



Feature

Abstracts of Papers and Poster Sessions of the 4th International Evidence Based Library and Information Practice Conference: Transforming the Profession

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Best Paper



Using rubrics to collect evidence for decision-making: What do librarians need to learn? Megan Oakleaf, PhD, Syracuse University, United States.

Papers Highly Commended

1. **The neglected voice: Is there a role for qualitative systematic reviews in EBLIP?** Andrew Booth, MSc MCLIP, School of Health and Related Research (ScHARR), University of Sheffield, United Kingdom & Anne Brice, BA (Hons) DipLib MCLIP, University of Oxford, United Kingdom.
2. **Information skills training in health libraries: Are we any nearer the evidence?** Alison Brettell, MSc, BA (Hons), University of Salford, United Kingdom.
3. **Implementing evidence-based practice to enhance library web site usability: A case study at Northwestern University Library.** H. Frank Cervone, MEd, Northwestern University, United States.

4. **Best demonstration of the EBP model: Comparison of training interventions for PubMed search skills amongst 3rd and 4th year medical students.** Glenda Myers, D Litt et Phil, Witwatersrand Health Sciences Library, University of the Witwatersrand, South Africa.

5. **Finding our foundation: analysis of the LISA database for research retrievability.** Carol Perryman, MS LIS, Research Fellow, School of Information & Library Science (SILS) University of North Carolina, United States.

Best Poster



Assessing the need to update prevention guidelines: A comparison of two methods. Gerald Gartlehner, MD, MPH, Suzanne L. West, MD, MPH, Kathleen N. Lohr, PhD, MPhil, MA, Leila Kahwati, MD, MPH, Jana G. Johnson, MD, Russell P. Harris, MD, MPH, Lynn Whitener, MSLS, DrPH, Christiane E. Voisin, MLIS, & Sonya Sutton, BSPH, UNC Cecil G. Sheps Center for Health Services Research, United States.

Posters Highly Commended

1. **Testing a new approach to the manual literature search process in systematic reviews.** Laura C. Morgan, BA, Gerald Gartlehner, MD, MPH, Dan Jonas, MD, Curtis Bryant, & Claire de la Varre, MSIS, UNC Cecil G. Sheps Center for Health Services Research, United States.
2. **Supporting evidence-based medicine in an academic health system: A unique partnership between the Center for Evidence-based Practice and the Biomedical Library.** Gretchen Kuntz, MSW, MSLIS, Clinical Liaison Librarian, Biomedical Library, Anne Seymour, Interim Director, Health Sciences Libraries, Craig A. Umscheid MD, Co-Director, Center for Evidenced-based Practice, & Kendal Williams MD, Director, Center for Evidence-based Practice, University of Pennsylvania Health System, United States.
3. **A place for us: The relevancy of the academic library "as a place."** Jason Martin, MLS, Ed.D in progress, University of Central Florida Libraries, United States.
4. **Is "Igaku Toshokan" providing the evidence to help medical librarians with decision-making?** Yukiko Sakai, MSIS, Keio University & Yasuhiko Kiyama, Juntendo University Library, Tokyo, Japan.

Presentation types

Contributed papers include both original research and innovative applications of EBLIP in library and information management. Papers that deal with library support of evidence-based practice in other fields such as health, social work and public policy were also welcome. Accepted Research Papers are published on the

conference website at <http://www.eblip4.unc.edu>.

Posters will allow for the presentation of new developments in evidence-based practice and work in progress. Posters offer an excellent opportunity for new conference presenters. Accepted Poster abstracts are available on the conference website at <http://www.eblip4.unc.edu>.

Legend:



Research Paper^{ra}



Keynote



Award-winning paper or poster

Speaker abstracts



LibQUAL+™ and the evolution of "library as place" at Radford University. Eric Ackermann, MSIS, McConnell Library, Radford University, United States.

Objective: To determine if the LibQUAL+™ survey captured any changes in user satisfaction with the "Library As Place" due to alterations made to McConnell Library between 2002 and 2005.

Design: Effect size meta-analysis of the adequacy gap scores data from four aspects of the Library as Place dimension from the 2002, 2005, and 2006 LibQUAL+™ surveys.

Setting: McConnell Library, the academic library serving Radford University, a medium sized (c. 9300 students), four-year, primarily residential public university located in Southwestern Virginia.

Participants: Using a sample of the whole, undergraduates (n = 570), graduate students (n = 172), and faculty (n = 192) who completed the 2002 LibQUAL+™ survey; the undergraduate (n = 1237) and graduate

students (n = 232) who completed the 2005 LibQUAL+™ survey, and the faculty (n = 162) who completed the 2006 LibQUAL+™ survey.

Intervention: Increased the hours of operation, created a designated quiet study area, upgraded computer hardware and software, provided more comfortable furniture, and added more public access computers.

Main Outcomes Measures: For each participant group, the mean adequacy gap (i.e., difference or “gap” between the perceived and minimal acceptable levels of user satisfaction) for the library as a quiet study place (Quiet Study), a haven/getaway (Haven), a comfortable place (Comfortable), and a contemplative environment (Contemplative). The metrics used were Cohen’s d (standardized mean difference), 95% confidence intervals (95% CI), Binomial Effect Size Display (BESD, or the d statistic represented as a percent success rate differential), and the resulting change (if any) in the adequacy gap (AG). A positive result indicates an improvement in user satisfaction, a negative result, the opposite.

Main Results: Overall the response to the changes in the Library as Place between 2002 and 2005/2006 were positive (d = 0.10, 95% CI [-0.10, 0.30], BESD = 4.9%, AG = 0.19), more so for the graduate students (d = 0.13, 95% CI [-0.01, 0.26], BESD = 6.4%, AG = 0.26) than the undergraduates (d = 0.10, 95% CI [-0.11, 0.31], BESD = 5.1%, AG = 0.20), or the faculty (d = 0.05, 95% CI [-0.09, 0.18], BESD = 2.4%, AG = 0.09).

The changes affected the overall perception of the library as Haven the most (d = 0.24, 95% CI [0.05, 0.44], BESD = 12.1%, AG = 0.51), followed by Quiet Study (d = 0.06, 95% CI [0.03, 0.09], BESD = 3.0%, AG = 0.12), Comfortable (d = 0.06, 95% CI [-0.01, 0.14], BESD = 3.1%, AG = 0.12), and the Contemplative (d = 0.03, 95% CI [-0.10, 0.30], BESD = 1.6%, AG = 0.06) aspects.

Conclusion: The LibQUAL+™ adequacy gap data captured the changes in users

satisfaction related to changes in “Library as Place,” and will be used in future assessments. Future research needs to determine if the changes in user satisfaction reflect a change in users’ perceptions or a change in users’ minimum expectations, both components of the adequacy gap, or both.



EBLIP: Clear, simple – and wrong? A friendly debate. Andrew Booth, School of Health & Related Research (ScHARR), University of Sheffield, United Kingdom & T. Scott Plutchak, Director, Lister Hill Library of the Health Sciences, University of Alabama, United States.

The theory of evidence-based library and information practice (EBLIP) has made great strides over the past decade. During this time, much attention has been paid to levels of evidence and the importance of getting the question right – that is, phrasing the question in a way that it is amenable to evaluation by reliable evidence. Indeed asking questions and locating answers are key competencies for the library and information profession. This session will explore the degree to which the “big” questions that face our profession can be structured in such a way as to meet the tests of EBLIP. In other words, can the EBLIP approach be used for all of the questions our profession faces, or only for some narrowly defined subset?



The neglected voice?: Is there a role for qualitative systematic reviews in EBLIP? Andrew Booth, MSc MCLIP, School of Health and Related Research (ScHARR), University of Sheffield & Anne Brice, BA (Hons) DipLib MCLIP, University of Oxford, United Kingdom.

Question: Do systematic reviews of qualitative research offer a useful way forward for synthesis of library and information science (LIS) literature?

Background: Over the last decade systematic reviews of effectiveness have become an established methodology in pursuit of evidence based practice. Recent years have seen the adoption of such methodologies within evidence based library and information practice (EBLIP). Nevertheless systematic reviews of quantitative evidence within the LIS literature carry acknowledged difficulties. These include a shortage of rigorous comparative studies, poor quality of reporting and the inconclusiveness of results (Lerdal). EBLIP “attempts to integrate user-reported, practitioner observed and research-derived evidence as an explicit basis for decision-making” (Booth). Individual surveys of library staff or users, or other investigative methods such as interviews and focus groups, may provide useful local operational data but offer little in the way of reproducible insights. Systematic analysis of the reports of users or the observations of practitioners, as recorded in the research literature, offers the potential of holistic insights into the delivery of information services. In the absence of compelling evidence on effectiveness, research on acceptability of services and preferences of service users may enable practitioners to tailor their services more appropriately. Additionally insights from qualitative research conducted with information staff and then systematically synthesized and analysed may assist in identifying environmental or psychological barriers to delivery of specific services. Systematic reviews of qualitative research (qualitative metasyntheses) are increasingly being recognised for their potential contribution to an understanding of public service delivery and user views (Oliver). They also have great explanatory potential where

interventions do not prove as effective as expected or where implementation proves particularly problematic. Do such reviews offer similar potential within delivery of library and information services?

Methods: As co-convenor of the Cochrane Collaboration’s Qualitative Research Methods Group the principal author has been systematically collecting and reviewing methodological literature on the conduct of qualitative metasyntheses. This has also involved identification and collection of examples of such reviews within healthcare. Furthermore the principal author has been developing a prototypic taxonomy of the types of question that such reviews address. In addition both authors have been working together on a qualitative metasynthesis in a library and information topic to explore potential applications for such methods.

Main results: Potential applications for qualitative metasynthesis within LIS include barriers and facilitators to delivery and uptake of services, exploration of user views, investigation of new roles and prioritisation of services where evidence on effectiveness is equivocal. These and other applications will be illustrated with examples from within LIS literature.

Conclusion: This, the first presentation to systematically examine the potential of qualitative metasynthesis within LIS, will provide the audience with a methodological toolbox with which to explore the views and attitudes of library users and information staff. It is hoped that encouraging exploration of questions that lie beyond effectiveness will stimulate further development of the LIS evidence base to answer the more enduring questions faced by library practitioners.



Information skills training in health libraries: Are we any nearer the

evidence? Alison Brettle, MSC, BA (Hons), University of Salford, United Kingdom.

Introduction: For some time health librarians have been wondering whether the training they provide is effective (Eldredge, 2001) and two systematic reviews have attempted to find answers (Brettle, 2003; Garg and Turtle, 2003). Both reviews concluded that there was only limited evidence (based on weak research studies) that training improves search skills, there was no evidence about different types of training and nor was there any evidence of the impact of training on patient care. A further conclusion (Brettle, 2003) was that until objective and validated measures of evaluating training were used, it would be impossible to determine whether training was effective. More recently Australian librarians were still asking questions regarding the effectiveness of training clinicians to perform literature searches (Lewis and Cotter, 2006). This presentation updates a systematic review presented at the first EBL conference in 2001 and questions whether, at EBLIP4, we are any nearer to finding evidence to aid health librarians in their practice?

Question: To examine whether training improves searching skills; to identify effective methods of training; to examine whether training effects patient care; to determine the availability/use of objective and validated outcome measures.

Data sources: Searches of ERIC, LISA, MEDLINE, CINAHL, personal collection of material, handsearch of Journal of Medical Library Association, Health Information and Libraries Journal and Evidence Based Library and Information Practice

Study selection: Studies had to meet all the following criteria to be included in the updated review: Studies published post 2001 (cut off date for previous systematic review); health related (i.e. study on trainee or qualified clinicians in either academic or clinical setting); study examining

information skills training (defined as: training that included searching electronic databases such as Medline, searching the Internet, finding information for patient care or searching for information in relation to evidence based practice); any research design using an objective outcome measure (i.e. one that measures change in knowledge/skills)

Data Extraction: Data was extracted by the author using a tool adapted for the purposes of the study. This was based on tools developed by the University of Salford (HCPRDU, 2003) for critically appraising different types of research evidence and the ReLIANT data extraction tool (Koufogiannakis et al, 2006).

Conclusion: The conclusions of the review will provide more recent evidence on the effectiveness of information skills training in a health context. The author will reflect on any changing patterns and quality of research in this field and suggest how health librarians can improve their evidence base.



Transforming the evidence base for high quality, effective academic health sciences library services and resources: The readiness of the library director community in the US and Canada. Gary D. Byrd, PhD, University at Buffalo (SUNY) & Steven J. Squires, MLS, University of North Carolina at Chapel Hill, United States.

Question: Should academic health sciences libraries transform the evidence base for the quality and effectiveness of their services and resources from traditional measures of inputs and outputs to measures of outcomes, and are they prepared for such a transition?

Design: This study will report the results of a Web-based survey of US and Canadian academic health sciences library directors. The survey questions will be pre-tested for clarity and content validity by senior staff at the authors' libraries. The number of

questions will be limited to those that can be completed within 30 minutes. Invitations to participate will be sent to library directors in the US and Canada by email, with email and telephone reminders as necessary.

Setting: The study will be conducted in February 2007 by the authors (the chair and one of the members of the Association of Academic Health Sciences Libraries (AAHSL) Assessment and Statistics Committee) using a Web-based survey tool.

Participants: The survey will include all directors of academic health sciences libraries in the US and Canada (about 160 individuals). Demographic data about the directors including age, years of experience, and sex as well as data about the size and resources of the library will also be collected from respondents.

Intervention: The survey questions will ask these library directors to give their current, considered opinions about the need, appropriateness and urgency to move away from, or to supplement, traditional measures of the size and scope of library collections, expenditures, personnel, and use of library services as collected in the annual surveys of associations like the Association of Academic Health Sciences Libraries (AAHSL) and the Association of Research Libraries (ARL). Are they and their host institution ready and willing to collect the kind of data needed to measure outcomes such as the cost effectiveness and quality of library resources and services in support of the goals of the academic and research community they serve? The survey will also ask about the availability of “measures of excellence” from their host institution (such as those collected since 2003 at the University of North Carolina at Chapel Hill) for analysis and correlation with library outcomes measures, and the extent to which each library is already attempting to collect its own outcome measures.

Main Outcome Measures: The paper will present a descriptive analysis of the survey results showing the range and distribution

of responses to each question, for all respondents and demographic subgroups. As appropriate, simple statistical correlations will show the relationship between the responses to groups of questions.

Main Results: We hypothesize that most library directors will agree that additional outcome measures are needed to demonstrate the cost effectiveness and quality of library resources and services. However, we also hypothesize that few directors will demonstrate a readiness and willingness to begin collecting the data needed for these measures. **Conclusion:** The transformative potential of outcome measures of excellence has been argued by health sciences library leaders since at least 1986 when Virginia Holtz gave her Janet Doe Lecture on this topic at the Medical Library Association Annual Meeting [JMLA 74(4):305-14]. We hope the results of this study will help to stimulate concrete action.



Implementing evidence-based practice to enhance library web site usability: A case study at Northwestern University Library. H. Frank Cervone, MEd, Northwestern University, United States.

This paper examines the implementation of evidence-based practice within the Web Advisory Group at the Northwestern University Library. Through this examination, some implications are developed for the role of evidence-based practice in academic library web site design. **Objective:** In many libraries, web site design is informed more by opinion rather than evidence. A critical question for libraries then is how to move from an opinion-based design process to one that is based on sound principles of evidence-based practice. **Methods:** Following an examination of the background of evidence-

based practice and its applicability to the web site design and implementation processes, the paper examines the application of evidence-based practice in one particular setting: a large ARL library serving a diverse population of approximately 20,000 users.

Results: While implementation of evidence-based practice within the Web Advisory Group has been successful, the implementation pathway has not been without problems and challenges. A remaining question is how to most effectively move evidence-based practice out of this small group and into other areas of the Library.

Conclusions: Using evidence-based practice in web site design can make a significant difference in the effectiveness of the web site design process. By evaluating the outcomes of the implementation within the web design group, some conclusions on how to engage staff throughout the library in evidence-based practice have been developed.



Evidence and E-government. Rowena Cullen, Associate Professor, School of Information Management, Victoria University of Wellington, New Zealand.

The use of online technology in government has occurred very rapidly, driven by the ongoing development of IT, by citizens' expectations, and by the desire of politicians to be 'leaders' in e-government. In this rapid transition, the concepts of measurement and evaluation have lagged behind. Some of the important questions that need to be addressed include: How can the effectiveness of e-government systems and services be measured? On what basis should decisions about future IT developments, and redevelopments be made? What is the role of evidence in e-government decision-making? What data

and methodologies would provide this evidence? What can our experience with evidence-based library and information practice offer to improve e-government decision making and information management?



