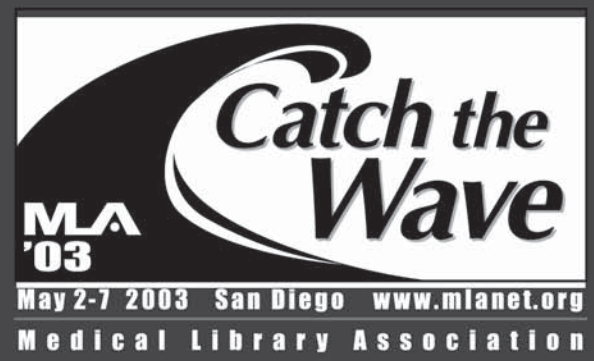

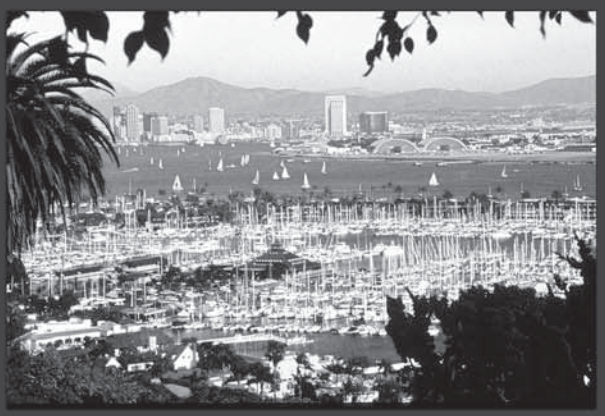

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Supplement to Official Program

MLA '03 Abstracts

May 2–7, 2003
San Diego, California

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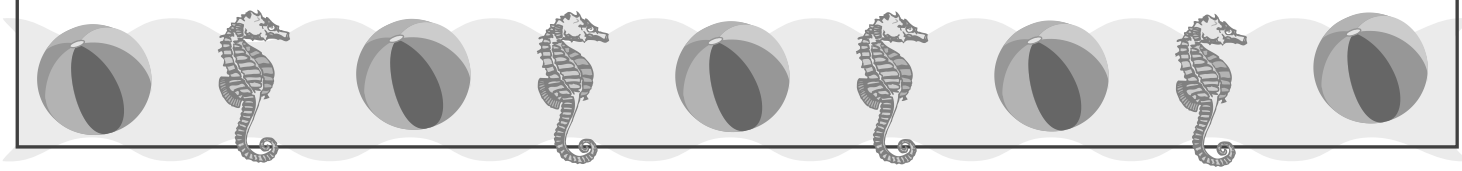

New Publishing Format!

MLA QUICK GUIDES

The MLA Publishing Program, under the guidance of the Books Panel, introduces the Quick Guide format to showcase current or emerging issues in librarianship.

Envisioned as quick-turnaround publications, the approximately 100-page, six-by-nine-inch softcover books will assess the current state of the profession, technology, reference, and other topics in the news. The titles will be copublished with Neal-Schuman Publishers and undergo peer review by the Books Panel.

Quick Guides are not intended to be comprehensive treatments of topics but concise, easy-to-digest books on focused topics. Quick Guides will help capture the immediacy of hot topics and guide readers through the issues.

To get the program off the ground, please submit topic ideas as well as proposals to our **new hotline: pubproposal@mlahq.org.** Proposal guidelines are the same as for submitting a book proposal. Visit www.mlanet.org/publications/books/bookguid.html.

Section Program 1

Contributed Paper Sessions

Building Castles in the Shifting Sand: Sculpting Partnerships and Alliances to Withstand the Incoming Tide #1

Leadership and Management, Collection Development, Hospital Libraries, and Technical Services Sections and African American Medical Librarians Alliance SIG

SUNDAY, MAY 4, 2003, 4:00 P.M.–5:30 P.M.

4:05 P.M.

Surfing the tsunami of service quality: the AAHSL/ARL partnership in exploring outcomes assessment through LibQUAL+

Tamera P. Lee, director, Libraries, Robert B. Greenblatt, M.D., Library, Medical College of Georgia–Augusta; **James Shedlock, AHIP,** director, Galter Health Sciences Library, Northwestern University, Chicago, IL; and **Rick Forsman, AHIP,** director, Denison Memorial Library, University of Colorado Health Sciences Center–Denver

Purpose: Describe the process, results, and benefits of participation in a collaborative total market survey to measure library service quality.

Setting/Subjects: Faculty (4,962), students (5,426), staff (3,157) and library employees (431) at thirty-six Association of Academic Health Sciences Libraries (AAHSL) libraries participating in the 2002 pilot.

Methodology: Based on research grounded in gap analysis from the service quality business literature of Parasuraman, Zeithaml, and Berry and developed and refined by the Association of Research Libraries and Cook, Heath, and Thompson of Texas A&M University, a twenty-five item Web-based protocol was distributed to measure gaps between the service dimension desires, expectations, and perceptions of users.

Results: AAHSL communities were solicited via email. Only those who completed the survey in its entirety and with measurable consistency were included. Of 13,976 respondents, 35.5% were faculty, 34.3% were graduate students, 22.6% were staff, 4.6% were undergraduate students, and 3.1% were library employees. Average scores for all user groups reflected a high level of satisfaction across three broad dimensions of service. The dimension gap that fell below the minimal level expectations for all user groups was electronic resources accessible from home or office. The most desired dimension by the AAHSL aggregate community was comprehensive electronic resources, followed closely by electronic resources accessible from remote locations. Informal email discussion list discussion indicated that a significant percentage of the respondents provided options comments with frequent themes regarding the need for more journals, especially online, frustration with remote access problems and positive comments about staff.

Discussion/Conclusion: Participation assisted AAHSL in increasing awareness of the importance of outcomes measures to be used as evidence of performance indicators. With a strong service orientation already in place, implementing a national survey contributed to the development of a culture of assessment and placed the academic community at the center of that assessment. Other benefits included a complement to existing quantitative and qualitative evaluative methods and a new way of listening and responding to users.

4:22 P.M.

Tribal collaborations

Patricia A. Auflick, outreach services librarian, Arizona Health Sciences Library, University of Arizona–Tucson; **Catherine Burroughs,** librarian, Pacific Northwest Regional Medical Library, University of Washington–Seattle; **Elaine Graham, AHIP,** librarian, Pacific Southwest Regional Medical Library, University of California–Los Angeles; **Claire Hamasu,** associate director, National Network of Libraries of Medicine MidContinental Region, Spencer S. Eccles Health Sciences Library, University of Utah–Salt Lake City; **Jeanette McCray, AHIP,** deputy director, Arizona Health Sciences Library, University of Arizona–Tucson; **Molly McGetrick,** outreach services librarian, Pacific Northwest Regional Medical Library, University of Washington–Seattle; **Sharon A. Lezotte,** outreach and consumer librarian, Health Sciences Library and Informatics Center, University of New Mexico–Albuquerque; **Neil Rambo,** associate director, Pacific Northwest Regional Medical Library, University of Washington–Seattle; **Angela B. Ruffin, Ph.D.,** head, National Network of Libraries of Medicine Outreach Office, National Library of Medicine, Bethesda, MD; **Roy Sahali,** community resources coordinator, Pacific Northwest Regional Medical Library, University of Washington–Seattle; **Stephanie Weldon,** consumer health librarian, Denison Memorial Library, University of Colorado Health Sciences Center–Denver; and **Fred B. Wood,** special expert/computer scientist, Office of Health Information Programs Development, National Library of Medicine, National Institutes of Health, Bethesda, MD

Purpose: This paper will describe the formation of the Tribal Connections Steering Committee, its current activities, and its future.

Setting/Participants/Resources: Librarians from seven states, six resources libraries, four Regional Medical Libraries (RMLs), and the National Library of Medicine (NLM).

Brief Description: In 1997, NLM funded a tribal connections project at the Pacific Northwest Regional Medical Library (RML) to minimize isolation and improve access to health resources for sixteen tribes and native villages. That project was expanded in Tribal Connections II to three tribes in four states. At the same time, the Gates Foundation embarked upon its Native American Access to Technology Program hoping to empower Native communities through increased access to digital information resources. The foundation perceived a need for training in addition to using basic applications and funded a two-year Internet-based health information training project in the region with a focus on one tribe. The efforts of partner agencies built on the Tribal Connections and Gates projects; however, there was no centralized mechanism to coordinate these activities. The National Network of Libraries of Medicine MidContinental Region organized a planning session in April 2002 to address this concern.

Results/Outcome: A consortia of resource libraries and RMLs formed a steering committee and developed a plan to work together on tribal projects. Monthly conference calls and a Website facilitate the sharing of information. This structure provides a collaborative approach to working with a population ensuring the sharing of successful methods, helpful contacts, knowledge of the culture, and institutional resources. These collaborations resulted in the RML obtaining funding for an evaluation project.

Evaluation Method: The Tribal Connections Steering Committee is embarking on an asset mapping approach to inventory

capacity and experience with tribal outreach among participating libraries. Information gathered in this assessment will be the basis of an effective practices database and will assist in identifying evaluation goals of further collaborative efforts.

4:39 P.M.

Don't go into the water alone: using consortia to expand electronic resources

Patricia Wilson, associate director, Public Services, and **Anne M. Linton, AHIP,** director, Himmelfarb Health Sciences Library, The George Washington University, Washington, DC

Most academic health sciences libraries are faced with either zero growth or shrinking budgets. At the same time, patrons are demanding access to more and more electronic resources, and libraries are expected to support students in new or expanding programs in such areas as public health and genetics. The format of choice is electronic, and 24/7 service from any location is the expectation. The health sciences library found it was necessary to build a series of strategic alliances to meet these new demands in difficult financial times. Alliances have been formed with campus libraries, campus academic support services, and outside groups. These relationships have ranged from formal consortial arrangements to informal understandings. Over the past several years, the health sciences library has been able to provide new services and resources such as electronic reserves and off-campus access to full-text electronic journals and textbooks as a direct result of these relationships. For example, the library partnered with the academic library to create a universitywide policy for electronic licensing that maximizes access, minimizes expense, and encourages joint purchases. On a more formal level, a new Washington-Baltimore consortium of health sciences libraries was recently created to increase access to Ovid products such as Openlinks. The consortium also provided the health sciences library with access to additional full-text journals, more full-text books, and more user seats. This paper will review the strategies used for creating these and other alliances, the real benefits of such arrangements, and the factors that have led to successes. Other topics to be covered include the issue of sustaining partnerships, negotiating in the nonlibrary environment, and opening dialog among institutions that compete at the corporate level but not at the library level. The overall success of the library's alliance strategy will be evaluated and future directions discussed.

4:56 P.M.

The Virtual Academic Library Environment (VALE): benefits and outcomes of participation in a statewide consortium for licensing electronic resources

Judith S. Cohn, associate vice president, Scholarly Information, University Libraries, University of Medicine and Dentistry of New Jersey–Newark, and **Kerry A. O'Rourke, AHIP,** campus library director, Robert Wood Johnson Library of the Health Sciences, University of Medicine and Dentistry of New Jersey–New Brunswick

Purpose: Describe the development of, participation in, and benefits of VALE, the state's higher education consortium developed for group licensing of key electronic resources essential to the academic mission of community colleges, four-year colleges, and research universities. Using this model, provide leadership to member hospital libraries of the Health Sciences Libraries Association of New Jersey in licensing cost-effective electronic scholarly content for their constituents.

Setting/Participants/Resources: As one of the three public research universities in New Jersey, the University of Medicine and Dentistry of New Jersey (UMDNJ) is the only university devoted exclusively to academic programs in the health sciences. The VALE Consortium, was developed in 1998 as a grass roots organization to develop interinstitutional information connectivity and collaborative library application projects among New Jersey academic libraries.

Brief Description: Chart the UMDNJ's role in a statewide academic library consortium with a review of benefits and cost savings in the licensing of electronic content over the past five years. Discuss the unique perspective of the health sciences mixed in the general academic library consortium, VALE. VALE's objective is to help institutions meet the demands of students and faculty for access to scholarly resources. Apply the group licensing model used in VALE to assist member hospital libraries of the Health Sciences Libraries Association of New Jersey to acquire additional electronic resources by leveraging the substantial investments made by UMDNJ and taking a leadership role in the negotiations to obtain optimal licensing terms.

Results/Outcome/Evaluation: Use statistics indicate that these resources, many of which are not standard fare in health sciences libraries, are heavily used by our primary clientele. Transfer the skills used in obtaining optimal licensing terms in an academic library consortium to one consisting primarily of nonprofit hospitals. Expand, and in some cases introduce, electronic full-text resources with both onsite and remote access to hospitals ranging in size

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5:13 P.M.

Building and leading the bioinformatics core for the South Carolina Biomedical Research Infrastructure Network (SC BRIN)

Ruth A. Riley, library director, and **Sarah H. Gable, AHIP,** associate director, School of Medicine Library, University of South Carolina–Columbia

Purpose: This paper will report on the activities of the University of South Carolina (USC) School of Medicine Library in leading the bioinformatics core for the South Carolina Biomedical Research Infrastructure Network (SC BRIN) initiative.

Setting/Participants/Resources: The library is a small academic health sciences library in a community-based medical school. The SC BRIN includes three mentor institutions (USC, Clemson University, and Medical University of South Carolina), three mentored institutions (College of Charleston, Furman University, and South Carolina State University), and twenty-four outreach institutions in the state.

Brief Description: The goal of the SC BRIN is to increase the National Institutes of Health research capacity of the state by programmatic expansion and networking of research activities at academic institutions in South Carolina. The bioinformatics core provides networked access to shared biomedical information resources and bioinformatics tools, consultation and education, and enhanced communication among South Carolina biomedical researchers, via the SC BRIN Web portal. Issues to be addressed include the planning, challenges, and accomplishments of the project.

Results/Outcome: The SC BRIN Web portal has had 7,500 visits since its December 2001 opening. The bioinformatics core convened a meeting of the library directors of the mentor and mentored institutions, initiated discussion of the current state of access to key biomedical information resources, and developed strategies for consortial purchasing of critically needed resources.

Evaluation Method: The core's record of achievement is evaluated at quarterly meetings of the SC BRIN Steering Committee and reported semiannually for evaluation by the External Advisory Committee. The Web portal includes a feedback button.

The Extreme Librarian #1

Leadership and Management, Hospital Libraries, Technical Services, and Medical Library Education Sections and Clinical Librarians and Evidence-Based Health Care SIG

SUNDAY, MAY 4, 2003, 4:00 P.M.–5:30 P.M.

4:05 P.M.

Library leads coordination of campus approach to wireless networking: technology's not the problem!

Nancy T. Lombardo, systems librarian, Systems; **Wayne J. Peay,** library director, Library Administration; and **John C. Bramble,** reference librarian, Public Services; Spencer S. Eccles Health Sciences Library, University of Utah–Salt Lake City

Background: Because of the unique qualities and inherent security challenges of wireless networking, this campus, led by the Health Sciences Library (HSL), worked to coordinate implementation in order to provide uniform, secure, high-quality service across the campus.

Setting: The HSL took a leadership role in the coordination of wireless campus network implementation to ensure a service-oriented approach.

Method: Spring of 2000, the HSL invited members of several campus information technology (IT) groups, the main library, and the Institutional Security Office to form a Wireless Network Group (WNG) to hammer out the details of implementing a wireless network across the campus. Library faculty believed it would be important for the campus to deliver uniform wireless services, securely. Despite a long-standing tradition of distributed control of the campus network, the participation in the WNG was enthusiastic. All members agreed that coordination was crucial due to the nature of this emerging technology. Documents available from two universities undergoing similar challenges were reviewed. The group met monthly to make decisions regarding the following issues:

- installation of wireless network services
- campus wireless network policy
- authentication services
- frequency allocation coordination
- secure access to services
- roaming
- hardware recommendations
- other services
- central information site
- handheld technologies

Main Results: The efforts of the WNG were highly successful. This campus now has an official Wireless Network Policy. A single authentication scheme allows users to follow the same login procedures across campus. The registration and allocation of frequencies for all wireless access points on campus are centrally coordinated. Secure connections can be made using the campus VPN. A central information Website provides policy details, hardware recommendations, and user assistance. Some wireless issues are still under discussion, including roaming and handheld technologies.

Conclusion: With the ongoing collaboration of librarians and campus IT administrators, a wireless network can be formed to allow for low cost, low maintenance systems while providing a secure, convenient, and quality service for the purpose of furthering the university's mission.

4:22 P.M.

Digital video broadcasting: plug and play…not quite yet!

Nancy T. Lombardo, systems librarian, Systems, and **Wayne J. Peay,** library director, Administration, Spencer S. Eccles Health Sciences Library, University of Utah–Salt Lake City

Question: Digital video broadcasting is a powerful medium for expanding access to educational offerings and special events, yet there are numerous factors that must be considered to provide high-quality product.

Setting: This health sciences library has been providing video broadcasting services to its health sciences center for more than two years and has learned through trial and error some of the keys to live video quality.

Method: In January of 2000, the health sciences library began offering streaming digital video services to the health sciences center. Both on-demand and live broadcasting services were offered. The live broadcasting was the more complex and problematic of the services. Over time, the library seemed to make every mistake possible and learned from those mistakes. To assist other libraries in providing these services successfully, the library would like to share the results of their learning by making recommendations for planning a live broadcast service. Of the issues that arise in this process, this presentation will cover:

- basic equipment needs and costs
- software Issues
- network bandwidth
- digital video formats
- firewalls
- facilities
- presenter technology
- presentation style recommendations
- portability and remote broadcasting

Main Results: Over the past two and a half years, the library has developed a strategy for producing a high-quality digital video broadcast. Many issues provided stumbling blocks in our quest to manage this service. In an effort to reduce wheel reinvention, the library will provide a systematic check-list of issues to consider prior to each attempt at a live video broadcast.

Conclusion. Digital video broadcasting is a powerful technology, offering the potential for unprecedented access to a worldwide audience. At this stage, there are many challenges but your mother will love to see you on TV.

Rather than allow all others to encounter the same problems, the library will provide a systematic checklist of issues to consider prior to each attempt at a live video broadcast.

4:39 P.M.

Hear us roar: establishment of a center for health care informatics education and the evolution of the organizational raison d'être for the academic health sciences center library

Guillaume Van Moorsel, co-director; and **Colleen Kenefick, AHIP,** co-director; Center for Healthcare Informatics Education; and **Spencer S. Marsh,** director; Health Science Center Library; and **Jane Yahil, Ph.D.,** assistant vice president, Health Sciences Center, School of Medicine; Stony Brook University, Stony Brook, NY

Rationale: Recognized need to incorporate health care informatics into the core curriculum for training health care

professionals has lead to the establishment of a Center for Healthcare Informatics Education at this East Coast academic medical center. With its education program having grown from obscurity into the top echelon of Association of Academic Health Sciences Libraries member libraries, the Health Science Center (HSC) Library's success integrating required, for-credit informatics training into the core curricula for allied health students encouraged the Office of the Vice President (OVP) for the HSC to endorse the establishment of a Center for Healthcare Informatics Education (CHEI) within the HSC Library to provide for-credit and program-integrated health care informatics education for all HSC students. The mission of CHEI is to integrate core informatics training across the curricula of the entire HSC, to host continuing education programs in informatics training for practicing health professionals, and to assist HSC faculty to implement technology tools or resources in support of student learning. With OVP endorsement and financial support, CHEI presents advantages to all the schools of the HSC:

1. CHEI is a shared resource for the entire HSC, enabling all of the schools to leverage its facilities and faculty expertise rather than having to apportion their own resources to developing informatics training;
2. CHEI is widely accessible to the entire HSC, rather than dedicated to the any one school;
3. CHEI is focused upon informatics education and curricular development, and unlike its sister medical informatics department is not concerned with research or administration.

Bringing CHEI to fruition presented notable challenges for the HSC Library, including conflation of the formerly separate departments of information services and education services into a single unit. The paper will outline the developments that lead to the establishment and endorsement of CHEI, describe the reorganization and mission changes of the HSC Library, and discuss the benefits derived from the novel administration (co-directorship) of the center. Profiling the template of the credit course offered to allied health students over the past three years, the paper will also examine student exit-survey result, pre- and post-test outcomes, and student confidence inventories.

4:56 P.M.

The librarian who directs medical informatics

Linda Hogan, Ph.D., director, Medical Informatics, Information Services Division, Pittsburgh Mercy Health System, Pittsburgh, PA

Topic: What I can tell you from my own experience is that to be successful in directing medical informatics activities is to have learned the value of being an extreme librarian.

Setting/Method: Today, both hospitals and libraries are faced with two truths about their operations. First, generous budgets will be more difficult to obtain and, second, despite the steady introduction of technology over the last three decades, library and hospital services and functions are still highly labor intensive. Combining health sciences libraries and information services departments in this environment can be an effective way to recruit and retain talented medical informationists, who have the skills necessary to respond to new and changing circumstances and increased user demands. Extreme librarians who lead these efforts will be required to develop strategies and innovative approaches to staff training, job design, and methods for coping with stress brought on by change. From my personal experience, I can tell you that effective communication is key, and I am grateful that I took this responsibility seriously. Five years ago, I managed the merger of library operations for a medical library, a nursing library, and a pharmacy library. Last year, I moved the libraries and hospital archives into the information services division and became the director of the new medical informatics department. Since the creation of this department, my staff has deployed five high-profile clinical systems and assumed the leadership for the creation of the hospitals' electronic medical record.

Main Results: This was an exciting opportunity to take a fresh look at matching information services to clinician needs. Summarizing the "key drivers" reveals our collective success in managing this transition by focusing on communication and respect for each individual. One of the most rewarding aspects of this process was the increase in job satisfaction and level of empowerment felt by the library staff.

Conclusion: A successful medical informatics program is achieved by focusing less on the quest for an ideal structure and more on developing the abilities and performance of the individuals who make up that structure. Director of medical informatics is a perfect career for an extreme librarian.

5:13 P.M.

Reach out! Marketing a virtual knowledge service

Alison Turner, library partnership co-ordinator; **Nick Rosen, MCSP,** professional partnerships manager; and **Philip Vaughan,** service delivery manager; National Electronic Library for Health, National Health Service Information Authority, Birmingham, United Kingdom

Purpose: This paper will provide an overview of activities undertaken to market and promote a national virtual knowledge service.

Setting: Marketing is one of the key tools in the extreme librarian's toolbox. Unlike Kevin Costner, we cannot hope that "if we build it, they will come!" The extreme librarian has to get out there and tell the patrons what he or she can offer. This is particularly true of the virtual service, where we compete alongside better-resourced commercially driven ventures. Marketing has become particularly important since the role of the librarian in evidence-based practice has developed. Librarians are part of the move away from the old "doctor knows best" culture, toward the routine use of knowledge and library services in clinical decision making. In the current environment, the Web is the only feasible means of providing 24/7 support for clinicians. Since the launch of our service in 2000, we found that to encourage users towards the best knowledge available, our service needs to be their first port of call. This means we not only have to actively market this service, but we have to make their experience so pleasant they will want to come back.

Methods: We have undertaken a range of communication activities in the last two years. Specifically, this paper will describe:

- evaluation studies carried out in 2001 to identify the key issues for the development of the service
- a market research study conducted in 2002 including interviews with existing users of the service and non-users
- approaches taken to promote and market the virtual knowledge service to existing and potential users
- participation and involvement of users in the development of the service

Outcomes: A wide range of publicity materials have been produced, with varying impact on the user community. Usage statistics for the service have increased by 67% in the last year.

Conclusions: Following the market research study undertaken this year, the plan is to concentrate on raising awareness

amongst the user community. This activity will then be extended to incorporate training, to help users to make the most effective use of key evidence-based resources.

Staying Afloat in a Sea of Data: Lessons in Public Health Informatics

Public Health/Health Administration and Medical Informatics Sections

SUNDAY, MAY 4, 2003, 4:00 P.M.–5:30 P.M.

4:05 P.M.

Teaching public health informatics: the five-year experience

Will Olmstadt, AHIP, education librarian, Library, University of Texas Southwestern Medical Center–Dallas; and **Gale G. Hannigan, Ph.D., AHIP,** director, Informatics for Medical Education; and **Joe M. Williams,** education services librarian; Medical Sciences Library, Texas A&M University–College Station

Purpose: This paper describes a three-credit course in public health informatics developed and taught by staff in an academic health sciences library.

Setting/Participants/Resources: The environment is a medium-sized academic health sciences library serving a large public university. This public health informatics course was developed when the school of public health was established in 1998. Thirty-two students earning the master's of public health have completed the course since it was first offered in the fall of 1999. From 2000-2003, the authors team-taught the course.

Brief Description: The course has been modified over the past five years, based on the semester during which it was taught and the number of students enrolled. However, all iterations of the course featured: an overview of public health informatics as a discipline; extensive hands-on practice with relevant databases; exercises in critically appraising the quality of information on the Internet; tutorials about copyright, fair use, and the ethics of citing and using published research; practice and critique of presentation skills; and practice responding to media inquiries about public health. Where appropriate, guest lecturers were invited to share their expertise on topics such as effective communication and working with the World Health Organization. In 2002, the course formally introduced evidence-based public health practice and an assignment to critically appraise published research about a public health intervention. From 2001-2003, the course was increasingly delivered via WebCT. The spring 2003 course will be almost exclusively Web-based.

Results/Outcome: Qualitative and quantitative evaluations of the course have been favorable. Teaching a for-credit course in the school underscores the important role of the library in the public health curriculum.

Evaluation Method: Students evaluated course activities at the middle and end of the course. Midcourse evaluations were prepared and reviewed by the instructors. Final evaluations are standard university course evaluation forms, consisting of Likert and open-ended questions. Results of the final evaluations are reported to the school and the instructors.

4:22 P.M.

Developing an interactive Website to support teaching of public health informatics

Brynn E. Mays, information services librarian, John Vinton Dahlgren Memorial Library, and **Brian Boston,** academic technology and Internet development coordinator, Center for New Designs in Learning and Scholarship, Georgetown University Medical Center, Washington, DC

Purpose: This paper will report on the development and use of an innovative Web database and selected Web resources to support a public health informatics project for first-year medical students.

Setting/Participants/Resources: The library supports the school of medicine at a Research 1 university in an urban setting. Through a faculty, library, and academic technology collaboration, we developed a Website to assist the students in retrieving, managing, and analyzing county-level demographic and health data.

Brief Description: The goal of the Public Health Informatics Project is to familiarize students with the various data sources on the Web that can be used to assess population health and propose appropriate interventions. A Website front-end was designed for students to input into a database information pertaining to their selected county. Librarians select appropriate resource links and provide support in-person or through an "Ask A Librarian" email link. Faculty keep librarians informed of any difficulties students were having and make suggestions for improving the support provided.

Results/Outcome: The Web database provides students with a streamlined alternative to other methods of submitting and managing data. It provides a secure record of each student's work and allows students to compare and contrast their results with those of their peers in the course. The selected resources introduce students to primary data collectors, aggregators, and retrieval systems. Through their own efforts and with support of faculty and information services librarians, students also gain an appreciation of the challenges in obtaining county-level data.

Evaluation Method: Students write a report comparing health status indicators and problems in their current county of residence to that of their selected rural, suburban, or urban population. In addition, they summarize their analyses in the form of an oral presentation. In the fall 2002 semester, librarians were invited to attend the student presentations, providing insight into additional opportunities for library support of this project.

4:39 P.M.

Providing access to data sets for public health professionals: service development, outreach, and use patterns

Peggy Tahir, information services librarian; **Min-Lin Fang,** information services librarian; and **Janet Cowan,** information services librarian; Library and Center for Knowledge Management, University of California–San Francisco

Purpose: This paper will describe the library's data sets service to campus public health professionals.

Setting/Participants/Resources: The Library and Center for Knowledge Management is a large academic health sciences library supporting a campus dedicated only to graduate and professional study in the health sciences. The Center for Health and Community on the campus facilitates multidisciplinary research to provide comprehensive understanding of problems of health, illness, and health care.

Brief Description: Public health professionals in the Center for Health and Community require access to data sets for their investigations, publications, and teaching. A team of professional staff from the library's reference department, data management services, information technology (IT), and technical services conducted a needs assessment and developed and marketed a data sets service for the campus. Public health professionals are a large user group of health sciences

data sets. Because of the success of the assessment and program, the library received senior management approval to purchase a membership in the Inter-University Consortium for Political and Social Research (ICPSR). However, the initial membership required users to pay a fee and did not allow direct end-user access. Data sets use began to increase, but the library received feedback that both the fee and mediated access were barriers to access. The library changed its membership to ICPSR*Direct*, which allows end users to access the data sets on their own without the fee structure previously imposed. Data sets use rose dramatically, and the library is currently beginning to track use patterns.

Results/Outcome: The project has provided an excellent venue for working with campus public health professionals and providing a new service for their constituency. It was also a successful collaborative project between the various library departments involved. The reference department staff has gained an increased knowledge of health sciences data sets and has developed Web pages pointing to additional data sets resources available either via the Web or in the library's collections.

Evaluation Method: Reference staff is currently working with the library's data management services unit to collect use data for analysis.

4:56 P.M.

Assessing the potential of handheld computing applications in public health

Terry Henner, head, Information and Education Services, Savitt Medical Library, University of Nevada School of Medicine–Reno

Purpose: While physician use of handheld computing devices is rapidly increasing, less is known about the use or applicability of handhelds in the field of public health. This paper describes a research project to gather data on the information needs and information use patterns of public health professionals and to identify activities engaged in by public health professionals that might benefit from the application of handheld computing technology.

Setting/Participants/Resources: The Savitt Medical Library, supported through extramural funding, partnered with faculty from the University of Nevada master of public health administration program and administrators from state and local departments of public health in this investigation. The target population for study was public health workers employed by the Nevada State Health Division and Washoe County Health District Department, including public health nurses, environmental health specialists, toxicologists, health educators, nutritionists, and public health administrators.

Brief Description: A cohort of public health professionals selected through a preliminary survey process were subsequently studied in depth through interviews and field observation to assess their information management practices. Handheld computers with selected software were distributed to targeted public health professionals as a way to introduce the technology to the public health realm and to assess the applicability and utility of specific software applications. A "train the trainer" program was implemented to guide public health professionals in implementing the use of handhelds in their institutions.

Results/Outcome: Public health professionals engage in a variety of activities that benefit from the application of handheld technology. The outcomes are most significant in activities such as public health nursing, where onsite history taking and data collection is common, and in disciplines such as environmental health, where access to large amounts of data onsite is necessary. Promoting awareness of technology capabilities and instituting training programs, as well as the ability to develop customized applications, are keys to the growth of handheld computing in public health.

Evaluation Method: Input from participants was obtained through surveys, field studies, and focus groups.

5:13 P.M.

Healthy People 2010 information access project

Evangeline Alexander, associate fellow, National Library of Medicine, Bethesda, MD

Purpose: This paper will report on the development of a Website to support public health workforce research needs related to meeting Healthy People 2010 goals and objectives.

Description: To achieve Healthy People 2010 objectives, public health planners need to consider the latest available evidence on the effectiveness of various approaches. But the reality is that public health professionals lack the expertise and have limited time to find research articles and guidelines on public health strategies. To address these needs, a group of librarians, practitioners, and subject-area experts have worked together to develop preformulated online search strategies on specific Healthy People 2010 objectives. The project aims to reduce the time and increase the precision of searches for evidence-based strategies and guidelines, improve access to public health literature and databases, and assist public health professionals in identifying related online resources. The project provides for retrieval of Healthy People 2010–related research through preformulated PubMed search strategies and through links to evidence-based clinical and community preventive service guidelines. As of fall 2002, this pilot project has addressed information needs related to forty-one objectives in seven Healthy People 2010 focus areas: Access to Quality Health Services, Disability and Secondary Conditions, Environmental Health, Food Safety, Hearing, Public Health Infrastructure, and Respiratory Diseases. The project also provides for continued development of strategies and resources for the remaining Healthy People 2010 focus areas.

Project Activities:

- identification of initial HP 2010 focus areas and selections of specific objective for development
- coordination of librarians, public health professionals, and subject experts in the development and review of effective search strategies
- ongoing evaluation of the project through analysis of the Website statistics and Website feedback
- development of a formal evaluation process that includes an electronic survey and focus groups

Project Outcomes: Development of a Website that makes Healthy People 2010-related research easier to retrieve through preformulated PubMed search strategies and through links to evidence-based clinical and community preventive service guidelines. Initial feedback from the public health community strongly supports continued expansion to include other focus areas.

Contributed Papers and Invited Speakers

Consumer and Patient Health Information, Public Services, Chiropractic Libraries, and Public Health/Health Administration Sections

The Crest of the Wave-Cool New Health Information Resources for Consumers

SUNDAY, MAY 4, 2003, 4:00 P.M.–5:30 P.M.

4:05 P.M.

Electronic access to the wave—cool new health information resources for consumers

Angela B. Ruffin, Ph.D., head, NN/LM National Network Office, National Library of Medicine, Bethesda, MD

Fifty-three health information outreach projects funded through NLM's National Network of Libraries of Medicine (NN/LM) were conducted in 2000 and 2001. These projects implemented a variety of approaches to achieve the common goal of improving access to electronic health information for consumers. The institutions conducting the projects included hospitals, academic health sciences centers, public libraries, and other community-based organizations across the United States. To understand the relative success of the approaches taken, the investigators extracted data from the final reports of the projects and conducted follow-up telephone interviews with the project directors. In addition to descriptive information about the projects, this presentation highlights the common barriers encountered and lessons learned.

4:39 P.M.

BestTreatments.org: bringing evidence to patients

Tamara M. Rader, information specialist, and **Andrea K. Lane,** information specialist, Unified Ltd., BMJ Publishing Group, London, United Kingdom

Purpose: More than ever, people have access to a vast amount of health information from both the Web and the media. The challenge now is to deliver a service that makes understanding and comparing information easier. BestTreatments.org brings evidence about treatments to patients and family doctors by systematically rating treatments in a clear, unbiased, and easy-to-understand format. Our hope is that the site will improve doctor-patient communication about treatment choices. Consumers and physicians can share medical information if it is written in uncomplicated language but researched and appraised to the highest standards.

Description: About five years ago the British Medical Journal Publishing Group created a publication for doctors called *Clinical Evidence.* The publication is aimed at physicians and provides a concise account of the current state of knowledge and uncertainty about treating a wide range of clinical conditions. *Clinical Evidence* is the foundation for BestTreatments.org. BestTreatments.org builds on the *Clinical Evidence* research, translating the evidence for patients and helping doctors incorporate evidence into their daily practice.

What Makes Us Different?: BestTreatments.org supports the notion that patients should receive care based on the best available scientific knowledge, no matter where they live or which doctor they see. Our methods of gathering and appraising research evidence are rigorous and transparent. Patients can compare the effectiveness of treatments and discuss the options with their doctor. Since evidence-based practice involves taking into account patient preferences and clinical expertise, we present patient's experiences and give practical hints to doctors on putting the evidence into practice. Patients see what their doctors see, and doctors have access to high-quality information that they can pass on to their patients.

Outcome: This ongoing project has attracted interest both British and U.S. users. New topics are continuously being added, and new research is being put into context as it emerges in the media.

Evaluation Method: We compile the comments of our users and incorporate suggestions to improve the site. We have also put the site through rigorous usability testing and worked with patient focus groups to gauge satisfaction with the site.

4:56 P.M.

What do consumers really want? Planning for a regional consumer health Website

Julia F. Sollenberger, AHIP, director, Health Science Libraries and Technologies, and assistant professor, Medical Informatics, Edward G. Miner Library, University of Rochester Medical Center, Rochester, NY, and **Bernie L. Todd Smith, AHIP,** health information consultant, Werner Library, ViaHealth, Rochester, NY

Question: Librarians often say that they know what their customers want. Is this really true when it comes to providing consumer health information? The latest and most effective library services for health consumers must first begin with an extensive planning agenda. Was the planning process employed extensive enough, and was the information gained worth the cost?

Setting: Local librarians (medical, public, and school) have been engaged in a journey for the past three years to provide all the people of this greater metropolitan area with the high-quality information and resources they need to make wise lifestyle and healthcare choices. The name of the program is Community & Library Information Collaboration on Health (CLIC-on-Health). The four major components of the program are:

- training
- developing a Web portal specific to Rochester health care
- using market research to develop the program and a publicity plan
- evaluating the impact that the information has on the community's health status

Methods: The planning team for CLIC-on-Health realized that they needed input—lots of it. Fortunately, they had secured a planning grant from NN/LM to assess the community's needs for health information. Initially, a forum was convened to gather input from almost 100 librarians, health agency staff, health professionals, and interested consumers. The process, format, strategies to ensure attendance, and the effectiveness of the forum will be presented. After the forum, the planners still did not have a definitive blueprint that identified the most important features that the CLIC-on-Health program and Website should provide. Luckily, our city has a unique resource: a local Ad Council that conducts Strategic Roundtables for nonprofit enterprises. Two interventions resulted from the roundtable discussion: (1) a targeted benchmarking survey of similar programs and (2) a telephone market survey of our target population.

Main Results and Conclusion: We will compare benchmarking and telephone survey results with those of the forum and provide recommendations for other library groups engaged in the elusive mission of obtaining input as they work to build local, regional, or state consumer health programs.

5:13 P.M.

Health information Hispanic outreach: new resources along the Rio Grande

Virginia M. Bowden, Ph.D., AHIP, library director, Library, University of Texas Health Science Center–San Antonio; **Debra G. Warner,** library director, Medical Library, Regional Academic

Health Center, University of Texas Health Science Center–San Antonio, Harlingen, TX; **Cynthia Olney, Ph.D.,** evaluation specialist, Academic Informatics Services; and **Evelyn R. Olivier, AHIP**, deputy library director, Library; University of Texas Health Science Center–San Antonio; **Frederick B. Wood, Ph.D.,** special expert/computer scientist, Office of Health Information Programs Development; and **Elliott R. Siegel, Ph.D.,** associate director, Health Information Programs Development; National Library of Medicine, Bethesda, MD; and **Graciela Reyna,** circuit librarian, University of Texas Health Science Center–San Antonio

Purpose: This paper will discuss four pilot projects designed to better understand the health information–seeking behavior and needs of the Hispanic population and to assess the current and prospective use of MEDLINEplus by intermediaries and the public.

Setting/Participants/Resources: The population of the Lower Rio Grande Valley (LRGV) of Texas is primarily Hispanic. The area has some of the lowest levels of education and family income in the United States. Four pilot sites were selected as representative settings where information could be gathered about health information needs and the effectiveness of MEDLINEplus could be measured. The sites are:

• South Texas High School for the Health Professions ("Med High") in Mercedes
• Su Clinica Familiar in Raymondville (a rural clinic)
• South Texas Health Care in Harlingen (a city clinic)
• Cameron Park colonia in Brownsville (community center)

Brief Description: Health information needs were assessed at each of the pilot sites, and then librarians trained intermediaries (health care providers, promotoras, and high school librarians and students) in the use of MEDLINEplus and developed a work plan to assist the intermediaries in using MEDLINEplus in their organizations. Work plans and intermediaries' training of user groups varied at each site:

• Peer tutors at Med High trained other students, teachers, and family members.
• Waiting room workstations at Su Clinica and South Texas Health Care were used for patient access to MEDLINEplus and MEDLINEplus en Español.
• Community-based promotoras at Cameron Park trained other residents of the colonia.

Results/Outcome: Barriers include language, reading level, and perceived need for the information. The pilot projects will provide objective data on the problems that consumers encounter when searching for health information and whether MEDLINEplus is making a difference.

Evaluation Method: At each pilot project site, interviews about the usefulness and usability of MEDLINEplus and MEDLINEplus en Español will be conducted. Focus groups will be used to obtain feedback from the intermediaries and from the consumers, including persons whose primary language is Spanish.

Hang Ten! Utilizing Standards and Benchmarking Data

Hospital Libraries Section

SUNDAY, MAY 4, 2003, 4:00 P.M.–5:30 P.M.

4:05 P.M.

Using the balanced scorecard to show the value of library services

Susan C. Whitmore, deputy director, and **Suzanne F. Grefsheim,** director, NIH Library, National Institutes of Health, Bethesda, MD

Purpose: Describe the balanced scorecard method of measuring performance and why it is useful in proving the value of the library to administrators in hospitals and other settings.

Setting: Federal agency library that supports biomedical and behavioral research for a large research community.

Description: Often the output measures libraries report are not relevant to the administrators to whom the library is accountable. For these administrators to recognize the library's value to the organization, you need to measure the aspects of performance that matter most to them: the bottom line, customer satisfaction, capabilities of the staff, and efficiency and effectiveness of your internal processes. One way to do this is to use the balanced scorecard approach to measuring your library's performance in each of these four quadrants. A tenet of the balanced scorecard method is: "what you measure is what you get." So, after identifying performance objectives for each of the four quadrants of the scorecard, you also must identify the strategies you intend to use to achieve them. This makes it particularly useful in driving process improvements. The data collected in the first year serves as a benchmark against which to measure progress in subsequent years. This paper will describe how the balanced scorecard was implemented in one library. It will give examples of the types of objectives and measures that were developed, the ways in which the data were analyzed and graphically displayed, and the types of conclusions and recommendations that can be drawn. We will assess its impact on library services, staffing, customer satisfaction, and budget as well as describe the effect using this method has had in terms of improving understanding among the administrative staff of the library's value to the organization's clinical, educational, and research mission.

Conclusions: The balanced scorecard method provides a structured framework to track all important measures at once and present them to administrators in a fashion that they can appreciate and understand. By employing this method over time, you have a powerful tool with which to track performance and illustrate your worth to the organization.

4:22 P.M.

Riding the wave from benchmarking to bucks

Ysabel R. Bertolucci, AHIP, health sciences librarian, Health Sciences Library, Kaiser Permanente Medical Center, Oakland, CA; **Lynn Van Houten, AHIP,** medical center library services manager, Health Sciences Library, Kaiser Permanente Medical Center, Vallejo, CA; and **Leeni Balogh, AHIP,** service area manager, Library Services, Health Sciences Library, Kaiser Permanente Medical Center, Santa Rosa, CA

Question: Would utilizing MLA Benchmarking Project data help to increase hospital library budgets?

Setting: A multi-site health maintenance organization (HMO).

Method: The libraries in the HMO completed the Benchmarking Survey with one member serving as the benchmarking educator for the local MLA chapter. It was decided to compare three items from our budgets— books, journals, and staff—with the median benchmarking data for health systems libraries. We then submitted a request for additional funding, using as justification the discrepancy we found between the funding for those budget items in our libraries and the median for health systems libraries documented in the benchmarking data.

Main Results: An analysis showed that funding of book and journal expenditures and of staff for health system libraries as reported in the benchmarking data were significantly higher than the expenditures for these items in the HMO's library budgets. In our request for a budget increase, we developed scenarios of how additional money would be spent using three different funding levels. The medium scenario, which increased funding by one million dollars, was subsequently approved.

Conclusion: This paper will discuss the methodology for the request, the development of the scenarios, and the planning process used to balance budget priorities created by inadequate funding against the need to create a new vision for the HMO libraries.

4:39 P.M.

Sink or swim: making sense of productivity and workload measurement

Sharon A. Phillips, AHIP, director, Organizational Development, Wayne State University Library System, Detroit, MI

4:56 P.M.

Waves combined: the Standards for Hospital Libraries 2002 and the Benchmark Network

Jeannine Cyr Gluck, AHIP, director, Medical Library, Eastern Connecticut Health Network, Manchester, CT, and **Rosalind F. Dudden, AHIP,** health sciences librarian, Tucker Memorial Medical Library, National Jewish Medical and Research Center, Denver, CO

5:13 P.M.

Waves of numbers: how to use and interpret the Benchmarking Network tools

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

Purpose: Describe the Benchmarking Network tables, their development and use, and a demonstration of the Benchmarking Network interactive site available to participants in the survey.

Setting: Access to Benchmarking Network information on MLANET by various MLA members

Description: From December 2001 to March 2003, MLA members were encouraged to provide data on library services and resources using a Web intake form. The data was edited and a plan for a set of tables representing the aggregate data of 344 libraries was developed. In September of 2002, these tables were made available to members on MLANET. These tables will be described and various questions will be put to the tables to see if they can be used to answer those questions. The same questions and others will be posed to the interactive site that became available to participants in March 2003. There will be a live demonstration if technologically possible. The differences in the two tools will be described.

Conclusions: Every new tool made available to librarians means learning new skills to use that tool. Whether it is the "Standards for Hospital Libraries 2002" or the Benchmarking Network tools, these tools need to be studied and used in real-life situations. The use of these valuable tools, successful or not, needs to be reported in the literature. The formation of a new MLA special interest group, the Benchmarking and Assessment SIG will be briefly discussed, followed by a discussion with the audience about the SIG.

The Changing Shoreline: Virtual Real-time Reference

Public Services, Corporate Information Services, Health Association Libraries, and Research Sections

SUNDAY, MAY 4, 2003, 4:00 P.M.–5:30 P.M.

4:05 P.M.

Evaluating the need for an electronic reference service within an academic health sciences library system

Renae E. Barger, trainee, Health Sciences Library and Informatics, and **Nancy H. Tannery,** assistant director, Information Services, Health Sciences Library System, University of Pittsburgh, Pittsburgh, PA

Purpose: Determine types of electronic reference questions received over a sixteen-month timeframe to evaluate the need to establish a more formal electronic reference service.

Setting/Subjects: Users of the Ovid system in an academic health sciences library system.

Methodology: Observational study using electronic mail questions submitted through the "Ask a Librarian" feature in the Ovid database system.

Results: During a sixteen-month period, patrons submitted 111 electronic mail questions. Of these, 23 (24%) were considered technical, 47 (42%) were considered quick-reference, and 37 (33%) were considered in-depth reference. To be classified as technical, the question had to deal with issues such as printing, setting up Ovid auto alerts, and linking to online resources. Quick-reference questions were classified as those that could be answered in a few minutes such as incomplete citations, advice on limiting searches, and questions asking if the library has a particular journal or resource. In-depth reference questions were those considered to require more than a few minutes of a librarian's time such as difficult searches, search strategies, and copyright issues.

Discussion/Conclusion: Based on the number and type of questions received, the study suggests a need for expanded electronic reference services.

4:22 P.M.

Virtual reference: developing guidelines for librarians

Sandra L. De Groote, assistant information services librarian, Library of the Health Sciences, University of Illinois–Chicago

Purpose: This paper describes the experience of developing virtual reference guidelines for librarian use when providing reference through "real-time" chat.

Setting: A health sciences library at a regional campus of a large urban university implemented an online chat service for remote users in 2001. Chat reference services will be instituted at all libraries at the study institution using QuestionPoint by January 2003.

Brief Description: The level of reference service and the types of questions that can be addressed in a virtual medium differ from reference questions received in person. Because providing virtual reference in a "real-time" chat environment was unexplored territory, guidelines were developed to give librarians parameters on what level of service was expected in the online environment. Guidelines established by other institutions providing real-time reference were examined and used as a base. The limitations and increased possibilities offered by chat reference were considered and applied to the guidelines. Once the initial chat service was implemented, guidelines were

revisited and adjusted to reflect the opportunities and restrictions placed on librarians while providing reference through virtual chat. The guidelines have been expanded to include email reference and to be applicable for multidisciplinary questions as well.

Results/Outcome: In a chat environment, the librarian and the patron do not see or talk to each other. Patience is required by both the patron and the librarian, and guidelines need to reflect this demand. Outlining the possible types of questions and user needs facilitates the action required by the librarian and quickly recognizes the possible limitations the librarian may have while assisting the patron. "How do I" questions can take great energy on the part of the librarian to answer, and guidelines need to limit the amount of time spent on these questions.

Conclusions: Preparing guidelines in advance can provide needed guidance when entering unknown territory. Willingness to change guidelines as appropriate and being prepared to set limits on the type of service that can be provided in an online chat environment is essential.

4:39 P.M.

Virtual real-time reference

Charles R. McClure, professor, Information Use Management and Policy Institute, Florida State University–Tallahassee

Although virtual reference services are receiving a great deal of attention and development, there is still limited knowledge about assessing the quality, costs, and impacts of virtual reference. In the rush to provide these new types of reference services in the networked environment, few libraries have also implemented a program of ongoing evaluation and assessment of the services. In a study recently completed by McClure and others and funded by a consortium of libraries and other organizations, a practical digital reference evaluation manual was published: Statistics, Measures and Quality Standards for Assessing Digital Reference Library Services: Guidelines and Procedures (see quartz.syr.edu/quality/ for information on the manual and the study). This presentation will describe a range of practical and straight-forward strategies to evaluate virtual reference services. Equally important, however, is to understand the local library context and the politics of evaluation when assessing digital reference services. The presentation will address these and other issues and help participants implement an approach to learn just "how good are our virtual reference services?"

Knowing When to Get Out of the Water: Delivering Disaster-Related Public Health Information

Relevant Issues, Federal Libraries, Public Health/Health Administration, Consumer and Patient Health Information, and Hospital Libraries Sections

SUNDAY, MAY 4, 2003, 4:00 P.M.–5:30 P.M.

4:05 P.M.

Prevention pays: National Library of Medicine/Pan American Health Organization partnership helps health professionals get information before disasters strike in Central America

Stacey J. Arnesen, advisor, Special Topics, Specialized Information Services; **Victor Cid,** visiting scientist, Office of Computer and Communications Systems; and **Martha Szczur,** deputy associate director, Specialized Information Services; National Library of Medicine, Bethesda, MD

Purpose: The goal of the Central American Disaster Health Information Network is to promote disaster reduction through capacity-building activities in disaster-related information management.

Setting/Participants: The Regional Disaster Information Center for Latin America and the Caribbean (CRID); university and medical school libraries in Honduras, Nicaragua, and El Salvador; and the Center for the Protection Against Disasters, a nongovernmental organization in El Salvador.

Brief Description: Following Hurricane Mitch in 1998, the National Library of Medicine (NLM) and the Pan American Health Organization (PAHO) sought to strengthen local and national health information infrastructures in Honduras and Nicaragua. In September 2000, NLM funded the Foundation for the Coordination of Information Resources for Disaster Prevention (FundaCRID), a nongovernmental organization that operates CRID, to help Honduras and Nicaragua develop a system for collecting, organizing, and disseminating health information related to disasters. Following the earthquakes in 2001, El Salvador was added to the project.

Results/Outcome: Through this initiative, participating libraries and information centers acquired the following:

- technological infrastructure (including computer equipment and Internet connectivity)
- information management skills (including training of health sciences librarians)
- information product development (including digital library and Website development)

Conclusion: Honduras, Nicaragua, and El Salvador have established local Disaster Information Centers designed to enable health professionals, government agencies, and nongovernmental organizations in their countries to quickly access vital information previously unavailable. The selected libraries and organizations have acquired the knowledge, training, and technological resources that promote delivery of reliable information to health providers and others in their countries. Establishment and ongoing support of these centers should facilitate long-term improvement of disaster prevention and mitigation activities in participating countries. The NLM/PAHO/CRID collaboration also suggests a model for collecting and exchanging health information in geographically isolated and disaster-prone environments and for handling nontraditional or unpublished literature regarding the health aspects of disasters.

4:56 P.M.

Bioterrorism information resources

Patricia A. Auflick, outreach services librarian, Arizona Health Sciences Library, University of Arizona–Tucson

Purpose: This paper will look at how the Arizona Health Sciences Library is educating public health, tribal, and rural practitioners about bioterrorism information resources.

Setting/Participants/Resources: The Arizona Health Sciences Library has worked with the Arizona Rural Health Association, the Arizona Public Health Association, and other health-related groups to provide information and training on how to access bioterrorism resources.

Brief Description: Through a series of workshops, the Arizona Health Sciences Library has trained public health nurses in six offices in the Pima County Health Department to know how and where to find bioterrorism information resources. The workshops led to the library's participation in the all-day "Nursing and Bioterrorism and Nursing: Serving Our Community"

workshop. Presentations were also made at the Arizona Rural Health Association and two state library association conferences, and a poster was presented at the Arizona Public Health Association's annual conference. One of these presentations led to working with the Gila River Indian Community to provide them with the same information and training. In addition, the Arizona Health Sciences Library has developed a bioterrorism Web page that includes these critical links and was a part of the planning team as the community prepared for a simulated bioterrorist event last November. Future plans include developing a Web-based tutorial that includes the content of the bioterrorism workshop, so that this information will be available to the rural practitioners of the state.

Result/Outcome: As a result of its involvement in a variety of bioterrorism events, activities, and trainings, the Arizona Health Sciences Library is gaining recognition as the institution that can provide resources and training for bioterrorism information—information needed by health practitioners.

Evaluation: Semistructured phone interviews were conducted of the public health nurses who participated in the original bioterrorism workshops to learn if the workshops met their needs and helped them to be able to access pertinent information in a timely manner.

Invited Speakers

2003 EMBASE Lecture

Pharmacy and Drug Information Section

Sunday, May 4, 2003, 4:00 P.M.–5:30 P.M.

4:00 P.M.

NicVax™, an experimental nicotine vaccine to prevent and treat nicotine addiction—a review of pre-clinical and clinical studies

Robert B. Naso, Ph.D., senior vice president, Quality, Regulatory and Product Development, Nabi Biopharmaceuticals, Rockville, MD, with **Ali Fattom, Ph.D., Sofiane Ennifar, Ph.D., Scott Winston, Ph.D., Steve Fuller, Ph.D.,** and **Gary Horwith, M.D.,** Nabi Biopharmaceuticals, Rockville, MD

In the United States, tobacco use is the single leading preventable cause of death, contributing to more than 440,000 deaths each year. Of the 49 million adult U.S. smokers, nearly 34 million have made at least one attempt to stop smoking. Due to the addictive nature of nicotine, however, only 5-10% of those who try to quit actually quit permanently. A number of pharmacotherapies for smoking cessation have been developed, but the abstinence rate for patients treated with current therapies compared to placebo is low. Consequently, there is an unmet medical need to develop more efficacious therapies. NicVAX™ is a new nicotine vaccine being developed by Nabi Biopharmaceuticals for the treatment and prevention of nicotine addiction and as an aid to smoking cessation. NicVAX consists of 3'-aminomethylnicotine bound to recombinant, carrier protein, and is alum adjuvanted. Preclinical data with NicVAX shows that the vaccine is safe and highly immunogenic. In addition, antibodies to NicVAX are highly specific to nicotine and are of high affinity. The antibodies induced by NicVAX appear to bind nicotine in the circulatory system, block nicotine from crossing the blood-brain barrier, and prevent it from reaching the brain receptors that are involved in nicotine addition. Furthermore, these antibodies appear to block various behavioral and physiological effects of nicotine in animal models. The animal studies suggested that NicVAX would be immunogenic in humans. In fact, the first clinical trial of NicVAX in normal, healthy volunteers showed that one injection of the vaccine was well tolerated and resulted in a rapid immune response that generated substantial amounts of nicotine-specific antibodies. It was surprising that a single dose of NicVAX generated a robust and sustained antibody response in all subjects. If antibody levels can be increased with booster vaccinations and if the functional activity of this antibody mirrors that observed in animal models, it is reasonable to expect a clinical effect in smoking cessation. An additional Phase I/II clinical trial to evaluate dosing and safety of NicVAX in smokers is now underway, and the outline of this trial along with results from the earlier study will be discussed.

