HYPOTHESIS
THE NEWSLETTER OF THE RESEARCH SECTION OF MLA

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HYPOTHESIS:
The Newsletter of the Research Section of MLA
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L/ISTEN UP!

Hypothesis is pleased to announce the debut of a new column, L/ISTEN UP. This column will highlight research conducted by health sciences librarians currently in L/IS programs or recent graduates.

Welcome Ellen Detlefsen as the column editor!

First International Evidence-Based Librarianship (EBL) Conference

— submitted by Jon Eldredge, MLS, PhD

Evidence-Based Librarianship (EBL) seeks to improve library practice by utilizing the best available evidence in conjunction with a pragmatic perspective developed from working experiences in librarianship. The best available evidence might be produced from quantitative or qualitative research designs, although EBL encourages more rigorous forms over less rigorous forms of evidence when making decisions.

The first ever EBL Conference on September 3-4, 2001 in Sheffield, UK brought together librarians with a serious interest in library research from the UK, US, Europe, and Canada. The EBL Conference consisted of presentations, poster sessions, seminars and workshops on topics encompassing many aspects of EBL.

The keynote address, delivered by the author, outlined the possible future directions of EBL followed by five anticipated challenges. Andrew Booth, one of several prime movers for EBL in the UK, spoke next of the Health Libraries Group's efforts to make EBL a reality for health sciences librarians in the UK. He emphasized the need for international cooperation to augment national EBL efforts. Anne Brice of Oxford next described the Critical Skills Training In Appraisal for Librarians (CRISTAL) project.

Following tea, conference participants elected to attend one of two parallel sessions on either systematic reviews or research methods. The author found the systematic reviews session to be full of fascinating information about using systematic reviews to answer concrete, practical questions in the face of incomplete or even contradictory research reports in the library literature. The first presentation addressed the evidence evaluating the efficacy of clinical librarians, certainly a topic of great interest to health sciences librarians in the US. Presenters Alison Winning and Catherine Beverley reported that the current research offers insufficient evidence to assess clinical librarianship adequately.

The second presentation focused upon another pivotal topic for health sciences librarians: does the training of search skills to clinicians succeed? Presenter Alison Brettle noted that while participants valued training, limited evidence showed few objective methods used to evaluate this training. No one method for teaching search skills was shown to be superior. The third presentation by PhD candidate Fiona Duggan consisted of an interim report on a qualitative research project on characterizing a dissemination of information following a health incident.

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HYPOTHESIS. The Newsletter of the Research Section of MLA
http://gain.mercer.edu/mla/research/hypothesis.html

HYPOTHESIS (ISSN 1093-5665) is the official newsletter of the Research Section of MLA. It is published three times a year by the Section: Spring (March), Summer (July/August), and Fall (November). It is also available at: http://gain.mercer.edu/mla/research/hypothesis .html

Items to be included should be sent to the Editor by the 15th of the preceding month (i.e., February 15th for Spring, June 15th for Summer, October 15th for Fall). Copy is preferred by e-mail, but will be accepted in other formats. *HYPOTHESIS* is selectively indexed in the *Cumulative Index to Nursing and Allied Health Literature* and the *CINAHL* database.

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The other parallel session featured three presentations on research methods. The first presentation by Michelle Kirkwood featured a Delphi study utilized to determine nursing research priorities and the corresponding evidence base. The second presentation by Julie Glanville, Carol Lefebvre, Victoria White, and Trevor Sheldon explored whether the use of statistical methods based upon word frequency analysis might produce more objective evidence-based search strategies to identify systematic reviews in MEDLINE.

The third presentation focused upon collaboration between the Library and Information Statistics Unit based at Loughborough and the National Health Service [NHS] Librarians in statistical mapping to produce appropriate quantitative data for management. The first day concluded with a conference dinner.

The second day began with an examination of how methods used in public librarianship might help expand the definition of evidence within a health context. Nigel Ford, a Reader in Information Studies at the University of Sheffield then offered a theoretical review of how technology might aid evidence-based decision making.

Ellen Crumley, on behalf of her co-author Denise Koufogiannakis, presented a description of how EBL has been evolving in Canada. Ellen is the Editor of *Bibliotheca Medica Canadiana*. Both authors work at the University of Alberta in Edmonton, Canada. Of greatest interest to *Hypothesis* readers might be their classification of the six domains of EBL: Reference/Enquiries, Education, Collections, Management, Information Access & Retrieval, and Marketing/Promotion.

A former librarian who has risen to a senior executive position in the NHS, Margaret Haines, gave an inspirational speech on how EBL will transform librarianship as profoundly as EBM has transformed medicine. Haines' speech, while inspirational, was based upon a pragmatic perspective. She emphasized the need for librarians to seize this historic opportunity to make EBL "permanent and deep" within our profession. Conference attendees then broke to view poster sessions and to eat lunch. One poster on the appropriate uses of case studies within EBL caught the author's interest.

The afternoon of the second day featured four parallel workshops. These four workshops included: getting started in research, the use of cohort studies in librarianship, interpreting user studies, and understanding user needs.

Late in the afternoon attendees were treated to a humorous departure from an otherwise serious conference on library research. Andrew Booth, Director of Information at the School of Health and Related Research (ScHARR) at the University of Sheffield engaged Veronica Fraser of the NHS in a hilarious mock debate on the viability of EBL. The debate, while humorous, did underscore the importance of EBL in the 21st Century. A brief concluding ceremony ended the first EBL Conference.