Preparing for a slimmer bottom line: Analyzing and reducing a serials collection using a mixed methods approach. Lori Delaney, MLIS, Carolina Population Center Library, University of North Carolina at Chapel Hill, United States.

Objective: The purpose of this study is to conduct a comprehensive evaluation of a serials collection to make evidence based decisions during an annual subscription renewal process. Using both quantitative and qualitative data collection and analysis methods, this study features an evaluation of the collection title-by-title and results in subscription costs that are 45% lower than the previous year, while also aiming to provide a relevant specialized serials collection.

Context: The Carolina Population Center (CPC) Library is a special library at the University of North Carolina at Chapel Hill (UNC), which primarily serves CPC researchers, and also serves the University community and the public. The CPC Library houses a collection of materials which support a broad range of population research. Because the CPC Library is solely funded by the Center, and is not a departmental library of the UNC system, collection development administration is the responsibility of CPC Library staff, and costs for the serials collection are paid by the CPC Library. A thorough evaluation of the CPC Library serials collection is necessitated by a drastically reduced budget allocation. A review of the serials print collection is also long overdue due to CPC's evolving research portfolio as well as the increase in

electronically available content via the UNC Libraries databases. The CPC Library uses a subscription services agency to manage print subscriptions to 90 titles. Some titles are unique holdings on the UNC campus, while other titles are also held by other campus libraries. Duplication of titles is suitable when the content is highly relevant to population research. **Methods and analysis:** This study utilizes a mixed methods approach, in a sequential triangulation process. First, a review of the existing literature is conducted to determine common criteria used to inform decision-making about serials renewals and cancellations. Quantitative data is derived from multiple sources: cost per title (previous year, current year, and rate of increase between the two years), usage statistics, availability in print from other UNC Libraries, and electronic availability via campus library databases or a publisher's website. In addition, data is compiled on the number of articles written by CPC researchers in each serial during the previous three years. These data are assembled in an Excel spreadsheet, and then analyzed. A collaborative review is conducted by the two CPC Librarians and a proposal is developed listing which titles to renew and which to cancel, with a detailed breakdown of the financial implications. Qualitative data is obtained from the Center's director, deputy director, and the Center's advisory council, resulting in a revised proposal. The revised proposal is then distributed to CPC researchers and staff with a request for further input. **Results and conclusions:** Data analysis results in a final decision of titles to renew and to cancel, with a cost savings of 45%. The instrument developed for the study and the data collected can be utilized in future years' analysis. Staff of specialized libraries can utilize the data collection and analysis methods for use in evaluating their own serials collections.



Assessment, evaluation, and value:

Current trends. Rosalind F. Dudden, MLS, DM/AHIP, FMLA, Tucker Medical Library, National Jewish Medical and Research Center, United States.

The field of library evaluation studies and evidence-based practice are linked together with a common goal, managing an effective library. The resources of a library to do studies vary greatly by size and type of library. This paper presents an overview of resources and ideas uncovered during two years of study of the field of library evaluation with the goal of making it understandable and useful to the librarian in a small setting. Measuring all parts of the management continuum: needs, inputs, quality processes, outputs, quality service, outcomes, and impacts, is encouraged to manage the smaller library by adapting the philosophy of a culture of assessment now being developed by ARL. Resources for learning about outcomes measurement are available on the web and can be adapted to any setting. The purpose of these assessments is multidimensional with the goal of improving economy, efficiency and effectiveness. If done in a systematic way, the results of local assessments, combined with published studies, can show the value of library services. To communicate this value, librarians are encouraged to

- Understand the goals and values of the organization and the library
- Understand the user by being customer focused and assessing needs
- Establish a culture of assessment
- Use a variety of measures, both old and new
- Use outcomes to tell your story



Cognitive biases as obstacles to effective decision making in EBLIP.

Jonathan Eldredge, MLS, PhD, University of New Mexico Health Sciences Library and Informatics Center, United States.

Objective: EBLIP advocates have explored in published reports the first three steps of the EBLIP process in considerable detail. In contrast, not much attention has been paid to exploring the fourth decision making step, particularly on the kinds of obstacles that can thwart the EBL process in producing an appropriate decision.

Cognitive biases potentially can interfere in this fourth step for decision makers by either causing misperceptions about their environments or by hindering their performing effective analyses. This exploratory research paper describes a survey on those cognitive biases reported as commonly occurring in library and information practice decision making. Respondents were self-selecting members of the (US) Medical Library Association.

Methods: *Narrative Review.* The author used a list of cognitive biases in the Wikipedia on January 8, 2007 to determine initially what forms of cognitive biases might be most relevant to decision making in our field. The author then conducted a literature review on the relevant social psychology research to identify approximately twenty forms of cognitive bias that might affect decision making processes. This social psychology literature on cognitive biases consists primarily of experimental study designs. While reviewing this area of the social psychology literature the author also noted any discussions that offered strategies for overcoming or at least neutralizing the effects of specific forms of cognitive bias. The author shared this list of definitions with colleagues for their input on its clarity and comprehensiveness. One colleague suggested the addition of a new form, Worst-Case Scenario, while others offered editing suggestions for the definitions.

Descriptive Survey. The author obtained human subjects research approval from his institutional review board on April 2, 2007. Beginning on April 12th, the author publicized the survey on listservs of three MLA sections to which he belonged: Research, Public Health/Health Administration, and Collection Development. He repeated this publicity on April 19th and 26th. He also publicized the survey in the April 19, 2007 issue of the online newsletter *MLA-Focus*. Interested MLA members could click on a link in the publicity email or online newsletter text to a survey on a server run with Opinio[®] software. Following a screen that provided their consent, survey participants reviewed a list of nineteen forms of cognitive bias with accompanying brief definitions of each form. The next screen had an identical list with definitions, except that respondents on the actual survey were asked to indicate the top three (3) forms of cognitive bias that they had observed by librarian colleagues during group decision making processes. Respondents were then asked to categorize themselves by broad job descriptions, library types, and their geographic MLA chapters. When field tested, the survey took about five minutes to complete. The cognitive biases list in the survey included the following forms, with definitions:

- Anchoring
- Attribution
- Authority
- Confirmation
- Déformation Professionnelle
- Expectancy Effect
- Groupthink
- Halo or Horns Effect
- Naïve Realism
- Outcome Bias
- Perseverance of Belief
- Positive Outcome
- Primacy Effects
- Question Framing
- Recency Effects
- Selective Perception

Status Quo
Stereotype
Storytelling
Wishful Thinking
Worst-Case Scenario

Results: 135 MLA members completed the survey during the survey period of April 12 through May 2, 2007. The seven most frequently mentioned cognitive biases in decision making appear here in descending order:

Déformation Professionnelle
Status Quo
Authority
Anchoring
Groupthink
Halo or Horns Effect
Confirmation

79 of the 135 respondents provided text examples from their experiences or made comments. Many of these 79 respondents made normative comments, almost all of them negative, about instances when colleagues succumbed to cognitive biases. The author was troubled by these negative comments that mainly cast blame on others' personal failings because he had emphasized in both the survey publicity and in the instrument itself that cognitive biases are common human characteristics. These comments underscore the need to educate members of our profession about cognitive biases.

Conclusions: The author plans to publish the results of this exploratory research study to raise awareness within our profession about cognitive biases in decision making processes. In addition, the author intends to design an MLA continuing education course that offers a sympathetic view of cognitive biases as common human foibles and that emphasizes the use of certain strategies to overcome or neutralize the effects of certain forms of cognitive biases.



Evidence based management as a tool for special libraries. Bill Fisher, School of Library & Information Science, San Jose State University, & W. Davenport (Dav) Robertson, MSLIS, National Institute of Environmental Health Sciences, United States.

Question: Is evidence-based management an effective tool for use in the special library environment?

Data Sources: The general management literature of the past six years, as well as the established evidence-based management literature will be reviewed. The library/information science literature of the past six years will then be reviewed. Search methods will include major business/management databases, major library/ information science databases, relevant web sites, blogs and wikis, citation searching on key articles and follow-up on references cited in the studies found.

Study Selection: Included management studies will discuss the major issues where evidence-based management has been applied. Included library and information science studies will discuss management-related issues in special libraries.

Data Extraction: Relevant data and key issues will be identified from the literature independently by the two researchers using a pre-determined extraction form.

Main Results*: The major issues in special library management are compared to the major issues in evidence-based management. Also, the relevance to special libraries of other evidence-based management issues is discussed.

Conclusion*: The results of this study show the potential for applying evidence-based management to special libraries. Questions to be used in further research on evidence-based management in special libraries are recommended. *These sections currently provide the anticipated results/ conclusion since the study is in progress. When the

study has been completed, specific issues will be identified in the main results and the specific questions will be identified in the conclusion.



Results of participant observation in the fifth judicial district: Customizing the county law library to meet the needs of small firm attorneys in rural Kansas.

Susan G. Fowler, MLS, CLIM, Lyon County Law Library, United States.

A participant observation study was conducted in the fall of 2005 to identify how attorneys in the Fifth Judicial District of Kansas access and use legal information. The goal was to obtain information that would be used to customize services at the Lyon County Law Library, which had been re-established in 2003 following three years of dormancy due to new courthouse construction. While the basic legal reference materials had been obtained, a better understanding of how attorneys in the Fifth Judicial District access and use information was needed for continual library improvement. Since we were looking at how attorneys access and use information, the qualitative methodology of participant observation was chosen to gather data. Fortunately, the information profession has largely validated qualitative methodologies (e.g., action research, field methods, participant observation) to answer questions regarding information seeking and using habits. We know that circulation statistics alone cannot tell the story of what users are looking for, whether they find it and whether it matches their information need. We also know that to ask people how they look for information (whether by interview or survey) is to depend on an “in the moment” answer, which may be unduly influenced by that moment’s context or suffer from memory gaps. Six attorneys (13% of the law library’s membership) were

observed for two days each. Each day’s notes were coded and analyzed for patterns. In addition, commonalities were noted across the types of practice and demographics (i.e., rural vs. frontier) in accordance with naturalistic inquiry protocol. The subjects’ environment is one of many factors that influence the practice of law. Factors such as population density, office décor and dress, support staffing and client relations were noted. Participating attorneys answered questions and confirmed or corrected the researcher’s impressions during follow-up conversations. In 2006, findings from this study were applied to customize the resources and services of the Lyon County Law Library. This research is being applied through the acquisition of materials pertinent to the scope of legal work in this area, providing “ready reference” through instant messaging (IM) and email, increasing access to research materials by providing online database training and expanding the online database collection, and providing a state-approved CLE on electronic data management as it pertains to changes to the Federal Rules of Civil Procedure. The Lyon County Law Library has received very favorable feedback, which has us committed to continuing research and subsequent development of services customized to the legal community of the Fifth Judicial District.



Evidence-based Practice in Other Fields:

Social Work. Mark Fraser, MSW, PhD, School of Social Work, University of North Carolina at Chapel Hill, United States.

The purpose of this presentation is to describe the impact of evidence-based practice in social work. Emphasis is placed on a process of using evidence to develop more effective social work programs. In addition, challenges in translating and

infusing research evidence into practice will be discussed.



Progress towards a 'one-stop-shop' for critically appraised methodological search filters: The InterTASC information specialists' sub-group search filters resource.

Julie Glanville, MSc, Centre for Reviews and Dissemination, Carol LeFebvre, MSc, UK Cochrane Centre, & UK InterTASC Information Specialists' Subgroup Project, United Kingdom.

Objective: to develop and make publicly accessible a web site of critically-appraised methodological search filters.

Participants: members of the UK InterTASC Information Specialists' Sub-Group (ISSG), who provide information specialist input for health technology assessments (HTAs) undertaken on behalf of the UK National Institute for Health and Clinical Excellence (NICE).

Project details: a web site of methodological search filters has recently been launched (<http://www.york.ac.uk/inst/crd/intertasc/>). The first phase of the project has been to identify and list references to published and details of unpublished methodological filters. This process is ongoing and the website is regularly updated. The site currently includes references to filters for studies with a specific focus such as diagnosis, economic evaluation, prognosis and therapy. It also includes filters for specific study designs, such as the recently published CRD / Cochrane Highly Sensitive Search Strategy for identifying randomized controlled trials in MEDLINE, designed by the Centre for Reviews and Dissemination and UK Cochrane Centre Search Filters Design Group. The second phase of the project is to critically appraise these filters and post the appraisals on the web site. Guidelines for the critical appraisal have been drafted and piloted by the ISSG and a

final draft is in preparation. The final stage of the project is to test out the filters in a range of independent settings. This will be achieved initially by asking collaborators to use the included studies of completed HTAs and systematic reviews as gold standards against which to test the performance of individual search filters. The site will publish these data to allow comparisons with respect to the sensitivity and precision data published by the original authors.

Conclusion: the first phase of the project has resulted in a bibliography of known filters and thus provided a 'one-stop shop' for information specialists, reviewers and other researchers looking for methodological filters in the context of HTAs, systematic reviews and other research. The second phase of the project will enable users of the site to assess the rigour of the individual filters on the basis of the filter design method through the linked critical appraisals and thus select and use filters which are evidence-based in their design rather than those that are of a pragmatic or, 'expert-opinion' design, where alternatives exists. The critical appraisals will also allow identification of gaps in search filter design where no 'suitable' search filter has yet been identified. Once gaps have been identified, the site also offers filter designers examples of research-based methods for filter development. The final phase of the project will enable verification or otherwise of the original sensitivity and precision data in the light of whether the strategies as originally published perform similarly in different subject areas, and / or over different time periods.



Making a commitment to EBLIP: The role of library leadership.

Suzanne Grefsheim, MEd, MSLS, National Institutes of Health & Jocelyn Rankin, PhD, Center for Disease Control, & Susan

Whitmore, MS, MSLS, National Institutes of Health, United States.

Program Objective: As part of its long-standing commitment to create a learning organization, the library leadership team of a major research institution planned and implemented a systematic approach to fostering EBLIP practice and enabling library staff to routinely apply evidence in decision-making.

Setting: The program was implemented in a biomedical research library located in Maryland that serves a major U.S. government agency conducting translational, bench-to-bedside research.

Participants: Library staff participating in this initiative included 32 professional librarians, 4 library technicians, a library student intern and the head of the library's IT office, a computer specialist. All have library and information science questions which can be answered with the right evidence.

Program: This research library initiated a program to create an environment supportive of EBLIP that included support and release time for EBLIP projects, formal training in EBLIP skills, and team mentoring as research projects evolved, all of which culminated in a Library Research Festival day. During the trainings, participants worked in small groups to develop different research questions and outline appropriate methods. After training, four teams worked individually with the instructors to further refine their research questions and methods. Two demonstration studies using qualitative methods were implemented under the leadership of the qualitative methods instructor. As all the research studies progressed, the teams consulted with the instructors by phone, utilized the onsite expert for qualitative studies, and conferred with other experienced researchers on staff who volunteered to serve as mentors.

Main results: By providing a supportive framework for EBLIP practice, library leadership can successfully engage staff in EBLIP thinking and small research studies. After five months in which to design and conduct a research project, the major library services teams and others who worked more independently presented their results at a Library Research Festival. Highlights of results from their studies on collection analysis, federated searching, information desk services and document delivery, and informationist services will be briefly described.

Conclusions: Librarians with some training in the research process and ongoing mentoring can design, conduct and learn valuable information that will help them introduce new services; improve collection development; and better understand the information-seeking behavior and customer services needs of users in general as well as specific target groups so the right information reaches the right person and the right time.



Substantiating the Value of Library and Information Services: Collecting and Using the Evidence to Tell the Real Story. José Marie Griffiths, Dean and Professor, School of Information and Library Science, University of North Carolina at Chapel Hill, United States.

In today's climate of strained budgets and demands for increased accountability and transparency, public, academic and special libraries are under greater pressure than ever before to "prove the worth" of information services and libraries to their constituencies and communities. This presentation will provide an in-depth description of the methodology and results of a series of large scale value studies conducted over the years by Griffiths and King, the most recent involving public

libraries in the states of Pennsylvania and Florida. Professor Griffiths will review the evidence and suggest ways in which the study results may be used to inform stakeholders about the value of library and information services.



Wrestling with the appraisal and production of evidence – and the winner is ...!

Lotta Haglund, BA, MLIS, & David Herron, Karolinska Institutet, University Library, Sweden.

Objective: using EBLIP to stimulate professional (scholarly) development

Setting: a large medical research library in Sweden.