Section Program 2

Contributed Papers

Building Castles in the Shifting Sand: Sculpting Partnerships and Alliances to Withstand the Incoming Tide #2

Leadership and Management, Collection Development, Hospital Libraries, and Technical Services Sections and African American Medical Librarians Alliance SIG

MONDAY, MAY 5, 2003, 3:30 P.M.–5:00 P.M.

3:35 P.M.

Building on sand: flexibility and portability are essential

Diana McDuffee, director, North Carolina Area Health Education Center (NC AHEC) Library and Information Service Network; and **Mary Beth Schell,** manager, AHEC Digital Library Project; and **Holley Long,** developer, AHEC Digital Library Project; Health Sciences Library, University of North Carolina–Chapel Hill

Program Objective: This paper will describe a statewide consortium that uses "gap" licensing, paid library memberships, hospital consortia licensing, and university licenses to create a digital library that can provide a customized set of resources to almost any user group.

Participants/Setting: The Digital Library is the central Internet access portal for twenty-six community hospitals, two thousand individual health care providers, 1,500 staff members, and the off-campus clientele for the state's four academic health centers. Membership in the digital library provides authentication for four university affiliations, twenty-six hospital affiliations, and three paying membership groups.

Description: The Digital Library provides an authentication system for users who qualify for access to licensed resources purchased by universities, hospitals, and the Digital Library. University and hospital affiliates using the Digital Library portal are provided with authentication and finding aids that take them, via the Web, to the licensed resource of their affiliated institutions and/or membership group. Digital Library members without institutional affiliations are authenticated to a set of resources that have been purchased specifically for their group. These resources include hundreds of electronic journals, textbooks, and other resources that are selected for their value to clinical care. The resources for the membership groups are scalable so that financial risk is minimized yet members can be added continuously.

Results: The benefits of the program have been realized in user feedback to the librarians and administrators and, in the

reduced workload of technical troubleshooting. The Digital Library authentication has helped solve some of the academic university authentication problems. The membership sales have shown steady increase and are on target for reaching sustainable levels of membership. We are able to offer a solid core of resources at reasonable price to members. We have been able to add new resources, members, and member groups each year.

Conclusion: Investing the resources to create an authentication system customized to your library can provide opportunities to leverage licensed resources and provide enhanced services to off-campus and unaffiliated library users. The public service and outreach benefits of a library membership are of enormous value to the sponsoring library.

3:52 P.M.

Shooting the curl: enhancing real time reference with health information experts

Kay E. Deeney, AHIP, education and exhibit coordinator; **Heidi T. Sandstrom, RN,** consumer health librarian; and **Andrea Lynch,** network assistant; National Network of Libraries of Medicine Pacific Southwest Region, Louise M. Darling Biomedical Library, University of California–Los Angeles

Purpose: To provide live digital health reference expertise to non-health sciences librarians statewide

Setting/Participants/Resources: Live digital health reference service/health reference librarians (hospital, academic, and other) and digital reference software that allows co-browsing and chat; individual workstations; and project coordinator

Brief Description: A Regional Medical Library of the National Network of Libraries of Medicine (NN/LM), working with a cooperative library system, recruited a group of network librarians in mid-2002 to provide health reference expertise to non-health sciences librarians via digital reference software. This newly developed service enhances health reference services provided by public libraries. In addition, online training and technical support in the use of PubMed, DOCLINE, and other NLM resources is being provided to NN/LM members with the digital reference software. Moreover, this project is serving as a basis for building cooperative relationships in library communities and for increasing the competencies of librarian participants. This presentation will highlight various aspects of developing the service, including recruitment, training, team building, development of policies and procedures, ongoing librarian support and training, quality control, and overall management. Despite some challenges, the potential of live digital reference for enhancing public access to reliable health information is enormous! Watch out for the wave—it's an awesome ride!

Results/Outcome: The project progressed from practice among librarians to real time sessions with the public. Health reference is now provided forty hours a week to over sixty library communities. This unique way of providing reference enhances the professional development and satisfaction of librarian participants.

Evaluation Method: Quantitative: assessing librarian initial response time to online queries and length of reference interactions; qualitative: analyzing reference interaction transcripts, emails to project coordinator, a digref email discussion list, online meetings, and patron survey feedback.

4:09 P.M.

Building bridges: a hospital library and a cancer resource room bring a digital information project to health care professionals

Deborah L. Jameson, RN, librarian and library generalist, and **Julia S. Whelan,** senior librarian, Outreach Services, Treadwell Library, Massachusetts General Hospital–Boston

Purpose: Describe training and evaluation aspects of a cooperative undertaking, Digital Information Project (DIP), a digital collection of full-text cancer patient information.

Setting/Subjects: A large, academic research hospital with a health sciences library and two consumer health information libraries.

Participants: Approximately sixty nurses and social workers who distribute cancer patient information or help patients find information.

Interventions: Assessments consist of review by multidisciplinary team, usability testing, Website use analysis, and evaluations of teaching sessions. Outreach and training efforts include a hospitalwide publicity event. A librarian and a social worker team demonstrates and teaches small group sessions in patient care areas and in the Cancer Resource Room. Class content centers on patient vignettes.

Results: We describe an outreach effort for a cooperatively built and funded digital information resource for cancer patient education. DIP, containing 500 full-text documents, builds on an existing partnership between the hospital library and the Cancer Resource Room. A process of feedback and assessment stimulates improvements in teaching, outreach, and database content. The team continually adapts to its users. Usability testing demonstrated that users need guidance utilizing portable document format (PDF). The DIP team now incorporates instruction on PDF in every session and in the help pages. Evaluations from the first demonstration to sixteen nurses lead to increased emphasis on navigation and computer skills. Web statistics show that chemotherapy fact sheets constitute the most heavily used resource, so teaching sessions highlight this part of the collection.

Conclusions: Web statistics show a dramatic increase in DIP use: more than doubling after the publicity event and increasing by 30% after the first classes. Based on participant evaluations, hands-on teaching is more effective than demonstration. Our project requires cooperating and negotiating among the partners, listening and adapting to users, and holding fast to the goal of providing quality cancer patient information.

4:26 P.M.

FreeShare to the rescue!

Elaine Graham, AHIP, associate director, **Andrea Lynch,** network assistant, and **Julie K. Kwan, AHIP,** library network coordinator, National Network of Libraries of Medicine Pacific Southwest Region, Louise M. Darling Biomedical Library, University of California–Los Angeles

Purpose: This paper will describe the impressive growth and diversity of FreeShare, a "back-to-basics" resource sharing cooperative (nnlm.gov/libinfo/docline/freeshare.html).

Setting/Participants: FreeShare (Free Reciprocal Interlibrary Loan Group) was created in response to National Network of Libraries of Medicine (NN/LM) members who expressed a need for a cross-regional cooperative for DOCLINE participants interested in sharing free interlibrary loans. In less than two

years, membership has grown to 988 members, a remarkable 31% of all DOCLINE participants in the United States and Canada (as of March 2003).

Description: The idea for the FreeShare Library Group took shape in DOCLINE-L communications regarding the need for a mechanism to facilitate "back-to-basics" resource sharing. FreeShare was formally established as a DOCLINE Library Group in July 2000, and NN/LM regional offices agreed to coordinate participation in their regions. FreeShare members include both hospital and academic libraries and libraries with SERHOLD holdings ranging from under 100 titles to over 1,000. Any DOCLINE library with holdings in SERHOLD can request to be added to the FreeShare Library Group by their regional NN/LM DOCLINE coordinator. FreeShare members simply agree to fill document delivery requests free of charge on a reciprocal basis. Participation in this group or withdrawal from the group is by self-selection; there is no agreement form or regional/institutional affiliation required.

Discussion/Conclusions: FreeShare has attracted interest throughout the United States and Canada. Libraries of all types and sizes are faced with budget and time constraints, and FreeShare has evolved as one solution for reducing the costs of essential document delivery services. These costs include the direct fees charged for document delivery, as well as the hidden costs of time for billing and tracking requests filled and for processing payments for invoices received for requests borrowed. Although some minor misunderstandings surfaced early on, requiring mediation by NN/LM DOCLINE coordinators, comments on the DOCLINE-L email list and the constant addition of new members reflect the overall good sense of satisfaction with the FreeShare Library Group. Member libraries indicate that participation in FreeShare results in enhanced library service.

4:43 P.M.

Building a federation of partners to create a national multimedia digital library

Sharon Dennis, librarian, Multimedia Development, Spencer S. Eccles Health Sciences Library, University of Utah–Salt Lake City; **Sebastian Uijtdehaage, Ph.D.,** co-director, HEAL Project, David Geffen School of Medicine, University of California–Los Angeles; **Chris Candler, M.D.,** co-director, HEAL Project, School of Medicine, University of Oklahoma–Oklahoma City; and **Sandra McIntyre,** program manager, HEAL Project, David Geffen School of Medicine, University of California–Los Angeles

Purpose: Team members from three institutions (University of Utah, University of California–Los Angeles, and University of Oklahoma) collaborated to create a national, multimedia digital library called the Health Education Assets Library (HEAL). HEAL allows faculty to search for and freely download multimedia materials for use in a variety of educational settings. The project team solicited contributions to the collection from a number of institutional and individual partners in order to create a collection with both breadth and depth in a wide variety of health sciences subject areas.

Setting: The three institutions are working with a variety of individual and institutional partners to create a federation of partners at other health sciences institutions and organizations.

Description: The HEAL team created a Web-based national digital library designed to provide health sciences educators with a digital collection of high-quality, freely downloadable multimedia materials (including images, videos, and animations). The digital library was funded as part of the National Science Digital Library initiative of the National Science Foundation. After creating a prototype collection of 3,000 multimedia items, the team solicited contributions from individual and institutional partners. The result was the formation of HEAL's federation, currently consisting of over sixty organizations and individuals. Members of the federation may contribute resources to the database in two ways: (1) by directly uploading materials to the collection or (2) by working with the project team to create a software bridge from the project's repository to the partner collection. The upload interface is suitable for individuals with a small number of resources to contribute; the software bridges are designed for institutions or organizations with large collections. The software bridges utilize the Open Archives Initiative (OAI) protocol for metadata harvesting.

Results/Outcome: The HEAL project has received a great deal of interest from national and international partners with access to large collections. The implementation details for creating bridges to each partner collection has varied from partner to partner; details of the working relationships and current status of the partnerships will be presented.

Conclusions/Evaluation: By working with a large number of institutional and individual partners, the HEAL team is creating a national digital library that will allow health sciences educators to repurpose multimedia resources for use in a variety of educational settings.

Bioinformatics: A New Wave of Research, a New Wave of Service

Medical Informatics Section and Molecular Biology and Genomics SIG

MONDAY, MAY 5, 2003, 3:30 P.M.–5:00 P.M.

3:35 P.M.

Evaluating a modular curriculum designed to create the new bioinformationist professional.

Jennifer A. Lyon, coordinator, Research Informatics Consult Service; **Rebecca Jerome,** project manager, Filtering and Evidence Based Services; **Taneya Koonce,** information and education services librarian; **Margaret (Peggy) Westlake,** assistant director, Staff Training and Quality Assurance; and **Nunzia Giuse, M.D., AHIP,** director; Eskind Biomedical Library, Vanderbilt University Medical Center, Nashville, TN

Purpose: The explosion of genetics information in the wake of the Human Genome Project is creating a tremendous need for information professionals skilled in bioinformatics. This represents a huge challenge for librarians, as many do not have the science background needed by a bioinformationist professional. The proposed study evaluates the elements required in a curriculum designed to increase overall bioinformatics competency in librarians with the most diverse backgrounds.

Settings/Subjects: Twelve medical librarians at a large academic health sciences library who vary widely in their background, experience, and training, ranging from recent library school graduates to librarians with many years in the field.

Methodology: A detailed profile of the background of each participant will be followed by a pre-test to examine each librarian's subject and resource knowledge with questions drawn from key areas of biology, molecular biology, biotechnology, genetics, and bioinformatics. Proper analysis of individual profiles and pretest material will allow us to establish our baseline targets for learning and to divide our trainees into categories of learners, thus providing the necessary elements for the design of a modular ten-week curriculum for learning that fits individual needs. Following completion of this individualized learning-plan training, a post-test will assess the effectiveness

of this training format. To examine retention, a follow-up test will be given two months after course completion.

Outcomes/Future Directions: We will examine the variation in knowledge acquisition and retention levels between different librarians and between different parts of the subject material. Further, we will examine whether existing experience in clinical librarianship translates to the development of new skills. By providing and evaluating this training, we hope to increase librarians' knowledge, skills, and comfort level with the new and challenging field of bioinformatics, so that they will be equipped to function as proactive, respected members of research and clinical teams. Finally, based on the results of this analysis, we will be able to improve our existing training methods and create a model that is transferable to other environments.

3:52 P.M.

Bioinformatics: library and information science students ride the cusp of the wave

Diane G. Schwartz, AHIP, director, Libraries and Archives, Medical Library, Kaleida Health, Buffalo, NY

Purpose: To develop a comprehensive understanding and knowledge of how bioinformatics will affect the practice of health sciences librarianship.

Setting/Subjects: Five graduate students enrolled in a course on health sciences libraries.

Methodology: Using a problem-based learning (PBL) format, students were given the following assignment: This region of the country is investing heavily in bioinformatics in the hopes of spurring economic development. Prepare a report (oral and written) that will inform professional librarians about the field of bioinformatics and help them understand how this new field will affect their roles and responsibilities.

PBL Tasks:

1. define bioinformatics.
2. provide a historical perspective of bioinformatics, including details on how the field came into existence.
3. describe why bioinformatics is important to the future of biomedical and clinical research.
4. determine who the principal players are in the region (i.e., the agencies or organizations involved in bioinformatics research and their respective roles)

Results: The students' report and formal presentation included a definition of bioinformatics, a brief history of the field, a review of successful projects, an assessment of the short- and long-term impact of bioinformatics on areas such as evolutionary biology, protein modeling, genome mapping, and clinical medicine with a special focus on diagnosing, treating, and preventing diseases. Discussion/Conclusion: The students defined the role of the medical information professional in bioinformatics by highlighting what they determined to be the six key areas of responsibility:

1. collection development
2. knowledge management
3. intranet and security system
4. education and training
5. facilitation and management (communication)
6. writing

This presentation will examine each of the core areas in detail. Real-life examples of the librarian's role also will be provided. In addition, learning outcomes for the participating students will be described.

4:09 P.M.

Meeting the need for library-based support in the emerging field of bioinformatics

Stephen Cammer, Ph.D., bioinformatics specialist, UCSD Libraries and Graduate Program in Bioinformatics, and **Susan Starr, Ph.D.,** director, UCSD Biomedical Library, and associate university librarian, UCSD Libraries, University of California–San Diego, La Jolla, CA

Program Objective: To meet the needs of students and faculty, both in our graduate bioinformatics program and across the campus, for training and support in the design and use of bioinformatics tools.

Participants: The participants include faculty and students in the bioinformatics graduate program and others outside the program at a major public university.

Program: This program offers a unique approach to the problem libraries face in supporting the emerging discipline of bioinformatics. By leveraging the interest of our new graduate program in bioinformatics in supporting their students' research needs, we have been able to establish a program that also provides hands-on training and individual consultations for faculty and students not directly involved in bioinformatics research. The libraries and the graduate program in bioinformatics have jointly hired a scientist to provide training in the selection and use of bioinformatics tools. This specialist oversees a computer laboratory in the libraries established to provide hardware and software for bioinformatics research. The laboratory is also used for training of students and faculty, in the use of Internet resources for bioinformatics, selection of bioinformatics tools, and application of tools for research. A Website has been developed, and site visits to individual research laboratories, for the purpose of demonstrating software and Web-based resources, are planned. To initiate this latter component, we have created several user surveys to facilitate contact between the specialist and researchers.

Main Results: The bioinformatics laboratory has been established for use by students and faculty in our bioinformatics graduate program. Students have made extensive use of the laboratory, drawing on expertise of the bioinformatics specialist for support. We also have good levels of interest from students outside the bioinformatics program as indicated by enrollment for our first workshops offered. Individual consultations have been undertaken on an as-needed basis.

Conclusion: Students in the program have benefited from having an expert available to facilitate research needs in bioinformatics, through software acquisition and support. Moreover, a resource in bioinformatics has been established for the libraries. We are encouraged by our progress and further hope to integrate this program into our existing library programs and courses.

4:26 P.M.

Development of an information service program in molecular biology and genetics

Ansuman Chattopadhyay, Ph.D., information specialist, Molecular Biology and Genetics; **Barbara A. Epstein, AHIP,** associate director; **Patricia C. Mickelson,** director; and **Nancy H. Tannery,** assistant director, Information Services; Health Sciences Library System, University of Pittsburgh, Pittsburgh, PA

Purpose: This paper describes the development, planning, and implementation of a specialized information service in molecular biology and genetics.

Setting/Participants/Resources: The Health Sciences Library System, the Center for Computational Biology and Bioinformatics, the Center for Human Genetics and Integrative Biology, the Department of Human Genetics, the Supercomputing Center, and other related departments in the six schools of the health sciences in a major research university and academic health sciences center.

Brief Description: The health sciences library initiated discussions with various departments, centers, and research groups involved in molecular biology and genetics to identify existing resources and unmet needs and to define the scope and focus of program activities. The goals of the resulting specialized information service, launched in May 2002, are as follows: (1) provide a training program for researchers, students, and clinicians to provide instruction on topics related to access, selection, and use of bioinformatics resources; (2) offer support and consultation to research teams for questions related to bioinformatics resources; and (3) develop a Web-based portal for molecular biology and genetics information. The portal contains a task-specific hierarchical menu of hyperlinks to both commercial and publicly available bioinformatics Web tools and databases. It provides assistance for tasks such as literature retrieval, nucleic acid analysis, genomic and proteomic knowledge mining, and identifying resources for laboratory work.

Results/Outcome: Faculty and student interest and support for this ongoing project has continued to increase.

Evaluation Method: Examination and evaluation of class attendance, requests for consultation, and general user feedback, as well as the use of the Web-based portal will be employed to determine user satisfaction.

4:43 P.M.

Support for bioinformatics investigators: studying needs based on best practices

Wendy G. Wu, information services librarian; **Deborah Charbonneau,** information access and delivery coordinator; and **Ellen Marks,** director; Shiffman Library, Wayne State University, Detroit, MI

Purpose: Describes methods enabling the academic health sciences library to identify and respond to the needs of bioinformatics investigators and students working in multiple campus centers and institutes and in a genomics facility. A key question is whether the library's role is solely as the conduit for access to the journal literature or whether its role is more substantive. The university's bioinformatics research enterprise received a large infusion of funding from state's Life Sciences Corridor Initiative. As a result, the extent and depth of its bioinformatics research rapidly increased. Librarians were already co-instructors of an intensive bioinformatics course for graduate students. The expressed new need for support from the library was for new journal titles and increased demand for online access due to geographically dispersed research venues. Are there additional needs? How can the library anticipate them?

Setting/Subjects: Biomedical and scientific investigators, staff, and students from multiple centers and departments in the university will be surveyed for their information and support needs.

Methodology: A scan of the bioinformatics support service portfolios of academic health sciences libraries Websites was conducted. Results were charted according to specific services, library-provided information resources, and library-produced or brokered educational or awareness interventions. Follow-up questionnaires were developed to elicit their best practices including their successes and the strategies used to achieve them. In turn, the most prevalent services, resources, and interventions were used to formulate a questionnaire that asked faculty and students to rate their current and projected needs and to identify their probable participation and use.

Discussion: The complexity of the bioinformatics enterprise and its rapid growth can illuminate basic questions about the current and future role of the academic health sciences library in supporting leading edge research. By basing our investigation on a combination of best practices from libraries currently supporting bioinformatics and genomics researchers and the needs of our investigators, the strategies we craft in response will serve as guides for libraries considering enhanced support for bioinformatics researchers and students.

Building Lighthouses on Far Shores: Services to Underserved Health Professionals

Nursing and Allied Health Resources and Public Health/ Health Administration Sections and Mental Health and Outreach SIGs

MONDAY, MAY 5, 2003, 3:30 P.M.–5:00 P.M.

3:35 P.M.

The digital library as a lighthouse beacon providing access to licensed electronic resources for health care providers working with underserved populations

MaryBeth Schell, assistant librarian, Department of Information Technology Services; **Diana McDuffee,** director, Area Health Education Center (AHEC) Library and Information Services Network; and **Holley Long,** systems developer, Department of Information Technology Services; Health Sciences Library, University of North Carolina–Chapel Hill

Purpose: This paper will discuss the methods through which a digital library, created for a statewide Area Health Education Center (AHEC) program, has provided mission critical support in meeting the AHEC mandate to address "the healthcare needs of underserved communities and populations."

Setting/Participants/ Resources: This digital library was developed and supported by an academic health sciences library for the AHEC program to provide uniform access to and support for electronically available health sciences information resources for students, residents, preceptors, and AHEC staff involved in community-based activities and courses. Digital library membership has expanded to potentially include any health care practitioner in the state.

Methodology: In evaluating the success of this digital library, several factors were utilized including statistical analysis of membership, digital library use, and digital library resources. Anecdotal evidence about the importance and benefits of this digital library was also analyzed.

Brief Description: Access to high-quality health information resources improves the quality of health care and can become a factor in retaining health care providers in medically underserved areas. This digital library provides seamless, universal, electronic access to the quality knowledge resources and services that fulfill the information and education needs of AHEC clientele throughout the state. Collaborative arrangements with academic health sciences libraries, AHEC libraries, and the digital library have ensured that each library's licenses are fully utilized and matched with all eligible users through a unique authentication system.

Results/Outcome: During the three years this digital library has been running, its membership, daily use, and resources have

increased. Anecdotal evidence and enthusiastic support from the central AHEC program office indicate the increasing reliance on this digital library as an important information resource tool.

Conclusions: The success of the digital library can be attributed to collaborative licensing arrangements, an easily accessible authentication system embedded in a single portal, and constant user feedback. There are still areas for improvement including the need for better promotion and marketing.

3:52 P.M.

docMD (document mediated delivery)

Eric H. Schnell, assistant professor and head, Information Technology, John A. Prior Health Sciences Library, The Ohio State University–Columbus

Purpose: This paper will provide a summary, background information, and an update on the docMD (document mediated delivery) project, funded through a subcontract with the National Network of Libraries of Medicine, Greater Midwest Region.

Brief Description: Many small and rural hospital libraries lack the resources required to create and support services that allow them to deliver documents obtained through interlibrary loan (ILL) to their customers electronically. These hospitals often share common barriers, from small staffs to network firewalls to computer support personnel, which prevent them from implementing Internet document delivery (IDD) systems that are the foundation of such services. The docMD project was developed to extend IDD and electronic document delivery services to hospitals that have been unable to create such services themselves.

Setting/Participants/Resources: Seventeen small and rural hospitals in northern and central Ohio are participating in the eighteen-month document delivery project. Collectively, these hospitals represent a population of over 20,000 health care professionals. A centralized service center will be established to receive documents requested through DOCLINE ® by any of the project libraries, and requests are filled through IDD software such as Ariel® or Prospero. Each document received is converted into the portable document format (PDF) and delivered directly to the customer using the Web. All systems are centrally maintained so project libraries are not required to purchase, install, or maintain any computer hardware. Because the document processing is performed at the central site, no additional staffing is needed. Network firewalls at project hospitals are easily penetrated because the documents are delivered using the Web.

Results/Outcome: The primary objectives of the project are to determine the technical and economic needs of supporting a centralized medicated document delivery service and to develop a model for other regional libraries providing similar services to underserved populations in other areas of the country.

Evaluation Methods: Pre- and post-project surveys will help to identify the attitudes of health care professionals participating in the project toward the service and the project's usefulness. Project librarians will be surveyed to see if they have gained a better understanding of the technologies involved in the project.

4:09 P.M.

Selling to distant shores

Roger Russell, AHIP, outreach librarian, Laupus Library/ Outreach Department, East Carolina University, Greenville, NC

Background: Over the past two years, regional librarians in the North Carolina Area Health Education Center (NC AHEC) system have developed "home-grown" marketing tools and best practices for connecting health care professionals across the state with the NC AHEC Digital Library (ADL).

Setting: The NC AHEC System covers the entire state and is divided into nine regions ranging from rural settings such as Swan Quarter to the urban streets of Charlotte.

Method: The methods and marketing strategies of each region have evolved differently to better appeal to the demography. By not mandating a systemwide marketing strategy, NC AHEC created the test bed for best marketing practices of the ADL. Librarians established marketing tools specific to their unique AHEC region mostly by trial and error. Considering North Carolina's varying demography, the collective lessons of the NC AHEC librarians after two years of promoting the ADL should apply to most any other venue in the country. To identify the best marketing practices a brief survey was conducted using the population of paid members currently subscribed to the ADL.

Main Results: Results will focus on the best practices for marketing the ADL in each NC AHEC region across the state. Results of the online marketing survey will be analyzed.

Conclusion: This analysis of the collective marketing tools and techniques used to promote the ADL will identify best practices that can be duplicated elsewhere. The demographic regions included in this study typically have less money to devote toward online resources and are less likely to be connected to a major medical library. By giving specific credence to the analysis of marketing to rural, underserved regions of the state, this case study will identify standards for future promotion and marketing activities related to similar services or grant projects.

4:26 P.M.

Taking your apple to school: health information for school nurses

Dolores Z. Judkins, AHIP, head, Research and Reference Services, Library, Oregon Health & Science University–Portland

Purpose: This paper will report on a project to help school nurses easily find health information for themselves, teachers, students, and parents.

Setting/Participants/Resources: Academic health sciences university and local education service district school nursing department in an urban environment.

Brief Description: School nurses often work alone and split their week among a number of schools. Not only do they spend their time with students, they also need to verify health records and often do some teaching as well. They have very little time left to find quality health information for themselves, teachers, students, and the students' parents. For a number of them, the Internet is still an unknown quantity. Through a grant from the National Library of Medicine, a training course was developed for the school nurses at the educational service district. An initial survey was sent out to find out what information the nurses felt was most needed, and the course was developed using these results as a guideline. The course consisted of basic training in using the Internet, MEDLINE, and PubMed searching and information about numerous other Websites useful to school nurses. A Web page was designed for quick and easy access to the information presented in the class. The course was taught to all the school nurses in the district and received rave reviews.

Results/Outcome: The Web page continues to be kept up to date and is one of the most highly used Web pages on the library's site. The course continues to be taught each fall, as new school nurses are hired and will be taught at the State School Nurses Conference in the spring.

Evaluation Method: All participants filled out an evaluation form at the end of the course and Web usage statistics are kept.

4:43 P.M.

Health information outreach to parish nurses in Maryland faith communities

Alexa Mayo, assistant director, Information and Instructional Services; **Mary Joan Tooey, AHIP,** deputy director; **Patricia Hinegardner, AHIP,** information specialist and Web manager; **Bradley Gerhart,** information technology support specialist; **Laura Hileman,** NLM associate fellow/former Web researcher; and **Kristine Holmes, RN,** parish nurse consultant; Health Sciences and Human Services Library, University of Maryland–Baltimore

Purpose: This paper reports on the results of a health information outreach project to parish nurses in Maryland, including the unique challenges and rewards in working with this underserved group. The paper also addresses the complexities of working with loosely structured community-based organizations.

Setting/Participants/Resources: As a subcontract funded by the Southeastern/Atlantic Regional Medical Library (Region 2), the parish nurse outreach project is based at the library at the University of Maryland. The target group is parish nurses throughout Maryland. Faculty librarians, a Web designer, a content researcher, and a parish nurse work on the project.

Brief Description: Parish nursing is a specialty area of nursing, with written standards recognized by the American Nurses Association. Parish nurses are rarely affiliated with university libraries and often do not have easy access to library materials. Parish nurses practice with varying degrees of time and financial support, serving both rural and urban congregations. The project team: (1) conducted a needs assessment to determine how parish nurses use information and how the project could best meet their needs; (2) built a Website specifically for parish nurses; and (3) conducted workshops throughout Maryland on searching for quality health information on the Web.

Results/Outcome: The team developed the Website, Parish Nursing Health Information Resources, with health and life topics, referral information, regional information for Maryland and resources that support the profession of parish nursing. The project team conducted ten workshops and information sessions, including a paper presented at the Westberg Symposium, the parish nursing annual conference. Strategies for working with loosely structured community-based groups were developed. Additional funding has been provided to expand the scope of the Website, provide more training, and exhibit at professional nursing meetings.

Evaluation Method: Attendees at workshops completed evaluations on the success of the training. Visits to the parish nursing Website are measured, and a Contact Us link from the Website invites suggestions from parish nurses. Informal feedback through contacts developed on this project is also used to evaluate its success.

Library Instruction on the Half Shell: Technique versus Technology

Public Services, Medical Library Education, and Research Sections and African American Medical Librarians Alliance SIG

MONDAY, MAY 5, 2003, 3:30 P.M.–5:00 P.M.

3:35 P.M.

Evidence-based practice and information literacy skills: a perfect partnership

Karen L. Joc, liaison librarian, Biological Sciences Library, University of Queensland–Brisbane, Australia

The last decade has seen a rapid growth in the availability of free health information via the Internet. The reality is, that we are living in an information society, and, as a result, there is growing global recognition in the health sector of the importance of information literacy education. The university plays a key role in developing and integrating information literacy programs into course curriculum. Librarians have worked collaboratively with academic staff in the planning, delivery, and evaluation of information literacy programs that reflect the university's graduate attributes. Today, patients virtually have access to same resources as doctors, the most recent being The Cochrane Library freely available to all Australians. As a result of this, and the increasing trend toward evidence-based practice, patients are increasingly questioning doctors on whether they are receiving the best possible treatment for their particular condition. Acquisition of evidence-based practice and information literacy skills is being driven by the need for these "new" doctors to be able to make value-based decisions at the point of patient care. Critical reflection and evaluation play an important role in library's information literacy programs. These programs no longer simply involve transmitting information but have embraced action-learning paradigms. This paper will focus on the implementation and critical evaluation of evidence based information literacy pilot project "The Librarian in the Classroom," which was implemented and integrated into the year one curriculum of the graduate entry medical program bachelor of medicine and bachelor of surgery (MBBS), in 2001. Particular focus will be on how this program has contributed to students' acquisition of evidence-based practice and information-literacy education skills.

3:52 P.M.

Modifying instructional techniques to manage complexities in technology: the Guide to Medical Literature Searching, an atypical approach

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

Purpose: The purpose is to present the rationale, development, implementation, and evaluation of an alternative instructional format based on the premise that information seekers have to manage a growing and ever-changing medical literature access structure in the face of the proliferation of electronic resources, further complicated by the absence of standards in interface design. This instructional format modification is centered on the core structure of information resources, the database.

Setting/Participants/Resources: Medical literature searching instruction has been a cornerstone of the health sciences center "Profession of Medicine" three-week introductory block required of the incoming medical and the bachelor's of nursing to doctoral nursing students. This is the second year of this program. Instruction was completed in an initial one-hour presentation, during which the printed Guide to Medical Literature Searching was introduced as the basis for the subsequent segment, which consisted of a two-hour guided, active participation session in computer lab. Ultimately, 10% points of their final grade was derived from exam questions and an email literature search based upon our instruction

Brief Description: Typically, literature searching instruction identifies a database and an interface (e.g., MEDLINE/Pubmed,

MEDLINE/Ovid, CINAHL/FirstSearch, etc.) and subsequently provides training in the use of the selected combination. Additional database-interface combinations require corresponding instructional modules. Learners must address new instruction for each without developing a sense of the similarities among databases. We attempted to provide database training focusing on the common elements of databases with an overlay of specific database characteristics and features.

Results/Outcomes: Our results will be presented from two perspectives. The students benefited quantitatively, while the instructional librarian uncovered a significant research issue, which is being systematically reviewed.

Evaluation methods: Test score results comparing the use of the guide in 2002 with a the more traditional approach in 2001, usage surveys of the guide, and additional surveys were administered to obtain and compare impressions of the literature search component for each of the two years.

4:09 P.M.

Streaming video and electronic surveys: using new technologies for teaching informatics in distance learning classes

Janet G. Schnall, AHIP, information management librarian, and **Terry Ann Jankowski, AHIP,** information management librarian, Health Sciences Libraries, University of Washington–Seattle

Purpose: This paper reports on the use of streaming video for teaching several informatics modules to graduate nursing distance classes and an electronic survey for evaluating the effectiveness of this technique.

Setting/Participants/Resources: The Health Sciences Libraries is part of a large academic health sciences center serving six health sciences schools in an urban setting. Working with nursing faculty, the library liaison developed Web-based informatics modules for two master's level classes taught entirely online during summer quarter.

Description: For many years, informatics instruction by the library liaison has been integrated into the graduate nursing curriculum. Librarians teach a variety of library modules—including "Introduction to Literature Searching," "Managing the Literature with Email Alert Services and EndNote," "Basic Introduction to Evidence-based Practice Resources," and "Finding Measurement Tools—in the library's computer labs, requiring distance students to come onsite for at least one day. In summer 2002, two research methodology classes were offered online only, eliminating the hands-on computer lab activity. Instead, the librarian created a series of modules using Camtasia, which produced streaming videos for the courses. The videos and instructions on downloading software to view them from home were linked from the class Website. After production of the PubMed and CINAHL videos, students in both classes evaluated them via an electronic survey so that future modules and instruction could be improved. More traditional methods of evaluation were also utilized at the completion of the courses.

Results: The survey showed good acceptance of streaming video and noted preferred methods of learning. Lessons learned from the survey and the process of creating the first two modules were incorporated into the production of the remaining modules. Additional library Web Help pages are now being annotated with voice and video using tips gained from the evaluation process as well.

Evaluation: Information gathered from the electronic survey, small group instructional diagnosis, email, and online class discussion have all provided valuable information in refining both our technique and our technology.

4:26 P.M.

E-evolution in a distance-learning program: blending technique with technology

Mary Snyder, Ph.D., assistant professor, School of Library and Information Studies, Texas Woman's University–Denton

Brief description: Using the Essential Areas of Knowledge from the Medical Library Association's Platform for Change as a framework, a survey instrument will be developed to examine pedagogical, structural, and communication factors for online course delivery. Three health sciences information services courses, developed over a three-year period (1999–2002), were moved from face-to-face meetings to online formats. The revised courses, "Consumer Health Information Sources" and "Services, Health Reference, and Health Sciences Information Services," incorporated interactive components including: site visits and conference-based instruction, synchronous and asynchronous discussion forums, guest lecturers and online panelists, toll-free telephone access, and extensive library and technology support. Optional meetings and opportunities for networking and socialization were built in to enhance the online learning environment while maintaining flexibility for students.

Purpose: The purpose of this research study is (1) to develop a Web-based survey tool designed to measure the effectiveness of identified pedagogical, structural, and communication factors on teaching the essential areas of knowledge in online courses for health sciences information services; (2) to solicit feedback from students who have completed the identified courses; and (3) to continue to adapt the online courses to better meet the learning needs of graduate students in library science, health studies, and nursing. The survey will evaluate interactive components of online courses and the effectiveness of these components and inform the future design of online courses in health sciences librarianship and related fields.

Settings/Subjects: Current students and graduates of a master's of library science degree program, a dual master's degree program in library science and health studies, and a nursing doctoral program will be surveyed using an anonymous, Web-based form.

Results: The results of this survey will enhance the teaching, research, and practice in the education of health sciences librarians and health care professionals. The results will also inform librarians in effective techniques for online instruction and interaction with a diverse clientele in a 24/7 learning environment. Because distance education increases opportunities for the education of future health sciences librarians, improved and expanded online offerings may ultimately affect the current shortage of available qualified professionals.

4:43 P.M.

Q & A Panel

Shoot the Pipeline with Evidence-Based Librarians: Original Research and Practical Methods

Research Section, Collection Development, Federal Libraries, Hospital Libraries, and Medical Library Education Sections and Clinical Librarians and Evidence-Based Health Care SIG

MONDAY, MAY 5, 2003, 3:30 P.M.–5:00 P.M.

3:35 P.M.

Evaluating the effectiveness of clinical medical librarian programs: a systematic review of the literature

Gary D. Byrd, Ph.D., AHIP, director, Health Sciences Library, University at Buffalo (SUNY), Buffalo, NY, and **Kay C. Wagner, AHIP,** director, Wegner Health Science Information Center, University of South Dakota School of Medicine–Sioux Falls

Purpose: This research is being undertaken to determine if a systematic review of the cumulative, thirty-year evidence from evaluative studies of clinical medical librarian (CML) programs can help provide a more definitive determination of the effectiveness of this model of health sciences library outreach service. The authors have hypothesized that the published literature will provide very little hard evidence that CML services actually improve patient care or the performance of health professionals in clinical health care settings.

Methods: Comprehensive searches of the library and health sciences literature were conducted to identify all publications dealing with CML services and the full text of any paper likely to contain any evaluative research methodology was reviewed by the authors. The review criteria for inclusion in the systematic review included a problem or hypothesis statement, a description of the study population or sample of CML service users or providers, a description of the data collection methodology, and/or some analysis of the study results. The paper will also include a brief descriptive review of the remaining CML literature to describe where and how often these services have been implemented. This review will also include more general studies indicating how information services can affect education and patient care in clinical health care settings and more recent articles suggesting how health sciences librarians can play a significant role in evidence-based medicine and knowledge management or take on more highly specialized clinical informationist responsibilities.

Results: To date, thirty-one CML evaluative studies published between 1975 and 2001 have been identified from this systematic review. These studies are being analyzed and compared in tables and graphs describing the characteristics of the CML service populations studied, the evaluative research methods used, and the results reported.

Conclusion: The paper will conclude with a brief discussion of the implications of this review for the development of future clinical librarian or informationist services along with some recommendations for future evaluation research studies.

3:52 P.M.

What are user surveys telling us? Are we listening?

Suzanne F. Grefsheim, director, and **Susan Whitmore,** deputy director, NIH Library, National Institutes of Health, Bethesda, MD

Purpose: To assess whether user surveys in fact provide information that can be used to improve the performance of services or resources.

Setting: The NIH Library is a large, federal research library supporting the information needs of researchers, clinicians, fellows, and administrators who work at the National Institutes of Health (NIH).

Methodology: As part of an ongoing program of performance assessment, a user survey was developed with the assistance of an evaluation professional to measure the level of use, satisfaction with performance, and perception of value of the full range of information services and resources offered. The telephone survey was first administered in January 2000 by trained contractors to 400 randomly selected, registered library users. With some modification, it was re-administered in the spring of 2002 to a different set of 400 randomly selected library users.

Description: Key findings from the first survey were identified and actions were taken by the library in response. In addition, during the period between the two surveys, some services were modified in response to changes in demand identified by output measures. The initial findings were compared to those from the second survey. Changes in patterns of use, assessments of how well a specific service performed, and perceptions of value were noted and analyzed to determine the effect of the library's actions and to guide future actions. Overall the level of satisfaction with the library, its services, and its resources increased from 94% positive to 97% positive. Both surveys included questions to help the library with long- and short-term planning. Findings ranged from identifying potential new services to the best forms of communication. Of particular interest were responses to questions about possible new facility-related services or functions in light of the library's extensive electronic collections and services.

Conclusion: Scientifically valid user satisfaction surveys do provide a useful tool to measure performance and identify process improvement opportunities as well as service enhancements or additions.

4:09 P.M.

What did they do before it was online? Measuring information-seeking behavior of clinicians prior to initiation of access to electronic resources

Barbara A. Epstein, AHIP, associate director; **Nancy H. Tannery,** assistant director, Information Services; and **Charles B. Wessel,** coordinator, Affiliated Hospital Services; Health Sciences Library System; and **Cynthia S. Gadd, Ph.D.,** associate professor, Medicine, Center for Biomedical Informatics; University of Pittsburgh, Pittsburgh, PA

Purpose: A rural teaching hospital, newly affiliated with a large academic health system, contracted with the health sciences library for access to an extensive collection of electronic journals, textbooks, databases, and other knowledge-based information. Prior to initiation of access, a survey was distributed to gather data about the information-seeking behavior and practices of a clinical population in a rural setting without easy access to knowledge-based print or electronic resources. The data would be used to guide training and marketing activities and as a baseline against which to measure the impact of future information access.

Setting/Participants/Resources: Clinical staff at a hospital with 300+ beds, located on two campuses in rural Pennsylvania.

Methodology: A self-reflective survey asked how clinicians locate and access relevant knowledge-based information to answer questions related to their teaching and patient care activities.

Results/Outcomes: Surveys were sent to 864 hospital clinicians. The largest respondent groups were physicians and nurses, although pharmacists, social workers, and other caregivers were also included in the sample. The return rate was 47%. Preliminary review of data reveals that more physicians (50%) than nurses (9%) referred to print books and journals on a daily basis to obtain clinical information. Only 3% of physicians and 12% of nurses responded that they use a computer more than 20 hours/week. Internet use was higher among physicians (72%) than nurses (49%). Physicians (52%) and nurses (42%)

referred to colleagues to obtain clinical information on a daily or weekly basis. Physicians (15%) used a computer more often to conduct a literature search than nurses (3%).

Discussion/Conclusion: The results of the survey suggest that physicians and nurses, without access to electronic resources, use colleagues, print textbooks, and journals to satisfy their information needs. The next step will be to determine how access to an online collection of resources, coupled with education and marketing, changes information-seeking behavior and practices.

4:26 P.M.

Evidence-based databases versus primary medical literature: an in-house investigation on their optimal use

Taneya Y. Koonce, assistant director, Education Services, Eskind Biomedical Library, Vanderbilt University Medical Center, Nashville, TN; **Clista Clanton,** Web development and education librarian, Biomedical Library, University of South Alabama–Mobile; **Garad M. Davis,** library intern; **Shannon Mueller,** library intern; **Katherine E. Szigeti,** library intern; and **Nunzia B. Giuse, M.D., AHIP,** director; Eskind Biomedical Library, Vanderbilt University Medical Center, Nashville, TN

Purpose: Evidence-based databases comprise literature synthesis by experts for application in clinical contexts. While embraced enthusiastically by clinicians, they may not always answer patient-specific questions that arise during clinical rounds as appropriately as the primary medical literature. The use of evidence-based databases may best answer questions relating to a broad patient population, such as those that arise during the development of pathways that can serve as a generalizable guide to patient care. This study will characterize situations for optimal use of evidence-based databases compared to the primary medical literature to answer patient-specific rather than condition-specific pathways clinical questions.

Setting/Participants/Resources: Large academic health sciences library; three evidence-based databases: UpToDate, Cochrane, and EBM Solutions and eighty questions received through the library's evidence-based services.

Methods: Eighty random questions drawn equally from two library in-house evidence-based services will support this investigation. One service handles questions received by librarians via clinical rounding, while the second handles questions received in support of medical center pathways development. A team of expert librarians will determine and establish a consensus on whether a question is primarily answerable by an evidence-based database, the original literature, or a combination of these resources. Data regarding the frequency of use and opportunity for possible application of these evidence-based databases will be collected according to question type.

Results/Outcome: A better understanding of the appropriateness of use and relevance of evidence-based databases and primary medical literature that serve as the basis for evidence-based practice is crucial. This evaluation of the maturity of current evidence-based databases will explore differences in resource applicability for different types of clinical questions and enable more efficient utilization of these products in evidence-based library services. The results of this study may guide future development of these services and enhance the ability of librarians to properly guide users in the selection of appropriate resources.

4:43 P.M.

Beyond therapy: evidence-based diagnosis—quality of existing systematic reviews and feasibility of searching the literature

Sam Vincent, information specialist manager, Clinical Evidence, BMJ Publishing Group, London, United Kingdom

Purpose: This paper will report on the challenges that arose when searching the literature for diagnostic studies. Flaws in existing systematic reviews on diagnosing a deep vein thrombosis are outlined, and the literature searching implications of this discussed.

Setting/Participants/Resources: Information specialists based in the Clinical Evidence Offices, London, performed literature searches on MEDLINE/Embase and evidence-based sites on the Internet for diagnostic studies.

Brief Description: Owing to the number of high-quality systematic reviews written on medical treatments, when searching the literature to answer therapy questions, often the databases can just be searched for references subsequent to that systematic review. An attempt was made to see if the same approach could be used to answer questions about diagnosis. Systematic reviews on diagnosis were retrieved and critically appraised. References cited in systematic reviews were checked, and it was noted there was little overlap of references in reviews answering the same question. This raised doubt about the quality of the literature searches performed for the systematic reviews. A full literature search for diagnostic studies was then undertaken, using a newly devised search strategy. Resource implications and feasibility of repeating this for other diagnostic topics are discussed.

Results: Existing systematic reviews have failed to cite many high-quality diagnostic studies, necessitating extensive literature searches using search strategies that have been less well validated than those for retrieving randomized trials. These searches retrieved substantially more references than those cited in the existing systematic reviews.

Discussion: Searching for diagnostic topics involves vast amounts of critical appraisal, reference checking and has a severe impact on the resources of an information specialist team. At present, these topics could only be done as "one-offs" and are not easily integrated into day-to-day work.

Swimming in the Sea of Electronic Resources: Meeting the Challenges #1

Technical Services, Collection Development, and Nursing and Allied Health Resources Sections

MONDAY, MAY 5, 2003, 3:30 P.M.–5:00 P.M.

3:35 P.M.

Trolling for data: Website usage statistics to support collection development decisions

Leilani A. St. Anna, AHIP, information management librarian; **Emily Hull,** head, Information Systems; **Stanley Florek,** systems developer; and **Debra S. Ketchell, AHIP,** deputy director; Health Sciences Libraries, University of Washington–Seattle

Purpose: This paper will report on the evolution of strategies for collecting usage data about electronic resources to support collection development decisions.

Setting/Participants/Resources: The library is part of a large academic medical center in an urban environment with a user

population in a five-state region. The library's Website serves as a portal containing over 6,000 online health information sources, split evenly between free and fee-based resources. Selection and maintenance of links requires a commitment of staff time, whether or not the resource requires a paid subscription. Data about which resources on the site are used is important to ensure that links are chosen based on user needs as well as to justify the staff time expended.

Brief Description: Several strategies have been employed over the history of the Website to collect data about the use of free and fee-based resources linked from the site. Shareware Web log analysis software used since 1995 was succeeded by a commercial product, WebTrends, in 2000. The limitation of log analysis to page-level data led to the creation of CGI scripts to track clicks on individual links. While this produced richer information to support decision making, there was a high cost in staff time to implement the script page by page. The conversion of the Website to a database-driven model opened up the possibility of automatically tracking every click on the site and easily producing reports with a minimum of staff effort. This strategy has the additional advantage of producing consistent data, whether resources are free or paid for, to supplement erratic usage data that is available from vendors about fee-based products.

Results/Outcome: Progressively more useful data has been generated to support selection, deletion and Website design decisions.

3:52 P.M.

Staying afloat in the raging seas of electronic journal management

Heidi Nickisch-Duggan, head, Access Services and Systems; **Summer Brady,** computer support associate; and **Andrew Brady,** senior computer support specialist; Lommen Health Sciences Library, University of South Dakota School of Medicine–Vermillion

Purpose: By sharing the design considerations and development processes that led to this journal access database system, as well as a description of the finished product, we hope to provide a tool for libraries to use in their own endeavors for an electronic journal management system.

Setting/Participants/Resources: One of the libraries involved is a university medical school library. The other is an independent nonprofit health sciences library and is geographically separate from the main university campus. The journal management system was conceived and designed to accommodate the needs of both libraries.

Brief Description: The libraries involved were struggling with a common problem: How to efficiently provide patrons and staff with information necessary to find, use, and administer journals, regardless of format or source? Commercially available journal management tools left us adrift; we needed more integration of our library print holdings with our online titles, more administrative control, and more results display options to stay our course. The goals of the project included the centralization of the storage, retrieval, display, administration, and maintenance of all journals available to the libraries in print and online, the development of an intuitive interface for patrons, a reasonable amount of data security, and the generation of customized reports and statistics. This required both a patron search interface and a versatile administration interface.

Results/Outcome: This system—despite the number of man-hours needed for planning, development, testing, implementation, and data entry—made finding immediate access to journals (whether on paper, online direct, or via an aggregator) a one-stop-shop for patrons and staff. From the administrative perspective, identifying underutilized online journals, broken links to journal home pages, and allowing for the easy collection of year-end statistics and journal search statistics has been a life preserver.

Evaluation Method: Feedback from our patrons and library staff has led to continual improvements in the system.

4:09 P.M.

A Web-enabled database for electronic full-text journals with a decision support system for collection management

Ann G. Hulton, head, Systems/Media Services, Systems; **Kalyani Parthasarathy,** head, Collection Management/Cataloging; and **Scott Turnbull,** database administrator/developer, Systems; Health Sciences Center Library, Emory University, Atlanta, GA

Purpose: This paper will report on the current and future uses of an electronic journals management system developed locally to provide easy access for users to full-text online journals, to assist in managing e-journals, and to function as a collection development decision-making tool.

Setting: The library is an academic health sciences library in a major urban setting serving researchers, clinicians, and students in medicine, public health and nursing.

Brief Description: The need for a central resource to access, store, and maintain information unique to electronic publications became apparent as staff struggled to keep track of the growing number of online full-text journals. The creation of a searchable Web-enabled database to provide user access to the e-journals led to the development of a more sophisticated backend database to assist in the maintenance of e-journals information and to provide useful collection management data.

Results/Outcome: The library has an e-journals database that patrons can access both on campus and remotely. Positive feedback via an email link from the public Web interface has provided us with usability information and has served as another method for extracting collection development information based on user requests. The library now has statistical data that is useful for making purchasing and strategic decisions. The database generated much interest from other campus libraries, and we are now extending our initial database to include all university libraries. A campuswide working group was formed to develop this grass roots project into a shared university resource.

Evaluation Method: The first month of activity resulted in usage statistics of over 8,000 journal views sorted by title, source, and viewing location. Journal usage is currently over 16,000 views per month. With more accurate statistical information available, we can make better decisions about journal cancellations forced by budget cuts. There is a significant amount of title redundancy among aggregators. This database allows the library to view title duplication and make purchasing and cancellation decisions accordingly.

4:26 P.M.

Shibboleth: the next generation of remote access?

Jane L. Blumenthal, AHIP, assistant dean, Knowledge Management, Dahlgren Library, and **Michael Neuman, Ph.D.,** program director, Library-IT Collaborations, University Information Services, Georgetown University, Washington, DC

Question: To what extent does Shibboleth solve problems in providing remote access to licensed electronic resources?

Design: Georgetown University is participating in a pilot project sponsored by Internet2, the Coalition for Networked Information, and the Digital Library Federation to test Shibboleth (middleware.internet2.edu/shibboleth/) as a protocol for inter-institutional authentication and authorization. Reference and systems staff from the medical library, in collaboration with colleagues from the university and law libraries, identified a wide range of problems attendant upon current proxy-server access to the resources of such participating vendors as Elsevier, EBSCO, OCLC, and SFX. Then, testing the pilot protocols for fine-grained levels of authorization to a variety of resources, the librarians are determining the extent to which Shibboleth solves (or can be adapted to solve) such problems as different authorization mechanisms by different libraries, different procedures for access required by different vendors, and different contractual arrangements between a university's libraries and their vendors (as well as among the libraries themselves). In addition, the pilot study will also experiment with using a local academic library consortium as a Shibboleth gateway (or intermediate target site) for access to licensed online resources to which the consortium already provides user authentication for its member institutions.

Setting: Dahlgren Memorial Library, Georgetown University Medical Center

Participants: A team of a dozen librarians from the three participating libraries and colleagues in University Information Services.

Results: The presenters will report on the extent to which Shibboleth replaces the need for Internet protocol (IP) authentication, a proxy server, or user names and passwords particular to each licensed resource, as well as the extent to which it facilitates not only secure access from locations behind Health Insurance Portability and Accessibility Act (HIPAA) firewalls for clinicians and hospital employees but also controlled access to a course management system and electronic reserves.

Conclusion: Shibboleth is an open source solution that addresses the need for authenticating users across organizations. Because faculty and students increasingly need remote access to licensed resources, the success of Shibboleth could provide a long-term solution to proxy server problems. In addition, Shibboleth shares the permissions and not the identity of the user, preserving confidentiality.

4:43 P.M.

Infrastructure for collaboration: a holistic approach to library integration

Annette M. Williams, assistant director, Knowledge Management, and co-coordinator, Web Team; **Qinghua Kou,** health systems analyst programmer; **Taneya Koonce,** co-coordinator, Information Services and Web Team; and **Deborah H. Broadwater,** assistant director, Collection Development; Eskind Biomedical Library; **Dario A. Giuse, Dr. Ing.,** associate director, Informatics Center; and **Nunzia B. Giuse, M.D., AHIP,** director, Eskind Biomedical Library; Vanderbilt University Medical Center, Nashville, TN

Purpose: This library has established a process for developing next generation subject-specific digital libraries by applying knowledge-management principles within the framework of library science. This report explores the development of these customized departmental digital libraries through an approach that capitalizes on an established partnership between the library, the informatics center, and medical center clinicians who have collaborated on and benefited from the informatics center's technological innovations. While the resultant department-oriented digital libraries support specific user needs, the developmental process strengthens user acceptance of new technologies, thereby reinforcing a mutually advantageous relationship.

Setting/Participants/Resources: An informatics center, a large academic biomedical library, and clinics.

Brief Description: This informatics center has a history of implementing successful technological ventures that engender user acceptance of new technologies for building efficiency and productivity. The most recent example, a template-based clinical notes editor replacing dictation and transcription, has been heavily embraced and promoted by the Adult Primary Care Center (APCC). Such user groups that champion these innovative applications help transform the clinical environment by increasing reception to further technological advances such as departmental digital libraries. Our first generation digital library, launched in August 2001, optimized the accessibility and usability of digital content and established a reusable information repository. Based on this initial iteration's structure, subject-specific digital libraries are being created to meet the specific needs of various medical center constituents. As a prototype, the first customized digital library portal, created through a partnership with the APCC, leverages the modularity of metadata, integrates online learning, and facilitates the just-in-time delivery of information through access via patient clinical applications.

Results/Future Directions: These portals allow the library to test the reusability of structure and resource metadata of the original Digital Library, examine the scalability of librarians' subject-based functions, and experiment with discrete select populations to pilot services such as virtual reference and evidence-based solutions that are better customized to specific audiences. The committed partnership with the informatics center promotes the library's utilization of weekly feedback forums initially established for clinical application communication to solicit suggestions for digital library as well as other library product refinements.

Contributed Papers and Invited Speakers

Through Tempests and Storms: Vaccines, Biologicals, Patient Education, and Environmental Health

Consumer and Patient Health Information, Cancer Librarians, Pharmacy and Drug Information, Chiropractic Libraries, and Public Health/Health Administration Sections and Molecular Biology and Genomics SIG

MONDAY, MAY 5, 2003, 3:30 P.M.–5:00 P.M.

3:35 P.M.