The EBL Conference was held in North Central England in the UK at the University of Sheffield's Halifax Hall, a 19th Century estate converted and greatly expanded into a modern conference center. The LINC Health Panel of the Research and Horizon Scanning Task Group in conjunction with the School of Health and Related Research (ScHARR) at the University of Sheffield sponsored the first EBL Conference.

US health sciences librarians were conspicuously absent from the EBL Conference since this event coincided with their busiest time of year. The author regrets this absence because US librarians have been such active practitioners and contributors to EBL. Participants and conference planners loosely discussed holding the next EBL Conference during springtime to enable more US librarians to attend. Planners have yet to determine whether the University of Alberta, Oxford University, or some other venue will be the future location.

The following expanded structured abstracts summarize key papers or posters from the EBL Conference to offer *Hypothesis* readers a sense of this experience. Each structured abstract includes email and postal addresses for the authors to aid inquiries and possible collaboration.

Clinical Librarianship – A Systematic Review

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Aims
To determine whether a CL service has:
1. An effect on patient care
2. An impact on clinicians' use of the literature in practice

Background
Clinical librarianship (CL) which is currently undergoing a revival in the UK[1, 2] is defined within here as 'the provision of quality-filtered case-specific information directly to health professionals in acute settings to support clinical

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Chapter Research Committees Report

— submitted by Martha Earl with Thanks to Molly Harris and Shirley Campbell

Tri-Chapter Meeting of the MLA
New Orleans - October 24-28, 2001

The Tri-Chapter Meeting of the Medical Library Association in New Orleans, October 24-28, 2001, produced a wide variety of research papers and posters. The three chapters including South Central, Mid-Continental, and Southern, produced 56 posters and 45 contributed papers. At the final General Session of the meeting, the South Central Chapter Research Committee awarded certificates for the three best papers and three best posters with two honorable mentions for the posters.

To judge the papers and posters, the SCC Research Committee, along with representatives from Mid-Continental and Southern Chapter, used forms developed by SCC for their annual chapter research contest. These are the criteria used for judging: design (uniqueness, creativity, originality, relevance, appropriate for testing); reliability (can be replicated? generalized?); presentation (organized, useful graphs, etc., all elements clearly outlined); validity (does the methodology answer the questions? thorough and systematic? selection bias? statistical strength).

SCC has been judging papers and posters for about five years. They look for quality of research and presentation aspects, and feel that the quality of research has improved since they started the contest. Previous winners can be found on the SCC web site. Besides the contest, the SCC Research Committee offers mentors, writes articles for the SCC newsletter, and recommends research oriented CE courses for their annual conference and additional workshops.

The current members of the SCC Research Committee include Molly Harris, Chair; Ana Cleveland; Jon Eldridge; Danny Jones; Felicia Little; Shelley McKibbon; and Miriam Muallem. Shirley Campbell, the outgoing chair, coordinated the 2001 contest. The winners are as follows:

PAPERS:

1st Place: Impact Caveats: the Growing Controversy Surrounding Journal Impact Factors. Gregory Pratt, Ronald Hutchins, and Karen Kier, The University of Texas M. D. Anderson Cancer Center, Houston, TX.

Resources: MEDLINE and Science Citation Index databases. Current biomedical literature.

Methods: The MEDLINE and Science Citation Index databases were searched to identify current literature discussing the use of journal impact factors. Articles were obtained and references in these articles reviewed to identify additional relevant literature.

Brief Description: Developed as a selection tool to aid in creating the Science Citation Index, journal impact factors have existed for 40 years. Especially during the most recent 5 years, they have become increasingly criticized, both as a means of assessing the quality of research reported in scientific journals and because of the growing variety of ways impact factors are being used other than originally intended. Literature searches using MEDLINE, the Science Citation Index, and manual methods identified over 20 articles, editorials, commentaries, and letters to the editor discussing use and misuse of impact factors. These were reviewed and major ideas synthesized.

Results/Conclusions: A review of current biomedical literature on journal impact factors demonstrates they are being questioned as indicators of quality in scientific research and used for disparate purposes, such as assessing candidates for tenure and allocating resources to research groups. Logical and valid criticisms to these uses are being reported. With a more thorough understanding of the controversies surrounding journal impact factors, librarians in the health sciences can better advise and counsel their users.

2nd Place: Effect of Metasite Selection on the Quality of World Wide Web Information: A Collection Development Approach to the Evaluation of Web-based Consumer Health Information. Linda Hogan, Pittsburgh Mercy Health System and School of Library & Information Science, University of Pittsburgh, Pittsburgh, PA

Purpose: Determine if there is a relationship between type of search engine and the quality of Web-based information retrieved on a consumer health topic, using hypercholesterolemia as an example. Compare certain types of metasites as selection aids for consumer health information.

Setting/subjects: Two general search engines, Lycos (relevance ranked) and Yahoo (hierarchical classification), and two health portals, HealthAtoZ (relevance ranked) and Healthfinder (hierarchical classification)

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were used to generate a collection of Web sites (512) on the topic of cholesterol.

Methodology: Prospective, causal-comparative. A multimodal approach was used to measure the quality of this information.

Research Questions:

1. How accurate is Web-based information? (Experts evaluated the content collected for this study using a scoring instrument based on the National Cholesterol Education Program guidelines)
2. How comprehensive is this information on the topic of hypercholesterolemia? (MeSH was used to index the Web sites and compare their relative subject coverage)
3. What is the reading level of this information? (Flesch Reading Ease and Flesch-Kincaid Grade Level were used)
4. What languages are available to the reader?
5. Is there a significant difference in the quality of information (accuracy, subject coverage, reading level, and language availability) retrieved by the four different types of metasites?