Method: two approaches have been taken involving: 1) the development of the critical appraisal skills of the library staff, and 2) the production and publication of evidence. For the development of the critical appraisal of evidence, we have been holding a journal club since October 2004. The club started as a less structured meeting using a home-made template for the contextual analysis of the articles, and has more recently developed into a more stringent and objective critical appraisal exercise including the use of the CRiSTAL checklist on *Appraising a User Study*. On the side of the production and publication of evidence, we have recently run two projects. Firstly, a qualitative research project using the method of “participant observation” to investigate the information searching behaviour and IT support needs of younger researchers (under 40); based on the insight that more local knowledge is needed about their actual everyday information behaviour when using the electronic library or other resources. Secondly, we have attempted to use collaborative writing in the production of an article on library educational development with a view to make the

writing process easier and more effective and spread knowledge about the project amongst the staff.

Main results: the outcomes from these two approaches are promising. Awareness about LIS research, about qualitative research methodology (specifically) and the scholarly awareness (generally) have increased markedly amongst the library staff by using the EBLIP approach. We are also seeing indications of the effect of these efforts on various library activities, i.e. team discussions and user education. Library staff also show more interest in reading the published literature and publishing themselves.

Conclusion: to be able to develop the services of the library to better suit the academic setting of the future, one strategy is to develop knowledge about research methodology and design, and the scholarly work of researchers. Using the approaches described above is helping to open windows into the research world.



Professionalism and Evidence-based Practice: Reflections of a University Librarian.

Margaret Haines, University Librarian, Carleton University, Ottawa, Canada.

This paper will provide a personal perspective on the impact of evidence-based practice on the concept of professionalism in the library community. The author will draw on her career in the UK and Canada and demonstrate how the concept of evidence-based practice was adopted by librarians in the UK and has significantly influenced the development of new professional qualifications from CILIP – the Chartered Institute of Library and Information Professionals. She will also show how leadership in evidence-based information practice has led to expanding roles for library and information

professionals in many sectors as well as new partnerships between librarians and other evidence-based professional groups. Finally, Haines will draw on personal experiences in introducing evidence-based practice to university libraries in the UK and Canada.



**When the evidence isn't enough:
Organizational factors that influence
effective and successful library assessment.**

Steve Hiller, MLS, MA, University of Washington Libraries, Martha Kyrillidou, MLS, MEd, Association of Research Libraries, & Jim Self, MLS, MA, University of Virginia Library, United States.

The Association of Research Libraries is sponsoring an ongoing service on 'Effective, Sustainable and Practical Library Assessment' led by Steve Hiller, Jim Self, and Martha Kyrillidou. This ongoing program was established after a two-year effort "to assess the state of assessment efforts in individual research libraries, identify barriers and facilitators of assessment, and devise pragmatic approaches to assessment that can flourish in different local environments." The initial two year project involved site visits to 24 academic research libraries during 2005-06 with each library receiving a report that evaluated their assessment efforts and recommended ways to move assessment forward at that library. The following factors were identified as important for good library assessment:

- Library leadership
- Organizational culture
- Identifying responsibility for assessment
- Library priorities
- Sufficiency of resources
- Data infrastructure
- Assessment skills and expertise
- Sustainability
- Analyzing and presenting results
- Using results to improve libraries

This paper will describe the organizational factors that facilitate and impede using data effectively and the implications for assessment in research libraries and is based on the findings of the two year effort led by the authors. While local conditions and organizational cultures play important roles in the different approaches each library has taken to assessment, several of the factors listed above have emerged as especially critical for successful assessment and appear to be the keys to developing effective, sustainable and practical assessment in research libraries. Having good evidence is not enough if the library cannot effectively use that evidence to improve library services and address customer needs. Evidence-based librarianship is especially critical now as libraries are increasingly asked to demonstrate the value they add to the academic enterprise and the difference they make to the work of faculty, students, clinicians and other researchers. Libraries don't operate in a vacuum and must also work with their academic institutions in addressing the key issues of (a) accountability, (b) accessibility, (c) quality, and (d) affordability in higher education emphasized.



The theory and practice of evidence-based information work – one world?

R. Laval Hunsucker, PhD, MLIS, University Library, Universiteit van Amsterdam, The Netherlands.

Purpose: To investigate the validity of the assumption that evidence-based library and information practice (EBLIP) – as conceived, defined, and implemented up to now – is indeed applicable to the full spectrum of library and information activities.

Methodology/approach: The author's study and conclusions are based on: 1) a survey and critical appraisal of quantitative as well as qualitative research as reported in our

own professional literature – particularly with respect to intermediated information retrieval, reference services, and collection management; 2) a wide-ranging examination and appraisal of major scholarly publications in epistemology, in the philosophy and sociology of science and scholarship, and in cognitive psychology; 3) long personal experience as researcher and university teacher, in scientific publishing, and (since 1989) as academic librarian.

Findings: This reflective investigation suggests that it is much too early to assert with confidence (as is often nonetheless done) that EBLIP enjoys either universal or holistic applicability in the library and information services arena. Available evidence and insights point, rather, to at least these four alternative conclusions: 1) The EBLIP model as presently developed and delimited is by its nature less productive for supporting truly user oriented library/information services for the social sciences and humanities, than for the medical and natural sciences communities. 2) It is probably advisable, whatever the field, to base practice no less on (sound) theory and theory-building than on “empirical” findings. We should look for a better balance between inductive and deductive processes. 3) EBLIP is not uniformly valid across all aspects of our services and procedures, but is apparently less appropriate for some of them than it is for others (e.g. those which this author has previously called our more “circumspect” functions). 4) The disciplines to which one should normally look, beyond library and information studies, for useful evidence and theories, ought to be expanded to include at least philosophy, sociology, and the cognitive sciences – and in the post-positivist spirit perhaps even to linguistic and literary studies (semantics, speech acts, genre theory, rhetoric, etc.).

Research implications: The basic assumptions behind EBLIP are valid, and in fact essential to further assuring the

effectiveness and relevance of our work. We must however, both as researchers and as appliers of research, develop a less monolithic and more nuanced vision of the EBLIP approach. The research agenda should incorporate explicit provisions for accomplishing the necessary differentiations in respect both of disciplines served and of functions performed.

Practical implications: Practitioners must be prepared to follow where the best evidence (in the broader and more varied sense suggested above) leads. That implies an even more reflective (but also reflexive!) mindset than EBLIP already recommends. It means the readiness to give up – or to adapt – even the vested interests and articles of faith themselves on which we are accustomed to found our professional legitimation and identity. If, that is (but only if), the evidence testifies that such is in the best interests of the clientele we are there to serve.

Value/originality: Encourages a more realistic standpoint regarding, and therefore a more workable approach to, EBLIP.



Establishing a model for evidence based collection management. Denise Koufogiannakis, MA, MLIS, University of Alberta Libraries, Canada.

Question: How can collection managers and selectors structure their practice so that collection decisions are more evidence based? Can a model be established to provide a framework for decision making in a large academic institution? What questions need to be answered and what sources of information are most appropriate? Where does one begin to find useful information and how can it make a difference in day-to-day work? **Setting:** The model for collection management decision making was developed for the University of Alberta Libraries (UAL), a large academic library

system in Edmonton, Canada. The general model can be applied to other libraries regardless of type. Examples from UAL serve to illustrate practical use of the model and how it can be implemented in practice. **Method:** A complete review of collection management decision making was undertaken. An examination determined what types of collections questions selectors ask on a regular basis, what things librarians should consider when making acquisition decisions, and the possible sources of evidence to aid selectors. Feedback from staff was incorporated, and the model allied with institutional directions, focusing on a user-centered approach. **Main results:** In the past, collection management was done purely by librarian expertise and feedback from faculty, with the occasional use of data as it became available, but without a concerted effort to systematically review data and base collections decisions on what that data was telling us. There are overarching questions to which a traditional EBL model may be used to provide insight and answers, while at the same time there are day-to-day decisions which rely on local data and placing that data in the hands of selectors in a timely way and in a useable format. There are also innovative collection projects for which assessment can become a built-in mechanism for future evaluation. All these areas will be reviewed and connected to appropriate sources of data for decision making. **Conclusion:** This presentation will map out a concrete model that can be used by any library to complement their collections based decision making. It is grounded in the examples of progress within one academic library. These are preliminary steps in a new way of thinking about collections decision making and how to easily implement data into our day-to-day work. This session will prove valuable for any collection manager wanting to implement concrete change in order to make more effective and user-based decisions.



The making of a journal:

Disseminating research to inform practice.

Denise Koufogiannakis, MA, MLIS, University of Alberta Libraries, Lindsay Glynn, MLIS, Health Sciences Library, Alison Brettle, BA(Hons), MSC, Institute for Health and Social Care Research, & Pam Ryan, BA, MLIS, Science and Technology Library, Memorial University of Newfoundland, Canada.

Objective: The journal Evidence Based Library and Information Practice (EBLIP) published its first issue in March 2006. The purpose of the journal is to provide a forum for librarians and other information professionals to discover research that may contribute to decision making in professional practice. EBLIP publishes original research and commentary on the topic of evidence based library and information practice, as well as reviews of previously published research (evidence summaries) on a wide number of topics.

Setting: EBLIP is an international, peer reviewed, open access journal published quarterly by the University of Alberta Learning Services, using the Open Journal Systems (OJS) Software.

Participants: The journal is comprised of an editorial team of four editors, two copyeditors, more than 40 editorial advisory board members, and more than 20 evidence summary team writers.

Program: This paper will detail the process of creating a new journal to support evidence based librarianship. The process of establishing the journal and the evolution that occurred over the first year will be discussed. The authors will discuss reasons why the journal was necessary and the various roles of sections and the content within. The importance of open access to the dissemination of this literature will also be discussed. **Main Results:** By May 2007, EBLIP will have published 5 issues. We will examine the number of submissions to the

journal, topics included, and average turnaround time from submission to publication.

Conclusion: With a full year's publication complete and moving forward into the second year, the editors will reflect on their experience and discuss future directions for EBLIP.



EBLIP as a tool for knowledge transfer in a time of demographic change.

Joanne Gard Marshall, PhD, University of North Carolina at Chapel Hill.

Question: Can EBLIP be used as tool for facilitating knowledge transfer between experienced practitioners and new entrants to the field?

Context: The first of the baby boomers, a group born between 1946 and 1964, turned 60 in 2007 and the next two decades will be characterized by increasing numbers of retirements. Library and information science (LIS) will likely be affected even more by this general demographic shift than other professions due to the high proportion of second career entrants to the field and the reduced hiring in libraries during the 1970s and 1980s.

Design: EBLIP seeks to identify the best available evidence from the literature and to apply it to library decision-making. Due to their recent experience in preparing academic assignments, new entrants are especially well suited to identifying the relevant literature. Practitioners, on the other hand, have a great deal of tacit knowledge and on-the-ground experience in managing library and information services. We propose to train LIS master's students and their field experience supervisors in EBLIP methods. As part of the training, the students and their supervisors will identify situations in which additional evidence is needed to inform library decision making. Observations will be made about factors

that facilitate or act as barriers to the use of evidence in LIS practice and the ability of EBLIP to facilitate communication between the new entrants and experienced practitioners.

Setting: The study will be proposed at UNC Chapel Hill where there is a strong history of collaboration exists between the UNC Libraries and the School of Information and Library Science (SILS).

Main Outcome Measures: Outcome measures are still under development; however, there are opportunities in this project to study information seeking and use by LIS practitioners as well as the ability of EBLIP to act as a tool for sharing and transferring knowledge between new entrants and experienced practitioners.

Results: We anticipate that we will gain an increased understanding of how information is currently used in libraries to inform decision making. We will also learn about the practicalities of introducing EBLIP in academic libraries and extent to which this tool can become a facilitator of knowledge transfer between generations.



Choices in chaos: Designing research to investigate librarians' information services improvised during a variety of communitywide disasters and to produce evidence-based training materials for librarians. Michelynn McKnight, PhD, AHIP & Lisl Zach, PhD, Louisiana State University School of Library and Information Science, United States.

Objective: How can we discover patterns of how librarians develop new information services needed when disaster strikes the community? The authors needed to design a project using valid research methods to gather consistently and to analyze rigorously narrative data from a wide variety of libraries that have provided

improvised services during a wide variety of disasters.

Method: The authors surveyed a variety of accepted research methods for gathering and analyzing qualitative narrative data describing similar phenomena. They tested some methods in a pilot study of services provided by librarians in southern Louisiana after two hurricanes in 2005. They quickly realized that surveys of hundreds of libraries and interviews of a few librarians did not produce the kind or amount of data to answer the “what” and “how” questions for a variety of libraries in a variety of disasters. They discussed that study and its results with several senior researchers experienced with qualitative methods. Based on what they had learned during the pilot study and in subsequent discussions, the researchers designed a much larger study to gather evidence of common practice patterns in diverse disasters. Needing to be open to discovery of what happens in different situations they devised a research method based on in-depth interviews, multiple case studies, and narrative data analysis to build grounded theory. The study will conclude with the development of best practices presented as case studies and evidence based training modules for LIS students and practicing librarians. (They submitted the research proposal to the Institute for Museum and Library Services National Leadership Grant program.)

Results: The researchers found evidence of the efficacy of Multiple Case Study and Grounded Theory research methods for this kind of for this kind of research question. They developed a protocol to gather data from academic, public, school and special libraries that provided extraordinary services during days and weeks of community disasters caused by earthquakes, massive blackouts, tornadoes, wild fires, hurricanes, land slides, floods, chemical spills and other natural or accidental events. The IMLS agreed with their findings on how

to study the question and funded the grant proposal. The researchers have begun the two year project and will report briefly on its progress in this paper.

Conclusion: Librarians need evidence-based case studies and educational material to learn how to identify needed information services during any kind of community-wide disaster and to respond to these needs creatively. Since this preparation is not currently included in LIS education, standards and guidelines or research literature, there is a need for reliable studies of these phenomena in a variety of libraries and a variety of disasters. The researchers studied and tested various quantitative, qualitative and mixed data gathering methods, tested them, and designed a method for gathering and analyzing the data necessary to support such guidelines and education. Based on their resulting research proposal to study about twenty such phenomena, the Institute for Museum and Library Services has awarded them a two-year National Leadership Grant to perform the study.



Paradigms as guides for library science research.

Karin E. Medin, PhD, MLIS, University of Arkansas at Little Rock, United States.

Librarianship is not consistently perceived as a scientific profession, neither from within nor from outside of the profession. When vying for a continued role in a research intensive university setting, it is vital that librarians adapt and convey results using scientific methods in order to fully participate in the paradigm shifts that are occurring in the information management field. In order to powerfully impact the constituents we serve, we need to engage with our vendors, potential competitors/partners in the information industry, and our campus/complex

Information Technology arms as we devise and perform our research. This endeavor has been aptly endorsed in the classic Harvard Business Review article "On Reaching Out in Management" by Givens (1952). The paradigms the various workgroups espouse begin to fruitfully organize research efforts once awareness and connections are clear and powerful. Upper- and middle- administration bear responsibility for the future of our scientific reputation, and we neglect rigorous methods and our status as equal players in normal science only to our demise. Thomas S. Kuhn's *Structure of Scientific Revolutions* (1970) provides the springboard for a discussion of how librarianship really is a science, and will thrive only when viewed as such. A literature review of the peer-reviewed material in library science reveals that there is a dearth of acknowledgement that paradigms guiding our research do exist. There is no doubt, however, that our situation of being in the midst of a monumental information explosion rivets us as scientists to our very cores. As applied, librarianship supports the notion that such paradigms do exist and allow us to wisely transform our every act of service and innovation. Fostering awareness of the scientific paradigms we espouse, both within library science curricula and as we publish, allows our status as scientists to become evident and valued.



Comparison of training interventions for PubMed search skills amongst 3rd and 4th year medical students.
Glenda Myers, D Litt et Phil, Witwatersrand Health Sciences Library, University of the Witwatersrand, South Africa.

Objectives: To determine if the use of a MeSH tutorial had a positive effect on online search skills in PubMed training programs for medical students.

Setting: The study took place in a large medical school in a developing country. The students are enrolled in a hybrid problem-based learning (PBL) curriculum. Internet bandwidth is problematic, so few training interventions can be conducted "live". Much use is therefore made of Power Point screen shots for demonstration, and students are encouraged to conduct voluntary individual hands-on sessions online.

Population: Two hundred and fourteen third year medical students (year 1 of the Graduate Program) were introduced to PubMed searching through four formal lectures at the beginning of 2006. Two hundred and eight fourth year medical students (year 2 of the Graduate Program) were introduced to PubMed searching through small group learning sessions at the beginning of 2005.

Intervention: Both groups of students received a Power Point refresher course for self-study before completing an OSCE (objective structured clinical examination) in June/July 2006. This training course demonstrated the use of MeSH, but students could opt for text-word searches as well. The PubMed search station in the case of both sets of students was one of several OSCE stations for clinical skills learnt during that block. In the second half of the year the PubMed training intervention changed to a facilitated clinical skills seminar, with voluntary attendance, where the use of MeSH was stressed, and the "links" option to import the MeSH term into the PubMed search screen was demonstrated. A copy of this training program was loaded onto the students' web-based curriculum page for further self study. Once again both groups of students were examined by means of an OSCE station in November/December 2006.

