to assess the impact of this training on the information-seeking behavior of the targeted audience and whether or not the training resulted in new information needs by the group.

Discussion/Conclusions: In 1999, the Arizona Health Sciences Library (AHSL) conducted focus groups with public health officials in Pima and Cochise Counties to understand the information-seeking behaviors of public health professionals, to identify their information needs, and to develop an infrastructure to satisfy those needs. Although the public health nurses in Pima County have a great need for information, that need was not being adequately met. As a result of those findings, AHSL, in conjuction with the public health nurses in Pima County, submitted a grant application to the National Library of Medicine to build an information infrastructure and enhance the nurses' information-seeking capability by providing the hardware, access to the Internet, and training on Web-based health information resources to bring them into the twenty-first century.

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Extending the hand of knowledge: personal digital assistant (PDA) initiative

Karen E. Crowell, AHIP, health informatics fellow, and **Julia Shaw-Kokot, AHIP**, education coordinator, Health Sciences Library, University of North Carolina–Chapel Hill

Purpose: This poster will describe the four roles that the Health Sciences Library has adopted in support of the growing use of personal digital assistants (PDAs) in the clinical environment.

Setting/Participants/Resources: One of the University of North Carolina (UNC)–Chapel Hill Health Sciences Library's (HSL's) strategies for 2001/2002 is to investigate the library's role in providing content and services accessible through PDAs. The third- and fourth-year School of Medicine students are now required to own PDAs. A rapidly growing number of other students, faculty, and clinicians on campus are using them as

well. We have developed a librarywide approach to supporting PDA users that has positioned us as a leader in promoting new technologies.

Brief Description: HSL has adopted four roles in support of PDAs: (1) providing access to resources, (2) developing skills, (3) promoting and sharing ideas, and (4) assessing PDA users' needs. A Web page for PDA resources on the medical students' Website, Avant Go channels for accessing library information and services, hands-on training sessions, the purchase of Palm Vx computers for library staff, PDA Forums, and a survey of third-year medical students are some of the activities highlighted in this poster.

Results/Outcome: As a result of this effort, the library has discovered a new way to promote library resources and services, has developed staff skilled in the use of new technologies, has assessed and responded to users' needs, and has strengthened its collaborative initiatives both on and off campus.

Evaluation Method: A survey of third-year medical students is being conducted by library staff to assess their use of PDAs and determine the adequacy of training and support they receive from the Office of Information Systems and the HSL. Attendees at PDA forums have provided valuable feedback on topics of interest and their experiences using PDAs. PDA library channel users are also asked to submit their comments and suggestions for content.

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Personal digital assistants (PDAs): destination librarian—what's in it for us?

Beverly Murphy, AHIP, assistant director, Marketing and Publications, and **Marlyse H. MacDonald**, information services librarian, Duke University Medical Center Library, Duke University Medical Center, Durham, NC

When personal digital assistants (PDAs) first burst onto the scene in the early 1990s, these handheld, usually pen-based, computers were mainly used for time management. In recent years, much attention has been devoted to their use in clinical settings, at the point of care, and educating users about how information can be accessed. Because of their size, portability, and ability to synchronize with the desktop computers, PDAs are ideal for managing time, accessing knowledge tools, reading documents, generating content, storing files, and monitoring expenses. This poster will explore how librarians can integrate the use of PDA technology into their work environments to make more efficient use of their time and resources.

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Palmtop medicine: integrating personal digital assistants (PDAs) into a third-year family practice clerkship

Brenda L. Seago, AHIP, director, Computer Based Instruction Lab; **Chris L. Stephens**, applications developer, Computer Based Instruction Lab; and **Gaynel Olsen**, assistant professor, Department of Family Practice; Virginia Commonwealth University–Richmond

Purpose/Setting: The goal of this project is to integrate handheld technologies into the third-year family practice clerkship, in both urban and rural residency sites in Virginia.

Description: Third-year clerkship students are issued personal digital assistants (PDAs), purchased with student technology fee monies, during orientation for this four-week

rotation and are provided with hands-on training during this rotation. Family practice software and a patient log program are preloaded on the PDAs. Telephone and email support are available, as well as a designated mentor at each residency site. A Website has been developed that provides information on both software and hardware resources, institutional PDA news, and other useful Websites. The library sponsors a campus PDA email discussion list as well.

Results: Medical students reported daily use of PDAs for clinical care on a questionnaire returned at the end of the rotation. Specific examples include finding drug interactions and dosages in the patients' rooms, treatment recommendations, and checking on disease indications.

Evaluation Method: At the clerkship debriefing session, Computer Based Instruction Lab staff are available to answer questions and to administer a post-clerkship questionnaire. Students report frequency of use, specific software used, examples of how PDAs were used for information related to patients, length and quality of training, use of a mentor at the residency site, and suggestions for other medical students considering PDA purchases.

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Creating an infrastructure for digital devices: the library's role in defining needs and services

Patricia L. Thibodeau, AHIP, association dean, Library Services; **Julie Garrison, AHIP**, assistant director, Education Services; **Marlyse H. MacDonald,** information services librarian; **Connie Schardt, AHIP**, education coordinator; and **Tiffany L. Anderson,** professional library staff; Medical Center Library, Duke University, Durham, NC

Purpose: The purpose is to describe how the library contributed to the formation of a mobile computing infrastructure through surveys, organization of information sharing events, and development and review of proposals and reports.

Setting/subjects: The library is part of an academic health center in North Carolina with over 5,000 hospital staff and over 4,000 clinical faculty members, residents, and students. The library serves as the central library for the hospital, health system, and schools of medicine and nursing.

Description: In 1999, the library was the first in the medical center to survey patrons about how they used handheld devices in their work. The results of this initial survey indicated that use was growing and support services would be needed. The library began exploring infrastructure and application issues with the School of Medicine and then with a personal digital assistant (PDA) users group consisting of clinicians and developers. A second randomized email survey, developed in preparation for a PDA symposium, confirmed growing interest in handheld devices. The high attendance at the symposium underscored the need to begin an institutional process to examine issues, costs, and point of care applications for handheld devices. The library participated in the process through meetings, reviews of reports, and preparation of documents. As a member of the Point of Care Advisory Group, the library conducted another email survey that created a snapshot of the current patient care uses of devices and users expectations for future access to data.