Significance/Conclusion: In addition to answering the five specific research questions above, this study also addresses some of the most pressing questions raised in the health sciences library community. Can the Web replace traditional library holdings in answering consumer health questions? What collection development standards should be used to guide choices of appropriate Web sites for laypersons? This study also extends existing knowledge about the assignment of controlled vocabulary terms (MeSH) to Web content.

3rd Place: Remote Access to Electronic Resources: Impact on Use of the Physical Library and Barriers to Change Martha Earl, Preston Medical Library, University of Tennessee Medical Center, Knoxville, TN.

Purpose: To investigate how remote access to electronic resources impacts use of the traditional library and what barriers exist for remote users in effective utilization of electronic resources; suggest service enhancements to improve use of both physical and electronic resources.

Setting/subjects: Teaching hospital in urban Tennessee with 3000 staff members.

Methodology: Needs assessment survey in electronic formats.

Results: Respondents using MDConsult and other electronic resources increased their use and awareness of the physical library and its services for patient care, research, current awareness, and continuing education. Barriers encountered included difficulty logging onto the network, failure to understand computer guides, lack of time, inability to locate the resource on the web site, lack of knowledge concerning how to search the electronic resources, lack of familiarity with the online titles and resources available, diversity of search capabilities and interface characteristics, and lack of knowledge regarding library services. The majority of respondents accessed the resources from home.

Discussion/conclusion: Remote users of electronic resources desire more support and training from librarians in the use of these tools. By providing more targeted support, librarians increase use of all knowledge-based information tools among health professionals.

POSTERS:

1st place: Interactive HIV Prevention Education for Adolescents: A Meta-Analysis and Evaluation Study. Mary Snyder, School of Library and Information Studies, College of Professional Education, Texas Woman's University, Denton, TX.

Health educators maintain that consistent, explicit, multisensory messages are imperative for effective communication for behavior change. Experts also recommend rigorous evaluation of resources as an essential part of successful educational interventions. This poster presents results from a meta-analysis of interactive HIV prevention programs designed for use with adolescents in clinical and educational settings. Results of randomized and non-randomized controlled educational interventions published in the professional literature during 1995-2000 are analyzed to measure differences in outcomes for media-based HIV prevention programs. Using meta-analysis to synthesize study outcomes, this project evaluates interventions for safety, quality, utility, and reliability by measuring and comparing the effects of traditional and electronic approaches. Studies not meeting criteria for meta-analysis will be assessed using the evaluation template developed by the Science Panel for Interactive Health Communication (1999). Findings will be compared to a previous meta-analysis of interventions tested from 1985-1994 in order to analyze differences in outcomes resulting from increased use of web-based education. The results of the study have implications for the identification, selection, evaluation, and dissemination of multimedia health programs targeting at-risk groups as well as for the development of evidence-based practice in health sciences librarianship.

2nd place: Analysis of Journal Usage-Electronic and Print. Timothy C. Judkins, Jeffrey Perkins, and Carmen White, UT Southwestern Medical Center Library, Dallas, TX.

3rd place: Impact of Articles Reporting Research on the Value of Medical Library Services to Clinical

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Credentialing Committee Increases AHIP Points for Research Activities

— submitted by Ann C. Weller, AHIP, Credentialing Committee

In early 2000, the Research Section of MLA appointed a task force to review the Academy of Health Information Professionals (AHIP) point structure to ensure that it provided appropriate recognition for research and publishing activities. Task force members Ann Weller, convener, Jonathan Eldredge, Carole Gilbert, Carolyn Lipscomb, and Ellen Marks, reviewed the AHIP point structure for research-related points and recommended the following for peer-reviewed publications:

- The number of points for an article by three or fewer authors be increased from 15 to 25 points
- The number of points for an article by four or more authors be increased from 15 to 25 points
- The number of points for a brief article by three or fewer authors be increased from 5 to 10 points
- The number of points for a brief article by four or more authors be increased from 3 to 6 points
- The number of points for a book or media review be increased from 2 to 3 points

The task force recommended that no changes be made to the number of points awarded for publications in non-peer reviewed journals. Some wording changes, consistent with those for peer-reviewed publications, were recommended to make it clear that AHIP points are given for publications, whether or not they are technically "research" articles.

These recommendations were approved by the Research Section and forwarded to the Credentialing Committee. At the 2001 MLA annual meeting in Orlando, FL, the Credentialing Committee discussed the recommendations and voted to approve the new point structure.

The task force has a number of additional suggestions that will be discussed by the Research Section, including giving AHIP points for research awards and research grant recipients. If MLA considers an AHIP level above Distinguished, the task force recommended that some publication or research activity be required. This would be similar to the current requirement of MLA service for attaining a Distinguished level in AHIP.

This article originally appeared in the Nov/Dec 2001 issue of MLA News.

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Care. Pamela J. Sherwill-Navarro, Health Sciences Center Library, University of Florida, Gainesville, FL. and Addajane L. Wallace, Medical Library, Halifax Medical Center, Daytona Beach, FL.

Objective(s): This study evaluates the impact of specific articles reporting research providing evidence of the value of health sciences library services (including Medline) as an element of quality health care. This information will provide insight into the value and influence of medical librarianship research both within and outside the field.

Data Sources/Selection: Search retrieval from a Medline search performed May, 2001 using simple MESH terms for the utilization of library services and the quality of healthcare, decision making, treatment outcome or hospital costs was used to select articles. Articles selected reported research, were related to clinical care and had been published for at least 5 years.

Data Extraction: A list of articles citing each of the selected articles was generated using the *ISI Web of Science*® (Institute for Scientific Information) and results transferred to ProCite databases for analysis.