Results: Preliminary results show improved OSCE test scores for the second intervention (use of the MeSH "links" option) for both groups of students. Final examination results will be available at the beginning of

the academic year in January 2007. Once the final test scores are received, it will also be possible to compare the performance of students who received formal lectures with students who received small group training. **Conclusions:** The use of the MeSH "links" option as a training intervention led to an increased OSCE score over the use of the MeSH demonstration and ability to perform a free text word search. Test scores may have been influenced by the presence of a librarian in a facilitated clinical skills seminar, as opposed to a voluntary self-study Power Point tutorial. Final year OSCE scores may also have been influenced by the increased familiarity of students with PubMed searching by the end of the academic year. Analysis of the final scores should indicate whether these variables had a significant effect on the MeSH "links" intervention.



Students' patterns of library use and their learning outcomes. Haruki Nagata, Graduate School of Library, Information and Media Studies, University of Tsukuba, Akira Toda, Bunkyo University Shonan Library, Japan, & Päivi Kytömäki, Oulu University Library, Finland.

Objectives: To examine the relationship between students' patterns of library use and their learning outcomes.

Design: Analysis of focus group interviews and exit gate surveys of students' library use and attainments

Setting: This study was conducted in four academic libraries in Japan and Finland between 2004 and 2006. All the libraries belong to universities, one of which is a private institution and three are nationally funded. The majority of participants in this research are undergraduate students.

Methods: In initial stage two focus group interviews were conducted in Mie University Library (Japan) in 2004. The

survey for this study was designed using data derived from the findings of our previous research (Toda & Nagata: Students' Library Use and Learning Outcomes, 2007 (in process)), which demonstrated a positive correlativity between students' library use and their learning outcomes. The survey consisted of 10 questions, 9 fixed response and 1 free text. 6 of 9 fixed questions use the Likert scale, asking about students' motivation, library use and attainment. The first survey was conducted at Keio University Shonan-Fujisawa Campus Library (Japan) in 2005. In addition we conducted two focus group interviews of the survey respondents. The results were impressive as they revealed unexpected data, thus further research was necessary. In 2005 we conducted two more focus group interviews and then in 2006 the survey was conducted in Oulu University Library (Finland). In addition, another survey was conducted in Nagoya University Library (Japan) in 2006. The survey questionnaire was almost identical for these three surveys. Main results - Cluster analysis revealed 3 common patterns of student usage: learners, socialisers and students merely wanting somewhere to sit. In addition there were students who simply wanted to borrow books or use the PC's. Students were found to gain many and varied learning outcomes from their use of the library. These included: academic knowledge, general learning, new perspectives, emotional fulfillment, competence in finding information, critical thinking, the habit of learning by oneself, and the fun of studying. These differences among students groups are a significant key to understanding how students reach their learning outcomes. It is not easy to show in a direct manner how students achieve their learning outcomes by using libraries. This study has tried to examine it by examining the students' use of library and finding out how it relates to their own learning outcomes, which could open new avenues

to measure the impact of libraries in universities.



Using rubrics to collect evidence for decision-making: What do librarians need to learn? Megan Oakleaf, PhD, Syracuse University, United States.

Academic librarians who conduct information literacy instruction often encounter evidence of student learning in a variety of forms. To improve instructional programs, academic librarians need to transform evidence of student learning into data for decision-making. Educators use rubrics to transform complex evidence into data that is easy to understand, but academic librarians are slow to adopt rubrics as a form of information literacy instruction assessment. Rubrics not only provide evidence for decision-making but also offer significant instructional benefits including: allowing students to understand their instructors' expectations, making scores more meaningful, providing detailed feedback, and facilitating self-evaluation. Librarians benefit from rubrics because they offer the opportunity to discuss and agree upon learning values, provide tools for consistent scoring, and deliver data full of rich description. For these reasons, research is merited in this area. This study explores the question: "To what extent can librarians use rubrics to assess student learning?" Additionally, it documents college students' ability to evaluate websites and librarians' use of assessment evidence to make improvements to online instruction. Using survey design methodology, this study compares academic reference librarians' ability to use rubrics with college instructors and students. Librarian participants in this study included 5 reference librarians, 5 college English instructors, and 5 college sophomores at one southeastern research extensive university. These participants

received training in rubric assessment of student work.

The study also included 10 reference librarians at research libraries nationwide who did not participate in rubric training. Each of the 25 participants scored 75 artifacts of student learning using a rubric. These artifacts of student learning were randomly selected from open-ended responses to questions about evaluating websites included in an online information literacy tutorial. While some librarians were able to use rubrics to provide reliable and valid assessments of students' information literacy skills, many could not. In fact, the study reveals six barriers that must be addressed before librarians can successfully wield rubrics as tools for evidence-based decision-making: 1) difficulty understanding outcomes-based assessment, 2) tension between holistic and analytic rubrics, 3) failure to comprehend rubric content, 4) disagreement with rubric assumptions, 5) difficulties with evidence of student learning, and 6) difficulties understanding campus context and culture. Fortunately, the study appears to indicate that librarians can use rubrics developed within an individual campus context and culture to translate complex evidence of student learning into reliable and valid data for improving instructional programs. However, if librarians hope to achieve the benefits of rubric assessment, they require additional training to overcome the barriers identified in this study. This paper presentation will describe what librarians need to learn to use rubrics effectively for evidence-based decision-making.



Bringing evidence to practice: a team approach to teaching skills required for an informationist role in evidence-based clinical and public health practice.

Kathleen B. Oliver, MSLS, MPH & Prudence Dalrymple, PhD, Johns Hopkins University, United States.

Program Objective: 1) To develop an academic graduate level course designed for information professionals seeking to bring evidence to clinical medicine and public health practice with its implied “real world” time constraints, 2) to further specify and realize identified elements of the Informationist concept.

Setting: Johns Hopkins University, School of Medicine, Division of Health Sciences Informatics.

Participants: A multi-disciplinary faculty selected for their expertise in the course core competencies, and students enrolled in the course. The students included two post-graduate NLM Informationist fellows, and one NLM Second Year Associate.

Intervention(s): A combination of lectures and laboratory exercises taught the skills involved in finding, analyzing, and delivering evidence in clinical and public health decision making with implied time constraints. Students presented evidence to support decision making in case scenarios drawn from clinical or public health practice. Skills covered in the course included the identification of a question embedded in a case presentation, development of effective search strategies for relevant evidence to address the question, evaluation and synthesis of the identified evidence, and effective presentation of evidence. The learning objectives were: 1) to understand and demonstrate the evidence-based answering cycle which includes the ability to define a typology of questions; 2) to describe the answer process and identify a question domain; 3) to learn to search, screen and evaluate evidence to support a query; 4) to demonstrate appropriate skills for presenting evidence-based data, and 5) to demonstrate team membership and participation in a framework defined by “real world” time constraints Evaluations

were based on participation in class, exercise completion, and final oral and written presentations of assigned cases.

Main Results: 1) Students successfully completed all laboratory exercises and final oral and written presentations of evidence for assigned, real world cases. 2) A course syllabus and exercises were completed. 3) Student exercises and presentations were evaluated by the clinical and public health practitioners who developed case scenarios addressed by students in their exercises and final presentations.

Conclusion: A graduate level, pilot course taught by a multidisciplinary faculty team further developed the Informationist concept and taught the skills required for an informationist role in bringing evidence to clinical and public health practice. The course design demonstrated a novel approach to teaching the skills identified in the literature as important to the informationist concept. Student follow-up is needed to establish the success of the course, and to confirm whether the course objectives were effective and at the right level. If validated, the approach is one that could be replicated in other academic health centers with similar pools of expertise. Further research is needed to establish an appropriate or “good enough” standard of evidence short of a systematic review that meets “real world” time constraints. Ongoing “journal clubs” that reiterate the process with new questions derived from clinical and public health practice and incorporate peer review and faculty mentoring would reinforce skills acquired in the seminar.



The practitioner’s experience and conception of evidence based library and information practice: an exploratory analysis. Helen Partridge, Queensland University of Technology, Clare Glanville, BA GradDipLIS GCertHed AALIA,

University of Southern Queensland, Sylvia Edwards, Dip.Lib., (RMIT), GCED(HE), MIT(Res.), PhD, AALIA, MACS, School of Information Systems, Queensland University of Technology, & Gillian Hallam, Associate Professor, School of Information Systems, Faculty of Information Technology, Australia.

Question: This paper will consider the question: How do practitioners' experience and conceive evidence based library and information practice (EBLIP)?

Setting: All participants will take part in a 30–60 minute audio recorded interview. The goal of each interview will be to understand the variation in each participant's experience of EBLIP. The questions will be designed to orient participants towards their experiences of EBLIP and will be necessarily broad. This is to ensure the participant's experiences are allowed to emerge without being confined or otherwise influenced by the researcher's views. Data collection is currently taking place; the full list of questions used in the interview process will be outlined in the paper on completion of the study.

Participants: The research is being conducted as a pilot study. To this end only 10 to 20 participants will take part in the study. Participants will be library and information practitioners from Brisbane. Full participant details will be available after data collection.

Methods: Phenomenography provides the theoretical basis for the study's research method. It is an interpretive research approach that looks at the different ways people experience or conceive a range of phenomenon. The intent of phenomenographic research is to understand variation in the collective experience of the participants in regards a particular phenomenon (in this instance EBLIP). The strength of phenomenography as a research tool rests in its capacity to uncover variation in conception, awareness,

understanding or experience. That is, phenomenography will help tease out the full spectrum of experiences or conceptions of EBLIP by practitioners; and not just the "average" or "typical" experience or conception. The phenomenographic approach makes it possible to focus, not on the participants per se, nor on the EBLIP, but rather on the interrelation between these two; that is, the practitioners varying experiences of, and conceptions of, EBLIP.

Main findings: The intent of the analysis is to identify the variation in the experience of EBLIP by library and information practitioners. During data analysis the interviews will be pooled so that interviews are not tied to individual participants. The analysis can thus proceed with a focus on the phenomenon under study and not the individual. The content of the interviews are examined with specific attention given to the similarities and differences between what was said about EBLIP. It is then possible to (i) seek meaning – that is, determine the discernable variations in ways of experiencing EBLIP; and (ii) seek structure – that is determine the critical elements and dimensions of the variations associated with each meaning. The meaning and structure of various experiences are then divided into separate categories of description. Together the categories of description represent each way of experiencing EBLIP. The aim in analysis is to describe the phenomenon of research interest through a limited number of descriptive categories, usually between 4 and 7. Data analysis will take place in late February/early March. **Conclusions:** Whilst a full discussion on the conclusions is not possible until the study is completed (early March) it must be noted that the study is significant because it will provide the first model of EBLIP as understood by the library and information practitioner. This model will assist library educators, associations and others involved in supporting, preparing and educating current and future

evidence based professionals, so that an evidence based culture can be firmly established within the profession.



Finding our foundation: Analysis of the LISA database for research

retrievability. Carol Perryman, MS LIS, Doctoral Fellow, School of Information & Library Science, University of North Carolina at Chapel Hill, United States.

Objective: The primary objective of this study is to examine the Library and Information Science Abstracts (LISA) database to determine if research literature can consistently be retrieved by using keywords identifying the research methodologies used.

Question: For the journals named, are articles identified as 'research' able to be consistently retrieved by using keywords related to research methodology?

Methods: Citations from the top 10 Library and Information Science journals for 2001 as identified by Koufogiannakis, Slater & Crumley (2004) were obtained, then a filter developed by Catherine Beverley (2004) was used independently to identify research articles. The resulting sets of citations were compared, then the two datasets were analyzed in order to consider retrievability and fit for assigned keywords from the LISA database.

Results: Although it would need to be tested against a random set of citations rather than the purposive sample tested here, our analysis suggests that retrieval using the descriptor terms alone may succeed in only $31.5\% \pm 5.2\%$ of attempts, with a 95% confidence interval.

Conclusions: The LISA thesaurus is not consistent or sufficiently comprehensive to serve the needs of researchers. Recommendations for the improved retrievability of LIS research literature from the database are made.



Transforming the library: Applying multiple assessment methodologies to library instruction and planning.

Sue F. Phelps, MLS, & Karen R. Diller, MILS, Washington State University Vancouver, United States.

Question: The Library at Washington State University Vancouver will be remodeled and expanded within the next five years because of the changes in student population and a rapidly growing campus. The Library faculty and staff ask how instruction, services, and space must change to improve student learning and grow with the expanding campus. **Setting:** The WSU Vancouver Campus has gone from an upper division and graduate only campus to a four-year campus and is expecting a thirty percent increase in students from 2005-2007. **Participants:** The participants in the study were faculty, staff and students from the WSUV campus.

Methods: A literature search was conducted prior to the project to see what other colleges and universities were doing to assess library services and space on their campuses. Much of what we found was that LibQual is the current standard, but LibQual did not address all of the issues we were facing. We designed our study to address these issues using new and innovative, as well as more standard, methodologies. Student learning was assessed through the new General Education program built for our first freshman class and incoming transfer students. Several months were spent doing research on how assessment was being done at other institutions and in looking for software programs that would include assessment. A portfolio program was found that would allow assessment of the campus learning outcomes, including information literacy, to be built into the program. Students show progress through evidence and reflection on that evidence, which is assessed by a group of faculty

using a standard rubric. Three methodologies were used to assess services and space. First, information was gathered from all employees of the Information Services department (Library, Information Technology, and Videoconferencing) in a Nominal Group Process session at their fall retreat about the future needs of the campus. The result was an abundance of expert qualitative data. The participants then analyzed the data and prioritized the outcomes to set library goals. The second and most formal methodology provided a more traditional approach to assessment. Focus groups of each user population were used for exploratory data assessment. The issues raised by the focus groups were used to develop a survey that was distributed electronically to all staff, faculty and students. Results were statistically analyzed to help evaluate current services and space and to inform future programs and space planning. The final methodology to assess services and space involved taking photographs of students working alone or in groups across campus in order to assess the way students use space, equipment and furniture. Those photographs were evaluated in an informal observational study to assist in the Library's renovation and expansion plans. **Main Findings:** This study is currently in progress. Analysis and conclusions are expected to be completed by March 2007.

Conclusions: The areas in which we will draw conclusions include student learning in information literacy, the need for specific types of space within the library and patron satisfaction with current services, both in person and at a distance.



Why Librarians Leave: A Proposal to Study the Factors that Influence Librarians to Exit the Profession. Susan Rathbun-Grubb, Doctoral Student, School of

Information & Library Science, University of North Carolina at Chapel Hill, United States.

Question: What are the internal and external factors that influence librarians to leave the profession, and who is most likely to leave?

Context: Given the amount of pre-employment preparation for a career in librarianship and the resources that libraries spend to develop early-career professionals, the failure to retain librarians in the profession is a great waste to the librarians who leave and the institutions that lose them. A better understanding of the reasons why librarians leave could guide library administrators in creating and improving retention programs and may be able to help library and information science (LIS) educators design programmatic or curricular strategies to address these issues before the students enter the workforce.

Setting: This qualitative research project will be a pilot study to determine the design and feasibility of a larger main study to be conducted afterward. Participants will be recruited using a snowball sampling technique until a sample of 10-15 persons is formed. For the purposes of the study, a former librarian is someone who holds a Masters degree in Library Science, who has worked as a professional librarian in a public, academic, school, or special library, and who no longer works in a library setting.

Design: The researcher will conduct individual semi-structured interviews with each participant. Questions will be open-ended, and designed to provoke lengthy, reflective answers. Interviews will be sound recorded, transcribed, coded, and analyzed. After the pilot study is completed, the entire study design will be examined for problems such as scope, imprecision of definitions, underlying weaknesses in assumptions or theoretical underpinnings, problematic questions or questioning techniques, and quality of coding structure. The research questions will be refined, and the semi-

structured interview questions will be revised and finalized. Design of the interview questions and analysis of the answers will be done after an examination of the research and professional literature on voluntary turnover and retention, and by using the life course perspective. This sociological framework serves as a method for understanding the interaction of historical, generational, geographical, and societal forces that impact a person's life choices and "pathways" throughout a lifetime. A bird's-eye view of a person's entire career path, situated in its historical, geographical, and cultural context creates a richer field of data for a researcher to mine. **Results:** It is hoped that completed research in this area will enhance the knowledge base of LIS educators, professional librarians, and library administrators and through them, eventually improve the "quality of life" in the profession. The words of librarians who have left may inform LIS educators who can create realistic expectations of the workplace for future practitioners.