Results/Outcome: The survey data and infrastructure study emphasized the importance of accessing knowledge-based resources in patient care and education via handheld devices. It also indicated a continuing role for the library in selecting knowledge applications and providing training. The infrastructure process reaffirmed that many services need to be offered on an institutional level with input from the library. The survey and other planning activities have increased the visibility of the library and strengthened its role as a partner in implementing new technologies.

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Teaching with a Palm in your hand: using the Palm Operating System Emulator to integrate personal digital assistant instruction into the curriculum

Michelle M. Beattie, clinical medical librarian, Health Sciences Library, University of Missouri–Kansas City

Purpose: This poster will demonstrate the use of the Palm Operating System Emulator (POSE) to teach library clients about personal digital assistants (PDAs). The author will provide a tip sheet, a laptop running POSE for participants to experience POSE, and additional ideas about successful teaching sessions for PDAs. The author will also describe how teaching about PDAs is incorporated into the curriculum at the University of Missouri–Kansas City School of Medicine.

Description: The clinical medical librarian offers teaching sessions on information retrieval and evaluation to medical students during their internal medicine rotation. The students attend three sessions covering MEDLINE, evidence-based medicine, and PDAs. The session on PDAs and their use in the clinical setting is the best attended and generates the most enthusiastic discussion. The clinical medical librarian takes a PDA on rounds daily and demonstrates its use in the clinical setting. Librarians also discuss PDAs with the medical students in their clinical skills class early in the curriculum. Through these teaching sessions, the library has positioned itself as a resource for information about PDAs and medical applications. Before using POSE, the librarian displayed screen shots of the PDA to demonstrate applications such as medical calculators, practice guidelines, medical textbooks, journal articles, and more. This static method of displaying applications did not provide adequate flexibility and required much preparation. POSE allows the demonstrator to open all applications and use them normally, projecting the image from a desktop computer. The poster will explain how to obtain the free POSE and necessary helper applications. The poster will describe how to best use the POSE and share feedback received from medical students after PDA discussions. The poster will describe how PDA instruction is incorporated into the curriculum at the University of Missouri–Kansas City School of Medicine.

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Personal digital assistant (PDA) fair displays: what's new in handhelds

Pamela M. Corley, AHIP, information specialist, and **Judy Kraemer**, head, Access Services, Norris Medical Library, University of Southern California–Los Angeles

In response to a growing interest in the use of personal digital assistants (PDAs) on the health sciences campus, the library sponsored a PDA fair in the fall. It was designed to familiarize people interested in purchasing personal digital assistants such as Palm, Handspring Visor, or Compaq iPAQ with their uses and features and to introduce current

users to new applications and accessories. An outdoor area was set up in the quad area in front of the Norris Medical Library for the exhibits, while formal product demonstrations were provided in the library's microcomputer classroom and conference room. The event was scheduled to coincide with the "back to school" season. Information about the fair and the participating vendors was promoted through announcements, articles, flyers, and email discussion lists. A Web page detailing the event linked to the participating vendors. The day's activities consisted of a display by various vendors and a twenty-minute slot for indoor presentations. Although much of our clientele knew about the built-in organizer applications, such as the calendar and address book, many were unaware of the other applications for handheld devices. The software component of the fair might well have been billed "Beyond the Box: Third-Party Apps." The fair highlighted add-on programs for the devices including databases, infrared printing, spreadsheets, wordprocessing, and other utilities. Accessories included chargers, portable keyboards, and pocket printers. Specialty products included geographic information systems (GIS), videos, and magazines. Medical applications focused primarily on drug resources and a wireless handheld physician support system that interfaces with the hospital's existing system. This poster will highlight the challenges and successes involved in organizing a fair from inception to culmination. The fair was an overwhelming success with over twenty vendors, ten formal demonstrations, and 600 to 700 people attending this new event.

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Developing library staff of the future

Elizabeth Connor, AHIP, library director, Anne Ross Library & Learning Resource Center, Ross University School of Medicine, Portsmouth, Dominica

A library's abilities to function efficiently and effectively and to meet future challenges depend in large part on a talented, knowledgeable, dedicated, and client-oriented staff. This paper will describe coordinated efforts to build staff morale, improve technical skills, and enhance staff awareness and understanding of current developments in libraries, informatics, and academic medicine for eighteen support staff working in a Caribbean medical school library. The medical school library provides resources, services, and facilities for more than 800 medical students studying the basic sciences. Specific staff development methods include promoting active communication among library staff and clientele, revising and classifying job descriptions to reflect current work requirements and job expectations, developing performance standards for each service point, organizing a series of workshops related to major areas of responsibility (planning, cataloging, biomedical journals, interlibrary loan, reference), renovating staff work space, providing supervisory training, and holding staff recognition events. The author will discuss the challenges and rewards of enabling Caribbean staff to sustain their own growth and skills sets in a changing and fast-paced work environment.

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Internet use at the Medical Library of the Chinese People's Liberation Army

Wenju Zhang, librarian and professor, Library Science, Medical Library of Chinese People's Liberation Army, Beijing, China

Purpose: Identify the use being made of Internet facilities at the Medical Library of the Chinese People's Liberation Army and gather feedback on the library's policies for Internet access and the actual and potential roles of library staff.

Setting/Subjects: A survey report was used at the Medical Library of Chinese People's Liberation Army of Internet users (170), with follow-up interviews (10).

Methodology: An observational study with a structured questionnaire and follow-up interviews was used.

Results: Internet access is bringing in a larger number of nonlibrary members, and the overwhelming majority of Internet users were aged between twenty-six and thrity-six, and the most popular use of Internet was searching for medically specific information. Reasons for using Internet facilities and recommendations for medical libraries were given.

Discussion/Conclusion: The evidence of the value of the Internet for library users suggests the necessity of introductory sessions to the Internet for the first-time users, specifically targeting older adult people. The issue of charging for Internet access is the subject of debate in the Chinese medical library community. A policy of justification to users is needed, and the roles of library staff in the future will need to change if they are to fulfill the aims of the service.