Is the environment hazardous to our health? Toxics where we work, in our neighborhoods, and homes

Ruth M. Heifetz, M.D., senior lecturer, Department of Family and Preventive Medicine, School of Medicine, University of California–San Diego, La Jolla, CA

The presentation will include an overview of some of the important environmental health problems in the United States today (childhood lead poisoning, asthma, cancer, birth defects, infertility) and their links to various workplace and neighborhood exposures (air pollution, pesticides, lead, mercury, chromium, radiation). The groups in our population at greatest risk for these problems and exposures will be identified, including the very young and old, pregnant women, individuals living in poverty and people of color will be identified. The primacy of implementing pollution prevention programs and utilizing the Precaution-

ary Principle in setting policy will be underlying themes. The focus will be on the prevention and control of work-related and community-based health problems. The important role of librarians in the provision of educational materials and assuring the availability of complete and accurate information for scientists, health practitioners and the general public will be emphasized. Examples of innovative data sources will be presented. Librarians face a major challenge today, in this era of budget cuts and increased demands for secrecy. Making sure that access to critical health and safety information continues to flourish in our libraries remains a crucial element in our efforts to protect the public's health.

4:09 P.M.

Biodiversity, conservation, and utilization: patient empowerment

Marian Hicks, director, Carl S. Cleveland, Jr., Memorial Library, Cleveland Chiropractic College, Los Angeles, CA

Education on natural resources is necessary, and people are demanding more information and trying to find the causes and cures of human illness. The public is now demanding and requiring librarians to become more knowledgeable about complementary health care. Some of the answers can be found in the ecosystem. The preservation of biodiversity is vital to humanity. An estimated 40% of modern drugs come from the wild and is worth some $40 billion a year in over-the-counter and prescription sales. The study of medicinally active plants is one of the most active and potentially beneficial areas of inquiry into the benefits of preserving biodiversity. Some of the most powerful and effective methods for curing human illness are found in plants. This paper will cover information on patient education and the importance of the conservation of species and plants.

4:26 P.M.

The influenza vaccine: the eternal battle

Jennifer Lyon, coordinator, Research Informatics Consult Service, Eskind Biomedical Library, Nashville, TN

For most healthy adults, influenza is a seasonal nuisance that causes about a week's worth of misery. Yet, this virus caused more deaths than World War I during the 1918–19 years and remains one of the most deadly illnesses in the world today. To provide protection against influenza, scientists study the prevalent strains of influenza throughout the world and make a yearly prediction about which strains will be most likely to spread during the following year. Those strains are then used to make a vaccine that can be distributed to vulnerable populations. However, unlike other vaccines that can provide protection for many years up to a lifetime, the influenza vaccine must be prepared and inoculated every year. This is due to the shifting antigenic nature of the virus. Thus, the success of the influenza vaccine is a yearly struggle between the ability of scientists to make an educated guess and the virus's ability to "fool" them. This talk will discuss the history of influenza, the process of predicting and developing the yearly vaccine, the potential side effects of the vaccine, the effectiveness of the vaccine, and information resources for clinical and consumer education on the influenza and other important vaccines.

4:43 P.M.

Historic or cutting edge? Consumer and practitioner interest in public health information

Kristine M. Alpi, AHIP, library manager, Public Health Library, New York City Department of Health & Mental Hygiene, New York, NY

Purpose: Health issues prominent in past years such as tuberculosis, smallpox, or lead poisoning may again occupy the public's attention. Bringing the wealth of past scientific knowledge to reflect on today's consumer health concerns is a huge challenge for health sciences libraries around the world. New disciplines such as genetic epidemiology add complexity to consumer information about risks related to vaccination and environmental exposures.

Setting/Participants/Resources: Members of the general public, health care providers, public health professionals, and policy makers are all part of the audience for information on environmental concerns, infectious disease, and vaccines. This paper will discuss the demands placed on an urban health sciences library, which serves a population with a large number of immigrants and great cultural and linguistic diversity, for consumer and professional level information regarding these issues.

Brief Description: Consumer and practitioner requests for information on public health topics provide one means of ascertaining what topics have resurged. Monitoring the popular press and current public health preparedness efforts offers another. Combining external media scans with local data on resource usage should allow the formation of a reasonable view of information needs on these issues.

Results/Outcome: This assessment will help to both identify key older materials that should be maintained in collections and focus attention on areas in which additional coverage of topics, formats, or languages is needed. It may also offer some indication of the willingness of consumers and patients to rely on historical information in particular instances, while embracing technologies that create new levels of information in others.

Evaluation Method: The use of historical and contemporary materials to fulfill the public health information needs of the community will be addressed by retrospective analysis of information requests received by the library. Personal identifiers will not be captured. Summary statistics and qualitative description of the topics and formats requested will be presented, along with a list of resources frequently used.

Beachcombing for a Cure: History and Current Developments in Botanical Medicine

History of the Health Sciences Section and Complementary and Alternative Medicine SIG

MONDAY, MAY 5, 2003, 3:30 P.M.–5:00 P.M.

3:35 P.M.

Eclectic legacy: the contributions of early American botanical literature to modern complementary and alternative medicine (CAM)

Michael A. Flannery, associate director, Historical Collections, Lister Hill Library, University of Alabama–Birmingham

Question: What is, and what is the significance of the American botanical medical movement for today's complementary and alternative medicine (CAM)?

Design: This paper will answer this question through a review of the historical literature of American medical botany that began with Samuel Thomson in 1790, developed into physio-medicalism, expanded with eclecticism, and finally coalesced in the 20th century into naturopathy. An assessment of each group will be made relative to its significant materia medica and dispensatory literature and the legacies each left to the current botanical renaissance as witnessed in the re-investigation of CAM modalities of care.

Methods: Care will be taken to present a balanced and objective review of these botanical schools both in the contexts of their times as well as with the benchmarks of modern medical paradigms and sound methodologies. The presentation will be supplemented with an annotated bibliography and practical advice on building a basic but useful and affordable reference collection of historical literature in medical botany.

Conclusion: The various compendia of the American botanical medical movement can provide insights and tools for the current CAM researcher.

3:52 P.M.

And here's to you, Mrs. Grieve: thyme to revisit those old herbal books

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

The resurgence of interest in medicinal herbs presents some interesting problems for the information professional, because there is still a paucity of information in the mainstream scientific and medical literature. Many librarians and health professionals are now learning, however, that there is a large untapped pool of herbal information in their rare books and special collections department. Though often dismissed as being out-of-date and inaccurate by mainstream physicians, several U.S. herbal texts from the nineteenth and early twentieth century are being rediscovered as useful sources of information on medicinal herbs. Some of them are still widely used as sources of information by the more "traditional herbalists." For example, Maud Grieve's *A Modern Herbal,* first published in the 1930s, has not only been reprinted and is now widely available but is available as a full-text document on the Internet. Even Nicholas Culpepper's 1649 *The Complete Herbal*, combining herbalism with astrology, has been reprinted and is attracting renewed attention from herbal practitioners. This paper surveys those works considered to be classic herb texts that are now enjoying renewed attention as a source of information about herbs and herbal therapies.

4:09 P.M.

Beautiful botanicals: nature's original healing "art"

Pamela M. Rose, Web services and library promotion coordinator, Health Sciences Library, University at Buffalo, Buffalo, NY

Purpose: This paper will discuss the use of nineteenth century illustrations of botanicals as art to both beautify and increase usage of the public areas of the library and to make fragile historical resources on medicinal herbs housed in our history of medicine collection more widely known and available.

Setting/Participants/Resources: The Health Sciences Library (HSL), University at Buffalo (UB) is a large, regional health sciences library residing on an urban campus. The Art in the Library Task Force, charged to develop ways to beautiful and increase usage of public library areas by adding art works to the decor, recommended a pilot project to not only fulfill its charge but also to make fragile resources on medicinal plants contained within the Robert L. Brown History of Medicine Collection known and available to a much larger audience.

Brief Description: The pilot project was designed to take advantage of existing resources in the History collection combined with the skills of the task force members, which included staff from both the library and a graphic arts department. The task force not only fulfilled its charge of beautifying public areas of the library but was also able to both promote and make available to a wider audience valuable historical botanical works, and produce notecards and prints whose sales would support future art projects.

Results/Outcome: This ongoing project has attracted interest from local, regional, and national constituents through promotional announcements via discussion lists offering descriptions of the exhibit and information on purchasing the notecards and prints, through media coverage in local publications and the exhibit's Website. The pilot project was worthy enough to be supported by the Friends of the Library and the local medical historical society.

Evaluation Method: The exhibit area, which was renovated for the nineteenth century botanicals display, has become one of the most heavily used study spaces in the library, a testament to the improved aesthetics of the area. In addition, sales from the first limited edition set of notecards and prints were so successful that a second limited edition set was just produced.

4:26 P.M.

Plants from many healing landscapes: herbal medicines used by diverse cultures

Julia S. Whelan, senior outreach librarian, Treadwell Library, Massachusetts General Hospital–Boston, and **Lana Dvorkin, Pharm.D.,** assistant professor, Center for Integrative Therapies in Pharmaceutical Care, Massachusetts College of Pharmacy and Health Sciences–Boston

Question: How can librarians find information on the herbs used in ethnic medicine supporting our clinicians providing culturally competent care?

Setting: In a multicultural society, clinicians need to be aware of the herbal healing traditions of a diverse patient population. Cultural competence initiatives emphasize the importance of this objective. Simultaneously, the increasing popularity of complementary and alternative therapies means that clinicians need evidence-based information on the herbal supplements taken by all patients. This presentation will cover information resources available to address topics at the intersection of these mandates.

Method: A survey of the relevant background literature will introduce a series of case studies. Examples will illustrate how patient-related questions can be answered using current information resources. Coverage will include both print and electronic information resources. Titles will be selected from the subject areas of herbal medicine, pharmacognosy, medical anthropology, cross-cultural studies, and ethnobotany.

Main Results: A brief background will look at the fields of ethnobotany, pharmacognosy, and medical anthropology. Following this, the cases discussed will represent the use of herbs in major cultural healing practices such as traditional Chinese medicine, Hispanic/Caribbean cultures, and Russian practices. Information resources discussed will include books such as *The Healing Forest* (Richard Shultes), *Chinese Herbs in the Western Clinic* (Andrew Gaeddert); databases such as the Natural Medicines Comprehensive Database, Embase, IPA, and MEDLINE; Websites such as HerbMed, Internet Directory of Botany; and more. A representative case will focus on a Dominican child with asthma who comes to clinic. His mother treats him with a preparation called "siete jarabes." The librarian assists medical staff in identifying the ingredients of this preparation and follows up with information on the safety, efficacy, and potential interactions.

Conclusion: Librarians can offer information to clinicians caring for patients who are taking herbs used in diverse healing

traditions. They can integrate herbal information into their information services and work to increase its accessibility and to identify and fill information gaps.

4:43 P.M.

Elizabeth Blackwell—the forgotten herbalist?

Bruce E. Madge, DHMSA, assistant director, Information, Patient Experience and Public Involvement, National Patient Safety Agency, London, United Kingdom

Purpose: This paper will describe the life and work of Elizabeth Blackwell (1707? –1758), the herbalist.

Methodology: Historical case study and literature review.

Resources: Using the collections of the British Library, this article will look at her life and work, the circumstances surrounding production of the herbal, her influences and sources used including the people who recommended production of the book to the Society of Apothecaries, and some of the current projects to put her name back on the map.

Brief Description: Although Elizabeth Blackwell is not as well known in the history of medicine as her namesake who lived 100 years later, she was the first woman to produce a herbal, engraving and painting all the illustrations herself. Her reason for doing this was to free her husband from debtors prison, whereupon he sold the copyright to her books and was finally executed for treason in Sweden. The more scholarly works on botany, particularly that of William Blunt, dismiss her contribution to botany as not particularly scientific but her achievement in making an illustrated list of medicinal plants available to the medical profession and gaining the support of noteworthy patrons such as Sir Hans Sloane and Dr. Richard Mead was indeed a major accomplishment

Outcome: This study has led to the author receiving his diploma in the History of Medicine, the National Library of Medicine using British Library technology to produce a digital version of the herbal, and a new book on Elizabeth Blackwell to be published later this year.

Conclusion: Elizabeth Blackwell, the herbalist, has been largely ignored by the medical profession and underestimated by botanists. This work has led to a greater knowledge and appreciation of her outstanding accomplishment in producing a medical text that was supported by the medical establishment of the time.

Caught in the Whirlpool: Information Needs of and Outreach Services for At-Risk and Underserved Consumer Populations

Public Health/Health Administration, Dental, International Cooperation, Consumer and Patient Health Information, and Relevant Issues Sections and Outreach; Lesbian, Gay, Bisexual, and Transgendered Health Sciences Librarians; and African American Medical Librarians Alliance SIG

MONDAY, MAY 5, 2003, 3:30 P.M.–5:00 P.M.

3:35 P.M.

Buoyed by success: migrant workers learn to access online information

Gabriel Rios, assistant director, Information Services and Technology, and **Kelly Near,** assistant director, Information Services and Technology, Claude Moore Health Sciences Library, University of Virginia–Charlottesville

Purpose: This paper will report on the progress and lessons learned from the Promotoras de Salud Enhancement Project, a health information training program for migrant peer educators, funded by the Regional Medical Library. The outcome will help others libraries gain valuable insight as they consider initiating similar projects.

Setting/Participants/Resources: The Promotoras Program focuses on teaching health information skills to volunteer peer educators from the migrant worker community in a region located in the Eastern United States. Most classes were taught at a local computer lab near the project site and utilized both English and Spanish language materials and resources. Funding was provided to purchase three computer workstations, which were placed in convenient locations in the community.

Brief Description: The library built upon the success of an existing peer health promoter program called Promotoras de Salud, which is a program sponsored by a regional Area Health Education Center. The Promotoras program empowers the migrant community to take greater control of their health and independently access appropriate health care and community resources. Currently, there are approximately ninety-six individuals enrolled in the Promotoras de Salud program. We divided the Promotoras into cohorts of six to ten participants. Each cohort attended seven consecutive classes beginning with an introduction to computers and ending with searching for quality health information resources. Classes were taught in two-hour segments on Saturdays and eventually enabled participants with little or no computer skills to use a computer to search the Internet for quality health information.

Results/Outcome: The Promotoras de Salud Enhancement Project maximizes Internet use by peer educators and empowers the Hispanic community to take greater control of their health by independently accessing appropriate health care and community resources. An added benefit was the gain of new skills using computers and the Internet, which participants could put to further use.

Evaluation Method: The number of participants completing the curriculum was tracked and follow-up sessions were held to determine if the participants found the training valuable in providing health information to their peers.

3:52 P.M.

Tribal outreach

Patricia A. Auflick, outreach services librarian, and **Jeanette McCray, AHIP,** associate director, Arizona Health Sciences Library, University of Arizona–Tucson

Purpose: This paper will discuss the health information needs of tribes in Arizona.

Setting/Participants/Resources: Arizona has twenty-one Native American tribes. The Arizona Health Sciences Library has collaborated with the Intertribal Council of Arizona, the Tribal Connections Steering Committee, the Gates Foundation Native American Access to Technology Program, the School of Information Resources and Library Science, the Arizona State Library, and the Pacific Southwest Regional Medical Library to further the goal of providing access to health information resources for Native American communities.

Brief Description: This paper will look cultural issues and physical barriers that make working with Native American populations a challenge for the Arizona Health Sciences Library. Various Native American information projects have taken place or are currently in progress in the state including the Tribal Connections II Project from the Pacific Northwest Regional Medical Library, the Gates Foundation health trainer project, the Gates Foundation Native American Access to Technology

Program working with the Arizona State Library and the School of Information Resources and Library Science at the University of Arizona. These projects and the library's work with the Intertribal Council of Arizona, the Gila River Indian Community public health nurses, and the Tuba City nurses on the Navajo reservation have contributed to a better understanding of the information needs of these populations and the ways the library can serve them better.

Result/Outcome: The library has begun to develop relationships with tribal organizations and individuals that will facilitate the exchange of information in the future. Consumers, tribal health leaders, and health professionals have participated in workshops offered by the Arizona Health Sciences Library and have helped to provide the necessary linkages to continue these relationships.

Evaluation: Each project has had its own evaluation.

4:09 P.M.

Television outreach to residents with limited English or literacy skills

Eris Weaver, AHIP, master's of public health candidate and medical librarian, Redwood Health Library, Petaluma Health Care District, Petaluma, CA

Program Objective: The purpose of the Health Information Access project is to provide health information to community residents with limited literacy and/or English skills via local television programming.

Background: The average American reads at an eighth grade level; 40% of the population is functionally illiterate. Thirteen percent of our service area's population is Latino; many are agricultural workers and/or recent immigrants, many of whom do not speak English well or at all. Libraries tend to serve the portion of the population that is already literate and somewhat educated; those who are not tend not to find a library a comfortable place. It is not the first source they turn to when they are in need of health-related advice. To provide people with information, it must come in a form and medium with which they are already comfortable. For most Americans, that medium is television.

Setting/Participants/Resources: The project is a collaboration between the consumer health library and the local public access cable station. Other partners include health center staff and the local school district. Petaluma is a city of 60,000, predominately suburban but with a significant agricultural component.

Program Description: The consumer health library obtains and produces television programs, in English and in Spanish, that inform viewers about a number of health topics: how to access local health services; how to find and evaluate health information; and basic prevention, wellness, and self-care issues. Existing programs are identified, copyright clearance is obtained, and those shows are then broadcast on the local cable channel. In addition, library staff collaborate with video producers and other health services staff to create original programming, both in English and in Spanish. All programs are also available for checkout from the library, and lists of available programs are provided to local school district programs in adult literacy and English as a second language (ESL).

Conclusion: It is hoped that by sharing the consumer health library's experience with television, other consumer health librarians will be encouraged to expand their outreach efforts to this medium.

4:26 P.M.

Consumer health information: AIDS information outreach for urban poor women

Kathleen B. Oliver, associate director, Communication and Liaison Services, Welch Medical Library; **Jeri Mancini,** director, Maternity Center East, Department of Gynecology and Obstetrics; and **Holly A. Harden,** liaison librarian, Communication and Liaison Services; and **Susan Rohner,** public health librarian, Reference Service and Education; Welch Medical Library; Johns Hopkins University, Baltimore, MD

Purpose: The project supplemented and enhanced existing HIV/AIDS screening and counseling services of a clinic by offering current, accurate information on local and relevant national AIDS/HIV resources in a Web-based format enhanced by audio recordings of the women's health care providers and the women themselves when they were willing. The goal of the project was to provide information access and to do so in a way that enhances confidence in the resources and overcomes any barriers to understanding the textual presentation of the information.

Setting/Subjects: The setting is a community-based primary care clinic with Internet connections serving poor, uninsured women in an urban community. The clinic is staffed with two nurse-midwives and ancillary staff. It operates an adolescent prenatal clinic with 800 visits a year and a family planning/well-woman clinic of 1,600 visits a year; the clinic has an active client base of 3,000 working poor women with an established track record of stability and compliance but marginal literacy and incomplete high school education due to early childbearing. The urban location is a community of about 98,000 with an average income of $13,000 a year. Two librarians from a local academic health sciences library introduce and guide patients in the use of information resources following their visit with a nurse-midwife.

Evaluation: Women were randomly assigned to three information resource groups: a Web page of information, a Web page of information enhanced with audio commentary, and a sheet of information constructed from the audio commentary and local resources listed on the Web pages. Comments were recorded with permission. Participants completed a survey on the resources. The evaluation was conducted until at least thirty women participated in each group.

Outcome/Results: This presentation will describe the response of the participants to print, visual aids, and audio. We will also describe problems encountered with staffing, facility geography and process flow, technology, and patient participation and how we resolve these.

4:43 P.M.

Health information needs of lesbian, gay, bisexual, and transgendered youth

Mark Schuster, M.D., Ph.D., professor, Pediatrics and Health Services, School of Public Health, and **Garth Meckler,** University of California–Los Angeles

Mark A. Schuster, M.D., Ph.D., is associate professor of pediatrics and health services at UCLA and co-director of the Center for Research on Maternal, Child, and Adolescent Health at RAND. Dr. Schuster will give a presentation on the information needs of lesbian, gay, bisexual and transgendered youth and their care givers. Dr. Schuster has published extensively in the area of adolescent health promotion and is director of the

CDC-funded UCLA/RAND Center for Adolescent Health Promotion. He is principle investigator on several studies, including "A Worksite Parenting Program for Parents of Adolescents" (NIMH), "Healthy Passages: A Community-Based Longitudinal Study of Adolescent Health" (CDC), "Children with HIV-Infected Parents" (NICHD), and "Filipino Family Communication and Teen HIV Risk Reduction" (UARP).

Invited Speakers

Tsunami! New Publishing Paradigms and Health Sciences Libraries

Dental Section

MONDAY, MAY 5, 2003, 3:30 P.M.–5:00 P.M.

3:35 P.M.

Computing in dentistry: merging books and electronic media

Titus Schleyer, D.M.D., Ph.D., director, Center for Dental Informatics, School of Dental Medicine, University of Pittsburgh, Pittsburgh, PA

Computing in Dentistry (www.dental-computing.com), currently in development, is a combination of a book and a Website about computer and information technology applications in dentistry. The major focus of the project is to create a content-specific, complementary, and synergistic resource from print and electronic media. The project's design was derived from several premises. The experience of our first traditional textbook publication (*The Global Village of Dentistry,* 1998, Quintessence) clearly indicated that obsolescence is a major problem for technology topics. Second, there is critical need in the dental community for a comprehensive resource on computer technology that is not being met with existing information resources. Third, a novel approach was needed to combine one of the oldest academic activities, publishing textbooks, with one of the newest academic activities, creating Web-based resources. *Computing in Dentistry* allows readers to interact with the content of a textbook in a new way that is more akin to educational software. For instance, content is separated into static and dynamic parts. Readers can choose to be notified when new material about a specific topic becomes available, highlight content updates, ask questions of the authors or interact with other readers, and use pointers in the print version to access corresponding online resources through the Website immediately. In addition, an intelligent search engine allows retrieval of specific information quickly. The presentation will describe the goals of the project, discuss the design process, present results of early usability tests, and provide a demonstration of the Website.

Up Periscope: Who's Watching Your Information?

Hospital Libraries, Corporate Information Services, Health Association Libraries, Consumer and Patient Health Information, Nursing and Allied Health Resources, and Chiropractic Libraries Sections and African American Medical Librarians Alliance SIG

MONDAY, MAY 5, 2003, 3:30 P.M.–5:00 P.M.

3:35 P.M.

The challenges of wireless security and the Health Insurance Portability and Accountability Act (HIPAA)

Barry Shelton, associate attorney, Gray Cary Warer and Freidenrich LLP, San Diego, CA

4:09 P.M.

The Health Insurance Portability and Accountability Act (HIPAA): burden or opportunity?

Maria Faer, Dr.P.H., HIPAA privacy official and director, Health Sciences Corporate Compliance, Office of the President, University of California, Oakland, CA

Section Program 3

Contributed Papers

Library Content for Portable Handheld (PDA) Devices

Educational Media and Technologies, Collection Development, and Public Services Sections

TUESDAY, MAY 6, 2003, 3:00 P.M.–4:30 P.M.

3:05 P.M.

"Just another format": providing library services to personal digital assistant (PDA) users

Denise Koufogiannakis, collections manager, John W. Scott Health Sciences Library, and **Pam Ryan,** research and special projects librarian, University of Alberta Libraries, University of Alberta–Edmonton, Canada

Purpose: This paper will discuss the integration of personal digital assistant (PDA) services for users of an academic health sciences library. Implementation was based upon the premise that PDA resources are "just another format" of information use, and the library must rise to the challenge of meeting PDA users' information needs.

Setting/Participants/Resources: The Health Sciences Library is located in a large academic institution in Canada. Over the past year, the library has developed services and purchased resources for PDA users. While the focus has been on health sciences, the project is looking toward campuswide integration.

Brief Description: Integration of PDA services began with a simple Website and educational sessions. Demand and interest grew to include all major areas of other library services, including collections, reference, and teaching. The service now includes PDA-specific Web content, licensed resources, lending resources on expansion cards, and a beaming station for downloading search results or articles from within the library.

Results/Outcome: The integration of PDA services and resources has become a regular part of service at the library. Insights into setting up such a service and stumbling blocks along the way will be discussed, including availability of licensed content. Implementing protocols for campuswide expansion and transferring what has been learned at the health sciences library to other disciplines will also be discussed.

Evaluation Method: The project used data gathering and evaluation methods from its inception to guide and make the project evidence based. User feedback is gathered through questionnaires following instruction sessions, a questionnaire on the Website, comment cards at the beaming station, focus groups with different user groups on campus, and usage statistics of borrowed items. Data results and their use will be discussed.

3:22 P.M.

A personal digital assistant (PDA)–based alerting service for clinicians*

E. Diane Johnson, AHIP, head, Information Services; and **Deborah A. Ward, AHIP,** director; J. Otto Lottes Health Sciences Library; **Paul E. Pancoast, M.D.,** post doctoral fellow; **Chetan R. Soni, M.D.,** graduate student; and **Joyce A. Mitchell, Ph.D.,** professor, Child Health; Department of Health Management and Informatics; and **Wil Reeves,** graduate student; and **Chi-Ren Shyu, Ph.D.,** assistant professor; Department of Computer Engineering and Computer Science; University of Missouri–Columbia

Purpose: This study will evaluate the utility of delivering information about newly updated library resources to clinicians' personal digital assistants (PDAs).

Setting/Participants/Resources: Volunteer clinician Palm PDA users at an academic health sciences center.

Brief Description: This project involves a method of notifying clinicians and medical students when new medical information sources are available by sending them messages on their PDAs. Upon registration, participants receive weekly headlines delivered to their Palm™ alerting them to new books, guidelines from the National Guidelines Clearinghouse, Cochrane Reviews, and NIH clinical alerts, as well as new or updated content in UpToDate, Harrison's Online, Scientific American Medicine, and Clinical Evidence. The clinicians then can request additional information on any of the headlines, which will be delivered to them via email after they hotsync. Headlines and corresponding details are stored in a database, which is created by parsing incoming email alerts.

Results/Outcome: Survey results and logs of critical incidents will assist in gauging the value of the PDA as a mechanism for delivering library alerts and updates.

Evaluation Method: Participants will complete a pre- and post-survey. Data will also be gathered on the number of headlines requested per resource and per participant.

* Funded in part by grant DHHS G08 LM05415-07 from the National Library of Medicine.

3:39 P.M.

Optimizing personal digital assistant (PDA) content for preclinical medical education

Brynn E. Mays, information services librarian, John Vinton Dahlgren Memorial Library; **Brian Boston,** academic technology and Internet development coordinator, Center for New Designs in Learning and Scholarship; and **Jane L. Blumenthal, AHIP,** library director and assistant dean, Knowledge Management; and **Taeyeol Park, Ph.D.,** curriculum support specialist; John Vinton Dahlgren Memorial Library; Georgetown University Medical Center, Washington, DC

Purpose: Identify relevant content and resources to support preclinical medical education and prepare students for clinical use of personal digital assistants (PDAs).

Setting/Participants/Resources: The library supports the school of medicine at a Research 1 university. Through a Palm, Inc., Mobile Medicine grant, the library provided fifteen second-year medical students with their own Palm PDAs. Students used and evaluated a set of freely available applications, a locally developed clinical pearls database, and a custom library news channel. Support was provided through one-on-one consultations, access to a shared PDA workstation, and a Website. We collected feedback through periodic questionnaires and conducted a focus group at the end of the first phase of the project.

Results: Second-year students found the drug information resource ePocrates Rx to be the most useful of the selected resources. They reported using it during class for recall and clarification of lecture points, to translate brand names to generic names, and to study because it was faster than using a traditional drug reference book. Students recommended additional resources that they felt would be useful: medical dictionary, differential diagnosis, normal lab values, Merck Manual, Griffith's 5-Minute Clinical Consult, and their class schedule. Students felt they were benefiting from this early opportunity to learn about and use a PDA. Most agreed that participating in this project increased their knowledge of PDA applications in preclinical education as well as in clinical settings. Most reported that using a PDA during the second year of medical school was valuable preparation for the clinical years.

Conclusion: PDAs can be used effectively in conjunction with preclinical education and help prepare students to meet the information demands of their clinical years. Based on the results of this study, the school of medicine has formed a committee to recommend whether or not students should be required to own a PDA, and, if so, at what point in their education the requirement should begin. The library will also address revising content for PDA Web browsers and expanding their online support site. Further study is needed to determine what combination of purchased, free, and inhouse resources are the most useful yet affordable.

3:56 P.M.

Implementing a clinical personal digital assistant (PDA) program for nursing students

Karen Crowell, AHIP, health informatics fellow; **Julia Shaw-Kokot, AHIP,** education services coordinator; and **Francesca Allegri,** head, User Services; Health Sciences Library; and **Judy Miller, Ph.D., RN,** course coordinator, Bachelor of Science in Nursing Program, School of Nursing; University of North Carolina–Chapel Hill

Purpose: To study the use of personal digital assistants (PDAs) as a means of (1) supporting a nursing student's learning in the clinical setting and (2) helping to establish the skills of information retrieval and utilization essential for professional nursing practice and lifelong learning.

Setting/Subjects: Thirty-nine students in the 2002/03 fourteen-month bachelor of science in nursing (BSN) program, a comparison group of two-year BSN students, and five faculty in the university's school of nursing.

Methodology: A comparison study using formative evaluation methods

Results: All students entering the fourteen-month BSN program in the summer of 2002 were required to purchase specified PDA devices and software. Phased introduction to the technology included an orientation session, support documents, ongoing technical support, practice with the PDAs as part of case studies in the classroom and lab, and use of the PDAs to track skills in clinical training. Librarians worked with a team of faculty, students, and staff in the school of nursing and other campus units to select required computer hardware and software based on quality and scope of content, usability, and price. Librarians also participated in developing policies and procedures for (1) purchasing and installing hardware and software, (2) orienting students and faculty, and (3) providing technical support. A librarian- led evaluation team developed a

range of formative evaluation measures including pre- and post-surveys of the fourteen-month students and a comparison group of two-year BSN students, structured interviews with faculty, student evaluations, and usage data. Initial survey results indicated that students used their PDAs frequently. Usage ranged from two students who did not use them at all to nine students who used them thirty times or more during the two weeks after the PDAs were issued. Students' usage difficulty scores ranged from 0.933 to 2.25 on a scale of 1.0 to 4.0 (1 = no difficulty, 4 = very difficult). Downloading additional software applications proved to be less difficult than anticipated, with scores averaging 1.63.

Discussion/Conclusion: This study demonstrates how librarians can be effective members of a subject specific team integrating PDAs into a curriculum. This presentation will describe the study and evaluation results at the end of one year.

4:13 P.M.

Q & A Panel

The Extreme Librarian #2

Leadership and Management, Hospital Libraries, Technical Services, and Medical Library Education Sections and Clinical Librarians and Evidence-Based Health Care SIG

TUESDAY, MAY 6, 2003, 3:00 P.M.–4:30 P.M.

3:05 P.M.

Is there an informationist in our future?

helen-ann brown, consultant; **Marie Ascher, AHIP,** head, Information/Reference Services; and **Diana J. Cunningham, AHIP,** director; Medical Sciences Library, New York Medical College–Valhalla

Purpose: Describe a feasibility study exploring the informationist concept on campus.

Setting/Subjects: Three schools in a private free-standing biomedical university, approximately twenty-nine affiliated clinical hospitals, and primary care preceptors. The Medical Sciences Library serves the college faculty, staff and students. Four reference librarians are on library staff; one outside consultant participated. The director of the Medical Sciences Library and the senior associate dean for Undergraduate and Graduate Medical Education participated in an invited conference on the informationist in April 2002. In August 2002, the Medical Sciences Library hired a consultant to explore the feasibility of an informationist to participate in clinical, informatics, or basic science activities with existing or additional library staff.

Methodology: The feasibility study began in August 2002. After an extensive literature review and environmental scan, discussions were held with key personnel. An informationist skill set was designed for the reference staff with a method for them to demonstrate knowledge gained.

Results: Campuswide key personnel offered positive feedback to the concept of an informationist. The senior associate dean suggested an informationist could help residents fulfill Accreditation Council for Graduate Medical Education (ACGME) General Competencies. A librarian was welcomed at two different Department of Medicine Morning Reports. Comments from the attending physicians and housestaff have been favorable about the librarian being online during report and receiving documents through a Web-based document delivery system. Program directors in the School of Public Health expressed interest in a summer institute on the informationist concept.

Discussion/Conclusion: The informationist concept needs to be defined and applied to this specific culture and setting. It seems multiple models, such as "train the trainer" for the clinical component and seminar/symposium for the informatics component are required to best define how the informationist concept would effectively be implemented on campus. The feasibility study showed a campuswide interest in the informationist concept and progress by the reference staff to acquire the needed skills.

3:22 P.M.

Is there a role for informationists in a biomedical research setting?

Susan M. Pilch, Ph.D., biomedical librarian/informationist, NIH Library, National Institutes of Health, Bethesda, MD

Purpose: The function of informationists was originally described in clinical settings; this exploratory study examined whether there is a useful and feasible role for similar professionals in a biomedical research setting.

Setting/Subjects: A federal biomedical research institution. Scientists (5) engaged in the conduct and/or management of biomedical research in various capacities.

Methodology: Semi-structured interviews.

Results: Most of the subjects indicated they would consider making some use of the advanced information services that an informationist could provide but were less likely to consider doing so if their applications for research information were very specialized or sensitive. The subjects who were most favorably disposed toward the library providing such services were those with some experience in obtaining similar services from outside consultants. A consistent theme that emerged in all the interviews was that an informationist's scientific training and competence would have to be substantial for his or her advanced information services to be attractive. Concerns about ways of funding such services were also common.

Discussion/Conclusion: The results of this small exploratory study suggested a potential role for informationists providing advanced information services in selected biomedical research settings. Additional research is needed to refine that potential role and define the characteristics of settings in which an informationist's services would be most useful.

3:39 P.M.

Environmental issues in the management of a team of extreme librarians

Thomas G. Basler, Ph.D., chair, Department of Library Science and Informatics; **Nancy C. McKeehan,** assistant director, Systems, Library; **Glenn A. Fleming, Ph.D.,** director, Public Information and Community Outreach, Department of Library Science and Informatics; **Barbara A. Carlson, AHIP,** diabetes and consumer health librarian, Library; and **David E. Rivers,** director of public policy, Public Information and Community Outreach, Department of Library Science and Informatics; Medical University of South Carolina–Charleston

Purpose: This presentation will explore the program issues affecting and supporting extreme librarians in their efforts in the community. The Library and Department of Library Sciences and Informatics are involved in multiple initiatives in the local and statewide community. These projects and programs are led by librarians. They are successful because the librarians take initiative and think and work outside the traditional box. But they

also have the support and power of the overall library program to back them up.

Setting/Participants/Resources: The university serves as the major academic health sciences center for a small, primarily rural state. In the past few years, the Library has become a visible and active partner in outreach efforts that span the state and involve not only university-based groups, but community-, faith-, and library-based coalitions and programs. Projects include the Enterprise Community Consumer Health Education Project, the South Carolina Healthy Gateway, Health-E-AME, the REACH 2010 Diabetes Coalition, Hands on Health-SC, EnviroQuest Environmental Sciences Career Path, the Community Leaders Institute, the Environmental Justice Braintrust hearings, Project Export, Our Health, and the Environmental Health Assessment Program Information System. Support comes from a wide variety of agencies such as the Department of Energy, CDC, NN/LM, NLM, NIH, SCUREF, Environmental Protection Agency, the Duke Endowment, the Congressional Black Caucus, and others.

Brief Description: Our extreme librarians use multiple approaches, varied resources, and venues of all kinds. They seek out people and programs that share the same goal: to improve the health of South Carolinians. They do anything and everything to get involved: design and implement Websites, educate public librarians, ride on the county library's cyber-mobiles, participate in community health fairs, collaborate on public television broadcasts, and serve on project advisory boards.

Results/Outcome: This presentation will explore how opportunities are identified, initiated, maintained, supported, and coordinated. We will also explore the attitudes, characteristics, and skills needed in the librarians and others leading these efforts in the academic health center library.

3:56 P.M.

Extreme searching: one library's experience with conducting systematic reviews

Heather Munger, coordinator, Reference Services; **Stewart M. Brower,** coordinator, Information Management Education; **Karen Buchinger,** information specialist; **Sharon Murphy, AHIP,** associate librarian; **Thomas E. Pirrung,** reference and instructional services librarian; **Shannon Wilson,** information specialist; and **Amy G. Lyons, AHIP,** associate director; Health Sciences Library, University at Buffalo, Buffalo, NY

Case Report:

Question: What skills and level of involvement is required of health sciences librarians who become involved in conducting systematic reviews of the literature for an evidence-based medicine publication?

Setting: The Health Sciences Library was approached in early 2002 to conduct systematic reviews of the literature for an evidence-based medicine supplement to a major clinical journal. The supplement will include twenty-one chapters, and fifteen of those chapters required a series of searches, or "recommendations," to be run in several health sciences databases, including MEDLINE, EMBASE, the Cochrane Database of Systematic Reviews, the Cochrane Controlled Trials Register, the Database of Abstracts of Reviews of Effectiveness, and the ACP Journal Club.

Method: For each recommendation, a search strategy was constructed from elements of the population being studied and the medical interventions being applied. Elements of these strategies, including subject headings and keywords, were standardized on lists for future reference. Combinations of populations and interventions were then screened with a standardized filter for randomized controlled trials. Search results were organized into sets of randomized controlled trials, observational studies, and systematic reviews and then saved to files with a citation management software package. All results were then evaluated by a group of specially trained screeners for final evaluation before being forwarded to the chapters' authors.

Main Results: Additional part-time staff was hired to help with the searching and screening, and other librarians volunteered their time as well. Coordinating the distribution and execution of searches among library staff required a great deal of time and energy. In the end, approximately 450 recommendations were searched in each of six databases.

Conclusion: While the systematic review project took longer than anticipated and required additional staff to complete, the experience was a beneficial and progressive one. The project led to stronger relations between our librarians, medical faculty, and leading researchers from around the world. While we recommend that any library embarking on a similar project be objective and carefully consider their return on investment, we believe this extreme project led to some extremely positive results.

4:13 P.M.

An analysis of the importance of subject and biostatistics knowledgebase to final determination of article relevance

Rebecca Jerome, assistant director, Filtering and Evidence-Based Services; and **Nunzia B. Giuse, M.D., AHIP,** director, Eskind Biomedical Library; and **S. Trent Rosenbloom, M.D.,** instructor, Department of Biomedical Informatics; Vanderbilt University Medical Center, Nashville, TN

Purpose: The ability to make connections between the medical literature and a specific clinical question relies heavily upon an individual's understanding of both the medical concepts and knowledge of research design and biostatistics. This study will examine variability in librarian and clinician selection and interpretation of the literature to explore the role of these two areas of expertise. This work is based on the premise that librarians with proper subject knowledgebase in a medical field and understanding of key research design concepts are well equipped to interpret and filter material retrieved from the literature.

Background: This large academic health sciences library facilitates the integration of information into the medical center's practices through provision of customized, filtered information packages for clinical and research teams. As these activities become more the norm, it becomes imperative that we further understand at the cognitive level the considerations that factor into decisions regarding article selection.

Participants: Five clinicians with advanced training in biostatistics and methodology; five clinicians without such advanced training; five experienced clinical librarians.

Methods: A senior clinician in the Department of Biomedical Informatics will select two complex questions with multiple facets previously received by the clinical librarian service. The fifteen participants will meet as a group to dissect each clinical question into its component facets. The five librarians will design an expert search based on these consensus facets; the full text of the articles retrieved will be distributed to all members of the group. Participants will independently select up to five relevant articles most likely to answer each facet of the question and assign a pertinence ranking for each item on a 1 to 7 Likert-type scale.

Results/Outcome: Analysis of variability in clinician and librarian article-selection processes and determinations of pertinence will aid us in refining our process for training librarians in the consistent selection and interpretation of relevant articles and improve our overall understanding of how to provide best evidence to clinicians, researchers, and patients.

Rising Waves

Medical Library Education Section

TUESDAY, MAY 6, 2003, 3:00 P.M.–4:30 P.M.

Access to electronic health information for the public: an analysis of a subset of National Network of Libraries of Medicine projects conducted by public libraries and community-based organizations

Michelle Ochillo, associate fellow; **Keith Cogdill, Ph.D.,** outreach librarian; **Lalitha Kutty,** consumer health librarian; and **Angela B. Ruffin, Ph.D.,** head, NN/LM Network Office; National Library of Medicine, Washington, DC

Purpose: The National Network of Libraries of Medicine funded fifty-three outreach projects conducted by health sciences and public libraries, health information resource centers, and community-based organizations, with the goal of promoting and improving public access to health information. The purpose of this project was to analyze data from eight of the projects to identify outcomes and formulate best practices for future outreach initiatives.

Settings/Subjects: Data were collected from eight project directors representing five public libraries, two community-based organizations, and one state library. The projects targeted rural and metropolitan areas in eight states.

Methodology: The investigators conducted semi-structured telephone interviews with project directors and data were analyzed from final reports of outreach projects.

Results: Data from the eight projects point to the effectiveness of various methods and approaches used in providing access to consumer health information. Specific findings relate to lessons learned and barriers encountered in the areas of project planning and goal fulfillment, organizational collaborations, training, Website development, and evaluation. Other findings relate to staffing and promotion of services, organizational support and funding, and various approaches used in working with health professionals and minority populations.

Discussions/Conclusion: The preliminary results indicate that projects were successful in disseminating and providing access to consumer health information. Findings will assist libraries in developing and implementing outreach projects in their communities and the National Library of Medicine in understanding the consumers' information needs and planning future health outreach initiatives.

Bioinformatics education and information services in an academic health sciences center library

W. John MacMullen, doctoral student, School of Information and Library Science; **Margaret E. Moore,** director, Planning; **K. T. Vaughan,** librarian; and **Carol G. Jenkins, AHIP,** director, Health Sciences Library; and **Bradley M. Hemminger, Ph.D.,** assistant professor, School of Information and Library Science; University of North Carolina–Chapel Hill

Purpose: Explore the academic health sciences library's role in supporting bioinformatics.

Setting: An academic health sciences library serving a campus with five health professional schools, biomedical research facilities, a school of information and library science, and a bioinformatics curriculum.

Brief Description: We describe a model for planning library-based bioinformatics services built on collaboration with the university's diverse bioinformatics programs and resources. We draw on data gathered from American academic health sciences libraries, the 2002 MLA/NLM Informationist Conference, current literature, and experience working with information and library school faculty and campus researchers to develop a plan for offering specialized services to the molecular biology, genomics, proteomics, computational biology, and bioinformatics communities.

Results/Outcome: We present one institution's planning process for developing library-based services and resources in collaboration with a centralized bioinformatics facility, doctoral and master's level training programs in bioinformatics and computational biology, and a strong biomedical research community. We discuss factors we believe are critical for success, including:

- understanding the information needs of researchers and educators in bioinformatics, computational biology, molecular biology, genomics, and proteomics
- exploring the current bioinformatics service initiatives of other libraries
- investigating potential funding sources and models
- developing models of service offerings, resource development, and roles
- providing education and learning opportunities for librarians and information professionals.
- providing a teaching and research environment within which master's and doctoral students can undertake bioinformatics master's projects or fellowship training.
- recruiting librarians and information scientists to fill new roles.

Evaluation Method: Semi-structured interviews with key campus contacts in research centers, schools, departments, campus libraries, and colleagues at other universities facing similar challenges.

Testing the waters: virtual tutorials using digital reference software

Christina Mayberry, information specialist, and **Pamela M. Corley, AHIP,** information specialist, Norris Medical Library, University of Southern California–Los Angeles

Purpose: This paper reports on a project using digital reference software to deliver bibliographic instruction.

Setting: An academic medical library serving the university's school of medicine, school of pharmacy, department of biokinesiology and physical therapy, department of nursing, department of occupational science and occupational therapy, physician assistant program, programs in biomedical and biological sciences, and affiliated hospitals and clinics.

Participants/Resources: While participating in a project to provide live online digital health reference services for questions referred from public librarians, library information specialists gained experience using digital reference software. The software enables librarians to (1) communicate with users over the Internet via real-time text chat; (2) share Web pages with collaborative browsing; (3) send files, images, and PowerPoint presentations; (4) interact with up to twenty participants; and (5) push pre-scripted content. The library developed a pilot project to utilize this technology for delivering instruction to individuals and small groups.

Brief Description: Library surveys and statistics indicate an increased need for delivering assistance and instruction to users remotely. Digital reference software offers promise for

providing bibliographic instruction via educational tutorials. Using this method, bibliographic instruction can be delivered to any location with Internet access. This paper describes the planning, implementation, and evaluation of such a service.

Results/Outcome: A pilot tutorial was delivered remotely to a sampling of library staff and users. Revisions to the initial tutorial content and improvements to the overall user experience were based on feedback received during this pilot session. Planning and implementation of the remote tutorial service on a trial basis is described and methods for publicizing a service of this nature are discussed.

Evaluation Method: A list of suggested tutorial topics was compiled from input solicited from librarians and library users. Following each tutorial session, participants were asked to complete and submit an evaluation form. This feedback was used to revise the content and delivery methods for future tutorials. Additional evaluation was obtained by analyzing transcripts recorded during each session.

Lifeguarding 101: Avoiding or Surviving Wipeout in the Waves of Health Sciences Librarianship

Nursing and Allied Health Resources, Leadership and Management, and Technical Services Sections and Mental Health SIG

TUESDAY, MAY 6, 2003, 3:00 P.M.–4:30 P.M.

3:05 P.M.

Surviving wipeout: planning for a three library merger

Sylvia Contreras, interim co-director, Health Sciences Libraries, University of Wisconsin–Madison

Purpose: This paper will describe the process utilized in planning for the merger of three health sciences libraries into one newly constructed facility.

Setting/Participants/ Resources: The health sciences libraries (Power Pharmaceutical Library, Weston Clinical Sciences Center Library, and Middleton Health Sciences Library) will merge into one new facility, the Health Sciences Learning Center (HSLC), in 2004. The three libraries are currently embarking on a major planning process in preparation for the merger.

Brief Description: The libraries have established of four key planning committees: service integration, public relations, collection preparation, and information technology. Committee responsibilities include ensuring that information regarding the HSLC project is communicated both internally and externally, examining the implications associated with the combined areas of the library, the merger of three library service desks and document delivery issues, determining the technological needs of the library, designing multimedia use strategy and identifying technologically related building integration issues, and assessing and consolidating three physical collections. Each committee utilizes the library's intranet to post agendas, documents, and other related material.

Results/Outcome: The committee structure has been considered successful. Committees have developed timelines, informational fact sheets, and a FAQ. Providing a plan and the intranet site have alleviated some of the staff stress associated with planning a merger of this size.

3:22 P.M.

Surviving technology's tsunami: a new approach to library planning

Wallace McLendon, associate director, Health Sciences Library, University of North Carolina–Chapel Hill

Question: The speaker tracks the evolution of library planning and technology's role to demonstrate that technology is becoming the driving force reshaping our daily service lives and must be incorporated into strategic planning.

Setting: As technology has evolved from a support service to reshaping health sciences library services, library strategic planning has become increasingly dependent on technology forecasting. Historically, strategic planning in health sciences libraries consisted of establishing vision, mission, goals, objectives, and measurable outcomes that focused on programs and services. The information technology (IT) department or IT support personnel would then respond to the plan by assigning resources or determining needed resources to support those programs and services.

Method: Now that technological capabilities increasingly define health sciences library services (information at the point of care, asynchronous learning, virtual reference, etc.), library services and the technology that enables these services are inseparable. This inseparability requires that technology services migrate from a "response" to a "partner" role in determining present and future library goals.

Main Results: Technology planning must be integrated into the library's initial strategic planning process. Given the rapid changes in technology and the subsequent challenge of forecasting emerging technologies, library strategic planning takes on another level of complexity. Also, given that information technology is sometimes removed from the hospital librarian's sphere of influence, the hospital librarian has special planning challenges.

Conclusion: The speaker will throw out newly designed planning life rafts and identify original methods for integrating technology planning into the library's strategic planning process for both academic health sciences and hospital libraries.

3:39 P.M.

Everything that rises must converge: merging service points, raising the bar of expectations for information services

Gerald J. Perry, AHIP, head, Information Services; **Javad Basij,** senior library supervisor; **Susan Keiser,** administrative associate; **Nga Nguyen,** senior library specialist; **David Piper, AHIP,** digital resources librarian; **Joan Schlimgen,** head, Access Services; and **Stefan Walz,** support systems analyst; Arizona Health Sciences Library, University of Arizona–Tucson

Purpose: Describes the merger of the Information Services (IS, reference) and Information Technology Center (ITC, computer lab, and media collections) departments at the Arizona Health Sciences Library (AHSL), University of Arizona.

Setting: At AHSL, IS provides comprehensive reference services delivered in-person, over the telephone, and by email and the Web and previously included 7 FTE staff/librarians and 0.75 FTE student assistant hours. The former ITC supported a twenty-five-workstation computer lab, managed audiovisual (AV) collections, and supported curricula integration of software and media. The ITC included 4 FTE staff and librarian and 0.25 FTE student assistant hours.

Brief Description: IS and ITC departments were merged to reduce the number of customer service points, better coordinate reference and technology-based services, and provide release time for IS librarians to serve customers outside the library. A Merger Committee was formed to lead the union, including staff from the impacted and other library departments. Reference

collections were condensed; shelving was repurposed; the lab was disassembled and reconstituted in reference; and the AV/media collection was moved into the reference collection. The committee flowcharted and time-lined the merger, met routinely to make decisions, and reported outcomes to all library staff. Communications were managed by staff email discussion list and posting print reports.

Results/Outcome: The diverse committee membership allowed for diverse opinions to be considered, helping address many complex issues. The "new" IS department includes 2 FTE from the former ITC. Software and media collection development were relocated to Collection Services, with 1 former ITC FTE. IS lab workstations are managed by 1 former ITC FTE. Additional IS staffing has permitted expansion of services outside of the library, focusing on attendance at medical grand rounds. Former ITC staff work alongside IS staff, with everyone handling all aspects of service related to the lab, AV/media and traditional reference. Formal and informal inserves have been provided to build new or update skill sets.

Evaluation: None to date. Important indicators will be: usage of the reconstituted lab, perceptions of service improvement from former ITC and current IS customers, improved service to constituents outside the library, and improved coordination of reference and technological services.

3:56 P.M.

For fee to for free: navigating the rough seas of document delivery

Barbara M. Koehler, associate director, Collection and Document Services; and **Holly A. Harden,** liaison librarian, Welch Medical Library, Johns Hopkins University, Baltimore, MD

Purpose: Describe a library's experience with moving a fee-based document delivery service to a free one, highlighting the costs and complicated management issues arising from a simple change.

Setting/Participants/Resources: The setting is a large academic health sciences library with a demanding patron base of over 23,000. The Document Services staff of nine people process about 18,000 lending requests, 10,000 borrowing requests, and 9,000 document delivery requests over the course of a typical academic year. The ILLiad document management system was inaugurated in 2000.

Brief Description: In October 2001, the Welch Medical Library was given a mandate from their advisory committee to make all document services free to users. The committee believed that profits on the service were not enough to justify the necessary bookkeeping for charging back to university departments. Justification for a free system was based on current school support of the library by various departments as dictated by the library budget. The library agreed to the committee's mandate and began providing free document delivery to authorized faculty, staff, and students on the medical campus. Numbers soared from 9,000 articles requested per year to 26,000 articles a year.

Results/Outcome: Managing this service that has exploded monthly proved to be a formidable challenge. Turnaround time suffered, decisions had to be made about what to do with online materials, staff morale plummeted in the wake of so many articles to be delivered daily, and users' expectations were higher than ever before. At the same time borrowing doubled, further stressing the small and formerly efficient operation. By making changes in staffing, easing some of our standards, re-educating users, fine-tuning the technology, and putting liaison librarians to work as advocates, we have managed to keep the operation afloat and, for the most part, satisfy users who view the service as highly successful. However, there is a price to be paid in underlying costs and in trying to successfully integrate the electronic collection into our service.

4:13 P.M.

Medical library middle managers: perceived challenges and opportunities

Melissa S. De Santis, AHIP, microcomputer services coordinator, and **Tania Bardyn, AHIP,** access services librarian, Library, University of Texas Health Science Center–San Antonio

Purpose: The study examines perceptions of the challenges and opportunities reported by middle managers in academic health sciences libraries.

Setting: The authors will report findings of a survey of middle managers in academic health sciences libraries. In this paper, middle managers will be defined as librarians with ten years or less experience, who are working at the middle level of their library organization and who supervise staff.

Participants: Librarians with ten years of professional experience or less, who supervise staff in academic health sciences libraries

Methodology: A Web-based questionnaire

Description: The survey includes questions about the attitudes of middle managers, views of their responsibilities as middle managers, communication issues, time management, job stress, and expected career paths.

Results: Results and conclusions are pending.

Conclusions/Evaluation: The authors will report the responses, noting variations and similarities among middle managers. The findings will help middle managers incorporate new ideas into organizations, find support from peers, and get a better understanding of possible career path options. The authors also anticipate that the findings will help library directors to prepare transitions and learn about middle managers expectations and realities for their careers.

Swimming in the Sea of Electronic Resources: Meeting the Challenges #2

Technical Services, Collection Development, and Nursing and Allied Health Resources Sections

TUESDAY, MAY 6, 2003, 3:00 P.M.–4:30 P.M.

3:05 P.M.

Patterns of use of electronic journals

Judith L. Wulff, IAIMS librarian, and **Neal D. Nixon,** acting director, Kornhauser Health Sciences Library, University of Louisville, Louisville, KY

Purpose: Explore the relationship between use of electronic versions of traditional print journals and recognized indicators of utility and quality.

Setting: Medium-sized academic health sciences library with a substantial electronic collection from a variety of sources.

Methodology: Collected vendor supplied usage statistics and compared them to external quality indicators and print usage.

Results: Although electronic usage data as supplied by vendors is considerably higher than circulation data for corresponding print journals, ease of access did not vastly affect usage patterns of electronic journals. Impact factors did have a correlation to use (i.e., high impact factors correlated to high use in both electronic and paper formats).

Discussion/Conclusion: Contrary to expectations, quality is the primary predictor of use. Our traditional collection development decision process based on quality and user needs still works. Selection should be a title-by-title process. Although packages may offer pricing advantages, they may not be the best way to build electronic collections. Though coverage may be expanded through use of package deals, use does not increase for titles that do not fit the library's collection profile.

3:22 P.M.

A star to guide us by…Web-based tools to navigate the electronic seas

Daniel Dollar, reference and digital resources librarian, Cushing/Whitney Medical Library, and **Kimberly Parker,** head, Electronic Collections, Yale University Library, Yale University, New Haven, CT

Purpose: We report on the evolution of a family of tools to both represent and manage electronic resources on the Web.

Setting/Participants/Resources: A large academic medical library, working in conjunction with its university library system over the past two years has developed a suite of database modules to manage and represent our ever-growing collections of e-journals, e-books, and databases via the Web.

Brief Description: The medical library's efforts began with a universitywide initiative for a centrally maintained e-journal database. Although the medical library already had its own e-journals database, it was clear that we did not have the staffing and expertise to maintain this effort. Contributing to a centralized project, the medical library was able to more successfully direct staff time by relying on the central campus library's system office for technology support. Flexible tools were created, so e-journals could be selected to appear on alphabetical and subject lists on the medical library's Website, while any searches ran against the entire database. An Open Database Connection (ODBC) via MS Access allows medical library staff to manipulate database records. The success of this initial effort led to the creation of addition database modules for e-books and database information. In addition, an administrative module manages contact and other information related to our growing e-collections.