Electronic document delivery (EDD) turnaround time and its connection to patient care in the hospital. Karen L. Roth, MBA, MLS, AHIP, Morton Plant Mease Health Care, & Thomas W. Hill, Medical Library, Self Regional Healthcare, United States.

Purpose: To describe a small research study that connects EDD turnaround time to the hospital's mission of excellent clinical patient care based on the Abels et al. (2002, *Journal of the Medical Library Association*, 90:276-284 and 2004, *Journal of the Medical Library Association*, 92: 46-55) preliminary taxonomy on the value of health sciences library services.

Setting/Subjects: Hospital libraries in the ESE/A (E-delivery Southeastern Atlantic) Region DOCLINE® group. DOCLINE® is

an electronic document delivery program for use by medical libraries in the United States and Canada administered by the National Library of Medicine. Within DOCLINE®, there are reciprocal lending groups for document delivery.

Methodology: The research study involved 3 phases. Phase 1 entailed extracting DOCLINE® data from 2 hospital libraries to determine a baseline turnaround time for EDD. Phase 2 replicated and validated Phase 1 results by extrapolating the same data from 25 libraries in the ESE/A group. Phase 3 correlated the data from Phase 2 into the value of hospital library services. Utilizing an online email-linked survey (SurveyMonkey), library customers were asked if rapid turnaround time was of value to them.

Results/Outcomes: Survey results from Phase 3 showed that hospital library customers valued the rapid delivery time of EDD and used the materials for both patient care and education/teaching. Using the taxonomy provided by Abels et al., the correlation between EDD and patient care indicates that hospital library services are consistent with the hospitals' mission for clinical care.

Discussion/Conclusion: Outcomes research is valid and necessary for hospital librarians to demonstrate their value to their organizations. Using available data and survey tools, the hospital librarian can show library services contribute to the hospital's mission of excellent clinical care.



Evidence-based practice in US fire library management. Lian Ruan, MLS, Illinois Fire Service Institute & Linda C. Smith, PhD, Graduate School of Library and Information Science, University of Illinois at Urbana- Champaign, United States.

Question: This study was conducted to determine how special libraries serving fire

professionals are used, valued, if they are efficiently organized to give maximum access to their resource collections, and the impact such libraries have on information use by fire professionals in their decision-making.

Design: The study used the Chicago, Rochester, and SLA study instruments as the basis for questionnaires to measure the impact of library-supplied information on practical decision making and applied research in the fire service sector. Data were collected at six sites over a seven-month period, February- August 2004.

Setting: Six fire libraries that represent significant contributors of information services to fire professionals (including fire service personnel as first responders and researchers) in the United States participated in the study.

Participants: 343 fire professionals evaluated the impact of the information received in response to a request for some information from their special library related to a recent decision-making situation. Respondents held a variety of positions, including firefighters (27%), training officers (19%), fire chiefs (13%), researchers (17%), administrative staff (13%), and other (11%).

Main Results: Major findings from completed surveys include that 97% of the fire service personnel and researchers (n=343) said that the information received was relevant to their work. 97% reported that the information was of practical value and 81% said that the information was of research value. The special libraries were effective in supplying information in decision-making situations because 94% of respondents reported the information they received led to better-informed decisions, and in increasing their level of confidence in those decisions (89%). Areas of impact included training, research, emergency response, changed procedures and policies, budget decisions, and personnel management.

Conclusion: The study demonstrates the vital and integrated roles fire service libraries can play in their organizations with information services having a direct impact on users' training, research, and emergency response activities. The overall study results will assist librarians in many different settings who can benefit from greater awareness of information needs related to public safety and homeland security and strategies for addressing them. Based on the results of the study, special librarians can develop services that target particular types of impacts, as well as improving the level of impact in various areas. The study also clearly indicates that fire libraries need to consider different approaches to evaluating their services, and the library profession needs to pay more attention to professional development in this area. Future research can include non-users, virtual users accessing services via a library's web site, and others involved in public safety, such as emergency medical responders. Other studies can examine and identify skills, attributes and subject knowledge for librarians and information professionals working in fire emergency services and homeland security.



Distance education: a good model for professional continuing education. Connie Schardt, MLS, Medical Center Library, Duke University & Julie Garrison, MLS, Central Michigan University, United States.

While a number of studies have compared online and face-to-face learning, there is still little evidence about how effective the online environment is for continuing education and professional development types of activities. Drawing upon earlier research, this paper explores the effectiveness of a Web-based professional continuing education course, compared with an equivalent face-to-face version

designed to teach practicing medical librarians how to participate in and advocate for Evidence Based Medicine at their individual institutions. Two cohorts of practicing librarians were self-selected to participate in either the distance education 8-week course or the 8-hour peer-to-peer class. The authors compared student pre-class, post-class, and 6-month post-class assessments of knowledge retention to evaluate student learning and the effectiveness of the course delivery methods.



Designing an evidence-based model to create a core title collection. Ada Seltzer, MSLS, AHIP, FMLA, University of Mississippi Medical Center, United States.

Purpose: The objective of this paper is to describe the evidence-based methodology used to develop a new annual selection guide for the health sciences.

Setting: The methodology combines the subjective evaluation of subject authorities with quantitative measures that generate data and knowledge used for the decision making process. A series of Web-based tools developed by Doody Enterprises link, tabulate and distill selections, assessments, scores and “essential purchase”

recommendations. **Participants:** A volunteer 17 member Library Board of Advisors and Doody’s staff designed the evidence-based model and continue to evaluate and improve the methodology.

Method: The model combines different levels of expert assessments from content specialists and library selectors to establish a small subset of titles that represent the essential knowledge for a specific health sciences specialty. This subset is evaluated by library selectors on five key collection development criteria using a numeric rating system. Scores by multiple selectors are averaged for each title and used to identify titles for the guide. A separate evaluation is

performed to determine the “essential purchase title” (EPT) status, defined as titles recommended for purchase by a library with an annual bookbuying budget of less than \$7,500.

Main results: The methodology identifies and determines the titles that comprise the selection guide (Doody’s Core Titles) representing the best of the literature in 121 health sciences specialties recommended for a library collection. Three editions have been published since 2004 and each edition represents a different and separate application of the model.

Evaluation/Conclusions: The model has been successful in producing a core list that is authoritative, comprehensive, timely and reliable. Ratings bring a separate set of values to the evaluation and decision making process and may help reduce the bias inherent in the subjective aspects of the evaluation. The methodology applies the traditional collection development criteria in new ways for evidence-based selection decisions. More study is needed to determine the discriminating power of the 3-point response scale in making meaningful comparisons of titles within specialties, the impact on collection development in health sciences libraries, and the success of the measures in identifying the highest quality core titles.



Understanding patron needs and resource usage in the networked academy. Win Shih, MS LIS, MSBA, Denison Memorial Library, University of Colorado at Denver and Health Sciences Center, United States.

Objectives: The purpose of this study was to better understand various aspects of patrons’ access to library’s electronic resources and services via its Web site, their motivation, and the resources they used.

Brief Description: As library resources and services continue to evolve rapidly and

ever-more-sophisticatedly along technological vectors, the imperative persists for librarians to develop an innovative, systemic methodology for fathoming the effectiveness in meeting the demands and necessities of our less-visible, yet omnipresent and “omni-diverse” patrons, as well as for promoting efficient resource management and capacity planning. **Methods:** Traditional, web-transactional log analyses possess a raft of merits, including unobtrusive and automatic logging, minimal overhead costs, and relatively simple data analysis procedures. However, such transaction logs cannot provide important user demographic data (e.g., metrics such as “academic status – faculty/student/staff,” “departmental affiliation,” etc.), let alone the patron’s purpose (psychographic data) for utilizing a library’s resources in the first place (i.e., “teaching,” “research,” “course work,” “patient care,” and so forth); nor why a specific resource is being selected. These types of much-more-specific information have the potential to assist libraries in infinitely more useful ways for better understanding their patrons, a patron’s information seeking behavior, and the multifaceted interrelationship between patrons’ academic disciplines and the library resources and facilities available to assist them. In 2006, Denison Memorial Library of the University of Colorado at Denver and Health Sciences Center (<http://denison.uchsc.edu>) conducted a year-long, library-usage study to better understand patron information needs and their information-seeking behaviors. Based on the Association of Research Libraries’ “MINES for Libraries” methodology, we asked patrons visiting our web portal to complete a brief, single-page online survey before they connected to their destination URL. In addition to resources consulted or chosen by patrons, data was collected on demographics, current locale of connectivity, along with “purpose of library portal

utilization.” Combined with unobtrusive web-access logging and vendor supplied usage statistics, we are able to employ this valid statistical and factual evidence for collection development, resource allocation, budget and funding requests, system performance, and IT capacity planning. **Results/Outcome:** Our presentation therefore will provide findings of our study, its implications, combined with comparisons and contrasts to the results from web transaction log analyses and statistics garnered by Serials Solutions, our E-journal portal vendor. Furthermore, we will discuss how such exercise offers the opportunity to assimilate evidence-based information practice and knowledge management skills into our daily operation.



Improving online access to electronic journals. Steven J. Squires, MSLS, Margaret E. Moore, AMLS, MPH, & Susan H. Keesee, MSLS, UNC Health Sciences Library, United States.

Research Question and Outcome: What percentage of articles valuable to UNC faculty, students, and staff are readily available and accessible online? For those found to be unavailable or inaccessible, what are the reasons? Knowing the relative extent of access problems will allow HSL to make informed decisions regarding best use of limited library resources to improve online access to electronic journals.

Significance: In 2004, the HSL participated in a service quality survey, LibQual+, designed and implemented nationally by the Association of Research Libraries. The results indicated that online access to electronic journals does not meet the expectations of UNC faculty, students, and staff. This problem is one of the top two problems identified for HSL and other libraries across the country. Accessing needed knowledge resources is vital to the

success of UNC faculty, staff, and students in fulfilling the University's mission. Findings will be useful to other libraries that need to address the same issues. The study extends classic availability studies focusing on print materials into the online environment. Setting/subjects: Citations valuable to a) students in Health Affairs courses, b) researchers, and c) clinicians. Citation sets consisted of journal articles authored or cited by UNC-CH authors, or chosen by UNC educators for course-work, and representing core constituency groups.

Methodology: Observational study and analysis. Availability of selected citations is determined by repeated searches over time, reasons for failure are compiled and categorized, and means of ameliorating failures assessed.

Results: Of 400 journal articles, 22% were found to be unavailable. Most were not available because the library did not subscribe to the journal or the journal article dated earlier than available online from the publisher. Only six articles that should have been available were not available as a result of linking failures. Sixty-seven percent of unavailable articles were published before 2000.

Our hypothesis that a small number of reasons would account for most journal availability failures was confirmed. A significant number of failures are amenable to corrective action through more acquisitions. Having found the extent of our availability problem and its causes, the library can better move on to study question of accessibility, or the user experience navigating to available resources. These may include problems with authentication when using off-campus computers, with browser configurations for EZ Proxy, with confusing aspects of website presentations, with cataloging notations and directions, and with our sometimes multiple alternate paths

to full-text.



A comparative study of book and journal use in the social sciences. Allison M. Sutton, MLIS, & JoAnn Jacoby, MSLIS, MA Anthropology, Education & Social Science Library, University of Illinois, United States.

Academic librarians are challenged with development and maintenance of collections of research materials in various formats. Though it is largely assumed librarians are surveying their constituency as a part of the collection management decision-making process, the literature reflects only a small number of studies that focus on direct solicitation of user opinions. This project included a 22 question survey of faculty and graduate students in a cross-section of social science disciplines (anthropology, psychology, social work, and sociology) which was completed in 2005.

The objective is to gather data about book and journal use that can be used to inform collection development priorities and discern shifting patterns of use in an increasingly hybrid (print and electronic) information environment. The analysis phase of the project is currently in process. We anticipate that our analysis will shed light on a number of broader issues and questions, including: What are the prevailing collection access issues? How might they help us to manage the continued shift from print to electronic format? Can the findings from this survey aid in the development of a more accurate assessment of the collection informed by current research interests and priorities? Is book & journal use aligned with any shifts in the disciplines that are tied to certain subfields? Likewise, is use aligned with structural changes within departments, divisions or to the curriculum? How do faculty and graduate students differ in their use of the

collection? What similarities and differences in book & journal use are apparent across disciplines? What specific books & journal considered 'most important' by social science faculty & graduate students fall within or outside of the scope of the collection? What importance might our constituency attach to having books and journals featuring materials by and about classic or contemporary theorists in their areas of interest?

We will also discuss how the input received has helped shape our ongoing efforts to build a collection of books, journals and other items which are most useful to our faculty, students and researchers. The survey and its results targeting assessment of user needs will serve as a model for best practices in collection development for academic librarians.



Library leaders discuss the pros and cons of evidence-based practice. Patricia L. Thibodeau, Duke University Medical Center Library, Jean Wilkins, Illinois State Library (retired), Susan K. Nutter, North Carolina State University, Lian Ruan, China Programs and the Illinois Fire Service Institute (IFSI), University of Illinois at Urbana-Champaign, & Sandra Hughes-Hassell, School of Information and Library Science, University of North Carolina at Chapel Hill, United States.

We put the question to five library leaders: Does EBP work in your setting? Each has been directly concerned with practice based decision making through the course of their career, and offers their unique perspective and experience in a lively discussion..



Information access survey at St. Martin's College, England, April 2005: An investigation into the non-use of library

services by current students. Lisa Toner, BA (Hons), Dip Lib, Harold Bridges Library, United Kingdom.

Question: Why do some students at St Martin's College make little or no use of the library services provided by the institution and what are the reasons why these students do not engage with the printed material available to them?

Setting: St Martin's College is a Church of England Higher Education institution located in the North West of England with 11,274 students (6839 FTE). 5918 are on part time courses and of those 181 are on courses taught at a distance. The College is multi-site having three main campuses in Lancaster, Ambleside and Carlisle. Courses are also provided from Barrow, Whitehaven, Newcastle, Tower Hamlets and Woolwich. The portfolio of courses taught at St Martin's centres on Professional Programmes within the areas of Health and Education.

Methodology: The research project was conducted over a three month period between March and May 2005. 2189 Questionnaires were posted to students who qualified as low or non- users according to the library database, TALIS. Low use was defined as students who had borrowed three items or less in a year. This amounted to 21% of total student numbers. As nonusers were deemed to be a difficult target audience to contact, a further 800 questionnaires were distributed to classrooms. The results were collated using the SPSS statistical software package. The project returned a 28% response rate. Over half of those were based at the satellite sites and were, in fact users of those libraries. This data was not initially known as these sites do not use TALIS. Therefore the actual numbers of non users was reduced to just 13.94%.

Summary of the findings: The Carlisle campus has the highest incidence of non-use The Faculty of Health and Social care has

both the highest incidence of non-use overall and the highest incidence of non-use at the Lancaster site but of those over half do use other university or NHS libraries through reciprocal access schemes such as UK Libraries Plus. 78% of the non-users in the College were female 95% were mature students 75% were on part time or distance learning courses 'Distance from the library' was the single biggest factor cited by respondents (68%) for non-use Many students were not aware of some of the services on offer such as postal loans and web services Only a third of non-users made use of electronic resources Fewer than 10% accessed the e-books collection 88% claimed to use the Internet as a source for their assignments 70% of non-users said that they bought their own copies of books and a further 44% borrowed from their friends First year students represent the largest group of nonusers with second year and diploma students the second biggest groups

Conclusion: The main groups of students who don't use traditional library services are those who may feel on the fringes of the College due to their part time or distance mode of learning. Even then, a third of those are making use of library services nearer to their home or place of work. This research has analyzed some inconsistencies in the promotion of library services to groups of users and we will be working to redress the balance to provide a more equitable service to all our customers.



Utilizing citation analysis to assess the coverage of the abstracting & indexing databases available via the Digital Desktop Library for USDA (DigiTop). Matthew Treskon, National Agricultural Library, United States.

Question: How closely do four Abstracting & Indexing (A&I) databases (Scopus, Biosis, CAB, Agricola) cover the perceived need of

researchers at the Agricultural Research Service (ARS), an agency of the United States Department of Agriculture (USDA)? Setting: The National Agricultural Library (NAL) is one of four national libraries. It houses one of the world's largest and most accessible agricultural information collections and serves as the nexus for a national network of state land-grant and USDA field libraries. The motto of the library: advancing access to global information for agriculture. ARS is the USDA's chief scientific research agency. DigiTop, Digital Desktop Library for USDA, delivers quality information resources and is managed by NAL with financial support from multiple USDA agencies, including ARS.

Participants: According to the sampling method detailed below, all USDA ARS research published in 2005 is represented in this study. It is assumed that this represents the intellectual effort and output of the agency as a whole.