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An introduction to Cuba's health information system

Dave Piper, AHIP, head, Information Technology Center, Arizona Health Sciences Library, University of Arizona–Tucson; **Gale G. Hannigan, Ph.D., AHIP**, director, Medical Informatics, Medical Sciences Library and College of Medicine, Texas A&M University–College Station; and **Jonathan D. Eldredge, Ph.D., AHIP**, chief, Collection and Information Resource, Health Sciences Library and Informatics Center, University of New Mexico–Albuquerque

Background: World Health Organization data indicate that the health of the Cuban population compares favorably with that of many of the world's much wealthier nations. Cubans have the highest life expectancy of all Latin Americans. Cuba's well-developed health information system may well play a role in this good standing.

Purpose: This poster is a brief introduction to important components of Cuba's health information system.

Method: The poster is a descriptive case study. In April 2001, the authors attended the Fifth Biannual Regional Congress on Health Sciences Information (CRICS V) held in Havana. They visited Cuba's national medical library, the Biblioteca Médica Nacional, and otherwise learned much about Cuba's health information system. The poster will also include photos of the Biblioteca Médica Nacional.

Description: The Infomed system, the Biblioteca Médica Nacional, CUMED, and Cuba's participation in BIREME's Virtual Medical Library all contribute to the health information infrastructure in Cuba. Infomed is the National Center for Health Sciences Information's Web portal for health information. The Biblioteca Médica Nacional (BMN) supports medical libraries throughout the country and produces CUMED, a Medical Subject Headings (MeSH)–based index to Cuban medical journals. Cuba's

Virtual Medical Library (Biblioteca Virtual en Salud) includes full-text access to more than thirty Cuban health sciences journals and several monographic works and is a collaborative project between Cuba's National Center for Health Sciences Information and the Latin American and Caribbean Center on Health Sciences Information (BIREME).

Conclusions: The conclusions will be reported at the time of MLA '02.

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Herbal medicine resources: combining libraries and gardens

Margaret U. Trevanion, director, Library Services, Medical Library, UPMC Passavant, Pittsburgh, PA

We have a different way of delivering health care information for patients, families, and health care professionals. Outside the medical library is a medicinal herb garden. Each plant is clearly marked with the common and botanical name. A pamphlet explaining the historical uses of some of the plants is available. In the medical library, a small core library of reliable herbal resources is in the pharmacology reference section. These resources are complemented by several databases and Internet Websites. The garden is located in front of the main entrance to the doctor's office building. This generates questions from the physicians and their patients, providing an educational opportunity for both populations. Another adjacent area is the Healing Garden, which is a peaceful place to sit and listen to the sound of the waterfalls and observe the seasonal flowers in bloom.

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Do you have the right stuff? Selecting a natural medicines resource to answer the question

Terry Ann Jankowski, AHIP, information management librarian, Health Sciences Libraries, University of Washington–Seattle, and **Philip J. Gregory, Pharm.D.**, associate editor and director, Natural Medicines, Natural Medicines Comprehensive Database, Pharmacist's Letter/Prescriber's Letter, Stockton, CA

Over the last ten years, as the numbers of people using natural medicines and dietary supplements has increased, health sciences librarians and health care professionals have received a growing number of questions about these products. The questions have increased both in volume and complexity of information needed. To add to the confusion, several new databases and resources have appeared that can be used to answer these questions. Librarians face the problem of selecting between a wide range of possible resources, each having their own features, strengths, and weaknesses. Establishing criteria to evaluate them is key to solving this dilemma. This poster provides a set of criteria that can be used by librarians to decide which resource best answers a given question.

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Environmental justice: empowering communities with information

Gale A. Dutcher, head, Office of Outreach and Special Populations, National Library of Medicine, Bethesda, MD

The environmental justice movement took shape in the early 1980s, questioning inequities in the distribution of toxic waste sites that activists asserted were disproportionately located in minority and other low-income areas. In 1987, the United Church of Christ published a study, *Toxic Waste and Race in the United States,* calling attention to the association between hazardous waste facilities and the racial or socioeconomic composition of the communities hosting such facilities. The study reported that while economic status played an important role in the nationwide location of commercial hazardous waste facilities, the race of the residents proved to be a more significant determinate. Energized by the environmental justice movement, the Association of Minority Health Professions Schools (AMHPS), the Minority Health Professions Foundation (MHPF), and the United Negro College Fund began to raise awareness in their member-institutions of the importance of toxicological issues. This energy, however, lacked focus, and scarce resources were available to implement projects. Also missing was the awareness of and ability to use communication technologies and information tools, many of which had been developed by the National Library of Medicine (NLM), such as TOXLINE, TOXNET, and CHEMLINE. In recognition of this gap, in 1991 NLM initiated a collaboration between the Library and Historically Black Colleges and Universities (HBCUs) to establish a demonstration training program to reach minority and underserved communities to increase their understanding of risks associated with exposure to toxic and hazardous chemicals. Most health disparities were within minority communities, and these communities were representative of groups that otherwise would not likely get exposure to valuable information resources. This was viewed as a unique position to empower the minority institutions to address the problems by themselves. To this point, no one else had taken this step. After ten years, this partnership has trained hundreds of minority faculty members, staff, and community members in using information resources and tools to access information to help them make decisions in their communities and has supported curriculum changes in graduate and medical programs to include informatics, provide equipment, and support infrastructure development.

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Information-seeking behavior of health sciences population groups

Judith Kraemer, access services librarian; **Janet L. Nelson,** head, Reference Section; **Janis F. Brown, AHIP**, associate director, Educational Resources; and **Eileen Eandi,** information specialist; Norris Medical Library, University of Southern California–Los Angeles

Purpose: This paper will report on the "Information Usage Survey" developed and administered by the library to refine its information-resource selection, teaching, and utilization.

Setting/Participants: The setting is an academic medical library serving the university's School of Medicine, School of Pharmacy, Physician's Assistant Program, and Schools of Occupational Therapy and Physical Therapy.