Results: research in progress; derived by context and content analysis, the results will show the types and publication patterns of articles that cited the selected research articles as well as the way the information was used by the authors. Initial results show that the selected articles evidence a high impact factor. All are cited at a greater frequency than either the average library science article published the same year or the average article published in the same journal that year.

Conclusions: research in progress; conclusions will include ways medical librarianship research is used by other authors, both within and outside the field; and compare the impact of research published in journals directed to various audiences.

Honorable Mention:

Hits or Misses: Tracking Web-Based Instructional Material. Justin Robertson and Sarah Murray, University of South Alabama, Biomedical Library, Mobile, AL.

Model Methodology: Librarians' Toolbox for Core Journal Selection. Carolyn K. Bridgewater, Pauline O. Fulda, Kathryn E. Kerdolff, and Hanna K. Kwasik, Louisiana State University Health Sciences Center Library, New Orleans, LA.; Julie H. Schiavo, Louisiana State University Health Sciences Center Dental Library, New Orleans, LA.

L/ISTEN UP: Research News from the Groves of Academe

— submitted by Ellen Detlefsen, DLS

This column in *Hypothesis* debuts with a request for you, the members of the Research Section of MLA, to step forward and share research initiatives which emanate from the formal programs of L/IS education and training for health sciences librarianship. The editor and the columnist want this to be a working column with several ongoing missions:

[1] to maintain a registry of student research projects (master's theses, independent study projects, doctoral dissertations) which focus on topics in medical/health sciences information. Why? So that we do not reinvent the wheel, and so that we can tap into this literature which is elusive and often un-indexed… For example, a formal listing of doctoral dissertations in health sciences information topics was apparently last published in 1993; it was a ten-year compilation, for 1983-1993, of works in progress and completed dissertations (1). Eight years of information are needed just to update this list! The list of master's theses from the University of North Carolina at Chapel Hill appears on that School's website (2) and is indexed in *Library Literature* . There are other projects that are discovered only serendipitously. Once compiled, the *Hypothesis* registry of research projects would be available for queries, and could be updated via this column.

[2] to showcase reports from research meetings where L/IS faculty, adjunct faculty, and students are presenting health sciences information projects. Two conferences that come to mind are the annual *Connections* conference for doctoral students, and the ongoing session at national MLA meetings in which the Medical Library Education Section features contributed papers by students and recent graduates. Reports from those in attendance at these and other sessions are welcome for this column.

[3] to share websites and other resources that are useful for teaching or consulting about research methods, particularly those that come from the worlds of health sciences librarianship, evidence-based medicine, medical informatics, etc.

Send your submissions (works in progress, meeting reports, favorite websites, syllabi, other handy resources) to the L/ISTEN UP column editor, Ellen Detlefsen, at ellen@mail.sis.pitt.edu Your contributions will be gratefully received and publicly acknowledged.

(1) Detlefsen EG. Library and Information Science Education for the New Medical Environment and the Age of Integrated Information. Library Trends 1993; 42(2):342-364. See Tables 2, 3, and 4, pp. 346-348.

(2) University of North Carolina at Chapel Hill. School of Information and Library Studies. SILS Library. The Masters' Papers Index. http://www.ils.unc.edu/html/5_master_paper_index.shtml

Research Section MLA 2002 Program

Alex Dimitroff has been working hard to put together the
Research Section's program for MLA 2002.
The session will be held on Wednesday (time to be determined) and is tentatively titled

"Reflective Practice: Gathering and Using Qualitative Evidence"

Featured speakers will be
Zoe Stavri, Michelynne McKnight and Keith Codgill

Watch for more information on this exciting program in the Spring 2002 issue of *Hypothesis* and on the MLA web site.

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decision making'[3]. This work aims to build upon the previous review by Cimpl[4] in attempting to establish the evidence base for CL.

Methodology

Application of the NHS Centre for Reviews and Dissemination (CRD) framework for systematic reviews of healthcare interventions[5] to a health information topic.

Inclusion and exclusion criteria

Both evaluative research and descriptive studies published in English since Cimpl's review[4] were included. Information professionals providing CL initiatives to health professionals (or students) within an acute setting were included. General hospital library services, outreach librarians involved in the education of remote health care professionals, and similar initiatives outside an acute setting, or aimed at patients, were excluded. Four types of outcome measures were considered:

1. General quantitative outcomes, particularly in terms of service usage
2. Patient care outcomes
3. Clinicians' use of the literature in practice
4. Cost-effectiveness

Search strategy

The literature search employed multiple methods:

- Searching major information science, health and social science databases
- Internet searches
- Citation searching on key articles
- Following up the references cited in included studies, as well as those in several established CL bibliographies
- Handsearching key journals

Search terms included clinical (medical/support) librarian(s), clinical information librarian(s) /professional(s) / specialist(s), informationist(s), etc.

Quality assessment

Evaluative research studies were critically appraised using the CRISTAL (CRitical Skills Training in Appraisal for Librarians) checklist[6].

Data extraction

Key data and themes were elicited from the evaluative and descriptive literature, independently by the two reviewers, using a pre-determined extraction form.

Results

Quantity of research

213 unique references were retrieved, of which 169 were ordered. 13 evaluative, and a further 30 descriptive, studies were included.

Quality of research

On the whole, the quality of the evaluative studies was poor, and this must be taken into account when interpreting the results. The major concerns were related to inadequate and/or ambiguous reporting by the authors and the reliability and validity of the approaches adopted.

General outcomes

Of the 13 evaluative studies, 11 were based in the US, 1 in the UK, and 1 in Africa. The CL programmes were very similar: CLs attended ward rounds and/or meetings, and performed literature searches in response to clinical queries. In some cases, CLs also filtered the literature and presented this to the clinician.