Results/Outcomes: This ongoing project has improved service to our users by giving them tools to quickly locate electronic resources in biomedicine or other e-resources the university owns. As recent studies have shown, managing e-collections is labor-intensive, and, through collaboration with our fellow university libraries, the medical library has found a productive way to share the burdens of providing access to our e-resources.

Evaluation Method: We have used Web statistics, Web-based surveys, email contacts, and anecdotal comments and observations from students, faculty, and staff to evaluate this project and guide further enhancements.

3:39 P.M.

Seining the 'Net: electronic use statistics that didn't get away

Spencer S. Marsh, director, and **Andrew White, Ph.D.,** assistant director, Library Systems, Health Science Center Library, Stony Brook University, Stony Brook, NY

Purpose: This project developed programs to capture use statistics for all electronic resources including individual journal titles in bundled subscriptions to support retention and deselection decisions.

Setting: A library for a large hospital and academic health sciences center serving five professional schools: dentistry, allied health, nursing, medicine, and social welfare with 1,100 electronic subscriptions

Description: Increasingly, libraries require more reliable e-metrics to manage rapidly expanding and costly collections of e-resources. Use statistics provided by publishers are often incomplete and unreliable. This project collects detailed use of electronic books, journals, and databases as well as detailed user demographics for every use.

Results: Having detailed electronic use statistics collected over a period of six months provided clear justification for the deletion of more than 200 titles. As these data accrue, they will become a major factor in determining library cost centers in an effort to propose a different library funding paradigm based on the relative use of services and resources among our five schools. Furthermore, having usage statistics allows the library to better leverage licensing agreements.

3:56 P.M.

The LinkOut chronicles: growth as an indicator of LinkOut's impact on the library world

Greg Pratt, D.D.S., AHIP, education and reference librarian, and **Wes Browning,** assistant director, Information Systems, Research Medical Library Unit 099, M. D. Anderson Cancer Center, Houston, TX

Purpose: This paper reports on the twelve-month growth of the LinkOut for Libraries program for PubMed developed by the National Center for Biotechnology Information (NCBI). Examined from several perspectives, growth provides insight into the impact this initiative is having on the journal publishing industry and libraries worldwide.

Setting/Subjects: LinkOut for Libraries includes both online and print holdings components. Libraries that enroll can display icons in PubMed records that link to articles available through their online subscriptions. Libraries can also choose to display holdings information for articles that are part of their print collections. As of October, 2002, participants in LinkOut for Libraries include more than 100 journal publishers and aggregators and over 450 libraries and consortia from around the world

Methodology: By searching PubMed using the specific codes assigned to the various participant groups, the authors measured growth of the program over the twelve-month period ending January 2003. The authors also gathered data by tracking statistics and figures posted on the LinkOut Website.

Results: Data gathering is ongoing, but, as of October, 2002, approximately 70% of MEDLINE-indexed journals are available for linking. Seven publishers and aggregators provide almost 90% of the approximately three million links available. Library and consortia participants have more than doubled in ten months, with rapid growth among international libraries. A few libraries are able to display links in PubMed records for more than two million online holdings or a combined eight million print and online holdings. The vast majority of libraries do not fare as well, particularly with respect to online subscriptions. As measured in July 2002, 70% of the libraries provide links from fewer than 30% of the records available for LinkOut, and 90% of the libraries provide links from fewer than 50% of the records available.

Discussion/Conclusion: Rapid growth during 2002, in several parameters of the LinkOut for Libraries program underscores the importance of this relatively new initiative to the library

world. It is noteworthy that a few large link providers supply almost all of the links and most libraries can link to only a small proportion of the information available online.

4:13 P.M.

The complex information environment: remote access issues and solutions.

Peggy Tahir, information services librarian, and **Min-Lin Fang,** information services librarian, Library and Center for Knowledge Management, University of California–San Francisco

Purpose: This paper will describe the issues involved in providing assistance to patrons who have trouble accessing the library's electronic resources remotely.

Setting/Participants/Resources: The Library and Center for Knowledge Management is a large academic health sciences library supporting a campus dedicated only to graduate and professional study in the health sciences. Our campus community is widely dispersed, with several different locations within our city and satellite services 200 miles away. Remote access to resources is a primary way that the library provides outreach and information delivery to our patrons.

Brief Description: There are currently three different systems campus affiliates can use to access our library's resources remotely: direct-dial remote access service (RAS), virtual private network (VPN), and a library proxy server. The first two (RAS and VPN) are solutions overseen by the campus Information Technology Services Department (ITS). Each of these separate systems presents unique technical issues for users, as well as public service challenges for library staff. Because of the complexity of our information environment, patrons may end up confused and frustrated when they attempt to access resources from home or occasionally from another campus location or even abroad. The library's reference department fields remote access questions and works with ITS staff to troubleshoot more complex connectivity problems. Though patrons sometimes come to the library for assistance, most of the time, these questions come to the library through email or via the telephone. This paper will describe the pros and cons of the connectivity methods, discuss common problems related to patron understanding and use of technologies, and describe how library staff in different units team up to problem solve. The paper will also discuss outside connectivity issues such as problems at publishers' or database vendors' Websites.

Results/Outcome: When troubleshooting patron connectivity problems, a team approach has been invaluable. Library public services staff has developed an understanding of the common connectivity problems as they relate to our campus's unique set of access options. Good communication between public services and ITS staff is the key to providing timely solutions to patrons needing access to their virtual library.

Contributed Papers and Invited Speakers

Diving for Treasure: Library Exhibits from Idea to (Virtual) Reality

History of the Health Sciences Section

TUESDAY, MAY 6, 2003, 3:00 P.M.–4:30 P.M.

3:05 P.M.

Planning an exhibit for the fiftieth anniversary of the discovery of the structure of DNA

Ludmila Pollock, director, Libraries and Archives, Cold Spring Harbor Laboratory, Cold Spring Harbor, NY

Purpose: To present the planning and preparation involved in an exhibition celebrating the fiftieth anniversary of the discovery of the structure of DNA. The exhibit reveals the story of the important role of three New York institutions, Rockefeller University, Cold Spring Harbor Laboratory (CSHL), and Columbia University and its scientists, which in the decade of 1943–53 identified DNA as the hereditary material, analyzed it, and created a worldwide network of researchers who focused on it.

Setting/Participants/Resources: Our exhibition, "Seeking the Secret of Life: DNA in NY," which opens in February 2003 at the Science, Industry and Business Library is an ideal location, as it receives as many as 1,500 visitors daily and is located in the heart of the city. The 800-square-foot exhibit includes an array of historical photographs, documents, and objects from the library and archive collections of prominent scientific institutions.

Description: The CSHL archives and Rockefeller Archival Center archives decided to show the significant scientific contributions of New York institutions prior to the discovery of the double helix by Watson and Crick. As the work progressed, we realized that this idea would be an excellent opportunity to use the interaction of old and new technology for educational purposes. Today, in a modern library, it is suitable to combine an exhibit of archival documents and photographs with thematic lectures and computer access to the Web. With multiple tasks, the project team has increased, and we are able to carry out an exhibition of this scientific topic on a much broader level. One of the codiscoverers of the double helix is the consultant for this project. Our team includes librarians, science writers, exhibition designer, forensic science experts, and Web managers.

Outcome: This project has evolved into a major educational tool for disseminating information on the history of genetics and, in particular, on its breakthrough discovery, which affects the genetic knowledge that influences everyday life in the twenty-first century.

3:22 P.M.

From realia to visual virtuality

Margaret Vugrin, AHIP, reference librarian, Reference; and **Richard C. Wood,** executive director, Libraries, Administration; Library; and **Hershel Womack,** assistant professor; and **Ed Youngblood, Ph.D.,** assistant professor; School of Mass Communications; Texas Tech University–Lubbock

Purpose: This presentation highlights the development of photographing realia, graphic design of advertising brochure and poster, and the beginnings of a virtual collection of medical and pharmacy realia at an academic medical center library.

Settings/Participants/Resources: This library was endowed with a significant collection of medical and pharmacy realia. Having a librarian/photographer/graphic designer on staff enabled us to professionally photograph, design, and create advertising materials for this collection. The required photographic, electronic, and institutional resources will be discussed.

Brief Description: The library decided to create a virtual and actual exhibit. The process of creating visual (professional photographs), informative (designing and printing a brochure and poster), and electronic (development of the virtual collection) materials will be discussed.

Results/Outcome: This project has generated increased foot-traffic, especially after the dedication ceremony. Media covered the event, and the institution's external magazine will cover the donor and the library's new collection. Requests for speaking engagements have been received by the director as well as

interest in future consulting work at other medical libraries. A request to exhibit a series of photographs at the Regional Art Center in 2003 has been received. The classic librarian role is changing. Librarians have always been in the forefront in technology and digital information. This project and the enthusiasm it has generated presents the expansion and evolution of the role of the librarian using visual technologies to enhance the mission of the library.

Evaluation Method: Visually, new people are coming to the library. Gate counts have increased; once the virtual site is completed there will be a better idea of actual generated interest. The requests for speaking engagements, consulting work, and exhibiting are testaments to the fact that the library has entered a new role as well, that of demonstrating the living history of the health care profession.

3:39 P.M.

Transforming a medical library into a treasure island for K-12 teachers

Jiwon Kim, exhibition educator, History of Medicine Division, National Library of Medicine, Bethesda, MD

Exhibitions at a medical library offer excellent multidisciplinary, experiential learning opportunities for K-12 students and teachers. However, the stereotype of a medical library in the minds of many, as if there hangs a sign "Doctors & Researchers Only," makes the treasures we dive for and put into an exhibition obscure to most K-12 teachers. How do we transform a medical library for a few, a remote island, into a Treasure Island in their minds? How do we make rich education opportunities in our physical and online exhibitions explicit to the teachers? And why should we? The Exhibition Program at the National Library of Medicine (NLM) is learning from K-12 teachers and helping them use its exhibitions and resources as dynamic and world-class educational tools. Over a dozen local schools now bring their classes into the library's exhibitions. And national student organizations such as National Student Leadership Council and National Native American Youth visit us annually. Transforming NLM into a teacher's Treasure Island has required an understanding of the differences between the two communities—a medical library and schools—and building bridges toward the teaching community whose culture, language, policies, and politics are quite distinct from our own. The lessons learned and effective strategies in bridging into the teaching community will be discussed.

3:56 P.M.

The library's legacy: a virtual history room

Rebecca L. Fisher, information services librarian, and **Taeyeol Park, Ph.D.,** curriculum support coordinator, Dahlgren Memorial Library, Georgetown University, Washington, DC

Purpose: This paper will explain the process of digitizing selected pieces from the library's History Room collection as part of an effort to make rare items more accessible to library constituencies for scholarly and informational purposes.

Setting/Participants/Resources: The library is the grateful custodian of many rare medical books, antique medical instruments, portraiture, and papers and personal effects of prominent physicians. While staffing challenges make access to the History Room "by request only," a virtual display provides unlimited access to selected pieces via the Internet and attests to the school of medicine's long history and rich tradition of medical excellence.

Brief Description: In July 2000, ties between the school of medicine and the hospital were affected by the sale of the hospital to a nonprofit, community-based health care organization. Concerns about the preservation of the school of medicine's traditions and legacy emerged. At a time when a show of unity was most crucial to the entire organization's well-being, the library began the process of digitizing—in captioned photographs and narrated short video clips—the treasures of the History Room collection. Some of the items chosen for inclusion were antique medical instruments that had to be researched to be identified and properly displayed. After a serious, damaging flood in August 2001, many of the items in the collection underwent a process of refurbishment and restoration.

Results/Outcome: This ongoing project has attracted interest from many library patrons, medical center affiliates, and the general public, instilling a sense of pride and unity as it evolves.

Evaluation Method: We use an email form to track visitors' comments and suggestions about the site.

4:13 P.M.

Getting the most out of the virtual treasures in *Changing the Face of Medicine: Celebrating America's Women Physicians*

Manon Parry, exhibition associate curator, History of Medicine Division, National Library of Medicine, Bethesda, MD

Exhibitions play an important role by distilling expansive topics into one memorable educational experience. In September 2003, the Exhibition Program at the National Library of Medicine will open "Changing the Face of Medicine," which spans 150 years and features the life and work of nearly 350 physicians. The exhibition covers such a broad array of subjects, themes, people and places that it will appeal to college-level learners from a range of disciplines, including history and the history of science, technology, and medicine; gender and sexuality studies; and the biomedical sciences. The associate curator of "Changing the Face of Medicine" is developing an educational component to supplement college-level courses, which will help students to mine the extensive resources of the exhibition for a more detailed study of specific topics. The educational component is designed to serve as a flexible template, suitable for any stage of college education and adaptable to satisfy the written assessment criteria of any course. The presentation will address the efforts and strategies employed in drafting the exhibition's educational component and the benefits for college-level learners.

Invited Speakers

Navigating the Rapids of Rehabilitation: Reasons and Resources

Collection Development, Relevant Issues, and Hospital Libraries Sections and Rehabilitation Hospital SIG

TUESDAY, MAY 6, 2003, 3:00 P.M.–4:30 P.M.

3:00 P.M.

Navigating the rapids of rehabilitation: reasons and resources

Amy L. Frey, AHIP, librarian, Health Sciences Library, Hospital for Special Care, New Britain, CT; **Pat Herndon,** librarian, Noble Learning Resource Center, Shepherd Center, Atlanta, GA; and **Robert Mackes,** medical librarian, Schering Plough Library of Science and Medicine, Union Hospital, Union, NJ

Sharing Our Success from Idea to Impact

Health Association Libraries and History of the Health Sciences Sections and African American Medical Libraries Alliance SIG

TUESDAY, MAY 6, 2003, 3:00 P.M.–4:30 P.M.

3:00 P.M.

Melvin L. Spann, Ph.D., Division of Specialized Information Services, National Library of Medicine, Silver Spring, MD

3:22 P.M.

Robert Copeland, Ph.D., Department of Pharmacology, Howard University College of Medicine, Washington, DC

3:39 P.M.

Henry Lewis, Ph.D., College of Pharmacy and Pharmaceutical Science, Florida A&M University–Tallahasse

3:56 P.M.

Q & A Panel

Equitable Access to Essential Information for Health: WHO's HINARI Partnership

International Cooperation, Medical Informatics, Collection Development, and Technical Services Sections

TUESDAY, MAY 6, 2003, 3:00 P.M.–4:30 P.M.

3:00 P.M.

Equitable access to essential information for health: WHO's HINARI partnership

Barbara Aronson, HINARI Project, World Health Organization, Geneva, Switzerland; **Maurice Long,** BMJ Publishing Group, London, United Kingdom; **Obianuju Mollel,** J. W. Scott Health Sciences Library, Walter C. Mackenzie Health Sciences Center, University of Alberta–Edmonton; **Kimberly Parker,** Electronic Collections, Yale University, New Haven, CT; **Walter Omona,** Veterinary Sciences Library, Makerere University, Kampala, Uganda; and **Leo Voogt,** Elsevier Science, Amsterdam, The Netherlands

The major publishers of biomedical journals have responded to a call from the World Health Organization (WHO) to make their publications accessible online to health sector institutions in the developing world, for free or at very discounted prices. Fifteen months after the launch of HINARI, a panel including members of the HINARI team, publishers, and members of the user community present what has been accomplished, what lessons have been learned, and in which directions HINARI will now be moving.

Surf Report: Forecasting Technology Trends

Medical Informatics, Leadership and Management, Medical Library Education, and Technical Services Sections and Molecular Biology and Genomics SIG

TUESDAY, MAY 6, 2003, 3:00 P.M.–4:30 P.M.

3:05 P.M.

Genomic tsunamis and the future of health care

Daniel R. Masys, M.D., FACP, School of Medicine, University of California–San Diego

The results of the human genome project have been accumulating in a seemingly distant location unrelated to health care. The first small sets of genomic waves have arrived on the health care beachfront with the findings that gene expression patterns more accurately predict clinical outcomes for lymphoma, breast cancer, and childhood leukemia than commonly used clinical tests. But the forecast is for much stronger waves that will sweep away some current approaches to clinical decision making that are common, sensible and yet provably inadequate for the future of effective health care. This talk will forecast the changes in health care that will be likely to result when the genomic tsunamis begin to arrive.

3:22 P.M.

Digital information: that's *usable,* not just useful

Cherri Pancake, Ph.D., professor and Intel faculty fellow and interim director, Computer Science, Oregon State University–Corvallis

3:38 P.M.

On the importance of being open

Scott Garrison, head, Information Technology, Health Services Library, University of North Carolina–Chapel Hill

3:56 P.M.

Q & A Panel

Critters Riding the Crest: Exotic Animal Practice

Veterinary Medical Libraries Section

TUESDAY, MAY 6, 2003, 3:00 P.M.–4:30 P.M.

3:05 P.M.

The role of pathology in wildlife conservation

Bruce Rideout, D.V.M., Ph.D., Center for Reproduction of Endangered Species, Zoological Society of San Diego, San Diego, CA

3:22 P.M.

Giant panda nutrition

Mark Edwards, Ph.D., Nutrition, Zoological Society of San Diego, San Diego, CA

3:39 P.M.

Open-heart surgery to repair a cardiac defect in a Sumatran orangutan

Meg Sutherland-Smith, D.V.M., Veterinary Services—Zoo, Zoological Society of San Diego, San Diego, CA

3:56 P.M.

Developing a West Nile Virus protocol

Tracy Clippinger, D.V.M., Veterinary Services, Zoo, Zoological Society of San Diego, San Diego, CA

4:13 P.M.

Anesthesia in zoo and wildlife medicine

Jeff Zuba, D.V.M., Veterinary Services, Wild Animal Park, Zoological Society of San Diego, Escondido, CA

Poster Presentations (Even Numbers)

SUNDAY, MAY 4, 2003, 2:30 P.M.–4:00 P.M.

2

In support of working companion animals: identifying and locating information

Mary W. Wood, associate librarian; and **Lynette A. Hart, Ph.D.,** associate librarian, UC Center for Animal Alternatives, University of California–Davis

Purpose: Support the information needs of veterinarians, researchers, and handlers working with animals used in assistance, therapy, and rescue.

Setting: Solo librarian in small center library. Academic/research institution with animal behavior graduate programs as well as professional, medical, and veterinary schools.

Brief description: For centuries, companion animals have been human partners, assisting in hunting, offering protection, and providing comfort. In the past two decades, companion animals have assumed new roles to perform highly specific tasks involving assistance for and partnership with people. At the same time, these special human-animal partnerships captivate onlookers and stimulate social interactions among people. The array of special tasks animals perform continues to broaden, inevitably inspiring attention from the public. Those working with those animals as well as those simply interested are faced with a challenge when searching for relevant and useful information. The number of scientific studies pertaining to the behavioral and veterinary concerns of working companion animals continues to increase. However, bibliographic searching of the dispersed literature is complex, and identifying authoritative sources and utilizing the most appropriate databases is difficult. We present a series of Web-based gateways that provide efficient user-friendly access to this behavior- and veterinary-related literature, as well as list key journals, university centers, and professional societies. Search templates incorporate stored search strategies and utilize the PubMed and Agricola databases, permitting the user to execute a current search on relevant topics concerning working companion animals.

Results/Outcome: These Web-based resources have been well received and are frequently accessed. In addition to the intended campus audience, there has proven to be a much wider audience, nationally and internationally. An update and expansion of the site is needed and under discussion.

Discussion/Conclusion: Website usage is monitored by a sites statistics product, which provides extensive user details beyond a simple count. The interest in the field of companion animal care, specifically among working animals, continues to grow, as does the need for reliable information.

4

Challenges and opportunities facing a clinical medical librarian program in an academic setting: a case study

Peggy Mullaly-Quijas, Ph.D., AHIP, assistant director, Health Sciences Libraries, Health Sciences Library, University of Missouri–Kansas City

Question: How is one of the oldest clinical medical librarian (CML) programs in the nation dealing with the following challenges: (1) the rise in end-user searching, (2) the concept of the informationist, (3) the expanding use of personal digital assistants (PDAs) in the practice of medicine, and (4) the challenge of maintaining the program in difficult economic times? This poster will explore how this program is meeting these challenges.

Setting: Academic health sciences library

Method: An exploration of the roles played by the CMLs was undertaken.

Main Results: A greater emphasis of the CML as educator was decided upon. For example, the CMLs offer more educational opportunities to its clients, beyond the support provided on clinical rounds.

Conclusion: The role of educator, in addition to the role of clinical information provider, has modified the CML program, but the program continues to be a viable one in the support of the academic plan of the school of medicine. Evaluations for the program have been very good, as well as the usage of the services offered by the CMLs. This data will be shared, as well as materials developed by the CMLs in performing their various educational and clinical support roles.

6

A new fish in the sea: a clinical librarian in a pediatrics department

Sarah Towner Wright, clinical pediatrics librarian, Health Sciences Library/Pediatrics Department; and **Linda J. Collins, AHIP,** user services librarian; and **Julia Shaw-Kokot, AHIP,** education services coordinator; Health Sciences Library, University of North Carolina–Chapel Hill

Purpose: This poster will describe the evolution, planning, and implementation of a program that placed a clinical health sciences librarian into a university pediatrics department.

Setting/Participants/Resources: An academic health sciences library and a university hospital pediatric department collaborated to place a part-time librarian into the clinical setting. Participants of the "Pediatric Learning Center Resource Committee" included two user services librarians from the Health Sciences Library, three faculty members from the Pediatrics Department, and eventually the clinical pediatrics librarian.

Brief Description: A Pediatrics Department faculty member approached the director of the library asking for assistance in creating a position for a librarian in the department. The goal was to incorporate a librarian into support of the "Blueprint for Scholarship," a guiding document that outlined the research and educational needs of the department's residents. After three years of planning and with seed money from a former faculty member, the library assisted the Pediatrics Department in hiring a part-time clinical pediatrics librarian.

Results/Outcome: The role of the librarian in the department has evolved from the "manager of the resource center" to that of a member of the pediatric team. To achieve a starting point for outcomes measurement, a survey instrument was designed and administered in the fall of 2002 to assess the initial information-literacy skills and resource knowledge of the residents. This survey will be repeated at the end of the year, and the results compared. Throughout the first year, the librarian's skills have been utilized by department members for assistance with the following: (1) daily clinical knowledge seeking; (2) weekly journal club preparation and senior research projects; (3) an "Evening of Scholarship," yearly presentations of case reports and research; (4) assistance with the development of the University Experience, a Website developed by the residents and comprised of clinical questions and answers; and (5) guidance with the ongoing development of the library and clinical resources page of the pediatrics department Web page. With this collaboration, residents and faculty have had the opportunity to assess and increase their information and knowledge skills with customized point-of-need assistance from the clinical librarian.

8

Tracking usage of non-circulating print journals in the electronic age

Barbara C. Ingrassia, AHIP, associate director, Technical Services, The Lamar Soutter Library, University of Massachusetts Medical School–Worcester

Purpose: This poster will illustrate the procedure developed to gather usage statistics for non-circulating print journals using our integrated library system (ILS), Endeavor's Voyager.

Setting/Resources: The library is a mid-size academic health sciences library. It currently has 1,600 active print journal titles and houses a total of approximately 8,000 print titles.

Description: Because print journals do not circulate, they have not had item records in the ILS and no usage statistics could be generated. Usage statistics were gathered during two-week periods three times per year. Shelvers tallied volumes manually prior to reshelving. This process was time consuming, and the statistics were unreliable. To employ usage as a major criterion for retention decisions during the budgeting process, another more reliable method was needed. In June 2001, we began assigning barcodes to journal titles by decade. Active titles fall into the 2000–2009 period, so that decade was tackled first. The title and its assigned barcode were attached to a Princeton file for shelving new issues in the "Current Journals" area. For bound volumes, the barcode was attached to the spine of each physical volume. An item record was created in the ILS for each decade. At the time of reshelving after use, the shelver scans the barcode on the Princeton file or volume spine using a handheld device and later uploads the information into the circulation module of the ILS. That information is coded as a "browse" and is available for compilation in a report.

Results/Outcome: A new staff position was created to handle the project. All active titles were barcoded and ready for scanning by September 1, 2001. The statistics gathered were invaluable for making retention decisions for 2003.

Evaluation: Barcoding by decade has made the project manageable. As older volumes are barcoded, the statistics generated will be used for making retention and remote storage decisions. Patrons have voiced concern that some uses are not tabulated because issues have been reshelved by the reader; more signs will be posted advising patrons to not reshelve journals.

10

Adopt~A~Book: leave your *imprint* on the library

Colleen M. Weum, acquisitions and collection management librarian; **Nanette J. Welton,** head, Information Resources; and **Angela Lee,** head, Social Work Library; Health Sciences Libraries, University of Washington–Seattle

Purpose: Showcase the way our library has successfully established a new books purchase program by having our users "adopt" a book or books for our collection.

Setting/Participants/Resources: The setting is a large university health Sciences library serving the schools of medicine, nursing, dentistry, pharmacy, public health and social work in an urban environment. Participants in the Adopt~A~Book program can be individuals, departments, or other groups. Matching fund are also encouraged. Implementing the program required the coordination and cooperation across several library departments. Resources involve having a Web page on the libraries Website that describes the program and provides a list of titles ready for adoption. The acquisitions and collections management (ACM) librarian is the contact person for the program.

Brief Description: Budget shortfalls this biennium have significantly limited the library's ability to purchase new books. Our Adopt~A~Book program provides participants the opportunity to directly support the libraries with their selections. A list of needed books crossing all subjects and range in costs is available via the Website. A book not on the list may also be considered in consultation with the ACM librarian. Benefits to the adopter are several. A donor bookplate is placed inside the adopted book. Adopters automatically receive a one year's membership in the Friends of the Libraries. Letters of appreciation are sent by the director of our library and from the university libraries development officer. We publicly acknowledge adopters. Adoptions are tax deductible. A secured Website is provided for credit card adoptions; checks are accepted as well as transfer of funds from departments or grants.

Results/Outcome: The results of the program have been the successful addition to the libraries' collection of much needed books. Library staff have found it enjoyable to participate and have become adopters, either with their own funds or directing honorarium payments.

Conclusion: This is a worthwhile project that has generated several useful book additions to our collection. It has also raised the awareness of the library's tenuous funding situation while providing positive public relations. It is a win-win for both the library and the Adopt~A~Book participant.

12

Information for the cure

Josephine L. Dorsch, AHIP, health sciences librarian; **Karen M. Heskett,** academic resident librarian; and **Peg Burnette,** systems-reference LTA III; Library of the Health Sciences-Peoria, University of Illinois–Chicago, Peoria, IL

Purpose: This poster traces the evolution of a library's community partnerships to provide breast cancer information and instructional outreach through grants from the Susan G. Komen Breast Cancer Foundation-Memorial Affiliate.

Setting: The project library is an academic health sciences library that serves a community-based regional medical campus. A series of grants, funded by Race for the Cure proceeds, has allowed the library to build a premiere and unique breast cancer collection and introduce Web-based cancer information to the health care community.

Description: The first grant, awarded in 1993, funded professional materials to support breast cancer care and research. Subsequent grants have continued to build the collection and have included activities to promote the collection through instruction and publicity. Outreach to groups such as public health department, public library, and community health agency personnel focuses on finding and evaluating cancer related Web-based databases and resources. Publicity efforts have included media stories; brochures; direct mailings; and project notepads, pens, and bookmarks. The collection includes books, journals, audiovisuals, and models—many of which are the only copies in the state. The library's Komen Website provides easy access to the collection and links to local and national breast cancer resources.

Results/Outcomes : This ongoing project has established the library as a unique breast cancer information center and has led to several community partnerships with local cancer support and education agencies. Future plans include a "traveling collection," expansion of the collection to include consumer materials, further Website development, and continuing outreach efforts to additional cancer care providers, educators, patients, and families.

Evaluation: Circulation, interlibrary loan, and Web page statistics are used to quantify collection use. Class statistics and participant evaluation forms measure the impact of the outreach initiative. Continued success with annual grant proposals suggests that the "Information for the Cure" project contributions are valued in the community fight against breast cancer.

14

Getting hit by a wave of journals: evaluating a journal collection

Shirley A. Tanase, assistant medical librarian and master's of library and information science student; and **Hella Bluhm-Stieber, AHIP,** medical librarian, Medical Library, Santa Clara Valley Health and Hospital System, San Jose, CA

With this poster session, the library staff wants to demonstrate how to evaluate a journal collection using input from users, other medical libraries, and the library literature. Many organizations face the same challenge the library currently faces, in that the printed journal volumes need more and more space, but that the physical library space is limited. Even though the library has an offsite storage facility, which houses most of the journals before 1975, the storage space onsite and offsite was at its limit. A thorough evaluation of the journal collection was needed. Because the medical library serves the hospital staff for patient care and research, it was not possible to just decide on a cut-off date for keeping all journals. Subject specialties and holdings of other local libraries also had to be considered. The last big journal evaluation including surveys was done in 1996; a smaller one was done in 1999. The 2002 evaluation included the use of different surveys, statistics, library directories, and other publications. Data were collected on the usage of the offsite journal holdings. Surveys were sent out by email and/or print. With this poster, the library staff wants to show the technical, organizational, and administrative issues involved in such a project.

16

E-acquisitions: a comparison of electronic collection management tools for libraries

Virginia F. Bender, AHIP, coordinator, Collection Maintenance, and information services librarian, Health Sciences Library, West Virginia University–Morgantown

Purpose: Compares and evaluates Web-based collection management offered by publishers such as Blackwell, Majors, and Yankee Book Peddler. Demonstrates how one academic health sciences library utilizes Blackwell's Collection Manager as part of a liaison program.

Methodology: Conducted a survey of United States academic health sciences libraries to tabulate which of these tools are used by respondents, measure their perceived effectiveness, assess which tools are being utilized by acquisition departments connected to academic health sciences libraries, and query respondents as to perceived effectiveness and efficiency. Reviewed library science literature for articles describing these electronic tools.

Description: Examines impact on workflow and discusses challenges encountered in conversion to totally electronic ordering. Explores features such as new titles lists, book reviews, bibliographic searching capabilities, slip, approval, and standing order plans.

Discussion/Conclusions: View survey results and conclusions. Evaluate software for potential use.

18

High schools, MEDLINEplus, and PubMed: using students as peer tutors

Debra Warner, AHIP, library director, Regional Academic Health Center Library, University of Texas Health Science Center–San Antonio, Harlingen, TX; **Lucy Hansen,** lead librarian, Library, South Texas High School for Health Professions–Mercedes; and **Cynthia Olney, Ph.D.,** evaluation specialist, Academic Informatics Services; and **Virginia M. Bowden, Ph.D., AHIP,** library director, Library, University of Texas Health Science Center–San Antonio

Purpose: This poster will report the results of a unique project in which medical librarians taught four highly motivated high school students about MEDLINEplus, PubMed, and other health information resources and the students in turn served as tutors to their peers, parents, and teachers.

Setting/Participants/Resources: The setting for this project is Med High (formally known as the South Texas High School for Health Professions) near the Texas-Mexico border, which has a student body that is 67% Hispanic. The staff of the new library at the Regional Academic Health Center (RAHC) of the University of Texas Health Science Center–San Antonio, located in Harlingen, TX, worked with the Med High students and librarians to implement this project. This is one of the four pilot projects of the two-year Texas Lower Rio Grande Valley Health Information Hispanic Outreach project.

Brief Description: Med High librarians frequently use students as peer tutors to help other students and faculty learn about the use of computers and software programs. These librarians identified four high school juniors to receive training in MEDLINEplus and PubMed from the RAHC librarians. The students have demonstrated MEDLINEplus, MEDLINEplus en Español, and PubMed to their peers in regularly scheduled classes and Health Occupations Students of America (HOSA) meetings and at Med High sponsored open houses for families. The peer tutors conducted more than a dozen training sessions in twelve months.

Results/Outcome: This project reached most of the 650 students at Med High, 65 faculty, and approximately 400 family members. An estimated 300 HOSA students from the Lower Rio Grande Valley also participated in a training session. Web Trends software shows the increase in use of the National Library of Medicine (NLM) resources from Med High Library computers.

Evaluation Method: Focus groups were conducted both before and after the project. Feedback surveys were also used with all groups. Web Trends software was used to track use of the NLM Website for the duration of the project. HOSA project usage was tracked through HOSA competition notebooks and by HOSA sponsors.

20

Communicating consumer health information across cultures: community-designed pages and information technology applications

Ellen H. Howard, head, K. K. Sherwood Library, Health Sciences Library, University of Washington–Seattle

Purpose: This poster will demonstrate and document the EthnoMed Web-based attempts to communicate health information to consumers for whom English is not the language of choice using materials in other languages and multimedia applications.

Setting/Participants: The multidisciplinary team that creates materials for EthnoMed is part of an academic medical center in a urban area that serves a number of newly arrived refugee and immigrants groups.

Brief Description: After consumer health materials have been created for target populations, they need to be distributed via channels and formats that will be useful for many members of the communities. For example, because many older Cambodian women were not taught to read, it would be reasonable to provide them with audio and visual information. The Web invites multimedia applications and culturally focused presentations for underserved populations, but few groups are exploring the use of information technology for this purpose. This electronic poster will illustrate some of the options for communication that the EthnoMed team has explored: community-designed Websites, portable document format (PDF) files with embedded fonts, images, and sound recordings.

Conclusion: Hopefully, others can be encouraged to explore new ways of using technological tools and the Web to better communicate about health with underserved populations.

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Avoiding rip tides: migrant workers learn to navigate the Web for health information

Gabriel Rios, assistant director, Information Services and Technology, and **Kelly Near,** outreach librarian, The Claude Moore Health Sciences Library, University of Virginia–Charlottesville

Purpose: This poster will report on two different approaches to teaching Spanish-speaking migrant peer educators. The outcome will help others libraries gain valuable insight as they consider initiating similar projects.

Setting/Participants/Resources: Both migrant peer educator projects focused on teaching health information skills to volunteer peer educators from the migrant worker communities in different regions of the United States. Classes were taught at local computer labs and used both English and Spanish language materials and resources.

Brief Description: This poster reports on two different approaches to teaching migrant peer educators. The first approach was set in the eastern part of the United States and utilized an existing partnership between a community-based organization and the migrant community. The librarians in this region did not speak Spanish and therefore used an interpreter to teach the migrant health promoters health information skills. The second approach was set in the southwestern part of the United States. The librarians spoke fluent Spanish and therefore taught the classes in Spanish. Both approaches are valid and the differences will be presented.

Results/Outcome: As the migrant population continues to grow, the need for health services accessibility and migrant peer educators grows. Both approaches highlighted in this poster have similar outcomes. These projects maximize Internet use by peer educators and empower the Hispanic community to take greater control of their health by independently accessing appropriate health care and community resources. An added benefit was the gain of new skills using computers and the Internet that participants could put to further use.

Evaluation Method: Each method was analyzed and pros and cons of each approach will be presented.

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The role of the librarian in the creation of low-literacy, patient-educations handouts

Helen G. Mayo, manager, Campus Outreach, Reference and Education, UT Southwestern Library; and **Shirin Pestonjee, RN,** patient education specialist, Department of Nursing Education, University of Texas Southwestern Medical Center–Dallas

Program Objective: This poster will show the contributions of a medical librarian on a hospital patient education committee and the librarian's role in the creation of low-literacy, patient-education handouts.

Setting: A large urban, university teaching hospital that provides health care to the indigent and medically needy.

Participants: The hospital's House-wide Patient/Family Education Committee.

Program: The hospital has a low-literacy population. This was documented in the two studies of patient literacy conducted by the hospital's House-wide Patient/Family Education Committee 1984 and 1998. Most patient-education materials are written at a much higher grade level (10th grade and above) than can be read or comprehended by the majority of the hospital's patients. Over the past few years, many health care Websites have made patient education materials available. A recent study of the reading level of these offerings shows them to be at or above the 10th grade level (Winslow, Oct. 2001). For over fifteen years, the committee guided the creation of hospital materials, specializing in writing for patients with low-literacy skills and then translated those materials into Spanish. The goal of the committee is to produce material written at no higher than the fourth grade level. The committee was originally composed of representation from each health care discipline involved in teaching patients; the library approached the chair of the committee about library representation.

Main Results: The partnership has proven valuable on both sides. The librarian conducts literature searches, including when questions arise on the latest guideline or consensus statement, gives guidance on copyright issues, and assists in the review and editing of the material submitted to the committee. As an educated layperson, the librarian can offer insight into areas that need clarification that the health care professionals can take for granted. The librarian gains contacts in the hospital and is seen as a resource for answering reference questions in areas outside of the committee.

Conclusion: A librarian can make important contributions to a hospital's patient-education effort, not only by locating sources of patient education material but by participating in the creation of inhouse, low-literacy handouts.

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Catching the community outreach wave: a women's health network navigates multicultural communities towards quality health information

Jean P. Shipman, director; **Catharine Canevari,** head, Education Services; and **Coleman E. Rose,** coordinator, Women's Health Network, Tompkins-McCaw Library for the Health Sciences; VCU Libraries; **JoAnne K. Henry, Ed.D., RN,** director, Community Nursing Organization, School of Nursing; **Denise C. Daly,** instructor, Division of Quality Health Care, Department of Internal Medicine; and **Barbara A. Wright,** information resources librarian, VCU Libraries; Virginia Commonwealth University–Richmond

Purpose: The Women's Health Network for Consumer Health Outreach (WHN) assists women in the community with their health information needs and those of their families. WHN provides culturally relevant women's health educational materials.

Setting/Participants: This project is a partnership between a university health system, a health sciences library, a school of nursing, a coalition of indigent health care provider centers, and a Hispanic chamber of commerce. Also included are public libraries, women's shelters, and health departments.

Methodology: Through contract funding, computers were placed in community locations including free health care clinics and a chamber of commerce. Staff from these sites were trained to use the Internet and various search engines, evaluate Web health sites, and how to use PubMed and MEDLINEplus. Meetings are held regularly with an advisory group comprised of representatives from each of the community sites. A Website was created to provide filtered information. Multilingual and low literacy links are key elements of the Website. Exhibits and promotional material distribution at ethnic cultural fairs, state fairs, and women's shows have helped to promote the project.

Description: WHN's objective is to address the health education needs of women through a variety of strategies that include:

• providing training on accessing electronic health information
• identifying culturally and linguistically appropriate educational materials
• collecting relevant print and online resource materials

The WHN provides women and others who may not have access to the Web with opportunities to understand their health care with the ultimate goal of improving public health.

Results: Contract sites have encouraged computer use for locating relevant health care information. Training on basic computer use is just as vital as teaching Web-searching skills. Assisting users with evaluating health sites is also important. Overall, individual training and filtered information helps women get information that addresses their personal health care questions.

Evaluation: Pre- and post-training tests, assessment of viewed Websites for subject identification purposes, online user surveys, frequency counts of computer, and Website use.

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Tiered virtual reference assistance for consumer health questions

Lisa A. Oberg, head, Information Services, Health Sciences Libraries, University of Washington–Seattle

Purpose: This poster describes a consortium to provide triaged legal and medical reference, via email and interactive chat, to the general public and general reference assistance to customers of the partnering law and health sciences libraries.

Setting/Participants/Resources: Three libraries are partnering for this consortial virtual reference project, a large, academic health sciences library in an urban setting, the central branch of a large metropolitan library system, and a county law library. The libraries will each use the QuestionPoint Convey software to monitor, transfer, and receive reference questions from partnering libraries.

Brief Description: The consortium provides patrons with more opportunities to access in real time the expertise of knowledgeable staff in specialized disciplines, especially medicine and law. Conversely, the medical and law libraries are able to refer queries for their patrons that are more appropriate for the type and scope of information available at a public library. A significant marketing component is planned.

Results/Outcome: The outcomes of this ongoing project are intended to:

• increase number of reference questions received by expanding available options to include virtual reference/chat service
• increase public awareness of partner libraries and their services
• improve access to basic health information by raising consumer awareness to resources public libraries have and serve as a referral network for more advanced questions

Evaluation Method: Evaluation will include a descriptive analysis of reference service activity, user satisfaction surveys (including reaction to marketing tools), analysis of transcripts, and a peer review process.

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Outreach librarians make waves: delivering consumer health information in rural and urban communities

Mary V. Fielder, AHIP, outreach librarian, Outreach, Three Rivers Area Health Education Center, Columbus, GA; **Lisa Smith,** outreach librarian, Outreach, Magnolia Coastlands Area Health Education Center, Statesboro, GA; and **Susan Poorbaugh,** assistant director, AHEC Learning Resources Center, Georgia Statewide Area Health Education Center, Augusta, GA

Outreach Librarians are forming traditional and nontraditional partnerships to deliver consumer health information. Through alliances with public libraries, public health departments, cancer collaborations, and hospitals or clinics training to locate quality consumer health information was provided to patrons, clients, and patients in fifteen rural and four urban counties. This presentation will show how: libraries were targeted for training through a funding by NLM, NN/LM, state initiatives, and local resources; health departments were included by these same programs; and, finally, hospitals and/or clinics providing services to culturally diverse populations were affected by this training. Community Health Fairs and Regional Health Expos were another integral method of educating consumers to locate health information and answer health and wellness concerns. Regional library systems or local public libraries scheduled training programs at all branches and main libraries, advertising programs through newsletters, posters, flyers, and radio. Individual Health Departments were provided training at their offices, while the annual statewide meeting provided a broader audience for demonstrations on MEDLINEplus and locating other materials of interest. Clients were encouraged to attend trainings held at libraries or provided handouts during visits. Hospitals and clinics with a growing patient base of Hispanics were also targeted. Especially prepared Spanish and English handouts, and Web lists were provided to the health professionals. A newly funded program will promote critical access hospitals providing consumer health training at libraries, civic organizations, and faith-based communities. Health fairs and expos provided access to a vast range of attendees. Materials with information designed to address specific health issues that diverse populations may experience were handed out. Our exhibits touting MEDLINEplus and other Consumer and Patient Health Information Section reviewed Websites have drawn the attention and educated thousands. Our presentation will explain the ways we gained funding, the secrets to our programs' successes, and the barriers we had to overcome. Through these successful ripples, we are creating a tsunami of consumer health information that will provide tools to improve the health status in our communities.

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Partnering for enhanced patient education

Michele S. Klein-Fedyshin, AHIP, manager, Library Services; **Michelle L. Burda,** consumer health librarian, UPMC Shadyside, Health Sciences Library System; and **Barbara L. Lawrence, RN,** nurse educator, Nursing Education and

Research, UPMC Shadyside; University of Pittsburgh, Pittsburgh, PA

Purpose: To collaborate with cardiac nursing staff to enhance patient compliance with medical management using an information intervention

Setting: On inpatient nursing units in a tertiary care hospital, nurses experience a decreased amount of time to teach patients in the managed care environment. Text handouts limit how much multimedia information patients receive, and patients' reading levels may limit comprehension. Also, postoperative instruction may not be the optimal time for patient understanding, because they may be anesthetized, in pain, or too weak to focus on learning.

Methods: The units' nursing staff, rehabilitation therapists, patient education committee, and library staff partnered to select two videotapes designed for independent, home use by discharged patients. These tapes were added to the existing educational program consisting of a patient teaching booklet and detailed discharge instructions.

Description: Either the cardiac nurse or rehabilitation therapist evaluates the appropriateness of the tape for each angioplasty and bypass patient. The patient or relative completes a library form requesting circulation privileges and assuming responsibility for the tape. A videotape and instruction sheet is provided to the patient upon discharge along with a prepaid, addressed mailer.

Results: Success with the implementation and usage of the first tape beginning in January 2000 (angioplasty) led to the addition of a second videotape intervention (bypass) in April 2002. Only seven angioplasty and three bypass tapes have been lost from over 1,000 circulated since inception. On average, satisfaction scores for education or information questions have risen on both units.

Discussion: Nurses frequently have the primary responsibility for teaching. With shorter lengths of stay patients are discharged sicker, in greater need of home care, and with a higher risk of complications. The more families understand their postprocedural care, the greater impact they can have on recovery. To effectively implement an educational program, the library staff collaborated with the hospital staff. Because reading skills influence comprehension, a graphical videotape program was selected. Patients receive more education without more nursing time, circulation enhances cost effectiveness, and patients and staff learn that the library offers additional educational possibilities. Additional evaluation of the program is planned and will be reported at MLA '03.

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Bilingual health information access for an urban minority community

Nancy Allee, director, Public Health Information Services and Access; **Anthony Aguirre,** director, Health Sciences Libraries, Taubman Medical Library; and **Theresa Arndt,** head, Outreach Services; **Nancy Pulsipher,** information services librarian, Public Health Information Services and Access; **Patricia L. Bradley,** Web administrator, Public Health Information Services and Access; and **Shelley Coe,** project associate II, School of Public Health; University of Michigan–Ann Arbor

Project Objectives and Participants: A team from the university health sciences libraries partnered with a coalition of local service organizations to establish an English-Spanish digital consumer health library. A unique aspect of the project is provision of in-home Internet access to participating patients and their families to facilitate access to the Web-based information. Links are provided to quality-reviewed health and local community resources information.

Target Population: The public Website is targeted at medically underserved Latino and African American populations with diabetes, hypertension, and related conditions. Our state has the fourth highest diabetes prevalence rate among all states, according to 1998 Centers for Disease Control and Prevention (CDC) statistics. The southwest and east sides of the city are low-income areas with large minority populations. Both areas have a shortage of health care professionals and are designated by the Health Resources Services Administration (HRSA) as medically underserved. Language and income barriers limit access to quality consumer health information.

Description: A National Library of Medicine (NLM) Internet Access to Digital Libraries grant was received to build on a Detroit Racial and Ethnic Approaches to Community Health 2010 (REACH) Initiative funded by the CDC. NLM grant funds enabled development of a "Health Links" section for the local REACH Website. A review process was developed to select links based on nine quality criteria including linguistic accessibility for consumers and cultural relevance to minority populations. To facilitate access to the new Website, families participating in REACH were supplied with in-home Internet terminals donated by the university. NLM grant funds provided for Internet service provider fees for each family for one year. Family health advocates working for REACH provide home visits to participating families and received training from project librarians on effective use of the Internet for finding health information.

Evaluation: The team assessed the effectiveness of the project in increasing access to high-quality consumer health and local resources information in both English and Spanish for the target audience. Formative evaluations were conducted throughout the project to improve the Website. Statistics on use of the Website were supplemented with user surveys and focus groups to determine both level of use and utility to the target audience.

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Parents learn to find quality health information on the Internet

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

Purpose: To continue the Pediatric Family Resource Library project started in January 2002 with the goal of providing health information to families at the point of care. The current project, funded through a National Network of Libraries of Medicine New England Region subcontract, will provide formal and informal classes to teach parents to find and use quality health information on the Internet.

Setting: Parents and families who use the Children's Medical Center will have the opportunity to attend a basic Internet class and then a class to locate quality health information. The classes will be held over a one-year period in the library's new computer instruction facilities.

Methodology: Two classes per quarter will be scheduled—one on Internet Basics and one on finding and evaluating health information on the Internet. Child care and free parking will be provided. The project will also provide customized classes for parent groups and community agencies that serve children. Multiple classes are scheduled for the pediatric clinic staff to find quality health information.

Description: A multiple-pronged approach will be used to publicize the classes and services provided by the Pediatric

Library. Classes will be didactic and hands on—taught by experienced librarians.

Results: The addition of classes will increase awareness and use of the Children's Medical Center Pediatric Library and offer support and networking opportunities for the parents. This project started on October 1, 2002, and results from the classes are anticipated for MLA '03.

Discussion: Parents are making health care decisions about their children every day and need to be empowered and confident with their skills to find quality health information. Many of the children who are cared for at the Children's Medical Center have lifelong and complicated health problems. Many of these parents have become knowledgeable about how to access the Internet but may lack the critical skills necessary to evaluate the quality of the health information they find. This project will attempt to meet this need.

Evaluation: At the end of each class session, the parents will complete an evaluation form.

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Bridging the digital divide

Valerie A. Gross, librarian, Academic Information, Community Health Resource Library, and **Britain G. Roth, AHIP,** director, Academic Information, Geisinger Health System, Danville, PA

The health system and the foundation addressed the lack of Internet access and computer skills in rural and underprivileged communities, by forging a partnership with two public libraries. The two target libraries received state-of-the-art computers (MAC and PC), broadband Internet connections, and computer skills education for library patrons. Computer skills education classes, taught by staff, increased the skill level of library patrons in the areas of health information literacy and computer desktop software. "Internet Basics & Trustworthy Health Information," "Getting Started with Computers," and "Getting Started with MS Word" were offered as both day and evening classes. To gauge the effectiveness of the classes, participants completed a simple one-page evaluation form. Sign-up sheets were kept (name and hours spent on the computer) at each workstation to track Internet and computer usage. A home page was created for each library with consumer health links to MEDLINEplus, PubMed, NOAH, Geisinger Health System, MayoClinic.com, National Cancer Institute, American Cancer Society and Quackwatch. The Geisinger Health System is tracking hits to its home page from the library sites. The marketing plan included brochures, newspaper and radio coverage, and open houses to advertise the new services provided by the public libraries and to register patrons for the classes. The successful completion of this program will lead to the development of similar partnerships with other local public libraries. To expand and continue the outreach program, additional federal and corporate funding has been sought.

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MedInfoRus: a need for the medical information in multicultural society

Luda Dolinsky, AHIP, director, Medical Library, Lutheran Medical Center, Brooklyn, NY; **Yelena Friedman, AHIP,** director, Medical Library, Staten Island University Hospital, Staten Island, NY; **Rimma Perelman,** chief, Medical Library Services, St. Vincent's Hospital and Medical Center, New York, NY

Purpose: This poster will show the Website created to help Russian-speaking users in searching the Internet for medical information.

Setting/Participants/Resources: The Website called MedInfoRus was developed by three Russian-speaking librarians and posted on the independent Web server for public use.

Brief Description: The fast growing Russian population in the United States, as well as the audience in Russia, remains underserved with medical information due to the language barrier. The Website MedInfoRus is aimed to fill this information gap. It brings together a collection of links to medical and nursing Websites, electronic publications, directories, patient information, and other resources available online in Russian. An important part of MedInfoRus is a guide written in Russian, on how to search PubMed. This guide has been created to help Russian-speaking people with limited knowledge of English to search MEDLINE. The guide explains the structure of PubMed and its components, discusses various methods of searching PubMed and navigating search results.

Results/Outcome: The Website has attracted great interest from users in both the United States and Russia. The PubMed guide was used for a series of workshops for information specialists in Russia and other republics of the former Soviet Union. The site is constantly updated and improved; new sources are added.

Conclusion: Developing a Website for Russian-speaking audience has offered valuable information resource for both consumers and information specialists in the United States and Russia. Perspectives for cooperation with Russian librarians in continuing working on this project are being discussed.

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Digital histology: planning and implementation of a digital image collection for use as a faculty teaching resource

Brenda Seago, AHIP, director, Computer Based Instruction Lab; **Susan Deihl,** director, Media Production Services; **John Bigbee, Ph.D.,** associate professor, Department of Anatomy; **Alice Pakurar, Ph.D.,** assistant professor, Department of Anatomy; **Chris Stephens,** director, Educational Applications Development, Faculty and Instructional Development; **Jeanne Schlesinger,** director, Instructional Development, Faculty and Instructional Development; and **Carol Hampton,** associate dean, Faculty and Instructional Development; Medical College of Virginia Campus of Virginia Commonwealth University–Richmond

Purpose: The purpose of the pilot project was to make original, quality histology images available on the Web as a teaching resource for faculty in the health and life sciences and to serve as a model to support teaching throughout the university.

Setting/Participants/Resources: This pilot project, with funding from the Center for Teaching Excellence, brings together a collaboration of faculty and staff in the School of Medicine and Media Production Services to create a system for the entire university community. Team members cut across disciplines: faculty for image selection, librarian for indexing and retrieval, and development staff for interface design and software development. Anatomy faculty identified seventy-five histology images used to teach first-year medical students for the pilot.

Brief Description: Although creating a digital image database seems simple, many issues must be considered: quality of images; image ownership and copyright; author recognition; software capability; cataloging for easy, useful retrieval; and instructional design. The indexing system was based on MeSH headings so that images could be accessed to the cellular level. Cumulus software was used as the Web interface.

Results/Outcome: The impact of this project on teaching would be enormous. In many cases, instructors keep images in their desk drawer, and they are not available to any other teachers. Others rely on copyrighted materials such as textbook images.

Evaluation Method: This pilot will provide data on testing the database with faculty, as well as the amount of work involved with making the individual images and descriptions available in a Web format. An online survey to selected university faculty and staff will be conducted to assess the usefulness of the collection for teaching purposes. The Website will include a comment feature, as well as keep usage statistics. Based on feedback and usage, the collection may be expanded to include more images.

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Guaranteeing access to a unique resource: publishing a brain atlas in a nontraditional format

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Advanced technologies offer opportunities to provide access to resources with innovative tools, providing access to resources beyond the capabilities and significantly less cost than is possible in traditional publishing.

Setting: This health sciences library views its roles to extend well beyond its curatorial and acquisitions roles to now actively support publishing via the Internet.

Method: The project started in 1983 as a series of 300 maps of the brain originally traced from serial photographs of sections of whole brains in the Yakovlev-Haleem Collection, now part of the National Museum of Health and Medicine. The small market and costs associated with this type of publication was of little interest to medical publishers. An affordable price and ample publicity could not be expected from the publishing industry for a very specialized product. The author desired wide dissemination and the retention of copyright. The atlas contains more detail than a medical student would usually want but is of interest to neuroradiologists, neurosurgeons, or neurologists. The large size of the files for each image makes using the application from the Web impractical. However, Web distribution of the 17MB atlas and its accompanying 40MB print files is practical, and so the library provided the expertise for Flash conversion, the addition of color, and an ftp site for downloading the application. This would never have been possible without the support and vision of the library's mission to support scholarly publication of works that might otherwise perish. In 2002, a project twenty years in the making has found the appropriate technology, support, and method of distribution.

Main Results: The publication of this atlas provides both dramatic and dynamic access to the anatomy of the brain, which is now available health professionals, students, and the Internet community.

Conclusion: Many invaluable resources have languished, because they lack a profitable market for a commercial publisher. Advanced technologies now offer libraries an opportunity to not only extend access but also expand their roles.

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Interactive Web resource for scientific and scholarly an opportunity to shape the publication and use of intellectual property

Kathleen B. Oliver, associate director, Communication and Liaison Services; **Brian Brown,** communications librarian, Communication and Liaison Services; and **Caroline Zambrowicz,** senior programmer and analyst, Advance Technology and Information Systems; Johns Hopkins Welch Medical Library, Baltimore, MD

Purpose: The emerging electronic publishing environment creates new opportunities for scholars, scientists, and universities to work in partnership to shape the publication and use of their intellectual property.

Setting/Participants/Resources: A consortium of libraries from a large university are currently working to heighten faculty awareness of publishing choices and the necessity to specifically negotiate with publishers for the right to share their scholarship on their Websites and to distribute it for educational purposes. In an effort to support and inform scholars of their publication choices, the university libraries have developed an interactive Web resource for authors using an Access Database, ColdFusion 4.5 Server, Windows 2000 Server, and ColdFusion Studio 5.0. This resource draws, initially, from the medical library's database of electronic resources, ISI's citation reports (JCR) and library licensing costs.