Brief Description: The "Information Usage Survey" is designed to elicit feedback on the use of a variety of information sources both in and outside the library. Survey questions include (1) reasons for seeking information (i.e., class assignment, patient care), (2) frequency of use of specified resources (i.e., electronic books, library's Website), (3)

perceived usefulness of specified resources, (4) level of comfort in using specified resources, and (5) perceived need for instruction in the use of specified resources. During the fall of 2001, the survey was completed by year I, II, and III medical students, year I and II pharmacy students, and year I physician's assistant students. Year I and II occupational therapy and physical therapy students, as well School of Medicine faculty will be surveyed in the next several months.

Results/Outcome: Preliminary results indicate that certain categories of information resources, some of which are expensive or costly to create and maintain, are underutilized by a significant portion of the library's targeted user population.

Evaluation: Evaluation of the data collected will contribute to the library's resource-development strategies and decisions, will identify resources in need of additional promotion, and will assist in determining topics to be included or expanded in the library's information workshops and other training sessions. Survey responses completed by students in different years of each health sciences program will be compared to one another to consider changes in information-seeking behavior at differing stages of students' education. Conclusions drawn from survey results will be shared with faculty representatives from the various schools to aid them in curriculum planning and revision.

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Circulation of core collection monographs in an academic medical library

Cynthia M. Schmidt, M.D., medical school librarian, PCSOM Library, Pikeville College School of Osteopathic Medicine, Pikeville, KY, and **Nancy L. Eckerman,** special collections librarian, History of Medicine, Ruth Lilly Medical Library, Indiana University School of Medicine–Indianapolis

Medical librarians often emphasize the collection of monographs listed in the available medical core collection lists, sometimes acquiring two or more copies of any listed item. The most widely used medical core collection lists were compiled, primarily, to assist librarians working in small medical libraries. However, these lists are also used by librarians working in academic settings. This study was initiated to determine whether the circulation of "listed" items in an academic medical library justifies the emphasis that academic medical librarians place on the acquisition of these items. "A Library for Internists," the Brandon/Hill small medical library list, the Brandon/Hill allied health list, Morton and Godbolt's *Information Sources in the Medical Sciences,* and the Ruth Lilly Library's catalog were used to create an Access database of "listed" hematology monographs owned by the library. This Access database and data from the library's Data Warehouse were used to create Access tables containing circulation data for "listed" and "non-listed" hematology monographs published between 1990 and 1996 and owned by the library. Analysis of the tabulated data demonstrated that "listed" items circulated, on average, two to three times more frequently than "non-listed" items. Some of the "listed" items were in circulation on a nearly continuous basis. These findings support the heavy emphasis many academic medical librarians place on the collection of "listed" monographs.

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Identifying medical monographs for inclusion in veterinary medicine collection

Jill Crawley-Low, head, Veterinary Medicine Library, Veterinary Medicine Library, University of Saskatchewan–Saskatoon, Canada

Purpose: This study identifies the subjects related to veterinary medicine that are required to support the curricula of American Veterinary Medical Association (AVMA)–accredited veterinary colleges and evaluates one institution's ability, through its monograph collection, to provide support.

Brief Description: A veterinary medicine collection capable of supporting the curriculum of an accredited college of veterinary medicine contains core materials and materials from related fields such as medicine and general science. For example, the library holdings required to support a class in veterinary physiology include materials published in the areas of veterinary physiology, human physiology, general physiology, and biochemistry. For selectors developing or maintaining veterinary medicine collections, it is essential that the related fields be identified and adequately represented in the collection.

Results/Outcomes: Subjects that relate to veterinary medicine, and are present in the curriculum, can be identified; monographs and serials in those areas can be considered for inclusion in the collection.

Evaluation Method: The Classified Profile method is used to evaluate the ability of the monograph collection to support the veterinary medicine curriculum. Once the subjects from the curriculum have been identified, Library of Congress subject headings are assigned, and the library's catalog is searched to determine the number of books in each subject.

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Does weeding a monographs collection increase subsequent usage of unweeded titles? A randomized controlled trial

Jonathan D. Eldredge, Ph.D., AHIP, academic and clinical services coordinator; **Katherine L. Mondragon**, manager, Library Operations; and **Carol C. Fierro**, library information specialist; Health Sciences Library and Informatics Center, The University of New Mexico–Albuquerque

Objectives: The objectives are to gauge the effect, if any, of weeding in a monographs collection on subsequent usage and to adapt an experimental research design (randomized controlled trial) to answering an enduring collection development question.

Setting/Participants/Resources: The setting is a monographs collection at an academic health sciences library, which also serves a teaching hospital.

Methods: A randomized controlled trial was used. The first author sought to find pairs suitable for matching within the clinical NLM subject classification ranges in the main bookstacks monographs collection. He sought to find pairs that could be matched according to the following three criteria: (1) overall size of the clinical subject classification range in the monographs collection, (2) actual growth in the subject classification range during the 1990 to 1999 period, and (3) total usage for each classification range for the 1997 to 1990 period. The second author produced reports from the online catalog that helped identify these three pairs of six classification ranges to

be matched. The three individual subject classification ranges from three matched pairs were selected for weeding through randomization by the toss of a coin.

Intervention: The first author identified for weeding, in accordance with strict criteria, one classification range selected through randomization from each of the three matched pairs. The third author removed the titles from the collection and provided feedback on any titles possibly mistakenly identified for weeding.

Results: The second author produced a usage report from the online catalog for each of the six classification ranges under study without knowledge of which of the three from the matched pairs had actually been weeded. Statistical and other analyses will be reported at MLA '02.

Conclusion: Conclusions from the study are pending.

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New technologies for document delivery

Ammon S. Ripple, document delivery librarian and reference services coordinator, Health Sciences Library System, University of Pittsburgh, Pittsburgh, PA

The world of document delivery is changing rapidly with the availability of new and more sophisticated technologies. Whether obtaining documents from commercial services, from other libraries, or from their own collections, many librarians are interested in offering better services to their patrons and in streamlining their workflow. However, it is harder and harder to keep up with the newest developments. This presentation provides an overview of current technologies that allow hospital, corporate, or academic libraries to improve document delivery services. Learn relevant features of current software and equipment, including fax machines, scanners, digital copiers, electronic ordering and delivery systems, and database management software such as QuickDoc, Clio, and ILLiad. This information and a bibliography of additional resources will assist in making decisions in libraries that will help librarians do less work and increase patron satisfaction.