Methods: We used the author-based metric of citation analysis to identify ARS researcher need, extracting a representative sample of works cited from ARS publications in 2005. This sample was then checked against the four A&I databases mentioned above (as well as DigiTop's collection of 2,000+ fulltext journals) for availability, utilizing a strict manual checking procedure designed to uniformly and fairly search the four databases. Main findings: We decided that the following means of analyzing the collected data would provide useful insight into the ways the databases covered the needs of USDA ARS researcher need: overall coverage of works cited, overall similarity to the sampled works set, coverage by format, coverage by year, uniqueness of content, and complementary coverage.

Conclusions: According to this study, USDA-ARS researchers can find either the citations/abstracts or the full text to the material needed 90% of the time. Regarding

the specific A&I services, this study found that Biosis and Scopus had significantly higher rates of overall coverage than Agricola or CAB, even though the Agricola and CAB databases were found to be considerably more similar to the demonstrated patron need than Biosis or Scopus. Even though material published before 2000 was still highly cited, analysis by year reveals that a high percentage of works cited were published 2000 to current, with a peak at 2002- 2003. Although Agricola's overall coverage rates were not as exhaustive as Biosis or Scopus, analysis by format revealed that Agricola's coverage rates were the highest for proceedings, chapters, books, and second highest for Other. This study finds that Agricola and Scopus contain more unique content than CAB or Biosis. Likewise, the A&I pair of Agricola and Biosis had the highest level of complementary coverage, followed by Agricola and Scopus. This suggests that Agricola's content complements these commercial services, and that the development of the database should continue to focus on unique content.



Knowledge and skills required to provide virtual reference services (VRS):

Evidence from three studies. Feili Tu, PhD, & Nancy P. Zimmerman, PhD, School of Library and Information Science, University of South Carolina, United States.

Question: What knowledge and skills are required to provide VRS to the public (both adults and youth) and to health-related professionals, and what challenges do library and information science (LIS) educators face in producing graduates qualified to deliver these types of VRS?

Design: Three survey studies were conducted in 2002, 2004, and 2005. Both qualitative and quantitative methods were used to analyze the data.

Settings: 2002 study: 1) academic, public, and secondary school libraries providing VRS; 2) VRS systems (e.g., QandA Café). 2004 study: 1) public and school libraries with VRS available for youth; 2) VRS systems with youth services (e.g., QandA Café). 2005 study: academic biomedical/health sciences libraries, hospital libraries, special bio-health-related libraries, and VRS systems with health-related services (e.g., AskNow). **Participants:** Librarians experienced in providing both e-mail reference services and chat-based VRS. Purposive sampling was used to recruit participants. 2002 study: 18 reference service providers and administrators of reference departments in academic, public, and high school libraries, as well as in VRS systems. 2004 study: 16 reference service providers and administrators of reference departments in public and school libraries, and in VRS systems with youth services, plus several academic librarians providing VRS to youths. 2005 study: 21 information professionals providing VRS in health-related information settings or associated with VRS systems with health-related services. **Intervention(s):** Reference curricula in the Schools of Library and Information Sciences (SLIS) at San José State University and the University of South Carolina (USC) have been revamped. VRS instruction has been integrated into reference courses. A continuing education (CE) course on VRS is in place at the SLIS/USC. Based on the results of the 2005 study, a course on electronic health information retrieval has been created for delivery in spring 2007. **Main Outcome Measure(s):** Four major indicators are: 1) knowledge required, 2) resources used in answering questions, 3) essential skills, and 4) LIS education and training for the provision of VRS. **Main Results:** In the three studies, 98% of the subjects rated knowledge of subject analysis, formulation of search strategies, and problem-solving and of theoretical framework of reference interviews and

transactions most important. Significant skills were information retrieval, online searching, interpersonal communication in online environments, conducting a reference interview, and selecting and accessing electronic information systems. Of these, 98% of the subjects reported that problemsolving and information retrieval skills are most essential. Overall, training for VRS practice is not adequate. 67% of the subjects in 2005 study reported dissatisfaction with their LIS education.

Conclusion: Knowledge of resources in various formats (especially electronic databases) in general and specific subject areas is critical in providing VRS. LIS curricula must be revamped through integration of new technology into reference and management curricula. Further investigation of the following is needed: Should CE courses on VRS be created in various formats? How effective are VRS, e.g., Live Homework Help, for youth? How does Live Homework Help influence library services for youth? How should school media specialists and youth service librarians provide VRS appropriately? Should library instruction programs and/or user education programs be created and provided for VRS users?



Using a prompt sheet to improve the reference interview in a health telephone helpline service. Christine Urquhart, PhD, University of Wales Aberystwyth & Toni Price, National Institute for Health and Clinical Excellence, United Kingdom.

Question: Does a prompt sheet improve the reference interview process for health information advisers working at NHS Direct, a 24 hour telephone helpline in the UK?

Design: A randomised control trial.

Setting: Eight NHS Direct sites across England. NHS Direct provides a confidential health care advice service to the

public, handling 6-7 million calls per year. Around 20% of the calls are routed to health information advisers (80% to nurse advisers). Participants: Newly recruited health information advisers (n=30), full and part-time, were randomly allocated to a control group (n=15) or intervention group (n=15), and 26 completed.

Intervention: Attitudes of the national staff group of health information advisers to four possible improvements to the reference interview were assessed through a questionnaire survey (response rate 88/268, 33%). As a prompt sheet was the second (and inexpensive) choice, a prompt sheet was designed and piloted with six experienced health information advisers. The prompt sheet included prompts for demographic information, reason for call, condition/treatment plan, existing knowledge of caller, special needs of the caller, conclusion, handling a call empathetically. The final version was trialed in three waves over several months, with random allocation of new recruits. Testing of reference interview expertise was done at the end of basic training, and two months later, using the same ten test questions that were based on common questions received by NHS Direct. A framework of possible responses was drawn up for each question (highly relevant, potentially relevant and minimally relevant), and three points were awarded for each highly relevant response, one for each potentially relevant response and a minus one point for each response of minimal relevance. If the response was not already listed it was considered on its merits and categorised accordingly. The total possible score for each of the 10 questions varied.

Main Outcome Measures: Average group score for each question, baseline and after two months, individual scores for each question, baseline and after two months, and the change (improvement).

Main Results: The average score of prompt and non-prompt (control) participants

increased on the second test, for each of the 10 questions. The prompt group improved more than the control group for 8 of the 10 questions, and this increase was due to a larger number of highly relevant items noted. Of the 16 health information advisers who improved their net scores, 10 had the prompt sheet available. 15 health information advisers (9 prompt, 6 control) improved on five or more questions. Tests were conducted to assess whether previous experience as a call handler or site might affect the degree of improvement, or whether full time advisers were more likely to improve than part-time advisers.

Conclusion: The trial appeared to indicate the benefit of a prompt sheet for some, though not all, newly recruited health information advisers to improve their reference interview technique. It was, however, impossible to assess objectively the degree of compliance with the prompt sheet by the intervention group, or possible contamination of control and intervention participants.



Evidence Based Librarianship in the Social Sciences: A New Project of the Social Science Libraries Section of the International Federation of Library Associations (IFLA). Steve Witt, MS, University of Illinois, Center for Global Studies, United States.

The literature on evidence based practice within libraries documents extensively the tradition of this form of inquiry to support professional development and improved services within health science libraries. Much of this work is focused upon the use of scientific and quantitative methodologies. Often absent in the discussion is the use of evidence based practice in social science libraries and the role of qualitative social science research methodologies as a means of evidence based inquiry. To address this,

the IFLA Social Science Libraries Section (SSLS) is researching both the extent of evidence-based practice's use within social science libraries and the ways in which qualitative social science methodologies such as action research and case studies are being used for evidence based inquiry within libraries. Through this two-year project, the SSLS will publish of a white paper that will contain (1) a literature review on evidence-based librarianship as it is defined and practiced within social science libraries; (2) results of a survey of social science librarians within academic and special libraries on the extent of usage of evidence-based practice and methodologies employed; and (3) a series of case studies that demonstrate best-practices. The project will formally begin at the IFLA Conference in Durban, South Africa, where the SSLS program will focus on case studies of evidence based inquiry within social science libraries. In 2008, the SSLS will present research data and further case studies at the IFLA Annual Conference in Quebec, Canada. At this time, the SSLS will also solicit further papers for publication in an IFLA monograph. This paper will present the IFLA project in detail, analyze the current view of evidence based research within qualitative research community, provide a typology of qualitative based methodologies used within the social sciences, and examples of qualitative applications of evidence based inquiry within libraries.

Posters

Library Support of Evidence-Based Practice in Health Policy. Min-Lin Fang, MLIS, The Library and Center for Knowledge Management, & Janet Coffman, MA, MPP, PhD, Institute for Health Policy Studies, University of California, San Francisco, United States.

Objective: This presentation describes the significant contributions of medical librarians supporting evidence-based practice for the California State Legislature. It also discusses the development of guidelines and procedures to work efficiently in a team from multiple University of California (UC) campuses. Additionally, the process and challenges of literature review are detailed.

Setting: The Library and Center for Knowledge Management at University of California, San Francisco (UCSF) is a large academic health sciences library, supporting a campus dedicated only to graduate and professional study in the health sciences.

Methods: The California Health Benefits Review Program (CHBRP) was established in 2002 to respond to requests from the California State Legislature to provide independent analyses of the medical, financial and public health impacts of proposed health insurance benefit mandates. The CHBRP formed teams with an interdisciplinary approach. Each team consists of CHBRP staff from the UC Office of President, clinical faculty, researchers and medical librarians from multiple UC campuses and consultants from an actuarial consulting firm. They have a wide range of expertise, including clinical medicine, health policy, public health, health economics and actuarial analysis. Medical librarians at the UC San Francisco, UC San Diego, UC Davis and UC Irvine Libraries conducted thorough evidence-based literature searches on specific health benefits mandated by the proposed bills. The team members write reports on medical effectiveness and cost and public health impacts of proposed bills based on evidence-based medical literature. Each report summarizes sound scientific evidence relevant to the proposed bill, deferring policy decision-making to the Legislature. The evidence-based report is independent and invaluable to the Legislature in its policy decision making.

Results: The CHBRP program has been very successful despite the challenges of time constraints and the unpredictability of when requests from the Legislature will be received. It has provided an excellent venue for librarians to work with faculty and researchers in multi disciplines from multiple campuses. Not only has it presented a new opportunity for librarians to contribute their expertise to shape the health care policy, but it can serve as a new model for bringing evidence-based practice into health policy decisions for legislatures in other states.

Descriptive research literature review of instruction for business students in academic libraries: Best practices or new directions? Ann Manning Fiegen, MLS, California State University, San Marcos, United States.

Question: What does the professional literature reveal about information literacy instruction for business students? A descriptive literature review of 25 years should reveal evidence toward preferred instructional practices that lead to increased information competencies of business students. This study is a descriptive synthesis of the research literature in business instruction in academic libraries.

Data Sources: Library and business education bibliographic databases were searched for English language publications from 1980 through 2006. Databases searched were EbscoHost Premier, Emerald, ERIC, Library Literature and Information Science, LISA, ProQuest Inform Global, the Web of Science and publication reference lists.

Study Selection: Each index was searched for the terms: library and business and (instruct* or literac* or assess*) and (academic or higher education or college or university). One hundred and eighty articles

form the study population. Criteria for practical and methodological screens are review, research objectives, research design, Carnegie classification, sample population, results and recommendations for further research. Publications about professional development or training librarians are excluded. The poster will also exhibit the social science research methods used for the study and describe how bibliographic citation software was used to extract criteria for the research review.

Data Extraction Method: Each qualified publication undergoes a qualitative review, is coded, and entered into a customized EndNote bibliographic record designed to extract criteria that will address this study's objectives. A subset is identified that contain quantitative data for future meta-analysis.

Main Results: Qualified articles were categorized and analyzed according to research objectives, methods, results and recommendations. Preliminary results of qualified articles indicate research objectives include integration of new technologies, educational pedagogy or professional standards applied to business instruction, and descriptive best practices. The majority of research methods employed is the case study, and results are reported through a wide variety of outcome measures that will be described. Recommendations in the articles generally describe limitations of the study or suggest replication in other settings. Only 24 of the publications contain quantitative data with potential for meta-analysis. Twenty-eight have been discarded by the practical screen.

Conclusion: Does the literature reflect a trend toward preferred instructional practice and increased information literacy? The poster exhibit will synthesize results, inform current practice and stimulate research among business librarians about future emphasis and research for information literacy instruction.



Assessing the need to update prevention guidelines: A comparison of two methods. Gerald Gartlehner, MD, MPH, Suzanne L. West, MD, MPH, Kathleen N. Lohr, PhD, MPhil, MA, Leila Kahwati, MD, MPH, Jana G. Johnson, MD, Russell P. Harris, MD, MPH, Lynn Whitener, MSLS, DrPH, Christiane E. Voisin, MLIS, Sonya Sutton, BSPH, UNC Cecil G. Sheps Center for Health Services Research, United States.

Purpose: The high quality of the literature search and the methodological rigor brought to the analysis of that literature are essential to sound evidence reports and any practice guidelines that might emanate from them. The scientific standards for this part of the development of evidence tables and reports continue to rise. Key elements now include clear "clinical pathways" to point to significant patient care questions for the evidence report, well-crafted inclusion/exclusion criteria for the literature search with due attention to gray literature and unpublished materials, and standardized methods for grading the quality of the evidence. Because of the high costs associated with updating preventive guidelines, we wanted to compare two literature review approaches to determine which of these most reliably assessed the extent of updating required while maximizing cost-effectiveness.

Setting/Subjects: The RTI-UNC Evidence Based Practice Center (EPC) produces systematic reviews and analyses of the scientific evidence on a variety of health care and health policy topics. EPC personnel prepare AHRQ reports and technology assessments as well as reports for public and private health care organizations, design and conduct customized literature searches and quantitative analyses, and research the best practices and methods for conducting reviews of the scientific literature.

Methodology: The main objective of this study was to compare the Shekelle et al.

assessment model (review approach) with a conventional approach using a typical systematic review method (traditional approach) considered to be the gold standard, with respect to comprehensiveness of results and effort expended. Two teams, consisting of two clinicians, one health services researcher and one librarian, each used one of these methods to independently assess the need to update six topics from the 1996 Guide to Clinical Preventive Services from the U.S. Preventive Services Task Force. The review approach was iteratively refined over three phases, using an experiential technique and 2 topics per phase, to achieve greater efficiency. We compared the articles identified by each approach to evaluate their relevance with regard to the critical key questions and determined whether the need to update based on the review approach matched the need to update from the traditional approach. Outcomes included completeness of study identification, importance of missed studies and the effort expended by each team.

Results: Although the modified review approach identified fewer eligible studies than the traditional approach, none of the studies missed was rated as important by task force members acting as liaisons to the project with respect to whether the topic required an update. On average, the modified review approach produced substantially fewer citations to review than the traditional approach. The effort involved and potential time saving depended largely on the scope of the topic but we would conclude that the review approach provides a valid, robust alternative to the traditional approach.

Discussion/Conclusion: The modified review approach provides an efficient and acceptable method for judging whether a guideline requires updating.

Staying ahead of the curve: A continuous and systematic approach to evaluating electronic resources. Karen Stanley Grigg, MLS, & Charlie Spencer Lackey, MLS, MBA, AHIP, Duke University Medical Center Library.

Objectives: How can the Duke University Medical Center Library (DUMCL) create a systematic approach to regular, ongoing evaluation of current e-resources that includes user feedback and expertise across library departmental staff to improve purchasing and implementation of e-resources?

Methods: Our population of interest consists of a collaborative, inter-departmental team of DUMCL librarians, faculty, staff and students. In response to a ever-increasing renewal prices of crucial electronic databases, the Library has developed a systematic approach to reviewing UpToDate and comparable products, and plan to apply this approach to all of our e-resources on a regular basis. This poster session will outline steps involved and the outcome of our review. The steps include evaluating use and feedback of current products, scanning the marketplace for competing products, assembling a team of reviewers, securing the trials, obtaining price quotes, creating review criteria, dividing teams into sub-teams that evaluate each database using the same criteria, reassembling and comparing databases as a larger group, promoting trials and soliciting feedback from users, and creating final report to guide our decisions.

Conclusion: Librarians involved with the review process concluded that this process is useful to justify subscription decisions, even if the decision is made to continue on the current course. Librarians also find that an ongoing, systematic review of databases engenders better knowledge of the marketplace. DUMCL's approach to database evaluation, along with results of our UpToDate evaluation will be included.

Plans to measure effectiveness of evaluation of e-resources using a follow up survey and/or focus groups of library users will be discussed.