Description: Our goal in developing this application is to offer authors data on impact factor, publisher, cost rank, and other relevant information for the top science journals to enable an informed choice of publisher for their scholarly work. The Web-based chart permits authors to view journal data by discipline. Moreover, the resource will offer authors a mechanism to post comments on their publishing experience for review by colleagues. The comment mechanism is structured to offer elective anonymity, ensure authenticity, and elicit information from authors on their experience in securing from publishers the right to share their scholarly work with colleagues and students.

Results/Outcome/Evaluation: This presentation will describe the development of the resource and strategies to publicize it. We will measure and describe the response of our authors to this tool by access statistics and submitted comments. Programming code for the application will be freely shared with other institutions.

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Surf's up and so are the fences!…Providing access to health sciences information from inside an Olympic security zone

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Question: Can a health sciences library continue to provide high-quality information delivery in an environment where unusual security measures create extreme barriers to access?

Setting: An academic health sciences library located within a high-security area of the Olympic Games

Method: The health sciences center library is located one block from the athlete's village of the Winter Olympics. This placed the building in a high-security zone requiring user-hostile protocols contrary to our mission. Viewed by security officials as a "non-essential" service, the library was asked to close for the duration of the games. At the same time, it was "business as usual" for many health sciences center staff, students, and faculty, all of whom rely on our services. To support our users and fulfill our mission, the library determined that it needed to stay open for as many hours as possible. The library continued to participate in campuswide Olympic planning activities and assert its intent. Remaining open also required extensive inhouse planning. Staff faced issues such as no delivery of supplies or mail, long commutes on roads clogged with Olympic traffic only to work curtailed hours, restricted parking, equity in leave and telecommuting policies, changes in circulation policies that

recognized patron burden, extra marketing of electronic resources, and daily vehicle and ID checks by military personnel brandishing automatic weapons.

Main Results: The Olympic experience was overwhelmingly positive for the library. By demonstrating demand for services and the ability to support the health sciences center's mission, the library was able to establish itself as a very "essential service" and continue to provide resources and services to its patrons. By remaining flexible in personnel issues, staff that wanted to take vacation were allowed to do so, and staff that chose to work kept the library open and fully functional, enjoying a unique and international experience.

Conclusion: This poster will demonstrate our Olympic experiences in providing quality health sciences information from inside the fence.

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Association of Academic Health Sciences Libraries (AAHSL): academic health sciences libraries enhancing excellence in medical education since 1977

Susan Jacobson, AHIP, assistant university librarian for the Health Sciences, Library of the Health Sciences, University of Illinois–Chicago; **Diana J. Cunningham, AHIP,** associate dean and director, Medical Sciences Library, New York Medical College–Valhalla; **Susan Starr, Ph.D.,** associate university librarian, Sciences, and director, Biomedical Library, University of California–San Diego, La Jolla, CA; and **Laurie L. Thompson, AHIP,** director, Health Sciences Library, State University of New York Upstate Medical University–Syracuse

Purpose: The Association of Academic Health Sciences Libraries (AAHSL) celebrates twenty-five years of enhancing excellence in medical education, 1977-2002.

Setting: Academic health sciences libraries that serve accredited United States and Canadian medical schools belonging to the Assoication of American Medical Colleges (AAMC).

Methodology: In November 2001, the cohort of 142 AAHSL library directors was solicited to provide photographs of their libraries and directors circa 1977 and circa 2002, as well as any renderings of future plans. All photos were digitized and sorted into a database. Directors were also asked to comment on what AAHSL has meant to them. A subcommittee of the AAHSL 25th Anniversary Task Force coordinated an exhibit that would highlight AAHSL's accomplishments and incorporate directors' comments reflecting personal satisfaction with the organization.

Description: Two components were developed: a poster highlighting the five founders, their vision, and AAHSL's accomplishments over twenty-five years and a digital PowerPoint collage of photographs.

Results: The association has achieved a strong record of initiatives and accomplishments during its first twenty-five years. *Challenge to Action: Planning and Evaluation Guidelines for Academic Health Sciences Libraries* (1987) written jointly with the Medical Library Association (MLA) is still referenced as a landmark in vision and leadership. The *Annual Statistics* of all member libraries continues to identify best practices and plays a strong role in benchmarking, especially for accreditation purposes. The Joint MLA/AAHSL Legislative Task Force meets routinely with members of Congress and testifies annually in support of the National Institutes of Health (NIH) and the National Library of Medicine (NLM) budget and programs. AAHSL is a vital member of the Council of Academic Societies (CAS) of the AAMC and collaborates with the Association of Research Libraries (ARL) on measures of service quality (LibQual+) and initiatives supporting electronic publishing.

Conclusion: As AAHSL celebrates the 25th anniversary of its founding, the association pays tribute to its leaders, acknowledges its accomplishments, and sets its direction for future success in promoting academic health sciences libraries and their services.

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Finding the next wave in evidence-based medicine

Andrea B. Markinson, D.P.M., assistant director, Educational Services, Medical Research Library of Brooklyn, State University of New York Downstate Medical Center–Brooklyn

Purpose: This poster demonstrates how a health sciences library is a vital part of the teaching effort for evidence-based medicine, even when the targeted group cannot find the time to come to the library.

Setting: Evidence-based medicine (EBM) has emerged in recent years as a major teaching tool in the education of physicians: it teaches practitioners how to rapidly and efficiently find and appraise the most up-to-date and valid research. In the past, busy physicians with limited time routinely depended upon the knowledge of colleagues or pharmaceutical representatives. It became apparent to the founders of EBM that the "good" literature was being buried by the enormous amount of literature being published in this era of "publish or perish." They developed first techniques and later resources that enabled practitioners to rapidly find answers to questions that arose in daily practice.

Brief Description: The library developed an EBM curriculum for residents and students. Unfortunately, busy physicians are unable to commit to the time needed to take the full course. The EBM team developed a CD-ROM that allows those who cannot come to our full course to learn evidence-based medicine from any computer. We used already available software to create this product. The library has copies available for use in the learning resource center. Patrons also have the ability to make copies for home use. Copies of the program have also been distributed to the faculty who are teaching residents and students in affiliated hospitals. This presentation consists of an electronic and a traditional print poster detailing the program. Details are included on how the library intends to continue expanding the program. Handouts will be available.

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Evaluation of evidence-based medicine search skills in the clinical years

Anne M. Linton, AHIP, director; **Patricia H. Wilson,** associate director; and **Alexandra W. Gomes,** instructional technology librarian, Himmelfarb Health Sciences Library, The George Washington University, Washington, DC

The librarians of the health sciences library are working directly with the director of the Primary Care Clerkship and the chief residents in the Internal Medicine Program to reinforce the principles of evidence-based medicine searching, taught during the first two years of medical school, through an intensive, one-day workshop in the third year. The purpose of the program is to ensure that students in their third year apply evidence-based medicine principles in a timely and effective manner in clinical situations. Working in teams led by a resident and librarian, students research real cases in the library's computer labs and then evaluate the effectiveness of their approach to the problems presented. The entire process has been designed to be engaging and nonthreatening. This poster will outline the rationale for the team approach used, review the details of administering a computer-based workshop, and discuss the evaluation process. Evaluation will focus on both the current workshop and its implications for the informatics program

presented to students during years one and two. Do students truly learn effective evidence-based medicine search skills in the nonclinical years? Do they prefer learning these principles in the clinical years?

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Evidence-based resources for a public health project

Hatheway Simpson, project coordinator; and **Elaine R. Martin,** director, Library Services; Lamar Soutter Library; and **Roger Luckmann, MD,** assistant professor, Family Medicine and Community Health, University of Massachusetts Medical School–Worcester; **Sharon Telleen, Ph.D.,** visiting research associate professor, Department of Sociology, University of Illinois–Chicago

Purpose: This project will develop an electronic resource of current, evidence-based public health best practices in the journal literature. This resource will assist state and local health department personnel to identify evidence-based best practices.

Methodology: To develop this resource, the project needed to define the field of public health, then identify the journals specific to the field, and review the currently available evidence-based models. To define the field of public health for the purposes of journal review, the authors identified seventeen domains and 135 subdomains by examining several public health sources. The public health journals were identified using sources from the CDC Information Center, the Healthy People 2010 Information Access Project, MLA's Core Public Health Journal Project, and ISI's *Journal Citation Reports*. The selected journals were matched with the identified public health knowledge domains and subdomains. The journals coupled with expert opinion will form the source of information for the evidence-based public health best practices. The project reviewed current clinical evidence-based models and their characteristics. Their transportability to pubic health will be explored through focus groups of public health workers.

Results: Results to date include a project Website; lists of public health journals and bibliographic databases; a chart of public health sources, knowledge domains, and subdomains; and a table of public health journals matched with each knowledge domain and subdomain.

Discussion/Conclusion: The results of this project found that prior to developing evidence-based public health resources, one first needs to define the knowledge domains and subdomains of public health, then identify the journals in public health, and finally review the existing evidence-based sources used and their characteristics. This methodology for developing resources related to a specific knowledge domain can be applied to other disciplines. The results can be used to enhance collection development in a specific discipline. The review of criteria for evidence-based best practices can be used in reviews of public health literature.

Support: This project is supported through a cooperative agreement with the Association of Teachers of Preventive Medicine (ATPM) and the Centers for Disease Control and Prevention (CDC) Information Center

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Show me the evidence: heading for better outcomes

Julie L. Richardson, AHIP, outreach librarian; and **Nancy Stine,** outreach librarian, Northwest Area Health Education Center, Wake Forest University School of Medicine, Salisbury, NC

Program Objective: This poster examines the marketing, content, and methods of a ninety-minute continuing-education program, "Evidence-Based Medicine: The Overview," a continuing medical education (CME) category 1-credit activity designed for busy physicians and other health care providers.

Setting: Grand rounds or other continuing education programs presented in various hospitals in the seventeen counties of the Northwest Area Health Education Center (AHEC) region in North Carolina

Participants: Physicians, nurses, nurse practitioners, physician assistants, allied health professionals, and medical librarians.

Program: This program introduces evidence-based medicine (EBM) in an interesting, fast-paced, and practical format. Better patient outcomes through state-of-the-art, research-based clinical knowledge is the value promoted. Marketing the program involved employing every possible venue to reach as many health professionals as possible in a rural seventeen county area. Program content included EBM basic concepts and EBM methods for searching MEDLINE or other databases. EBM databases used were: Cochrane databases, ACP Journal Club, POEMs database and InfoRetriever, Clinical Evidence, and aggregated EBM sources (Bandolier, TRIP). Methods were varied. The factual (talking-heads) presentation of basic EBM concepts, albeit necessary, was kept to a minimum. Online demonstration of resources and searching techniques remain the prime content of the program. Post-session follow-up consisted of emailing links to the Internet resources demonstrated and answering participants' questions via email or phone. Further discussion (by email to the groups) was encouraged but was not plentiful. Access to the North Carolina AHEC Digital Library (ADL) was offered to participants from 2002 forward. Participants who completed an application for the ADL were given usernames and passwords via email. It was emphasized that the ADL is a portal to many EBM resources including the Cochrane databases, Clinical Evidence, ACP Journal Club, MEDLINE, and CINAHL. An additional EBM feature of the ADL is the North Carolina Evidence-Based Medicine Center of Excellence, which was created by librarians based at the four medical schools in North Carolina.

Main Results: Participants evaluations demonstrate: (1) the program generated new awareness of Evidence-Based Medicine concepts and databases, and (2) participants appreciated the demonstration of time-saving "digested" information resources such as the Cochrane abstracts and the InfoPOEMs database.

Conclusion: This program is a successful introduction to EBM.

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Finding the best evidence when you're on a tight schedule: teaching medical students to quickly locate published systematic reviews and randomized controlled trials

Keir T. Reavie, acting manager, Information and Public Services, Library and Center for Knowledge Management; **George F. Sawaya, M.D.,** assistant professor, Department of Obstetrics, Gynecology and Reproductive Sciences, School of Medicine; and **Gail Persily,** associate director, Informatics Education and Center for Instructional Technology; **David Owen, Ph.D.,** education coordinator, Basic Sciences; and **Min-Lin Fang,** information services librarian, Library and Center for Knowledge Management; **Cynthia Fenton, M.D.,** assistant clinical professor, Department of Medicine, School of Medicine; and **Kaveh G. Shojania, M.D.,** Department of Medicine, School of Medicine, University of California–San Francisco

Question: What is the easiest method of teaching medical students to quickly access published systematic reviews and randomized controlled trials for use in practicing evidence-based medicine?

Setting: During a one-week break from clinical rotations, third-year medical students take a course on evidence-based medicine that focuses on the evaluation and use of systematic reviews. The course includes small group sessions on searching for published systematic reviews, randomized controlled trials (RCTs), and synopses of reviews, which are held in computer labs.

Method: Working collaboratively, faculty and librarians developed an algorithm that students can use to easily retrieve systematic reviews and RCTs. The algorithm utilizes the PubMed Systematic Reviews filter, the PubMed *Randomized Controlled Trial* Publication Type, and databases in the Cochrane Library: DARE and the Cochrane Controlled Trials Register. Students are taught to use the search algorithm during the small group sessions in the computer labs. Faculty and librarians illustrate how to search key resources with the algorithm using a variety of clinical cases as examples. Students are also given time to try searching for reviews and RCTs related to a clinical question of personal interest.

Main Results: Students found the algorithm useful because of its simple design—it utilizes only two key resources for access to published systematic reviews and RCTs and outlines very specific methods for searching these resources to obtain small result sets containing relevant information.

Conclusion: The algorithm for quickly retrieving published systematic reviews and RCTs, while not comprehensive, is a useful tool for clinical practitioners who need access to the best evidence but have little time to search for it.

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Assisting the oncology advanced practice nurse (APN) in fostering evidence-based practice: the role of the librarian

Mark Vrabel, AHIP, librarian, Oncology Nursing Society Library, Oncology Nursing Society, Pittsburgh, PA

Purpose: This poster describes the contributions of the librarian in identifying published systematic reviews on various topics of particular interest to the oncology advanced practice nurse (APN) and documents their conveyance via a teaching session and online resource center.

Setting/Participants/Resources: The Oncology Nursing Society (ONS) is a national organization of more than 30,000 registered nurses and other health care professionals dedicated to excellence in patient care, teaching, research, administration, and education. In November 2002, an APN retreat was held at the national office to instruct the approximately thirty-five attendees how to more effectively engage in evidence-based practices.

Brief Description: Along with several nursing faculty, the ONS librarian led sessions at this weekend retreat, demonstrating the use of the Cochrane Database of Systematic Reviews, PubMed, and the Cumulative Index to Nursing and Allied Health Literature (CINAHL) and MEDLINE databases via OVID in retrieving systematic reviews of the published literature. PowerPoint presentations provided overviews for each resource, and live search strategies were conducted, including hands-on breakout sessions with small subgroups devoted to particular topics or symptoms such as dyspnea, fatigue, and nutrition. Attendees were shown how to limit searches by publication type; for example, to a "Systematic Review" in CINAHL or "Meta Analysis" or "Review Literature" in MEDLINE. Other online resources were recommended, such as the Sigma Theta Tau Online Journal of Knowledge Synthesis for Nursing, the National Guideline Clearinghouse, and the ONS Evidence-Based Practice Resource Center.

Results/Outcome: Upon completing the retreat, participants are expected to be better able to incorporate evidence-based practice in their setting via the unfreezing, moving, and refreezing phases of change process; this will be reinforced during a "How Do I Make It Happen?" panel session. The searching, retrieval, and appraisal skills taught by the librarian will be an essential component of this implementation, allowing participants to more effectively consult the literature when making practice decisions. Integrated reviews on relevant topics will be maintained and continually updated online at the Evidence-Based Practice Resource Center.

Evaluation Method: A formal evaluation survey will be completed by all APN retreat attendees and submitted to the ONS Education Cancer Care Issues Team.

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Literature search for making a clinical guideline for cataracts in Japan

Shinichi Abe, reference librarian; and **Tomoko Yamada,** reference librarian, Medical Information Center, Jikei University School of Medicine, Tokyo, Japan

Background/Purpose: Since 1997, Ministry of Health, Labour and Welfare of Japan has started subsidies for making clinical guidelines based on the scientific evidence. The Japanese Ophthalmological Society studied making a clinical guideline for cataracts since 2000 to 2001 and completed it this spring. We participated in this project as member and helped with literature search.

Sources/Method: We searched Japanese and foreign medical literature to make the guideline. We used "Igaku Chuo Zasshi" (the biggest database of Japanese medical articles), PubMed, and The Cochrane Library. The foreign country articles were searched twice. Because the definition of the clinical guideline was not settled in the first year, we searched generally for "therapy," "diagnosis," "etiology," "prognosis," and "cataracta diabetica." The second search reached in the second year when definition of the guideline was settled. Because specification of research design was difficult for searching Japanese articles, we searched it by the method to enumerate text words and Medical Subject Headings (MeSH) about the subject of each part.

Results: The result of PubMed searching foreign country articles about cataract were 24,502. We did the first search in February 2001, and the search results amounted to 2,549. We did the second time search in August 2001, and the search results amounted to 751. The search results of domestic articles about cataract amounted to 4,924. Search results in The Cochrane Library about cataracts: CDSR had three reviews, DARE had four articles. In addition, we consigned it to the International Medical Information Center, because there were problems of search operation and copyright about the search of the Igaku Chuo Zasshi. These articles were reviewed for adoption or rejection as evidence of the guideline in the study group. Finally, 362 articles were selected as evidence for the guideline. English articles about cataract in foreign countries were 292 (80.7%). Japanese articles about cataract in Japan were 34 (9.4%). English articles about cataract in Japan were 36 (9.9%).

Conclusion: In literature searching for developing clinical guidelines, it is important that searcher understand a purpose and a range of the guideline, and librarians are suitable.

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Load up the Woody: portable classroom leads to partnership

Jeanne M. Le Ber, education services librarian, Education Services; **Nancy T. Lombardo,** systems librarian, Systems; and **John Bramble,** reference librarian, Reference; Spencer S. Eccles Health Sciences Library, University of Utah–Salt Lake City

Question: The health sciences library purchased a portable wireless computer classroom to address the shortage of available computers for instruction. One positive and unexpected result of this purchase was a new partnership with School of Medicine faculty.

Setting: This project evolved in an academic health sciences library in partnership with a school of medicine.

Method: The portable wireless classroom consists of ten laptop computers with wireless connectivity, a universal wireless access point, and a wheeled storage/transportation cart. Initial use of the portable classroom was to alleviate scheduling demands for the two teaching labs that accommodate a total of twenty-five students for hands-on instruction. Demand for library instruction often exceeds the capacity of the teaching labs, though instructors and space are not an issue. Discussions with the School of Medicine Curriculum Steering Committee resulted in an innovative approach to teaching second-year medical students onsite in the pathology lab using the library's portable wireless classroom and participation of library faculty. The pathology course director restructured the curriculum to take advantage of networked computers and online resources.

Main Results: Due to the flexibility and cost effectiveness of a portable wireless classroom, library faculty are able to deliver instruction where and when it is needed. In the case of the School of Medicine course, librarians accompany the wireless classroom to the pathology lab and provide resource instruction on location and in the context of specific cases assigned by the professor. Web-based cases allow students to link directly to library resources with library faculty available to provide point of need instruction.

Conclusion: The portable wireless classroom has alleviated the crunch for computers for instruction at the start of the school year. In addition, because of the availability of the portable wireless classroom, a unique partnership was established between the library and school of medicine. As a result of the library's participation, we have been able to:

- assist in providing a quality educational experience to the students
- expose students to online resources at a point of need
- instill skills necessary for lifelong learning

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Utilization of information resources by Tennessee's occupational and physical therapists

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Purpose: This study will evaluate the information-seeking behaviors of Tennessee occupational and physical therapists to determine (1) the library services and resources they most value for professional information, (2) their patterns of library resource utilization based on their job roles in the profession, and (3) their reasons for seeking or not seeking library services and resources.

Setting/Subjects: Participants were professional occupational therapists who attended the 2001 annual meeting of the Tennessee Occupational Therapy Association and physical therapists attending the 2002 Tennessee Physical Therapy Association. Both meetings were held in Nashville, TN.

Methodology: Participants received a two-page survey distributed at the beginning of their annual state meetings and returned later the same day.

Results: Results document that Tennessee's occupational and physical therapists share many information-seeking characteristics with other health care professionals as reported in previous studies. A significant number of the therapists reported using the Internet for professional purposes, a new trend in information-seeking research literature. Further examination of results may indicate differences in use of library resources between those professionals working in academic and clinical environments and between the two professional groups. Participants' responses to questions about their lack of use of library resources will provide insight for health sciences librarians exploring outreach programs for allied health professionals.

Discussion/Conclusion: Concluding remarks will note similarities and differences between results of this project and other research examining similar allied health professional groups.

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Informationist buzz: significant published and spoken words of a cutting edge concept

helen-ann brown, information services librarian, Weill Cornell Medical Library, Weill Cornell Medical College, New York, NY

Purpose: What is all this buzz about the informationist?

Setting: Davidoff and Florance published their editorial in the *Annals of Internal Medicine* in late June 2000, and since then the knowledge building world has been buzzing about the informationist. What is it? What does it look like? What are its qualifications? Has there been anything like it before? Will and where would it fit into the scheme of creating new knowledge and delivering health care?

Method: An extensive literature review was conducted. The clinical librarianship and information-seeking behavior literature was revisited. Papers from the Philadelphia Chapter of MLA of October 2000 discussing the informationist concept were read. Transcripts from the invited conference in Washington in April 2002 at the National Library of Medicine were reviewed. Records from the online May 2002 discussion were read. A paper presented at an international meeting in August 2002 was printed off the Web. Also, conversations were held with clinicians, informatics personnel, and researchers about the informationist.

Main Results: The informationist buzz is about! The concept is generating interest.

Conclusion: Ideas introduced in an editorial in a leading, read-by-many journal can start the buzz about a cutting edge concept. The published word is powerful and widespread enough to foster meaningful dialog in print, online, or in person.

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Selecting software for journal article delivery from the library to the desktop

David S. Brown, systems manager, Mayo Foundation Libraries, Mayo Clinic, Rochester, MN; **Ann M. Farrell,** coordinator, Library Services, Bursak Biomedical Library, Mayo Clinic, Jacksonville, FL; and **Karen E. Larsen**, library supervisor; **Dawn Littleton, AHIP,** public services supervisor; and **Larry Prokop,** reference librarian, Mayo Foundation Libraries, Mayo Clinic, Rochester, MN

Purpose: To enhance document delivery, an electronic document delivery (EDD) task force identified, evaluated, and ranked EDD automated systems with the goal of recommending the best product for the organization.

Setting: A large not-for-profit health care organization with facilities located in five states and an extensive intranet system. This organization's library system has provided traditional mediated photocopy services to employees and students at all sites. In 2001, approximately 164,000 articles were supplied. Routine delivery modes included fax and express mail for rush delivery, and intraoffice mail for non-rush items. Electronic delivery via email attachment was provided upon request but not routinely.

Method: Criteria were developed to evaluate and rank identified systems. Criteria included compatibility with the institution's technical environment, copyright compliance, system effectiveness and efficiency, capability of electronically delivering articles both inside and outside the institution, licensing and technical support issues, staff training and staffing issues, ease of use for the end-user, hardware requirements, scalability to the multisite environment, and cost.

Results: After ten months of evaluation and two months of testing, the EDD task force concluded that Prospero, when used as an internal document delivery system, would best fit the organization's document delivery needs and technology environment.

Discussion: This poster will illustrate the yearlong process and briefly describe the criteria used for EDD automated system selection in a high volume environment.

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Improving document delivery service to National Network of Libraries of Medicine network members: a Regional Medical Library "wipes out" its low fill rate

Beverly A. Gresehover, assistant director, Access Services, Interlibrary Loan; **Christian J. Miller,** reference assistant, Information and Instructional Services; **Vickie M. Gray,** coordinator, Interlibrary Loan; **Meg Del Baglivo,** electronic resources/continuations cataloger, Interlibrary Loan; and **Beth Wescott,** network access coordinator, Interlibrary Loan, National Network of Libraries of Medicine Southeastern/Atlantic Region; University of Maryland–Baltimore

Purpose: To improve a Regional Medical Library's DOCLINE lending fill rate from 71% to the 75% standard for resource libraries.

Setting/Subjects: An NN/LM regional medical library document delivery service.

Methodology: In December 2001, a library task force began work to improve the DOCLINE lending fill rate by studying an analysis of unfilled requests for the previous year. Areas needing improvement were identified, and strategies were developed to improve performance. Reasons for unfilled requests within and beyond the library's control were studied. Regular patterns of borrowing libraries that caused the fill rate to decrease were tracked, and the regional DOCLINE coordinator or the document delivery office of the Regional Medical Library contacted requestors to encourage changes in their requesting patterns.

Results: Enthusiastic collaboration among the library's departments resulted in a better understanding of the way many departments' activities affect the fill rate. Analysis of requests received continues, and, by the first quarter of 2002, the fill rate had improved to 84% excluding requests not filled due to cost.

Discussion/Conclusion: Many factors combined to result in an improved fill rate including: improved searching of the online catalog and stacks by staff to retrieve items requested, resolution of inconsistencies between our online catalog or Serhold holdings and items owned, and communication with requestors who submit requests for items the library does not own, set their maximum cost below our standard fee, or do not use the DOCLINE M/A/N map appropriately. Continual analysis of unfilled requests is essential to maintain a consistently high fill rate. Although the library does not control all factors that have an impact on the fill rate such as availability of citations and abstracts before articles are actually in print and distributed to libraries, consistent vigilance must be maintained in analyzing the accuracy of serials holdings data, enabling staff to accurately search for and retrieve items from the collection, and collaborating with requestors to utilize the DOCLINE system effectively to maintain a respectable fill rate as a Regional Medical Library.

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Comparison of delivery options for interlibrary loan requests in a hospital setting

Karen L. Roth, AHIP, manager, Medical Library, Morton Plant Mease Health Care, Clearwater, FL, and **Thomas W. Hill,** medical librarian, Medical Library, Self Regional Healthcare, Greenwood, SC

Purpose: This poster will delineate the available delivery methods for interlibrary loans in a small hospital library and compare their varying uses for both internal and external customers.

Setting: The home of the main medical library is an urban not-for-profit community hospital. The Medical Library carries approximately 2,000 books and 250 print journal subscriptions and makes available several online full-text resources for all patrons. The library is staffed forty hours per week and is available 24/7 to physicians and hospital personnel.

Brief Description: Data will be collected over at least one three-month period. The main hospital library has one copy machine, which not only makes paper copies but can also make paperless faxes and scan items into tagged image file format (TIFF) or portable document format (PDF). The library also has a microfiche machine, which can make paper copies, paperless faxes, or TIFF files for attachments. Only data on "copies" made of journal articles during the prescribed time frame will be collected.

Expected Outcomes: Data collected from this project will be compiled to understand how best to serve the library's customers needs. Many library patrons have expressed a desire to receive information using email and/or other computer access. Moving to a more seamless approach will expand the customer base of the library. Graphing the collected data should show the trend to paperless information.

Discussion: The Medical Library continues to move toward non-paper products and also continues to "push" the consumer towards that end. Most of the library's patrons have computer access either at home or at work or both. Utilizing currently available means, as well as working with the hospital's Web

team on future electronic methods, will advance the library's usage throughout the health care system. It should make library materials more readily available to more patrons.

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Order by number: developing an automatic citation retrieval feature for a Web-based document request form

Paul Worona, assistant director, Systems; **Ammon S. Ripple,** document delivery librarian/reference services coordinator; and **Jody A. Wozar,** Web manager/reference librarian; Health Sciences Library System, University of Pittsburgh, Pittsburgh, PA

Purpose: This poster will describe the use of an National Center for Biotechnology Information (NCBI) Entrez utility and extensible markup language (XML) to develop an automatic citation retrieval mechanism for a Web-based document request form.

Setting/Participants/Resources: Large academic health sciences libraries typically receive and fill hundreds of document requests each month for library users. In one such setting, a number of improvements have been instituted to facilitate this often tedious process for both users and staff. Users who request documents on the library's Web-based document request form are required to re-key document citations. Even though the library's form was carefully designed to make it as efficient and user friendly as possible, library users still complained about the time it took to order documents. Also, many citations were entered incorrectly or incompletely causing extra work for document delivery staff. Librarians from the Systems and Document Delivery Departments collaborated to come up with a solution.

Brief Description: To address these problems, we developed a PMID/UI search feature which allows the requestor to simply enter the PMID Number or the Ovid UI number and the full citation is retrieved from the PubMed database. The PMID/UI search feature uses the EFetch utility to retrieve the citation from PubMed. EFetch is an Entrez utility that application programmers and Web developers can use to access content in the National Library of Medicine (NLM) databases. Using EFetch, the citation is retrieved in XML format. The XML is then parsed and the individual citation elements are displayed in the form's input fields. Using this form, users are able to look up and submit multiple citations to be processed by the document delivery department.

Results/Outcome: Not only is this new feature a convenience for the user, but document delivery staff receive the complete and correct citation, including the all-important PMID number, which allows for increased staff efficiency and improved turnaround time.

Evaluation Method: The document delivery librarian will interview frequent users to get input on the ease-of-use and overall usefulness of this new feature. We will evaluate whether the number of document requests that include a PMID/UI number increases once the feature has been in place for two months.

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The current gains strength: evolution of a multidimensional nursing liaison program

Anne D. Powers, AHIP, education services librarian, and **Patricia L. Thibodeau, AHIP,** associate dean, Library Services, Medical Center Library, Duke University, Durham, NC

Purpose: This poster will trace the development of a relationship between the library and the school of nursing, from a collaboration supporting a distance-education initiative to a broad-based formal liaison program.

Setting: The library is part of an academic health center and serves, among others, a school of nursing offering master's level education, post-master's certificate programs, a growing number of distance-education programs, and an accelerated bachelor's of science in nursing program.

Description: Although the library has served the School of Nursing (SON) for many years, a closer relationship began in 1997. At that time, the library entered into an ongoing collaboration with the SON, our affiliated Area Health Education Center library, and another university on a Partnerships for Training project to provide library and information services in support of distance education for mid-level primary care practitioners. Another opportunity for substantial collaboration followed in 1999, as the library refocused its attention on education and outreach services. The "Partnerships" librarian and education coordinator met with SON faculty members to discuss ways to ensure that students received appropriate orientation to library resources and instruction in database searching. The outcome was library participation in SON orientations for new students and integration of a two-part literature searching component into a required research methods course, including content on evidence-based practice resources. In 2001, building on these relationships, library and SON administrators decided to launch a formal liaison program. The liaison librarian attends faculty meetings and provides updates on library resources, services, and initiatives, as well as monitoring developments in the school that may impact the library. A number of specialized services have also resulted from the program.

Results: The formal liaison program is highly valued by the SON, based on feedback from students and faculty alike. The library is more responsive to their needs and has gained important insights into SON activities. The success of a program such as this depends on many factors, including a significant commitment of library staff time, a liaison with a strong interest in the affiliation and in developing subject expertise, and an approach that builds on successful collaborations.

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The multifaceted role of a library nursing liaison

Carolyn M. Brown, AHIP, reference librarian, Health Sciences Center Library, Emory University School of Medicine, Atlanta, GA

Purpose: The poster will showcase the various levels of support that the library nursing liaison provides to the faculty, staff, and students at a nursing school.

Setting/Participants: The library is an academic health sciences library located in a major metropolitan area. The library serves several schools including a nursing school.

Brief Description: The nursing school faculty and staff are categorized into full-time tenured faculty, clinical faculty, preceptors (staff who monitor students at hospitals and clinics), administrative assistants, and the Learning Resource Center (LRC) coordinator. Students are undergraduate, graduate, doctoral, and post-doctorate. Curriculum backup, education, and research are the primary components of support provided by the liaison. I will illustrate the levels of support provided to these groups. For instance, curriculum backup involves collection development or customizing a library presentation to a nursing theory class. Educational support involves maintaining regular office hours at the nursing school LRC or helping students with subject searching. I also instruct the LRC coordinator to better assist students in the use of library resources. Research support involves assistance with search techniques and selecting databases, grant writing, locating electronic full text documents, or coauthoring an article with a faculty member.

Results/Outcome: The results will show that the liaison provides many levels of support to a diverse nursing school community. Going beyond the traditional boundaries of librarianship, the liaison is respected and accepted as a colleague. The students perceive the library as a place where they can readily get assistance via email, by phone, or in person, and they see the library as a resource for life long learning.

Evaluation Method: The nursing liaison partnership takes time to establish. The liaison is now invited to the annual all faculty meeting, The liaison has acquired more knowledge about the nursing curriculum and nursing research and developed a trusting relationship with faculty, staff, and students.

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Collaborative development of a Web knowledgebase for a liaison program

Holly A. Harden, liaison librarian; **Kathleen B. Oliver,** associate director, Communication and Liaison Services; **Tina M. Otter,** reference librarian; and **Ming Zhu,** Web development programmer; Welch Medical Library, Johns Hopkins University, Baltimore, MD

Purpose: This poster will describe the collaborative process of developing and using a database to meet the needs of a library liaison program. It encompasses the database technology, some preliminary results from its use as a knowledgebase for liaisons and as a management tool for program oversight and institutional fiscal and program accountability.

Setting/Participants/Resources: The setting is a health sciences library in a large academic university with a distributed user community of over 23,000. In early 2000, the library launched an outreach program in the form of departmental liaisons. The purpose of the liaison program is to communicate about library services, collections, and programs but more importantly to listen to faculty, students, and staff and identify information needs. The program goal is to maintain best practices in a collaborative partnership between the library, its librarians, and their clientele. The liaison group formed a partnership with the Web development programmer in the library's technology group to develop a database that would help document, share, and monitor outreach efforts.

Brief Description: Over a six-month period, the group shaped a Web-based interface for descriptive entry, analysis, and reporting of liaison contacts. Development initially involved a needs assessment for the database by both the developer and the liaisons. The developer needed to understand liaison workflow and process to model them effectively using Oracle database software and ColdFusion, while the liaisons clarified their needs for specific functionality and usability of the knowledgebase. Initially, the group held lively bimonthly question-and-answer sessions. This was followed by a period of continuous testing, feedback, and analysis.

Results/Outcome: Reports generated from the knowledgebase effectively document the patterns of outreach by the liaison program. Managerial staff can use this information for budget justifications and meeting background material, as well as for planning future library program and services development. We anticipate the knowledgebase development process will continue and involve other areas of library service; the practice of liaison librarianship will dynamically define the parameters of the database, and the information generated from the database will inform our liaison library practice.

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A library-based laboratory for bioinformatics support

Stephen Cammer, Ph.D., bioinformatics specialist, UCSD Libraries and Graduate Program in Bioinformatics; and **Susan Starr, Ph.D.,** director, UCSD Biomedical Library, and associate university librarian, UCSD Libraries, University of California–San Diego, La Jolla, CA

Purpose: To provide a research and training facility to meet the needs of students and faculty in our graduate bioinformatics program and others outside the program.

Participants/Setting: The participants include faculty and students in the graduate bioinformatics program and others outside the program at a major public university.

Brief Description: The bioinformatics laboratory provides a unique facility from which the libraries can support the growing need for training in the use and selection of bioinformatics resources and tools. The laboratory facilitates the research needs of students in our new graduate program in bioinformatics, and its creation allowed us to establish a program that provides hands-on training for faculty and students not directly involved in bioinformatics research. To help realize the laboratory's potential as a library resource, the libraries and the graduate program in bioinformatics have jointly hired a scientist to provide training for faculty and students. This specialist oversees the laboratory housed in the main library building. Specifically, the laboratory is used for training in the use of Internet resources for bioinformatics, selection of bioinformatics tools, and application of tools for research. To promote the laboratory, a Website has been developed that provides links to Web-based bioinformatics resources and enables distribution of course-related materials and surveys. The laboratory contains fifteen modern UNIX workstations housed in a comfortable, classroom-like setting.

Results: The bioinformatics laboratory has been established for use by students and faculty in our bioinformatics graduate program. Students in the program have made extensive use of the laboratory, and we further use the facility to train faculty and students outside the bioinformatics program.

Conclusion: Students in the program have benefited from having a central facility to use current bioinformatics software and a home to do research prior to joining a research group. More importantly for the libraries, a library-based resource in bioinformatics has been established. Based on our current results, we intend to extend use of the laboratory by offering more courses and workshops to reach our growing user base in bioinformatics.

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Managing a library renovation project: a team approach

Deanna M. Lucia, associate director, Administrative Services; and **Mary E. Piorun, AHIP,** associate director, Library Systems, The Lamar Soutter Library, University of Massachusetts Medical School–Worcester

Purpose: This poster will present the benefits of using a team approach to managing a library renovation project, from the initial planning phase to completion and follow-up.

Setting/Participants/Resources: The library is a mid-size academic health sciences library. The library occupies 41,000 square feet within the medical school and employs forty-one full time employees. The library has been using a team-based approach to operational problem solving since 1989.

Brief Description: By the mid-'90s, the library was in desperate need of a face-lift and updating to accommodate the current advances in technology. In 1998, the first team was formed to look at the condition of the library and recommend both short-term and long-term improvements. Four years and six teams

later, the library has undergone a complete renovation with new furniture, paint, and carpet and an improved layout that accommodates the electronic access needs of our patrons.

Results/Outcome: Having staff members from every department involved in all of the various teams allowed each department's specific needs to be considered during each step of the project. Involving library staff in the decision-making process resulted in staff buy-in to the project and has given staff a sense of ownership for the "new" library.

Evaluation: The library renovation was successful on two levels; it improved the physical space by providing patrons with more seating options, better lighting, and increased accessibility to the library's collection and resources. The renovation also provided staff with work areas that are centralized by department and a more open work environment that is conducive to collaboration. The renovation was also successful because the team-based approach to its management made faculty, staff, and students feel like they were included in the decision-making process throughout the project. This feeling is reflected in the new sense of pride in the library and interest in its upkeep shown by all faculty, staff, and students.

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Using Flashlight Online to shine a light on instructional assessment

Barbara F. Schloman, Ph.D., AHIP, assistant dean, Library Information Services, Libraries and Media Services, Kent State University, Kent, OH

Purpose: This poster will report on the use of Flashlight™ Online, a Web-based tool, to assess varying types of instructional sessions.

Setting: Kent State University Libraries serve a campus of 24,000 students pursuing degrees from the undergraduate to the doctoral level. Strategic goals of the libraries include furthering student success through an active instructional program and assessing the effectiveness of those efforts.

Brief Description: Kent State University subscribes to Flashlight Online, a Web-based system designed to aid in measuring the effectiveness of educational uses of technology. It is a very flexible tool for surveying students via the Web, collecting data and obtaining a report of results or the raw data. A faculty member can devise a survey by drawing upon a large set of validated items or use templates to create customized questions. This past year, the libraries began utilizing Flashlight Online to obtain systematic feedback for a variety of instructional programs.

Results/Outcome: Uses of Flashlight Online have included online tutorials, open-subscription workshops, and course-integrated instructional sessions. For the college of nursing, it was also used for feedback on an inservice session offered to nursing faculty.

Evaluation Method: Flashlight Online has proven to be an effective and efficient tool to obtain student feedback. Individual librarians use results to improve presentations, initiate further discussion with classroom faculty, and revise tutorials. Aggregate data for large instructional programs guide in the future direction those efforts might take.

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Puddle jumping: making a splash with instruction at outlying university clinics

Heidi C. Marleau, outreach librarian, Health Sciences Libraries, University of Wisconsin–Madison

Program Objective: Conduct a series of workshops at university-affiliated rehabilitation clinics to introduce clinicians to basic electronic resources to which they have access but may have little time to search or do not feel comfortable searching. Off campus users cannot easily take advantage of library workshops or make an appointment with a librarian. Therefore, reaching out to clinicians practicing off campus is necessary.

Setting: Five instructional sessions were held at four university-affiliated rehabilitation clinics.

Participants: Over fifty clinicians participated. Approximately forty were physical therapists, occupational therapists, or speech pathologist. Approximately ten were residents on their rehabilitation rotation. All were university affiliates and attended voluntarily.

Program: Using the familiar hospital Website as a base, we demonstrated a variety of library resources including e-journals, e-books, databases, and help aids. Examples were tailored to the group present. Other topics covered included remote access using a university ID, asking for help, and using tricks of trade. Each hour lecture featured a live presentation using a laptop and data projector.

Main Results: First, we made effective use of time and resources by applying the materials developed for one user-requested instructional session to a series of workshops. Second, the clinicians received an introduction to electronic resources available to them on their desktop. Third, the library now has a model to follow in future endeavors with instruction of outlying clinics. Finally, the library collaborated with the hospital to use their otherwise impenetrable network.

Conclusion: Capitalizing on contacts made via user requests for instruction may lead to additional opportunities to reach more users and make effective use of already developed material. Feedback gathered from paper evaluations and anecdotally was overwhelmingly positive. Most participants were interested in additional sessions covering other topics such as evidence-based health care. The library is now poised to offer similar sessions to other outlying clinics.

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Breaking down barriers: reaching out to surgery residents

Mark Berendsen, reference/education librarian, and **Linda O'Dwyer,** reference/education librarian, Galter Health Sciences Library, Northwestern University, Chicago, IL

Purpose: This poster describes a library education outreach program designed to serve the surgery residents of an affiliated hospital.

Setting/Participants/Resources: The library is a medium-sized, academic health sciences library, serving a varied patron base that includes faculty, staff, students, and residents. Because residents spend the majority of their time in the hospital setting, barriers to library use are often created. In addition, residents have often been underserved by the library's education initiatives.

Brief Description: In the spring of 2002, the library began an outreach program aimed at surgery residents. The objectives of the program were: to determine information needs unique to surgery residents, to develop usable solutions to those needs, and to foster greater communication between the library and the department of surgery. Librarians met with the department chair and surgery education program planners and performed a needs assessment. Librarians then created a Web-based Surgery Resident Resource Guide that included links to relevant databases, books, electronic journals, and audiovisual resources. An orientation program for new surgery residents

was designed. The library also developed a strong presence on the surgery residents' Web portal, including links to library-created Web guides and librarian contact information. As a further means to promote the library and respond to research queries, a librarian started to attend the regular morbidity and mortality meetings. Currently, the library is working with the department of surgery to add relevant Web and multimedia resources to the library's electronic collection. Future plans include an evidence-based medicine (EBM) workshop geared to the surgery residents' needs, a clinical questions Website on relevant surgery topics with links to systematic reviews and EBM search strategies, and library participation in the information competency component of the residents' education.

Results/Outcomes: This outreach program has resulted in increased awareness and use of library resources, a higher profile for the library among surgery residents, and increased respect for what the library can do for its specific user populations. It is hoped that this can be a model for future collaboration between the library and residency programs in other disciplines.

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Creation of a model education plan for an academic health sciences library

Shawn F. Manning, coordinator, Education Services; and **Marie T. Ascher,** head, Reference, Medical Sciences Library, New York Medical College–Valhalla

Setting/Participants/Resources: The library is an academic health sciences library serving three schools, with a total FTE of 1,157, 1,380 faculty and 1,309 residents. In 2001/02, a total of 91 training sessions were provided for more than 792 attendees. There are four full-time reference librarians.

Brief Description: The library launched a new initiative to better plan and support the educational and institutional needs of its faculty and students. This poster presents and outlines the steps that must be taken into consideration in creating a health sciences library education plan for our library. In devising such a plan, one must consider many of the current standards and expectations of various accrediting and guiding organizations. For example, educational competencies and standards set by the Association of American Medical Colleges (AAMC), the Accreditation Council for Graduate Medical Education (ACGME), and Association of College and Research Libraries (ACRL), among others, as well as standards and competencies in one's own institution, must be reviewed and assimilated into a library education plan. The overriding annual goals and objectives one's own library must also be considered.

Results/Outcome: After synthesizing the literature regarding education plans, as well as the standards set by various authorities, a model plan was created that would guide the library in better achieving the goals and objectives set by these organizations, in the context of our own needs. Actions taken thus far include: increased outreach via regular liaison visits to teaching faculty on campus and at clinical sites, creation of lesson plans for all classes offered by the library, a draft and planned revision of the library education plan, and follow-up with attendees of library classes to measure skill retention. The education plan has resulted in dynamic partnerships and set up regularly scheduled visits with key program directors. An immediate increase in library instruction and activities was felt.

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Millennials in action: a student-guided effort in curriculum integration of library skills

Stewart M. Brower, coordinator, Information Management Education, Health Sciences Library, University at Buffalo, Buffalo, NY

Case Report

Question: What contribution can the new generation of Millennial students make in guiding their own learning and development of library and information literacy skills?

Setting: Students in the School of Pharmacy and Pharmaceutical Sciences at the university initiated and guided the integration of library and information literacy skills training in the professional doctor of pharmacy degree program. Following two sections of course-related instruction provided by the library's pharmacy liaison, several students approached the instructor and suggested that the skills, while valuable, would be better learned earlier in the curriculum.

Method: By working in tandem with the coordinator of information management education (IME) at the Health Sciences Library, students serving on the Curriculum Committee for the school helped map out a three-year plan for training in library and information literacy skills. Through meetings and email exchanges with the student representatives, the IME coordinator began to develop a series of specific course-related instruction and assessment opportunities that would cover tertiary resources, bibliographic searching, evidence-based pharmacy, and advanced information skills.

Results: Students agreed to a series of objectives as outlined by the American Association of Colleges of Pharmacy and other organizations. Specific roles for the library and the school were outlined and adapted by the students as well. Finally, the working outline was returned to the Curriculum Committee and approved.

Conclusion: This student-guided effort demonstrated how Millennials recognized the importance and utility of information skills and were willing to take action to see that their educational needs would be met. The newest generation of learners believe in taking an active role in their education and are willing to put their time and energy into building a better curriculum for themselves.

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Healing the soul with artwork

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

Doctor's Day was first observed in Winder, GA, by the Barrow County Auxiliary, on March 30, 1933. That date marked the time Crawford W. Long, a Georgia physician, first used modern anesthesia in surgery. The object of the day, according to the auxiliary, was the well-being and honor of the medical profession, and its observance was to demand some act of kindness, gift or tribute in remembrance of physicians. Since then, diverse Doctor's Day celebrations have been held annually throughout the country. Our hospital has been no exception, hosting its own myriad of tributes. Over the years, the library has passively participated in these celebrations, often using the day to publicize its physician-oriented services. Last year, a member of our medical staff, who is also an accomplished photographer, and the manager for physician services, approached me with the concept of hosting an art exhibit of doctor's works in our new library. Physicians, they explained, create artwork to relieve the stresses of their hectic and demanding practices and would love an avenue to show these works to the public. The library jumped at this unique opportunity to become more actively involved with Doctor's Day, to showcase the hidden talents of the medical staff, and to showcase its new facility. The response was overwhelming. On March 25, 2002, the first Physician's Art and Photography Exhibit opened with a cocktail reception held

in the library, complete with music from another physician and his jazz ensemble, to recognize the artists. Nearly 100 paintings, sculptures, and photographs were exhibited in the library and throughout the medical center. The poster will demonstrate the steps taken to make the Physicians' Art and Photography Exhibit a reality and suggestions on how to coordinate a similar event.

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Onsite or online: promote your library with floorplans

Greg Pratt, D.D.S., AHIP, education & reference librarian, Research Medical Library Unit 099, M. D. Anderson Cancer Center, Houston, TX

Purpose: Following the precept of *create once, use many* and using a library floorplan as an example, this poster illustrates how projects can be planned so that outcomes serve multiple purposes. This integrated effort helps to maximize the benefits realized from the time spent in development.

Setting/Participants/Resources: Our institution serves a diverse client group that includes approximately 3,000 new trainees from around the world and up to 1,000 new employees each year. This large annual influx of novice library users presents a challenge to orient and instruct using existing staff and resources.

Brief Description: The library identified a need to reduce directional questions and increase user self-sufficiency, particularly among new users. The initiative chosen to implement first was to develop and distribute widely a library floorplan as both an informational and promotional tool. To maximize the resources invested in the project, the library wanted to be able to use the floorplan in as many media and settings as possible. This planned, integrated development enabled the floorplan to be used instructively on the library's Website, as printed maps distributed from the Information Desk and kiosks, as interactive finding aids on public access terminals in the library, and as promotional tools on CD-ROMs distributed at orientations and training sessions. While this example uses a graphic image, the principles followed could work equally well for printed documents.

Results/Outcome: This is a new initiative and assessment is ongoing. To date comments are favorable and additional ways to use outcomes from the project are being discussed.

Evaluation Method: Use of the library's floorplan in its various media and settings is being measured with hit counters on the computer-based products, counts of the number of items distributed for the print and CD-ROM products, and anecdotal comments from the library's users and staff.

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Theme of the month marketing

Herldine M. Radley, librarian 1; **Therona Ramos,** librarian 1; and **Sharon Giles,** co-manager, Information Desk; Library, University of Texas Southwestern Medical Center–Dallas

Purpose: The Library Marketing Team plans a focused monthly marketing of one product or library service.

Setting/Participants/Resources: The library is a large, academic health sciences library in an urban setting. During a review of the renovated library, it became apparent that a disorganized impression was created by multiple product flyers, posters, table tents, and other paraphernalia used to market the library's products and services. This multiple marketing diluted the messages we were sending our clients.

Brief Description: The marketing team took responsibility for promoting activities, focused on one product or service per month, limited and reduced the number of displays, and standardized the flyer format.

Outcome: Theme of the month marketing is accomplished using a library electronic newsletter, the university newspaper; flyers throughout the library, electronic banners on the Website, and a PowerPoint slideshow at the entrance of the library. Some previous months focused on Bindery Services, Free Searches, a new library home page, Education Consults, LibrarianLive Virtual Reference Service, SciFinder® Scholar 2000, Current Protocols®, Laptops for Loan, OVID Online, BIOSIS®, and PDAs in the Library. Examples are included.

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Riding the wave to powerful poster presentations

Jeanne M. Le Ber, education services librarian, Education Services; and **Susan Roberts,** graphic designer, Knowledge Weavers, Spencer S. Eccles Health Sciences Library, University of Utah–Salt Lake City

Purpose: Posters are an effective method for communicating with colleagues. At professional meetings, posters are used to report research results, educate, share ideas, present projects, review history, and tell stories. With the right tools and an understanding of basic design, creating an attractive, informative, well-balanced, interesting, easy-to-read, and portable poster is simple. This poster introduces various tools, techniques, and suggestions for creating powerful posters. Successful posters convey their message using attractive graphics, a minimum amount of text, and just the right amount of white space.

Setting: These techniques are appropriate for poster presentations at local, regional, national, or international meetings. In addition to posters, these techniques can be applied to create signs for program announcements and to advertise institutional events.

Description: In the not-so-distant past, creating a poster meant measuring, cutting, trimming, pasting, pinning, and using construction paper and oak tag. Computer technology, software programs, and "large" color printers have provided new tools and techniques for the production of posters. Four issues for today's poster designer include:

1. selecting appropriate software
2. applying basic design principles
3. using images and fonts
4. using color palettes

Results: Designing a powerful poster on your personal computer is a simple process that involves selecting an appropriate software program and learning a few basic design and color principles. A powerful poster will communicate your message more effectively, clearly, and attractively to your colleagues and peers.

Conclusions/Evaluation: Catch the perfect wave and make your next poster a winner.

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Facilitating metatagging of rich media learning objects by faculty

Juliane Schneider, bibliographic database librarian, Ehrman Medical Library; **Jacqueline Spiegel-Cohen,** programmer; **Eunbong Sohn,** programmer; and **Martin Nachbar, M.D.,** co-director; Advanced Educational Systems; New York University School of Medicine–New York

Purpose: To design and build a user-friendly interface for the metatagging of rich media learning objects by non-experts and the integration of controlled vocabulary metatags into the

interface. To assess the ability of faculty (nonlibrarians) to correctly apply controlled vocabulary to rich media data objects.

Setting/Participants/Resources: We are part of a large, academic medical center. Participants are faculty who participate in the teaching of first- and second-year medical students. This project takes advantage of faculty usage of fully developed Web-based authoring tools.

Brief Description: The growing number of electronic curriculum materials and the demand for access to them by faculty and students requires two components. First, an interface by which rich format materials may be retrieved easily and accurately and, secondly, a system by which metadata and a controlled vocabulary can be applied to the materials for ease of retrieval and the application of metatags. Metatags, including controlled medical vocabulary (SNOMED/UMLS), Health Education Assets Library (HEAL) metatags, and institutional keywords, are applied by the owner of the material. Professional indexers review the materials for proper application of terms.

Results/Outcome: The formation of a team of end users and developers has resulted in an intuitive interface that allows ease of use in applying metatags to rich format materials. However, as the process of developing the interface is iterative, future modifications and improvements are expected.

Evaluation Method: Indexers review the validity of the completed tagging. Qualitative assessment by a larger cohort of faculty is the second phase of the project. The eventual use in retrieval will help to validate the value of the metatagging and interface.

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Metrics: a move in the right direction

Betsy Moore, senior knowledge consultant, and **Eileen Stanley, AHIP,** manager, Library Services; and **Donna P. Johnson, AHIP,** director, Library and Media Services (retired), Library Services, Allina Hospitals & Clinics, Minneapolis, MN

Purpose: To report on an ongoing project undertaken to provide a comprehensive statistical representation, "Library Metrics," of the productivity of library services as well as customer usage of traditional and electronic resources and services.

Setting: A midwestern health care system comprised of metropolitan, suburban, and rural hospitals, along with a number of multi-specialty clinics. Centralized library services with multiple physical library sites are provided for all of these facilities.

Brief Description: Quarterly, monthly, and annual statistics have traditionally been used to generate reports that reflect library productivity and customer-usage volumes. In recent years, the format and content of these reports have become increasingly sophisticated and more attractively presented. They are used by the manager of library services for communication with senior management and other key decision makers. In 1999, during a time of major cutbacks, our initial efforts at a professional-looking presentation made all the difference and resulted in no cuts for library services. Since then, a key component to making these reports even more effective is regular discussion and evaluation by all library staff members. At both professional and paraprofessional staff meetings, time is set aside to discuss trends, provide updated narrative, and continually improve the library's metrics presentation. The components are flexible and can be presented in a PowerPoint format or in a print format. Many challenges remain: they include obtaining consistent, meaningful statistics from electronic vendors and finding new ways to document the effectiveness, efficiency, and changing roles of library staff and the services they offer.

Results: A powerful and flexible tool is emerging that functions in multiple ways: as a visual picture of library productivity and usage, as a snapshot of library services that can be used for evaluation and planning, and as a formal presentation that can be readily used with key senior management.

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Surviving a budget tsunami

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

Purpose: This poster investigates the process of keeping the library's core mission afloat when the medical school could not cover decreases in the library's funding from the hospital.

Setting: The library is located in an academic health center that supports research, education, and patient care.