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Reengineering document delivery and interlibrary loan workflow

Richard A. Peterson, AHIP, deputy director; **Eric Albright, AHIP**, department head, Information Services; **Vanessa Sellars**, administrative coordinator; **Rodney Hunter**, senior library assistant; **Artura Goods**, library associate; **Virginia Carden, AHIP**, head, Circulation Services; and **Patricia Thibodeau, AHIP**, associate dean, Library Services; Duke University Medical Center Library, Duke University, Durham, NC

Purpose: The poster describes the departmental workflow-analysis process and the subsequent changes that were implemented

Methodology: Data was collected using flow charts, time studies, hands on experience or observation, literature reviews, and surveys.

Participants: A task force was formed that included representatives of the Document Delivery/ILL, Administration and Public Services Departments.

Brief Description: This project was designed to comprehensively address longstanding issues in the Document Delivery and ILL Department, including the labor- and paper-

intensive nature of the work, personnel and morale issues, and lack of clearly defined responsibilities. The project was broken down into the following components: data collection of our internal operation, investigation of workflow patterns at other sites, analysis of findings, design and implementation of revised workflow, and revised documentation of the departmental procedures, position descriptions, and performance standards.

Results: The analysis of the flow charts indicated that the lower volume component of the service, document delivery and borrowing, had significantly more complicated processes due to the greater number of decision points than the higher volume but less complicated lending service. Additional analysis identified areas that were the most labor intensive and unnecessarily paper-based, including record keeping, tracking of requests, accounting, and statistics. Time studies were conducted over the period of four weeks to calculate the processing time for all areas of the workflow. Based on this data, we were able to reallocate staff and percentages of time spent on their job duties. The surveys along with direct observation provided additional insight into problem workflow areas. Lastly, the use of multiple nonintegrated automated systems was eliminated by implementation of a comprehensive document delivery/interlibrary loan (ILL) management program and utilization of all its functions.

Conclusion: Administrative support, input from various levels, objective analysis of data, and creative problem solving worked together to successfully address numerous issues with the document delivery/ILL operation.

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Enhancing interlibrary loan with electronic document delivery

Barbara Halbrook, associate director, Access Services, Bernard Becker Medical Library, Washington University School of Medicine, St. Louis, MO

Purpose: This poster will report on automating routine interlibrary loan and document delivery functions and on enhancing customer service through electronic document delivery and online tracking of requests.

Setting/Participants/Resources: The Bernard Becker Medical Library supports the information needs of clinicians, researchers, and educators working in a private university and an associated private teaching hospital. Persons with paid memberships in the Bernard Becker Library are also supported.

Brief Description: The decreased ability of libraries to purchase books and journals coupled with increases in the amount of published information needed to support biomedical research and education has made interlibrary loan an essential support to collection development and public services. Library users' expectations of improved document delivery services through electronic means also pressured interlibrary loan services. ILLiad automates and supports all aspects of lending, borrowing, and document delivery in a paperless environment. A Web interface allows library clients to request and track requests and to view and print electronic documents at any time, any place Internet access is available.

Results/Outcomes: Electronic document delivery has quickly gained widespread acceptance from faculty, staff, and students. ILLiad has streamlined interlibrary loan, allowing handling of an increasing volume of requests without increasing staff.

Evaluation: The library's ability to continue to expand interlibrary loan and document delivery services, while increasing customer satisfaction, will be an indicator of success.

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Liaison service to the Institutional Animal Care and Use Committee

Alice B. Kuller, reference librarian, Health Sciences Library System, University of Pittsburgh, Pittsburgh, PA

The Institutional Animal Care and Use Committee (IACUC) has oversight for animal research and husbandry throughout the university and its affiliated health center. It is responsible for compliance with the regulations of the United States Department of Agriculture (USDA) Animal Welfare Act. This includes USDA policy 12, which requires that principal investigators consider alternatives to procedures that may cause more than momentary or slight pain or distress to animals used in research. The USDA suggests that investigators conduct a literature search, using multiple databases, for alternatives to painful or distressful procedures and provide documentation that includes the date of the search, the time period covered, the databases used, and the key words or search strategy used. The IACUC executive committee recognized that library support was needed to help it meet its legal obligations and requested the help of the library. In January 2001, a reference librarian was appointed to serve as a liaison to the IACUC. Principal investigators are referred to the library liaison when they are preparing protocols for IACUC review. After meeting with the investigator to discuss the proposed research the librarian:

• searches a minimum of three databases, doing a two-phase search: (1) looking for similar research studies and (2) looking for similar research that uses non-animal alternatives

• searches MEDLINE to retrieve recent literature on the use of anesthesia and analgesia in the animal model

• prepares the search histories so that they can be electronically incorporated into the protocol and to be certain that they comply with USDA requirements

The poster will describe the search methodology and the incorporation of the "3 Rs' of animal experimentation: *Replacement, Reduction,* and *Refinement*. It will also illustrate the electronic system developed to maintain the IACUC search and retrieval records on the library's server.

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Does face-to-face interaction of a library liaison with faculty change faculty perceptions of or use of a library?

Jonathan D. Eldredge, Ph.D., AHIP, academic and clinical services coordinator, and **Charity T. Karcher,** pharmacy librarian, Health Sciences Library and Informatics Center, The University of New Mexico–Albuquerque

Objective: The objective is to determine if face-to-face interaction with a library liaison changes faculty perceptions of or use of library resources or services.

Settings/Participants/Resources: The participants were College of Pharmacy faculty served by a large academic health sciences library, including all faculty members below level of associate dean who had worked at the institution for at least one year. Excluded

were any faculty members who did not return the preliminary survey within five weeks of distribution via email, following several follow-up emails or phone reminders.

Methods: A randomized controlled trial was used. All eligible faculty members who returned surveys were stratified by: (1) basic science or pharmacy practice division membership; and (2) assistant, associate, or full professor status. Within their stratifications, faculty members' names on pieces of paper were picked from a hat as the randomization technique to determine who would receive the intervention.

Intervention: Thirty- to sixty-minute individual face-to-face visits were given by the new pharmacy librarian (Karcher) to the faculty members' offices. Controls will continue to receive any generic electronic communications from pharmacy librarian.

Results/Conclusions: Results and conclusions are pending.