Patient care outcomes

Information provided by the CL had an impact on advice given to the patient and choice of treatment/tests. In some cases it also prevented surgery, additional tests/ procedures and clinical complications.

Clinicians' use of the literature

The studies did not yield any significant findings on this outcome.

Cost-effectiveness

Only two papers reported costs associated with a CL service. However neither attempted a cost benefit analysis and both have limited applicability.

Discussion and Implications

Undertaking this systematic review has shown that it is possible to apply the CRD framework[5] to a health information topic. However, a number of factors must be taken into account. Firstly, the relevant literature was very disparate, making it both difficult to identify and obtain. Multiple search and retrieval methods, therefore, had to be used. Secondly, the types of studies included required specialised quality assessment checklists[6]. This highlighted the poor quality of research, thus casting doubt on the findings. More rigorous studies, with large representative sample groups examining key outcomes, need to be undertaken. Finally, the results were not appropriate for conducting a meta-analysis, instead lending themselves to narrative commentary and summary tables.

Conclusions

In conclusion, although there is an accepted assumption that CL plays an important role in improved patient care, this review has identified little evidence to support this. A lack of evidence does not necessarily equate to ineffectiveness, but instead indicates that further high quality research is needed in this area.

It is hoped that the review will be completed by March 2002 and that the full findings will be published in the *Health Information and Libraries Journal*.

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Developing Evidence Based Librarianship in Canada: Six Aspects for Consideration

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Purpose
This paper examined the development of evidence-based librarianship (EBL) in Canada, and considered the six key aspects that need to be addressed: domains, methodology, roles for librarians, access to research, education, and communication.

Setting
EBL development in Canada has primarily been at a local level. Health sciences librarians from the University of Alberta have formed a monthly discussion group which examines library issues and how they might be solved using evidence. In addition, a small "virtual" EBL group was formed amongst new health librarians from Alberta and Manitoba.

The following definition of EBL is proposed: Evidence-based librarianship (EBL) is a means to improve the profession of librarianship by asking questions, finding, critically appraising and incorporating research evidence from library science (and other disciplines) into daily practice. It also involves encouraging librarians to conduct research. While the concept of EBL may have originated from evidence-based health care (EBHC), it is a separate and distinct entity with unique needs and considerations.

Proposed Methods
Based upon EBL group discussions with other librarians in Canada as well as the authors' experience and research, the following suggestions for EBL were made.

A modified form of the well-built clinical question is recommended for use with EBL. First, identify the population or target group, list the intervention or exposure and a comparison intervention (if there is one) followed by the outcome or impact. Then, once the question has been formulated, assign it to one of the six librarianship domains mentioned below. Research is currently being undertaken by the authors on the issue of matching domains to databases in order to search for answers to the questions.

There are six main issues currently being discussed and which need to be addressed in order for the advancement of EBL to continue:

- Domains: EBHC has four major domains: therapy, diagnosis, prognosis and harm/etiology. The following six domains for EBL are proposed: Reference/Enquiries, Education, Collections, Management, Information Access & Retrieval, and Marketing/Promotion.

- Methodology: Librarianship evidence should be based upon a combination of medical and social science standards. A new, non-hierarchical method towards librarianship research methodology is suggested. Studies that are more relevant to the types of research conducted by librarians are placed closer to the core of librarianship and are emphasized.

- Roles for Librarians: The librarian's role in EBHC is multi-faceted and largely determined by her/his level of expertise and experience. Confusion exists between the librarian's role in EBHC and EBL and needs to be addressed.

- Access to Research: Although librarians spend much of their time providing others with the best available evidence, many do not consult the literature to help answer their own queries. A freely available source to collect pre-appraised articles about librarianship is required. Key library literature resources and how these can be mined to identify relevant studies is currently being researched at the University of Alberta.

- Education: For EBL to be successful and grow, education should be a prominent role in meetings, conferences and other librarian pursuits. Librarians should be trained in both EBHC and EBL as having

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knowledge of both areas will not only help them in their workplace but also in the field of EBL.

- Communication: There should be numerous ways to communicate with librarians including electronic formats, a website, as well as a publication such as a newsletter. Collaboration with local and national organizations, such as library associations, is recommended to reach a wider audience of librarians.

Conclusion

Discussion and awareness of these six areas is occurring on an international basis. The two groups at the Universities of Alberta and Manitoba allow support for new ideas and illustrate what librarians can do to stimulate their workplace environment while keeping EBL at the forefront. The most valuable component of these groups is that they give librarians a venue to think critically, to look at their profession, and to be able to ask core, vital questions. If EBL is to be accomplished, it requires input and participation from every aspect of librarianship in addition to a strong role definition for librarians.

A paper based upon this abstract was presented at the Evidence-Based Librarianship Conference in Sheffield, UK on September 4, 2001 <http://www.shef.ac.uk/~scharr/eblib/ecdk1.ppt>. A 2002 publication is forthcoming in Health Information and Libraries Journal, entitled "Developing Evidence-Based Librarianship: The Next Steps."

Ellen Crumley is the Child Health Research Librarian for the Department of Pediatrics. She is editor of Bibliotheca Medica Canadiana (BMC), the journal of the Canadian Health Libraries Association and invites submissions about research. Ellen is the publicity coordinator for the 2003 CHLA conference. Financial assistance for equipment from the Multimedia Advanced Computational Infrastructure (MACI) project was appreciated during Ellen's former position at the University of Manitoba.

Denise Koufogiannakis is Reference Coordinator at the John W. Scott Health Sciences Library. She is also the Program Coordinator for the 2003 Canadian Health Libraries Association (CHLA) conference which will be held in Edmonton.