Description: While most libraries have developed disaster plans to handle crises caused by flooding, earthquakes, or other natural phenomena, very few are prepared to handle a major budget tsunami on the magnitude of a 25% to 30% decrease in funds. The first step in the library's process of staying afloat was to identify its current financial reality by analyzing allocations to personnel, collections, and operational expenses and trends in revenues and inflation. The second step was to decide exactly where the cuts would be taken over two to three years. To help set priorities, the library conducted a Web survey that indicated the types of materials the patrons wanted and needed. The library then turned to the more difficult task of reviewing staff positions for possible elimination. The third step was to prepare library patrons for the big wave of change that was headed their way.

Conclusion: From the shoreline of their teaching, research, and clinical settings, it is difficult for the university community to see the full force and power of the wave created by the budget cuts. As with a tsunami, the impact of decreased access to resources will build over the next six to twelve months as the annual subscriptions end, but the full force of the wave will not be fully realized for almost two to three years. The library hopes that through its education and marketing efforts, as well as its careful budget analysis, patrons will understand the necessity of the library's decisions and create support for restoring its budget when the economic tide turns.

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Project management: establishing and implementing an information network in rural South Alabama

Jie Li, AHIP, medical center site coordinator; **Judy F. Burnham, AHIP,** assistant director, Administrative and Regional Services; **Ellen N. Sayed, AHIP,** document delivery coordinator; **Thomas L. Williams, AHIP,** library director; **Fletch L. Bowling,** computer analyst; and **Robert R. Runderson,** systems specialist, Biomedical Library, University of South Alabama–Mobile

Project Objective: The objective of this project is to use project management techniques to efficiently manage a project that will narrow the gap of information access between rural and urban health care professionals by bringing the digital library to the rural health care practitioners.

Setting/ Participants: A grant was received by an academic health sciences library to meet the information needs of nine hospitals and two clinics in the south Alabama area. The project was planned and implemented by a team of librarians and information system managers.

Brief Description: Rural south Alabama is a medically underserved area. The poster discusses how project management methods were used to establish and implement an information network at the selected eleven sites in rural South Alabama to support patient care and clinical education, with preselected health resources that are of high value to health care professionals. Project techniques and tools such as project selection, goal setting, funding, planning, use of the critical chain method, tracking of the buffer zones, using forward thinking approach for uncertainty management, task assignment, managing multiple tasks, and team approach will be demonstrated in the poster. The triple constraint of time, money, and specifications of the project will also be discussed.

Results/Outcome: Using project management techniques—such as work breakdown structure, multiple task management, and triple constraint—makes it easier to manage the project and to reach its goals on time and on target with available resources.

Conclusion: Project management offers an effective method for implementing projects in various areas. Using project management techniques will get the project done on time, within the budget, and according to specifications.

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Riding the wave to rural Texas: librarians support year three medical students at remote sites with electronic resources and digital communication tools.

Linda N. King, AHIP, reference librarian, and **Daniel E. Burgard, AHIP,** instructional services librarian, Gibson D. Lewis Health Science Library, University of North Texas Health Science Center–Fort Worth

Question: Because medical students on rural rotations were previously cut off from timely access to library services, the library, along with the departments of biomedical communications and family medicine, teamed up to deliver the hardware, software, and training necessary for students to satisfy their information needs while at remote sites.

Setting: Third-year medical students from our urban university health sciences center spend twelve weeks at one of twenty-five small-town clinics. They participate in the life and work of rural physicians.

Method: Money from a state grant was used to build the infrastructure for data, voice, and video transmission to the affiliated rural clinics. Clinics were provided with a high-end personal computer, and university personnel visited each site to install the machine and ensure Internet connectivity. A series of new Web pages tailored to the rural students helps them navigate library resources. A virtual private network is used to allow remote access to IP-restricted databases, and special passwords are distributed for access to tools such as Ovid MEDLINE and MD Consult. Although some sites are limited by low dial-up bandwidth, the students can now access the library's electronic resources as if they were on campus. In addition to extending access to information resources, the rural network allows students to send instant messages to librarians. Using Yahoo! Messenger, they can carry on chat sessions with library and program staff or with the other clinics.

Main Results: Before embarking on their rotation, students go through a three-hour training session covering the use of the software and library databases at their disposal. They see the basic layout of the rural clinic computers and learn to communicate with Yahoo! Messenger. Most importantly, the students are taught the best ways to exploit library resources and how to obtain help with their information needs while living in rural and far-reaching parts of our state.

Conclusion: Students now communicate with librarians while on rural rotations. Their questions indicate they are using the tools and services we have provided. "Exit interviews" provide us with feedback. The library's contribution is appreciated by the students and family medicine department.

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Building castles in the shifting sands of health information: developing an information portal for cardiovascular resources for Florida's health professionals

Linda C. Butson, associate director, Outreach Services, and Area Health Education Center (AHEC) librarian, Health Science Center Libraries, University of Florida–Gainesville; **Sharon Schmidt,** librarian, Central Florida AHEC, Nova Southeastern University Area Health Education Center Program, Apopka, FL; and **Debbie Hawkins,** assistant director, Evaluation, North Florida AHEC Program, University of Florida–Gainesville

Purpose: This poster will report on the development of the Florida AHECPortal: Health Information for Health Professionals, a health information resource designed to disseminate cardiovascular-related information to health professionals in rural and underserved areas.

Setting/Participants/Resources: In November 2001, the Florida Department of Health (DOH) Bureau of Chronic Disease requested assistance with their Statewide Cardiovascular Initiative from the Florida Area Health Education Center (AHEC) Network. The AHEC Network proposed the development of an information portal. The authors of this poster took the lead in designing the portal, identifying its components and search features, and evaluating the resources to be included in a prototype targeting women's health and cardiovascular disease. On July 1, 2002, the AHECPortal was unveiled for the DOH.

Brief Description: This Web-based resource includes scholarly and professional cardiovascular health information: case studies, tutorials, free online medical journals and books, practice guidelines, medical dictionaries, cardiovascular-related news, continuing education, professional organizations, health statistics, and downloadable patient education materials in English and Spanish. Sites were identified by: searching the Web, following related links and gathering sites that were submitted for consideration. Sites included in the portal are evaluated by librarians for content, authority, currency, accuracy, and scope. Navigating through the portal was simplified by the portal's innovative yet functional design. Users can search by resource type, subject, and keyword. Each link has been categorized by whether the information is free, requires registration, or is available for a fee. To expedite the information search, the contents of each resource has been annotated, including when information is available in Spanish or Haitian, two languages of Florida's minority populations. The AHECPortal can be viewed at www.flahec.org/portal/.

Results/Outcome: Originally designed for women's cardiovascular health, the AHECPortal includes information on diabetes, stroke/hypertension, obesity, physical activity, adult tobacco, and nutrition—all of which have an impact on cardiovascular health. Since its unveiling, the portal has been publicized at statewide public health and medical association meetings and demonstrated at AHEC Internet training classes. DOH staff have suggested that the portal's contents be expanded to support other state health initiatives.

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Establishing the utility of access to a personal digital assistant (PDA) version of PubMed in a clinical setting: the role of the librarian-to-researcher collaboration in the development and evaluation process

Catharine S. Canevari, head, Education Services, Tompkins-McCaw Library for the Health Sciences, Virginia Commonwealth University–Richmond; **Paul Fontelo, M.D.,** research scientist, Office of High Performance Computing and Communications, National Library of Medicine, Bethesda, MD; and **Bradley W. Otterson,** biomedical librarian, NIH Library, National Institutes of Health, Bethesda, MD

Purpose: This poster discusses experiences and lessons learned from testing the viability and utility of a test version of a personal digital assistant (PDA)–accessible version of PubMed.

Setting: A health sciences library at an academic institution.

Methodology: An informal partnership formed between librarians and the research scientist who developed the resource. The libraries were sites for testing the search resource. The three groups communicated predominantly via email to review and revise the resource. Feedback was provided regarding resource design and evaluation method. A channel was included to solicit feedback to the developer each time the search page was accessed. This information was transmitted via synchronization. PDA groups in the academic centers were informed of the resource. Users were assisted in configuring and accessing the tool.

Description: The goal of developing the PDA-accessible version of PubMed was to provide knowledge sources at the point of care that might improve patient care. A clinical setting was needed to test the resource, gather initial feedback, and gauge the feasibility of this goal. Information about the resource was communicated to a limited group of academic librarians and clinicians. Librarians provided support by answering questions regarding accessing the resource and encouraged users to submit feedback.

Results: The developer received feedback from librarians familiar with PDA users in clinical settings and from users testing from a variety of devices and network configurations. This was useful in designing the evaluation tool. Interactions with academic librarians contributed to the dissemination of information on the availability and usage of this clinical resource. Although the amount of responses was very small in comparison with the total number of people accessing the resource, informal feedback of its clinical usefulness was positive. Overall, the partnership helped provide the developer feedback that otherwise would not have been available.

Conclusion: Informal collaborations between librarians and developers are useful in assisting developers in designing tools for clinical settings. The librarians are often the source and expert in obtaining access to reference sources that might be useful in clinical practice. Informal relationships that could lead to research between developers of clinical tools and librarians should be encouraged.

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Information resource needs assessment from a personal digital assistant (PDA) survey

Holly A. Harden, liaison librarian, Welch Medical Library, Johns Hopkins University, Baltimore, MD

Purpose: This poster will reflect results from the personal digital assistant (PDA) usage survey, present current models of handheld initiatives at an academic health sciences library, and propose future library handheld endeavors.

Setting/Participants/Resources: A health sciences library in a prestigious academic university with a distributed user community of over 23,000.

Brief Description: A new standard is emerging for electronic resource collection development in today's academic health sciences libraries based on handheld computers. Historically, the information needs of our users have changed as a result of the availability of information content in electronic form. Statistically, because time-sensitive information in the electronic format is more readily accessible, the user's information needs also change. Content on a handheld platform makes electronic information readily accessible, virtually, in the palm of the user's hand. This change in carrier for information content to handheld devices presents a new perspective in electronic collection development. Libraries are responding by leveraging on this technology by assessing the resource needs of their users for this new medium. In February 2002, the Medical Library Association hosted a satellite teleconference on handheld devices, "Sync or Swim: Managing the Flood of PDAs in Health Care." Our library became a registered site for the teleconference, deciding it was a potential venue for a handheld user population to assemble and the library to gain a better understanding of their numbers and needs. With this in mind, a PDA usage survey was developed and handed out to onsite registrants prior to the teleconference commencing.

Results/Outcome: Results of the survey indicated a need for electronic knowledge-based resources for handheld devices as well as a need for further study of application development and educational opportunities for these new technologies. This poster will present these survey results, illustrate current actions taken to meet user's needs, and propose future plans to involve the library in handheld initiative across the academic campus.

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A Website for evaluating and integrating Web-based personal digital assistant (PDA) resources for faculty, researchers, students, and health care providers

Wendy Wu, information services librarian, and **Sandra Martin, AHIP,** assistant director, Shiffman Library, Wayne State University, Detroit, MI

Faculty, students and clinicians are using mobile technologies (e.g., handheld computing devices and personal digital assistants [PDAs]) for data management, calculations, treatment guidelines, and practice management. Drug information, decision-support tools, patient histories and educational materials, communication, and literature searching are applications that have been rapidly adopted for mobile use. Librarians are catching the next wave by aligning their services to support handheld and wireless technologies. Daily, librarians nationwide play active roles by (1) providing information resources access, (2) developing their own skills and instructing others, (3) promoting environments for idea sharing, and (4) studying PDA users' needs and collaborating with users on projects. Wayne State University School of Medicine faculty and students have rapidly adopted handheld technologies. We identified their need to have "one-stop shopping" for information about medically related software and Web resources. Although PDA-related resources were available through the Internet and on some departmental sites, they were not integrated in one place, nor was evaluative information relevant to our academic or clinical environment available. In response, we developed a Web portal that includes ongoing evaluation and commentary by both students and faculty, training opportunities, resource lists, free trials, and news. Groups of students and faculty are proactively sought to evaluate specific resources and commentary by any affiliate is accepted. The resultant Website saves the users' time, effectively locates the librarians as leaders in new ways of information delivery and assessment, and offers new opportunities for promoting the library's information resources where they are most needed: just-in-time.

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How we see the wave: helping the visually impaired use library public computers and services

Scott Garrison, head, Information Technology Services; **Jennifer Curasi,** computing consultant; **Kevin Lanning,** computing consultant; **Pedro Chavez,** computing systems administrator; **Monecia Samuel,** user services librarian; and **Barbara Riverdahl,** graduate student; Health Sciences Library, University of North Carolina–Chapel Hill

Purpose: When we were informed last spring that we would be supporting a student with visual impairment beginning in fall, 2002, we faced the demands of identifying and meeting a new set of user needs.

Setting: We have supported staff with other physical challenges in using computers for some time but had not recently had a plan to accommodate visually impaired library users in accessing materials and services.

Brief Description: We have been fortunate to work with our campus Disability Office as a critical partner in this endeavor, receiving software from them to help our student access printed materials. Associated issues include: how our current renovation impacts building navigability, how limited space in a high-demand public computing area impacts a service animal, how we provide document delivery in a way that fits with our student's computer use and configuration, and how to facilitate this type of user's access to online content.

Results/Conclusion: This poster will present how we successfully overcame the challenges and have provided high-quality service to a special user. In addition, we will describe the many benefits that all involved have derived.

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Customer service with a virtual representative

Adam Glazer, reference librarian; **Terry Ahmed,** reference librarian; and **Mary Moore, Ph.D.,** head, Reference and Customer Services Section; National Library of Medicine, National Institutes of Health, Bethesda, MD

Our library evaluated the use of a virtual representative (vRep). A vRep is an automated customer service agent that answers questions about an organization, its products and services. The purpose of the vRep is not to replace librarians but rather to answer routine questions, leaving the library's staff to handle detailed questions that need research or subject expertise. By providing an interface that allows customers to ask these simple questions "live," the library's overall email volume could decrease significantly. For testing, the early data entered in the vRep came from more than 200 frequently asked questions (FAQs) available on our Website. Health information came from the more than 550 health topics available in MEDLINEplus™, the National Library of Medicine's consumer health Website. Drug information was made available from MedMaster™ (an ASHP product), also available by means of MEDLINEplus. Staff monitored the conversation log from the vRep and corrections and additions were based on customer input. The vRep became smarter as it was used, because the scripting makes the vRep "learn" over time. Internal evaluation of the trial product is scheduled for November 2002. Produced by NativeMinds, the vRep uses NeuroScript to construct topics that are answered by sample examples and detailed pattern lists, which match words and the content of the questions asked of the vRep.

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"Rounding out" our services: librarians attending grand rounds, expanding the scope of information services at the Arizona Health Sciences Library

Hannah Fisher, AHIP, librarian; **Fred Heidenreich, AHIP,** librarian; **David Howse,** assistant librarian; **Nga Nguyen,** senior library specialist; **Jerry Perry, AHIP,** head, Information Services; **Mary Riordan, AHIP,** librarian; and **Catherine Wolfson, AHIP,** librarian, Information Services; Arizona Health Sciences Library, University of Arizona–Tucson

Program Objective: Arizona Health Sciences Library (AHSL) Information Services (IS) Department staff members deliver collaborative "inreach" services to select University of Arizona (UA) College of Medicine (COM) departments through weekly grand rounds participation.

Setting: Among its many constituencies, the AHSL serves faculty, residents, students, and staff of the UA COM, which hosts nearly thirty graduate programs. The IS Department includes 5 FTE librarians, 2 FTW user support specialists, 1 FTE senior library specialist, 1 FTE department head, and 0.75 FTE student assistant hours. A recent merger of IS with the former Information Technology Center (computer lab and audiovisual/media collections) was predicated on a need to "grow" the department to provide IS librarians with release time to facilitate expanded "inreach," defined as services provided to constituencies away from the library but on campus (in faculty offices, labs, at departmental gatherings, etc.).

Participants: Five librarians and the senior library specialist attend weekly surgery, urology, emergency medicine, orthopedics, public health, and general medicine grand rounds.

Program: Librarians identified which COM departments would be receptive to our grand rounds attendance, introduced themselves to organizers, and made strategic connections with "influencers" in each department, typically chief residents and lead attending physicians. At the outset, they introduced themselves to attendants and described the services they and the library can provide. Staff members provide instruction, direct assistance, and general reference support, depending on appropriateness and context. Staff members have persisted through weekly attendance.

Main Results: Persistence has paid off; after initial curiosity, round attendants have utilized the librarians to research a wide range of topics and provide instruction in database and full-text article searching. Working with Access Services staff, IS librarians have begun mounting searches and providing access to electronic links for relevant full-text resources prior to rounds attendance but based on topics to be discussed.

Conclusion: IS staff attendance at various grand rounds presentations has resulted in success at presaging user needs, maximizing use of the library's electronic reserves system, and providing a positive and high profile for the library in the COM. Librarians are reenergized and customers are better served.

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Asked and answered—online: how two academic medical libraries are using OCLC's QuestionPoint to answer reference questions

Marie T. Ascher, AHIP, head, Reference and Information Services; and **Haldor Lougee-Heimer,** information services librarian, Medical Sciences Library, New York Medical College–Valhalla; and **Susanne Markgren,** reference coordinator; and **Suzanne J. Crow,** reference librarian, Levy Library, Mount Sinai School of Medicine, New York, NY

Purpose: To describe the experiences of two medical libraries using QuestionPoint, a Web-based service hosted by OCLC, for virtual reference.

Setting: Two medical libraries in the New York metropolitan area that support medical school faculty and students, as well as the

staff of large teaching hospitals. These two libraries were the only medical libraries participating in QuestionPoint and the Global Network as of fall 2002.

Methodology: The poster will report statistical data and qualitative analysis regarding the number and quality of transactions since implementation of the service—the types of questions asked and answered, turnaround time in answering questions, questions forwarded to and received from the global network, and use of the knowledgebase.

Main Findings: Virtual reference is assuming a more prominent and vital role in medical libraries. Since implementing QuestionPoint (and its predecessor Ask A Librarian) in 2001, both libraries have seen a steady increase in the use of the virtual reference service. QuestionPoint provides a simple, customizable interface that is accessible to both library users and librarians from any location at any time. The system tracks and creates reports for all reference interactions, encouraging efficient data analysis. Leveraging the power of the Internet, QuestionPoint also connects participating libraries in a global reference network, to which unanswered questions can be referred. Participating libraries can search a "knowledgebase" consisting of reference questions that have already been answered. Both libraries have submitted entries to the knowledgebase.

Conclusions: With the proliferation of online journals, databases, textbooks, and Websites in the biomedical field, users need to become accustomed to an online research environment. Implementing OCLC's QuestionPoint has been a successful and simple solution to providing assistance to our remote users.

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The changing face of reference

Tina M. Otter, reference librarian, Welch Medical Library, The Johns Hopkins University, Baltimore, MD

Purpose: This poster will address the primary concerns of our library's virtual reference patrons and, with an analysis of questions received, will demonstrate that a major part of the virtual reference service we provide deals with accessing electronic resources.

Participants/Setting/Resources: Virtual Reference Patrons from a user group of approximately 23,000 at a large, private, academic health sciences library that provides over 2,500 electronic journals, 325 electronic books, and 190 electronic databases to its patrons.

Brief Description: As our library has increased the number of electronic information sources and services available to its patrons, they have become better able to meet their information needs virtually. Technology has facilitated this convenient access to information for users, but, with this, the need for virtual reference service has significantly increased. While a traditional variety of reference questions are still asked, they do not comprise the majority of questions received at our Virtual Reference Desk. A major part of our virtual reference service deals with accessing electronic resources, from "how do I access?" questions to troubleshooting journal and database access barriers and technical problems.

Results/Outcome: An analysis of questions received this year at our Virtual Reference Desk reveals a higher number of questions related to accessing electronic resources than reference or other types of questions. The change that we have seen in virtual reference questions at our library is one that is likely to continue as we progress into this electronic age toward a complete digital library.

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Avoiding mental health searching wipe-out: a mental Health content filter for MEDLINE

Heather J. Wilder, information scientist, Department of Psychiatry, Oxford University, Oxford, United Kingdom

Purpose: Describe the development of a mental health content filter for MEDLINE.

Setting: The Evidence-Based Journals Group, McMaster University, is updating the Clinical Queries in PubMed with funding from the U.S. National Library of Medicine. The mental health content filter was designed in conjunction with this project.

Methodology: MEDLINE indexing was evaluated against a hand search of the core clinical literature (gold standard) using contingency (2 X 2) tables for analysis

Brief Description: A gold standard set of mental health articles was collected from twenty-nine journals that were being read for the Clinical Queries update, indexed in MEDLINE, and contributed >1 article to evidence-based mental health (EBMH) during 2000. A formal definition for "of interest to mental health" was determined working with EBMH editorial associate. Kappa >90% (level of agreement beyond chance) was reached between myself and the editorial associate for classifying articles "of interest to the field of mental health." All articles for 2000 were classified in the twenty-nine journals. A list of >1,200 potential mental health content search terms was developed through a survey of 140 mental health professionals, Cochrane groups, and Medical Subject Headings (MeSH). Analysis of these terms will be done to determine how effective each is in retrieving relevant documents (of interest to mental health), while not retrieving non-relevant documents.

Results/Outcome: Sensitivity, specificity, precision, and accuracy of each search term. The strongest search terms will be combined with Boolean ORs to determine the most sensitive and the most specific searches.

Discussion: The subsets available within PubMed "Limits" are based on a selection of journals pertinent to a subject area (e.g., dental journals) or a combination of journals, MeSH terms, and text words suggested by professional organizations. The mental health content filter will be unique in that all terms in the filter will have been empirically and objectively tested and then optimized to provide sensitivity and specificity measures.

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Analysis of nuclear cardiology literature in MEDLINE: a study of gated SPECT imaging using PubMed

Nancy Calabretta, librarian, and **Susan K. Cavanaugh,** librarian, Sharp Health Science Library; and **Michael Y. Shen, M.D.,** physician, Nuclear Cardiology Laboratory; The Cooper Health System/Robert Wood Johnson Medical School, Camden, NJ

Purpose: Determine the adequacy of Medical Subject Headings (MeSH) for indexing and subsequent retrieval of nuclear cardiology literature from MEDLINE (PubMed) using gated SPECT (gSPECT) imaging as an example.

Setting: Academic medical center with rapidly expanding nuclear cardiology program

Methodology: Literature search (primary, comprehensive, and hand search) and analysis of results.

Results: PubMed was searched for publications in English from 1994 through 2000. Because there is no specific MeSH heading for gSPECT imaging, a simple text word search on gated SPECT (primary search) was done and retrieved 260 citations.

The retrieval was analyzed for content and indexing. A comprehensive search combining text words and related MeSH terms yielded 566 citations. Citations were evaluated by three nuclear cardiologists to assess their relevance. Only 204 of the 566 citations were relevant to gSPECT for a specificity of only 36%. To further measure detailed search performance on gSPECT, a hand search was conducted in the eleven top journals from 1994 to 2000. It yielded eighty-one additional relevant citations not retrieved by the PubMed search. The total number of publications and sensitivity index (recall) were assessed for each journal.

Discussion/Conclusion: GSPECT perfusion imaging is a powerful technique for stress testing, offering combined data on myocardial perfusion and ventricular function. Despite powerful clinical information and favorable reimbursement under HCFA/CMS, gSPECT remains underutilized. We studied the information aspect of the problem, investigating how difficult it is for the average clinician to retrieve information on gSPECT from the medical literature. We concluded that MeSH is not adequate for indexing and retrieval of the nuclear cardiology literature. In the annotation for "Radionuclide Imaging," MeSH states that the literature on myocardial imaging, myocardial perfusion imaging, and myocardial perfusion scintigraphy are indexed and retrieved using the heading/subheading combination "Heart/radionuclide imaging." By comparing current MeSH headings and classification with clinical terminology in nuclear cardiology, we found that there are six nuclear cardiology techniques that lack specific MeSH terms. In April 2000, we submitted recommendations to MEDLARS Management for two additions to the Mesh Tree Structures and six new MeSH terms.

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Finding measurement tools: an alternative model for Web tutorial design

Angela Lee, head, Social Work Library, and **Janet Schnall, AHIP,** information management librarian, Health Sciences Libraries, University of Washington–Seattle

Purpose: Demonstrate an alternative model for developing Web tutorials using the subject of finding measurement tools as an example.

Setting/Participants/Resources: The health sciences libraries is part of a large urban academic health sciences center serving six health sciences schools and a large number of students, faculty, and staff in a five-state region. In the past several years, library user education has evolved into a significant activity, with the goal to prepare students to become lifelong, independent, self-learners. The development of interdisciplinary, self-help tutorials is one way of establishing a self-learning philosophy in our health sciences schools.

Description: The most common design for many library Web tutorials is a resource model which provides users a brief overview of a specific topic and a serial listing of sources. A few tutorials have tried to tweak this model by presenting case examples and/or including process questions (e.g., PICO—the well-built clinical question), but these are few and far between. This project describes an alternate method for designing Web tutorials using the question-type, process-oriented model as a focal point. The design principle is based on customers' most frequently asked questions (FAQs) and the detailed process needed to get from question to answer. The model tutorial being presented consists of several components: (1) flow charts of three FAQs—finding a specific test, finding a test that measures a variable, and finding a review of a test; (2) practical case scenarios; (3) demonstration sample searches using Camtasia software; and (4) a resource comparison chart. The poster will visually highlight the design process and include streaming video of sample searches using Camtasia software with interactive exercises.

Results: The original intent of the project was to find an easier way to answer measurement tools questions for both our on- and off-campus users. The project, however, has led to a more interesting exploration into tutorial design and what works for users. This study hopes to encourage the examination of other designs for presenting and teaching information to users.

Evaluation: A questionnaire assessing usefulness and student and faculty satisfaction with the measurement tool is included in the tutorial.

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Designing a user-centered Website: the whys and hows of multiple usability testing

Clair Kuykendall, librarian, Education; **Peggy Tahir,** librarian, Reference; **Jean Blackwell,** librarian, Collection Development; **Kirk Hudson,** manager, Interactive Learning Center; and **Gail Persily,** manager, Education; Library and Center for Knowledge Management, University of California–San Francisco

Purpose: This poster will discuss a number of usability testing methodologies used in the course of the redesign of the library's Web page/digital library, comparing their relative value to the process.

Setting/Participants/Resources: The setting for this project is a major academic health sciences campus. The library serves students, faculty, researchers, and clinicians in a number of disciplines and in a variety of geographic locations.

Brief Description: The library's Website serves as the digital library both for the main campus and for its affiliated satellite campuses, which are located in a number of fairly dispersed geographic locations. As the portal to an array of electronic resources, its role is vital in serving the campus community. In 2002, the library undertook a complete redesign of the site. The goal of the redesign was to provide our users with a more efficient, intuitive, and easily navigable resource. To ensure that the design accomplished this goal, usability issues were addressed by a team consisting of instruction and reference librarians, a computer lab manager, and Web design professionals. A number of usability testing methodologies were used throughout the process, including user interviews, user surveys, focus groups, card sorting, and testing of both paper and online prototypes. The various techniques were employed to address different issues including labeling, organization of information (information architecture), discoverability of key resources, and aesthetics. Some of the methods used were conducted quickly and informally, while others required careful planning and execution. This poster will discuss the practicalities of the implementation of these various methods, examples of test and survey questions, and examples of how test data informed the process.

Results/Outcome: User input was invaluable in the process of refining the Website's design. In addition to making an essential contribution to the development of the Website, we learned skills we can use on an ongoing basis to continue to refine the site and to evaluate other aspects of the library's services.

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Analysis of the National Library of Medicine's main Website: online user survey and email evaluation

Cynthia J. Vaughn, second year associate fellow, Preston Medical Library, University of Tennessee Medical Center–

Knoxville, and **Susan Fariss,** Web Management Group, Public Services Division, National Library of Medicine, Bethesda, MD

Purpose: This poster describes the process of using an online survey and sorting of incoming emails to evaluate a library's Website.

Brief Description: Before conducting a formal usability study and possible site redesign, the library analyzed its home page as well as incoming emails containing customer service questions and comments from the previous year. The analysis discovered trends and areas for improvement on the site. Evaluating incoming emails allowed recognition of unsolicited feedback from the users. An online survey solicited feedback and provided demographic information about the library's virtual patrons. Survey development consisted of reviewing previous site surveys, writing original questions, and pretesting several times with different groups. Questions about the site were required, and supplying demographic information was optional. Required questions included "How did you learn of the Website," "What were you seeking," "How often do you find information that you are looking for when you use the site," "Overall, how satisfied are you with the site," and "What was the result of your visit." Most of the people who completed the survey opted to answer demographic questions such as profession, age, race, and education level.

Results: The survey revealed an overall high customer satisfaction rate, and the email analysis produced valuable information about areas for improvement, such as easier linking to library policies and procedures, better placement of links for ordering materials, and general library information. Knowing more about who the library's main site users are helps in future decisions regarding the usability study and possibly outreach areas for the library.

Outcome: Another survey was recommended if the site is redesigned. Implementation of ongoing email analysis will track trends and measure users' perceptions.

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Infoshare using ERES: an application of software outside of its intended use

Ellen H. Howard, head, K. K. Sherwood Library; and **Sherry Dodson,** clinical librarian; Health Sciences Libraries; and **Angela Lee,** head, Social Work Library, Health Sciences Library & Information Center; University of Washington–Seattle

Program Objective: The poster will describe the health sciences libraries' campaign to encourage the staff and faculty to use ERES software, purchased by the university libraries to simplify the management of electronic reserves for academic courses, for a variety of purposes where electronic documents needed to be shared—journal clubs, resident report, committee work.

Setting: A large academic health sciences institution in an urban setting with outreach to many students, faculty, and staff in a five-state region.

Participants: The librarians who serve as liaisons to all the health sciences–related divisions, departments and schools, and the groups that they serve.

Program: ERES contains built in software so that electronic documents can be easily added, created, moved, and maintained by end users. This unique feature was recognized early on by health sciences librarians as a way to support group meetings, such as case conferences and resident report, with their need to share documents. The concept was pitched to a number of the faculty and staff, and ERES use was successfully extended to support journal clubs, noon conference, and clinical teaching. By the next season, it was branded and marketed as a new service by the health sciences libraries.

Main Results: Groups in a very busy academic center can quickly post materials to be shared and can track their use. We will be able to measure our success by evaluating how many and how much variety of new applications of the software which appear on the ERES Website, how long they stay active, and how much they are used.

Conclusion: Libraries often find unique ways of providing services with limited resources. Our project may encourage librarians at other institutions to explore tools that can serve a variety of useful functions beyond their intended use.

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A virtual library showcase: blending technology, functionality and human touch

Jean Blackwell, assistant to university librarian, Library Administration; **Min-Lin E. Fang,** information services librarian, Information Services; **Leslie Kleinberg,** Web and print publications coordinator, GALEN Website; and **Julia Kochi,** manager, Digital Library Operations, GALEN Website; Library and Center for Knowledge Management, University of California–San Francisco

Purpose: Poster will report on the use of the Web to showcase an academic health sciences library.

Setting: The library and the university is a large academic health sciences library supporting a campus dedicated to graduate and professional study in the health sciences. Besides serving the campus constituents, the library has been used as primary research resource for faculty and students from state and private universities in the Bay Area.

Brief Description: Currently, the library staff offers regularly scheduled library tours to faculty, students, staff and the general public. It takes a great deal of time for staff to give the physical tours, especially during orientations for new students. Many long-distance commuters cannot stay for the tours. A virtual library tour is a great solution. Through the combined efforts from the reference staff and the Web technical staff, we began creating a Web-based library tour in August and plan to make it available in January 2003. This poster will describe the process of planning, creating, and implementing the virtual tour. Issues to be discussed include selecting tour stops, Web design, technical concerns, and outsourcing photography. The virtual tour will feature photographs of major service areas with short descriptions, clickable floor plans, and 360-degree panorama. Special attention will be made to highlight staff and patron interactions.

Results: The project provided an excellent venue for working on collaborative teams across library departments, as well as between the library, public affairs office, and photographer. The poster will discuss the lessons learned by this collaborative process. This Web-based tour will allow staff to provide an alternative to the time-consuming physical tour. It will allow people who might not normally come for a tour to take a virtual tour whenever is convenient for them or to orient themselves before coming over to the building. It is also beneficial for distance education and commute students. In addition, this Web-based virtual tour is an excellent public relations showcase for the library.

Evaluation Methods: A usability study will be conducted after its implementation.

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Using the Web to fill patent information requests: a laptop poster session

Kevin O'Brien, assistant access services librarian, Interlibrary Loan, Library of the Health Sciences, University of Illinois–Chicago

Purpose: This electronic poster will introduce librarians to searching and downloading U.S., Canadian, and European patents, as well as managing the various electronic file formats available from each provider.

Setting: An academic health sciences center library supporting research.

Brief description: The rise of the Internet as a means of disseminating government document information has now made it possible to acquire patents without relying on either U.S. Patent Depository Libraries or commercial patent information providers. This development, however, does not mean that there are no difficulties in acquiring patent information. This poster presentation with electronic enhancements will demonstrate methods of searching and downloading U.S., Canadian, and European patents, as well as managing the various electronic file formats available from each provider. The poster for this session will outline the resources available and basic access points. The electronic demonstration will provide details.

Results: This poster presentation will familiarize librarians with methods of searching, retrieving, and handling U.S. and international patent information at no cost to their institutions.

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The digital library as a lifeboat in the sea of licensed resources

MaryBeth Schell, assistant librarian, Department of Information Technology Services, Health Sciences Library; **Diana McDuffee,** director, Area Health Education Center Library and Information Services Network; and **Holley Long,** systems developer, Department of Information Technology Services; University of North Carolina–Chapel Hill

Purpose: This poster will demonstrate how a simple authentication system allows a disparate group of users to have seamless access to licensed resources. This poster will illustrate the complex web of licenses and user groups that have come together to make up a statewide digital library.

Setting/Participants/ Resources: This digital library was developed and supported by an academic health sciences library for a statewide Area Health Education Center (AHEC) program to provide uniform access to and support for electronically available health sciences information resources for students, residents, preceptors, and AHEC staff involved in community-based activities and courses. Digital library membership has expanded to potentially include any health care practitioner in the state.

Brief Description: One of the complexities of a statewide digital library lies in providing seamless access to licensed resources to a disparate group of users. The creation of a statewide digital library solved this problem by creating an Internet portal for health professionals that offers secure, customized, and seamless access to a core set of health care information resources. A database-driven Website authenticates individual members or affiliates into the digital library and provides them with access to only the specific licensed resources that they are authorized to use based on their individual university or AHEC affiliations.

Results/Outcome: Since its inception, the digital library has increased in size and complexity. The digital library now manages accounts for at least five different user groups (numbering 9,000 plus total users) and contains at least five different types of licenses plus links to free Internet sites. The dynamic authentication system has successfully delivered customized access for only authorized resources to an increasingly complex user base.

Conclusions: The success of the digital library can be attributed to collaborative licensing arrangements, an easily accessible authentication system embedded in a single portal, and constant user feedback. This seamless back-end customization has allowed for maximizing licenses to electronic resources across the state, thus resulting in cost efficiencies.

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Preventing information wipe-out: library resources via the intranet

Sue H. Felber, AHIP, coordinator; and **Joan I. Miller,** medical librarian, Medical Library, H. Lee Moffitt Cancer Center & Research Institute, Tampa, FL

Purpose: This poster presents innovations in Web-based delivery of library resources and services, showcasing just-in-time provision of key information, available 24/7 and beyond library walls. Using the Web as a medium to deliver online education and to produce index terms for presentations has added expanded roles for library staff.

Setting/Participants/Resources: The Medical Library serves an acute care hospital and research institute. Library services support translational research discoveries, complex clinical care, and innovative educational programs. Information resources must be accessible from multiple locations independent of time and distance.

Brief Description: The library initiated electronic services with a simple short list of journals on the organization's intranet about five years ago. Expansion of electronic availability has led to development of a diverse array of library resources and services provided through dynamic Web design. Additional items were progressively developed and include request forms for library services of interlibrary loan and expert searches, class information, links to tutorials, affiliated libraries, related databases, and electronic oncology books. Recent innovations include enhanced journal pages with statistics counting capability, subject-grouped Webliographies, current topics listings, and guides for faculty on hot topics. Enhanced Web capabilities have facilitated conversion of traditional library classes to streaming media for Web presentation. Expanded roles for the librarians have incorporated indexing functionality for the organization's online educational network.

Results/Outcome: The library's Web page is the most highly used content page of the organization's intranet, providing the major communication vehicle and visibility for library services. New features are added as needed to address recurring information needs.

Evaluation Method: WebTrends statistical software is being used to analyze each part of the library Website, so that emphasis can be placed on those resources and services most used. Anecdotal comments to library staff support the value of electronic provision of resources for both clinical care and research support.

Poster Presentations (Odd Numbers)

MONDAY, MAY 5, 2003, 2:00 P.M.–3:30 P.M.

1

Integrated but separate: an integrative medicine program and a health sciences library in partnership

Catherine L. Wolfson, AHIP, information services librarian, and **Mary Holcomb,** head, Collection Services, Arizona Health Sciences Library; and **Laurie Soloff, N.D.,** naturopath, Program in Integrative Medicine; University of Arizona–Tucson

This poster highlights a collaboration between a health sciences library and an integrative medicine program, to organize the latter's collection, offer its content via the library's online catalog, and allow limited circulation while maintaining the physical collection in the program. With limited library staff and a need to maintain availability of materials to the program, numerous issues needed addressing. First, the library did not have a cataloger with both sufficient subject expertise and available time to handle the project in a timely manner. The solution was collaboration between a reference librarian with subject expertise and technical services personnel. Technical issues involved creating new locations in the online catalog and suppressing cataloging records from public view until the program is ready to share resources with the university community. NLM call numbers and Medical Subject Headings were used to achieve complete integration with the library's online catalog. Some original cataloging was needed; subject headings in older records were updated (i.e., changing the old heading alternative medicine to the current complementary therapies). Some titles falling outside of health science fields needed Library of Congress call numbers. Future plans include: completing work on existing volumes, the library continuing to catalog the program's materials, and setting up a circulation station in the program's library, with materials circulating according to policies determined by the program in consultation with appropriate library units. The collaboration between reference and technical services librarians has offered benefits both for the librarians involved and for the library as a whole. The integrative medicine program has not yet opened its doors to public use, so it is too early to report on feedback from users outside the program. However, the program is finding that NLM cataloging allows more efficient organization and retrieval of materials. All university departments benefit by access to a more extensive collection in this specialized area. The integrative medicine program and the library are finding this collaboration fruitful, and the program's faculty and staff look forward to sharing resources with the university community.

3

A twenty-five-year trend analysis of academic health sciences library collections, expenditures, personnel, and resources use

Gary D. Byrd, Ph.D., AHIP, director, Health Sciences Library, University at Buffalo (SUNY), Buffalo, NY, and **James Shedlock, AHIP,** director, Galter Health Sciences Library, Northwestern University, Chicago, IL

Purpose: This poster will present the results of a trend analysis of the statistics published over the past twenty-five editions of the *Annual Statistics of Medical School Libraries in the United States and Canada.* The graphic presentations will focus on the subset of nineteen consistently collected data variables (out of over 650 variables collected at some point during the history of the survey) to provide a general picture of the growth and changing dimensions of services and resources provided by these libraries since 1977. The presentation will also include survey response patterns for U.S. and Canadian medical school libraries as well as the osteopathic medical school libraries surveyed since 1987.

Methods: Means and high-low range values for each variable have been transcribed into Microsoft Excel spreadsheets from each printed annual edition using consistent standards to deal with missing, no response, not applicable, and zero survey responses as well as variations in variable definitions from edition to edition. Trend lines and other graphic representations of the data will be presented. For some trends, dollar figures will be presented as constant dollars (that is, adjusted for inflation using the consumer price index).

Results: The trends show steady, but not dramatic, increases in collection sizes, personnel numbers and salaries, interlibrary lending and borrowing, reference questions, and service hours. Most expenditures have just managed to stay even with inflation, with the exception of those for staff development and collections, which have outpaced inflation. The mean ratio of interlibrary lending to borrowing has decreased by nearly 50% over those twenty-five years.

5

The new AAHSL assessment program: implementing the LibQUAL+ survey in academic health sciences libraries

James Shedlock, AHIP, director, Galter Health Sciences Library, Northwestern University, Chicago, IL; **Tamera Lee,** director, Greenblatt Library, Medical College of Georgia–Augusta; and **Rick Forsman, AHIP,** director, Denison Memorial Library, University of Colorado Health Sciences Center–Denver

Introduction: The Association of Academic Health Sciences Libraries (AAHSL) expanded its assessment program in 2001 by forming a task force to explore outcome measures. Specifically, AAHSL pursued implementation of the LibQUAL+ survey instrument. LibQUAL+ is a new tool designed to measure the quality of a library's services. Originally designed at Texas A&M University and now supported by the Association of Research Libraries (ARL), LibQUAL+ is being tested by a wide variety of libraries, including academic health sciences libraries. AAHSL has maintained an active interest in comparative data through ongoing surveys and collection of quantitative data. Exploring outcome measures in academic medical libraries is the next logical step for AAHSL to pursue building a complete assessment program.

Features: This poster will describe several features of the assessment program: what the LibQUAL+ survey is, how it looks and how it works; background on the development of the survey instrument, the theory that supports it and its prior use; and AAHSL partnering with ARL, Texas A&M University, and the National Library of Medicine for consortium participation in the 2002 test period. A key feature is to show sample questions and how the user registers a quality assessment of a specific service. Questions are designed to measure four specific dimensions of library service: access to information, affect of service, the library as place, and users' personal control in obtaining information. Scoring is explained, and aggregate scores will be displayed. Comparative data will be available using norm tables to measure individual library scores against a peer group.

Conclusion: This poster concludes with recommendations from the AAHSL task force. Some of these recommendations include promoting the test results via publications and presentations, further testing of the instrument among additional academic health sciences libraries, and determining the relationship between LibQUAL+ scores and available quantitative data. Overall, the results indicate that LibQUAL+ is a useful tool for

libraries to consider when assessing the library's effectiveness as a service unit.

7

Tidal wave of titles in a sea of humanity

Anna K. O'Malley, medical student; **Scott T. McEwen,** medical student; and **Deborah A. Ruck,** information resources librarian, Technical Services, MCW Libraries, Medical College of Wisconsin–Milwaukee

Purpose: The Humanities Collection in our medical college library is composed of over 130 works of fiction, nonfiction, drama, poetry, and short stories. The collection was formed by an on-campus organization to fill a literary void unique to a private medical school unaffiliated with an undergraduate university. Prior to the formation of this collection, the library contained a very limited number of literary titles amidst the medical texts and journals. This collection provides faculty and students the opportunity to read important works of literature.

Methodology: The Medical Humanities Group created this unique collection as part of their dedication to enriching the academic medical education experience. Members of the organization developed the initial list of titles and, after funds became available in the form of a generous grant, began to acquire titles for the collection in collaboration with library staff. The group is also responsible for maintaining the collection. New titles are added by applying established criteria to recommendations from members and nonmembers alike. The library held a grand opening celebration in January 2002 for the Humanities Collection. Activities at the event included presentations by faculty and administrators, entertainment, and refreshments. Special bookmarks and copies of the reading list were made available to the attendees. This event generated a tidal wave of interest in the collection.

Results: The Medical Humanities Group utilizes the collection in both social and service-oriented settings. Each month a title is selected from the collection to be read and discussed as it pertains to medicine and the human experience. Additionally, members of the group visit palliative care centers where they read various short stories, plays, and poems contained in the Humanities Collection to dying patients.

Future Directions: In the future, the collection will be expanded based on circulation trends in accordance with the collection development policy.

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Catching the right wave at the right time: building a cancer library

Barbara J. Henry, AHIP, community health librarian, Cancer Resource Library, and **Christine Chastain-Warheit, AHIP,** director, Libraries, Medical Libraries of Christiana Care, Christiana Care Health System, Newark, DE

Challenge: The challenge was to develop a cancer care collection that included materials in a variety of formats and literacy levels encompassing prevention, diagnosis, treatment, survival, end-of-life issues, death, and bereavement for a cancer resource library for patients, their families and friends, in a new multidisciplinary, site-specific team-approach cancer center.

Setting: The cancer center is part of a 1,190-bed, not-for-profit health system with two acute-care hospitals. The new cancer library joins two hospital libraries and a community health library within the system.

Method: The strategy for collection development included conceptualizing the library and its services, marketing the concept to potential donors, and analyzing the types and number of cancer cases treated by the system. These methods were complemented by study of print and nonprint cancer resources, annotated bibliographies, and catalogs of other cancer libraries that serve patients and families.

Main Results: The hospital auxiliary donated funds to establish a cancer library in the new cancer center. The collection is highly targeted to the needs of the health system's cancer patients. Currently included are forty-two cancer periodicals with additional titles available electronically, a growing collection of over 250 video and audiotapes and over 1,300 books. Materials for children and materials in Spanish are available.

Conclusion: The Cancer Resource Library opened its doors in May 2002. The goal of providing quality-filtered information to assist patients and their families in their participation in the new case management approach has been met. In the year since its opening, library usage has grown steadily. Services beyond the print and audiovisual collection include computer terminals with Internet access, National Cancer Institute information on a CancerHelp touch screen computer, and a video viewing station. The library delivers cancer information to inpatients through the hospital's BedNet program. Pathfinders on a variety of topics are available on the library's Website and in the library. The library continues to collect data on the usage of its services and collection. Analysis of this data will help determine the directions in which the collection and services will expand.

11

Establishing priorities in selection of electronic journals

Dawn Swalboski, supervisor, Technical Processing, and **Patricia J. Erwin,** head, Reference Department, Plummer Library, Mayo Clinic, Rochester, MN

Purpose: Create a tool to inform selection of electronic journals most beneficial to enterprisewide distribution from a collection of approximately 4,300 unique, currently-received print journal titles. The challenge was to identify the best candidates for e-journal status, while minimizing surcharges, lengthy license negotiations, duplicate points of access, and maintenance of links in an online catalog and Web finding tools.

Setting: Academic medical center with multiple geographic locations, linked through an extensive, highly complex network, with a robust technical infrastructure capable of providing 24/7 desktop access for all staff and students at all locations.

Methodology: Data from historical library records combined with actual journal usage data from the library management system was used to generate lists of "top journals" (e.g., "top 250", "top 500") for further licensing consideration if the publisher offered an e-journal format. A list of 650 target titles was chosen to guide e-journal collection development decisions. An institutional citation report database acquired from ISI identified the journals in which medical center authors publish and was used to validate the journal usage tool. The ISI list served as a useful check, but no titles were added to the Top Titles Journal list from the ISI list.

Results: The tool provides a more objective view of potential e-journal titles than sporadic faculty requests alone or the first e-journals that happen to be available electronically in a particular subject domain. As new e-journal titles become available or are requested by faculty, they are first checked against the Top Journal Titles list (the metric is recalculated annually).

Conclusions: The Top Journal List has established additional selection criteria more suited to digital collections. The Top Journal Titles list also provides an ongoing "Wish-List" of titles to watch for electronic availability and changing business models or to target for more extensive license negotiations.

Appearance on the list is not the sole criteria, but it has improved communication of selection decisions to faculty and patrons.

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The evolving reference collection: examining turbulent waters

Kathleen A. McGraw, information services coordinator; **Diane McKenzie, AHIP,** collection development librarian; and **Barrie Hayes,** systems development librarian, Health Sciences Library, University of North Carolina–Chapel Hill

Background: As more electronic texts become available and the resource budget is stable (at best), difficult decisions need to be made when purchasing materials for the reference collection.

Setting: Academic health sciences library serving the information needs of a large teaching hospital and schools of dentistry, medicine, nursing, pharmacy, and public health

Methods: Gather vendor information, study use of what is currently owned, and evaluate needs of library staff and users.

Main Results: The poster will present strategies for making effective decisions on reference purchases in an increasingly complex publishing environment. When relatively few high-quality electronic reference texts were available, it was possible to purchase both print and electronic copies. As more electronic texts become available multiple factors must be considered when deciding whether to purchase an item in electronic or print or both formats. These factors include the impact of electronic texts on the resources budget, the impact on users and staff of multiple types of materials, and the impact on the stability and archival nature of the collection if only electronic texts are purchased. The situation may be similar to the past transition from print indexes to electronic databases or from print journals to electronic journals. Current decisions may be informed, in part, from what has occurred in those areas.

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Using knowledge management to meet collection development challenges

Tao You, library fellow; **Margaret (Peggy) W. Westlake,** assistant director, Staff Training and Quality Assurance; **Gayle Grantham,** coordinator, Monograph Collection Development; and **Nunzia B. Giuse, M.D., AHIP,** director, Eskind Biomedical Library, Vanderbilt University Medical Center, Nashville, TN

Purpose: Describe a knowledge management approach to monograph collection development that works within a tightening budget, leverages on the subject expertise of each librarian, and utilizes a custom Web-based knowledge-management tool for quality assurance in the selection of and for targeted resource marketing.

Setting/Subjects: Monograph collection development in a large academic medical center library.

Results: To increase the relevancy of monographs selected, this library's collection development team leverages on the subject expertise of its librarians working with specific user groups. For example, the clinical librarian rounding with the Pediatric Intensive Care Unit not only selects and weeds monographs on pediatric topics but markets resources to this targeted group; the librarian rounding in the Psychiatry Hospital performs these functions in psychiatry. A custom Web-based tool assists with quality assurance, maintaining consistency and selection standards across a varied group of librarians. This tool is a database of electronically imported records from the book vendor based upon the library's approval plan profile. Librarians can view their subject area or all records; the tool interface solicits feedback on a variety of selection criteria, providing links to PubMed for author verification and to the library catalog for holdings information. At any time during the process, the tool offers the opportunity to seek a "second opinion" from another subject expert librarian and records comments with the final purchase decision.

Discussion/Conclusion: In times of increased budget constraints, monograph selection becomes more difficult; each choice is important. A knowledge-management tool that promotes strategies designed to improve the collection development process and leverages on librarians' specific knowledgebases for both selection and targeted resource marketing can improve the overall collection quality, relevancy, and utilization. Additionally, the tool records all comments and reasoning used by the librarians in the selection process, providing an archive of institutional knowledge that can be revisited to explain purchase decisions. Future enhancements to be investigated include implementing a selection scoring system, linking to an online order system, providing table of contents in book records, and modifying links to the library catalog for usage information.

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MEDLINEplus goes local to health services: mapping local health terms to MEDLINEplus

Christie Silbajoris, project coordinator; **Brian Hilligoss,** technical developer; and **Diana McDuffee,** AHEC network director; Health Sciences Library, University of North Carolina–Chapel Hill

Purpose: Project staff has built a Web database of health services, programs, health care providers, and local health information and linked it to the National Library of Medicine's MEDLINEplus, a comprehensive consumer health Website. It is now possible for users to research a health concern on MEDLINEplus, such as Alzheimer's disease, and then be taken directly to Websites of resources in their community that address that concern, such as adult day care services, assisted living facilities, gerontologists, or support groups. The methodology used to create this project can be adopted by other states in whole, or in part, to create their own local connections to MEDLINEplus.

Participants/Resources: Academic, hospital and public librarians partner with MEDLINEplus staff.

Brief Description: MEDLINEplus user surveys show that most consumers use the Internet to find disease-specific information, but the secondary use is to locate local resources to aid in management of treatment. Project staff has identified the key components necessary to build a local collection of health resources and then connect them to MEDLINEplus. This poster will describe several of those components such as: examples of the local terms chosen to describe resources and mapped to MEDLINEplus health topics, the input system used to catalog the resources and finally, a representation of how the results of this work will appear to the user in the user interface.

Results/Discussion: The project has created a taxonomy, a cataloging system, a database, and a user interface to facilitate two-way traffic between the two Websites. These components will serve as the foundation of a model for other states to adopt.

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Computer health literacy for seniors in northern Idaho

Elizabeth K. Hill, AHIP, clinical reference specialist, and **Marcia Horner,** library director and grant writer, William T. Wood Medical Library, Kootenai Medical Center, Coeur d'Alene, ID

Purpose: This project will improve access to electronic health information resources by senior citizens living in northern Idaho.

Objectives:

1. to assess the health and computer literacy of senior citizens in Kootenai County, ID
2. to evaluate and improve the patient instructions used for diagnoses often seen in hospitalized elderly patients
3. to evaluate our current hospital Website for ease of use by senior citizens and to use those findings to create a "senior-friendly" Web page
4. to improve the health and computer literacy of senior citizens in Kootenai county by providing computer training and Internet access at senior centers

Setting/Participants: Three representative senior groups that attend activities at our three local senior centers and a group of seniors dedicated to health through walking will make up our particpant group. The approximately 1,200 seniors involved in these programs will serve as our assessment and survey base.

Program: Senior citizens will participate in assessments of health and computer literacy skills. Internet access will be established for the seniors at the three senior centers. Basic computer skills will be taught, with a self-efficacy test used to compare literacy before and after the training. Focus groups will be used to evaluate and design the "senior-friendly" Website. A selection of patient education and discharge instructions will be redesigned based on the assessed needs of our senior population. Our new Website will continue to be promoted to the community to increase awareness of health information resources.

Results/Outcome/Evaluation: The project will run from January 2003 through approximately May 2004. Our expected outcomes will include a valid assessment of the health and computer literacy levels of the seniors in our community that will be used to redesign discharge instructions for seniors, to design a senior-friendly Website that will assist seniors in accessing needed health information resources, and to provide training methods to teach basic computer skills. This project will also establish Internet access at our local senior centers. The newly designed Website will be promoted in the community via health fairs and a county fair display.

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MEDLINEplus en Español: testing the waters

Debra G. Warner, AHIP, library director, Medical Library, Regional Academic Health Center; **Graciela Reyna,** circuit librarian, Medical Library, Regional Academic Health Center; **Evelyn R. Olivier,** deputy library director, Library; **Andrew Lombardo,** assistant librarian, Medical Library, Regional Academic Health Center; **Mary Jo Dwyer,** information services/ circuit librarian, Library; and **Virginia M. Bowden, Ph.D., AHIP,** library director, Library; University of Texas Health Science Center–San Antonio

Purpose: This poster reports a variety of outreach projects and evaluation techniques designed to ascertain the usefulness and usability of MEDLINEplus en Español among the Spanish-speaking Hispanic population in the Lower Rio Grande Valley (LRGV) of Texas.

Setting: The four-county area that constitutes the LRGV is 85% to 98% Hispanic depending on the community. In July 2002, the Regional Academic Health Center (RAHC) of the University of Texas Health Science Center–San Antonio (UTHSCSA) opened in Harlingen, TX, with the mission to impact the health disparities of the people in the LRGV. The new library at the RAHC provided a unique opportunity to extend outreach activities in the area building on the accomplishments of the UTHSCSA circuit librarian program established in 1989.

Brief Description: RAHC Library staff participated in exhibits, health fairs, and training sessions and did television spots in both Spanish and English to inform people about MEDLINEplus en Español. Librarians initiated a project in which computer workstations with printers and Internet access were placed in the waiting areas of two clinics. The computers were set-up with short cuts that directly access MEDLINEplus and MEDLINEplus en Español. Clinic staff received training on the use of these programs. Library staff members assist the users in finding helpful information during posted hours.

Results/Outcomes: Support for the workstations has been broad-based including administrators, physicians, nurses, and other health workers. They anticipate that the information will improve patient compliance. More specific results will be presented based on the pilot project test period which will end in the spring 2003.