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"Howdy partner": reaching out through a liaison program

Inhye Son, AHIP, electronic services and research liaison; **Elaine Banner, AHIP**, clinical and nursing liaison; and **Karen Grandage, AHIP**, education services coordinator, Claude Moore Health Sciences Library, University of Virginia–Charlottesville

The Claude Moore Health Sciences Library, University of Virginia, launched a liaison program in the summer of 2000 to better serve clinical, nursing, and research departments in the health system. This poster will illustrate the highlights of our approach and the lessons we learned from our efforts in reaching out to busy health professionals. Our experience has taught us that a tailored approach to services and education is necessary for our diverse user groups. This tailored approach has allowed us to develop a collaborative relationship between the library and each department, establish better communication channels between the library and the faculty and staff, and customize our collection development and management. Common activities for the library staff include "housecalls," an effective mechanism through which the library staff introduce or demonstrate services at departmental meetings. In-library classes have also been provided to address specific needs. In addition, individual consultations are available for a one-on-one approach. The research liaison's focus is more on departmental customized mailings and email alerts. Organizing a workshop has also shown to be very effective in delivering a highly visible and positive impact, although it may take significant time and effort to organize and run it successfully. An example to be shown is the well-received, library-sponsored workshop on molecular biology resources from the National Center for Biotechnology Information. The clinical liaison focuses more on providing on-floor training where service is brought to the point of need. This may mean teaching a group of nurses during shift change on their unit or during prearranged times that suit them. We have also developed a Web page that is specific to clinicians. Another way to reach out is to have a librarian assigned to a department to support the information needs of a specific project. A librarian served as a liaison to the Department of Health Evaluation Sciences to support their work on a grant called HealthHeritage.net. Her liaison roles for this six-month project included assisting in the improvement of literature search strategies, developing a system for periodic literature updates, and suggesting how to document and archive literature reviews and evidence.

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"Tune Up Your Information Skills": a library liaison campaign for customized presentations to faculty

Janet G. Schnall, AHIP, information management librarian, Health Sciences Libraries, University of Washington–Seattle

Purpose: The poster will describe a marketing campaign to update faculty on the latest and best methods of information searching through a rapidly expanding array of online resources.

Setting/Participants/Resources: The Health Sciences Libraries is part of a large, academic health sciences center. Library liaisons reach out to departments across six health sciences schools in a distributed, urban environment.

Brief Description: Library liaisons contacted departments offering customized presentations of information resources under a unifying marketing theme: "Tune Up Your Information Skills." Presentations varied between five minutes to an hour and were selected by consultation with the faculty from a set of sixteen modularized Tune Up topics (e.g., "UpToDate," "Web of Science," "Clinical Evidence," "Keeping Current," "Patient Education," "E-Journals," "Grants," "Research Databases/Life Beyond PubMed"). Each liaison developed one of the modules and presented it to the larger liaisons group for discussion. The modules were developed to be presented to faculty in as little as five minutes. Modules were designed for a one-time presentation or as a continuing series to be held in the department or the library.

Results/Outcome: The presentations increased the number of teaching sessions and outreach to new faculty groups, both on and off campus. Informal feedback on reasons for campaign's success included: effective publicity, including eye-catching logo and poster; innovative flexibility to "mix and match" Tune Up topic modules; and customization of place and timing for individual departments.

Evaluation: Print or electronic evaluation forms at Tune Up sessions, progress reports from liaisons on results of Tune Up campaign with their departments, anecdotal comments, and discussions of campaign at regularly scheduled liaisons meetings were used.

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Bytes, camera, action: adding digital multimedia resources to your library's services

Andrea S. Horne, LRC coordinator,; and **Gabriel R. Rios**, assistant director, Information Services and Information Technology, Claude Moore Health Sciences Library, University of Virginia Health System–Charlottesville

Purpose: This poster will examine the program at an academic health sciences library to introduce digital media to its array of user services.

Setting/Participants/Resources: The setting is a health sciences library serving an academic medical center.

Brief Description: Video is quickly becoming the medium of choice to engage and motivate today's digital generation in the classroom. Realizing this, instructors and students have expressed the desire to incorporate digital media into presentations and course materials. The library is in a unique position to assist instructors in offering a more

compelling and effective learning experience. Libraries' print and electronic collections often provide visual material for electronic presentations. Libraries have a strong tradition of customer service and enabling users to integrate information technology with education. These factors make the library a logical place to integrate traditional services in a digital world. Facility services include a large-sized, high-resolution scanner used for scanning X rays, a slide scanner for thirty-five-millimeter film, software for digital video editing, and digital still and digital video cameras for loan. Preplanning for the facility will be examined, including identifying needs and potential users as well as choosing a location. Selection of hardware and software will be discussed, including potential pitfalls. Staff training and level of service will also be addressed. Finally, an overview will detail considerations for providing digital multimedia services, including costs for different levels of service.

Results/Outcome: This ongoing service is being used by faculty, staff, and students in the health system for a number of projects.

Evaluation Method: Access statistics and user satisfaction surveys were utilized.

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Keyword indexing: adding value to the Moffitt Cancer Network (MCN) Web-based online education project

Sue H. Felber, AHIP, coordinator, Medical Library, H. Lee Moffitt Cancer Center & Research Institute, Tampa, FL

Purpose: This paper presents the development, implementation, and growth of the library's role in keyword indexing. These keywords provide search capability for the Moffitt Cancer Network (MCN) Video Classroom.

Setting: The MCN Video Classroom is an online education product of the H. Lee Moffitt Cancer Center & Research Institute. It is a team project developed by members from Research Computing Services, Multimedia Educational Resources Center, MCN Research, Continuing Education, and the Medical Library.

Brief Description: The MCN Video Classroom is a Web-based online education project and contains scientific presentations on cancer treatment, biology, screening, and prevention research. Videos are retrievable on demand by topic as individual presentations or as part of scientific conferences. Each online video provides continuing education credit for physicians or contact hours for nurses. The library's role in MCN has been to add keywords after viewing each presentation, to adapt common textwords to appropriate Medical Subject Headings (MeSH) as additional index terms, and to check chosen words for accuracy and word variation. The assignment of keywords for molecular biology concepts has been extremely challenging, particularly when correlated MeSH terms are unavailable.