New Information Systems - New Organisations?

Authors

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Objectives

The aim of this current doctoral study is to explore the effect of the implementation of 'new' information and communication technologies on the organisation, management and effectiveness of general medical practice in England.

Sample and Setting

The general setting of the study is within the Primary Care sector of the National Health Service. The specific setting or site for the case study is a General Practice in the East End of Newcastle.

The setting of the study within a general practice should allow the researcher access to the different professional and ancillary groupings that populate the primary care sector.

Methodology

The researcher has chosen to use a Case Study approach to frame her research. Using this approach allows a researcher to use a number of different methods to inform the deep and holistic nature of the investigation.

Some initial problems were met in identifying and negotiating with a suitable study site.

The choice of a single site study allows the researcher to conduct the research on a longitudinal basis rather than as a series of 'snapshots' of multiple locations. This prolonged contact will allow the researcher to bring depth to the analysis of the reconstructed rich picture. Additionally, although use of a single site may lead reviewers to bring up questions of generisability or transferability, it could also be argued that any case report by its nature is particularized.

A primarily qualitative approach will be taken under the framework with the researcher undertaking observation, semi and unstructured interviews, group work and document analysis. This generally qualitative approach does not however rule out the use of quantitative tools such as surveys to collect numeric data about the extent of use of communication and information tools.

Results

Fieldwork for this project is in its early stages, although the initial stages of the interview procedure are now drawing to a close.

Conclusions and recommendations

Case reports of this nature are by definition unique to the research site and reflect in great depth and detail the particularities of the research site. However, it could be argued that despite inevitable differences in terms of personalities and the information and communication skills and outlook held by professionals within primary care, there are also great similarities. This is a grouping that is subject to the same type of pressures, in terms of work-

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load, finance and national guidelines for the implementation of Information Technologies. The skill of the researcher will be in preparing the final report in such a way so that it enables the reader to map aspects of the reconstruction of the organisation within the report onto their own or other organisations.

The final report of the study should also contribute to the overall study of how new technologies affect the organisation and delivery of information to health care organisations and professionals.

Searching for systematic reviews in MEDLINE: Developing more objective search strategies

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Background
Recent years have seen a growth in the development of search filters to locate studies according to methodology or focus in health care databases. These search filters have largely been devised using a standard subjective approach to identifying the best component search terms. That approach involves discussing potential terms with experts, developing a knowledge of the database thesaurus, and exploring the words used in titles and abstracts in order to identify the set of terms which best captures the methodology or subject of interest. This technique produces filters which may be over-inclusive (poor precision) or miss relevant records (poor sensitivity). These filters may be biased or may not produce the most efficient set of retrieval terms.

Purpose
To further develop the research team's published methodology (Boynton et al) in terms of exploring whether the use of linguistic analysis and statistical methods might allow a more objective (i.e. 'scientific') derivation of search terms to identify systematic reviews in MEDLINE (White et al). To test out the performance of objectively derived strategies on a further gold standard set of systematic reviews.

Methodology
The authors have developed a method based on techniques of word frequency analysis and discriminant analysis to determine the most efficient and discriminating combination of search terms. The most frequently appearing words in a collection of relevant systematic reviews (quasi-gold standard) are identified. The most efficient combination of those words which most accurately distinguish quasi-gold standard systematic reviews from both non-systematic reviews and non-reviews are then derived using discriminant analysis. The strategies are then tested on another (validation) set of relevant records.

Results
We have produced a series of search filters which range from those which are highly sensitive (maximum recall) and suitable for systematic reviewers to more precise strategies which may be useful for busy health professionals who do not have time to sift through many irrelevant studies.

Conclusions and Discussion
Our approach has shown that both the frequency of terms within records (weighting) and the co-occurrence of terms within records can help to discriminate between systematic reviews and non-systematic reviews, and between systematic reviews and non-reviews, thus improving search filter design. We conclude that the methods we have developed can be used for a wide range of search filters to find other study designs and for use in databases other than MEDLINE. The methods described above are now being used by the authors to redesign the Cochrane Highly Sensitive Search Strategy to identify randomized controlled trials in MEDLINE. A limitation remains in that the benefits of weighting are challenged by the inability to perform weighted searches in many of the widely used search interfaces, such as OVID and WinSPIRS. This aspect is currently being explored by the authors with database hosts.

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Ideas for *Hypothesis?*
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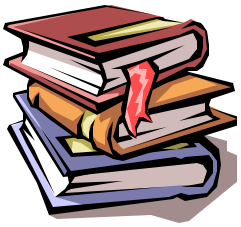

Literature Review

—Submitted by Ruth Fenske, Ph.D.

O'Connor, Daniel O. and Soyeon Park. Guest Editorial: Crisis in LIS Research Capacity. *Library & Information Science Research.* 23 (2):103-106, 2001.

The authors wonder if library and information science is capable of producing the amount of research needed for a "future that will differ in kind and degree from our past." Our current knowledge base may not be wholly applicable in our new world and we will need to accelerate the pace of LIS research. Not only do we need to be critical consumers of research, but also we need to be producers of research.

Although nearly two-thirds of LIS programs require a course in research methods, only half of the 24 top rated programs require research methods. The authors suggest a greater commitment to education for research in LIS programs. They also suggest reinstating the thesis or production of a publishable article as a graduation requirement. Doing this would add 5000 articles per year to our literature.