Evaluation Method: Evaluation methods include pre- and post-testing, interviews, observation, questionnaires, and computer tracking. Focus groups conducted in Spanish will provide anecdotal information about the usefulness and usability of MEDLINEplus en Español. Users of the workstations will be interviewed about the helpfulness of the workstation and the quality of the information received. A follow-up with the diabetes educators will document if they have observed that patients changed any health behaviors based on the information.

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HICUP for good health: partnering to link consumer health information in Chinese to physicians, patients, and the public.

Gail Y. Hendler, AHIP, coordinator, Outreach Services, and **Paul Wrynn,** head, Collection Development, Ehrman Medical Library, New York University School of Medicine–New York

Founded in 1853 by Elizabeth Blackwell, America's first licensed female physician, the institution was born to meet the evolving needs of the community it serves. An affiliated hospital of New York University School of Medicine, it continues the medical school's 100-year plus commitment to the immigrant populations of New York City. Located in Lower Manhattan, it serves several diverse neighborhoods that include Chinatown. Special outreach efforts are currently in place to serve the predominantly immigrant Chinese patient population. A need to easily access Chinese language inhouse patient education and consumer health information materials from the point of care and beyond, namely via the Web, was identified. An Internet search revealed there were no sites in existence that filled this need. Thus, the Health Information in Chinese Uniting Physicians, Patients and the Public (HICUP) was launched to meet the specific needs of this linguistically underserved population. The goal of HICUP is to link our physicians, their patients, and the public to our inhouse patient education documents and to existing Chinese language consumer health Websites. Ultimately, the collaboration aims to create a clearinghouse for Chinese/English patient health information. Librarians find and organize links and create, maintain, and host the Website. Health educators, literate in Chinese, review all information found by the librarians. HICUP serves as a model for librarians and health educators to partner their unique skills and talents to improve the public's health with quality information. The pilot Website was launched in May 2002 and received tremendous feedback from clinicians, health educators, and patients. In August, the collaboration was expanded to include the Chinese

Community Partnership for Health, a community-based organization in Chinatown. Quantitative evaluation of the Website's efficacy will be measured by hits from our target users. Survey tools will be constructed to qualitatively analyze the information needs and behaviors of our users.

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Haz-Map: occupational health information for the public

Hua F. Chang, computer specialist/biologist; **Stacey J. Arnesen,** advisor, Special Projects; **Jay A. Brown, M.D.,** consultant; **Vera Hudson,** biologist; **Gale A. Dutcher,** head, Office of Outreach; **George F. Hazard, Ph.D.,** chemist; **Phillip Thomas, Ph.D.,** computer specialist; and **Hannah Tang,** software engineer, Specialized Information Services Division, National Library of Medicine, Bethesda, MD

Purpose: The purpose of the poster is to introduce users to the contents and sources of Haz-Map and to demonstrate the features and navigation of this new resource.

Setting: Haz-Map is an occupational toxicology database designed primarily for health care providers and safety professionals but also for consumers seeking information about the health effects of exposure to chemicals at work. It links jobs to and hazardous job tasks that are linked to with occupational diseases and their symptoms. This relational database of chemicals, jobs, and diseases is part of the TOXNET system of databases on the toxicology and environmental health provided by the National Library of Medicine (NLM) on the Internet.

Brief Description: The 986 chemicals and biological agents in the database are linked to industrial processes and other activities such as hobbies. These links indicate the potential for exposure to the agents. The 180 occupational diseases in the database are linked to symptoms of the diseases and to hazardous job tasks. Linkage to a hazardous job task indicates an increased risk for significant exposure and subsequent disease. Linkage between job tasks and jobs or industries indicates an increased likelihood for workers in these jobs or industries to engage in the hazardous job tasks. Chronic occupational diseases are linked to both jobs and industries, while acute diseases and infectious diseases are linked only to jobs. Cancers are not linked directly to jobs, industries, or findings.

Results/Outcome: NLM developed the Haz-Map Web interface, which is accessible to the public via the Internet. Main features of the Haz-Map Web interface include: text search capability, browsing by hierarchical categories, alphabetical listing of entries in all tables, searching hazardous agents by adverse effects, searching diseases by jobs and findings, and launching a searches to NLM's TOXNET system of databases from Haz-Map. Users can easily find definitions of technical terms by clicking hyperlinks to a glossary.

Conclusion: Haz-Map is a new source of information for medical librarians as well as consumers seeking information on hazards in the workplace.

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Instruccion de la Salud para las Familias: Health Literacy for Families*

Jeffrey T. Huber, Ph.D., associate professor, School of Library and Information Studies, Texas Woman's University–Houston; **Elaine S. Plotkin,** adult specialist, Administration, Harris County Public Library, Houston, TX; **Beatriz Varman,** assistant director, Public Affairs, Knowledge Network Services, Library, Houston Academy of Medicine-Texas Medical Center, Houston, TX; **Rudy Ford,** marketing and development manager, Administration; **Luis Sabido,** family literacy coordinator, Administration; and **Carol Lee,** adult materials selection librarian, Administration, Harris County Public Library, Houston, TX; **Richard Jasper,** assistant director, Collections, Technical Services; and **Felicia Little,** Web specialist, Systems, Library, Houston Academy of Medicine-Texas Medical Center, Houston, TX

Purpose: The overarching goal of this consumer health initiative is to promote the health and well-being of Hispanics residing in Harris County, Texas, by facilitating access to Spanish-language health education and information.

Setting/Participants/Resources: Instruccion de la Salud para las Familias: Health Literacy for Families is a collaborative endeavor involving a large urban public library system, an academic health sciences library, and an ALA-accredited university library school.

Brief Description: To achieve project objectives, a multi-pronged approach is being employed. Instruccion de la Salud para las Familias builds on the public library's existing Read for Your Life program to develop and implement a Spanish-language health literacy program. In addition, project staff members are attending the Guadalajara International Book Fair to identify relevant Spanish-language consumer health book titles for purchase. The Spanish-language portion of the academic health sciences library's consumer health Web page is being expanded, with relevant Internet sites being added. Books purchased at the Guadalajara fair are being promoted through the health literacy program and noted on the Web page. More, the final version of Spanish-language health education sessions provided as part of the health literacy program are being videotaped and made available via the Web page.

Results/Outcomes: The end result of this project will be a library service that provides direct benefit to Harris County Hispanic residents by promoting the health and well-being of this population through the provision of education and information.

Evaluation Method: Each health literacy program session includes a pre- and post-test evaluation to determine effectiveness of the presentation and materials presented. An attendance count is taken at each session to determine the number of participants. The number of books purchased for the project is tracked and recorded as are circulation statistics once the books are cataloged and placed on library shelves. Use logs are monitored to assess hits sustained by the Spanish-language section of the Web page.

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Promoting health information literacy at a university student health service

Mary Linn Bergstrom, head, Education and Outreach Services, Biomedical Library 0699; **Brad P. Buchman, M.D.,** clinical director, Student Health Service; **Lupe Samaniego-Kraus,** director, Health Education, Student Health Service; and **Jeffrey Williams,** head, Education and Outreach Services, Biomedical Library 0699; University of California–San Diego, La Jolla, CA

Purpose: This paper will discuss the implementation of a National Library of Medicine (NLM) Internet Access to Digital Libraries Grant and the resulting resources, services, and student health service/library collaboration.

Setting/Participants/Resources: A large university biomedical library (BML) serving the school of medicine, university health care system, and biology division initiated a collaborative program with the campus student health service (SHS) to

improve student health information literacy and support clinical information needs. A liaison librarian works with health educators, clinical staff, and student peer health counselors. An NLM digital libraries grant will strengthen the program by enabling BML and SHS to create a health information portal for students and clinicians and provide health information literacy education designed to reach students at the "teachable moment."

Brief Description: SHS provides primary health care for over 20,300 students, handling 31,000 patient visits annually. Recognizing that both the students who visit SHS and the SHS health care providers need reliable access to quality health information, BML and SHS have partnered over the past two years to enhance students' health information literacy and improve clinicians' information seeking skills. Extending this partnership, an NLM digital libraries grant is supporting development of a teaching program utilizing the campus wireless network and laptops to extend teaching to students in college clusters and dormitories, integration of the health information portal into health educators' and student peer counselors' health promotion activities, and training for clinicians to find authoritative health information at the point of care.

Results/Outcome: This project is improving health information literacy among undergraduate and graduate students and enhancing access to information resources for clinicians. It is an innovative model for library collaborations with student health services and other campus communities.

Evaluation Methods: Health information literacy will be assessed by pre- and post-tests during and after training. The SHS Advisory Board will review the impact of clinicians' training. Usability testing and numeric data will determine the effectiveness of the health information portal.

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Arizona Public Health Information System (APHIS): bringing together public and health information together to protect the health of Arizonans

Michael Kronenfeld, AHIP, director, Learning Resource Center, Arizona School of Health Sciences–Mesa; and **Jeanette C. McCray, AHIP,** deputy director; and **Patricia A. Auflick,** outreach services librarian, Arizona Health Sciences Library, University of Arizona–Tucson

The Arizona Public Health Information System (APHIS) is a Web-based resource to facilitate access to relevant public health and consumer health information for the citizens and the public health community. It is being developed by the Public Health Information Centers subcommittee of the Arizona Turning Point Project. APHIS will contain information and links to pertinent public health and consumer health information resources in each county in the state, as well as nationally and internationally. The subcommittee is also developing an infrastructure to support the maintenance and use of APHIS to ensure its long-term growth and development as well as facilitate its audience's ability to use it. Local access and information input will be facilitated by training public reference librarians in access to and support of the centers and to connect the local libraries with the local health departments and local medical libraries to open the lines of communication and, therefore, enable the public to have more access to public and consumer health information. APHIS will be demonstrated, and the authors will answer questions on the development of the site and its contents. While librarians and health professionals are well aware of the differences between medical and public health information, citizens are not. This projects aims to bring together these diverse type of information to better serve the needs of the citizens of Arizona. This project is funded by a three-year Turning Point Grant by the Robert Wood Johnson foundation and is the only Turning Point Project in the country with significant library participation.

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Hanging ten with public libraries: health information services to the state

Molly A. Youngkin, outreach librarian, and **Claire Hamasu,** associate director, National Network of Libraries of Medicine, MidContinental Region; Spencer S. Eccles Health Sciences Library, University of Utah–Salt Lake City

Purpose: This poster reports on the experiences of an academic health sciences library's collaborations with the state's public libraries to provide quality medical information for the general public.

Setting/Participants/Resources: This poster highlights communication and resource sharing among public libraries, an academic health sciences library, and a regional medical library in the state.

Brief Description: This project focused on improving access to health information resources for public libraries throughout the state and providing public libraries an opportunity to work with an academic medical library and the National Network of Libraries of Medicine (NN/LM). Insights into the best methods for promoting health information to public libraries and their communities were added benefits. Due to the varied backgrounds and skills of staff doing the outreach, it was necessary to create a structured approach. Personal site visits were used to assess the health information knowledge currently in place in these libraries. Information was gathered regarding collaborative initiatives among these three entities (public libraries, an academic library, the NN/LM) and future health-related projects of interest to the public libraries. The sharing of reliable local and national health information on the Web and collection development guidance were provided. These libraries were also informed of the advantages of network membership. This project combined the health information subject expertise of the academic health sciences library and the community connections of the public libraries.

Results/Outcome: The project was considered successful because of the establishment of a working relationship among the state's public libraries, the academic health sciences library, and NN/LM.

Evaluation Method: Follow-up telephone interviews will be conducted with select public libraries to determine if resources introduced to them from the academic health sciences library were used after the initial site visits. NN/LM will provide information to determine if the public libraries that have been visited pursued network membership. The success of the project will also be achieved if this collaboration results in future projects.

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Education for inpatients: working with nurses through the clinical information system

Nancy Calabretta, librarian; **Susan K. Cavanaugh,** librarian; and **Barbara J. Miller,** library director, Sharp Health Science Library, The Cooper Health System, Camden, NJ

Purpose: Improve Joint Commission on Accreditation of Healthcare Organizations (JCAHO) compliance by providing educational materials directly to patients and documenting patient charts.

Setting: Academic medical center in an urban setting.

Brief Description: Librarians have been filling orders for patient education materials through the hospital's Clinical Information

System (CIS) since December 2000. This system was instituted in response to a JCAHO survey that revealed that, although patient education was being provided, it was not being documented routinely. Patient education orders fall into two categories: customized disease/procedure information and smoking cessation information. The disease/procedure orders are initiated mainly by nurses, while smoking cessation requests are generated mainly by admitting physicians. Nurses can indicate the education level of the material desired (basic, intermediate, or advanced). Requests are received at a printer in the reference office. Librarians rely upon a wide variety of Web-based consumer health resources, including proprietary resources such as MD Consult and Micromedex CareNotes. Two copies of all materials are sent to the patient care floor via staff "runners" employed by the Department of Nursing. One copy is for the patient to keep, while the other is attached to the patient's chart. To complete and document the order, librarians record the request as filled in the CIS system.

Results/Outcome: Use of the service has increased dramatically from sixty-one orders for the first three months (December–February 2000) to 195 orders for the most recent three months (July–September 2002). Nurses may also request information to educate themselves by requesting an InfoGram through the CIS system. This service evolved after it was noted that nurses sometimes used the patient system for self-education. An added benefit of this project has been that the librarians have become more attuned to the institutional character of the health system.

Evaluation Method: We have prepared a brief survey to be sent to staff nurses regarding their use of the service and level of satisfaction. We are collaborating with the director of nursing education and nurse managers to arrange meetings with a sampling of staff nurses, including both users and nonusers.

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Health information for consumers: a study of selected libraries' Websites in the South Central Region

Pauline Fulda, AHIP, associate director, and **Hanna Kwasik,** serials librarian, John P. Ische Library, Louisiana State University Health Sciences–New Orleans

Purpose: To determine if selected libraries in the South Central Region (SCR) provide consumer health information through Websites and the type, quality, and quantity of the resources provided. The poster presenters will examine a number of factors on each Website including the following:

- Is there a designated consumer health section on each Website?
- Was there special funding to support the development of the Website?
- How many unique resources are provided?
- What are the most frequently listed sites?
- How many of the MLA "top ten" most useful Websites are included?
- How many sites are approved by URAC-the American Accreditation HealthCare Commission or comply with the Code of Health on the Net Foundation?

Setting: The following library Websites will be analyzed: NN/LM SCR; nineteen major medical libraries; the state libraries of Texas, Arkansas, Louisiana, New Mexico, and Oklahoma; and selected hospitals in the five-state region.

Methodology: During a specific three-month time period in late 2002 and early 2003, a careful examination of selected Websites will be conducted and data compiled.

Results: Major findings of the analysis will be presented in graphical and descriptive form.

Discussion/Conclusion: Libraries have an ongoing mission to function as aggregators of accurate and timely consumer health information on the Internet and to provide access to the information through their Websites. The implications of the findings of this study may offer libraries guidance in designing Websites to better meet consumer health information needs.

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Community assessment and objective development in the Texas Lower Rio Grande Valley: prelude to outreach

Virginia M. Bowden, Ph.D., AHIP, library director, Library; **Cynthia Olney, Ph.D.,** evaluation specialist, Educational Research and Development; **Jonquil Feldman,** assistant to the library director, Library; and **Debra Warner, AHIP,** library director, Regional Academic Health Center Library, University of Texas Health Science Center–San Antonio, Harlingen, TX; **Catherine Burroughs,** assistant director, Outreach Evaluation Resource Center, Pacific Northwest Regional Medical Library, University of Washington–Seattle; **Evelyn R. Olivier, AHIP,** deputy library director, Library, University of Texas Health Science Center–San Antonio; and **Frederick B. Wood, Ph.D.,** special expert/computer scientist, Office of Health Information Programs Development, National Library of Medicine, Bethesda, MD

Purpose: This poster will describe the community assessment and objective development phase of the Texas Lower Rio Grande Valley (LRGV) Health Information Hispanic Outreach project.

Setting/Participants/Resources: Librarians and an evaluation specialist prepared a community assessment as the first phase of the multifaceted LRGV project. Health care professionals, agency leaders, librarians, and lay persons were surveyed to learn about their perceptions of the community's health information needs. Detailed objectives and evaluation methodologies were then developed.

Brief Description: The community assessment included structured interviews with key informants and hospital administrators at hospitals participating in the LRGV circuit librarian program, surveys of circuit librarian program users, focus groups, a questionnaire survey of 1,100 physicians, and a demographic profile of the area taken from published reports.

Results/Outcome: More than 100 key informant, administrator, and brief interviews were conducted. These interviews indicated that there is the need for patient education materials in Spanish, that most persons had never heard of MEDLINEplus, that many adults had minimal to zero experience with the Internet, and that students and faculty at the health careers high school would be a unique pilot project site. Focus groups substantiated these observations. The circuit librarian program was positively viewed by administrators, but many hospital employees were unaware of its services. Three hundred forty physicians responded to the survey on health information use. Respondents reported that "lack of time" was their chief reason for not using MEDLINE, whereas a 1990 survey of LRGV physicians indicated that "don't know how" was the primary reason. The demographic profile documented the poverty, lack of education, and medical problems. The community assessment helped us develop realistic objectives and evaluation methods.

Evaluation Method: The number of people who were interviewed, responded to surveys, and participated in focus groups is a measure of the community assessment's success. The assessment provided invaluable information about the dynamics of the area, alerted us to key programs and resources, and helped us to select target communities for pilot projects for the

introduction of MEDLINEplus en Español and other health information resources.

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Copyright in a sea of technology, legislation, interpretation, and guidelines

Jim F. Comes, Ed.D., associate director, Lamar Soutter Medical Library, University of Massachusetts–Worcester

Purpose: This project will identify the major issues in today's copyright legislation and the implications of this legislation for librarians. The Copyright Law, the Digital Millennium Copyright Act, the TEACH Act, the Shrinking Public Domain, and requests to deliver information to the office and the classroom will be covered

Methodology: The reference librarian, the interlibrary loan librarian, the library instructor, the cataloger, and the acquisitions librarian are affected in unique ways by the copyright legislation and rulings from the courts. To manage the breadth and complexity copyright presents, selective issues have been identified that represent challenges and opportunities facing librarians today. To define the issues, the following sources were reviewed: (1) the literature on copyright law in cyberspace, (2) the TEACH Act, (3) the Digital Millenium Copyright Act (DMCA), (4) email list discussions regarding monographs with CD-ROMS or supplemental materials available from the Websites of publishers, and (5) information on the threats to the public domain.

Results: Technology has enabled easier access, wider dissemination, and an increasing quantity and quality of digital content. The technology has brought challenges to fair use in the digital environment, new opportunities for librarians to support distance education, a greater awareness of copyright applied to the Internet, and legislation to reduce threats to information in the public domain. Increased cooperation related to the interpretation of copyright laws and guidelines between the reference librarian, the cataloger, and the interlibrary loan librarian will positively influence internal operations and external services.

Discussion/Conclusions: The delicate balance between copyright holders and the general public will be difficult to preserve. Medical librarians must stay informed and participate actively in these issues because of the variety of information formats the librarian manages to support medical education, the clinicians, the researchers, and the consumers.

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Catch the nostalgic wave: health sciences advertisements from the Fab 'Fifties

Sharon C. Murphy, RN, AHIP, associate librarian, Health Sciences Library, State University of New York–Buffalo

Purpose: This electronic poster showcases 1950s advertisements, both humorous and nostalgic, that were digitized from health sciences publications. It was part of a larger exhibit "'Fifties Flashback: Popular Culture and American Society" produced by libraries' staff. The exhibit celebrated the Fabulous 'Fifties and supported the undergraduate program "The 'Fifties."

Settings/Participants/Resources: A collaborative effort by library staff, the popular exhibit was an outgrowth originally meant to enhance a larger exhibit at an outstanding center of modern art. Along with lots of memorabilia and associated events, including book readings, this digitization effort was an excellent public relations tool, drew upon wonderful local holdings, and proved fun, adventurous, and educational.

Brief Description: Twenty images, black-and-white and color, are portrayed that are reflective of the period. Both amusing and nostalgic, the images provide perspective and a revealing window of what health agencies and companies, both public and private, were interested in advertising to practitioners. The phrase "a picture is worth a thousand words" is so true, and these images successfully capture attitudes and prevalent thinking of the times.

Results/Outcome: Library staff received the university's Service Excellence Award in recognition of the exhibit, which garnered significant local attention. Might you have a project lurking in your older collections that could use digitization and be shared with the larger world?

Evaluation Method: This was strictly informal, but uniformly positive, as seen by promotional activities and reviews in many newsletters and local articles.

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Electronic library project for a government research laboratory

Emily M. Moser, health information specialist, Epidemiology & Medical Studies Program, RTI International, Rockville, MD, and **Todd Hardin,** computer services liaison, National Cancer Institute, National Institutes of Health, Rockville, MD

Purpose: This paper will describe the process used to help a research laboratory make a large majority of their reprint file available full text, either through the Internet or in a portable document format (PDF) file using their Reference Manager software as their database.

Setting/Participants/Resources: A research laboratory specializing in cancer research. The laboratory head and other principal scientists use the Reference Manager database to keep track of their reprint files.

Brief Description: The laboratory was in the process of planning a move in the next year, and their space for reprint files was going to be reduced significantly from what they presently had. They were looking for the best method to have as many full-text articles accessible electronically, so they could eliminate the majority of their hardcopy collection.

Results/Outcome: The database was evaluated; a training manual was developed; and then training was conducted on how to link RefMan citations to PubMed and/or full-text journal articles using the organization's library publisher links. In addition, training on using the scanner and scanning software was also conducted for the "in-house" publications. Using the training manual, a student was able to update most of the references over the summer.

Evaluation Method: We have received positive comments from the office manager who was heading the project, the laboratory head, and other staff members.

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CIRRIE database of rehabilitation research

Marcia E. Daumen, information specialist, Center for International Rehabilitation Research Information and Exchange, University at Buffalo, Buffalo, NY

Program Objective: To help fulfill its mission of facilitating the sharing of information and expertise in rehabilitation research between the United States and other countries, the Center for International Rehabilitation Research Information and Exchange (CIRRIE) created a bibliographic database that provides a centralized source for all aspects of non-U.S. conducted research not readily available to U.S. rehabilitation and disability professionals.

Setting: CIRRIE, funded through a grant from the National Institute on Disability and Rehabilitation Research, Department

of Education, is located at the University at Buffalo. The database is accessed through the project Website.

Participants: Although primarily aimed at U.S. researchers, the CIRRIE database has been accessed by users from over forty countries around the world.

Program: The REHABDATA thesaurus was edited to create a new thesaurus, more international in nature. Mainstream databases from all areas of disability or rehabilitation were searched for relevant citations to include in the CIRRIE database. Online journals, as well as journals not usually indexed in the United States, were located via the Internet to identify additional citations. Authors also submitted bibliographies for inclusion. The Website also includes a list of indexed journals, an author list, and a searchable directory of rehabilitation research facilities throughout the world, all generated from the citation database.

Main Results: The CIRRIE database now includes over 17,000 citations from 1990 to the present. Statistics from the past twelve months show an average of over 1,000 users per month. In addition, over forty health sciences libraries around the world recommend and link to the CIRRIE database.

Conclusion: The CIRRIE database provides a free, centralized source for locating research carried out throughout the world in all areas of rehabilitation: from health and function to special education and engineering. The Website is also an important tool for promoting the exchange of ideas between U.S. and non-U.S. rehabilitation researchers.

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Creation of a Web-accessible combined print and electronic journal holdings list

Chris Ewing, information specialist; and **David Morse, AHIP,** associate director, Collection Resources, Norris Medical Library, University of Southern California–Los Angeles

Although most health sciences journals, both print and electronic, are represented in the library's online public access catalog (OPAC), and although there is already a Web listing of health sciences e-journals (with links), users have still expressed a need for a single, combined list of print and electronic journal holdings, especially one that would also include the holdings of other affiliated libraries not included in the OPAC. With the wants of the users in mind, a browsable list is possible on the library's Website. Data for the listing is maintained by the different libraries as part of their SERHOLD participation and regenerated as part of the SERHOLD union listing component on a quarterly basis. For the for the browsable journal list, the data is downloaded from SERHOLD once each semester. The data is loaded into a database, where it is manipulated to make the entries more readable and to make the order of entry consistent with the library's alphabetic shelving arrangement. A separate table of Web links extracted from the OPAC is merged with the SERHOLD data to create the final listing. The links themselves are generated by a WYSIWYG, HTML code generator program and then integrated into the final data set. The library has recently begun utilizing the SERHOLD "format" field, so that separate holdings information can be maintained for print and electronic holdings. This poster illustrates the Web version of a journal listing document and the various processes involved in its production.

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Online journals' impact on the citation patterns of medical faculty

Sandra L. De Groote, assistant information services librarian, Library of the Health Sciences, University of Illinois–Chicago; **Mary Shultz,** assistant information services librarian, Library of the Health Sciences, University of Illinois–Chicago, Urbana, IL; and **Marci Doranski,** resident librarian, Library of the Health Sciences, University of Illinois–Chicago

Purpose: The purpose of this study is to determine the impact of online journals on the citation patterns of medical faculty.

Setting: The college of medicine at a large urban university with three regional sites was used for this study. From 1998 to present, the number of online journals available for faculty, staff, and students at the institution has increased from an initial core of fifteen to over 7,000 online journals currently available through the Internet.

Methodology: Searches by author affiliation were performed in Web of Science to find all articles written by faculty members in the college of medicine at the selected institution. Searches were conducted for the following years: 1993, 1996, 1999, and 2002. Cited references from each faculty authored article were recorded. Use statistics of cited journals were entered into a spreadsheet. Cited journals were separated into four categories based on their availability at the institution in this study: print only, print and online, online only, and not owned.

Results: Previous research has shown that as online journal use increases, journal use in the print collections of libraries has decreased. Results of this study will show whether researchers are more likely to limit the resources consulted and cited for research primarily to those journals available online rather than those in print only.

Discussion/Conclusions: Finding new ways to promote and increase accessibility to the print collection may be a necessity if researchers are to take full advantage of the range of literature available.

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Being one with the current: integrating informatics and evidence-based medicine (EBM) into the curriculum

Andrea L. Ball, coordinator, Education and Distance Learning, Health Sciences Libraries, and **Perri A. Morgan, PA-C,** lecturer, Physician Assistant Program, University of Wisconsin–Madison

Purpose: This poster will report on the steps taken in developing and implementing curriculum-integrated medical informatics and evidence-based medicine content into a physician assistant curriculum.

Setting/Participants/Resources: Participants include the faculty and students of the physician assistant program, statewide preceptors, and an instruction librarian. The resources being taught include PubMed, TRIP, Ovid MEDLINE, and evidence-based medicine databases. In addition, PICO query formation and levels of evidence are discussed. Web-based and PDA tools are also introduced.

Brief Description: In 2001, the physician assistant program was awarded a three-year grant to redevelop its curriculum to include medical informatics and evidence-based medicine content and to integrate this throughout the two-year program. In addition, the physician assistant faculty and statewide preceptors would receive comparable training. The library provides a 10% FTE instruction librarian to work with the faculty to develop and provide training sessions, consult on the development of literature search exercises, and critique the search assignments.

Results/Outcome: By integrating this content into and throughout the curriculum, the students and faculty have developed a stronger understanding of medical informatics and evidence-based medicine. An added benefit has been the interest

generated in this curriculum format by the other health sciences schools and programs on campus.

Evaluation Method: All participants fill out evaluations of each training session, which are used to identify areas of weakness in the workshop. These weaknesses are addressed either in the next training session or via email from the librarian. Each assignment related to the training is critiqued by the librarian and further reviewed by the faculty member. Feedback is provided for all students, and they are provided with an answer key. Observations gathered at the end of the first year have led to a restructuring of the curriculum for the second year of the grant.

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Over the chasm: extreme evidence-based medicine

Eric Albright, AHIP, director; **Kate Kelly, AHIP,** head, Information Services; **Amy Lapidow,** information services librarian; **Amy LaVertu,** information services librarian; **Eileen C. Moyer,** information services librarian; **Anne Nou,** information services librarian; and **Elizabeth J. Richardson,** information services librarian; Health Sciences Library, Tufts University, Boston, MA

This poster represents an intensive pilot program designed to introduce evidence-based medicine (EBM) techniques to 169 second-year medical students over a ten-week physical diagnosis course at a major academic institution. In particular it will describe:

Setting:

- students at distant, scattered sites
- major academic institution with widespread teaching sites
- history of using problem-based learning (PBL) for teaching medical students
- physical diagnosis: The only point in the curriculum that second-year students come in contact with patients

Participants and Their Respective Roles:

- physical diagnosis preceptors based at teaching hospitals
- students
- librarians
- course co-directors
- office of educational affairs

Pilot Assignment: A Sample Week:

Wednesday: Students and preceptors formulate a question based on a patient encounter.

Thursday–Sunday: Students research the evidence using a hierarchical pathway devised by librarians.

Monday by 8 A.M.: Students submit research and citation to librarians via email.

Tuesday by NOON: Librarian returns comments and suggestions to students.

Wednesday: Students present findings to preceptors.

Extreme Librarianship:

- Librarians interned with distant sites.
- Six librarians each supported two groups of fourteen students every week.
- Librarians checked the search strategies and results weekly and responded within twelve working hours via email.
- When necessary librarians duplicated student searches of preceding resources to ensure that "I couldn't find anything" was really true.
- Librarians devoted more than forty-five hours per week to the project.

Challenges Overcome:

- stressful for students and librarians
- tested librarian skill and knowledge and tested students
- communication with and knowledgebase of preceptors; many did not know about EBM
- highlighted areas of student weakness in resource selection and search skills
- image of librarians and attitude to information literacy as "I know all this"
- challenged; extreme shock!
- logistics issues: remote communications, grading, evaluation, remediation, who's in charge here anyway?

Refinements: Changes made to the assignment, to relationship with preceptors, to involving librarians based at preceptor sites, and to educating librarians and preceptors about EBM and critical appraisal techniques.

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Crew members working together to keep the evidence afloat

Jill B. Mayer, AHIP, assistant director, North Carolina Area Health Education Center (NC AHEC) Library and Information Service Network, Health Sciences Library, University of North Carolina–Chapel Hill; **Connie Schardt, AHIP,** education coordinator, Medical Center Library, Duke University, Durham, NC; **Janine Tillett,** head, Reference, Carpenter Library, Wake Forest University, Winston-Salem, NC; **Sue Stigleman,** librarian; and **Linda Turner,** librarian, Health Sciences Library, Mountain AHEC, Asheville, NC; and **Karen Crowell, AHIP,** informatics fellow; and **Robert Ladd,** education media specialist, Health Sciences Library, University of North Carolina–Chapel Hill

Purpose: This poster will demonstrate how academic and Area Health Education Center (AHEC) librarians formed a crew to successfully create a virtual Evidence-Based Medicine Education Center of Excellence. It will illustrate how the crew communicates via an email discussion list, uses a filtering process to determine core content, provides a current awareness feature for the site, and maintains a quarterly update process.

Setting/Participants/Resources: The AHEC library five-year plan outlined the concept of "centers of excellence" and identified evidence-based medicine (EBM) as the first virtual special collection for a statewide digital library. Librarians who teach formal EBM programs were identified as the crew who would assume responsibility for the content and maintenance of the site. Web design was provided by academic medical library staff.

Brief Description: This collection of EBM resources is intended for faculty, librarians, students, and health care professionals interested in learning about EBM. A goal identified by the crew is to provide a lifeboat when searching for what is new in EBM, learning or teaching EBM, finding current research, or selecting core resources. The process used in building this lifeboat will be described.

Results/Outcome: This poster will present an overview of the EBM education site and discuss the challenges involved in its creation and maintenance. We will illustrate the teamwork involved in combining content strength with project coordination and design to create an online educational site. A personal digital assistant (PDA) version and a newly designed evaluation tool will be demonstrated.

Conclusions: We will demonstrate how our virtual crew created procedures for working together electronically as we developed a dynamic Website with frequently updated material. We will describe how we constructed a filtering process to locate core EBM resources in this ever-changing subject area.

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Diving for treasures in the evidence-based literature sea and finding the jewels by using filters

Karl Woodworth, librarian, Grady Branch, and **Linda G. Markwell, AHIP,** head, Branch Library Services, Branch Library Services, Emory University, Atlanta, GA

Purpose: This poster will explore and illustrate concepts of searching for journal articles having evidence-based medicine (EBM) content using MEDLINE, as well as search filters and specialized databases such as the Cochrane Database of Systematic Reviews and the DARE.

Setting/Participants/Resources: A hospital branch library of an academic health sciences center library, serving a major urban teaching hospital. Authors have worked closely with clinical faculty and housestaff who use an evidence-based approach to the literature and have maintained an evidence-based Website for the past year from which locally produced search filters can be copied and pasted into MEDLINE. Although the primary literature source for the library is the Ovid Technologies collection of medical databases, authors also have experience with PubMed.

Brief Description: EBM, an effort occurring over the past decade to revolutionize medical practices to adhere more rigorously to objective scientific results, has created new demands about the kinds of citations that clinicians want to see in a literature search. Clinicians are teaching each other to search the literature using the therapy-diagnosis-prognosis-etiology (TDPE) template. However, our work in the past several years to satisfy evidence-based search requests has revealed that clinicians have been asking for, and responding very favorably to, a different search template that roughly corresponds to a levels of evidence (LOE) classification scheme for medical literature. Through this poster, we illustrate the growing layer of EBM-oriented databases, compare the TDPE search template with the LOE template, describe the use of search filters to standardize effective EBM searching, and suggest more convenient ways to distribute search filters to the medical public.

Results/Outcome: This is an ongoing effort with very favorable input from local clinical staff.

Evaluation Method: Search result counts of filters for systematic reviews and randomized controlled trials compare closely with commercial products such as DARE. Anecdotal reports from local staff are very favorable.

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Training for family practice residents seeking evidence-based clinical information: a pilot study

Margaret A. Spinner, reference librarian, Lamar Soutter Library, University of Massachusetts Medical School–Worcester

Purpose: This pilot study measures the effects of training provided by a medical librarian to assist family practice residents in the use of quality freely available Web-based information resources such as PubMed and MEDLINEplus (as well as ClinicalTrials.gov, NIH Clinical Alerts and Advisories, Agency for Healthcare Research and Quality Web-based resources, and the National Guideline Clearinghouse) to answer real-time clinical questions. The study describes the factors that affect residents' choice of resources and identifies reasons stated by residents to justify which articles they selected from search results.

Setting/Subjects: Subjects will include second-year residents employed in a family practice program operating in both a hospital and outpatient settings. Many graduates of this program choose to practice medicine in underserved rural communities and will have a need for freely available high-quality evidence-based clinical information.

Methodology: Baseline Screening: Residents will complete a short questionnaire to identify knowledge of available resources. They will also perform a sample PubMed search to demonstrate initial search skills. Intervention: Librarian will provide:

- searching assistance at fifteen weekly hospital morning report sessions
- three formal instructional sessions
- fifteen weekly consultation appointments to help residents locate evidence for real-time outpatient clinical questions

Results/Evaluation: Anticipated Results: Residents will

- identify and know important features of evidence-based medicine resources including PubMed and MEDLINEplus
- use these resources to locate needed clinical information
- improve their performance on post-intervention evaluation measures

Evaluation Measures: Residents will

- complete a post-intervention questionnaire
- redo the sample PubMed search
- participate in a focus group to compile residents' opinions and reactions

Discussion/Conclusion: This study seeks to show that residents who learn about evidence-based information resources and receive search training and practice opportunities will improve their knowledge of resources available and search skills. As a result, these residents may be more likely to continue to use such resources to locate clinical evidence as part of their own medical practices.

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Evidence-based medicine (EBM) resources: a toolkit

Sandra A. Kendall, director, and **Kellee Kaulback,** senior information specialist, Sidney Liswood Library, Mount Sinai Hospital, Toronto, ON, Canada

Purpose: This paper will compare various evidence-based medicine (EBM) resources, with a focus on electronic and personal digital assistant (PDA) formats. Some resources readily lend themselves to answering one of the four primary clinical questions: therapy, harm, prognosis, or diagnosis. We will identify some of the advantages and disadvantages of each resource.

Brief Description: Evidence-based medicine resources are developed to keep abreast of current practice in the medical literature and assess available medical evidence. These products evaluate, filter, and synthesize primary research, eliminating the need for the researcher to wade through vast quantities of literature that may be irrelevant, out of date, biased, or incorrect. While products such as Embase, MEDLINE, Cinahl, and Web of Science are excellent choices for comprehensive literature reviews, many times a concise answer based on the current best evidence is all that is needed to answer a clinical question. Many authors have recommended various search strategies for searching EBM resources based on clinical question type (i.e., harm, therapy, diagnosis, prognosis). However, a necessary precursor to this step is the proper choice of resource based on the type of question asked.

Results/Outcome: After comprehensive investigation, our library has chosen resources that we believe are the best clinical decision-making tools available. Based on these choices, we then designed an intranet accessible flowchart for our users, defining our electronic EBM resources for a variety of formats (including personal digital assistants).

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Cooperative knowledge management within health sciences associations: the role of librarians

David A. Sweet, director, Library Services, Library, American Health Information Management Association, Chicago, IL, and **Lynn Dunikowski,** director, Library Services, Canadian Library of Family Services, University of Western Ontario–London, Canada

Purpose: To illustrate how health sciences associations librarians cooperate with their institutions to produce knowledge management programs.

Setting/Methodology: One association is a voluntary association of 15,000 members and association staff of eighty, served by a library staff of 3.5, including one professional. The PEARLS Program is an evidence-based reflective exercise based on questions from physicians' practices. It was designed in part to help association members in rural locations who had difficulty attending continuing medical education (CME) events to obtain needed credits for maintenance of certification. A second association is a professional association of 44, 000 members, association staff of ninety-eight, and library staff of 2.0 professionals. The HIM Body of Knowledge (BoK) is a members-only knowledge management (KM) system that centralizes all available health information management resources into a data warehouse with multiple access and searching methods. It was designed to provide one centralized source for all significant health information management sources.

Main Results: A librarian contributed to program development. Key components of the PEARLS program are literature searching and the evidence-based approach, both of which draw on the librarian's expertise.

The library is also directly involved in program operation, providing document delivery, literature searches, and help to participants. A second librarian, as chair of the BoK expedition, coordinated all aspects of the enterprise-wide KM system. Beginning with the creation of a health information management (HIM) taxonomy, this librarian worked with all association content owners to ensure available content is submitted on a regular basis. Content is loaded into the data warehouse, indexed across up to thirty-three metadata fields, and published to the HIM BoK Website.

Conclusions: The second librarian was on the initial BoK team and was made chair when it became clear to upper management that a librarian's skill set was needed to coordinate all aspects of this complex process. Similarly, the first librarian became a key player as it became clear that library expertise was crucial to the development and implementation of the program. The cooperative process has enhanced the visibility and reputation of the libraries, provided important feedback for library operations, and generated opportunities for further involvement.

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The role of the resource center in advocating for quality health care

Mary A. Hyde, AHIP, director, and **Pamela Van Hine, AHIP,** librarian, Resource Center, American College of Obstetricians & Gynecologists, Washington, DC; and **Jeanette Harlow, AHIP,** director, Resource Center, American Hospital Association, Chicago, IL

One of the key services provided by health association librarians to their institution is providing high-quality, comprehensive information in a timely manner to support the institution's advocacy efforts. In this poster, the authors will describe how their resource centers work with their respective government relations and regional staff to advocate quality health care policies to state and federal government offices and legislative and regulatory staff. The authors will provide examples of how the information they provide to government relations and advocacy staff helps those staff persuade government officials and helps maintain the image of the parent organization as authoritative, trustworthy, and dependable (i.e., an organization that they can turn to repeatedly for the information needed to make informed decisions). The information provided can be in the form of statistics, bibliographic searches for books and journals, Internet resources, or pertinent association guidelines, as well as referrals to other association departments or other organizations that may provide relevant information that is crucial to the response. One resource center has an extensive collection of information on women's health care; the other resource center has an extensive collection of information on health services administration. We will cover the significance and value of these services to the institution, library, and government agencies. The authors will compare and contrast the advocacy support services they provide but will also include data on advocacy services from the Health Association Libraries Section survey. We will display samples of responses for advocacy information. Our conclusions will focus on the unique roles that health association librarians play in advocating quality health services for all Americans.

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Using the ebb and flow of consumer information delivery in a health association environment to affect resource center positioning within the organization

Patricia E. Pinkowski, AHIP, director, Green-Field Library, Alzheimer's Association, Chicago, IL

Program Objectives: Identify consumer needs that are not being met. Influence the development of materials to meet identified needs. Ensure that association resources are spent in areas of documented need. Position the resource center as a key player in the information activities of an association.

Setting: Nonprofit health association resource center

Participants: Public, resource center staff, association staff

Program: The program takes an analytic approach to meeting the needs of consumers that contact the association resource center. Consumers contact the health association resource center with requests, and information is regularly sent in response. The goal is to send association-produced materials when applicable to ensure the quality of the information and to establish a relationship with the consumer. In some instances, frequently requested topics have no internally produced information available. The mission is to influence the departments involved in developing new materials. Data was examined on the numbers and types of consumers contacting the resource center and the categories of requests and types of information being sent in response to questions. Data collection is done via an online database of inquiries in which the librarian answering the question assigns a type of individual, subject category and identifies the information being sent. Data analysis identified frequently asked questions where no association produced materials are available. A variety of relationships were established throughout the organization to champion the development of needed services and publications. The methods include participation on committees, presentations at division meetings, meetings with decision makers, teleconferences with association chapters, etc.

Main Results: Identification of subject areas lacking appropriate materials, input on planning new materials and on suitable formats, and increased visibility for the resource center

Conclusion: The use of analytic information can provide a bridge for the resource center to work with other organizational departments to develop materials to meet consumer needs.

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Preserving the past for the future: the Pediatric History Center of the American Academy of Pediatrics

Susan B. Marshall, director, Division of Library & Archival Services, American Academy of Pediatrics, Elk Grove Village, IL

The health association library plays a unique role in the organization, often taking responsibility for gathering and preservation of information outside the traditional library functions. In the early 1990s, the American Academy of Pediatrics created the Pediatric History Center with the mission of preserving the history of child health care services in the United States through a variety of programs. To fulfill its mission, the center maintains the archival records of the organization along with records of some smaller pediatric organizations, collects texts on the history of child health as well as historic texts, preserves a collection of pediatric artifacts including infant feeders and other medical equipment related to children, and gathers oral histories of individuals who have made contributions to the advanced of child health in the United States. This poster will provide an overview of this project along with information about the outcome to date. Included will be details on the unique role of the health association library in gathering, preserving, and maintaining such a collection.

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Stuck in the mud? Re-thinking interlibrary loan and document delivery

Ammon S. Ripple, document delivery librarian/reference services coordinator, Health Sciences Library System, University of Pittsburgh, Pittsburgh, PA

Question: In every health sciences library, interlibrary loan/document delivery (ILL/DD) is a basic service. For a variety of reasons, however, this important service is often overlooked or brushed aside in the face of competing challenges. This poster will identify a number of barriers that prevent libraries from providing top quality ILL/DD services and will provide resources, information, and strategies that can be used to overcome them.

Setting: All health sciences libraries.

Method: To ensure the provision of high quality ILL/DD services, libraries should consider the following:

• Digital document delivery is no longer as complex, time consuming, or expensive as it once was. A simple, inexpensive, and efficient model for implementing digital library-to-library and library-to-patron delivery will be presented. Not only does digital delivery improve turnaround time and user satisfaction but lowers costs associated with mailing and faxing.
• Copyright concerns will be addressed as well as recent significant revisions to the American Library Association (ALA) ILL Code, which have not yet been fully embraced by many ILL practitioners.
• In terms of staffing issues, have library administrators paid enough attention to the often complex ILL/DD workflow or are they tending to just leave well enough alone? Do we know what we need to know? Is there a sense that practitioners will not be able to adapt to new technologies? Have library professionals kept practitioners up-to-date or are they still doing things the way they were trained years ago?
• Economic implications related to ILL/DD abound. To charge or not to charge? If you do charge ILL partners, are you using electronic payment systems like electronic fund transfer systems (EFTS) or IFM? Should you consider charging your patrons or is it more efficient to provide free service? How can a program like QuickDoc help you manage billing transactions? How do e-journals and shrinking budgets impact your ILL/DD activity?

Main Results: Considering these issues and making use of the information and resources provided can allow librarians to greatly improve the quality, efficiency, and satisfaction-level of this fundamental library service.

Conclusion: For such a seemingly simple and straightforward process, managing ILL/DD services effectively can be quite complex, but it does not need to be overwhelming.

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Open two ports—Ariel coming through!

Jan T. Orick, AHIP, director, Biomedical Library; **Deborah Brackstone,** library specialist, Biomedical Library; and **Jeffrey Laughter,** senior systems administrator, Information Technology Systems; St. Jude Children's Research Hospital, Memphis, TN

Purpose: This poster will illustrate how the Biomedical Library tracked the use of new library technology to save money, time, and improve customer satisfaction and will demonstrate how by working closely with information technology staff (ITS) other hospital libraries can do the same.

Brief Description: An Ariel user since 1993, the library worked with ITS to improve its document delivery service by implementing a desktop document delivery system. In the fall of 1999, our DOCLINE default delivery method was changed to Ariel delivery and turnaround time began to shrink. In the fall of 2000, we implemented desktop delivery of interlibrary loan documents. Users now perceive the document delivery service is timelier and therefore are less likely to ask for expensive rush service.

Results/Outcome: Working closely with our ITS department, the library was able to implement desktop delivery and to educate our users on the new system. The number of rush requests has dropped by 50% in one year, thereby saving the institution money. User satisfaction with interlibrary loan turn around time has increased.

Evaluation Method: All interlibrary loan statistics (i.e., turnaround times, costs, etc.) are tracked using an Access database designed by the library staff. The institution's Financial Services Department provided independent verification of savings. Anecdotally, we have received numerous written comments from our users about how fast the service is now.

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University at Buffalo/Roswell Park Cancer Institute document delivery project

Ophelia Morey, senior assistant librarian, Information Delivery Service, University at Buffalo Health Sciences Library, Buffalo, NY

Introduction: This poster describes the steps taken that resulted in successful document delivery collaboration between the University at Buffalo Health Sciences Library and the Roswell Park Cancer Institute (RPCI) Dr. Edwin A. Mirand Library. Both institutions are located in Buffalo, NY. The Health Sciences Library serves the five health sciences schools at University at Buffalo: School of Medicine and Biomedical Sciences, School of Dental Medicine, School of Pharmacy and Pharmaceutical Sciences, School of Health Related Professions, and the School of Nursing. The Mirand Library is organized to serve the

information needs of the clinical, research, and student population of Roswell Park Cancer Institute, which is the only upstate New York facility to hold the National Cancer Institute designation of "comprehensive cancer center" and one of forty-one such centers in the United States.

Brief Summary: This collaborative project was implemented in January 2000 and reduced overlap in the journal collections of the Health Sciences Library and the Roswell Park Cancer Institute (RPCI) Mirand Library and freed up acquisition budgets for unique materials and provided enhanced document delivery services to support faculty, staff, and student access to the collections of both libraries. Presently, document delivery service of library materials between RPCI and University at Buffalo is being provided under the umbrella of Document Express. Document Express is a service that provides requested materials between the university's North and South campuses. In 2000, Document Express was expanded to include document delivery between RPCI and both campuses.

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PLUS Information Services: fee-based services for nonaffiliated clients

Penny Coppernoll-Blach, AHIP, corporate services/ILL librarian, and **Barbara Slater, AHIP,** librarian, Biomedical Library, University of California–San Diego, La Jolla, CA

Program Objective: This poster will provide an overview of the fee-based service unit of a large academic biomedical library. The program is called PLUS Information Services. The mission of PLUS is to provide document delivery and research services to nonaffiliated businesses and individuals at a reasonable price.

Setting: PLUS is located in the Biomedical Library of a large public university. The Biomedical Library serves the School of Medicine and the Department of Biology. PLUS is located in the same office space as the Biomedical Library interlibrary loan services.

Participants: PLUS membership for corporations is offered at two levels, with library cards and parking passes as part of the membership benefits. Individuals or corporations can also request fee for service transactions. PLUS has four staff members: a corporate services librarian, a program coordinator and two customer services representatives.

Program: This poster will present an overview of the PLUS program, current membership numbers, marketing ideas, copyright compliance choices, and the pressure to be self supporting in a difficult economic time.

Results: This poster will stimulate conversation among librarians providing, or contemplating providing, fee-based services. Although not the main intention, the poster will make librarians aware of PLUS as a potential resource for document delivery and research services.

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Going mobile: laptop lending in an academic medical library

Jon Crossno, co-manager, and **Sharon Giles,** co-manager, Information Desk; and **Nathan Hooper,** technical support specialist I, Information Systems; Library, University of Texas Southwestern Medical Center–Dallas

Program Objective: As part of a Telecommunications Infrastructure Fund grant, the Information Desk, the library's unified public service point, developed and implemented a laptop lending program to provide more options and flexibility to our clients' information-gathering efforts.

Setting: Academic medical library serving more than 19,000 primary clients in an urban location.

Participants: Faculty, staff, and students of the medical center and its affiliated institutions.

Program: A total of twelve laptops were initially made available as part of the lending program. Eight laptops were available at the main library, and four were at the smaller, research-support library. Each laptop came equipped with a battery pack (providing up to three hours of work time when fully charged) and a CD-ROM drive. The following accessories were also provided to clients at checkout: laptop case, power cord, 3.5" floppy drive, a connector cable for the floppy drive, and an instruction sheet. The program was initially promoted through articles in email and print newsletters, posters, and PowerPoint slides shown on the library's new marketing kiosk using an Iomega Fotoshow device.

Main Results: Checkout statistics will be used as the primary indicator of the program's success. Preliminary results indicate that use of the laptops is increasing. More laptops have been purchased to meet increasing demand. An evaluation survey will also be administered to laptop users to determine what is most used.

Conclusion: The initial setup of the laptops involved defining a list of basic programs to offer and developing a method to easily "clone" the basic setup to each laptop. Ongoing issues include developing a schedule for laptop maintenance (e.g., virus scanning software and updates, operating system integrity, recloning the basic setup periodically, etc.) and providing access to the campus wireless network.

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Ebay sellers' opinions about "librarian" clothes: frumpy or bumpy?

Sunny L. Worel, library information specialist, R. N. Barr Library, Minnesota Department of Health–Minneapolis, and **Allan R. Barclay,** information architect, Health Sciences Libraries, University of Wisconsin–Madison

Purpose: To assess the public's attitudes about the clothing librarians wear. To characterize attire that is considered "librarian-ish."

Setting/Subjects: Individuals peddling clothing on eBay who use the word "librarian" to describe their wares.

Methodology: Auction on eBay in the clothing, shoes, and accessories category were monitored for modern and vintage garb listed with the word librarian in the title or description. Sellers were asked a question about their item followed by a question about why they indicated that their item was "for a librarian." A database was set-up to track auction descriptions, pictures, and sellers' responses. Each seller's sex and geographic location were noted to identify possible trends. Adjectives used by eBay sellers about their auction items and librarians were recorded.

Results: Auction listings were common for vests, ties, skirts, sweaters, and dresses. Many clothing items had book or tweed themes. Some of the adjectives for the attire and the librarians who wear them included: conservative, proper, academic, intellectual, bookish, chic, sexy, and shapely.

Conclusion: Librarian stereotypes abound in eBay clothing auctions. Two contrasting fashion statements emerged: a conservative, bookish look and a sexy, seductive look.

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CDC Information Center: building a collaborative learning space in the new CDC Global Communications and Training Facility

Jocelyn A. Rankin, Ph.D., AHIP, chief, and **Karen H. Dahlen, AHIP,** health communications specialist, CDC Information Center; and **Michael S. Tarr, AIA,** architect, Facilities Planning and Project Management Office; Centers for Disease Control and Prevention, Atlanta, GA; and **Shirley Dugdale, AIA,** consultant, Learning Environments, DEGW-North America, Evanston, IL

Purpose: To reflect the Centers for Disease Control and Prevention's (CDC's) new global mission, a CDC Global Communications and Training Facility is under construction in Atlanta, GA. Occupants include the CDC Information Center (CDC IC) as well as a conference center, distance-education broadcast facility, the CDC Global Odyssey Museum, and the Visitor's Center. This poster describes the new building and planning process.

Setting: CDC is the lead public health agency responsible for promoting health and quality of life by preventing and controlling disease, injury, and disability. Stationed from Anchorage, AL, to San Juan, PR, and internationally, CDC staff work with states, local public health agencies, and partners throughout the world to accomplish CDC's public health mission. The CDC IC provides library and information services for CDC scientists and researchers regardless of their geographic location. The IC is broadening the scope of its current library program and services with the goal of responding more broadly to the agency's information needs and reaching new audiences. The new CDC IC vision is for it to emerge as a comprehensive public health knowledge center with information services and products that serve both CDC scientists and the larger public health community.

Brief Description: The CDC Global Communications and Training Facility building planning process has centered around a core team of building occupants. Milestones in the planning were: the building program, the selection of architects and specialty consultants, benchmarking and program verification, partnering workshop for all participants, schematic design and design development, value engineering, interiors design, and construction oversight. Major IC features include: individual and group learning spaces, outreach collaboratory, digital research lab, orientation and training facilities, media center, collections space, and staff "neighborhoods" for operations, customer management, and product development.

Results/Outcome: The CDC Global Communications and Training Facility will serve as the agency's signature building, supporting its outreach and worldwide collaborative efforts. The space planning process itself was designed to enhance collaborative activities and the team-based approach to management. As both an educational and communications facility, the building will be open to the public health community and the general public, introducing CDC's scientific work through state-of-the-art technologies and programs.

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From rags to riches: rebuilding a library found in ruins

Catherine A. Marshall, manager, Medical Library, Aveni Medical Library, UHHS Richmond Heights Hospital, Richmond Heights, OH

Purpose: Describe the process of developing a forgotten and neglected library into a thriving information center.

Setting: A 120-bed community teaching hospital in a suburb of Cleveland, OH. The hospital has six residency programs with forty-seven interns and residents. A local hospital system bought the community hospital out of bankruptcy in June 2000. Before the change in ownership, the medical library suffered substantial loss of materials and complete loss of staff as well as several years of neglect due to the hospital's prior financial situation. A new, full-time librarian was hired in July 2001 to reestablish the library.

Brief Description: As of June 2001, the medical library had no staff, an outdated monograph collection, a fragmented journal collection, four obsolete computers, a 1970s decor, and no budget. No library services were offered, and patron usage was limited. A new librarian was hired in July 2001. Several residency inspections were looming around the corner, and the library needed vast improvements in a relatively short time. By mid-October 2001, the library had invested over $30,000 in monographs, almost doubled print journal subscriptions, gained access to over 200 full-text online journals, acquired six new computers—along with five new printers, a scanner, digital camera, CD-burner, and over twenty software programs—indulged in a much needed face-lift, and was approved for a budget in excess of $100,000 per year. Full library services were restored and patron usage soared. In addition, the library has become fully automated, has added a security system, and has led the development of a hospital Website. The librarian was able to do all of this by capitalizing on a dire situation and guiding the excitement of initial improvements into expectations of a library fit for the 21st century.