Network analysis of campus libraries used by faculty and graduate students. JoAnn Jacoby, MLIS, MA in Anthropology, University of Illinois at Urbana-Champaign, United States.

Purpose: The purpose of this study was to gain insight into how the current departmental library structure is used by faculty in various disciplines, evaluate how this structure might be changed to better serve their needs, and to map the connections between departmental libraries from the users' perspective.

Setting/Participants/Methodology: Using data mined from a large-scale survey distributed to all faculty, academic professionals and staff at a large publicly-funded research university in Spring 2006, this study uses social network and cluster analysis to examine the inter-relatedness of departmental libraries from the users' perspective.

Results/Outcomes: All departmental libraries had strong connections to central, interdisciplinary service points including the Main Stacks and Central Reference. The science libraries form a semi-independent, strongly interconnected cluster, while the social science libraries also form a node with strong connections amongst themselves as well as to science and humanities libraries. The humanities libraries formed a structure similar to that of the social sciences, but area studies were more isolated (though the latter may be an effect of low response rate from this constituency). These findings have been used to inform planning for a proposed scholarly commons and for ongoing decisions regarding the closing and merger of smaller departmental libraries.

Discussion/Conclusion: The network maps and cluster trees reveal connections among disciplines, both expected and unexpected, and provide a data visualization tool that has helped inform library decision-making.

STAT searches: What do they reveal about the use of information by healthcare professionals and library services? Michele Klein-Fedyshin, MSLS, Health Sciences Library System, University of Pittsburgh, UPMC Shadyside, United States.

Objectives: To study the occurrence of "STAT" searches in a hospital-based library to understand the motivation and completion of urgent mediated search requests. In an era of end-user searching, what do mediated STAT requests reveal? When our clients need us emergently, why is it urgent, how do they request and retrieve it, and what resources do we use to respond? How does a hospital library support the use of information and evidence by healthcare professionals?

Method: "STAT" searches were defined as those needed within the day. If necessary, staff worked late to complete them. We reviewed the last two+ years' searches (July 2004 through November 2006) submitted by healthcare professionals. Each form has date submitted and date needed lines. These were used to cull searches requested immediately in a retrospective review. The words "STAT", "now", "today" or just the same date in both boxes defined the period. Routine requests, even if for direct patient care, were excluded. Over 200 searches qualified. Data examined included patron type, purpose, requesting method, delivery method, causation, format of retrieval and databases searched.

Preliminary Results: Almost 10% of search requests of healthcare professionals required immediate turnaround. Two-thirds of these answered patient care problems and one-third were considered educational or

informational. Multiple databases were accessed for information with up to four sources being consulted for individual topics with an average of two databases per question. Ovid Medline was used most frequently, followed by PubMed, with Up to Date, EmBase, MDConsult and Web of Science almost tied for third.

The urgency resulted from a variety of reasons with unusual patient course being the most frequent, surgery/procedural queries causing the second largest set, complications necessitating the third group, drug questions making up the fourth and other therapy questions prompting the 5th set.

Clinicians phoned in most requests and picked up the majority in person. About 60% of the answers included articles plus abstracts and another 31% included articles and text from another source.

Conclusions: Although STAT searches formed a small portion of the professional reference component, they filled an immediate need. The urgency of the need coupled with time constraints may have precipitated these requests. Several distinct causes precipitated the urgent need, and may define when searching is indicated. Answering these queries with articles was possible through the extensive electronic journal, and databases resources of the affiliated Health Sciences Library System. Since document delivery takes an average of 4 days in a hospital library, the importance of the online collection surfaces. Librarians typically accessed several databases to answer the question, which reflected the complexity of these patients, and the time-intensive search required.

The library staff responds annually to hundreds of mediated search requests and thousands of quick reference queries. Yet none may have been more important than these STAT searches.



Supporting evidence-based medicine in an academic health system: A unique partnership between the Center for Evidenced-based Practice and the Biomedical Library. Gretchen Kuntz, MSW, MSLIS, Clinical Liaison Librarian, Biomedical Library, Anne Seymour, Interim Director, Health Sciences Libraries, Craig A. Umscheid MD, Co-Director, Center for Evidence-based Practice, & Kendal Williams MD, Director, Center for Evidence-based Practice, University of Pennsylvania Health System, United States.

Purpose: To describe the development of a partnership between the University Library and the University Health System's Center for Evidence-based Practice (CEP). This partnership supports enhancing health care quality and patient safety within the university health system through the practice of evidence-based medicine, which includes medical students, residents, fellows, librarians, faculty and staff.

Setting/Participants: The Biomedical Library is an academic library in an urban setting. The Center for Evidence-based Practice (CEP) is part of the university affiliated multi-hospital health system.

Brief Description: The Center for Evidence-based Practice (CEP) was created in an academic health system to support patient care quality and safety through the use of evidence-based medicine. When a clinical issue arises that requires an evaluation of a drug, device or process of care, CEP staff will perform a systematic review of the issue alongside the interested physicians to produce a guideline or recommendation for action for the Health System. From the inception of the Center, the CEP directors invited the Biomedical Library to partner with them to achieve this goal.

The clinical liaison librarian is an active collaborator with the CEP directors and staff, engaging in weekly team meetings and project planning, conducting systematic

literature searches, and developing a comprehensive training program for literature searching which encompasses standard EBP skills which is required for all Center staff as well as students, residents and fellows who choose to participate in the Center's Evidence-based Medicine elective program. Additionally, the librarian set-up group accounts for the Center in various databases and bibliographic software so that all participants have access to and can contribute to saved search strategies/results and selected citations for specific projects.

Results/Outcome: The partnership between CEP and the Biomedical Library commenced in August, 2006 but even in that short span has resulted in collaboration on five on-going projects involving 37 searches in multiple databases and the training of 2 residents who opted for the CEP elective

Evaluation: Our partnership is a work in progress and currently evaluation is based upon feedback from all of the participants. One plan is to incorporate into the CEP elective's electronic course evaluation software, a section that will include the library-training portion of the elective. The CEP directors are working on developing broader evaluation methodologies, which will encompass not only the operational functions but also the clinical outcomes resulting from the guidelines.

Libraries using evidence – eblip.net.au : A top view from Down Under. Suzanne Lewis, PhD BA(Hons) Grad Dip Arts (Lib Inf Sci) AALIA Manager, Central Coast Sector Libraries, Northern Sydney Central Coast Health, Australia., Lisa Cotter, School Librarian, Nursing and Midwifery, The University of Newcastle, United Kingdom.

Introduction: EBLIP4 coincides with the ten-year anniversary of the term “evidence-based librarianship”. In 1997 this concept began its ascent from a discussion among likeminded library professionals into the

published literature. It has continued to rise through the profession to occupy a place in the mainstream and afford librarians an enhanced view of the landscape in which they make decisions.

Similarly, Down Under in Sydney, Australia, people have, for 75 years, crossed the Sydney Harbour Bridge the traditional way – along the eight-lane carriageway. Around the same time that Jonathan Eldredge’s Hypothesis article introduced “evidence-based librarianship”, another pioneer was establishing BridgeClimb – an exciting new challenge with a fantastic view from the top, climbing the Sydney Harbour Bridge via the steel arch. Today, EBLIP practitioners are like the BridgeClimbers – ready to seek new perspectives, take a different route and enjoy the journey as well as achieving the destination.

Adventurous BridgeClimbers ascend/cross the steel arch with confidence, supported by a well engineered structure and strong foundations. Libraries Using Evidence – eblip.net.au offers a similarly solid foundation of authoritative resources to support EBLIP practitioners as they seek different perspectives on their professional practice.

Objective: To develop a practical toolkit to contribute to the evidence-based library and information practice (EBLIP) body of knowledge and support application of EBLIP by practitioners worldwide. The toolkit will be developed with an EBLIP approach, and will incorporate Web 2.0/Library 2.0 techniques where appropriate.

Method: A review of the literature was conducted to identify barriers to the application of evidence-based practice, and find any existing toolkits already addressing such obstacles. Lack of time and difficulties locating and identifying EBLIP resources were identified as major barriers. The toolkit site was designed with the aim of gathering together in one place high-quality resources to support EBLIP, thus saving librarians

time otherwise spent searching for resources. An advisory group with international representation was formed to guide development of the toolkit. Once the site was built it was promoted and feedback was invited. The site was further developed and resources added in response to feedback received. Content contributions such as podcasts, reports of current projects and links to related sites were encouraged from librarians worldwide.

Results: Libraries Using Evidence – eblip.net.au was launched in October 2006 and reported in *Evidence Based Library and Information Practice* (1:3, pp.98-100). An international advisory group was established and continues to oversee development of the site. The site includes a toolkit of core EBLIP resources such as appraisal checklists, sources of evidence and guidelines for evaluation, for the first time providing EBLIP practitioners worldwide with a single access point to these essential tools.

Libraries Using Evidence – eblip.net.au is working with Evidence Based Library and Information Practice to help make evidence summaries more accessible. The toolkit indexes all of the journal's evidence summaries by domain of librarianship, and provides an RSS feed for each domain enabling readers to monitor new summaries in a particular area. The journal's homepage provides a link directly to this section of the toolkit.

RSS feeds are also maintained announcing recent articles of interest, and Libraries Using Evidence – eblip.net.au site updates. A number of high-profile EBLIP advocates contributed podcasts introducing sections of the EBLIP Toolkit.

Libraries using Evidence – eblip.net.au continues to support the vision of EBLIP as a global movement by facilitating the exchange of ideas within the EBLIP community. The site encourages participation via links to a blog, Facebook group, and discussion lists. The toolkit is

listed as a useful resource by the recent FOLIO course, EBLIP-Gloss (<http://eblip-gloss.pbwiki.com>).

Conclusion: The site will continue to be developed and promoted, with feedback encouraged. The 4th International Evidence Based Library and Information Practice Conference will provide a venue for promotion and feedback. Further opportunities to include international library community participation using Web 2.0/Library 2.0 techniques and technologies will be investigated.

Where are they now? A study of careers of library and information science graduates.

Joanne Gard Marshall, School of Information and Library Science, & UNC Institute on Aging; Jennifer Craft Morgan, UNC Institute on Aging; Heidi Madden, Duke University Library; Cheryl A. Thompson, UNC Institute on Aging; Susan Rathbun-Grubb, School of Information and Library Science, & UNC Institute on Aging, United States.

Purpose: Workforce Issues in Library and Information Science (WILIS) is a three-year research project designed to study the career patterns of graduates of LIS programs. In general, LIS programs have lacked the time and resources to track their graduates. As a result, stakeholders do not have an adequate understanding of what happens to LIS graduates over the long term. LIS educators, in particular, do not have consistent data on the extent to which their programs meet students' expectations, prepare them for the workplace or meet continuing learning needs. Such an understanding would assist in educating and managing the LIS workforce more effectively. The purpose of the initial phase of the WILIS project is to build an in-depth understanding of educational, workplace, career and retention

issues faced by LIS graduates using the life course perspective from the social sciences.

Setting/Subjects: 8000 graduates (1964-2005) of LIS programs in North Carolina were selected. One of the programs is in a historically Black institution, allowing a focus on minority career and retention issues.

Methodology: In March 2007, a pilot sample of 750 LIS graduates from five LIS programs in the state of North Carolina were asked to complete a web-based survey. The entire sample will receive the survey in August 2007.

Results: This poster presents data providing the rationale for such a study, as well as the multiple methodologies that will be used to determine the career trajectories of LIS graduates.

Discussion/conclusion: This study will compare groups of interest such as older/younger workers, gender, library/non-library employment and stayers/leavers in the LIS field. We anticipate that these findings will inform educators, employers, policy makers and other stakeholders who are concerned with LIS workforce issues.



A place for us: The relevancy of the academic library "as a place."

Jason Martin, MLS, EdD in progress,
University of Central Florida, United States.

Are academic libraries "as a place" still a relevant part of campus life? Academic libraries have faced a plethora of changes over the past 15 years. Online information has become more available, reliable, and sophisticated. College majors have shifted from the book-reliant areas of the Humanities and Social Sciences to the subjects more dependent on journal and online resources such as the Science and Business fields. Due to these changes, less and less students and faculty actually need to enter the physical space of the library to

find information and perform research. Today's college students do however want a place where they can study in groups, snack, and have access to the latest computer technology, which few libraries allow them to do. Added together these factors have created a first for libraries across college campuses; they are seriously facing the threat of becoming irrelevant as a place in the world of academia. In the summer of 2006 I surveyed library directors from small and medium sized academic institutions to gather their opinions on the current and future state of the academic library as a place. I then sent the same survey to library directors of large academic institutions. While their responses indicated that the academic library as a place is still relevant and needed, the results were not as strong as expected. Most of these directors realize that libraries now compete with coffee shops, bookstores, and computer labs on campus for student's attention. Students no longer simply come to the library because it is the library. They will patronize places that meet their demands. Directors are starting to change their libraries to meet the needs of their students. Simple things like adding comfortable seating, relaxing food and drink policies, and adding artwork made the library more appealing to students. More involved library fixes include adding coffee shops, adding more computers, remodeling the library space and even removing books and changing the way libraries perform collection development and their mission as a whole. Academic libraries as a place are still relevant, but changes need to be made if academic libraries want to take a central place in higher education. This poster session will highlight some of these ideas and present results from the surveys that highlight the thinking of current library directors on this topic.

**Using EBL practices in strategic planning:
A case study of methods employed in a**

library planning process. Erik Mitchell, MLIS, Wake Forest University, United States.

This poster will discuss how to use EBL practices in relation to academic library strategic planning processes. A portion of the poster will be devoted to presenting the methods and resources used during a recent environmental scan at the Z. Smith Reynolds Library at Wake Forest University. The remainder of the poster will review applications of EBL and specific resources available for use in strategic planning situations for libraries. The poster will focus on using methods for defining relevant questions, finding evidence through literature review, local research, and external/national research, and deriving themes and trends from the gathered data. The poster will underscore the need for the use of a grounded approach when beginning a planning process.



Testing a new approach to the manual literature search process

in systematic reviews. Laura C. Morgan, BA, Gerald Gartlehner, MD, MPH, Dan Jonas, MD, Curtis Bryant, & Claire de la Varre, MSIS, UNC Cecil G. Sheps Center for Health Services Research, United States.

Purpose: The objective of this project is to determine the accuracy, reliability, and efficiency of utilizing the Scopus database ("Scopus approach") as an alternative to traditional manual literature searches ("traditional approach") for systematic reviews. The main goal is to determine whether Scopus allows more efficient use of resources without compromising the process in terms of bias (i.e., missing studies that should be considered for the systematic review) than the traditional approach. To achieve this goal, we will compare both approaches during a systematic review on the comparative efficacy and safety of

constipation drugs, commissioned by the Drug Effectiveness Review Project.

Setting: The RTI-UNC Evidence Based Practice Center (EPC) produces systematic reviews and analyses of the scientific evidence on a variety of health care and health policy topics. EPC personnel prepare AHRQ reports and technology assessments as well as reports for public and private health care organizations, design and conduct customized literature searches and quantitative analyses, and research the best practices and methods for conducting reviews of the scientific literature.

Methodology: We selected 20 recent and relevant studies, review articles, and editorials as publications appropriate for manual literature searches. We will conduct both methods independently to determine two key outcomes: (1) the time resources required for the traditional method vs. the Scopus method; and (2) the accuracy of the traditional method vs. the Scopus method. During the "traditional approach," two researchers will examine the reference list of each article, identifying any citations relevant to the topic of the systematic review. The database manager will then manually check each identified citation to determine whether it has been included in the project's database through electronic literature searches. During the "Scopus approach," the database manager will take the relevant background articles and download the reference list of each article from the Scopus database. These downloaded files will then be uploaded into a test database for the project to determine immediately which citations have already been included in the project database. Only new citations will be reviewed dually by researchers.

Results and Conclusions: This methods study is currently in progress. If accepted, we will present final results and conclusions in May.

Reference transaction records as evidence of reference librarian's competencies.

Mitsuhiro Oda, Department of Education, Japan, Aoyama Gakuin University, Tokyo, & Norihisa Yoda, The National Diet Library, Kyoto, Japan.

The Collaborative Reference Database Project started in 2002. This project has been hosted by the National Diet Library of Japan, and managed collaboratively by growing number of various libraries of all over the country; 286 public libraries, 110 academic libraries, and 35 special libraries. Its database consists of 4 sub databases;

- "Database on Reference Questions and Answers"(DRQA), which contains the records of reference activities of the member libraries

- "Database on Reference Guides", which contains the information on how to search information sources on specific themes and topics

- "Database on Guides for Special Collections", which gives information about collections on specific themes or on specific kinds of library materials of member libraries

- "Database on Profiles of the Member Libraries", which contains the information on member libraries of the Collaborative Reference Database Project

The authors have analyzed the DRQA which has accumulated over 20,000 data through out the project.. The DRQA contains transaction records of reference services which the participatory libraries were inquired and answered. The DRQA has two distinctive features. At first, as the transaction records are "edited and compiled" by reference librarians after finishing their practice, so they are the evidence of reference librarian's recognition toward the transaction. Secondly, this database is the very network system of both libraries and librarians on the evidence of reference services.