Results: MCN is being marketed to oncology health care personnel for continuing education, becoming available for use in 2001. The ongoing involvement of library staff is to provide keyword indexing, with continual evaluation of terms used.

Evaluation Method: Assessment for term accuracy, MeSH cross-references and their appropriateness continues with each presentation added to the MCN. Future evaluation of the keyword index will include periodic analysis of user searches to consider those words

requested that are not present in the index and to track frequency of requested terms present in the keyword index.

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Using knowledge management to facilitate medical research

Suzie Allard, doctoral student, and **James E. Andrews, Ph.D.**, assistant professor, School of Library and Information Science; College of Communications and Information Studies, University of Kentucky–Lexington

Medical research takes place in a complex, knowledge-intensive environment that combines experience, expertise, intuition, and codified information and is further characterized by bidirectional information communication. In such environments, medical researchers create knowledge in two ways: (1) through derivation, by examining and realigning existing information (e.g., patient-specific or application of confirmed results to a new area) and (2) through discovery from uncovering of previously unrecorded information (e.g., evidence-based knowledge, experimentation). Knowledge management (KM) tools can enhance medical librarians' abilities to assist researchers in finding answers to important medical questions. The tools offered by KM can augment the expertise and skills that characterize medical librarians and enhance these by addressing the different thought processes and reflexive actions about medical knowledge that are demonstrated in heterogeneous user groups. KM has both *knowledge technology* and *knowledge practices* components that are aimed at building specific strategies for making knowledge available at key points in time and in appropriate formats essential for supporting research teams. Among KM strategies are collaborative workspaces and shared information resources, which are designed to answer the unique needs of teams that have members who are separated by geographic and temporal barriers. Medical librarians are critical to guiding information-seeking activities of research teams and building these individualized libraries of resource, and to helping researchers gain the greatest value from the five knowledge manipulation activities—acquisition, selection, generation, internalization, externalization—that are a part of negotiating the *Knowledge Chain*. This paper uses the Knowledge Chain model to outline how information is found and used to create new knowledge during the research process. Based on this model, specific recommendations are constructed about how KM tools can be implemented to assist research teams, and some existing KM systems are discussed. Several differences between KM and records management are noted, and the key areas of KM that require librarian expertise are identified. An example is presented to demonstrate how medical librarians can guide resource development and establish guidelines for the archiving of a team's work documents in a collaborative KM environment.

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Marketing a new library service: internal and external focus

Min-Lin E. Fang, information services librarian; **Peggy Tahir,** information services librarian; **Jacqueline Wilson,** manager, Public and Information Services; and **Janet Cowan**, manager, Data Management Services, The Library & Center for Knowledge Management, University of California–San Francisco

Purpose: This paper reports on the development and marketing of a new data sets service developed within the library using a multidisciplinary team.

Setting/Participants/Resources: The Library & Center for Knowledge Management at the University of California–San Francisco (UCSF) is a large academic health sciences library. Researchers needs for access to data sets became apparent and were followed up with an assessment, development, and marketing of a new service. Professional staff from the Reference Department, Data Management Services, Information Technology, and Technical Services worked on this project.

Brief Description: The project assessed the availability of health sciences data sets and tools in the library's collections. A survey using Web-based conferencing software was developed to determine actual needs of researchers on campus for data sets resources and services. Based on the results, the library developed and marketed its new data sets service. Senior library administration was convinced of the usefulness of such a service by the data collection process and marketing plan. The service was marketed to target research groups on campus through a variety of mechanisms, including email discussion list announcements, campus newsletter articles, classes, and professional presentations to interested research units. Internally, the service has been rolled out through the efforts of the Reference and Data Management Services Departments.

Results/Outcome: The project provided an excellent venue for working on collaborative teams across library departments, and between the library and campus departments. The paper discusses the lessons learned by this collaborative process. Web pages were developed pointing to key data sets resources available either via the Web or in the library's collections. Senior library administration approved additional funding for membership in the Inter-university Consortium for Political and Social Research (ICPSR), allowing the campus community to borrow raw data sets from a large digital archive of social science data sets.

Evaluation Method: A formal evaluation will be conducted one year after implementation of the service to assess external and internal strengths, weakness, opportunities, and trends. Quantitative measures will record the use of ICPSR data sets and related consultation services. Qualitative measures will collect anecdotal comments from users about the new service.

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Determining the process: data collection and analysis for barcoding a journal collection

Richard Peterson, AHIP, deputy director; **Virginia Carden, AHIP**, head, Circulation Services; **Judy Woodburn, AHIP**, department head, Journals; **Andrew Eisan**, public services assistant; **Mary Ann Brown, AHIP**, deparment head, Collection Development; **Derrick Vines**, information services specialist; **Eugene Lofton**, information services specialist; and **Eric Albright, AHIP**, assistant director, Public Services; Duke University Medical Center Library, Duke University, Durham, NC

The Duke University Medical Center Library planned and implemented a journal barcoding project this year that involved use of data collection and analysis for defining the workflow. The need to start this project was driven by several issues, most noteworthy being the need to prepare for the transfer of selected volumes to a remote storage facility in the spring of 2002. A Barcoding Task Force was developed in the spring of 2001 and charged with defining the workflow process for barcoding

approximately 200,000 bound volumes. The application of the labels to the volumes was relatively simple and handled by temporary employees over the summer. However, the task of creating item records and linking to barcodes presented a major challenge, because the library did not have detailed holdings information available for the collection. Literature searches were performed and brainstorming sessions were conducted with two very different methods ultimately receiving equal support from a divided task force. To objectively decide which process would be implemented and supported by all members of the task force, detailed time studies were conducted. Over the period of two weeks, members of the task force created item records for approximately 500 volumes and linked them to their corresponding barcode, using each of the two methods. The data were then compiled and projections developed to estimate the duration of the project. Quality-control checks were also performed. The results clearly indicated the preferable method by a 50% difference in total time required for completion of the project. Because the decision had been previously made to utilize most of the staff for item-record creation and linking, a Web-based calendar was then developed for staff members to sign themselves up based on their preassigned job duty and minimum time commitment. Equipment was purchased, training was conducted, and the process was implemented on September 17, 2001. While the project will take approximately twelve months to complete, the time spent up front planning and analyzing the workflow was well justified.