Although publishing an additional 5000 articles per year would produce a logistics problem for our refereed journals, perhaps most of the articles by new authors could be published in second tier journals. It would be to our benefit to publish these articles, because those who have published an article should be better prepared to publish subsequent articles than those who have never carried out a research project and published the results. The next piece of the puzzle would be to develop incentives that would encourage recent LIS graduates to continue to conduct research and to develop an ever-increasing quality of research record.

Robbins, Kathryn and Kathleen Daniels. Benchmarking Reference Desk Service in Academic Health Science Libraries: A Preliminary Survey. *College & Research Libraries.* 62(4):348-353, July, 2001.

The authors conducted a benchmarking study of reference services in six of twelve midwestern health sciences libraries who volunteered to participate. Reference librarians at each library were asked to give copies of a 25-item SERVPREF questionnaire to every other person asking for assistance at the reference desk until 50 completed questionnaires were returned. Two libraries gathered only 16 or 17 questionnaires and were eliminated from the study. Two others gathered approximately 50 fully and partially completed questionnaires. Only one library returned 50 fully completed questionnaires (and also 34 partially completed questionnaires).

Individual item responses were grouped into responsiveness, empathy, tangibles, reliability, and assurance dimensions and questions were also asked about quality and satisfaction with reference desk services. Ratings were uniformly high and the only significant difference among the libraries had to do with the tangibles. Hence, it was impossible to identify one library as providing services that the others should strive to emulate.

The authors point out that they violated the assumptions of ANOVA. In reality, this study could have been just as useful with only descriptive statistics. They also discuss the possibility that only satisfied users returned the questionnaire but do not rule out the possibility that all three libraries provide high quality service to satisfied users.

Alexander, Linda B. and Robert C. Smith. Research Findings of a Library Instruction Web Course. *portal: Libraries and the Academy.* 1 (3):309-328, July, 2001.

Western Kentucky University has been offering a required one-credit library skills course since 1973. The course is taught by the Department of Library and Media Education in the School of Education. In fall 1998, two sections of the course were offered via the web in a totally interactive format. The web sections "covered the same content areas as the traditional course." Web students had a virtual tour of the library. Lectures and a locally developed workbook provided course content. Worksheets and tests were also used. It is not clear if the tests were identical. Web-based students used computers at home, in the dorms, or in campus labs and were not required to go to the library.

Students chose at the time of enrollment to be in either a web-based or traditional section. The web-based course was taught by the course coordinator; the participating traditional sessions were chosen at random and were instructed by a graduate assistant chosen at random from a pool of six who had one year of experience teaching the course. The authors discuss the possibility of bias introduced by having one of them teach the web-based sections.

There was no significant difference in test scores between the two groups. Web-based students were more likely to be upperclassmen, older, non-dorm residents, and they were from smaller high schools. The majority of students in both groups owned a computer and used the Internet. Web-based students were more likely to feel the course was beneficial, feel more comfortable doing library research, and think the requirement should be continued.

(Literature Review — Continued from page 11)

Further analysis revealed that among younger students there were no significant differences in satisfaction between the traditional and web-based groups. However, for older students, satisfaction was significantly higher for the web-based class. This would seem to indicate that the older students selected the format that was more appealing to them.

Although these results do not show that students learned more in a web-based course, they do show that older students prefer the web format and that older students in the web-based classes were distinctly more satisfied than older students in traditional classes. I would imagine that medical students tend to be more like the younger students in this study. However, students in many nursing and allied health programs may be older and may prefer web-based library instruction.

Heo, Misook and Stephen C. Hirtle. An Empirical Comparison of Visualization Tools to Assist Information Retrieval on the Web. ***Journal of the American Society for Information Science and Technology.*** **52(8):666-675, June, 2001.**

Navigating hypertext systems often results in disorientation and cognitive overload. Various graphic visualization tools have been created in an effort to alleviate these problems. The authors classify the tools into four categories: (1) distortion, (2) zoom, (3) expanding outline, and (4) three-dimensional layout and do an experiment to test the effect of the different visualization techniques and the size of web space searched on information searching tasks. Only the first three categories and a control group were used in this study.

Eighty subjects with web searching experience were randomly assigned to eight experimental groups. Large web space groups were asked one set of 20 questions and small web space groups another set of questions. Demographic data were gathered. After training on the appropriate technique, subjects answered the search questions and did a follow-up perceptions survey.

ANOVA and Tukey's were used to analyze the data. Expanding outline users were significantly more accurate and faster than zoom users. The zoom group were also slower than the control group. Those searching the smaller web space were more accurate and faster. Surprisingly, the control group performed as well as the expanding outline group and worse than the zoom and distortion groups. The authors suggest additional practice in using the visualization tools may be needed. The perception survey showed the subjects found the zoom version most difficult to use.

Although this is a well-designed study, the authors admit that all they have done is confirm the results of earlier web visualization usability studies. The four categories of visualization tool are explained in the text. Unfortunately, the sample illustrations of each category are not readable.

Dew, Stephen H. Knowing Your Users and What They Want: Surveying Off-Campus Students About Library Services. ***Journal of Library Administration.*** **31(3/4):177-193, 2001.**

Tipton, Carol J. Graduate Students ' Perceptions of Library Support Services for Distance Learners: A University System-Wide Study. ***Journal of Library Administration.*** **32(1/2):393-408, 2001.**

Two universities conducted surveys of distance education students concerning library services. Although ostensibly the goals were similar, the two surveys were very different. It is only upon careful reading that one realizes Iowa was, at the time of the survey, apparently depending upon actual use of libraries for services to distance learners, whereas Texas A & M had some remote access.