Results/Outcome: The library is now a thriving information center used by students, residents, attendings, nurses, and administration.

Evaluation Method: Comparison of statistics from before, during, and after the changes. Department survey and feedback.

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An "Information Commons" in a hospital library

Mary K. Joyce, AHIP, library manager, and **Rekha Gandhi,** librarian, Shinn-Lathrope Health Science Library, Morristown Memorial Hospital, Morristown, NJ

Purpose: The library at Atlantic Morristown Memorial Hospital in New Jersey had outgrown its physical space and had not been renovated in twenty-five years. The hospital serves as a major teaching facility for the University of Medicine and Dentistry of New Jersey.

Process: A consulting firm, was contracted to provide a plan detailing future space, collection, seating, staff, and specialized needs of the library. An "Information Commons" was suggested with a centrally located reference desk, a standard element in an academic library but unusual in a hospital library setting. Adjoining hospital space would be added to expand the physical area of the library. Subsequently user focus groups were conducted and an architectural firm was hired. Funding for this project was secured through a drive by Morristown Memorial Hospital Foundation. Monies raised also included an endowment for medical education at the hospital

Results: Completion of this large project was a milestone for the Atlantic Health System and for the New Jersey library community. The remodeled and slightly expanded library is strikingly beautiful and highly functional.

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CD: wave of the future

Dennis A. Pernotto, Ph.D., head, IAIMS; **Dixie A. Jones, AHIP,** head, Reference; **Kay M. Gammill,** head, User Services;

and **Donna F. Timm,** head, User Access Services, Medical Library, Louisiana State University Health Sciences Center–Shreveport

Program Objective: To deliver economical, interactive, self-instructional CD programming designed to teach effective NLM Internet search strategies targeted toward public librarians and health care personnel in mostly rural areas who are professionally isolated and overworked and have few health care resources such as clinics or hospitals to deliver such a service.

Setting: Mostly underserved population of a predominantly rural and minority section of the Lower Mississippi Delta region of north Louisiana, which is affected by stifling poverty, high dropout rates, low employment, and lack of access to health care resources.

Participants: Public librarians and health care personnel, including physicians, nurses, allied health professionals, and students on rotations assigned to rural settings.

Program: Using the resources and talents of the Health Sciences Center library staff, outreach lessons are taught on individual interactive CDs. By using copy, synchronized sound, direct connections to Websites, and animation, each CD replicates a train-the-trainer approach. Each CD offers lessons on topics such as issues involved in providing consumer health information, finding health information at reliable Websites, searching MEDLINEplus, and basic searching of PubMed. CD production is done inhouse very economically and is used for continuous training at remote locations.

Main Results: The project has proven to be highly effective and efficient in three respects; first, the library staff maximizes its personnel resources; second, learner time is optimized by allowing each participant the ability to learn particular segments as needed for provision of instant training and review; and third, this educational delivery system is extremely cost effective.

Conclusion: Economical, self-instructional CD programming allows the Health Sciences Library staff to effectively and efficiently provide timely educational outreach services to public librarians and health professionals in the entire northern half of the state.

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Does our Web page work: combining usability testing with student orientation

Karen C. Lippert, reference librarian, Research & Reference, Oregon Health & Science University–Portland

Purpose: This poster session will show how Web usability and student orientation can be combined to teach students and inform Web managers.

Setting/Participants/Resources: An academic health sciences library in an urban setting. The Web team needed usability information, and the reference team wanted a new way to do the traditional orientation.

Brief Description: Orientations are days filled with teaching new students and residents how the university works. They are overwhelmed with information. Each year, the library is included in the orientations. As new orientation items have been added, the library time has become shorter. In 2002, the library had from sixty to ninety minutes with each group. The Research and Reference Department (RRD) began looking for a new way to get basic library information to these students in the time allotted, without overwhelming them. At the same time, the Library Web Management Team was looking at a way to get participants for a Web usability test. The two groups decided to come up with an orientation session that could also look at Web usability.

A list of the most important things new students and residents would need to know to use the library effectively was given to the Web team and resulted in a series of questions on how one could find these on the Web Page. These questions, along with a rating sheet, were used as the basis for the orientation sessions. Participants were given fifteen minutes to answer the questions and write any comments about the Web page. The rest of the orientation was spent going over the questions in more detail.

Results/Outcome: The result of this collaboration was that the library's part of the orientation got higher reviews than in the past. Participants liked being able to get right into using the Web page, rather than having it shown to them first. And, the usability test showed that the Web page was working and that the majority of participants felt it was easy and efficient to use.

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Testing search skills in a real-time, case-based setting

Patricia Wilson, associate director, Public Services; **Anne Linton,** director, Library Services; and **Alexandra Gomes,** instructional technology librarian; Himmelfarb Health Sciences Library, The George Washington University, Washington, DC

For the past four years, a component of the "Practice of Medicine (POM)" course has been problem-based learning (PBL), which is case-based and challenges students to identify problems, develop hypotheses, and generate learning objectives. The curriculum includes basic science, clinical decision making, and contextual issues. As an extension of the first- and second-year program, students are assigned a library liaison to work with the physician tutor and the PBL group to provide students with medical informatics instruction. The intent of the liaison program is to teach medical informatics skills such as database searching, resource evaluation, electronic resource use, ethics, and copyright and use of the Internet to find quality clinical information. The goal of the PBL course is to develop lifelong learning skills. As part of the program, the library was asked to organize and monitor the administration of a real-time online computer examination given to first- and second-year medical students. The objective of this examination was to assess the student's ability to access current clinical information using electronic resources and to apply that information to a theoretical case, all within a limited time period. The timed examination scenario was created to permit the students to demonstrate their abilities to utilize medical informatics skills in clinical practice. Faculty members used grading templates to evaluate student responses, and the library liaisons evaluated student's resource selection, citations, and resource evaluations. The poster will illustrate the organization and administration of the examination. It will discuss student response to this examination format, the successes in administering this type of examination, and the lessons learned by the librarians and the PBL course directors.

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Collaborating with faculty: integrating the library into the medical school curriculum

Stephanie Kerns, head, Learning Resources Center/Curriculum Librarian, Galter Health Sciences Library, Northwestern University, Chicago, IL

Purpose: This poster is about one library's experience with integrating itself into the medical school curriculum on a more formal basis.

Setting/Participants/Resources: The setting is a medium-sized academic health sciences library, supporting a medical school

with educational programs in medicine, physical therapy, basic sciences, and public health.

Brief Description: In September 2001, a position was created called "curriculum librarian." As a way to tie the library software collection more closely to the curriculum of the medical school, it was integrated with the Learning Resources Center. It was also designed to provide leadership for the library's education program, particularly relating to the curricula of various educational programs within the medical school. Emphasis was placed on collaborating with the faculty in the medical school to teach students how to manage information as a part of developing lifelong learning skills. Faculty in the medical school were consulted when the position was established, and their ideas were included in its creation. Prior to the creation of the position, the library was involved in the curriculum on an informal basis. However, without someone whose job specifically includes this focus, opportunities were missed.

Results/Outcome: The formal collaboration has been successful. Working relationships have been established with two medical school courses within the first year: "Problem Based Learning" and "Medical Decision Making." The curriculum librarian worked with the associate dean for medical informatics to design and teach the course "Medical Decision Making I." She also attends problem-base learning (PBL) committee meetings and wrote the "Information Management" section for course assessment of PBL. She has been asked by the PBL course director to be a PBL tutor in Spring 2003. Gaining a better understanding of the medical school curriculum as a whole and having formal relationships with faculty, this librarian identifies LRC and other library resources to supplement the curriculum, and provides faculty consultation regarding LRC and library services.

Evaluation Method: Future plans to evaluate the effectiveness of this collaboration include having first-year medical students complete a pretest of basic information literacy skills at the beginning of the school year and a posttest at the end.

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Web-based news application facilitates marketing of library services

Brian Brown, communications librarian, and **Kathleen Oliver,** associate director, Communication and Liaison Services; and **Caroline Zambrowicz,** senior programmer and analyst; Welch Medical Library, Johns Hopkins University, Baltimore, MD

Purpose: The network delivery of the library's collection and services has made it possible for its users to work from their clinics, offices, and homes and while they travel. As a consequence, fewer patrons come to the library, and new strategies are required to communicate effectively with users.

Setting/Participants/Resources: As one of a number of strategies to market a large university library's services to a user population of 15,000, the communication services staff partnered with a programming analyst from the library's technology group to develop a Web-based news application. The application, built with ColdFusion, creates dynamically generated, database-driven Web pages that extract timely news information for display on the library's Internet and intranet sites and sends email to campus news outlets for wider publication.

Description: Email functions of this application are programmed with contact addresses of four campus news publications, broadcast email services of the Schools of Nursing, Medicine, and Public Health and contacts at other campus libraries. These targets can be modified as needed. The application makes it easy to tailor announcements and to quickly reach an audience appropriate to the news topic. An average of two news stories each week are posted to the library's public Internet and internal intranet sites and transmitted by email to other news outlets. It has proven to be an efficient, effective, and flexible marketing and communication tool.

Results/Outcome/Evaluation: This poster presentation will describe details of the technology behind the application and its impact on community exposure through specific media and on library event attendance.

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Turning the tide: the rejuvenation and development of a library newsletter

Erika L. Sevetson, information services librarian, Middleton Health Sciences Library, and **Michael Venner,** information services librarian, Weston Clinical Science Center Library, University of Wisconsin–Madison

Question: Due to staff turnover and other organizational changes, the library had not produced a newsletter in eighteen months. How should a library go about rejuvenating a newsletter?

Setting: A medium-sized academic health sciences library, comprising a main library and two branch libraries.

Brief Description: This poster will describe the evolution of the library newsletter from fall 2000 to the present, beginning with an initial editorial committee of four librarians with loosely defined roles, supervised by an interim co-director (and receiving input from the full information services staff), to its current streamlined structure: co-editors who cooperate on features, format, and thematic questions but also have clear-cut individual roles (one editor is responsible for content-gathering, design, and layout; the other is responsible for editing and proofing). Differing ideas of the purpose of a newsletter will be compared, as will format options (print vs. Web vs. email). We will also describe the future public relations and marketing effort of the libraries. As we prepare for the move to a new facility in 2004, where our current three libraries will merge into one, it is becoming increasingly important for the library to communicate changes in staff, services, holdings, and, finally, location to our primary users. As part of this effort, the newsletter is taking on an increasingly focal role in keeping our patrons "in the loop."

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Launching a flagship library: in an ocean of information, making sure your library stands out

Gretchen N. Arnold, AHIP, associate director, Library Operations; **Elaine M. Attridge, AHIP,** clinical and nursing liaison librarian; **Patricia Vaughn,** education librarian; and **Bart Ragon,** Webmaster; Claude Moore Health Sciences Library, University of Virginia Health Sciences Library–Charlottesville

Objective: Create an image or branding that identifies the library as a provider of quality services and resources, both traditional and electronic.

Setting: Health care professionals are awash in information from the Web, the media, and their hospitals and organizations. Quick access to those resources and services with the highest standards for quality is essential. Libraries acquire resources that meet standards for quality content, easy use, and timely access. However, with the advent of electronic resources and services, while advantageous for users and the library, the library's critical role in evaluating, purchasing, organizing, and delivering is sometimes masked. By branding library services and resources, users can quickly identify quality resources for their information needs

Method: As part of the library's planning process, it was decided that the library needed to develop a marketing plan that included the development of a graphic image or logo that would represent both traditional and electronic library services. The library worked with a local marketing firm to develop a "library" of logos that could be easily tailored to match specific uses and audiences yet still work successfully with other institutional images. A collection of new promotional materials were developed, featuring the logo. In addition, the library staff embarked upon a new program to publicize library resources with news items in the medical center newsletter, displays featuring books written by local authors, and displays of materials relevant to current events such as the local Heart Walk.

Main Results: The library now has a means to clearly identify their important role in providing critical institutional information resources and services. In addition, materials and resources that are available are actively promoted in timely and fun ways. Another important benefit is that a cross section of library staff were involved in the project.

Conclusions: Developing an easily identifiable library look and developing a plan to more aggressively market library resources and services ensures that users recognize the value the library brings to their information needs.

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Common grounds: lessons learned from installing a coffee service to increase library usage and generate funding

Jean P. Shipman, director; **Catharine S. Canevari,** head, Education Services; and **Ramona H. Thiss,** head, User Services; Tompkins-McCaw Library for the Health Sciences, VCU Libraries, Virginia Commonwealth University–Richmond

Purpose: This poster discusses the experiences and lessons learned from investigating and negotiating the installation of a coffee service.

Setting: A health sciences library

Methodology: A committee was formed consisting of librarians and staff. Input regarding contract negotiation, institutional policies, and other administrative aspects was received from members of university business and dining services offices. Input regarding campus support of a coffee service in the library, vendor selection, taste tests, and formal feedback was contributed by students and student leaders. University faculty and staff contributed informal feedback regarding these issues.

Description: The library gate count had dwindled in part due to improved access to electronic resources. To bring users back into the physical space, the library underwent a renovation and included an area for a coffee service in the updated facility. The library followed a detailed negotiation process to obtain the coffee service. Poster topics to be discussed focus on user, vendor, staff, and building issues, including the following:

• general project feasibility (cost, building, and building design considerations)
• profitability (price points, product line, projected revenues, revenue sharing models, service hours)
• design considerations (storage space, plumbing, electricity, furniture, location)
• environmental concerns (housekeeping, aroma, food policy changes)
• administration (liability, security, training)
• marketing (naming, branding, merchandising, press releases, garnering feedback)

Results: Including students and other library users in the process helped generate community support for the concept. Partnering with offices from the university business and dining services operations helped the library identify key concerns and issues. Informal feedback collected from faculty, students, and staff indicate that the inclusion of a coffee service at the library would be supported by the community and beneficial for drawing users to the library.

Evaluation: Comment cards, informal feedback from community, revenue generated, and long-term profitability.

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Electronic bookplates: finding new ways to acknowledge benefactors and solicit future support

Linda O'Dwyer, reference librarian; **Ron Sims,** special collections librarian; and **James Shedlock, AHIP,** director; Galter Health Sciences Library, Northwestern University, Chicago, IL

Purpose: This poster describes a Web-based electronic bookplate project to recognize those benefactors who have contributed to the support and collections of the library.

Setting/Participants/Resources: The library is a medium-sized, academic health sciences library. Until now, paper bookplates and memorial plaques have been commonly used to facilitate donor recognition. Looking for new ways to acknowledge benefactors and solicit future support, the library chose its Website and online catalog as potentially ideal media for this purpose.

Brief Description: In the spring of 2001, the library started a Web-based electronic bookplate project. The objectives of the project were: to create a set of electronic bookplates and Web pages that would acknowledge both graphically and textually the contributions made by various benefactors to the library, to inform our patron base that our library is the product of a number of successful fundraising efforts, to provide our patrons with a foundation for understanding how our library is partly funded, and to use the library Website as a proactive means of soliciting future monetary support. As the project developed, another goal materialized: to use the benefactor pages as a means of highlighting the library's rare and archival materials. Using Adobe Photoshop software, we created electronic bookplates for each donor. We then conducted historical research on our benefactors using biography sources and the library's own Special Collections. Next we found relevant images and photographs to supplement each donor's page, using the library's Special Collections where possible. We also added subject-specific images from our rare books and photographs of medical equipment in Special Collections. The site was then complemented with documents that illustrate how potential donors can support the library: an introduction to supporting the library, information on opportunities for permanent endowment, and a form that donors can use to submit donations.

Results/Outcome: A systematic effort is now being made to include links to the electronic bookplates in the relevant records in our online catalog. In the meantime, the finished Web pages can be viewed on our Website.

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Building an international multimedia digital library

Sharon E. Dennis, librarian, Multimedia Development, Spencer S. Eccles Health Sciences Library, University of Utah–Salt Lake City, UT; **Sebastian Uijtdehaage, Ph.D.,** co-director, HEAL Project, David Geffen School of Medicine, University of California–Los Angeles; **Chris Candler, M.D.,** co-director, HEAL Project, School of Medicine, University of Oklahoma–Oklahoma City; and **Sandra McIntyre,** Program Manager, HEAL Project, David Geffen School of Medicine, University of California–Los Angeles

Purpose: Health sciences educators have the need but neither the time nor the resources to create and index digital multimedia materials suitable for use in educational settings. The primary mission of this project is to address this need by providing health sciences educators with high-quality, freely downloadable multimedia materials (including images, videos, and animations).

Setting: The HEAL application is available on the Web for use by health sciences faculty, students, and staff, as well as patients and their families. Health sciences faculty may contribute multimedia materials to the database through the Web-based contributor interface.

Description: Through the use of state-of-the-art Internet technologies, educators are able to efficiently locate and retrieve multimedia materials from a variety of sources. The HEAL project is a collaborative effort between three institutions (University of Utah, University of Oklahoma, and University of California–Los Angeles); in addition, the project team is working with other organizations to establish an international network of distributed databases containing high-quality teaching resources in a variety of health sciences–related subject areas. The digital library was funded as part of the National Science Digital Library initiative of the National Science Foundation. Partner collections will be added to the database using the Open Archives Initiative (OAI) protocol for metadata harvesting. The project application includes interfaces for searching, downloading, uploading, and browsing through materials. The browse interface is based on the Medical Subject Headings (MeSH) tree. An interactive MeSH browser, written as a Java applet, is also available for users to locate MeSH keywords for retrieval and indexing. Records are cataloged using MeSH or other controlled vocabularies in cases where MeSH is not adequate.

Results: The HEAL project has attracted the interest of over sixty organizations and individuals. The HEAL Web application has over 1,300 registered users. The prototype collection consists of 3,000 images, videos, and animations related to neuroanatomy, dermatology, cardiology, pathology, histology, and neurology; the collection is growing as new partner collections are being added.

Conclusions/Evaluation: By the end of the funding period in later 2004, the national multimedia repository created by the HEAL team will offer health sciences educators access to a large, diverse collection of health science materials appropriate for use in educational settings.

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Tool of choice for a Web-based online library course: Blackboard software

Rama Vishwanatham, AHIP, outreach librarian, Rowland Medical Library, University of Mississippi Medical Center–Jackson

Purpose: This poster will show how Blackboard is used to deliver a Web-based course "Information Research Process (IRP)."

Setting/Participants/Resources: The setting for this project is a mid-sized academic library serving the University Medical Center (UMC) with the schools of medicine, dentistry, pharmacy, nursing, and health related professions. Faculty at the Medical Library has been collaborating in a "mentor" capacity with the "BasePair" mentoring program. Faculty from UMC mentor high school children toward a career in the biomedical research. The Basepair program has also sponsored the Summer Institute Program held at UMC, offering the "Introduction to Biomedical Research" course. High school teachers in science and mathematics apply for and participate in this six-week course comprised of lectures and clinical laboratory training that will promote improved delivery of science education at their schools. The "IRP" course developed by the library faculty is offered to the Summer Institute Program participants.

Brief Description: In the summer of 2001, the library developed and offered for the first time an online course delivered via the Web. As a pilot project testing the Blackboard software "IRP" was one of the two courses offered online at UMC in the summer of 2001. The course, serving as a self-guided module, evolved from a standard "Introduction to Library Databases" sessions offered in the previous years. Since summer 2001, it has been expanded to four weeks and includes the information search process, information storage and retrieval, and critical thinking skills in the electronic world. Reading assignments, online tutorials, and exercises to practice search skills are included.

Results/Outcome: This online course has no formal classroom instruction. Class time is set aside for the students to meet with teacher in an informal setting to discuss any doubts and issues. Email is used for communication with the teacher and to submit assignments. Blackboard allows students to access the various lessons at their own pace. The course provides skills that the high school teachers can take back to their classrooms and students.

Evaluation Method: Blackboard software features, course evaluation, and assignments are used to evaluate, review, and revise the course.

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Service beyond our borders

Ellen N. Sayed, AHIP, interlibrary loan coordinator, and **Thomas L. Williams, AHIP,** director, Charles M. Baugh Biomedical Library, University of South Alabama–Mobile

Purpose: This paper describes the biomedical library's international document delivery service; relationship with libraries served, level of service, and electronic delivery of documents.

Setting/Participants/Resources: The biomedical library, a resource library in the NN/LM, was founded in the mid '70s. Since that time, it has relocated and expanded to a modern, highly automated, mid-size academic medical library, which includes the campus library and two branch libraries. The library subscribes to a large collection of print and electronic resources. DOCLINE and OCLC are used for interlibrary loan. Ariel and Prospero are used to receive and send documents. The library also participates in state- and regionwide resource sharing networks .

Brief Description: To expand library service to the surrounding community, a cost recovery–based outreach service, SOUTHmed, was launched in 1996. SOUTHmed has grown to include hospitals, law firms, and others with legitimate needs for medical information. Later in 1996 and 1997, with an increasing number of requests from foreign libraries, it was decided to formalize these interlibrary exchanges by offering membership in our network. The first foreign library to join was La Biblioteca de Medicina in Buenos Aires, Argentina, in 1997. This arrangement has worked out very well, and negotiations are under way to include a consortium in Ukraine. The biomedical library has also joined the Sister Library Initiative via the International Cooperation Section of the Medical Library Association, assisting in serving a medical library in Latvia and Antigua. In 2003, the biomedical library will become a sister library to the Holberton Hospital Library in Holberton, Antigua.

Results/Outcome: International document delivery service has raised the profile of the library among international users.

Evaluation Method: The Sister Library Initiative libraries will be evaluated by the Sister Library Initiative. Statistics are collected for all other libraries served.

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AIDS Information Access for Northwest Ohio: a community-based HIV/AIDS information network

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

Purpose: This poster will report on a HIV/AIDS information network.

Setting/Participants/Resources: An academic health sciences library obtained a grant from the National Library of Medicine to partner with a community-based organization to establish an HIV/AIDS information network.

Brief Description: The network Website identifies agencies and organizations that provide HIV/AIDS services, such as testing, counseling, and other types of support in fifteen counties; provides access to the academic health sciences library catalog and other literature resources including PubMed and the NLM Gateway; and links to prominent national resource Websites. Computers with Internet access were installed at five community-based organizations, and staff were trained to use AIDSLINE, PubMed, and the library catalog to obtain HIV/AIDS information. Books and audiovisuals on HIV/AIDS were purchased to enhance the library's collection, and patients and consumers can borrow these materials by making a request at their local public library.

Results/Outcome: This ongoing project has provided health professionals, patients, and consumers with access to current, accurate information on HIV/AIDS.

Evaluation Method: The Website receives approximately 120 hits per month. Also, anecdotal feedback from community-based organization health professionals has been positive.

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Partnering for a healthier community

Nancy C. McKeehan, assistant director, Libraries for Systems, and **Janice C. May,** project coordinator, Hands on Health-South Carolina, MUSC Library; and **Thomas G. Basler, Ph.D.,** director, Libraries and Learning Resources Center, Department of Library Science and Informatics; Medical University of South Carolina–Charleston

Purpose: This poster illustrates efforts in South Carolina to combine the expertise, effort, and educational products of multiple projects focusing on improving the health and well-being of the state's citizens. Collaboration among library-, university-, community-, and faith-based projects provides opportunities to accomplish more than we could separately.

Setting/Participants and Resources: South Carolina is a rural state with many challenges for health care providers and educators. The library of the academic health sciences center has expanded its outreach endeavors, primarily through grant-funded projects and partnerships.

Brief Description: The library received funding from the Duke Endowment to develop a consumer health Website to promote healthier citizens and healthier communities in our state. We have targeted diseases and issues that most seriously affect South Carolina's underserved and vulnerable citizens, especially minority and rural populations. As this project, Hands on Health-South Carolina, got underway with our initial partners, we quickly began identifying other community-oriented health projects that complemented ours. Contacts were made, meetings held, and collaborative work has begun. Programs share information, link to each other's sites and conduct outreach programs as teams. The ultimate goal is to leverage the activities, efforts, and funding of many projects to expand the impact and reach of each.

Results and Outcome: Our expected outcomes are to increase individual and community health awareness and knowledge, to encourage people to modify their lifestyles based on that knowledge, and to improve individual and community health in South Carolina while minimizing health disparities.

Evaluation Method: We will measure the impact of multiproject collaboration by testing citizen awareness and health knowledge at community health fairs and visits to clinics, schools, libraries, and other community gathering places. Successful competition for continued or new funding for collaborative projects will also be an important measure of success.

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Planning Project LINK: a textbook case

Mary C. Congleton, AHIP, health sciences librarian, Health Sciences Library, Southern Kentucky Area Health Education Center (AHEC)/University of Kentucky Medical Center Library–Berea

Purpose: This poster will describe various aspects of planning for Project LINK (a Library Information Network in Kentucky), a medical library outreach project in southern Kentucky, as suggested in Catherine M. Burrough's *Measuring the Difference: Guide to Planning and Evaluating Health Information Outreach.*

Setting/Participants/Resources: The Southern Kentucky Area Health Education Center (AHEC) Health Sciences Library is the only full-time staffed medical library in the fifteen-rural-county region it serves. Its user population includes health professionals and health professions students. The library is a partner in this project.

Brief Description: Many aspects of planning go into a successful outreach project. Assessment of the information and technology needs of the user population identified a goal of improving staff access to electronic resources in rural hospitals in our service region. We determined this could be accomplished by placing a computer workstation with Internet access and fax/printer in each facility, as well as training hospital and medical staff in searching for quality health information on the internet. Once we identified this objective, we sought funding sources and collaboration partners and appointed key members of the grant team based on the expertise each could contribute to the project.

Results/Outcome: Project LINK is now ready for implementation. Planning based on *Measuring the Difference* made for a feasible project that was approved for funding by the National Library of Medicine.

Evaluation Method: Project LINK's effectiveness will be measured by various methods suggested by Burroughs such as pre- and post-tests given at various training sessions. Followup surveys will be distributed to class participants to measure utilization of the knowledge gained in class. Interlibrary loan statistics will be compared to pre-Project LINK numbers.

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Caught reading on the job: professional reading habits of academic health sciences reference librarians

Christopher Hooper-Lane, reference coordinator; **Erika L. Sevetson,** information services librarian; and **Heidi C. Marleau,** outreach coordinator; Health Sciences Libraries, University of Wisconsin–Madison

Purpose: This poster will describe when, where, and to what extent academic health sciences reference librarians read the professional literature and subject-specific literature, develop a ranked list of the resources utilized, and describe differences based on librarian academic backgrounds, liaison responsibilities, and years of experience.

Setting/Subjects: Reference/information services librarians at academic health sciences libraries in the United States.

Methodology: Observational study using a Web-based questionnaire. Selected recipients will be identified via libraries listed on Hardin MD's *Medical Health Sciences Libraries on the Web.* Questionnaire will include personal questions: current library position, liaison responsibilities, educational background of the librarian in the sciences, and years of experience in a health sciences library. The questionnaire will instruct the recipient to list and rank the professional and subject-specific literature (journals, books, newsletters, email discussion lists, Websites, etc.) she or he *consistently* peruses to stay current in the sciences, health sciences, or information sciences field. The questionnaire also will ask that the recipient record where reading takes place and estimate the amount of time per week spent reading.

Results: Data from the questionnaire will be collected to identify the habits and favored reading resources of reference librarians in the health sciences. The study will: (1) quantify the average length of time spent reading the literature per week, (2) identify the favored location of where reading takes place, and (3) provide a ranked list of print and electronic reading resources. Differences based on academic backgrounds, liaison responsibilities, and years of experience will be explored and addressed.

Discussion/Conclusion: The first goal of the Medical Library Association's *Strategic Thinking Document* is lifelong learning. For reference librarians in the health sciences, much of this takes place not in continuing-education classes but on the reference desk or in the office. Keeping up with the literature, trends, and research is a key to providing high-quality, current, and accurate reference service to our clientele. This study aims to illuminate this informal, yet integral, method of learning and will aid reference librarians in assessing and comparing their own commitment to and resources used for professional reading.

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The Netinformation Project: promoting regional networking of welfare in Eastern Finland

Liisa K. Salmi, information specialist; **Tuulevi Ovaska,** information specialist; and **Jorma Komulainen, M.D.,** information specialist; Library, Kuopio University, Kuopio, Finland

Background: The Netinformation Project (2000–2006) is a subproject of the Sonetti Programme, in which the five hospital districts of Eastern Finland cooperate in developing regional information exchange and communication between hospitals, primary health care centres, and municipal social workers. The Kuopio University Hospital (KUH), Kuopio, Finland, is the main operator in the Netinformation Project, which represents a population of 681,000 inhabitants in an area of 85.585 square kilometers. The analysis of the 4,546 treatment and operational guidelines of KUH showed that two-thirds of them have common significance, and 32% of them already are electronic. It became obvious that the handling of information should be based on standardized metadata to be easily retrievable and updated.

Purpose: The project creates a regional information system for public health and social care services by an extranet, with high-quality professional information distributed on Internet. A custom-tailored personal portal for each user is built.

Methodology: The Dublin Core Metadata Element Set (DC), an SFS standard is used. A recommended extension of the fifteen basic fields has been issued for the guidelines, thus securing a unified use of the Web-based indexing and searching. The thesauri are the General Finnish Thesaurus and FinMeSH, the Finnish translation of NLM Medical Subject Headings. An indexing tool in a Web browser is used. Clinical personnel performed a test on 163 neonatal and intensive care guidelines.

Discussion: A pilot version of the portal was published in June 2002. The main target for the development is to build the "Dynamic Integrated DeskTop" (DIT), a personal desktop integrating public and professional data with selected and secured patient data. User identification is based on the use of public and private keys. Sophisticated use of metadata, advanced search software and customization, integration of different information systems for parallel use of consumer information, simultaneous use of multimedia, personal electronic identification, and electronic signature will be the result. The network will be made to cover all hospitals, health centres, and municipal social work units in the area. The network in each hospital district is an independently administered entity, thus creating five regional networks in Eastern Finland. They are, in turn, combined into one jointly used extranet. The advantage of the network will be the wide geographical coverage.

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Quality information at the desktop: tracking the effects of 24/7 access to online resources at an academic medical center library

Ann M. Farrell, coordinator, Library Services, Bursak Biomedical Library, Mayo Clinic, Jacksonville, FL; **Kay Wellik, AHIP,** director, Library Services, Mayo Clinic, Scottsdale, AZ; and **Patricia Erwin,** head, Reference Department, Plummer Library, Mayo Clinic, Rochester, MN

Purpose: This poster will report the effects of 24/7 online access to databases and full-text resources on a variety of library mediated services.

Setting/Participants/Resources: The library system is a large, academic health sciences library system with campuses in Rochester, Minnesota, Jacksonville, Florida, and Scottsdale, Arizona. The library intranet Website serves as the storefront and launch pad to a wide variety of electronic resources, ranging from bibliographic databases to full-text journal articles, from consumer health resources to general business databases.

Brief Description: The library network has licensed a large number of electronic resources for 24/7 access via the library network and has streamlined access to traditional knowledge containers such as published books and journals via electronic request forms and an enterprisewide online catalog. Through a combination of access strategies including e-forms, 24/7 e-resources, 24/7 bibliographic databases, and library education, library users have better access than ever to the best of the world's recorded knowledge. The strategies of 24/7 desktop access to quality discovery and decision-making resources combined with excellent traditional library collections and librarian mediated assistance and training have affected use metrics.

Methodology: Use metrics are continuously tracked reflecting licensed resource use, resource access on library servers, and library mediated service use.

Conclusions: Trends in use of online resources reflected the growing popularity of 24/7 access to the library electronic

resources reported by many organizations. Somewhat unexpectedly, results also reflected an increase in the use of library mediated services. The number of subject searches performed by librarians increased, and the number of articles available in full text but retrieved by library staff for patrons also increased. These trends are most likely indications of the complexity of the searches being requested, the time constraints of medical and allied health staff, and other factors requiring the ongoing expert services of the library staff.

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Transitions: challenged to change: librarians on the move—from public and hospital to an academic health sciences library

Rae Jesano, instructor university librarian; **Pamela J. Sherwill-Navarro, AHIP,** College of Nursing librarian; and **'Nita Ferree,** instructor university librarian, Reference; University of Florida–Gainesville

Case Report:

Question: What are the skills, training, and experience that librarians from hospital and/or public libraries bring to academic health sciences center libraries? What challenges do they face? What can be done to facilitate their transition?

Setting: The reference department of a large academic health science center library.

Method: An informal questionnaire was posted to MEDLIB-L requesting experiences and opinions of librarians currently employed as academic health sciences center librarians that had previous experience in either public or hospital libraries. Responses were received from sixteen librarians. In addition, three librarians currently employed as academic health sciences center librarians who were previously employed as either public or hospital librarians were interviewed.

Main Results: This project explores the skills and training that librarians from diverse backgrounds bring to academic health sciences libraries. It also provides some insight into training, preparations, and adjustments that facilitated the transition to make it successful.

Conclusion: This study highlights similarities and differences between public, hospital, and academic health sciences center librarians. It documents the training and behavioral changes that librarians, who have successfully made the transition, have stated facilitated or would have facilitated the transition. This poster also explores the strengths that librarians from diverse backgrounds bring to academic health sciences center libraries.

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Dude! Don't wear a "suit"—telecommute!

Carolyn C. Willard, AHIP, reference librarian, Reference and Customer Service, and **Mary Moore, Ph.D.,** head, Reference Section, Reference and Customer Service, National Library of Medicine, Bethesda, MD

SurferSpeak: The National Library of Medicine Reference and Customer Service Section "Caught the Wave" in June 2002 with a telecommuting pilot program. Four brave hodads experienced some awesome wipeouts but were soon riding the face of the wave. Occasionally, we were pitched, but soon we were ripping past the technical problem "zones," cutting back to the peak of our wave. At the end of our telecommute day, we could say, "I'm stoked man. I caught da kine wave."

Translation: In June 2002, the National Library of Medicine's Reference and Customer Service Section began a pilot project with four reference librarians each telecommuting one day a week. This experiment in telecommuting resulted in higher than expected productivity, more satisfied librarians, and four fewer cars stalled in commuter traffic. The poster will show the results of the pilot project, including topics such as tasks that were successfully performed offsite, security issues and technology problems, benefits to the participants and the environment, and impact on the onsite reference staff.

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Assessing reference staff competency in the electronic environment

Kurt I. Munson, head, User Services, and **Linda J. Walton,** associate director, Galter Health Sciences Library, Northwestern University, Chicago, IL

Purpose: The poster shows how the library developed and implemented a program to assess reference staff competencies for assisting users in the electronic environment.

Setting: The library is a medium-sized, technology-driven, academic health sciences library.

Methodology/Description: During the past few years, the library has developed a local online services system to manage our increasing electronic resources and services. Management noted that reference staff needed new skills to effectively assist users with online resources and systems. Therefore, a new training program was developed to better prepare staff to assist users with the electronic library. The first phase of the new training program was to identify the types of questions received at the desk. This was accomplished through a year-long assessment of reference questions. Next, a training program for reference was developed and implemented with an emphasis on answering the most common questions identified such as remote access, access privileges, holdings information, and database searching. The program included individualized instruction on library policies, electronic resources, access restrictions, and troubleshooting. The next phase was to create four instruments designed to test staff competency in answering reference questions after training. The instruments covered online services policies, the online public access catalog (OPAC), connectivity issues, and specialized databases. Based on the scores, additional training was individualized and provided to the appropriate staff members to enhance their skills where needed. Examples of additional training included doing practice searches and reviewing online services policies. Staff was then reassessed using new instruments to determine their new level of competency.

Results: Staff, both new and existing, are better equipped to consistently answer questions and assist users in our electronic environment.

Evaluation: The training system developed has proven to be effective as most new staff scored better than 92% on initial testing, just slightly below the average score of the staff who were working at the library prior to the training program's development.

Conclusions: Over the next year, the library will expand the training program to include staff in other departments. New instruments will be developed and used as the library becomes even more electronically complex.

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Taking the library to the people: designing and marketing population-based reference and instruction services

Nancy H. Tannery, assistant director, Information Services, and **Ammon S. Ripple,** document delivery librarian/reference services coordinator, Health Sciences Library System, University of Pittsburgh, Pittsburgh, PA

Question: As more and more library users take advantage of remote access to online library resources, the number who actually come to the library is decreasing every year. Traditional reference and instruction services, while still important, are becoming increasingly less effective even as our users have information needs that are more complex and varied than ever. So how do we adapt the role of the reference librarian to address this emerging reality?

Setting: An academic health center library.

Method: One effective solution is to design population-based reference and instruction services to better reach our users where they are. In a large academic health center, it is typical for a library to serve multiple and varied user groups such as clinicians, basic sciences researchers, medical students, psychiatrists, dentists, pharmacists, nurses, and others—all with specialized information needs. This poster will outline a number of population-based reference and instruction initiatives that have been successfully implemented to actively meet those needs. Specific initiatives to be described include:

• a liaison program in which librarians are assigned to provide and promote services to specific schools, hospitals, or departments
• development of specialized library instruction courses that are more focused on marketing library resources to specific populations rather than an in-depth treatment of the mechanics of a particular resource
• development of customized Web portals and tutorials
• a reference consultation service with the option of meeting the user at his or her office
• provision of phone, email, and chat reference

Main Results: Designing services that are focused on specific user groups allows librarians to more effectively market library resources and services and highlight what is most likely to be important to that group of users. Several marketing techniques will be discussed.

Conclusion: These initiatives not only help make library services more visible to individual users but reinforce the overall perception of the library as an vital component of the academic health center.

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Virtual reference chat services' technology issues for teaching bibliographic database searching

Marcia K. Henry, health sciences librarian, and **Katherine S. Dabbour,** law and California documents librarian, University Library, California State University–Northridge

Question: Do reference librarians in a virtual library setting have additional technology issues to consider when recommending and teaching database searching?

Setting : A university library serving undergraduates and graduate students through the master's program as well as Friends of the Library and other visitors to the Ask a librarian electronic reference services.

Method: Review the questions and replies sent to the Ask a librarian service since 1994. Test the database display of several database vendors using our latest ask-a-librarian service, Ask a Librarian Chat. Review the transcripts of interactive reference service and the returned electronic Virtual Reference Pilot Program Survey.

Main Results: Offer illustrations that identify the key technology issues involved when using interactive virtual reference programs to teach database searching. This is an accumulation of learned experiences based on our university library's long history of offering ask-a-librarian services to a variety of patrons. In January 2002 with the introduction of Ask a Librarian Chat reference service using 24/7 Reference Project of the Metropolitan Cooperative Library System (MCLS), additional assessment sources became available; namely, the transcripts of the interactive session and the survey forms patrons returned electronically. List the steps followed to choose and implement the chat service including the criteria we identified for effective software that enhances student learning. List the issues involved in choosing databases to present to patrons using the push and/or escort functions. Sample illustrations will show the MEDLINE database using such vendors as Cambridge Scientific Abstracts (CSA), FirstSearch, and the freely available PubMed. Patron affiliation and authentication have become part of database selection criteria. Database ability to deliver full text, extent and depth of thesaurus and its presentation on the virtual chat screens will also be explored.

Conclusions: Patron affiliation and authentication are a part of database selection criteria as is the virtual reference software's ability to display database software screens. Patrons are tolerant of the technical difficulties.

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Subject accessible electronic resources: the cataloging way!

Nicola J. Cecchino, electronic resources librarian; **Chung Sook Kim,** head, Electronic Services; **Dong Ming Zhang,** head, Advanced Technology and Information Systems; and **Kathryn Danko,** material processing manager; Welch Medical Library, Johns Hopkins University, Baltimore, MD

Purpose: This poster will describe the use of vocabularies and key mapping to make electronic resources more easily accessed via the Web.

Setting/Participants/Resources: The library is a world-class academic medical library located on the East Baltimore Campus of the Johns Hopkins University. This project was created and managed by three departments in the library: cataloging, electronic services, and advanced technologies and information systems (ATIS) departments. The electronic resources are managed at the desk top via WELMA, the interface created using Coldfusion to an Oracle Database.

Brief Description: The goal is to make access as easy as possible utilizing innovative techniques. General subject areas have been selected from the Medical Subject Headings (MeSH) and common key words (www.welch.jhu.edu/eresources/eresources_subject.cfm). The library provides access to over 3,000 electronic resource titles that are grouped under eighty-four general subject headings. Each general subject was then mapped to MeSH terms that were retrieved from cataloging records from the university libraries' catalog.

Evaluation: We have received many favorable comments about our subject-accessible resources.

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Joining the dots: a portal to bring together health librarians

Alison Turner, MCLIP, library partnership co-ordinator, National Electronic Library for Health, National Health Service Information Authority, Birmingham, United Kingdom

Purpose: This poster will report on the development of a Web portal for health librarians in the United Kingdom to support knowledge sharing.

Setting: Health librarians work in a variety of settings, but, wherever they are based, they face new demands and it seems less and less protected time for professional development. Add to this the vast changes in the library profession: the librarian of

the 21st century has quite a different role to the librarian of twenty, ten, or even five years ago. So how are librarians coping with their new roles and responsibilities? Well, in true librarian fashion, they support one another. This may be formally, through professional groups or informally through discussion lists. But despite the vast range of support mechanisms in place, some coordination was needed to keep it simple for busy librarians. This all led to the development of the portal.

Methods: The portal was developed from a partnership with key groups in the U.K. health library world. The objectives were to:

- facilitate online discussion and sharing of experience
- point to key sources on best practice
- support skills development in new areas such as knowledge management
- provide a one-stop shop on current topical issues

Many resources were already in place, so, rather than duplicate, the portal brings together what is already available and supplements this with new content. Developed by and for librarians, the portal is very much focused on partnership working. An editorial e-group has been formed, including representatives of key groups and communities.

Outcomes: The portal was launched formally in January 2002 and is regularly updated. A brainstorming workshop for librarians was held in July 2002 to generate ideas for developing the portal further.

Conclusions and Next Steps: Current work is focused on developing interactive content. One in particular features a bank of training materials which librarians are willing to share with plans to develop it into an online "swap shop." A further resource underway is a pilot online learning environment to encourage collaborative learning on key issues, such as knowledge management.

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Online requests: toward expanded access and efficient management

Anne M. Linton, AHIP, director; **Michael Acadia,** Web services coordinator; **Natalie Collins,** head, Catalog and Reserves; and **Alexandra Gomes,** instructional technology librarian; Himmelfarb Health Sciences Library, The George Washington University, Washington, DC

Purpose: Develop an online system to streamline handling interlibrary loan (ILL), photocopy and course reserves requests.
Setting/Participants/Resources: The online requests and course reserves system was developed using ColdFusion Server and Access databases. We expect to move to SQL Server for the database in the near future.

Brief Description: The library launched the first Online Request Form for ILL and photocopy requests in January 2002 to provide better service to the library's diverse user groups, including distance-education students, law firms, and affiliated institutions. The forms quickly grew to incorporate course reserves requests and a database-driven back-end Administrative Control Panel. Staff are able to manage requests from submission through fulfillment, including invoicing using the control panel. We are now able to maintain a single point of access for managing requests. The course reserves module helps foster cross-departmental cooperation by linking the library with the on-campus copyright permissions office and helps to streamline the copyright permissions process for faculty.

Results/Outcome: This project has been very well received, with positive feedback from both the public and staff. Creating the system inhouse allows us to respond quickly to requests for new features and to tailor the system to our unique needs.

Evaluation Method: Feedback from the public, the librarians and the staff is used to evaluate the forms along with usage statistics.

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Sampling a sea of electronic resources and services: evaluating a customizable library Web portal

Claire Twose, intern; **Caroline Zambrowicz,** senior programmer/analyst; and **Dongming Zhang,** director, Advanced Technology and Information Systems; Welch Library, Johns Hopkins University, Baltimore, MD

Purpose: This poster will describe user evaluation of a customizable library Web portal.

Setting/Participants/Resources: The setting is a large, private, academic health sciences library in an urban setting serving over 20,000 users in medicine, nursing, and public health. In the last few years, the number of databases and full-text journals available online has increased dramatically, to over 2,500, with an average of eighty-five new e-resources added each month.

Brief Description: Faced with an overwhelming amount of information, Web users in general have been clamoring for the ability to customize their online experience. Health sciences users in particular want to quickly and easily access just-in-time, specialized information. In July 2002, the library unveiled a customizable Web portal to its online resources. The portal not only allows users to create a customized list of e-journals, e-books, and e-databases but also includes a search function, health news, an online forum, links to campus resources and library services, selected research links, space for personal links and notes, and an ask-a-librarian function. By the end of October 2002 the portal had more than 1,000 users. The portal is being viewed by library staff as a focal point for providing new services such as specialized forums, and users are requesting even greater customization. Customizable interfaces to library resources have been available since 1998. Developing and maintaining them is staff and resource intensive, yet research from other libraries suggests only a small fraction of potential patrons use them, despite the expressed desire for user control. To tailor the interface effectively to user needs, it was decided to incorporate user feedback early in the development process.

Evaluation Method: A survey of users and non-users of the customizable portal will be used to evaluate barriers to use, which functions are most useful, and to rank proposed enhancements to the portal. The survey will also investigate the customization of resource selection by user role as well as discipline. Web usage statistics will be incorporated into the analysis.

Results/Outcome: By May 2003, we anticipate completing survey development, pretesting, and administration and having preliminary data available.

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Integrating discrete information artifacts into a primary care portal

Debra S. Ketchell, AHIP, deputy director, and **Leilani A. St. Anna, AHIP,** information management librarian, Health Sciences Libraries; **David Kauff, M.D.,** primary care provider; **Diane Timberlake, M.D.,** primary care provider, Department of Family Medicine; and **Barak Gaster, M.D.,** primary care provider, Department of Medicine; University of Washington–Seattle

Objective: Select and organize discrete information objects optimized to integrate into the time-efficient work flow of physicians in primary care clinics.

Setting/Participants: A team of physicians, librarians, and programmers focused on integrating information at the point of primary care using Web-based delivery technologies. Primary care clinicians are based in urban family medicine, general internal medicine, or mixed primary care outpatient clinics.

Brief Description: Focus groups and targeted interviews of clinicians identified two types of information objects that are essential for inclusion in a primary care information portal intended for use in a time-constrained clinic setting. The objects identified were discrete artifacts. The first set of objects was prediction rules, diagnostic aids, clinical calculators, and summary tables and figures posted as physical or digital objects in physicians offices. The second set of objects was high-use patient-education handouts with particular focus on image-dependent aftercare instructions (e.g., exercises). Physicians wished to replicate the exam room hanging file metaphor**.**

Main Results: A select set of patient-education handouts was identified and organized by a physician-librarian team. After soliciting the target audience, a collection of interactive calculators, prediction questionnaires, and tables were identified for inclusion. Usage statistics confirmed that such information objects fill an information gap at the point of care. Creating virtual delivery of such artifacts requires a set of well-indexed objects for search-centric users and a replication of equivalent paper systems that eliminate cognitive barriers.

Conclusion: Clinical information systems developed by libraries must go beyond online textbooks and databases to identify and organize ephemeral information objects that address a broad range of needs in clinic practice to become the portal of choice for family physicians and general internists.

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Collaborative development: building a Web-based family practice subject guide

Helen G. Mayo, assistant professor, and **Cassie L. Murphy-Cullen, Ph.D.,** assistant professor, Family Practice and Community Medicine; **Karen Harker,** Web developer, UT Southwestern Library; and **Robert D. Frey, M.D.,** assistant professor, Family Practice and Community Medicine; University of Texas Southwestern Medical Center–Dallas

Purpose: To provide family practitioners on campus with the most valuable resources in a usable manner and to facilitate the acquisition of clinically relevant information in real time.

Setting/Participants: Academic medical library serving a major medical school and four hospitals. A library staff member participates on the Family Practice Committee that is implementing a Web-based residency curriculum. In addition, the librarian was meeting with the family practice faculty concerning library products and services of interest to faculty, residents, and students.

Brief Description: As an outgrowth of a collaborative endeavor between library staff and the family practice department, a Web-based subject guide was developed utilizing library medical informatics expertise and family practice faculty content input. On the library side, the project team included a programmer, a design expert, and a content liaison to the family practice department. The library's content liaison met with family practice faculty to determine the initial content and organization of the Family Practice Subject Guide.

Results/Outcome: A link to the Family Practice Subject Guide—a highly selective list of family practice resources with sections on electronic books and journals, drugs, patient education, guidelines, and evidence-based medicine—sits on the library's home page. The guide targets the best and most useful, rather than attempting to be comprehensive, so users do not have to wade through long lists of sites. Library staff will maintain the links on the guide; the library's content liaison will continue to elicit feedback from family practitioners and to suggest additional resources for inclusion.

Evaluation Method: (Web statistics, client feedback) The creation of the Family Practice Subject Guide has greatly facilitated access to Web-based resources for family practitioners on campus. In the first two months since its creation, the guide was used 2,500 times; this statistic does not include usage by those who may have bookmarked the site. Faculty, residents, and third-year medical students have all given positive feedback as to the site's usefulness. At the department's request, the Family Practice Subject Guide is now accessible from the campus' clinical workstations, which additionally facilitates access to clinically relevant information at the point of care.

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The iterative process in Web design: a case study in usability testing

Julia K. Kochi, manager, Digital Library Operations, and **Gail L. Persily,** associate director, Informatics Education and Center for Instructional Technology, Library and Center for Knowledge Management, University of California–San Francisco

Purpose: This poster will present a case study on the impact of usability testing on the development of one section of the library's redesigned Website.

Setting/Participants/Resources: The library serves an academic health sciences campus in an urban setting. In January 2003, the library launched its redesigned Website. Affiliated faculty, staff, and students participated in the usability tests.

Brief Description: As part of the Website's redesign, several rounds of usability tests were performed to ascertain if the site's new information architecture and graphic design were clearly designed and met users' needs. Usability testing was performed on an initial prototype. Taking the feedback from the usability testing into consideration, the prototype was subsequently redesigned, retested, and revised again. By examining closely this process of design, test, and redesign for one specific section of the site, we can illustrate the impact of usability testing on the design process.

Results/Outcome: The section of the Website went through significant modifications based on usability test results. The resulting section is more user centered and focuses on how users access information, rather than how the information is organized within the library.

Evaluation Method: Once the site is implemented in January 2003, another round of usability testing will be performed on this section to see if we have achieved our goals of a user-centered site that facilitates information discovery. Additionally, usage statistics will be analyzed and compared with previous usage statistics to determine if the section is used more.

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Creating an efficient content editor toolset for a clinical Web portal

Leilani A. St. Anna, AHIP, information management librarian; **Stanley Florek,** systems developer; and **Debra S. Ketchell,** deputy director; Health Sciences Library, University of Washington–Seattle

Objective: Create Web-based administrative tools for content managers of a primary care portal to reduce maintenance time

and place content manipulation and analysis in the hands of the librarian editors through user-focused programming techniques.

Setting: A portal project developed with Cold Fusion, Microsoft SQL, and JavaScript to create a sustainable and replicable environment.

Participants: A team of programmers and librarians at an academic health sciences library.

Brief Description: The project team set out to create an interface for content editors that minimized programmer intervention in regular activities in portal management by placing the administrative tools for content manipulation and management into the hands of the librarian curators. Specifications for the tools focused on optimal work flow and reduction of routine maintenance procedures.

Main Results: Tools developed for portal management include: record creation or editing for documents, resources, and dynamic queries of licensed commercial information resources; document indexing with parent-child relationships; visual topic and page layout; flagging for temporarily unavailable, new, and updated sources; link checker; file deployer/importer; comprehensive usage tracker; and thesaurus builder.

Conclusion: Optimization of the toolset available to content editors must be refined for workflow efficiency with the same diligence invested in creating the user interface to deliver a current, accurate, and work integrated clinical information portal.

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Evaluating the Health SmartLibrary

Steven Hunt, head, Information Systems; **James Shedlock, AHIP,** director; and **Linda Walton,** associate director, Galter Health Sciences Library; and **Jon Handler, M.D.,** associate professor, and **Michael Gillam, M.D.,** clinical instructor, Emergency Medicine Division, Department of Medicine; Northwestern University, Chicago, IL

Introduction: The Health SmartLibrary (HSL) project has been under construction for the past two years with support from the National Library of Medicine (Information Systems grant #1 G08 LM07051-01A1). Implemented in early 2003, this poster describes the culmination of the building process and discusses marketing and evaluation aspects.

Features: The HSL is built on the premise that personalization of electronic information resources is critical to the users' success in meeting their information needs. Consequently, faculty and library staff collaborated to build a series of tools that would make access to critical information resources easy and efficient, so much so that the current awareness tool would push information to the user before he or she needs it. In addition to the current awareness tool, the HSL also contains a metasearch engine, a personal filing cabinet, and tools for designing an individual HSL. Users can also accept a generic HSL that is based on their discipline of choice. Another key feature of the HSL project is the recognition that these type of information management tools should be shared among other collaborators to refine and improve them.

Evaluation: This poster concentrates on efforts to bring the HSL to the user, the users' evaluation of using the HSL features, and the feedback from library partners who reviewed, tested, and implemented the HSL in their own, local environment. Implementation began with a few departments and centers to test the generic, discipline-based HSL. The HSL was then opened to other users. Preliminary results of their evaluations will be presented. A list of partners will be shown along with their comments and suggestions about how best to improve the HSL features.

Conclusion: This poster concludes the planning and building phases of the HSL by presenting initial user feedback and evaluation of the service's features. The original premise was to build a "smarter" library that delivers information before the user needs it! A major goal of the HSL is to evaluate whether these tools actually make a difference—such as time to identify and retrieve evidence-based literature—to a busy clinician.

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Evidence-based Website design for bioinformatics investigators and students

Wendy Wu, information services librarian; **Deborah Charbonneau,** information access and delivery coordinator; and **Ellen Marks,** director; Shiffman Library, Wayne State University, Detroit, MI

The Wayne State University Vera P. Shiffman Medical Library, an academic health sciences library of a large Association of Research Libraries system, identified saving the time of scientists and timeliness of content as primary variables that bioinformatics investigators value. A Website designed for a molecular medicine center faculty, students, and staff quickly became one of the most highly used of all the pages in the library system's Website for last five years. In concurrence with a systemwide Website redesign project, the health sciences library took the opportunity to survey university molecular biology, bioinformatics, and genetics faculty and students and ten informatics-support libraries to improve the customized Website based on evidence. Results from the surveys led to the development of a model called the "timesaver" concept. This concept highlights resources that were identified of importance to bioinformatics researchers and student in the survey responses. The resources were then organized into the "One minute," "15 minute," and "30 minute" library format. This Website design and content provided a modular approach to a comprehensive array of information resources and services for bioinformatics investigators and students. User advice, guidance, and strategic publicity have resulted in greater use and validation of the timesaver concept.

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Handbook on Problem-Based Learning

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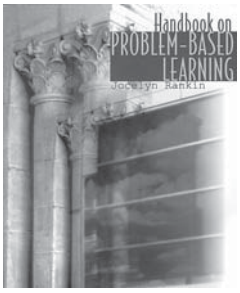

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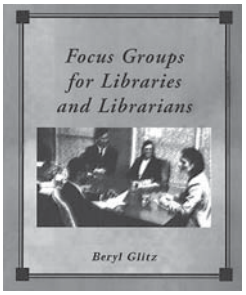

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