Each record is consisted of 23 elements, and among these, "the answer" and "the process of answer" are much important for the analysis, because these two items contains information about the process of the service. The authors can recognize the professional knowledge and skills through the description on the search process for answer, the selected resources, the query words for information search, and so on. Especially, some well-described records imply the decision making on each step of the librarians, and we extract the adapted competencies of the librarians as professionals.

There have been abundant arguments about competencies of reference librarians; however, most of them are argued only based on experiences. This presentation is intended to objectively define the competencies of reference librarians by using the transaction records of reference services as their evidence. The authors also make an assertion that the research on this assignment has a great potential to be utilized for assessment and evaluation of reference services, design and development of training programs for reference librarians, and so on.

Assessing the future: Developing information technology skills for new staff roles in academic medical libraries.

Carol Perryman, MSLIS, TRLN Doctoral Fellow, University of Chapel Hill School of Information & Library Science, Robert James, Associate Director of Access Services, Charlie Lackey, Assistant Director of Cataloging and Bibliographic Services, & Rick Peterson, Deputy Director, Duke University Medical Center Library, Durham, NC, United States.

Purpose: The primary objective of this study is to assess the information technology (IT) competencies of staff at the medical center

library in order to plan for expanded roles in the future.

Setting/Subjects: The Medical Center Library serves as the primary information resource for the University's Medical Center and Health System. With 40.25 FTE staff and a rapidly shifting demand for collaborative and educational spaces and services, the Medical Center Library is poised for transition to a Knowledge Management Center.

Methodology: First, a literature review was performed in order to determine whether other libraries had performed a similar inventory. Technology activities derived from a review of all job descriptions were conceptually grouped to build a core set of competencies and an expanded, comprehensive listing for use as a survey. After pilot testing with one department, the survey was then refined and administered to all staff. Finally, the results were assessed and used to support training programs intended to address deficits between present and future needs.

Results: The IT assessment and survey instruments work well to quantify present-day IT skills and skill deficits. Results of the survey aid in planning for future training, and enable more accurate position descriptions.

Discussion/conclusion: An awareness of staff IT knowledge and practice is crucial to planning for the future of this and other medical libraries. In addition to addressing position description discrepancies, focused IT training supports the career development needs of all staff. Ultimately, we feel that having a more accurate idea of staff IT skills will serve to strengthen the ability of library staff to collaborate with medical center stakeholders in building and providing support for the new Knowledge Management Center.

Evidence-based practice: A revolution in library project management. Carol

Perryman, MSLIS, TRLN Doctoral Fellow, University of Chapel Hill School of Information & Library Science, United States, & Patricia L. Thibodeau, Associate Dean for Library Services and Archives, Medical Center Library, Duke University, Durham, NC Durham, NC, United States.

Objective: Health sciences libraries face increasingly complex issues and projects, but planning templates derived from the business world have not always been successfully integrated in library settings. Evidence-based library practices enable libraries to take a fresh look at the planning process. Our objective was to devise a scaleable project planning template which encourages the use of evidence-based methods.

Methods: Existing project management tools from two health sciences libraries and archives were reviewed, followed by a survey of the library and general business project management literature. This process helped to identify a set of 'common denominator' processes used in project planning, which became the baseline coding set for documentary analysis of two prior and one current library projects. Information needs expressed in task force minutes, emails, and other documentation created during the planning phase were identified, along with the sources consulted in finding answers. Findings were verified by means of retrospective, open-ended interviews with planning task force members, and by participant observation in the current project. A particular focus was the use and evaluation of decision support resources and methods by task force participants. This research forms the basis for the formation of a new template for project management.

Results and Conclusions: Results of library project analysis revealed that while staff are actively engaged in creative and purposeful research, the current project planning structure led to the following problems: use of external information including published

literature was equally limited; project documentation did not encourage follow-up evaluation or dissemination; and reconstruction of projects was difficult due to insufficient documentation and human memory instability. A staff planning retreat underscored the need for a formal planning structure including teamwork guidelines and a project template.

A new project template has been implemented which includes key elements of evidence-based practice along with core components of traditional planning. Elements include searching for evidence to answer important questions; evaluation of existing documentation for relevance and usefulness using an included checklist; and dissemination and benchmarking planning built into the process. The template will be further tested with work groups in practice.



Is “Igaku Toshokan” providing the evidence to help medical librarians with decision-making? Yukiko Sakai, MSIS, Keio University, & Yasuhiko Kiyama, Juntendo University Library, Japan.

Objective: Although evidence-based library and information practice is still new in Japan, since the late 1990s medical librarians have been expected to take a leading role in evidence-based medicine. They are encouraged to become research-oriented as a way to support scientific research for health professionals, as well as do research for their own practice.

“Igaku Toshokan”, an official journal of the Japan Medical Library Association, is one of the most popular LIS journals among Japanese medical librarians. Contributors to the journal are mainly medical librarians. We conducted a study to answer the question, “Is Igaku Toshokan now providing the evidence to help medical librarians with decision-making?” by reviewing the research-based articles, the

study types and the domains of the articles in the journal.

Method: We collected articles from the journal that were published between 2000 and 2006, and excluded peripheral items such as editorials, book reviews and news items. 598 articles were examined as to whether or not it was research-based following Peritz’s definition. The study type and domains were further identified using content analysis methodology. The study type was borrowed from Williams’s study on the top five LIS journals in 2003. The domains were decided based on the categories suggested in “Platform for Change”, the educational statement published by the U.S. Medical Library Association in 1992.

Main findings: 132 articles, for an average of 18 articles per year (22%), were identified as research-based articles. The proportion was similar to an earlier study on a Canadian professional journal, while it was lower than previous studies on purposefully selected LIS journals. However, since 2004 the number of research articles has remained high -- over 23 per year -- and the overall proportion marked a record high at 30% in 2006.

Case studies were the most frequently used method (56%), followed by reviews (22%), bibliometrics (11%), surveys (5%) and others. The tendency toward descriptive studies -- including case studies -- was also showed, while Survey was more heavily used in the other studies on selected LIS journals. The major domains covered in the research articles are: Information services (43%), Resources (16%), Instructional support services (14%) and Resource management (14%). Articles that dealt with Management issues were very few (1%). Case studies were heavily applied in most domains except for domains related to resources in which Bibliometrics (48%) and Review (29%) were frequently applied.

Conclusion: “Igaku toshokan” has published a number of research articles in

recent years, yet has been criticized by librarians for failing to provide enough evidence for medical librarians' decision making through a research methodology stronger than case studies. The majority of case studies among service domains may reflect the need for practical lessons from colleagues; reviews from foreign language materials are always welcomed in Japan. However, in order to implement stronger evidence-based library and information practices, our conclusion is that the journal should further evolve by inviting more medical librarians as authors, and encourage them to use stronger, established scientific research methods over more social-science based methods.

Computing assistants pilot program evaluation. Laura Sheble, MLIS, Doctoral Student, University of North Carolina, Chapel Hill School of Information and Library Science, & Thomas B. Wall, PhD, Associate University Librarian, Director of Public Services, Duke University Libraries, United States.

Context: In the Information Commons service model, academic libraries are providing augmented services to more fully support a broader spectrum of the learning and intellectual and creative work life cycles. A vital component of this augmented service model is the provision of computing support services.

Objective: To measure use of computing support services provided by student Office of Information Technology staff during evening operating hours over an eleven week pilot program period to guide the development of enduring computing support service programs.

Methods: Case study: Service transaction logs, reflective diary entries, and a pilot-program end focus group were used to collect data on multiple levels. Auxiliary data collected through a student library user

focus group and extant library data collection programs provide further contextual information. Data collected through the logs and diaries were reviewed on a weekly basis and, along with focus group data, were subject to summative quantitative and qualitative analysis. Pilot program services were available to all onsite users of an ARL library within defined program days and hours.

Results: Computing assistants recorded a total of 399 service transaction log entries over the 11 week period. Of the recorded questions, 79% were resolved directly by the CAs, including 86% of 214 computing-related questions. In descending order, printing, software applications, general hardware, networking, file transfer, and scanning were the most common question topics. In addition to computing questions, those related to directional help, reference and general library services were common. Computing Assistants documented needs for (1) toolkits that include diagnostic tools and utilities and portable storage devices and (2) advanced access to information about the evolving computing environment in the Libraries and across the University, and (3) improvements needed in the library computing environment, all in the context of specific service events.

Discussion: Weekly review of service transaction logs and reflective diary entries provided insight into the ongoing development of computing support services within the libraries and has provided data to support the further development of computing support services. Data collected through the logs and diaries both supported pre-program assumptions and brought unanticipated needs to our attention. For example, while we expected patrons would request help with printing, software applications and networking, we did not anticipate that there would be a great need for help with file transfer. The combination of methods used for data collection resulted in a dataset rich in detail, contextual

information, and quantified measures we used to modify the pilot program on an ongoing basis as well evaluate the overall program through component analysis. Findings of the pilot program have informed the continuing development of computing support services provided collaboratively by the Office of Information Technology and the Library System.

Research tasks required of freshmen: An evidence-based approach to curriculum-integrated instruction. Amy VanScoy, MLIS, School of Information & Library Science, University of North Carolina Chapel Hill & Megan Oakleaf, PhD, School of Information Studies, Syracuse University, United States.

Question: To identify the research tasks first-semester students are required to perform in order to determine the efficacy of existing Curriculum-integrated instruction (CII) programs. [Curriculum-integrated instruction (CII) is a programmatic approach that advocates integration of library instruction into the entire curriculum rather than individual courses. It is also characterized by a tiered approach, beginning with basic skills and progressing to more advanced skills later in a student's career.]

Setting: A large research university in the southeast.

Method: A random sample of 350 first-semester students was obtained for the study. A syllabus study was conducted for each course in which a student from the sample was enrolled, and research assignments were analyzed to determine what types of research tasks students were required to perform. Analysis was conducted to determine the number of students in the sample required to do library research and what types of research students were required to do. The sample was also analyzed by college in which students were enrolled.

Main results: Contrary to findings from the literature, all students in the sample were required to do some library research. Most students were required to find websites, articles and books, tasks that published CII programs do not completely address. When students were divided into groups according to the college in which they were enrolled, there were some differences in the tasks they were required to perform.

Conclusion: Curriculum-integrated instruction programs need to cover finding websites, articles and books to meet the research needs of the first-semester students studied. For students in some colleges, additional research tasks should be included in departmental CII plans. Published CII programs would not meet the needs of students at this university. Evidence about the research needs of students should be collected as a basis for developing CII programs in the future.

The open access revolution: Patterns in faculty free full-text publications. K.T.L. Vaughan, MSLS, Librarian for Bioinformatics and Pharmacy, Carol G. Jenkins, MLS, Library Director, UNC Chapel Hill, Virginia R.M. Carden, MSLS, Administrative Research Librarian, Medical Center Library, Patricia L. Thibodeau, MLS,MBA, Associate Dean for Library Services and Archives, Medical Center Library, Duke University Medical Center, & Stefanie E. Warlick, MSLS, Liaison and Outreach Services Librarian, Health Sciences and Human Services Library, University of Maryland Baltimore, United States.

Objectives: Two academic health sciences libraries are studying the publishing patterns of their institutions' authors in relation to free full-text journals, both true open access and those with embargo periods. The study addresses how many Open Access (OA) articles were published, in which journals and disciplines, and

examines other similarities and differences between the two institutions, one public and one private. It updates a preliminary study done in 2005, by extending the timeframe and coverage to include articles whose embargo period has been lifted.

Methods: Duke University Medical Center Library and the Health Sciences Library, UNC-Chapel Hill, collaborated to identify publications by their institutions' authors. Using standardized search strategies in PubMed, articles published in OA journals were identified. Due to changing embargo periods and increased awareness, further evaluation of the data was done to identify additional patterns in OA publishing among biomedical faculty.

Main Findings: Preliminary analyses indicated that while publication rates between the two institutions were similar, only five of the top ten journals were common to the two schools. The majority of the publications were in medicine, but with more basic science departments choosing OA journals. This follow-up study covers an additional six months of publishing activity at the institutions. Analysis will compare which journals and disciplines are represented, and numbers of articles "born free" versus "set free", to determine if the extended time period reveals different trends.

Information Economics and Scholarly Communication as Instructional Strategies for Information Literacy. Scott Warren, MA LIS, Assistant Head, Textiles Library and Engineering Services, North Carolina State University Libraries, & Kim Duckett, Principal Librarian for Digital Technologies and Learning, North Carolina State University Libraries, United States.

Over the past four years, librarians at NCSU and UCLA have experimented with incorporating topics such as the Deep Web, the nature of scholarly communication, and

the inflated costs of academic journal subscriptions into information literacy instruction. Our goal is to provide students with a broader context for understanding how scholarly information functions in society, how information is structured on the Web, and what information can or cannot be accessed via Google versus subscription-based resources provided by the library. This contextualization of academic resources is presented in tandem with hands-on instruction on how to access and search such resources effectively. As opposed to much information literacy instruction, however, less time is spent on the "mechanics" of searching and more time is spent on the social and economic contexts surrounding information and access to it. This shift in attention away from simply searching towards contextualization of how information works in society falls squarely into a paradigm shift for librarians towards teaching the critical thinking skills that contemporary students need. These critical thinking skills affect not only their mechanical ability to navigate the vast realm of free and restricted Internet information resources, but also to understand how economics shapes availability of and access to information— issues that affect all people as educated participants in an information society. In addition to demonstrating techniques for incorporating the economics of information into information literacy instruction, we will describe assessment data explores (1) the interest and usefulness of this contextual information for students and (2) the appropriate combination of contextual content and time spent teaching the mechanics of searching during information literacy instruction sessions. At both NCSU and UCLA this assessment data has included end-of-workshop assessments completed by students. This assessment has focused on what they learned that was "new" and "useful" as a way to assess how much interest and impact the economic information held for students compared to

simply teaching them how to search databases and e-journals. Additionally, at NCSU librarians are currently collecting new assessment data on how such instruction might affect students' mental models of how scholarly information is made available and accessed on the Web. Collectively, this assessment data has enabled us to make adjustments to our individual instructional effects focused on the academic level of our audiences and has provides insight into how students think about how information works on the Web.

Patient 101: Taking charge of your healthcare by using evidence based information. Susan E. Werner, MLS, Health Sciences Library, Stony Brook University, & Colleen Kenefick, MLS, Health Sciences Library, Stony Brook University, United States.

Program Objective: This poster examines the integration of internet consumer health information literacy instruction into a medical school's Mini-Medical School program by using evidence based information.

Setting: The health sciences library for the academic medical center on Long Island, New York is the setting for this innovative outreach program. Informatics librarians present "Patient 101: Taking Charge of Your Healthcare by Using Evidence Based Information" as a two-hour computer training session. The informatics librarians provide all curriculum materials for instruction to foster best practices for searching and evaluating Internet health information.

Participants: Informatics librarians provide instruction and library staff serve as facilitators and technical support. Since these are hands-on sessions, almost all public service and information systems staff are involved in this outreach program. Mini-

Medical School registration is open to the general community and includes all computer skill levels and ages from adolescents to seniors.

Program: For the past seven years, community residents have registered to participate in an eight week program sponsored by the School of Medicine. Mini-Medical School mirrors in miniature the pre-clinical curriculum of "real" medical school. Lectures are provided by the same faculty who teach matriculated medical students. Mini-Medical School covers a wide range of medical and health topics exploring diverse healthcare and related issues. Recent sessions include the health literacy crisis, how to get the most out of your doctor's visit, and dispelling myths about your body. Since the program's inception in 2000, librarians have taught over 1,000 community members specific methods to improve their consumer health information literacy skills by using evidence based information. Librarians utilize a variety of active learning techniques to teach participants the best evidence based sources to answer their questions about diagnosis, etiology, prognosis and therapy.

Main Results: Targeted pre-session skills surveys divide participants into beginner, intermediate, and advanced computer skill level sections. A post-session test is used along with a program evaluation form. Evaluation forms conclude that 94% of the attendees agreed that presented information was useful to them and that the librarian instructor was extremely effective.

Conclusion: This program offers the opportunity to engage public interest in medical science while promoting health awareness and enhancing health information literacy. It enables the librarians to showcase the resources of their library, forge closer ties with the community and raise public awareness about healthcare literacy by using evidence based information and practices.