The University of Iowa used a random sample of 50% of the Center for Credit Programs' students and a random sample of 25% of off-campus MBA students, making a total of 506 individuals. Their response rate was 38.5% with no follow-up. Texas A & M surveyed a population of 133 graduate students enrolled in telecourses. Most surveys were administered in class. Surveys were mailed to one class with a follow-up postcard reminder. Another class filled in a Web-based questionnaire after being asked to participate via e-mail. The response rate in Texas was 76.7%.

The University of Iowa pre-tested their survey on a group of graduate students. Presumably the pre-testers were not distance learners. Texas A & M had faculty at one of their campuses review the questions. They also had some administrators who had taken distance education courses review the questions.

Both included a copy of the questionnaire. Texas A & M included the numeric results for all questions; Iowa did not. Both asked demographic questions. Iowa asked about the availability of various types of software; Texas A & M asked about the actual use to complete assignments and the need for additional training. Iowa determined that 35% had taken a distance class that did not require use of library materials. It is not clear if these students did not use information resources at all or merely didn't go to a library to use the materials. Approximately 35% of the Texas A & M students used library services for distance courses; 14% had not needed the services and many who had not used the services did not know they had access to the services, didn't know how to get the services, and/or didn't know how to use the services. Iowa did not ask if students were aware of services, but they did ask if written information on library services or an on-campus orientation would be useful.

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Medical Library Association, Research Section Business Meeting
May 27, 2001
Swan and Dolphin Resort, Walt Disney World, Orlando, Florida

1) Call to Order – Jon Eldridge called the meeting to order at 7:30 am.

2) Reports of Officers and committee representatives.
   a) Treasurer's report – Joyce Backus reported that the Section balance was $5638, after paying the invoice for the Spring *Hypothesis*, but before the business meeting breakfast payment. Jo Dorsch is the incoming secretary/treasurer.

   b) Chair-elect, Program Chair – Leslie Behm reported that the Research Section sponsored two contributed papers sessions at the 2001 Annual Meeting, one on the Research Process and the second a contributed papers session.

   c) Section Council Representative – Dixie Jones reported that Section council discussed ways to support MLA SIGs. The Section recommended that the MLA Board investigate further before making a final decision. The Section Council made recommendations regarding Sections keeping their information up to date on MLAnet. Our Section does fairly well in this area. Members discussed the need for Section logos and/or banners for identity.

   d) Newsletter Editor – Andrea Ball, new *Hypothesis* editor, reported that the previous year's issues cost a total of $1204 to produce and mail. "Research Section News" will be replaced by "Message from the Chair." And there will be a new column from Ellen Detlefsen which will focus on research by library school students and fellows. Jon Eldredge expressed Section member's sincere thanks to Andrea for taking on the editorship.

      Andrea also brought up for discussion the issue of whether or not to print future issues using color highlights which adds considerably to printing expenses. Members present also discussed whether or not to continue printing at all. Those present concluded that the Section should continue to print the *Hypothesis* on paper with no color at this time.

   e) Incoming Chair-elect – Alexandra Dimitroff reported that she is working on a program for next year's meeting on Knowledge Management to be co-sponsored with the Medical Informatics Section.

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(Literature Review — Continued from page 13)

Texas A & M determined how often students had used specific services and venues; Iowa asked only about the use of any academic library or any public library. Iowa presented a list of 12 possible services and asked which would be useful for distance education students. As was mentioned earlier, it appears that Texas A & M already offered a menu of services and Iowa did not. Dew, from Iowa, goes on to describe services inaugurated as a result of needs expressed in the survey. Interestingly, although Texas A & M apparently had more services in place, overall satisfaction with library services for distance learners was decidedly lower.

Both these surveys were done about two and a half years ago. It appears both universities should do another survey. Iowa needs to find out if their new services are being used and if the users are satisfied. Texas A & M needs to see if awareness of services and satisfaction has improved.

These articles and other works cited could provide guidance for health sciences libraries evaluating service to distance learners.

(Business Meeting Minutes — Continued from page 14)

3) Reports from Committees
   a) Bylaws – Andrea Ball There was no vote of the proposed Bylaws amendments due to the lack of an absentee ballot mailing. However, the vote was not required since the amendments simply brought the Section in to line with MLA. It was recommended that a good faith vote be conducted at the 2002 Section Business Meeting.

   b) Membership – Sarah Adcock followed up on the Section officers' recommendation and invited student members of MLA to join the Section at no cost. Fourteen have accepted this offer.

   c) Nominating – Jan LaBease had the following nominations. Membership affirmed the nominees before the annual meeting.
      Alexandra Dimitroff – chair-elect
      Joanne Dorsch – secretary/treasurer
      Gary Byrd – nominating committee

   d) Research Resources – Jana Allcock is the new member responsible for this area.

   e) Continuing Education – Gale Hannigan reported that this year's CE courses covered many research-related topics.

   f) Awards – Bob Wood reported that his committee would be judging 92 posters and over 60 papers during the annual meeting.

4) Reports from Task Forces

   a) AHIP Task Force – Ann Weller reported on her efforts to increase the AHIP points earned for research activities. She recommended doubling current research point values and adding credit for research grant recipients, research awards, and peer-reviewed articles..

   b) Bulletin Research Content – Scott Plutchak held a discussion focussed on gaining better statistical review support for *Bulletin* (soon to be *Journal*) submission reviews. He recommends the *Journal* have a Statistical Review Board which the Section would support with members. There is about one paper a month which could benefit from such a review. In response to Jon Eldredge's question, Scott indicated that the *Journal* is still interested in including a column on research methods

Submitted by Joyce Backus, Secretary/Treasurer

HAVE A SAFE AND HAPPY HOLIDAY SEASON AND A WONDERFUL NEW YEAR!

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