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The development of a virtual library tour: Health Science Center Libraries, University of Florida

Pamela J. Sherwill-Navarro, AHIP, College of Nursing librarian, and **Dwight Bennett,** Webmaster, Health Science Center Libraries, University of Florida–Gainesville

Since 1996, the Health Science Center Libraries (HSCL) at the University of Florida has implemented a library Liaison Program. Librarians have been assigned to the various colleges and departments of the health center. This program has increased communication and interaction between the HSCL and the colleges in a positive way. However, it has increased the workload of the librarians in the program. Because there has not been an increase in the number of professional staff, we are continually looking for ways to work smarter rather than harder. The librarians traditionally tour groups of students from the various health sciences center colleges. In the fall of 2001, one of the colleges requested that we tour 160 students in twenty minutes. We knew that there had to be a better way. We determined that the most efficient and cost effective method of solving this problem was to develop a Web-based library tour. The key areas were identified, photos were taken, related links to information on the library Website were chosen, and the product was assembled. The virtual tour debuted in the fall of 2001 with the College of Nursing and College of Pharmacy incoming students. After piloting the tour, improvements were made, and the Web committee approved the product. It has proved to be a more efficient use of the librarians' time, more effective for students because they are able to refer back to it, and less disruptive to other library patrons. Additionally, the Web-based tour is available twenty-four hours a day, seven days a week, for other purposes such as general patron information and marketing of the HSCL's many services.

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Building a virtual reference desk to support distance learning

Yini. Zhu, microcomputer/media center librarian, George F. Smith Library; **Laura. Barrett, AHIP**, supervisor, Media and Microcomputer Center, George F. Smith Library; **Micki. McIntyre,** information management librarian, Health Sciences Library at Stratford; **Judith. S. Cohn**, acting university librarian, University Libraries; **Robert. Gessner,** information management librarian, Robert Wood Johnson Library of the Health Sciences; **Zana. Etter, AHIP**, librarian II and director, Media Library, Robert Wood Johnson Library of the Health Sciences; and **Lisa. Price,** microcomputer lab librarian, Health Sciences Library at Stratford; University of Medicine and Dentistry of New Jersey–Newark

Purpose: This poster will describe the development of the Virtual Reference Desk, part of the Virtual Library for Distance Learning, a distance-education library Web page. Content and special features of the page will be highlighted.

Setting/Participants/Resources: The University of Medicine and Dentistry of New Jersey (UMDNJ) is the state's university of the health sciences and is the nation's largest of its kind, having eight schools on five campuses. In addition to the formal classroom courses offered, as of spring 2001, UMDNJ had 215 WebCT courses. More than 5,100 individuals, worldwide, had registered for courses; of these, 1,335 had registered for the academic WebCT courses.

Brief Description: The University Libraries of UMDNJ created a Virtual Library for Distance Learning Web page particularly to meet the needs of those 1,335 students enrolled in distance-education academic courses. A key component of the page is a Virtual Reference Desk. Users of the Virtual Reference Desk can search the book and media catalog for local holdings. Featured categories include dictionaries and encyclopedias (almanacs, fact books, translation services, thesauri, sign language dictionaries); tutorials and training (user guides, online registration for library skills instruction, electronic tutorials for databases or software programs, interactive training in OVID database searching); statistics (health, social, sciences, census, financial, and polling facts and figures available from local, national, and worldwide sources); directories and people finders (locator aids for individuals, businesses, and health care professional organizations); maps and atlases (directions and driving instructions; maps of the nation, world, and solar system); calendars and chronologies (personal Web-based calendars, global and perpetual calendars, holidays and festival sites); and government and legislative information (text and status of state and federal legislation, government assistance programs, structure and personnel, congressional voting records). Users can link out to ask an electronic reference question or perform a bibliographic search, among other special features. The site is frequently updated. The Virtual Reference Desk is located at www.umdnj.edu/delibweb/reference.html.

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Promotion and evaluation of a virtual live-reference service

Jennifer R. Heiland, fellow, and **Kathleen A. McGraw,** information services coordinator, Health Sciences Library, University of North Carolina–Chapel Hill

Providing reference via information technologies that allow for real-time interaction between librarians and users is a recent innovation in the library world. During August 2001, the Health Sciences Library at the University of North Carolina–Chapel Hill obtained access to Virtual Reference Software (VRS) from Library Systems & Services (LSSI). VRS allows for real-time chat with users, as well as the ability to dynamically present diverse Web resources to patrons. Because this is a new service for HSL, there is a need to introduce and promote this service to patrons. To determine the future of this service in the library, there will be an evaluation of the outcomes of the venture. This poster addresses strategies for promoting and evaluating a virtual live-reference service.

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The big decision: is creating a virtual reference service in an academic medical library worth it?

Eric D. Albright, AHIP, assistant director, Public Services, and **Marlyse H. MacDonald**, information services librarian, Medical Center Library, Duke University, Durham, NC

The library began to use a virtual reference desk service in October 2001 to provide its clients an additional point for assistance. This poster will explain the library's experiences with implementing and using a virtual reference service. It will cover cost and selection of software. It will outline training staff members and launching the service, including timing and level of publicity. The poster will present information about staffing and statistics. The statistics will be for a given time period and will include the number of questions the library answered, the type of questions asked, and the length of response time. Finally, the poster will explain whether investing in the service was the right decision for the library.

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Browser-extending tools: unleash the power of the Web

Melissa L. Just, AHIP, information specialist, Norris Medical Library, University of Southern California–Los Angeles, and **Candice Benjes-Small,** reference/instruction librarian, McConnell Library, Radford University, Radford, VA

Plug-ins, helper applications, and other browser-extending tools can greatly enhance the functionality of Web browser software. However with dozens of programs and hundreds of file types, selecting the right tools can be a difficult task. Which programs will run which file types? Which tools are the most relevant for ourselves and our users? How can we protect our public stations from unwanted programs? This electronic poster will highlight the most common file types and the most useful browser tools and provide examples for each recommended plug-in. Methods for protecting public access stations and browser compatibility issues will also be presented.